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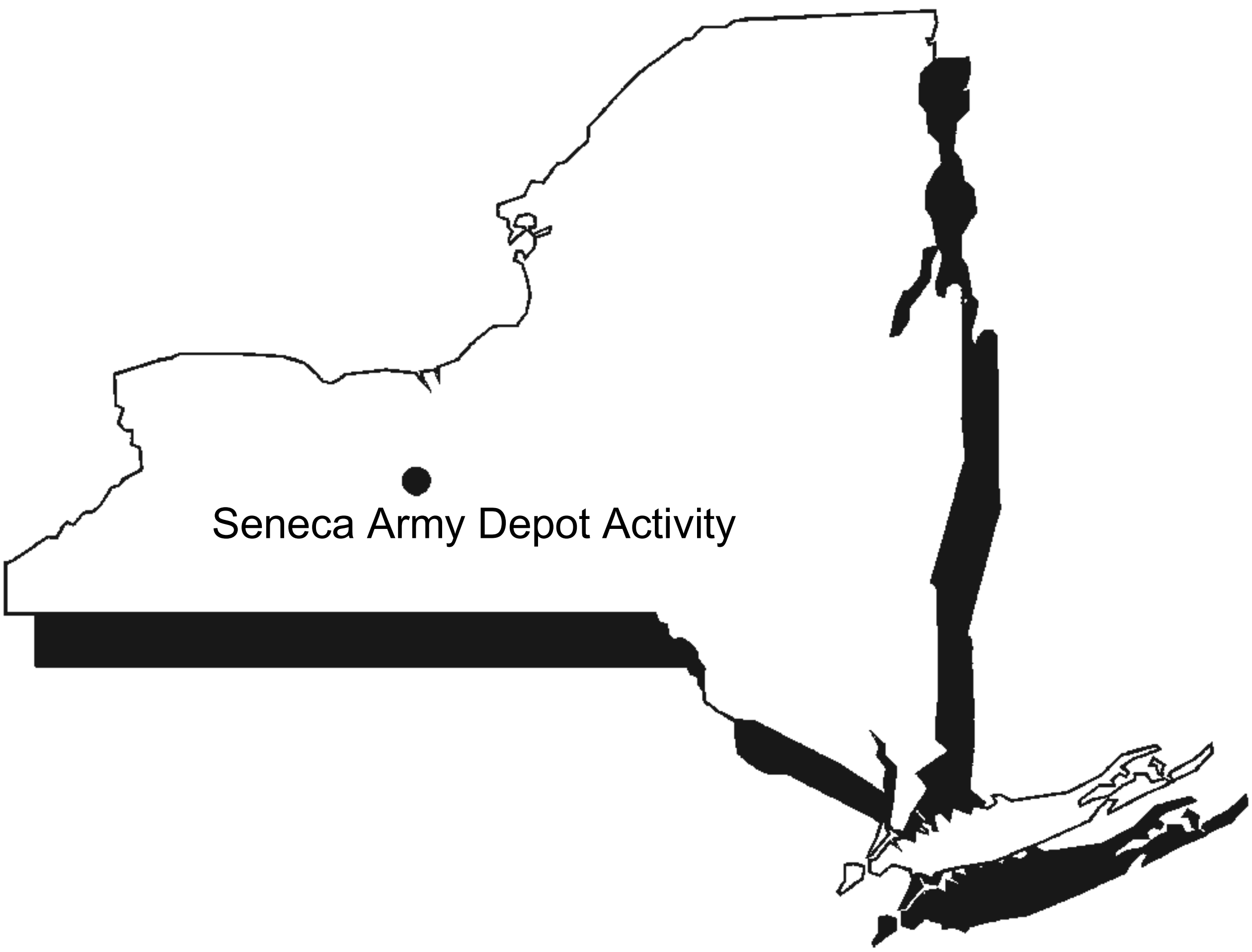

FINAL
SWMU CLASSIFICATION REPORT
SENECA ARMY DEPOT ACTIVITY

VOLUME I OF II

SEPTEMBER 1994

SOLID WASTE MANAGEMENT
CLASSIFICATION STUDY
SENECA ARMY DEPOT
ROMULUS, NEW YORK

Prepared for:

Seneca Army Depot Activity
Romulus, New York

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List of Acronyms and Abbreviations

AEHA	Army Environmental Hygiene Agency
Ag	Silver
AOC	Area of Concern
APSC	Air Pollution Control System
As	Arsenic
ATHAMA	Army Toxic and Hazardous Materials Agency
Ba	Barium
BP	Before Present
Cd	Cadmium
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
cm^2	Centimeters Squared
Cr	Chromium
Cu	Copper
DLA	Defense Logistics Agency
DOE	Department of Energy
DRMO	Defense, Reutilization and Marketing Office
EPA	Environmental Protection Agency
F	Fahrenheit
Hg	Mercury
IAG	Interagency Agreement
K	Potassium
Kg	Kilogram
l	Liter
MCL	Maximum Contaminant Level
mg	Milligram
MSL	Mean Sea Level
Ni	Nickel
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
Pb	Lead
PCB	Polychlorinated Biphenyls
ppm	Parts per Million
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment

List of Acronyms and Abbreviations
(Continued)

RI/FS	Remedial Investigation/Feasibility Study
Se	Selenium
SEDA	Seneca Army Depot Activity
SPDES	State Pollutant Discharge Elimination System
STP	Sewage Treatment Plant
SU	Standard Unit
SWMU	Solid Waste Management Unit
TOX	Total Organic Halogen
ug	Microgram
umho	Micromho
USACE	United States Army Corps of Engineers
UXO	Unexploded Ordnance
VI	Visual Inspection
Zn	Zinc

SECTION 1

1.0 INTRODUCTION

This report presents the findings of the Solid Waste Management Unit Classification Study performed at the Seneca Army Depot Activity (SEDA). The study has been prepared as part of the Army's continuing program of evaluating and upgrading its hazardous waste management facilities.

1.1 PURPOSE

The purpose of this report is to describe and evaluate the Solid Waste Management Units (SWMUs) at SEDA. Each unit has been classified as an area where "No Action is Required" or as an "Area of Concern" (AOC). The AOCs are prioritized according to the follow classifications: 1) High Priority AOC; 2) Moderate Priority AOC; 3) Moderately Low Priority AOC; and Low Priority AOC. AOCs include locations where releases of hazardous substances may have occurred and locations where there has been a release or threat of a release into the environment of a hazardous substance, pollutant or contaminant (including radionuclides) under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

In 1991, all SWMUs were identified and described in a "Solid Waste Management Unit Classification Report" prepared by Environmental and Energy Services Company, Inc. (ERCE) under Contract DACA87-88-D-0079. The purpose of this study was to 1) update the existing ERCE recommendations for each of the SWMUs, 2) formulate additional recommendations based on new research for several of the SWMUs and, 3) perform additional investigations in the form of limited sampling and formulate recommendations for 12 of the SWMUs. ES performed the additional work under Contract DACA87-92-0022.

1.2 BACKGROUND

SEDA has applied for a Part B permit to operate a hazardous waste storage facility, SEAD-1), a polychlorinated biphenyl storage facility (SEAD-2) and a deactivation furnace (SEAD-17). The most recent revision of the application was submitted to the State in October, 1990. The open burning/open detonation grounds (SEAD-23 and SEAD-45) are presently under interim status.

TABLE 1-1

SOLID WASTE MANAGEMENT UNITS
SENECA ARMY DEPOT

UNIT NUMBER	UNIT NAME
SEAD-1	Building 307 - Hazardous Waste Container Storage Facility
SEAD-2	Building 301 - PCB Transformer Storage Facility
SEAD-3	Incinerator Cooling Water Pond
SEAD-4	Munitions Washout Facility Leach Field
SEAD-5	Sewage Sludge Waste Piles
SEAD-6	Abandoned Ash Landfill
SEAD-7	Shale Pit
SEAD-8	Non-Combustible Fill Area
SEAD-9	Old Scrap Wood Site
SEAD-10	Present Scrap Wood Site
SEAD-11	Old Construction Debris Landfill
SEAD-12	Radioactive Waste Burial Sites Location A: Northeast of Building 813 Location B: North of Building 804
SEAD-13	IRFNA Disposal Site
SEAD-14	Refuse Burning Pits (2 units)
SEAD-15	Building 2207 - Abandoned Solid Waste Incinerator
SEAD-16	Building S-311 - Abandoned Deactivation Furnace
SEAD-17	Building 367 - Existing Deactivation Furnace
SEAD-18	Building 709 - Classified Document Incinerator
SEAD-19	Building 801 - Classified Document Incinerator
SEAD-20	Sewage Treatment Plant No. 4
SEAD-21	Sewage Treatment Plant No. 715
SEAD-22	Sewage Treatment Plant No. 314
SEAD-23	Open Burning Ground
SEAD-24	Abandoned Powder Burning Pit
SEAD-25	Fire Training and Demonstration Pad

TABLE 1-1

SOLID WASTE MANAGEMENT UNITS
SENECA ARMY DEPOT
(Con't)

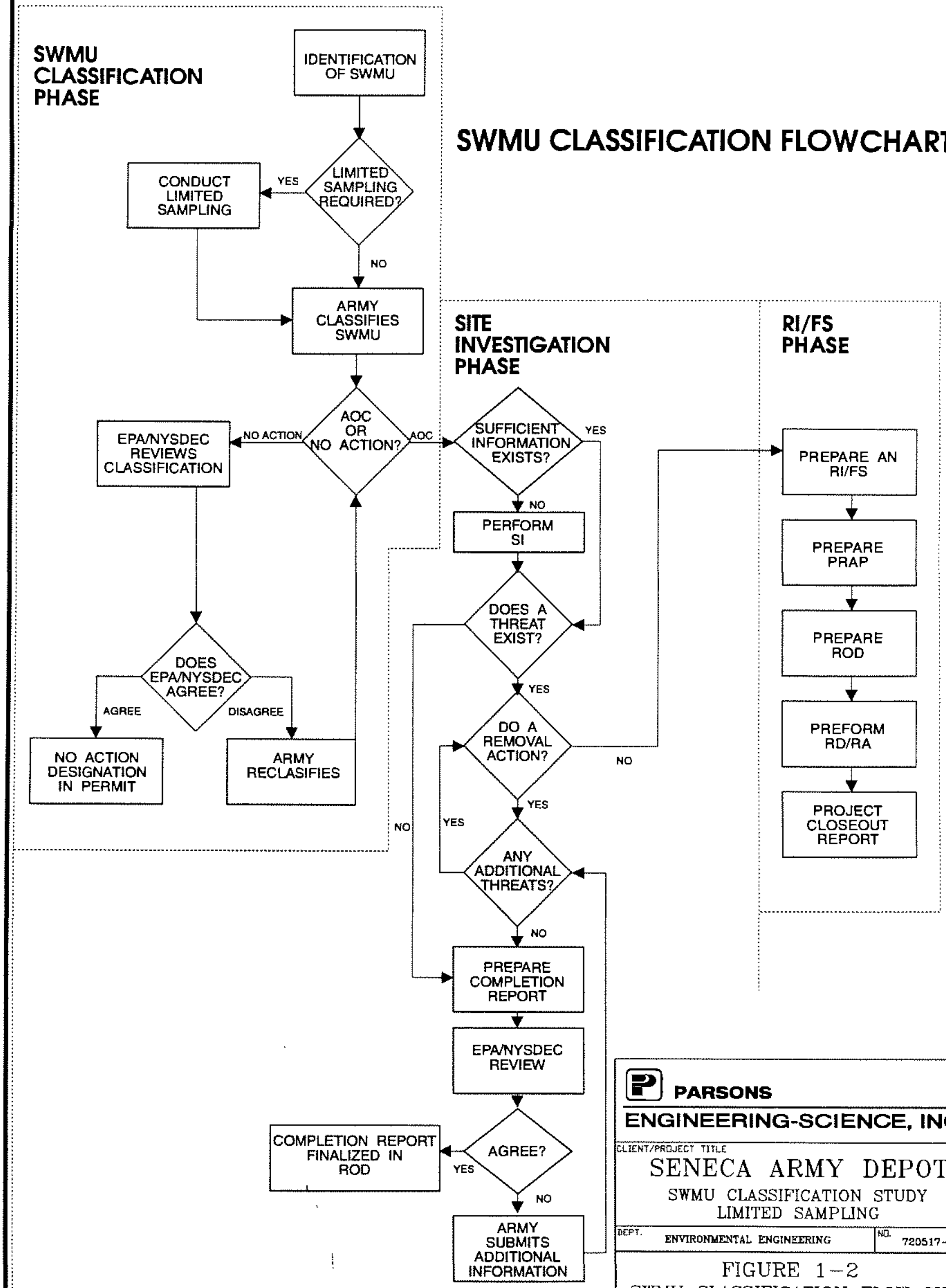
UNIT NUMBER	UNIT NAME
SEAD-26	Fire Training Pit
SEAD-27	Building 360 - Steam Cleaning Waste Tank
SEAD-28	Building 360 - Underground Waste Oil Tanks (2 units)
SEAD-29	Building 732 - Underground Waste Oil Tank
SEAD-30	Building 118 - Underground Waste Oil Tank
SEAD-31	Building 117 - Underground Waste Oil Tank
SEAD-32	Building 718 - Underground Waste Oil Tanks (2 units)
SEAD-33	Building 121 - Underground Waste Oil Tank
SEAD-34	Building 319 - Underground Waste Oil Tanks (2 units)
SEAD-35	Building 718 - Waste Oil - Burning Boilers (3 units)
SEAD-36	Building 121 - Waste Oil - Burning Boilers (2 units)
SEAD-37	Building 319 - Waste Oil - Burning Boilers (2 units)
SEAD-38	Building 2079 - Boiler Plant Blowdown Leach Pit
SEAD-39	Building 121 - Boiler Plant Blowdown Leach Pit
SEAD-40	Building 319 - Boiler Plant Blowdown Leach Pit
SEAD-41	Building 718 - Boiler Plant Blowdown Leach Pit
SEAD-42	Building 106 - Preventive Medicine Laboratory
SEAD-43	Building 606 - Old Missile Propellant Test Laboratory (refer to SEAD-56)
SEAD-44	Quality Assurance Test Laboratory Location A: West of Building 616 Location B: Brady Road
SEAD-45	Demolition Area
SEAD-46	Small Arms Range
SEAD-47	Buildings 321 and 806 - Radiation Calibration Source Storage
SEAD-48	Pitchblend Storage Igloos
SEAD-49	Building 356 - Columbite Ore Storage

TABLE 1-1

SOLID WASTE MANAGEMENT UNITS
SENECA ARMY DEPOT
(Con't)

UNIT NUMBER	UNIT NAME
SEAD-50	Tank Farm (refer to SEAD-54)
SEAD-51	Herbicide Usage - Perimeter of High Security Area
SEAD-52	Buildings 608 and 612 - Ammunition Breakdown Area
SEAD-53	Munitions Storage Igloos
SEAD-54	Asbestos Storage (refer to SEAD-50)
SEAD-55	Building 357 - Tannin Storage
SEAD-56	Building 606 - Herbicide and Pesticide Storage (refer to SEAD-43)
SEAD-57	Explosive Ordnance Disposal Area
SEAD-58	Debris Area near Booster Station 2131
SEAD-59	Fill Area west of Building 135
SEAD-60	Oil Discharge adjacent to Building 609
SEAD-61	Building 718 - Underground Waste Oil Tank
SEAD-62	Nicotine Sulfate Disposal Area near Buildings 606 or 612
SEAD-63	Miscellaneous Components Burial Site
SEAD-64	Garbage Disposal Areas Location A: Debris Landfill south of Storage Pad Location B: Disposal Area south of Classification Yards Location C: Proposed Landfill Site Location D: Disposal Area west of Building 2203
SEAD-65	Acid Storage Areas
SEAD-66	Pesticide Storage near Buildings 5 and 6
SEAD-67	Dump Site east of Sewage Treatment Plant No. 4
SEAD-68	Building S-335 - Old Pest Control Shop
SEAD-69	Building 606 - Disposal Area
SEAD-70	Building 2110 - Fill Area
SEAD-71	Alleged Paint Disposal Area
SEAD-72	Building 803 - Mixed Waste Storage Facility

SWMU CLASSIFICATION FLOWCHART



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SWMU CLASSIFICATION STUDY
LIMITED SAMPLING

DEPT. ENVIRONMENTAL ENGINEERING	NO. 720517-01002

FIGURE 1-2
SWMU CLASSIFICATION FLOW CHART

SCALE

the meeting was to reach resolution on the proper classification of all the SWMUs as either a No-Action SWMU, a SWMU requiring additional information before a decision could be made, or an AOC. As a result of this meeting the number of SWMUs considered to be AOCs that require an SI was decreased from 68 to 36. A total of 17 SWMUs were classified as No-Action SWMUs. Classification of the remaining 19 SWMUs was deferred until additional information was provided to document whether or not a release had occurred. Of the 19, it was determined that 12 of these required limited sampling programs to determine their final status. For the remaining 7, additional research of existing information was required to make the final recommendation on their status.

Remedial Investigation and Feasibility Study (RI/FS) projects are currently being conducted at two area where releases have been identified or suspected, namely the abandoned Ash Landfill (SEAD-6) and the Open Burning Grounds (SEAD-22). It should be noted that for RI/FS purposes the abandoned Ash Landfill and the SWMUs surrounding the abandoned ash landfill are being treated as one operable unit. The units included in the operable units are SEAD-3 (incinerator cooling water pond), SEAD-8 (non-combustible fill area), SEAD-14 (refuse burning pits) and SEAD-15 (abandoned solid waste incinerator) [1, 3, 5].

SECTION 2

2.0 FACILITY DESCRIPTION

2.1 FACILITY LOCATION AND MISSION

SEDA is an active military facility constructed in 1941 and is located approximately 40 miles (mi) south of Lake Ontario, near Romulus, New York (Figure 2-1). 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. New York State Highways 96 and 96A adjoin SEDA on the east and west boundaries, respectively. Since its inception in 1941 SEDA's primary mission has been the receipt, storage, maintenance, and supply of military items. Figure 2-2 presents a plan view of SEDA.

2.2 WASTE GENERATION AND DISPOSAL PRACTICES

The hazardous wastes that are stored at SEDA are primarily generated from machine maintenance operations. The hazardous wastes are collected and stored in Building 307 (SEAD-1). The wastes consist of spent solvents, still bottoms from 1,1,1-trichloroethene vapor degreasers, sludges from oil/grease separators, cleaning compounds, paper filters from spray paint booths, and spent battery acids (5). Other buildings where hazardous wastes are either stored or disposed of are Building 301 (SEAD-2) and Building 367 (SEAD-17). Transformers, that may contain PCB oils, are stored in Building 301. An incinerator, located in Building 367, is used to dispose of unserviceable and obsolete munitions (5).

Studies performed by the New York Department of Environmental Conservation (1988) and by the U.S. Army Environmental Hygiene Agency (1987) have suggested evidence of release of contaminants from past practices and activities at SEDA (3,5). Contaminants suspected of release include heavy metals, spent organic solvents, explosives, and radioactive materials. Some of the areas where releases have been identified have been closed and decontaminated.

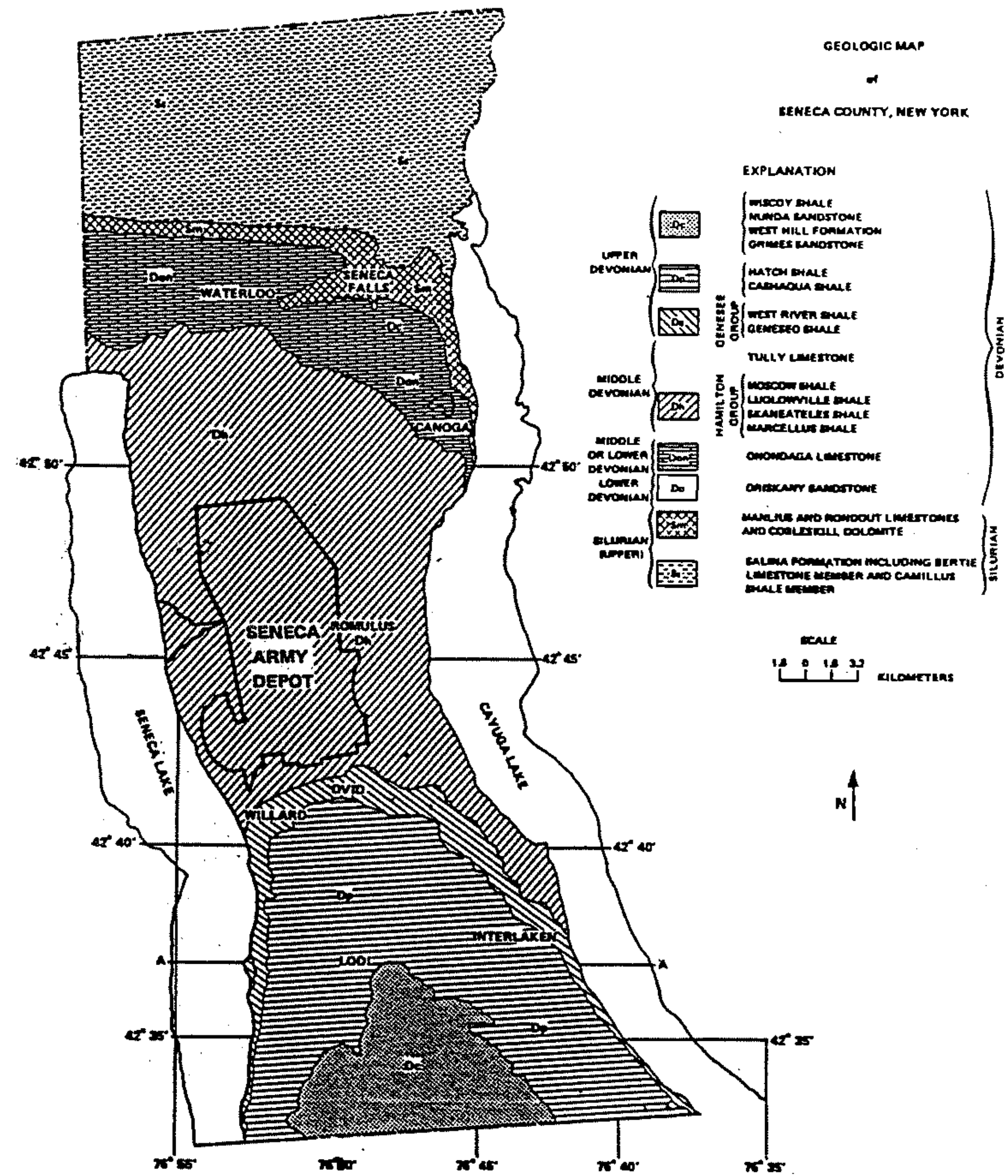
SECTION 3

3.0 ENVIRONMENTAL SETTING

3.1 REGIONAL GEOLOGIC 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. Figure 3-1 shows the regional geology of Seneca County. In the vicinity of SEDA, Devonian age (385 million years bp) 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. These rocks were deposited in a shallow inland sea at the north end of the Appalachian Basin (Gray, 1991). Terrigenous sediments from topographic highs associated with the Acadian landmass of Western New England, eastern New York and Pennsylvania were transported to the west across a marine shelf (Gray, 1991). These sediments were deposited in a northeast-southwest trending trough whose central axis was near what is now the Finger Lakes (Gray, 1991).

The Hamilton Group, 600 to 1500 feet thick, is divided into four formations. They are, from oldest to youngest, the Marcellus, Skaneateles, Ludlowville, and Moscow formations. The western portion of SEDA is generally located in the Ludlowville Formation while the eastern portion is located in the younger Moscow Formation. The Ludlowville and Moscow formations are characterized by gray, calcareous shales and mudstones and thin limestones with numerous zones of abundant invertebrate fossils that form geographically widespread encrinites, coral-rich layers, and complex shell beds. The Ludlowville Formation is known to contain brachiopods, bivalves, trilobites, corals and bryozoans (Gray, 1991). In contrast, the lower two formations (Skaneateles and Marcellus) consist largely of black and dark gray sparsely fossiliferous shales (Brett et al., 1991). Locally, the shale is soft, gray, and fissile. Figure 3-2 displays the stratigraphic section of Paleozoic rocks of Central New York. The shale is extensively jointed and weathered at the contact with overlying tills. Joint spacings are 1 inch to 4 feet in surface exposures. Prominent joint directions are N 60° E, N 30° W, and N 20° E, with the joints being primarily vertical. Corings performed on the upper 5 to 8 feet of the bedrock revealed low Rock Quality Designations (RQD's), i.e., less than 5 percent with almost 100 percent recovery (Metcalf & Eddy, 1989), suggesting a high degree of weathering.



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SWMU CLASSIFICATION STUDY

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NO. 720517-01002

FIGURE 3-1
GEOLOGIC MAP OF
SENECA COUNTY

SCALE 1" =200'

Pleistocene age (Wisconsin event, 20,000 BP) glacial till deposits overlie the shales. Figure 3-3, the physiography of Seneca County, presents an overview of the subsurface sediments present in the area. SEDA is shown on Figure 3-2 as lying on the central portion of a large glacial till plain between Seneca Lake and Cayuga Lake. The till matrix, the result of glaciation, varies locally but generally consists of horizons of unsorted silt, clay, sand, and gravel. The soils at the site contain varying amounts of inorganic clays, inorganic silts, and silty sands. Thickness of the glacial till deposits at SEDA generally ranges from 1 to 15 feet. In the central and eastern portions of SEDA the till is thin and bedrock is exposed or within 3 feet of the surface in some locations. In the northwestern portion of the depot near the Duck Pond and its associated wetlands, till thickness are significantly greater.

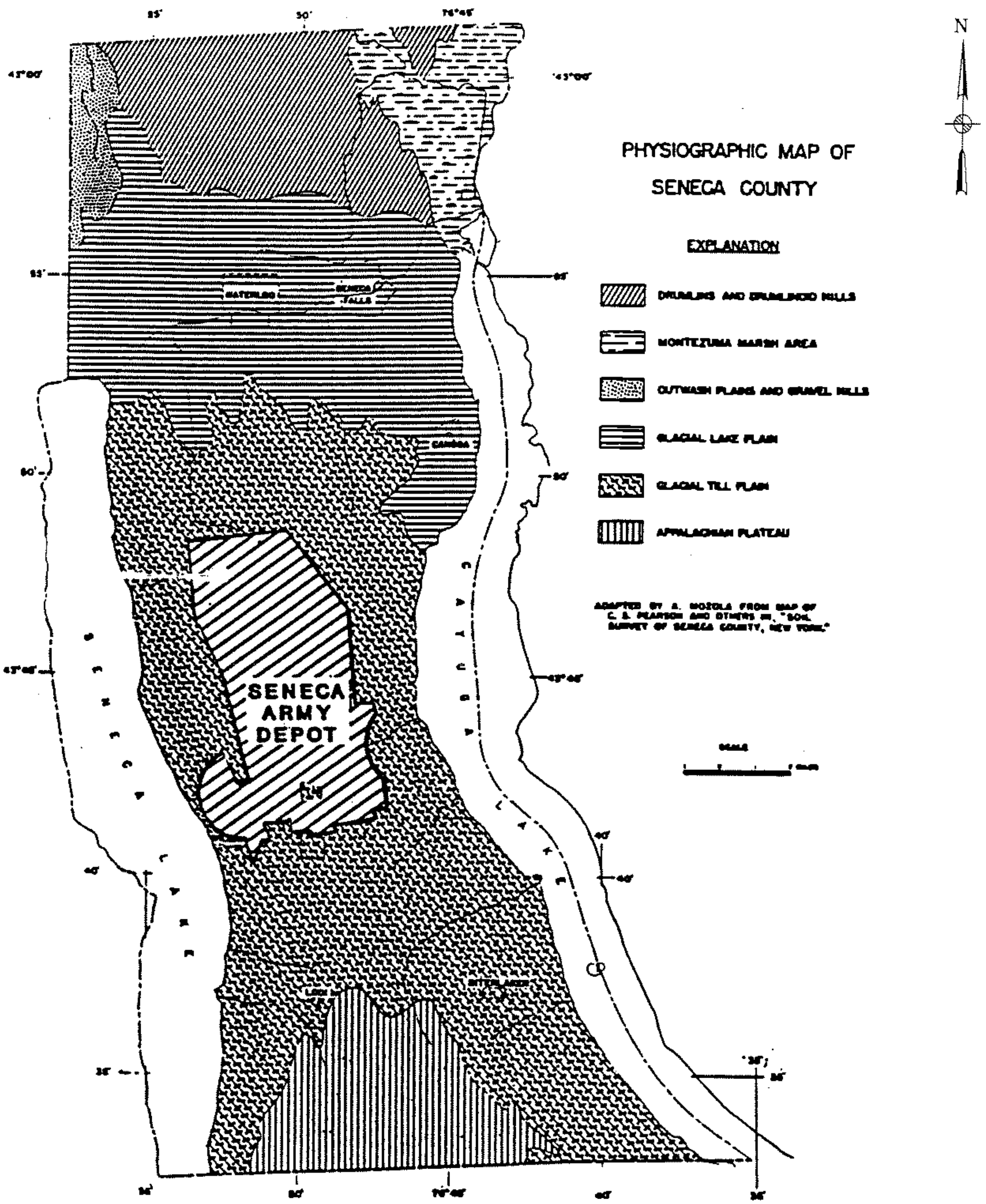
Darien silt-loam soils, 0 to 18 inches thick, have developed over Wisconsonian age glacial tills. These soils are developed on glacial till where they overlie the shale. In general, the topographic relief associated with these soils is 3 to 8 percent. Figure 3-4 presents the U.S. Department of Agriculture General Soil map for Seneca County.

Regional background elemental concentrations for soils from the Finger Lakes area of New York State are not available. However, elemental concentrations for soils from the eastern United States and in particular, New York State are available. Table 3-1 cites data on the eastern United States from a United States Geological Survey (USGS) professional paper (Shacklette and Boerngen, 1984) and data on the New York State soils from New York State Department of Environmental Conservation (NYSDEC) report.

3.2 REGIONAL HYDROGEOLOGIC SETTING

Regionally, four distinct hydrologic units have been identified within Seneca County (Mozola A.J., 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.

Approximately 95 percent of the wells in the county are used for domestic or farm supply and the average daily withdrawal is approximately 500 gallons, an average rate of 0.35 gallons per minute (gpm). About five percent of the wells in the county are used for commercial, industrial, or municipal purposes. Seneca Falls and Waterloo, the two largest communities in the county, are in the hydrogeologic region which is most favorable for the development of a groundwater supply. However, because the hardness of the groundwater is objectionable



SOURCE: The Groundwater Resources of Seneca County, New York; Mozola, A.J., Bulletin GW-26, Albany, NY, 1951

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FIGURE 3-3
THE PHYSIOGRAPHIC MAP
OF SENECA COUNTY

SCALE

TABLE 3 – 1

BACKGROUND CONCENTRATIONS OF ELEMENTS IN SOILS OF THE EASTERN UNITED STATES WITH SPECIFIC DATA FOR NEW YORK STATE

SENECA ARMY DEPOT
SWMU CLASSIFICATION REPORT

ELEMENT	CONCENTRATION RANGE (mg/kg)	GEOGRAPHIC LOCATION
Aluminum	7,000 – 100,000 1,000 – 25,000	Eastern U.S. (2) Albany Area (1)
Arsenic	< 0.1 – 73 3 – 12 < 0.1 – 6.5	Eastern U.S. (2) New York State (1) Albany Area (1)
Barium	10 – 1,500 15 – 600 250 – 350	Eastern U.S. (2) New York State (1) Albany Area (1)
Beryllium	1 – 7 0 – 1.75 0 – 0.9	Eastern U.S. (2) New York State (1) Albany Area (1)
Cadmium	Not Available 0.0001 – 1.0	Eastern U.S. (2) No Region Specified (1)
Calcium	100 – 280,000 130 – 35,000 150 – 5,000 2,900 – 6,500	Eastern U.S. (2) New York State (1) Albany Area (1) Albany Area (1)
Chromium	1 – 1,000 1.5 – 40 1.5 – 25	Eastern U.S. (2) New York State (1) Albany Area (1)
Cobalt	< 0.3 – 70 2.5 – 60 2.5 – 6	Eastern U.S. (2) New York State (1) Albany Area (1)
Copper	< 1 – 700 < 1 – 15	Eastern U.S. (2) Albany Area (1)
Iron	100 – 100,000 17,000 – 25,000	Eastern U.S. (2) Albany Area (1)
Lead	> 10 – 300 1 – 12.5	Eastern U.S. (2) Albany Area (1)
Magnesium	50 – 50,000 2,500 – 6,000 1,700 – 4,000	Eastern U.S. (2) New York State (1) Albany Area (1)
Manganese	> 2 – 7,000 50 – 5,000 400 – 600	Eastern U.S. (2) New York State (1) Albany Area (1)
Mercury	0.01 – 3.4 0.042 – 0.066	Eastern U.S. (2) Albany Area (1)

TABLE 3 – 1

BACKGROUND CONCENTRATIONS OF ELEMENTS IN SOILS OF THE EASTERN UNITED STATES WITH SPECIFIC DATA FOR NEW YORK STATE

SENECA ARMY DEPOT
SWMU CLASSIFICATION REPORT

ELEMENT	CONCENTRATION RANGE (mg/kg)	GEOGRAPHIC LOCATION
Nickel	< 5 – 700 19.5 (mean)	Eastern U.S. (2) New York State (1) (no range available)
Potassium	50 – 37,000 47.5 – 117.5	Eastern U.S. (2) New York State (1)
Selenium	> 0.1 – 3.9 Not Available	Eastern U.S. (2) No New York State Data Given (1)
Sodium	500 – 50,000 Not Available	Eastern U.S. (2) No New York State Data Given (1)
Vanadium	> 7 – 300 Not Available	Eastern U.S. (2) No New York State Data Given (1)
Zinc	> 5 – 2,900 37 – 60	Eastern U.S. (2) Albany Area (1)

Notes:

1. (1) Source: McGovern, Carol E., Background Concentrations of 20 Elements in Soils with Special Regard for New York State, Wildlife Resources Center, New York Department of Environmental Conservation, Delmar, New York 12054, No Date.
2. (2) Source: Shacklette, H.T. and Boerngen, J.G., 1984, Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States, U.S.G.S. Prof Paper 1270, Washington.
3. The data are for areas where surficial materials are thought to be uncontaminated, undisturbed, or areas far from pollution sources.

to the industrial and commercial establishments operating within the villages, both villages utilize surface water (Cayuga Lake and Seneca River, respectively) as their municipal supplies. The villages of Ovid and Interlaken, both of which are without substantial industrial establishments, utilize groundwater as their public water supplies. Ovid obtains its supply from two shallow gravel-packed wells, and Interlaken is served by a developed seepage-spring area.

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 the State of New York, (Mozola, 1951, and Crain, 1974). This information suggests 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 surficial groundwater flow is expected to be westward toward Seneca Lake.

A substantial amount of information concerning the hydrogeology in the area has been compiled by the State of New York, (Mozola, 1951). These reports have been reviewed in order to better understand the hydrogeology of the area surrounding SEDA. The data indicates that within a four (4) mile radius of the site a number of wells exist from which geologic and hydrogeologic information has been obtained. This information includes: 1) the depth; 2) the yield; and 3) the geological strata the wells were drilled through. Although the information was compiled in the 1950s, these data are useful in providing an understanding and characterization of the aquifers present within the area surrounding SEDA. A review of this information suggests that three geologic units have been used to produce water for both domestic and agricultural purposes. These units include: 1) a bedrock aquifer, which in this area is predominantly shale; 2) an overburden aquifer, which includes Pleistocene deposits (glacial till); and 3) a deep aquifer present within beds of limestone the underlying shale. The occurrence of water derived from limestone is considered to be unusual for this area and is more commonplace to the north of this area. The limestone aquifer in this area is between 100 and 700 feet deep. As of 1957, twenty-five wells utilized water from the shale aquifer, six wells tapped the overburden aquifer, and one used the deep limestone as a source of water.

For the six wells that utilized groundwater extracted from the overburden, the average yield was approximately 7.5 gpm. The average depth of these wells was thirty-six feet. The geologic material which comprises this aquifer is generally Pleistocene till, with the exception of one well located northeast of the site. This well penetrates an outwash sand and gravel deposit. The yields from the five overburden wells ranged from 4 to 15 gpm. The well located in the outwash sand and gravel deposit, drilled to 60 feet, yielded only 5 gpm. A 20-foot hand dug well, located southeasterly of the outwash well, yielded 10 gpm.

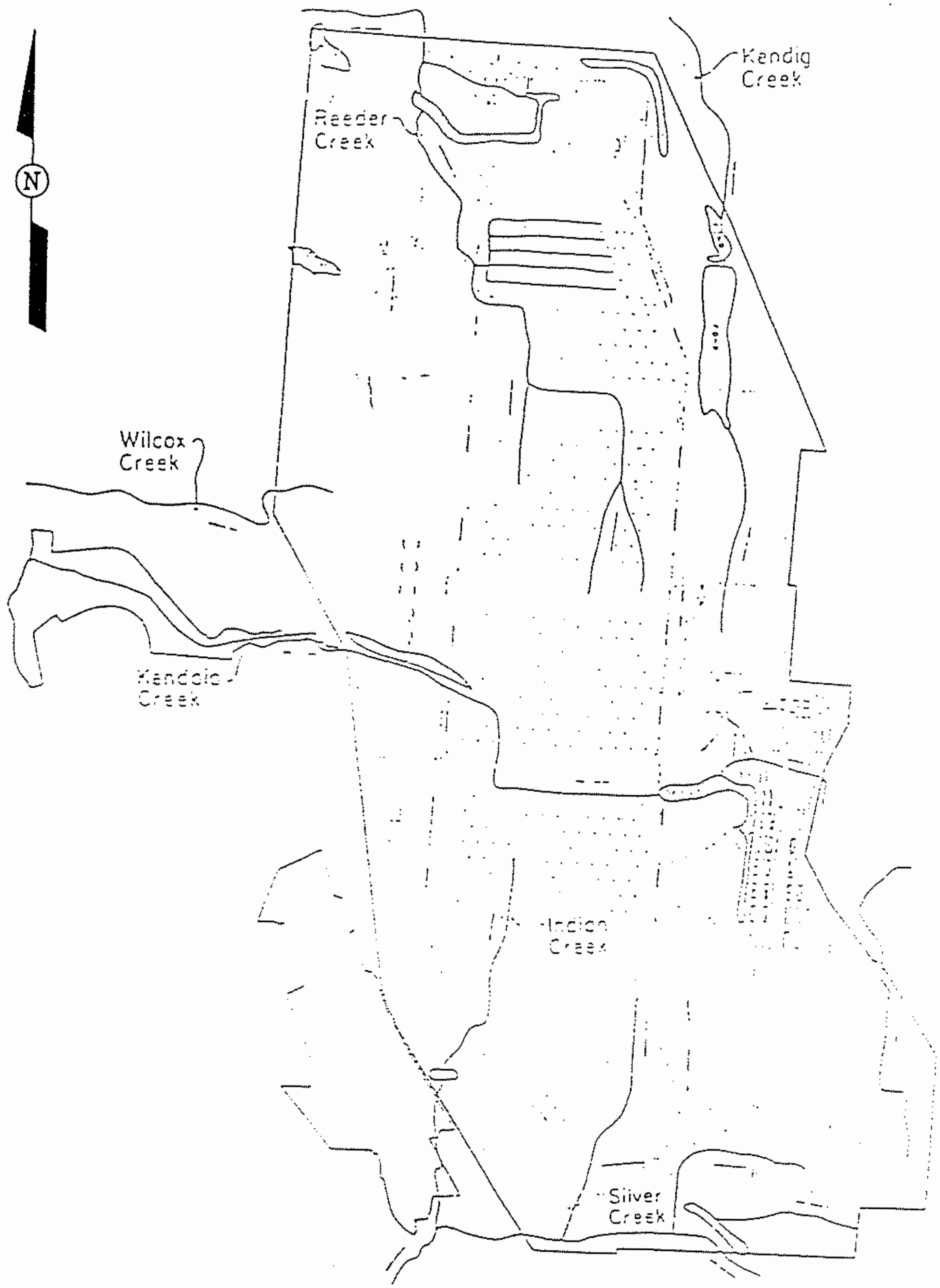
The geologic information reviewed indicates that the upper portions of the shale formation would be expected to yield small, yet adequate, supplies of water, for domestic use. For mid-Devonian shales such as those of Hamilton group, the average yields, (which are less than 15 gpm), are consistent with what would be expected for shales (LaSala, 1968). The deeper portions of the bedrock, (at depths greater than 235 feet) have provided yields up to 150 gpm. At these depths the high well yields may be attributed to the effect of solution on the Onondaga limestone, which is at the base of the Hamilton Group. Based on well yield data, the degree of solution is affected by the type and thickness of overlying material (Mozola, 1951). Solution effects on limestones (and on shales which contain gypsum) in the Erie-Niagara have been reported by LaSala (1968). This source of water is considered to comprise a separate source of groundwater for the area. Very few wells in the region adjacent to SEDA utilize the limestone as a source of water, which may be due to the drilling depths required to intercept this water.

3.3 SURFACE WATERS

Surface drainage from SEDA flows in two general directions via eight drainageways as shown in Figure 3-5. In the southern portion of the depot, the surface drainage flows through ditches and streams into Indian and Silver Creeks. These creeks then flow into Seneca Lake just south of the airfield. The central part and administration area of SEDA drain into Kendaia Creek. Kendaia Creek discharges into Seneca Lake near the Lake Housing Area. The majority of the northwestern and northcentral portion of SEDA drain into Reeder Creek. The northeastern portion of the depot, which includes a marshy area called the Duck Ponds, drains into Kendig Creek and then flows north into the Cayuga-Seneca Canal and to Cayuga Lake (3).

3.4 CLIMATE

Table 3-2 summarizes climatological data for the SEDA area. The nearest source of climatological data is the Aurora Research Farm in Aurora, New York which is approximately ten miles east of SEDA on the east side of Cayuga Lake. This research Farm is administered



SOURCE: REFERENCE 3

ERC Environmental and Energy Services Co.

SURFACE DRAINAGE MAP
SENECA ARMY DEPOT
ROMULUS, NY

FIGURE 3-5

TABLE 3 – 2

CLIMATOLOGICAL DATA FOR SENECA ARMY DEPOT

SENECA ARMY DEPOT
SWMU CLASSIFICATION REPORT

MONTH	TEMPERATURE[1] (°F)			PRECIP[1] (in)	RH[3] (%)	SUN-SHINE[3] (%)	MEAN NUMBER OF DAYS[4]		
	MAX	MIN	MEAN	MEAN	MEAN		CLEAR	PTLY. CLDY.	CLOUDY
JAN	30.9	14.0	22.5	1.88	70	35	3	7	21
FEB	32.4	14.1	23.3	2.16	70	50	3	6	19
MAR	40.6	23.4	32.0	2.45	70	50	4	7	20
APR	54.9	34.7	44.8	2.86	70	50	6	7	17
MAY	66.1	42.9	54.5	3.17	70	50	6	10	15
JUN	76.1	53.1	64.6	3.70	70	60	8	10	12
JUL	80.7	57.2	69.0	3.46	70	60	8	13	10
AUG	78.8	55.2	67.0	3.18	70	60	8	11	12
SEP	72.1	49.1	60.7	2.95	70	60	7	11	12
OCT	61.2	39.5	50.3	2.80	70	50	7	8	16
NOV	47.1	31.4	39.3	3.15	70	30	2	6	22
DEC	35.1	20.4	27.8	2.57	70	30	2	5	24
ANNUAL	56.3	36.3	46.3	34.33	70	50	64	101	200

PERIOD	MIXING HEIGHT[2] (m)	WIND SPEED[2] (m/s)
Morning (Annual)	650	6
Morning (Winter)	900	8
Morning (Spring)	700	6
Morning (Summer)	500	5
Morning (Autumn)	600	5
Afternoon (Annual)	1400	7
Afternoon (Winter)	900	8
Afternoon (Spring)	1600	8
Afternoon (Summer)	1800	7
Afternoon (Autumn)	1300	7

Mean Annual Pan Evaporation[3] (in) : 35
Mean Annual Lake Evaporation[3] (in) : 28
Number of episodes lasting more than 2 days (No. of episode–days)[2] :
Mixing Height < 500 m, wind speed < 2 m/s : 0 (0)
Mixing Height < 1000 m, wind speed < 2 m/s : 0 (0)
Number of episodes lasting more than 5 days (No. of episode–days)[2] :
Mixing Height < 500 m, wind speed < 4 m/s : 0 (0)

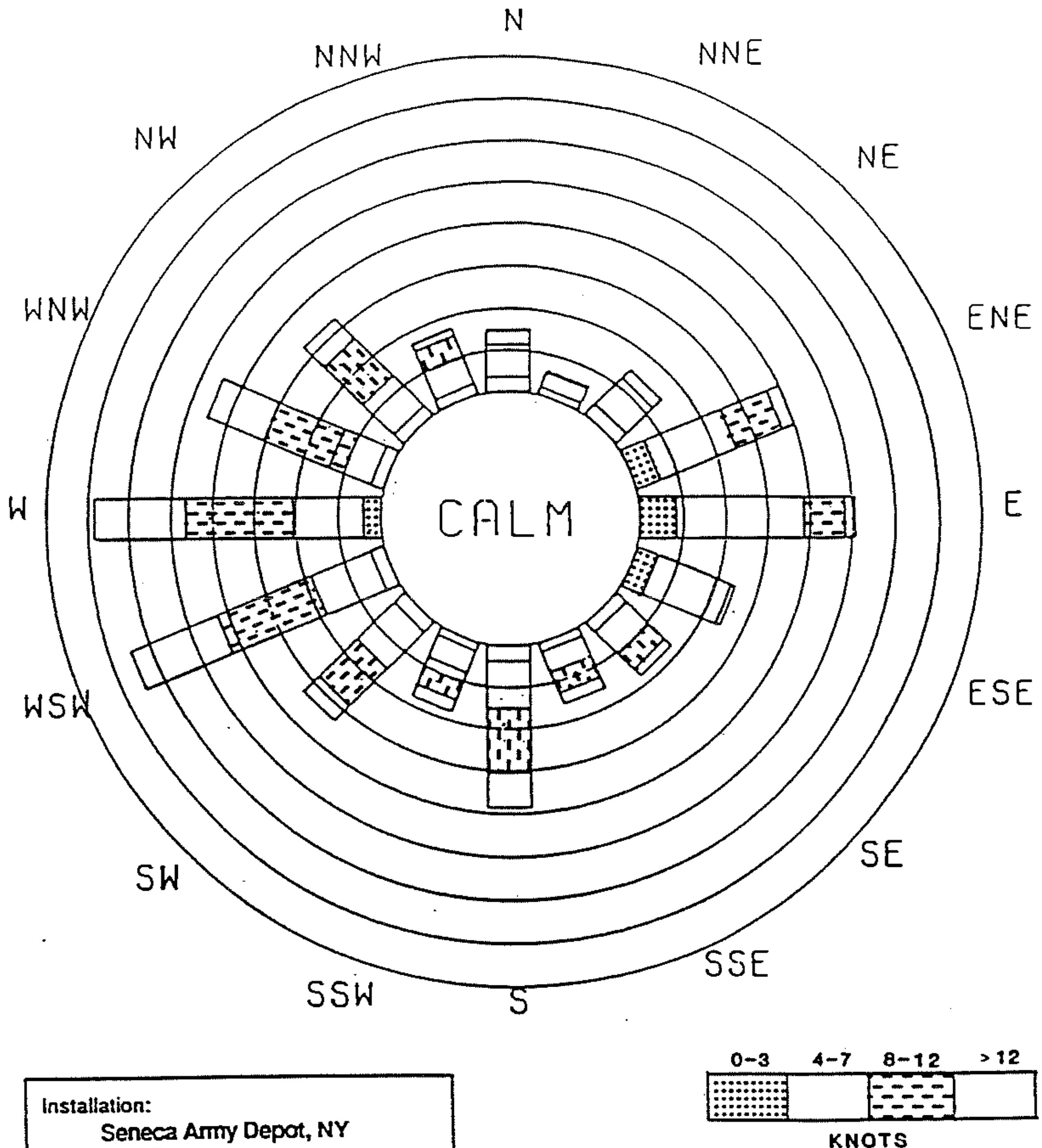
Notes:
1 Climate of New York Climatography of the United States No. 60. National Oceanic and Atmospheric Administration, June 1982. Data for Ithaca Cornell University, NY.
2 Mixing Heights, Wind Speeds, and Potential for Urban Air Pollution throughout the Contiguous United States. George C. Holzworth, Jan. 1972.
3 Climate Atlas of the United States. U.S. Department of Commerce, 1983.
4 Climate of New York Climatography of the United States No. 60. National Oceanic and Atmospheric Administration, June 1982. Data for Syracuse, NY.

by the Northeast Regional Climate Center located at Cornell University in Ithaca, New York. Only precipitation and temperature measurements are available from this location. The other data reported in Table 3-2 were taken either from isopleth drawings from a climatic atlas, or from data collected at Syracuse, New York, which is 40 miles northeast of SEDA. Meteorological data collected from 1965 to 1974 at Hancock International Airport in Syracuse, New York, were used to prepare the wind rose presented in Figure 3-6.

A cool climate exists at SEDA with temperatures ranging from an average of 23°F in January to 69°F in July. Marked temperature differences are found between daytime highs and nighttime lows during the summer and portions of spring and autumn. Precipitation is unusually well-distributed, averaging approximately 3 inches per month. This precipitation is derived principally from cyclonic storms which pass from the interior of the country through the St. Lawrence Valley. Lakes Seneca, Cayuga, and Ontario provide a significant amount of the winter precipitation and moderate the local climate. The annual average snowfall is approximately 100 inches. Wind velocities are moderate, but during the winter months, there are numerous days with sufficient winds to cause blowing and drifting snow. The most frequently occurring wind directions are westerly and west-southwesterly.

The average monthly precipitation at the Aurora Research Farm during the 35-year period of record (1957-1991) is summarized in Figure 3-7. The maximum 24-hour precipitation measured at this station during this period was 3.9 inches on September 26, 1975. Values of 35 inches mean annual pan evaporation and 28 inches for annual lake evaporation were already reported in Table 3-2. An independent value of 27 inches for mean annual evaporation from open water surfaces was estimated from an isoplethed figure in "Water Atlas of the United States" (Water Information Center, 1973).

Precipitation and relative humidity tend to be rather high throughout the year. The months with the most amount of sunshine are June through September. Mixing heights tend to be lowest in the summer and during the morning hours. Wind speeds also tend to be lower during the morning, which suggests that dispersion will often be reduced at those times, particularly during the summer. However, no episode-days are expected to occur with low mixing heights (less than 500 m) and light wind speeds (less than or equal to 2 m/s). Information on the frequency of inversion episodes for a number of National Weather Service stations is summarized in "Mixing Heights, Wind Speeds, and Potential for Urban Air Pollution Throughout the Contiguous United States" (George C. Holzworth, US EPA, 1972). The closest stations at which inversion information is available are Albany, New York and

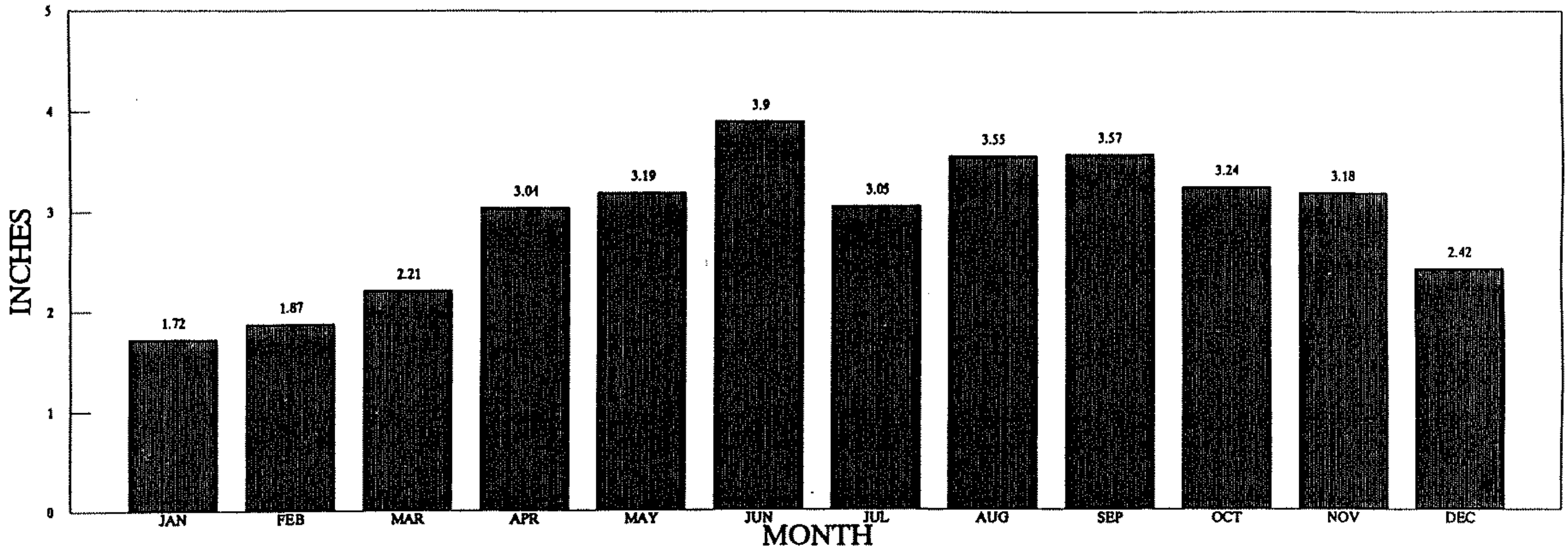


Installation:
Seneca Army Depot, NY
Location of Data:
Syracuse, NY
Source:
US Army Environmental Hygiene Agency

NOTE : EACH DIVISION IS 2% OF TOTAL TIME .

PARSONS
ENGINEERING-SCIENCE, INC.

CLIENT/PROJECT TITLE SENECA ARMY DEPOT SWMU CLASSIFICATION STUDY LIMITED SAMPLING	
DEPT. ENVIRONMENTAL ENGINEERING	NO. 720517-01002
FIGURE 3-6 Wind Rose, Syracuse, New York	
SCALE	



PARSONS
ENGINEERING-SCIENCE, INC.

CLIENT/PROJECT TITLE
SENECA ARMY DEPOT
SWMU CLASSIFICATION STUDY
LIMITED SAMPLING

DEPT. ENVIRONMENTAL ENGINEERING | NO. 720517-01002

FIGURE 3-7
Average Monthly Precitation in Proximity of Seneca Army Depot

SCALE

Buffalo, New York. The Buffalo station is nearer to SEDA but almost certainly exhibits influences from Lake Erie. These influences would not be expected to be as noticeable at SEDA.

SEDA is located in the Genesee-Finger Lakes Air Quality Control Region (AQCR). The AQCR is designated as "non-attainment" for ozone and "attainment" or "unclassified" for all other criteria pollutants. Data for existing air quality in the immediate area surrounding the SEDA, however, can not be obtained since the nearest state air quality stations are 40 to 50 miles away from the depot (Rochester of Monroe County or Syracuse of Onondaga County). A review of the data for Rochester, which is in the same AQCR as SEDA, indicates that all monitored pollutants (sulfur dioxide, particulates, carbon monoxide, lead, ozone) are below state and federal limits, with the exception of ozone. In 1987, the maximum ozone concentration observed in Rochester was 0.127 ppm. However, this value may not be representative of the SEDA area which is in a more rural area.

SECTION 4

4.0 INVESTIGATION OF SOLID WASTE MANAGEMENT UNITS

4.1 SUMMARY OF REPORTS

AEHA identified and described 41 SWMUs in a July 1987 report entitled, "Evaluation of Solid Waste Management Units, Seneca Army Depot." The SWMUs described in the AEHA report were given the designations SEAD-1 through SEAD-41. The AEHA report has been included as Appendix D. In addition to the AEHA study, the New York State Department of Environmental Conservation conducted a RCRA Facility Assessment at SEDA in July, 1988. This study identified 15 additional SWMUs (SEAD-42 through SEAD-56) to add to the 41 SWMUs previously identified in the AEHA study. This information has been reviewed and updated as necessary [5]. The ERCE "Solid Waste Management Unit Classification Report" (1991) is an update of the AEHA Groundwater Contamination Survey No. 38-26-0868-88 (July, 1987). SEDA identified 13 additional SWMUs for the ERCE (1991) study. These units have been given the designation SEAD-57 through SEAD-69. This report is an update of ERCE's "Solid Waste Management Unit Classification Report" (1991). For this report, three additional SWMUs (SEAD-70, SEAD-71 and SEAD-72) were added to the SWMU list to bring the total number of SWMUs to 72.

The identification and classification of the SWMUs for the reports mentioned above was based upon visual inspection, file searches, and/or field investigations involving sampling and analysis of selected media.

4.2 ERCE VISUAL INSPECTION AND FILE SEARCHES

As part of the ERCE (1991) study, visual inspections (Vis) and files searches were conducted at Seneca Army Depot September 10 through 14, and November 27 through 29, 1990. The purpose of this task was to compile and evaluate available information about each SWMU and its surrounding environment. The Vis were conducted jointly by representatives of ERC Environmental and Energy Services Company, Inc. (ERCE) and Seneca Army Depot. The representatives included Julie Hubbs (ERCE), Dimitra Syriopoulou (ERCE, September inspection only), and Randy Battaglia (SEDA). Appendices B and C contain the summaries of the September and November Vis (i.e. field notes, personnel contacted, information gathered), respectively. A description of each SWMU is provided in Appendix A.

4.3 REVIEW OF REPORTS AND ADDITIONAL INFORMATION

To supplement, and in some cases clarify, the classifications of selected SWMUs as presented in the ERCE (1991) SWMU Classification Study; additional information was provided by SEDA. Existing reports and information for seven SWMUs (SEAD-10, SEAD-28, SEAD-29, SEAD-30, SEAD-31, SEAD-51, and SEAD-72) were reviewed by regulatory agencies (NYSDEC and USEPA) and ES in order to formulate addition recommendations for classification. In addition, NYSDEC and USEPA provided comments on the ERCE "Solid Waste Management Unit Classification Report" (1991).

4.4 ES FIELD INVESTIGATION OF SWMUs

As a part of the Solid Waste Management Unit (SWMU) Classification Study update, Engineering-Science, Inc. (ES) conducted a limited sampling program at the Seneca Army Depot Activity (SEDA) for SWMUs numbered SEAD-32, -33, -34, -38, -39, -40, -41, -52, -65, and -66. The purpose of this sampling was to collect additional data to be used to determine whether or not a SWMU can be classified as a No-Action SWMU or if a Site Investigation (SI) study is required. No sampling was performed at the following SWMUs: SEAD-28, -29, -30 and -31, which are all underground waste oil tanks. Instead, the previous tank tightness test results are summarized and presented as part of the revised SWMU Classification Report. No additional tank tightness tests were performed. A determination of the classification of these SWMUs was made from this previous information.

SEAD-51, (the perimeter of the high security area) was also not addressed in the limited sampling plan. Previous surface soil sampling conducted at SEAD- 51 detected low residual concentrations of herbicides, typical of what could be found at many agricultural areas throughout the state. The herbicides listed are commonly used, and are designed to leave a residual concentration by their nature. This fenceline area was herbicided using restricted-use herbicides, by licensed applicators. These operations were in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Furthermore, the ecological assessment for the Open Burning Grounds showed diverse populations of species, including contaminant-sensitive species, in Reeder Creek. Reeder Creek drains 50% of the fenceline area. For this reason the Army does not believe that any additional surface soil sampling is required.

All sampling followed ES standard operating procedures and QA/QC procedures, described in previous ES workplans. These approved workplans include: the Ash Landfill, the OB grounds, the 10 and 15 SWMUs. All chemical analyses were in accordance with NYSDEC Contract Laboratory Program (CLP) Analytical Services Protocols (ASP) and include a validatable Level IV data packages. Summaries of the limited sampling programs for nine SWMUs are included in Appendix A.

SECTION 5

5.0 RANKING OF SWMU'S

5.1 INTRODUCTION

The 72 SWMUs which have been identified at the SEDA are listed in Table 1-1. The locations of these units are shown in Plate 1-1. The SWMUs have been classified as either; 1) No Further Action; 2) High Priority AOC; 3) Moderate Priority AOC; 4) Moderately Low Priority AOC; or 5) Low Priority AOC. No further action SWMUs are those units for which (1) no wastes of concern are likely to be present and (2) no release is evident or is expected to have occurred. Those SWMUs where releases of hazardous substances, pollutants, or contaminants may have occurred or have occurred has been classified as one of the four types of "Areas of Concern" (AOCs). Those SWMUs which have been classified as AOCs are listed in Tables 5-2 thru 5-5. Since sampling has not been conducted at the majority of the SWMU locations, the magnitude of contaminant release and severity of risk cannot be accurately addressed. However, an attempt has been made to rank the units based on the information obtained from the site inspections, file searches, discussions with SEDA personnel and limited sampling.

5.2 NO ACTION SWMUS

As shown in Table 5-1, twenty-four of the seventy-two SWMUs have been classified as areas where no further action is required. The no further action SWMUs are sites which likely pose no threat to the environment. The rational for classifying these areas as no further action SWMUs was based on the site inspections, file searches, interviews conducted with SEDA personnel and limited sampling.

5.3 HIGH PRIORITY AOCs

The thirteen SWMUs listed in Table 5-2 have been classified as High Priority AOC's. These are SWMUs for which a release of a hazardous waste has been reported or a release is likely to have occurred. At six of these AOC's RI/FS's are currently underway (SEAD-3, SEAD-6, SEAD-8, SEAD-14, SEAD-15 and SEAD-23).

5.4 MODERATE PRIORITY AOCs

The three SWMUs listed in Table 5-3 have been classified as Moderate Priority AOCs. These SWMUs are those for which there is evidence or suspicion of waste disposal, but for which the types and/or the exact locations of the wastes have not necessarily been established.

5.5 MODERATELY LOW PRIORITY AOCs

The eleven SWMUs listed in Table 5-4 have been classified as Moderately Low Priority.

5.6 LOW PRIORITY AOCs

The twenty one SWMUs listed in Table 5-5 have been classified as Low Priority.

TABLE 5-1

NO ACTION SWMUs
SENECA ARMY DEPOT ACTIVITY

UNIT NUMBER	UNIT NAME
SEAD-1	Building 307 - Hazardous Waste Container Storage Facility
SEAD-2	Building 301 - PCB Transformer Storage Facility
SEAD-7	Shale Pit
SEAD-10	Present Scrap Wood Site
SEAD-18	Building 709 - Classified Document Incinerator
SEAD-19	Building 801 - Classified Document Incinerator
SEAD-20	Sewage Treatment Plant No. 4
SEAD-21	Sewage Treatment Plant No. 715
SEAD-22	Sewage Treatment Plant No. 314
SEAD-29	Building 732 - Underground Waste Oil Tank
SEAD-30	Building 118 - Underground Waste Oil Tank
SEAD-31	Building 117 - Underground Waste Oil Tank
SEAD-35	Building 718 - Waste Oil-Burning Boilers (3 units)
SEAD-36	Building 121 - Waste Oil-Burning Boilers (2 units)
SEAD-37	Building 319 - Waste Oil-Burning Boilers (2 units)
SEAD-42	Building 106 - Preventive Medicine Laboratory
SEAD-47	Buildings 321 and 806 - Radiation Calibration Source Storage
SEAD-49	Building 356 - Columbite Ore Storage
SEAD-51	Herbicide Usage - Perimeter of High Security Area
SEAD-53	Munitions Storage Igloos
SEAD-55	Building 357 - Tannin Storage
SEAD-61	Building 718 - Underground Waste Oil Tank
SEAD-65	Acid Storage Areas
SEAD-72	Building 803 - Mixed Waste Storage Facility

TABLE 5-2

HIGH PRIORITY AOCs
SENECA ARMY DEPOT ACTIVITY

UNIT NUMBER	UNIT DESCRIPTION
SEAD-3	Incinerator Cooling Water Pond
SEAD-4	Munitions Washout Facility Leach Field
SEAD-6	Abandoned Ash Landfill
SEAD-8	Non-Combustible Fill Area
SEAD-14	Refuse Burning Pits (2 units)
SEAD-15	Building 2207 - Abandoned Solid Waste Incinerator
SEAD-16	Building S-311 - Abandoned Deactivation Furnace
SEAD-17	Building 367 - Existing Deactivation Furnace
SEAD-23	Open Burning Ground
SEAD-24	Abandoned Powder Burning Pit
SEAD-25	Fire Training and Demonstration Pad
SEAD-26	Fire Training Pit
SEAD-45	Demolition Area

Note: RI/FS currently underway at SEAD-3, SEAD-6, SEAD-8, SEAD-14, SEAD-15 and SEAD-23.

TABLE 5-3

MODERATE PRIORITY AOCs
SENECA ARMY DEPOT ACTIVITY

UNIT NUMBER	UNIT NAME
SEAD-11	Old Construction Debris Landfill
SEAD-13	IRFNA Disposal Site
SEAD-57	Explosive Ordnance Disposal Area

TABLE 5-4

MODERATELY LOW PRIORITY AOCs
SENECA ARMY DEPOT ACTIVITY

SWMU NUMBER	SWMU DESCRIPTION
SEAD-5	Sewage Sludge Waste Piles
SEAD-9	Old Scrap Wood Site
SEAD-12	Radioactive Waste Burial Sites
SEAD-43	Building 606 - Old Missile Propellant Test Laboratory (refer to SEAD-56).
SEAD-44	Quality Assurance Test Laboratory Location A: West of Building 616 Location B: Brady Road
SEAD-50	Tank Farm (Refer to SEAD-54)
SEAD-54	Asbestos Storage
SEAD-56	Building 606 - Herbicide and Pesticide Storage (Refer to SEAD-43)
SEAD-58	Debris Area Near Booster Station 2131
SEAD-59	Fill Area West of Building 135
SEAD-69	Building 606 - Disposal Area

Note: SEAD-43, SEAD-56 and SEAD-69 are included as one AOC for the SI program.
SEAD-50 and SEAD-54 are included as one AOC for the SI program.

TABLE 5-5

LOW PRIORITY AOCs
SENECA ARMY DEPOT ACTIVITY

SWMU NUMBER	SWMU DESCRIPTION
SEAD-27	Building 360 - Steam Cleaning Waste Tanks
SEAD-28	Building 360 - Underground Waste Oil Tanks
SEAD-32	Building 718 - Underground Waste Oil Tanks
SEAD-33	Building 121 - Underground Waste Oil Tanks
SEAD-34	Building 319 - Underground Waste Oil Tanks
SEAD-38	Building 2079 - Boiler Plant Blowdown Leach Pit
SEAD-39	Building 121 - Boiler Plant Blowdown Leach Pit
SEAD-40	Building 319 - Boiler Plant Blowdown Leach Pit
SEAD-41	Building 718 - Boiler Plant Blowdown Leach Pit
SEAD-46	Small Arms Range
SEAD-48	Pitch Blend Sotrage Igloos
SEAD-52	Buildings 608 and 612 - Ammunition Breakdown Area
SEAD-60	Oil Discharge Adjacent to Building 609
SEAD-62	Nicotine Sulfate Disposal Area near Buildings 606 or 612
SEAD-63	Miscellaneous Components Burial Site
SEAD-64	Garbage Disposal Areas: Location A: Debris Landfill South of Storage Pad Location B: Disposal Area South of Classification Yards Location C: Proposed Landfill Site Location D: Disposal Area West of Building 2203
SEAD-66	Pesticide Storage Near Buildings 5 and 6
SEAD-67	No. 4 pump Site East of Sewage Treatment Plant
SEAD-68	Building S-335 - Old Pest Control Shop
SEAD-70	Building 2110 - Fill Area
SEAD-71	Alleged Paint Disposal Area

APPENDICES

APPENDIX A

APPENDIX A

Description of Solid Waste Management Units

1.0 SWMU NUMBER: SEAD-1

1.1 UNIT NAME

Building 307-Hazardous Waste Container Storage Facility.

1.2 UNIT CHARACTERISTICS

1.2.1 Unit Type

Hazardous waste storage building.

1.2.2 Design Features

The 40 by 50 foot building consists of a 6-inch thick, monolithic concrete slab floor with a 6-inch curb. The slab is reinforced with steel bars spaced 12 inches apart. The roof is constructed of corrugated zinc-coated steel with single sheets extending from the ridge to the edge. Corrugated steel sheets cover the sides of the building extending from 1 foot below the 2 by 12 inch headers to 6 inches below the top of the curb. A passive ventilation system is provided via the opening at the top of the walls. Entrance into the building is through a sliding corrugated steel door located on the south side of the building. A 10-foot wide concrete ramp extends 10 feet beyond the exterior of the building and 8 feet into the building's interior. A plan view of the building is shown in Figure A-1. The facility conforms to hazardous waste storage regulations in the State of New York. The regulations which determine the design and operation of a hazardous waste storage facility are NY Regulations Title 6, Section 373-2.

1.2.3 Approximate Dates of Usage.

1981 to present.

1.2.4 Operating Practices

Drums of hazardous waste generated in the shops are transported to the building and stored until disposal contracts are procured. Regular inspections are made by the environmental coordinator and the fire department. A typical inspection log sheet is shown in Exhibit A-1.

1.2.5 Present Condition and Status

The building is in good structural condition and is managed appropriately. The building is included in the RCRA Part B permit application. Photographs of the facility, taken on September 14, and November 27, 1990, are shown on the pages following this text.

1.2.6 Government Agency Regulation

The government agency which regulates unit is NYSDEC. The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is Dixon Rollins at NYSDEC's Region 8 Division of Hazardous Substances Regulation.

1.2.7 Regulator Permit

The unit is currently under interim RCRA status awaiting issuance of the final Part B permit. The regulator permit number is NY0213820830.

1.3 SPECIFIC WASTES DISPOSED

Wastes are stored, not disposed of in the building. Types of wastes stored include PCBs, waste solvents, corrosive liquids, flammable solids and flammable liquids.

1.4 MIGRATION PATHWAYS

None were identified.

1.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

1.6 EXPOSURE POTENTIAL

Low.

1.7 RECOMMENDATIONS FOR SAMPLING

None.

1.8 REFERENCES

References 3, 4, 5, and 6. A list of references is provided in Appendix L.

1.9 COMMENTS

Based on the visual site inspections, performed on September 14, and November 27, 1990, the SWMU's status appeared to be the same as that reported in the U.S. Army Environmental Hygiene Agency's Ground Water Contamination Survey No. 38-26-0868-88 (Reference 3). This report has been included as Appendix D.

1.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

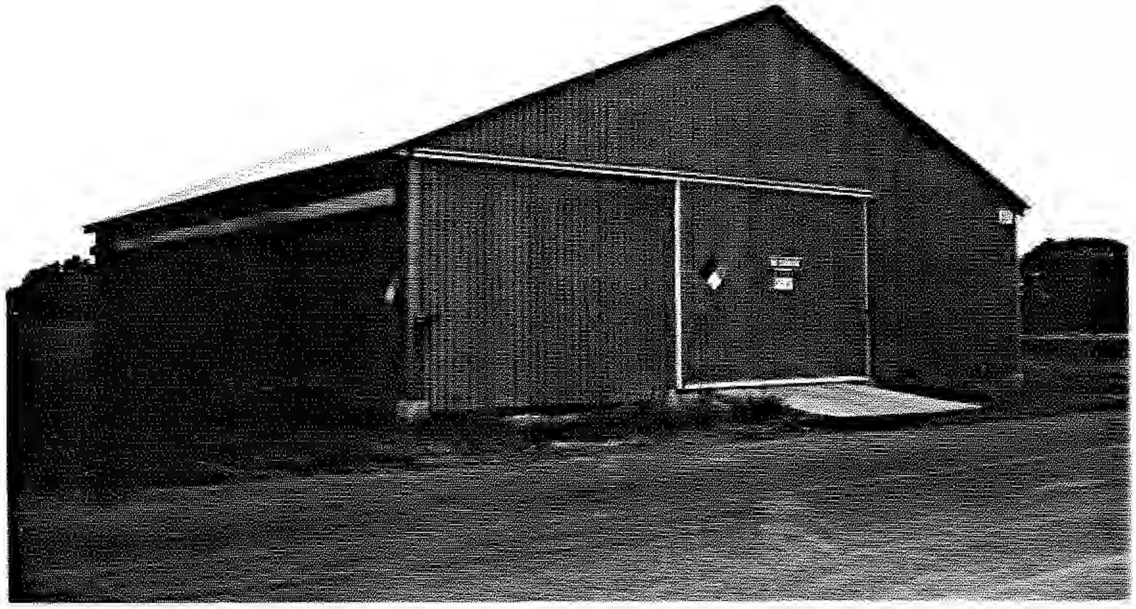


Photo 1: SEAD-1, 9/14/90. View of the Hazardous Waste Container Storage Facility - Building 307, facing northeast.

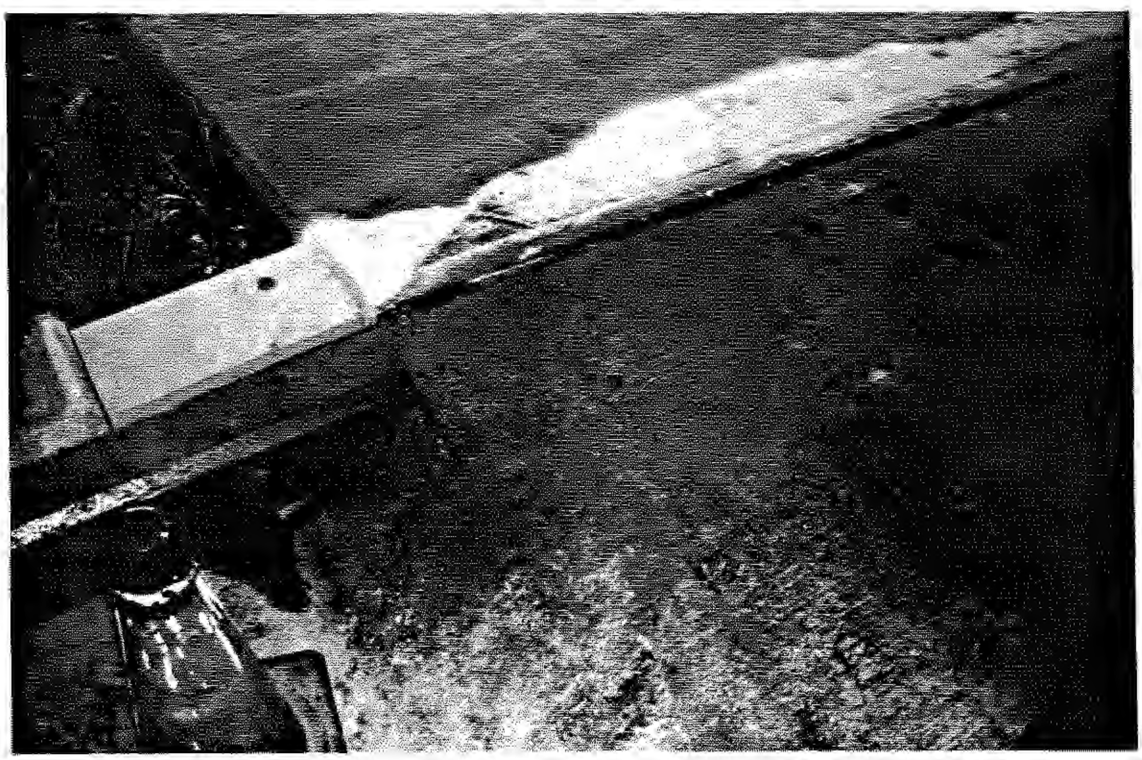


Photo 2: SEAD-1, 11/27/90. View of the monolithic concrete slab floor and 6-inch curb - Building 307, facing south.

Photo 3: SEAD-1, 11/27/90. Interior of the Hazardous Waste Container Storage Facility - Building 307, facing northeast.

Photo 4: SEAD-1, 11/27/90. Interior of the Hazardous Waste Container Storage Facility - Building 307, facing southeast.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-1

DATE: 9/14/90
TIME: 7:40 a.m.

DATE: 11/27/90
TIME: 10:00 a.m.

UNIT NAME: Building 307 - Hazardous Waste Container Storage Facility

PHOTO NUMBER: 1(on 9/14/90), 2 through 4 (on 11/27/90)

ORIENTATION OF PHOTOGRAPH: No. 1. facing northeast, No. 2 facing south, No. 3 facing northeast, No. 4 facing southeast

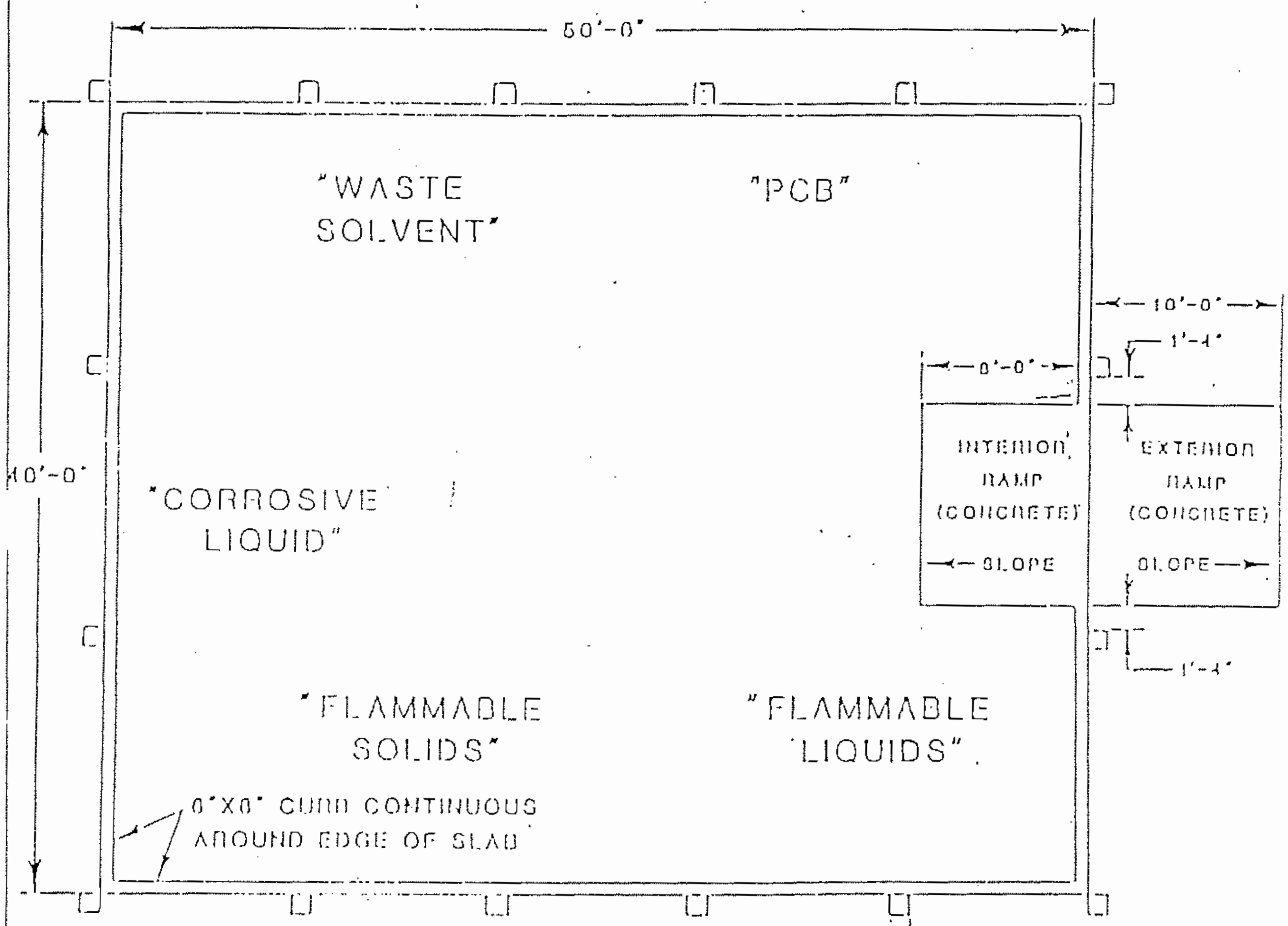
LOCATION WITHIN FACILITY: On 1st Street, between Arms Place and Avenue B.

WEATHER CONDITIONS: Cloudy, 70° F on 9/14/90
Cloudy, 65°F on 11/27/90

PHOTOGRAPHER: Dimitra Syriopoulou (9/14/90)
Julie Hubbs (11/27/90)

FIGURE A-1

PLAN VIEW OF HAZARDOUS WASTE
CONTAINER STORAGE FACILITY



SOURCE: REFERENCE 3

ERC Environmental and Energy Services Co.

PLAN VIEW OF HAZARDOUS WASTE CONTAINER STORAGE FACILITY

FIGURE A-1

EXHIBIT A-1

HAZARDOUS WASTE CONTAINER STORAGE AREA INSPECTION LOG SHEET OCTOBER 22, 1990

SENECA ARMY DEPOT
CONTAINER STORAGE AREA INSPECTION LOG SHEET
Building Number 307

Inspector's Name/Title EDWARD Hilliard FIRE INSP

Date of Inspection 10-22-90 (month/dat/year) Time of Inspection 7:35 AM

Building in use ✓
Building not in use
Date and
Nature of Rc

Inventory Quantity

Area	Item	Types of Problems	Acceptable	Unacceptable	Observations	Remedial /
Containers	Container placement		✓			
	Sealing of containers		✓			
	Labeling of containers		✓			
	Containers		✓			
	Segregation of Incompatible wastes		✓			
	Doors, and locks		✓			
	Base, foundation, curbing and runoff collection sumps		✓			
	Warning signs		✓			
	Valves and piping		N/A			
	Lights		✓			
	Roof ventilator		✓			
	Sprinkler system		N/A			
	Loading/Unloading areas		✓			
	Communications		✓			
	Conditions of Pallets		✓			

2.0 SWMU NUMBER: SEAD-2

2.1 UNIT NAME

Building 301-PCB Transformer Storage Facility.

2.2 UNIT CHARACTERISTICS

2.2.1 Unit Type

Hazardous waste storage building.

2.2.2 Design Features

The floor of the building consists of a 6-inch thick, monolithic concrete slab floor with a 6-inch curb. The slab is reinforced with steel bars spaced 12 inches apart. The flat roof is covered with tar paper. The 12-foot high walls are made of 12-inch thick scored tile. As shown in Figure A-2, the building has four windows and two roll-up doors.

2.2.3 Approximate Dates of Usage

1980 to present.

2.2.4 Operating Practices

Decommissioned transformer units and other suspected PCB-contaminated electrical equipment are delivered to the building by linemen. Sampling is conducted by the environmental coordinator to determine the concentrations of PCBs in the units and contaminated electrical equipment. The items are then disposed of by the Defense, Reutilization and Marketing Office (DRMO). Inspections are conducted regularly by the environmental coordinator and the fire department. A typical inspection log sheet is shown in Exhibit A-2.

2.2.5 Present Conditions and Status

The building was upgraded in 1986 to meet conforming storage requirements. This facility is included in the RCRA Part B permit application. Photographs of the facility, taken in September, 1990, are shown on the pages following this text.

2.2.6 Government Agency Regulation

The government agency which regulates unit is NYSDEC. The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is Dixon Rollins at NYSDEC's Region 8 Division of Hazardous Substances Regulation.

2.2.7 Regulator Permit

The unit is currently under interim RCRA status awaiting issuance of the final Part B permit. The regulator permit number is NY0213820830.

2.3 SPECIFIC WASTES DISPOSED

Wastes are stored, not disposed of in the building.

2.4 MIGRATION PATHWAYS

None were identified.

2.5 EVIDENCE OF RELEASE

No evidence of a release was observed. Soil samples were collected during the upgrade to the SWMU's floor. The samples were analyzed for PCBs. These results are given in Table A-2. As shown, all samples were less than 1.0 mg/kg and thus were below the regulatory limits established in EPA's PCB Spill Cleanup Policy (40 CFR Part 761).

2.6 EXPOSURE POTENTIAL

Low.

2.7 RECOMMENDATIONS FOR SAMPLING

None.

2.8 REFERENCES

References 3, 4, 5, 6, and 7. A list of references is provided in Appendix L.

2.9 COMMENTS

Based on the visual site inspection, performed on September 11, 1990, the SWMU's status appeared to be the same as that reported in Reference 3 with the exception of the recent upgrade to the floor of the SWMU.

2.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

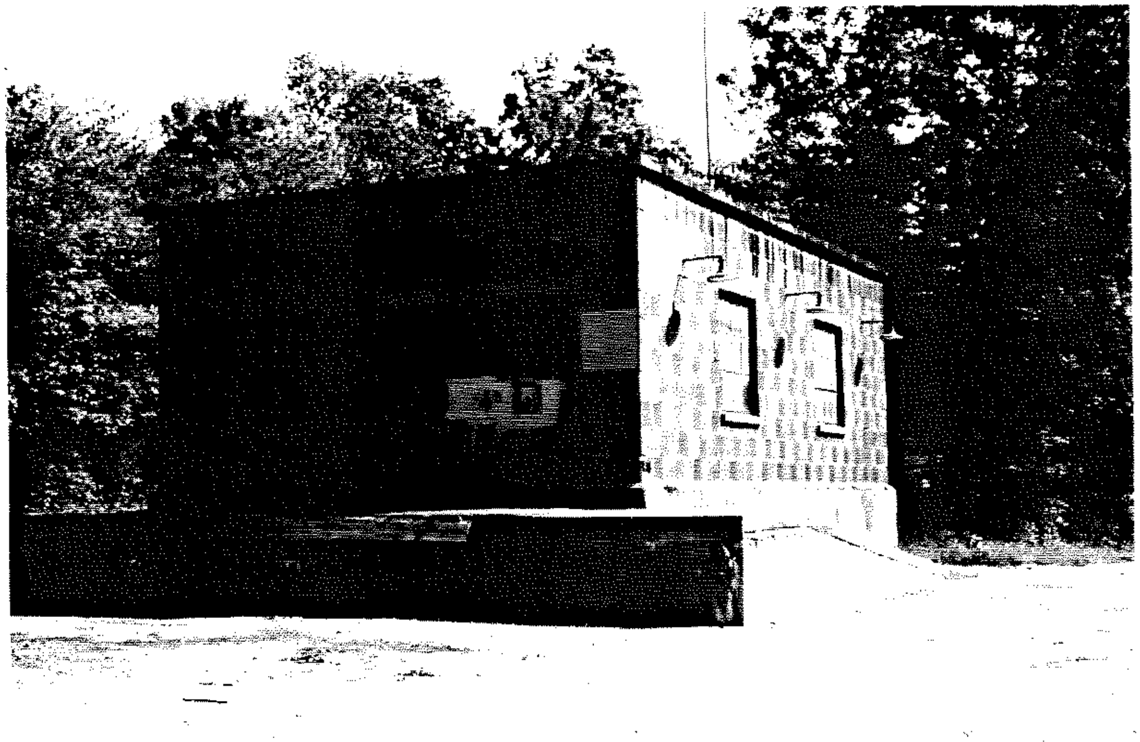


Photo 5: SEAD-2, 9/13/90. View of the PCB Transformer Storage Area - Building 301, facing southeast.

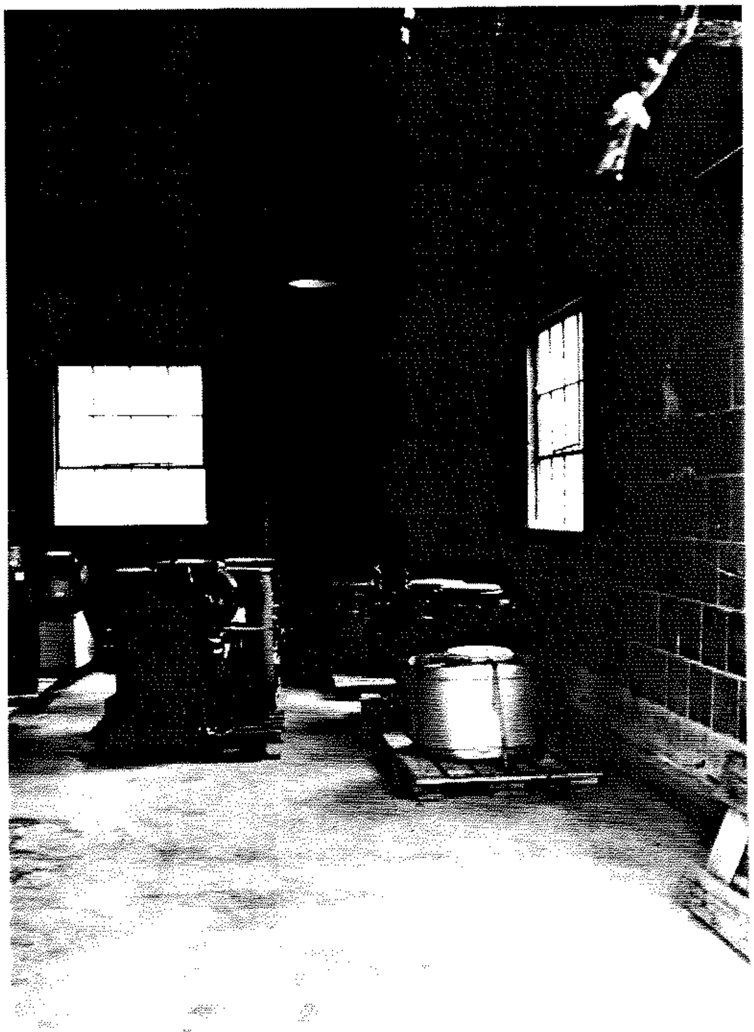


Photo 6: SEAD-2, 9/11/90. Interior of the PCB Transformer Storage Area-Building 301, facing south.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-2 DATE: 9/11/90 TIME: 1:20 p.m.
DATE: 9/13/90 TIME: 2:40 p.m.

UNIT NAME: Building 301 - PCB Transformer Storage Facility

PHOTO NUMBER: 5 (on 9/13/90) and 6 (on 9/11/90)

ORIENTATION OF PHOTOGRAPH: No. 5 facing southeast, No. 6 facing south

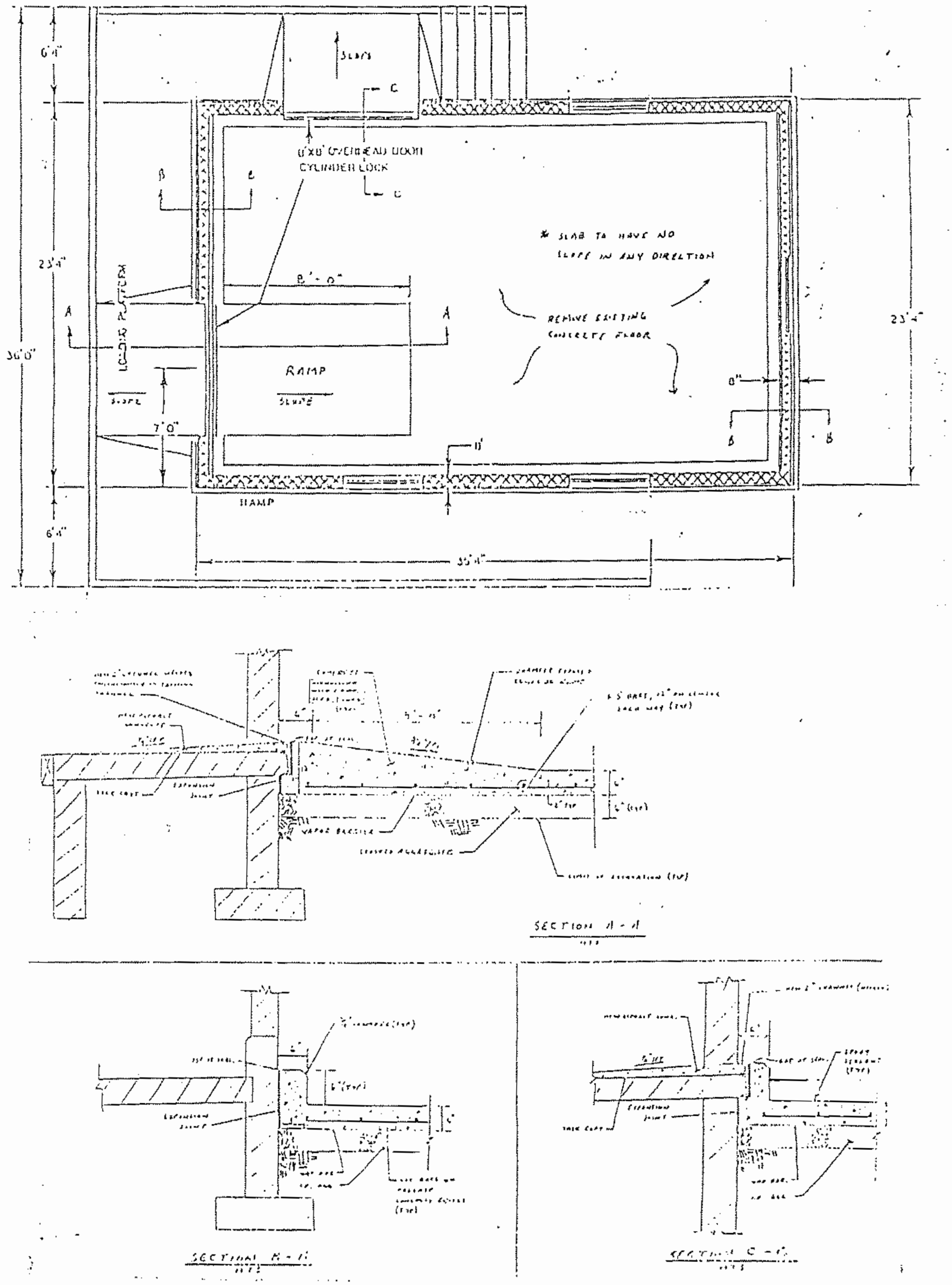
LOCATION WITHIN FACILITY: On Fayette Road, approximately 3,000 feet south of East Kendaia Road

WEATHER CONDITIONS: Sunny, 80°F on 9/13/90; Sunny, 75°F on 9/11/90

PHOTOGRAPHER: Dimitra Syriopoulou

FIGURE A-2

PLAN VIEW AND SECTIONS OF PCB TRANSFORMER STORAGE FACILITY



ERC Environmental and Energy Services Co.

PLAN VIEW AND SECTIONS OF PCB TRANSFORMER STORAGE FACILITY

FIGURE A-2

EXHIBIT A-2

PCB TRANSFORMER STORAGE AREA INSPECTION LOG SHEET OCTOBER 22, 1990

SENECA ARMY DEPOT
CONTAINER STORAGE AREA INSPECTION LOG SHEET
Building Number- 501

Inspector's Name/Title EDWARD HILLIARD [illegible]

Date of Inspection 10-22-90 (month/dat/year) Time of Inspection 7:[illegible] am

Building in use ✓
Building not in use

Inventory Quantity

Area	Item	Types of Problems	Acceptable	Unacceptable	Observations	Date and Nature of Repa[ir] Remedial Ac[tion]
Containers	Container placement		✓			
	Sealing of containers		✓			
	Labeling of containers		✓			
	Containers		✓			
	Segregation of Incompatible wastes		✓			
	Doors, and locks		✓			
	Base, foundation, curbing and runoff collection sumps		✓			
	Warning signs		N/A			
	Valves and piping		✓			
	Lights		✓			
	Roof ventilator		N/A			
	Sprinkler system		✓			
	Loading/Unloading areas		✓			
	Communications		N/A			
	Conditions of Pallets		✓			

TABLE A-2

PCB ANALYSIS RESULTS FROM SOILS UNDER SLAB AT BUILDING 301 FEBRUARY 3, 1989

TABLE A-2
PCB ANALYSIS RESULTS FROM SOILS UNDER SLAB AT
BUILDING 301 - FEBRUARY 3, 1989

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

3.0 SWMU NUMBER: SEAD-3

3.1 UNIT NAME

Incinerator Cooling Water Pond.

3.2 UNIT CHARACTERISTICS

3.2.1 Unit Type

Abandoned lagoon.

3.2.2 Design Features

A circular feature (an unlined depression approximately 50 feet in diameter and 6 to 10 feet deep) defined by a soil berm.

3.2.3 Approximate Dates of Usage

1974 to 1979.

3.2.4 Operating Practices

The pond was used to hold the cooling water and fly ash generated from the scrubber of the solid waste incinerator (SEAD-15). The fly ash was removed every 18 months and disposed of at the Ash Landfill (SEAD-6).

3.2.5 Present Condition and Status

Abandoned and dry. The photograph in this section, taken on September 10, 1990, shows the general location of the pond.

3.3 WASTE CHARACTERISTICS

3.3.1 Specific Wastes Disposed

Cooling water and fly ash from the scrubber of the solid waste incinerator.

3.3.2 Physical and Chemical Characteristics

Heavy metals and sulfate are the primary constituents of concern.

3.3.3 Migration and Dispersal Characteristics

Dissolved metals and sulfate may migrate to the ground water.

3.3.4 Toxicological Characteristics

Maximum Contaminant Levels (MCLs) for many heavy metals and a secondary drinking water criterion for sulfate are available (Appendix E).

3.4 MIGRATION PATHWAYS

The migration pathways are soil and groundwater.

3.5 EVIDENCE OF RELEASE

Elevated sulfate concentrations in the ground water monitoring well samples have been reported. The abandoned pond is in the same area as the old refuse burning pits (SEAD-14) and the Ash Landfill (SEAD-6), both of which may be the source of the groundwater impacts.

3.6 EXPOSURE POTENTIAL

Groundwater impacts have been confirmed in the area, but it is not known if the source is the abandoned cooling pond. The exposure potential is rated as moderate.

3.7 RECOMMENDATIONS FOR SAMPLING

SEDA has identified the incinerator cooling water pond (SEAD-3) and the units adjacent to the pond (SEAD-6, SEAD-8, SEAD-14 and SEAD-15) as AOCs. For RI/FS purposes, these units are being treated as one operable unit. Collectively, the five SWMUs listed above are being investigated under the CERCLA RI/FS process.

3.8 REFERENCES

References 3, 5, and 6. A list of references is provided in Appendix L.

3.9 COMMENTS

Based on the visual site inspection, performed on September 10, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

3.10 REGULATORY STATUS

This SWMU is classified as a High Priority Area of Concern. The SWMU is part of the Ash Landfill Operable Unit and is being investigated under the CERCLA RI/FS process.

Photo 7: SEAD-3, 3/10/90. View of the Incinerator Cooling Water Pond, facing north.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-3 DATE: 9/10/90 TIME: 3:40 p.m.

UNIT NAME: Incinerator Cooling Water Pond

PHOTO NUMBER: 7

ORIENTATION OF PHOTOGRAPH: Facing north

LOCATION WITHIN FACILITY: On West Smith Farm Road, on the north side of Building 2207

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

4.0 SWMU NUMBER: SEAD-4

4.1 UNIT NAME

Munitions Washout Facility Leach Field.

4.2 UNIT CHARACTERISTICS

4.2.1 Unit Type

Leach Field.

4.2.2 Design Features

Unknown. The area where the washout plant previously existed was measured. The area was approximately 150 feet long by 80 feet wide.

4.2.3 Approximate Dates of Usage

1948 to 1963.

4.2.4 Operating Practices

Operations at this unit included dismantling and removing explosives (i.e. trinitroluene (TNT)) from munitions by steam cleaning. This operation produced explosive solids and wastewater. The solid explosives were transported to the burning grounds for thermal destruction. The wastewater contained dissolved explosives such as TNT, RDX, HMX and tetryl and other chemical impurities such as trinitrobenzene and heavy metals. It should be noted that TNT, RDX, HMX and tetryl are the most probable explosive compounds present. The actual explosives in the wastewater are unknown. It was reported that the wastewater was processed through sawdust to remove any solid explosive residues prior to being discharged to an area where it leached into the ground or flowed into a nearby ditch. The ditch possibly discharged to a pond located west of the facility (see Photo 11). The U.S. Army Environmental Hygiene's Ground Water Contamination Survey No. 38-26-0868-88 stated that the remaining wastewater discharged into an area near Building 2084. Recently, it was reported from an employee that the remaining wastewater discharged into an area near Building 2079.

4.2.5 Present Conditions and Status

The foundation of the dismantled washout plant is still visible, but no visual evidence of the leach field was observed. Photographs of the area, taken in September and November 1990, are shown on the pages following this text.

4.3 WASTE CHARACTERISTICS

4.3.1 Specific Waste Disposed

Wastewater potentially containing small amounts of explosives and heavy metals.

4.3.2 Physical and Chemical Characteristics

Compounds which presumably could be found include 2,4,6-TNT, 2,4-DNT, 2,6-DNT, RDX, HMX, trinitrobenzene and tetryl. Heavy metals are also potential constituents of the waste. Soil samples from the pond area were collected on June 28, 1990. The soils were analyzed for 2,4,6-TNT, 2,4-DNT and 2,6-DNT. These explosives were not detected in any of the samples. The soil analysis results are shown in Table A-4.

4.3.3 Migration and Dispersal Characteristics

The wastewater containing the explosives and heavy metals may leach into the ground relatively easily.

4.3.4 Toxicological Characteristics

Health advisories have been finalized for the explosive compounds, HMX, RDX and TNT and are given in Appendix E. MCLs have not been established for the explosive compounds of concern. It has been reported that the only explosive compound which may eventually be assigned a MCL is 2,4-DNT. Since MCLs do not exist for the explosives, guidance for interpreting explosive compounds in ground water samples has been developed by the Army Environmental Hygiene Agency. This guidance document has been included as Appendix F. MCLs have been established for many of the heavy metals of concern as shown in Appendix E.

4.4 MIGRATION PATHWAYS

The migration pathways are soil and groundwater.

4.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

4.6 EXPOSURE POTENTIAL

Moderate.

4.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 10 Solid Waste Management Units. The investigation program is outlined in the "Workplan for CERCLA ESI of Ten Solid Waste Management Units."

4.8 REFERENCES

References 3, 5, 6, and 8. A list of references is provided as Appendix L.

4.9 COMMENTS

Based on the visual site inspection, the SWMU's description appeared to be the same as that reported in Reference 3, with the exception of the wastewater discharge location.

4.10 REGULATORY STATUS

This SWMU is classified as a High Priority Area of Concern. It is currently being investigated under the CERCLA 10 SWMU SI program.

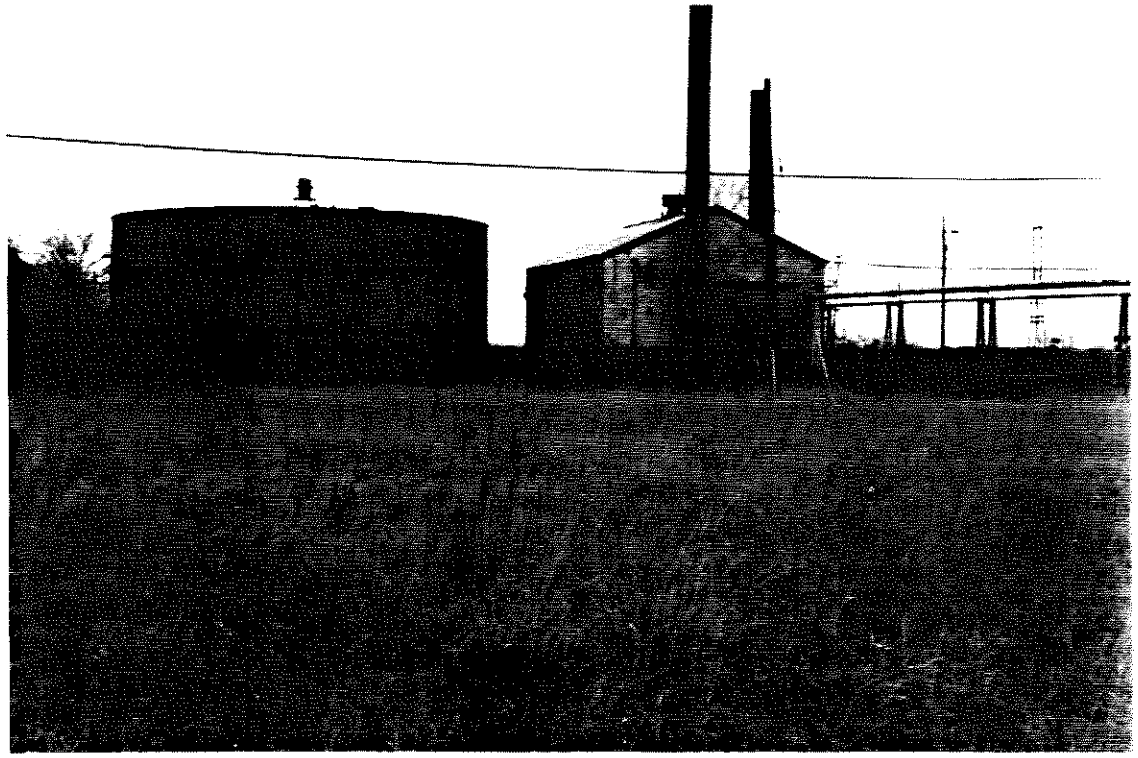


Photo 8: SEAD-4, 11/29/90. View of he Munitions Washout Facility Leach Field, facing northeast.

Photo 9: SEAD-4, 9/13/90. View of the Munitions Washout Facility Leach Field, facing south.

Photo 10: SEAD-4, 11/29/90. View of the drainage ditch at the Munitions Washout Facility Leach Field, facing northwest.

Photo 11: SEAD-4, 9/11/90. View of the pond which collects the drainage from the Munitions Washout Facility Leach Field, facing west.

Photo 12: SEAD-4, 9/11/90. View of the drainage ditch from the Munitions Washout Facility Leach Field, leading to the pond, facing northeast.

Photo 13: SEAD-4, 9/11/90. Close-up of the drainage ditch from the Munitions Washout Facility Leach Field, leading to the pond, facing northeast.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-4

DATE: 9/11/90 TIME: 3:40 p.m.
DATE: 9/13/90 TIME: 10:35 a.m.
DATE: 11/29/90 TIME: 9:30 a.m.

UNIT NAME: Munitions Washout Facility Leach Field

PHOTO NUMBER: 8 (on 11/29/90), 9 (on 9/13/90), 10 (on 11/29/90) and 11 through 13 (on 9/11/90)

ORIENTATION OF PHOTOGRAPH: No. 8 facing northeast, No. 9 facing south, No. 10 facing northwest, No. 11 facing west, No. 12 facing northeast, No. 13 facing northeast.

LOCATION WITHIN FACILITY: Approximately 300 feet northeast of Ovid Road, in the vicinity of Building 2079

WEATHER CONDITIONS: Partly cloudy, 75°F on 9/11/90
Sunny, 75°F on 9/13/90
Partly cloudy, 55°F on 11/29/90

Siriopooloo

PHOTOGRAPHER: Dimitra Syriopoulou (9/11 and 9/13/90)
Julie Hubbs (11/29/90)

TABLE A-4

SOIL ANALYSIS RESULTS FROM POND AREA

JUNE 28, 1990

TABLE A-4
SOIL ANALYSIS RESULTS FROM POND AREA

Sample Number	Units	Explosives		
		2,4,6-TNT	2,4-DNT	2,6-DNT
1	ug/g	U	U	U
2	ug/g	U	U	U
3	ug/g	U	U	U
4	ug/g	U	U	U
5	ug/g	U	U	U
6	ug/g	U	U	U
7	ug/g	U	U	U
8	ug/g	U	U	U
9	ug/g	U	U	U
10	ug/g	U	U	U
11	ug/g	U	U	U
12	ug/g	U	U	U
13	ug/g	U	U	U
14	ug/g	U	U	U
15	ug/g	U	U	U
16	ug/g	U	U	U
17	ug/g	U	U	U
18	ug/g	U	U	U
19	ug/g	U	U	U
20	ug/g	U	U	U
21	ug/g	U	U	U
22	ug/g	U	U	U
23	ug/g	U	U	U
24	ug/g	U	U	U
25	ug/g	U	U	U
26	ug/g	U	U	U
27	ug/g	U	U	U
28	ug/g	U	U	U
29	ug/g	U	U	U
30	ug/g	U	U	U
31	ug/g	U	U	U

TABLE A-4 (CONTINUED)
SOIL ANALYSIS RESULTS FROM POND AREA

Sample Number	Units	Explosives		
		2,4,6-TNT	2,4-DNT	2,6-DNT
32	ug/g	U	U	U
36 (surface)	ug/g	U	U	U
34	ug/g	U	U	U
35	ug/g	U	U	U
36 (surface to 6")	ug/g	U	U	U
37	ug/g	U	U	U
38	ug/g	U	U	U
39	ug/g	U	U	U
40	ug/g	U	U	U
41	ug/g	U	U	U
42	ug/g	U	U	U
43	ug/g	U	U	U
44	ug/g	U	U	U
45	ug/g	U	U	U
46	ug/g	U	U	U
47	ug/g	U	U	U
48	ug/g	U	U	U
49	ug/g	U	U	U
50	ug/g	U	U	U
51	ug/g	U	U	U
52	ug/g	U	U	U
53	ug/g	U	U	U
54	ug/g	U	U	U
55	ug/g	U	U	U
56	ug/g	U	U	U
57	ug/g	U	U	U
58 (surface to 10")	ug/g	U	U	U
58 (surface)	ug/g	U	U	U

TABLE A-4 (CONTINUED)
SOIL ANALYSIS RESULTS FROM POND AREA

Sample Number	Units	Explosives		
		2.4,6-TNT	2,4-DNT	2,6-DNT
60	ug/g	U	U	U
61	ug/g	U	U	U
62	ug/g	U	U	U
63	ug/g	U	U	U
64	ug/g	U	U	U
65	ug/g	U	U	U
66	ug/g	U	U	U
67	ug/g	U	U	U
68	ug/g	U	U	U
69	ug/g	U	U	U
70	ug/g	U	U	U

NOTES:
1. U = analyzed, not detected
2. Samples collected June 28, 1990.

5.0 SWMU NUMBER: SEAD-5

5.1 UNIT NAME

Sewage Sludge Waste Piles.

5.2 UNIT CHARACTERISTICS

5.2.1 Unit Type

Waste Piles.

5.2.2 General Dimensions

There are several piles covering an area approximately 220 feet long by 110 feet wide by 5 to 10 feet high.

5.2.3 Approximate Dates of Usage

1980 to present.

5.2.4 Operating Practices

Sludge is removed approximately every two months from the two sewage treatment plants' sludge drying beds and is stored in the waste piles until a permit is acquired to apply the sludge to the land for growing grassy areas for pheasant nesting. Due to the size of the current waste piles, interim actions are being taken by SEDA to dispose of the sludge in a landfill.

5.2.5 Present Conditions and Status

Most of the older piles are covered with a heavy growth of vegetation. Photographs of the piles, taken on September 13, 1990, are shown on the pages following this text.

5.3 WASTE CHARACTERISTICS

5.3.1 Specific Waste Disposed

Sewage sludge from the sludge drying beds located at Sewage Treatment Plant (STP) No. 4 and STP No. 715.

5.3.2 Physical and Chemical Characteristics

The sludge was tested by the State and by a lab under contract to SEDA in 1985. The sludge was determined to have relatively high copper concentrations. These analytical results are shown in Table A-5.

5.3.3 Migration and Dispersal Characteristics

Precipitation flowing through the waste pile could leach heavy metals (copper) and nitrates from the sludge. It should be noted that copper and nitrates are not included on the hazardous constituent list contained in 40 CFR Part 261 Appendix VIII.

5.3.4 Toxicological Characteristics

MCLs have been established for copper and nitrate (see Appendix E for drinking water regulations).

5.4 MIGRATION PATHWAYS

The migration pathways are soil and groundwater.

5.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

5.6 EXPOSURE POTENTIAL

Low to moderate.

5.7 RECOMMENDATIONS FOR SAMPLING

SEDA's August 6, 1991 Memorandum recommends a sludge removal action followed by a confirmation soil sampling program. A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is outlined in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

5.8 REFERENCES

References 3, 5, and 6. A list of references is provided as Appendix L.

5.9 COMMENTS

Based on the visual site inspection, performed on September 13, 1990, the SWMU's status appeared to be the same as that reported in Reference 3, with the exception of the general dimensions of the waste piles.

5.10 REGULATORY STATUS

This SWMU is classified as a Moderately Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

Photo 14: SEAD-5, 9/13/90. View of the Sewage Sludge Waste Piles, facing southeast.

Photo 15: SEAD-5, 9/13/90. View of the Sewage Sludge Waste Piles, facing south.

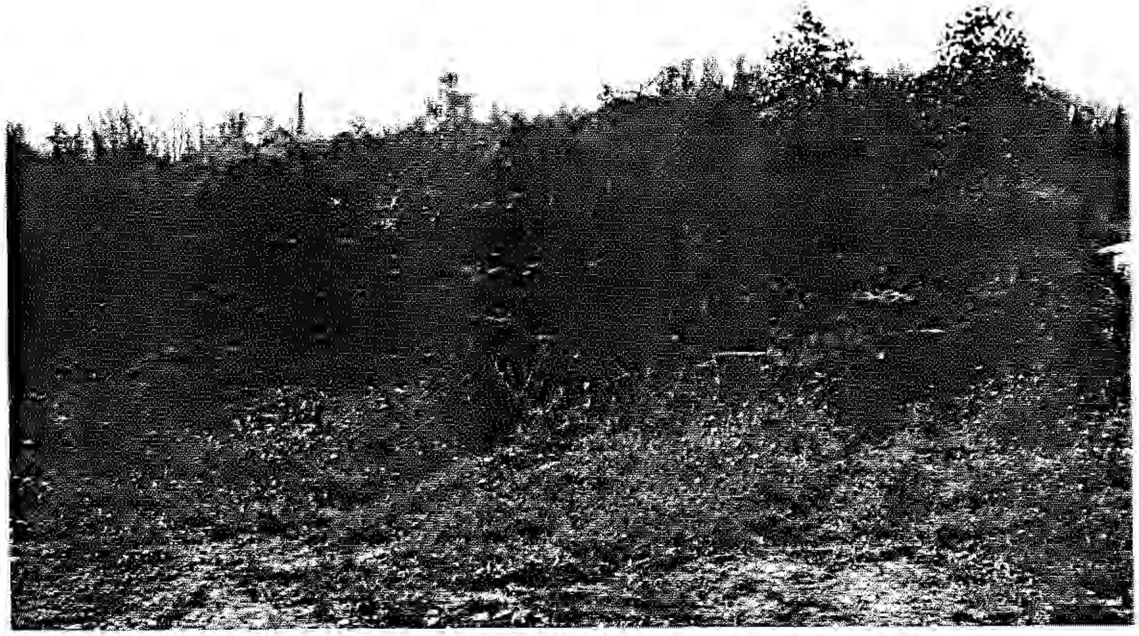


Photo 16: SEAD-5, 9/13/90. Close-up of a Sewage Sludge Waste Pile, facing south.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-5 DATE: 9/13/90 TIME: 11:00 a.m.

UNIT NAME: Sewage Sludge Waste Piles

PHOTO NUMBER: 14 through 16

ORIENTATION OF PHOTOGRAPH: No. 14 facing southeast, No. 15 and 16 facing south

LOCATION WITHIN FACILITY: Approximately 1,200 feet west of the intersection of Administration Avenue and South Street, approximately 700 feet west of Building 135.

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

TABLE A-5

SLUDGE ANALYSIS RESULTS
FROM
STP NO. 4 AND STP NO. 715

TABLE A-5
SLUDGE ANALYSIS RESULTS

I. SLUDGE SAMPLES COLLECTED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, FEBRUARY 1985.

Location	Parameters									
	Total Volatile Solids %	pH	Cd	Cr	Cu	Hg	K	Ni	Pb	Zn
STP No. 4	68.4	6.3	6.1	26	1,490	2.5	640	33	180	1,240
STP No. 715	54.1	7.3	8.3	110	1,130	1.7	860	23	280	1,210

Location	Parameters					
	Ammonia as Nitrogen	Nitrate as Nitrogen	Nitrite as Nitrogen	Total Kjeldahl Nitrogen	Total Phosphorus	Total Solids %
STP No. 4	4,100	<1.50	38.2	21,000	9,800	13.8
STP No. 715	5,300	51.2	<3.75	38,000	14,000	7.04

Location	Parameters		
	Extractable Organic Halogens	Volatile Organic Halogens	Total Organic Halogens
STP No. 4	3	<0.1	3
STP No. 715	12	0.5	12.5

Location	Parameters			
	PCB-1221	PCB-1232	PCB-1016	PCB-1242
STP No. 4	ND	ND	ND	ND
STP No. 715	ND	ND	ND	ND

Location	Parameters			
	PCB-1248	PCB-1254	PCB-1260	PCB-1262
STP No. 4	ND	ND	ND	ND
STP No. 715	ND	ND	ND	ND

Notes:
1) All results in ug/g (ppm) dry weight unless noted otherwise.
2) ND = Not detected at or above reporting limit.

TABLE A-5 (Continued)
SLUDGE ANALYSIS RESULTS

II. SLUDGE SAMPLES COLLECTED BY SENECA ARMY DEPOT, 1985.

A. Samples received by laboratory 10/24/85.

Location	Parameters		
	% SOLIDS	Cu	TOX
STP No. 4	25	1,840	0.42
STP No. 715	28	1,860	1.17

B. Samples received by laboratory 11/14/85.

Location	Parameters		
	% SOLIDS	Cu	TOX
STP No. 4	24.1	1,300	0.6
STP No. 715	24.6	680	0.5

C. Samples received by laboratory 12/19/85.

Location	Parameters		
	% SOLIDS	Cu	TOX
STP No. 4	12.2	968	3.6
STP No. 715	18.7	1,898	2.2

NOTE: All results in ug/g (ppm) unless otherwise noted.

6.0 SWMU NUMBER: SEAD-6

6.1 UNIT NAME

Ash Landfill (abandoned).

6.2 UNIT CHARACTERISTICS

6.2.1 Unit Type

Area Landfill.

6.2.2 General Dimensions

6.2.2.1 Ash Landfill

The kidney-shaped landfill is approximately 550 feet by 300 feet (approximately 4 acres).

6.2.2.2 Debris Areas

The individual debris areas are approximately 50 feet in diameter.

6.2.3 Approximate Dates of Usage

6.2.3.1 Ash Landfill (abandoned)

The Ash Landfill was used from 1941 until the late 1950s or early 1960s, and again after the incinerator was built, from 1974 to 1979.

6.2.3.2 Debris Area

The debris areas are believed to have been created between 1941 and 1979 during the use of the Ash Landfill.

6.2.4 Operating Practices

Ash from the refuse burning pits was buried in the landfill from 1941 until the late 1950s or early 1960s. The Town of Varicks's public sanitary landfill was used for a period of time until the incinerator was constructed. When the incinerator was built, ash was again disposed in the same area previously used. The refuse was dumped in piles and occasionally spread and compacted. No daily or final cover was applied. It was often subject to ponding from seasonally high surface water and groundwater.

6.2.5 Present Condition and Status

Abandoned. The area is covered with vegetation (grasses, vines, low shrubs). Photographs of the area, taken on September 10 and 14, 1990, are shown on the pages following this text. SEDA personnel have reported that the area north of the abandoned Ash Landfill contains several piles of debris. This area is shown in Figure 5-1.

6.3 WASTE CHARACTERISTICS

6.3.1 Specific Waste Disposed

6.3.1.1 Ash Landfill (abandonded)

Ash from the refuse burning pits (SEAD-14) and the solid waste incinerator (SEAD-15).

6.3.1.2 Debris Area

Ash and charred debris (lead and metal).

6.3.2 Physical and Chemical Characteristics

Because almost any type of waste was burned in the refuse burning pits and in the incinerator, the ash could have contained variety of compounds and constituents. Heavy metals and volatile organic compounds are the primary constituents of concern.

6.3.3 Migration and Dispersal Characteristics

Heavy metals are soluble in water but are also adsorbed by the clays which area predominant in the landfill area. The volatile organic compounds are slightly soluble in water.

6.3.4 Toxicological Characteristics

MCLs are available for many of the heavy metals and the volatile organic compounds (see Appendix E for drinking water regulations).

6.4 MIGRATION PATHWAYS

The migration pathway is groundwater.

6.5 EVIDENCE OF RELEASE

The groundwater level and quality data available from the original five monitoring wells around the landfill are provided in Table A-6. Groundwater samples from wells PT-12 and PT-14, collected in March, 1987, were contaminated with trichloroethylene and 1,2-dichloroethylene. Subsequent samples collected from additional wells installed during October, 1987 contained high concentrations of trichloroethylene and trans-1,2-dichloroethylene, and lesser amounts of chloroform, 1,2-dichlorethane, and vinyl chloride. The presence of these compounds is probably not due to the Ash Landfill contents but is more likely due to the refuse burning pits or dumping in and near the landfill.

6.6 EXPOSURE POTENTIAL

Three off-post private wells are located less that a quarter mile downgradient from the impacted monitoring wells. However, samples collected from those well in August, 1987 did not contain volatile organic compounds above a detection limit of 5 micrograms per liter (ug/l). In July, 1989, the U.S. Army Toxic and Hazardous Materials Agency, concluded in the report titled Burning Pit/Landfill Site Investigation that the abandoned Ash Landfill contains numerous buried metal targets, soils with low to moderate metals concentrations and a widespread source of VOCs. It was further concluded that contaminated groundwater is being released from the Ash Landfill. The study indicated that flow may be channelized along utility lines and buried road surfaces. The groundwater flows west to southwest across the landfill. The exposure potential is rated as high.

6.7 RECOMMENDATIONS FOR SAMPLING

The abandoned Ash Landfill has been identified by SEDA as an AOC. For RI/FS purposes, the Ash Landfill and the SWMUs adjacent to the Ash Landfill (SEAD-3, SEAD-8, SEAD-14 and SEAD-15) are being treated as one operable unit. A CERCLA RI/FS is currently being conducted for the Ash Landfill Operable Unit and the detailed sampling and analysis for this investigation is described therein.

6.8 REFERENCES

References 1, 3, 5, 6, 9, and 23. A list of references is provided in Appendix L.

6.9 COMMENTS

The information reported in Reference 3 has been updated.

6.10 REGULATORY STATUS

This SWMU is classified as a High Priority Area of Concern. It is part of the Ash Landfill operable unit that is currently being investigated under the CERCLA RI/FS process.

Photo 17: SEAD-6, 9/10/90. View of the Abandoned Ash Landfill, facing east.

Photo 18: SEAD-6, 9/10/90. View of the Abandoned Ash Landfill, facing northeast.

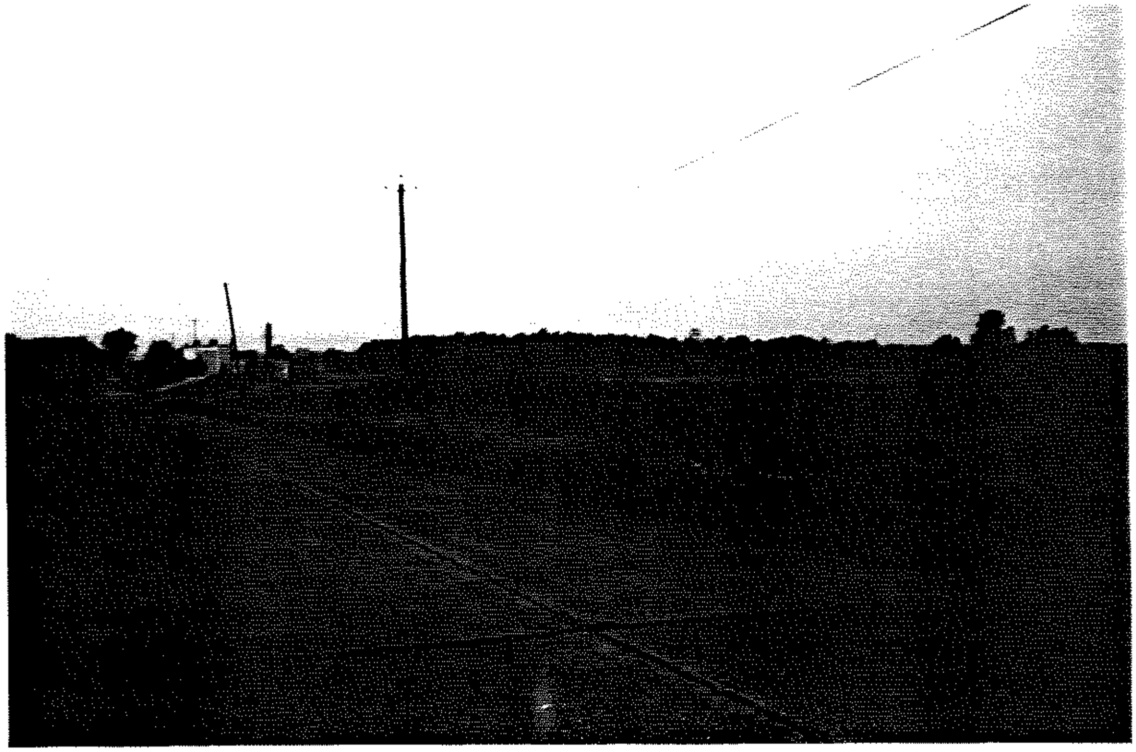


Photo 19: SEAD-6 and SEAD-15, 9/14/90. View of the Abandoned Ash Landfill (SEAD-6) and the Abandoned Solid Waste Incinerator - Building 2207 (SEAD-15), facing northwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-6 DATE: 9/10/90 TIME: 3:20 p.m.
DATE: 9/14/90 TIME: 7:50 a.m.

UNIT NAME: Abandoned Ash Landfill

PHOTO NUMBER: 17 and 18 (on 9/10/90), and 19 (on 9/14/90)

ORIENTATION OF PHOTOGRAPH: No. 17 facing east, No. 18 facing northeast, No. 19 facing northwest

LOCATION WITHIN FACILITY: On the north side of West Smith Farm Road, approximately 500 feet east of Building 2207

WEATHER CONDITIONS: Sunny, 75°F on 9/10/90; Cloudy, 70°F on 9/14/90

PHOTOGRAPHER: Dimitra Syriopoulou

TABLE A-6

ABANDONED ASH LANDFILL GROUND WATER LEVEL AND QUALITY DATA

SOURCE: REFERENCE 3

Sampling Sites Results

RUN DATE: 19 AUG 87

INSTALLATION. SENECA AD. NY

SITE: LANDFILL

SAMPLING SITES RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	B PT-10	PT-11	PT-12	PT-13	PT-14	PT-15
WATER									
LEVELS (A)	14 DEC 81		FT	675.3	654.1	646.3	634.3	633.7	628.3
LEVELS (A)	29 MAR 82		FT	676.4	653.8	646.3	634.2	635.0	632.9
LEVELS (A)	21 JUN 82		FT	673.3	653.0	645.8	633.5	633.0	631.0
LEVELS (A)	20 SEP 82		FT	670.4	650.6	643.3	630.8	631.2	627.8
LEVELS (A)	15 FEB 83		FT	673.3	653.3	646.8	633.8	634.8	634.1
LEVELS (A)	08 AUG 83		FT	670.5		642.5	630.9	630.3	
LEVELS (A)	14 FEB 84		FT	675.9	651.0	647.9	634.1	634.9	632.8
LEVELS (A)	17 SEP 84		FT	674.4	654.4	648.7		634.3	629.9
LEVELS (A)	19 MAR 85		FT	676.6	652.1	647.1		635.4	633.7
LEVELS (A)	12 SEP 85		FT	670.0	652.3	642.0		630.1	630.6
LEVELS (A)	17 MAR 86		FT	675.5	653.9	644.9			634.2
LEVELS (A)	16 SEP 86		FT	675.4	650.9	646.0			631.2
LEVELS (A)	16 MAR 87		FT	675.1	653.8	647.5		635.5	633.0

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: LANDFILL

SAMPLING SITES
RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	B PT-10	PT-11	PT-12	PT-13	PT-14	PT-15
ARSENIC	16 SEP 86	.010	MGL	ND	ND	ND			ND
ARSENIC	17 MAR 87	.005	MGL	ND	ND	ND		ND	ND
BARIUM	16 SEP 86	.30	MGL	ND	ND	ND			ND
BARIUM	17 MAR 87	.05	MGL	.22	.08	.03		.06	.08
CADMIUM	16 SEP 86	1.000	UGL	ND	ND	1.110*			ND
CADMIUM	17 MAR 87	.001	MGL	ND	ND	ND		ND	ND
CHROMIUM	16 SEP 86	.010	MGL	ND	ND	ND			ND
CHROMIUM	17 MAR 87	.020	MGL	ND	ND	ND		ND	ND
LEAD	16 SEP 86	.005	MGL	ND	ND	.013			ND
LEAD	17 MAR 87	.005	MGL	.055&	.027&	.031&		.023	.038&
MERCURY	16 SEP 86	.2	UGL	ND	ND	.3			ND
SELENIUM	16 SEP 86	.005	MGL	ND	ND	ND			ND
SELENIUM	17 MAR 87	.001	MGL	.001	ND	ND		ND	ND
SILVER	16 SEP 86	.025	MGL	ND	ND	ND			ND
SILVER	17 MAR 87	.020	MGL	ND	ND	ND		ND	ND
CHLORIDE	15 DEC 81	1.0	MGL	80.8	91.3	93.0	7.0	73.0	8.8
CHLORIDE	30 MAR 82	1.0	MGL	77.0	68.3	61.0	11.0	93.0	11.0
CHLORIDE	22 JUN 82	1.0	MGL	76.0	61.0	360.0&	5.0	86.0	5.0
CHLORIDE	20 SEP 82	1.0	MGL	78.0	68.0	1110.0&	7.0	95.0	15.0
CHLORIDE	15 FEB 83	1.0	MGL	70.0	69.0	30.0	8.0	79.0	15.0
CHLORIDE	09 AUG 83	1.0	MGL	72.0		1510.0&	9.0	66.0	
CHLORIDE	14 FEB 84	1.0	MGL	74.0	55.0	41.0	5.0	61.0	7.7
CHLORIDE	18 SEP 84	1.0	MGL	51.0	57.0	24.0		42.0	6.0
CHLORIDE	20 MAR 85	1.0	MGL	69.0	57.0	16.0		23.0	7.0
CHLORIDE	13 SEP 85	1.0	MGL	69.0	52.0	692.0&		46.0	13.0
CHLORIDE	18 MAR 86	1.0	MGL	34.0	57.0	14.0			10.0
CHLORIDE	16 SEP 86	1.0	MGL	62.0	58.0	305.0&			9.0
CHLORIDE	17 MAR 87	1.0	MGL	70.0	60.0	43.0		16.0	3.0
IRON	15 DEC 81	.03	MGL	ND	ND	ND	ND	ND	.15
IRON	30 MAR 82	.02	MGL	.05	.05	.06	.05	.03	.20
IRON	22 JUN 82	.03	MGL	ND	.11	.06	.03	.06	.08
IRON	20 SEP 82	.03	MGL	ND	ND	ND	ND	ND	ND.
IRON	15 FEB 83	.03	MGL	ND	.07	ND	.05	.09	.16
IRON	09 AUG 83	.02	MGL	.24		.05	.10	.07	
IRON	14 FEB 84	.10	MGL	ND	ND	ND	ND	.24	.11
IRON	18 SEP 84	.10	MGL	.20	.11	ND		.35#	.24
IRON	20 MAR 85	.10	MGL	ND	ND	ND		ND	ND
IRON	13 SEP 85	.10	MGL	ND	ND	ND		ND	ND
IRON	18 MAR 86	.10	MGL	ND	ND	ND			ND
IRON	16 SEP 86	.10	MGL	ND	ND	ND			ND
IRON	17 MAR 87	.10	MGL	ND	ND	ND		ND	ND

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: LANDFILL

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	B PT-10	PT-11	PT-12	PT-13	PT-14	PT-15
				SAMPLING SITES RESULTS					
SODIUM	16 SEP 86	1.	MGL	49.	56.	56.			31.
SODIUM	17 MAR 87	1.	MGL	49.	57.	43.		18.	32.
SULFATE	15 DEC 81	2.0	MGL	17.8	152.0	622.0%	41.6	100.0	42.7
SULFATE	30 MAR 82	2.0	MGL	29.0	131.1	360.0%	46.0	100.0	40.0
SULFATE	22 JUN 82	2.0	MGL	16.0	120.0	490.0%	35.0	100.0	31.0
SULFATE	20 SEP 82	2.0	MGL	29.0	110.0	480.0%	40.0	110.0	55.0
SULFATE	15 FEB 83	2.0	MGL	22.0	140.0	200.0	41.0	110.0	46.0
SULFATE	09 AUG 83	2.0	MGL	10.0		481.0%	70.0	21.0	
SULFATE	14 FEB 84	2.0	MGL	20.0	57.0	302.0%	39.0	105.0	40.0
SULFATE	18 SEP 84	2.0	MGL	16.0	37.0	36.0		34.0	29.0
SULFATE	20 MAR 85	2.0	MGL	19.0	163.0	275.0%		64.0	37.0
SULFATE	13 SEP 85	2.0	MGL	13.0	114.0	487.0%		97.0	44.0
SULFATE	18 MAR 86	2.0	MGL	28.0	152.0	211.0			53.0
SULFATE	16 SEP 86	2.0	MGL	28.0	150.0	404.0%			42.0
SULFATE	17 MAR 87	2.0	MGL	18.0	180.0	50.0		44.0	18.0
COND(FIELD)	20 MAR 85	1	UMC	580.	700.	800.		490.	350.
COND(FIELD)	18 MAR 86	1.	UMC	620.	690.	610.			390.
COND(FIELD)	17 MAR 87	1.	UMC	545.	690.	1030.		445.	330.
PH(FIELD)	15 DEC 81		PH	7.3	7.3	7.1	7.2	7.3	7.6
PH(FIELD)	30 MAR 82		PH	7.4	7.8	7.3	7.3	7.4	7.9
PH(FIELD)	22 JUN 82		PH	7.7	7.6	7.1	7.3	7.4	7.7
PH(FIELD)	20 SEP 82		PH	7.5	7.6	7.2	7.9	7.4	7.8
PH(FIELD)	15 FEB 83		PH	7.6	7.6	7.5	7.5	7.5	7.8
PH(FIELD)	09 AUG 83		PH	7.3		6.3#	6.8	6.6	
PH(FIELD)	09 AUG 83		PH	7.3		6.3#	6.8	6.6	
PH(FIELD)	09 AUG 83		PH	7.3		6.3#	6.8	6.6	
PH(FIELD)	09 AUG 83		PH	7.3		6.3#	6.8	6.6	
PH(FIELD)	14 FEB 84		PH	7.7	7.5	7.3	7.1	7.5	7.6
PH(FIELD)	19 SEP 84		PH	7.6	7.7	7.4		7.2	7.7
PH(FIELD)	18 SEP 84		PH	7.6	7.6	7.4		7.3	7.7
PH(FIELD)	18 SEP 84		PH	7.6	7.6	7.4		7.2	7.6
PH(FIELD)	18 SEP 84		PH	7.5	7.6	7.3		7.2	7.7
PH(FIELD)	20 MAR 85		PH	7.2	6.9	6.9		7.0	7.1
PH(FIELD)	13 SEP 85		PH	7.5	7.4	6.9		7.1	7.4
PH(FIELD)	18 MAR 86		PH	6.9	7.0	7.0			7.3
PH(FIELD)	16 SEP 86		PH	7.0	7.0	6.7			7.4
PH(FIELD)	17 MAR 87		PH	7.4	7.2	6.7		6.8	7.3
PH(LAB)	15 DEC 81		PH	7.5	7.5	7.2	7.3	7.3	7.6
PH(LAB)	30 MAR 82		PH	7.5	7.5	7.2	7.2	7.3	7.7
PH(LAB)	22 JUN 82		PH	7.3	7.4	7.1	7.0	7.0	7.0
PH(LAB)	20 SEP 82		PH	7.2	6.9	6.7	6.9	6.8	7.1

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: LANDFILL

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B PT-10	PT-11	PT-12	PT-13	PT-14	PT-15
PH(LAB)	15 FEB 83		PH	7.3	7.0	6.7	6.8	6.8	7.1
PH(LAB)	09 AUG 83		PH	7.1		6.7	7.5	7.2	
PH(LAB)	14 FEB 84		PH	7.8	8.0	7.7	7.8	7.8	8.2
PH(LAB)	18 SEP 84		PH	7.7	7.7	7.3		7.6	7.8
PH(LAB)	13 SEP 85		PH	7.9	7.8	7.4		7.6	8.0
PH(LAB)	18 MAR 86		PH	7.8	7.7	7.8			7.8
PH(LAB)	17 MAR 87		PH	6.9	6.9	6.7		6.9	7.2
SPEC COND	15 DEC 81	1.	UMC	890.	1050.	1710.	610.	900.	510.
SPEC COND	15 DEC 81	1.	UMC	880.	1050.	1710.	610.	900.	510.
SPEC COND	15 DEC 81	1.	UMC	890.	1050.	1710.	610.	900.	510.
SPEC COND	15 DEC 81	1.	UMC	890.	1050.	1710.	600.	900.	510.
SPEC COND	30 MAR 82	1.	UMC	876.	950.	1340.	620.	970.	470.
SPEC COND	30 MAR 82	1.	UMC	879.	950.	1339.	625.	965.	470.
SPEC COND	30 MAR 82	1.	UMC	878.	949.	1340.	622.	968.	470.
SPEC COND	30 MAR 82	1.	UMC	874.	950.	1340.	624.	968.	470.
SPEC COND	22 JUN 82	1.	UMC	800.	850.	2250.	540.	850.	460.
SPEC COND	22 JUN 82	1.	UMC	800.	845.	2250.	540.	850.	455.
SPEC COND	22 JUN 82	1.	UMC	800.	845.	2250.	540.	850.	460.
SPEC COND	22 JUN 82	1.	UMC	800.	850.	2250.	540.	850.	460.
SPEC COND	20 SEP 82	1.	UMC	880.	940.	3900.	560.	1000.	570.
SPEC COND	20 SEP 82	1.	UMC	880.	940.	3850.	560.	1000.	570.
SPEC COND	20 SEP 82	1.	UMC	880.	940.	3850.	560.	1000.	570.
SPEC COND	20 SEP 82	1.	UMC	880.	940.	3900.	560.	1000.	570.
SPEC COND	15 FEB 83	1.	UMC	845.	925.	1280.	620.	960.	510.
SPEC COND	15 FEB 83	1.	UMC	845.	920.	1270.	620.	960.	505.
SPEC COND	15 FEB 83	1.	UMC	840.	920.	1270.	620.	960.	505.
SPEC COND	15 FEB 83	1.	UMC	845.	920.	1275.	620.	960.	510.
SPEC COND	09 AUG 83	1.	UMC	960.		5800.	670.	990.	
SPEC COND	09 AUG 83	1.	UMC	960.		5800.	670.	990.	
SPEC COND	09 AUG 83	1.	UMC	960.		5800.	670.	990.	
SPEC COND	09 AUG 83	1.	UMC	970.		5700.	670.	990.	
SPEC COND	14 FEB 84	1.	UMC	670.	780.	900.	480.	720.	420.
SPEC COND	14 FEB 84	1.	UMC	680.	780.	900.	470.	720.	420.
SPEC COND	14 FEB 84	1.	UMC	690.	780.	900.	470.	720.	420.
SPEC COND	14 FEB 84	1.	UMC	680.	780.	900.	480.	720.	420.
SPEC COND	18 SEP 84	1.	UMC	730.	850.	890.		740.	740.
SPEC COND	18 SEP 84	1.	UMC	740.	860.	900.		730.	740.
SPEC COND	18 SEP 84	1.	UMC	740.	860.	890.		740.	740.
SPEC COND	18 SEP 84	1.	UMC	740.	860.	900.		740.	740.
SPEC COND	20 MAR 85	1.	UMC	960.	800.	1110.		660.	460.
SPEC COND	20 MAR 85	1.	UMC	950.	800.	1100.		660.	460.

DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: LANDFILL

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	B PT-10	PT-11	PT-12	PT-13	PT-14	PT-15
				SAMPLING SITES RESULTS					
SPEC COND	20 MAR 85	1.	UMC	950.	810.	1120.		660.	450.
SPEC COND	20 MAR 85	1.	UMC	960.	800.	1110.		660.	460.
SPEC COND	13 SEP 85	1.	UMC	820.	840.	3800.		700.	510.
SPEC COND	13 SEP 85	1.	UMC	830.	840.	3800.		690.	520.
SPEC COND	13 SEP 85	1.	UMC	830.	830.	3800.		700.	520.
SPEC COND	13 SEP 85	1.	UMC	830.	840.	3800.		700.	520.
SPEC COND	18 MAR 86	1.	UMC	750.	990.	940.			500.
SPEC COND	18 MAR 86	1.	UMC	750.	1000.	940.			490.
SPEC COND	18 MAR 86	1.	UMC	750.	1000.	940.			500.
SPEC COND	18 MAR 86	1.	UMC	750.	990.	930.			500.
SPEC COND	16 SEP 86	1.	UMC	850.	1020.	2300.			540.
SPEC COND	16 SEP 86	1.	UMC	850.	1010.	2250.			540.
SPEC COND	16 SEP 86	1.	UMC	850.	1010.	2300.			540.
SPEC COND	16 SEP 86	1.	UMC	850.	1020.	2300.			540.
SPEC COND	17 MAR 87	1.	UMC	810.	1090.	1000.		650.	490.
SPEC COND	17 MAR 87	1	UMC	810.	1090.	1000.		640.	500.
SPEC COND	17 MAR 87	1.	UMC	810.	1100.	1000.		640.	500.
SPEC COND	17 MAR 87	1.	UMC	800.	1100.	1000.		650.	490.
TOC	15 DEC 81	.1	MGL	2.0	3.0	3.0	1.0	3.0	2.0
TOC	15 DEC 81	.1	MGL	1.0	3.0	3.0	1.0	3.0	2.0
TOC	15 DEC 81	.1	MGL	2.0	3.0	3.0	1.0	3.0	2.0
TOC	15 DEC 81	.1	MGL	1.0	3.0	3.0	2.0	3.0	2.0
TOC	30 MAR 82	.1	MGL	2.0	3.0	4.0	2.0	3.0	2.0
TOC	30 MAR 82	.1	MGL	2.0	4.0	4.0	2.0	3.0	2.0
TOC	30 MAR 82	.1	MGL	2.0	4.0	4.0	2.0	3.0	2.0
TOC	30 MAR 82	.1	MGL	2.0	4.0	4.0	3.0	3.0	2.0
TOC	22 JUN 82	.1	MGL	60.0	55.0	67.0	62.0	58.0	42.0
TOC	22 JUN 82	.1	MGL	62.0	54.0	67.0	61.0	58.0	42.0
TOC	22 JUN 82	.1	MGL	61.0	55.0	67.0	60.0	58.0	42.0
TOC	22 JUN 82	.1	MGL	62.0	55.0	67.0	60.0	58.0	42.0
TOC	20 SEP 82	.1	MGL	53.0	45.0	47.0	19.0	40.0	27.0
TOC	20 SEP 82	1	MGL	54.0	47.0	49.0	19.0	42.0	27.0
TOC	20 SEP 82	.1	MGL	52.0	47.0	48.0	19.0	41.0	27.0
TOC	20 SEP 82	.1	MGL	52.0	45.0	50.0	20.0	42.0	26.0
TOC	15 FEB 83	.1	MGL	14.0	12.0	14.0	11.0	11.0	7.0
TOC	15 FEB 83	.1	MGL	14.0	11.0	13.0	11.0	11.0	6.0
TOC	15 FEB 83	.1	MGL	13.0	12.0	13.0	10.0	11.0	7.0
TOC	15 FEB 83	.1	MGL	13.0	12.0	13.0	10.0	11.0	7.0
TOC	09 AUG 83	.1	MGL	59.0		59.0	34.0	49.0	
TOC	09 AUG 83	1	MGL	59.0		58.0	35.0	49.0	
TOC	09 AUG 83	1	MGL	60.0		59.0	36.0	48.0	

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: LANDFILL

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS: B PT-10	PT-11	PT-12	PT-13	PT-14	PT-15
TOC	09 AUG 83	.1	MGL	60.0		60.0	35.0	50.0	
TOC	14 FEB 84	.1	MGL	42.0	38.0	32.0	30.0	29.0	23.0
TOC	14 FEB 84	.1	MGL	43.0	37.0	31.0	29.0	29.0	23.0
TOC	14 FEB 84	.1	MGL	43.0	38.0	31.0	29.0	29.0	23.0
TOC	14 FEB 84	.1	MGL	42.0	38.0	31.0	29.0	28.0	22.0
TOC	18 SEP 84	.1	MGL	3.0	4.0	5.0		5.0	2.0
TOC	18 SEP 84	.1	MGL	4.0	4.0	5.0		3.0	2.0
TOC	18 SEP 84	.1	MGL	3.0	5.0	4.0		4.0	2.0
TOC	18 SEP 84	.1	MGL	3.0	3.0	4.0		3.0	2.0
TOC	20 MAR 85	.1	MGL	3.0	6.5	7.2		3.9	5.1
TOC	20 MAR 85	.1	MGL	3.0	6.5	7.2		4.0	5.3
TOC	20 MAR 85	.1	MGL	3.0	6.5	7.2		4.1	5.3
TOC	20 MAR 85	.1	MGL	3.1	6.5	7.2		4.0	5.2
TOC	13 SEP 85	.1	MGL	1.3	2.7	3.5		3.2	1.8
TOC	13 SEP 85	.1	MGL	1.3	2.5	3.4		3.3	1.8
TOC	13 SEP 85	.1	MGL	1.4	2.6	3.9		3.3	1.9
TOC	13 SEP 85	.1	MGL	1.3	2.6	3.4		3.3	1.9
TOC	18 MAR 86	.1	MGL	1.6	2.8	3.2			1.5
TOC	18 MAR 86	.1	MGL	1.6	2.8	3.0			1.5
TOC	18 MAR 86	.1	MGL	1.6	2.8	3.0			1.5
TOC	18 MAR 86	.1	MGL	1.6	2.8	3.1			1.4
TOC	16 SEP 86	.1	MGL	4.5	5.6	5.8			3.3
TOC	16 SEP 86	.1	MGL	4.5	5.7	5.7			3.3
TOC	16 SEP 86	.1	MGL	4.6	5.7	5.7			3.3
TOC	16 SEP 86	.1	MGL	4.5	5.8	5.9			3.2
TOC	17 MAR 87	.1	MGL	2.8	5.1	3.9		5.0	2.2
TOC	17 MAR 87	.1	MGL	3.0	5.0	3.9		4.9	2.3
TOC	17 MAR 87	.1	MGL	2.9	5.0	3.6		5.0	2.4
TOC	17 MAR 87	.1	MGL	2.9	5.0	3.8		4.8	2.2
TOX	16 SEP 86	.010	MGL	ND	ND	1.140			ND
TOX	16 SEP 86	.010	MGL	ND	ND	1.087			ND
TOX	16 SEP 86	.010	MGL	ND	ND	.981			ND
TOX	16 SEP 86	.010	MGL	ND	ND	1.053			ND
TOX	17 MAR 87	.010	MGL	ND	.020	.748		.186	ND
TOX	17 MAR 87	.010	MGL	ND	.021	.738		.198	ND
TOX	17 MAR 87	.010	MGL	ND	.028	.745		.183	ND
TOX	17 MAR 87	.010	MGL	ND	.018	.664		.182	ND
NITRATE-N	17 MAR 87	.01	MGL	.22	.42	.10		.38	.37
POTASSIUM	16 SEP 86	.10	MGL	2.94	2.63	3.52			2.29
POTASSIUM	17 MAR 87	.10	MGL	2.46	2.17	2.33		3.38	1.94

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY   SITE: LANDFILL

LEGEND

NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMENTAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.

B UPGRADIENT SITE
* VALUE EXCEEDS A NATIONAL INTERIM PRIMARY DRINKING WATER REGULATION STANDARD
\# VALUE EXCEEDS A NATIONAL SECONDARY DRINKING WATER REGULATION CRITERIA
& VALUE EXCEEDS A STATE WATER QUALITY STANDARD OR CRITERIA

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

7.0 SWMU NUMBER: SEAD-7

7.1 UNIT NAME

Shale pit.

7.2 UNIT CHARACTERISTICS

7.2.1 Unit Type

Excavation pit and fill area.

7.2.2 General Dimensions

Approximately 2 acres.

7.2.3 Approximate Dates of Usage

1987 to Present.

7.2.4 Operating Practices

Construction debris is dumped into the pit. No cover is applied. The fill area is not regulated by the State of New York. Subpart 360-7 of the New York Solid Waste Regulations states that sites at which only recognizable uncontaminated concrete, asphalt pavement, brick, soil or stone is placed are exempt from regulation (Section 360-7.1 (b)(i)).

7.2.5 Present Condition and Status

Approximately 50 percent of the pit has been filled with construction debris as shown in a photograph taken on September 13, 1990. The photo follows this text.

7.3 WASTE CHARACTERISTICS

7.3.1 Specific Wastes Disposed

Construction and demolition wastes such as concrete, asphalt, and wood.

7.3.2 Physical and Chemical Characteristics

The wastes disposed in the pit are relatively inert and do not contain chemicals which would cause contamination.

7.4 MIGRATION PATHWAYS

None were identified.

7.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

7.6 EXPOSURE POTENTIAL

Low.

7.7 RECOMMENDATIONS FOR SAMPLING

None.

7.8 REFERENCES

References 3, 5, 6, and 10. A list of references is provided in Appendix L.

7.9 COMMENTS

Based on the visual site inspection, performed on September 13, 1990, the SWMU's status appeared to be the same as that reported in Reference 3, with the exception of the amount of fill material that has been placed into the pit.

7.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

Photo 20: SEAD-7, 9/13/90. View of the Shale Pit, facing southwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-7 DATE: 9/13/90 TIME: 9:20 a.m.

UNIT NAME: Shale Pit

PHOTO NUMBER: 20

ORIENTATION OF PHOTOGRAPH: Facing southwest

LOCATION WITHIN FACILITY: Approximately 700 feet south-southwest of Building 742

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

8.0 SWMU NUMBER: SEAD-8

8.1 UNIT NAME

Non-Combustible Fill Landfill.

8.2 UNIT CHARACTERISTICS

8.2.1 Unit Type

Fill area.

8.2.2 General Dimensions

400 feet by 400 feet, approximately 3 acres.

8.2.3 Approximate Dates of Usage

1974 to 1979.

8.2.4 Operating Practices

Items which were too bulky, or non-combustible to be incinerated or burned were buried here instead.

8.2.5 Present Condition and Status

Closed. The area is vegetated with grasses, vines, and shrubs as shown in a photograph taken on September 14, 1990. The photo follows this text.

8.3 WASTE CHARACTERISTICS

8.3.1 Specific Wastes Disposed

Bulky and non-combustible wastes which could not be burned or incinerated. Some construction debris was also buried.

8.3.2 Physical and Chemical Characteristics

Unknown. Heavy metals are the most likely constituents of concern. A groundwater monitoring well (PT-11) has been installed downgradient of the unit. Groundwater analysis results for organic pollutants, explosives and indicator pollutants are shown in Table A-8. The organic pollutants and explosive compounds were all below detection limits with the exception of 1,2-dichloroethene which was report as 1.5 ug/l.

8.3.3 Migration and Dispersal Characteristics

Heavy metals are soluble in water but are also adsorbed by clays which are predominant in the fill area.

8.3.4 Toxicological Characteristics

MCLs are available for many of the heavy metals (see Appendix E).

8.4 MIGRATION PATHWAYS

The migration pathway is groundwater.

8.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

8.6 EXPOSURE POTENTIAL

Moderate, due to the uncertainty of the SWMUs contents.

8.7 RECOMMENDATIONS FOR SAMPLING

Recommendations for Sampling. SEDA has identified the Non-Combustible Fill Landfill area and the units adjacent to this area (SEAD-3, SEAD-6, SEAD-14 and SEAD-15) as AOCs. For RI/FS purposes, these units are being treated as one operable unit. A CERCLA RI/FS is being conducted for the Ash Landfill Operable Unit and the detailed sampling and analysis for this investigation is described therein.

8.8 REFERENCES

References 3, 5, 6, and 8. A list of references is provided as Appendix L.

8.9 COMMENTS

Based on the visual site inspection, performed on September 14, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

8.10 REGULATORY STATUS

This SWMU is classified as a High Priority Area of Concern. It is part of the Ash Landfill Operable Unit that is currently being investigated under the CERCLA RI/FS process.

Photo 21: SEAD-8, 9/14/90. View of the Non-Combustible Fill Area, facing southeast.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-8 DATE: 9/14/90 TIME: 7:50 a.m.

UNIT NAME: Non-Combustible Fill Area

PHOTO NUMBER: 21

ORIENTATION OF PHOTOGRAPH: Facing southeast

LOCATION WITHIN FACILITY: On the south side of West Smith Farm Road

WEATHER CONDITIONS: Cloudy, 70°F

PHOTOGRAPHER: Dimitra Syriopoulou

TABLE A-8

GROUND WATER MONITORING ANALYSIS RESULTS

WELL PT-11

SAMPLING DATES:

I. MARCH 16 AND 17, 1988
II. JANUARY 5, 1990
III. MARCH 28 AND 29, 1990

TABLE A-8
GROUND WATER MONITORING ANALYSIS RESULTS
WELL PT-11

I. DATE SAMPLED: MARCH 16 AND 17, 1988

Parameter	Units	Results
Benzene	ug/l	ND
Bromomethane	ug/l	ND
Bromodichloromethane	ug/l	ND
Bromoform	ug/l	ND
Carbon Tetrachloride	ug/l	ND
Chlorobenzene	ug/l	ND
Chloroethane	ug/l	ND
2-Chloroethylvinyl Ether	ug/l	ND
Chloroform	ug/l	ND
Chloromethane	ug/l	ND
Dibromochloromethane	ug/l	ND
1,2-Dichlorobenzene	ug/l	ND
1,3-Dichlorobenzene	ug/l	ND
1,4-Dichlorobenzene	ug/l	ND
1,1-Dichloroethane	ug/l	ND
1,2-Dichloroethane	ug/l	ND
1,1-Dichloroethene	ug/l	ND
trans-1,2-Dichloroethene	ug/l	ND
1,2-Dichloropropane	ug/l	ND
cis-1,3-Dichloropropene	ug/l	ND
trans-1,3-Dichloropropene	ug/l	ND
Ethylbenzene	ug/l	ND
Methylene Chloride	ug/l	ND
1,1,2,2-Tetrachloroethane	ug/l	ND
Tetrachloroethene	ug/l	ND
1,1,1-Trichloroethane	ug/l	ND
1,1,2-Trichloroethane	ug/l	ND
Trichloroethene	ug/l	ND
Trichlorofluoromethane	ug/l	ND
Toluene	ug/l	ND
Vinyl Chloride	ug/l	ND

TABLE A-8 (CONTINUED)
GROUND WATER MONITORING ANALYSIS RESULTS
WELL PT-11

II. DATE SAMPLED: JANUARY 5, 1990

Parameter	Units	Results
Benzene	ug/l	<1.0
Bromomethane	ug/l	<1.0
Bromodichloromethane	ug/l	<1.0
Bromoform	ug/l	<1.0
Carbon Tetrachloride	ug/l	<1.0
Chlorobenzene	ug/l	<1.0
Chloroethane	ug/l	<1.0
2-Chloroethylvinyl Ether	ug/l	<1.0
Chloroform	ug/l	<1.0
Chloromethane	ug/l	<1.0
Dibromochloromethane	ug/l	<1.0
1,2-Dichlorobenzene	ug/l	<1.0
1,3-Dichlorobenzene	ug/l	<1.0
1,4-Dichlorobenzene	ug/l	<1.0
1,1-Dichloroethane	ug/l	<1.0
1,2-Dichloroethane	ug/l	<1.0
1,1-Dichloroethene	ug/l	1.5
trans-1,2-Dichloroethene	ug/l	<1.0
1,2-Dichloropropane	ug/l	<1.0
cis-1,3-Dichloropropene	ug/l	<1.0
trans-1,3-Dichloropropene	ug/l	<1.0
Ethylbenzene	ug/l	<1.0
Methylene Chloride	ug/l	<1.0
1,1,2,2-Tetrachloroethane	ug/l	<1.0
Tetrachloroethene	ug/l	<1.0
1,1,1-Trichloroethane	ug/l	<1.0
1,1,2-Trichloroethane	ug/l	<1.0
Trichloroethene	ug/l	<1.0
Trichlorofluoromethane	ug/l	<1.0
Toluene	ug/l	<1.0
Vinyl Chloride	ug/l	<1.0
Conductivity	umho/cm	490
pH	su	6.50

TABLE A-8 (CONTINUED)
GROUND WATER MONITORING ANALYSIS RESULTS
WELL PT-11

III. DATE SAMPLED: MARCH 28 AND 29,1990

Parameter	Units	Results
Chloride	mg/L	41
Iron	mg/L	0.50
Manganese	mg/L	0.022
Phenols (total)	mg/L	<0.02
Sodium	mg/L	17
Specific Conductance	umho/cm	1000
Sulfates	mg/L	250
Total Organic Carbon	mg/L	5.5
Total Organic Halogens	mg/L	0.02
2,4-Dinitrotoluene	ug/L	<0.612
2,6-Dinitrotoluene	ug/L	<1.15
HMX	ug/L	<1.65
RDX	ug/L	<2.11
Tetryl, total	ug/L	<0.6
2,4,6-Trinitrotoluene, total	ug/L	<0.588

9.0 SWMU NUMBER: SEAD-9

9.1 UNIT NAME

Old Scrap Wood Site.

9.2 UNIT CHARACTERISTICS

9.2.1 Unit Type

Construction debris area landfill.

9.2.2 General Dimensions

Approximately 1 acre.

9.2.3 Approximate Dates of Usage

Scrap wood was dumped from 1984 to 1986 and construction debris was dumped from 1977 to 1984. Firewood was dumped from 1984 to present.

9.2.4 Operating Practices

Construction and demolition wastes were deposited and occasionally compacted. The site was also used to store scrap wood which depot employees could take. Periodically, the fire department held training exercises using the woodpile as fuel.

9.2.5 Present Condition and Status

Active. The site is currently used only for the sale of firewood. The firewood is collected by depot employees and sold. Photographs of the site, taken on September 12, 1990, are shown on the pages following this text.

9.3 WASTE CHARACTERISTICS

9.3.1 Specific Wastes Disposed

Construction and demolition wastes including concrete, wood and asphalt.

9.3.2 Physical and Chemical Characteristics

In general, the wastes disposed of were chemically inert.

9.4 MIGRATION PATHWAYS

The migration pathways are soil and groundwater.

9.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

9.6 EXPOSURE POTENTIAL

Low.

9.7 RECOMMENDATIONS FOR SAMPLING

A SI should be performed in this area due to past waste disposal uncertainties. A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is outlined in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units".

9.8 REFERENCES

References 3, 5, 6, and 8. A list of references is provided as Appendix H.

9.9 COMMENTS

The information reported in Reference 3 has been updated.

9.10 REGULATORY STATUS

This SWMU is classified as a Moderately Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

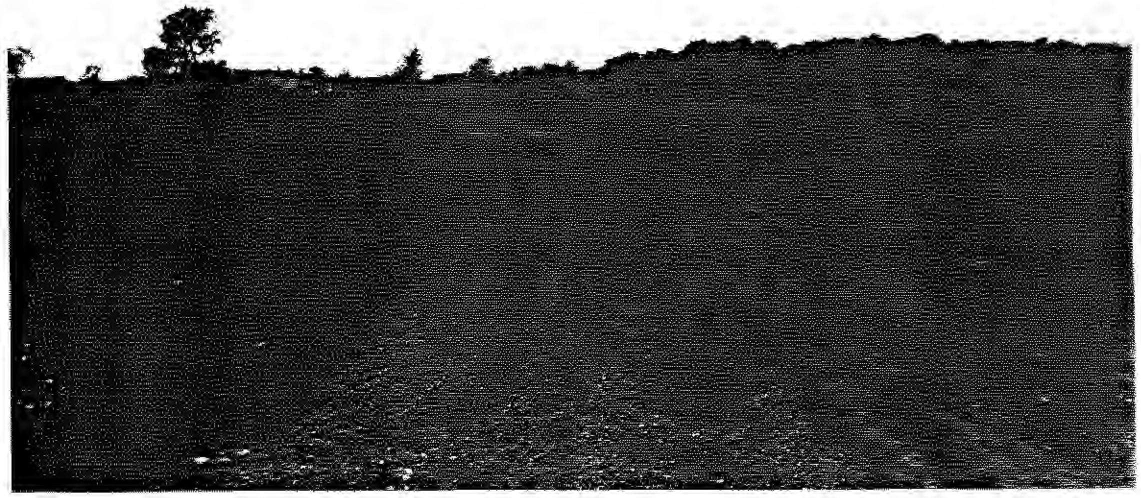


Photo 22: SEAD-9, 9/12/90. View of the Old Scrap Wood Site, facing northwest.

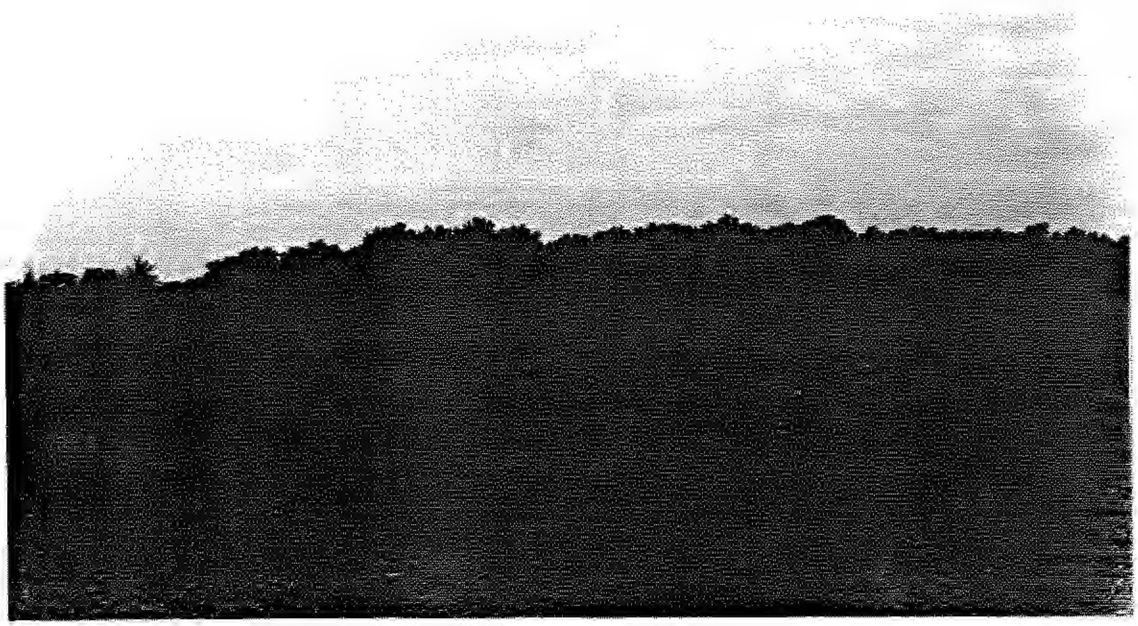


Photo 23: SEAD-9, 9/12/90. Close-up of the Old Scrap Wood Site, facing northwest.

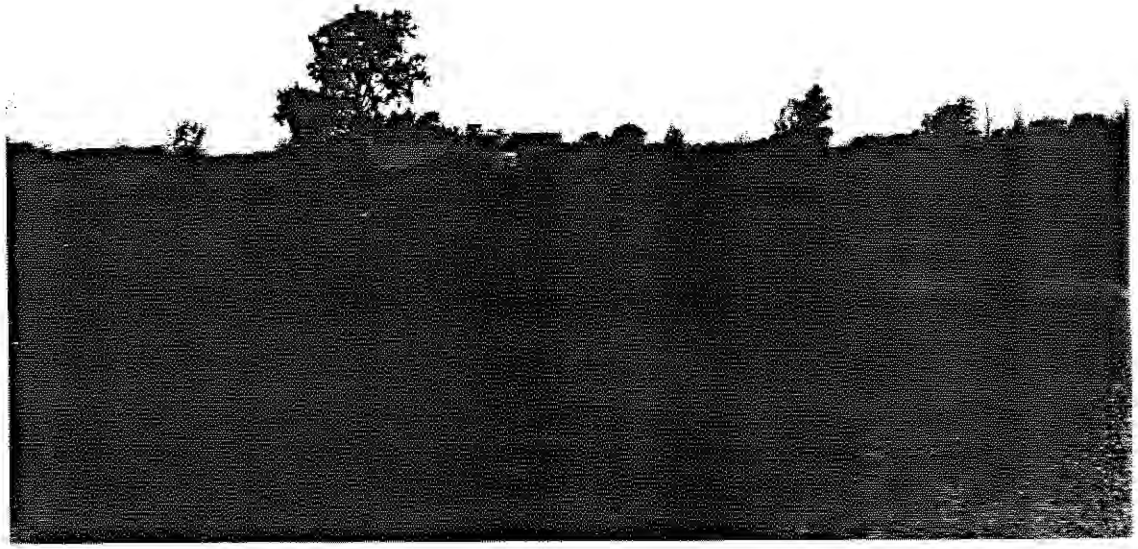


Photo 24: SEAD-9, 9/12/90. Close-up of the Old Scrap Wood Site, facing northwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-9 DATE: 9/12/90 TIME: 3:30 p.m.

UNIT NAME: Old Scrap Wood Site

PHOTO NUMBER: 22 through 24

ORIENTATION OF PHOTOGRAPH: Facing northwest

LOCATION WITHIN FACILITY: On the west side of East Patrol Road, approximately 500 feet north of East Kendaia Road

WEATHER CONDITIONS: Sunny, 80°F

PHOTOGRAPHER: Dimitra Syriopoulou

10.0 SWMU NUMBER: SEAD-10

10.1 UNIT NAME

Present Scrap Wood Site.

10.2 UNIT CHARACTERISTICS

10.2.1 Unit Type

Scrap wood disposal site.

10.2.2 General Dimensions

Approximately 250 feet by 185 feet.

10.2.3 Approximate Dates of Usage

1986 to present.

10.2.4 Operating Practices

Scrap wood from various depot activities is dumped into piles and is sold to depot employees and the public. The area is divided into three sections: 1) an area for scrap wood (west pile; 130 feet by 185 feet); 2) an area for disposal of wooden pallets (middle pile; 60 feet by 185 feet); 3) an area for sale of pressure treated wood and poles (east pile; 60 feet by 185 feet). Periodically, the fire department holds a training exercise using only the scrap wood pile as fuel. The State of New York is notified prior to any burning.

10.2.5 Present Condition Status

Active. During the site visit, the scrap wood pile (west pile) was smoking. Photographs of the site, taken on September 12, 1990, are shown on the pages following this text.

10.3 WASTE CHARACTERISTICS

10.3.1 Specific Wastes Disposed

Scrap wood from depot activities. At the time of the site visit, most of the waste wood consisted of pallets, pressure treated wood and poles, and wooden construction debris.

10.3.2 Physical and Chemical Characteristics

In general, the wastes disposed of were chemically inert.

10.4 MIGRATION PATHWAYS

Migration pathways are soil and possibly air. Little to no migration to soil is expected to occur from the scrap woodpiles. Occasional releases to air may occur.

10.5 EVIDENCE OF RELEASE

Periodic releases to the air due to burning of wood. Ash removal results are included.

10.6 EXPOSURE POTENTIAL

Low.

10.7 RECOMMENDATIONS FOR SAMPLING

None.

10.8 REFERENCES

References 3, 5 and 6. A list of references is provided as Appendix L.

10.9 COMMENTS

The information reported in Reference 3 has been updated.

10.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

Photo 25: SEAD-10, 9/12/90. View of the western pile of the Present Scrap Wood Site, facing south.

Photo 26: SEAD-10, 9/12/90. Close-up of the western pile of the Present Scrap Wood Site, facing southwest.

Photo 27: SEAD-10, 9/12/90. View of the middle pile of the Present Scrap Wood Site, facing south (wooden pallet disposal area).

Photo 28: SEAD-10, 9/12/90. View of the east pile of the Present Scrap Wood Site, facing south (pressure treated wood and pole sales area).

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-10 DATE: 9/12/90 TIME: 4:00 p.m.

UNIT NAME: Present Scrap Wood Site

PHOTO NUMBER: 25 through 28

ORIENTATION OF PHOTOGRAPH: No. 25 facing south, No. 26 facing southwest, No. 27 facing south, No. 28 facing south.

LOCATION WITHIN FACILITY: On the south side of East Kendaia Road, approximately 1,300 feet west of East Patrol Road

WEATHER CONDITIONS: Sunny, 80°F

PHOTOGRAPHER: Dimitra Syriopoulou

EXHIBIT A-10

Additional Information for
Present Scrap Wood Pile at SEAD-10
(Ash Removal Results)

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

October 26, 1992

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Data for TCLP Pesticides ug/L:

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

Data for TCLP Volatiles ug/L:

Component Name	Concentration	Component MDL

Data for TCLP Volatiles (continued):

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

Data for TCLP Herbicides ug/L:

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

Data for AA Metals Analysis QC:

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

Data for ICP Metals Analysis QC:

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

Data for ICP Metals Analysis QC (continued):

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

Data for Semi-Volatile QC Data (MS):

QC Source: ERA 545

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

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

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

Data for Pesticides (GC) Analysis QC:

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

Data for Herbicides (GC) Analysis QC:

QC Source:	Method	QC	Matrix	Matrix	Relative

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

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

Comments:

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

Not Det = Not Detected

Neg= There was no free liquid in this sample.

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

Dennis L. Strother

Dennis L. Strother
Laboratory Director

11.0 SWMU NUMBER: SEAD-11

11.1 UNIT NAME

Old Construction Debris Landfill.

11.2 UNIT CHARACTERISTICS

11.2.1 Unit Type

Fill area.

11.2.2 General Dimensions

Approximately 4 acres (590 feet by 300 feet).

11.2.3 Approximate Dates of Usage

1946 to 1949.

11.2.4 Operating Practices

Unknown.

11.2.5 Present Condition and Status

Abandoned. The area is vegetated with grasses and weeds. Photographs of the unit, taken on September 14, 1990, are shown on the page following this text.

11.3 WASTE CHARACTERISTICS

11.3.1 Specific Wastes Disposed

Construction debris.

11.3.2 Physical and Chemical Characteristics

Unknown.

11.4 MIGRATION PATHWAYS

Groundwater.

11.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

11.6 EXPOSURE POTENTIAL

Moderate due to the uncertainty of the SWMU's contents.

11.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 10 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Ten Solid Waste Management Units."

11.8 REFERENCES

References 3, 5, and 6. A list of references is provided as Appendix L.

11.9 COMMENTS

Based on the visual site inspection, performed on September 14, 1990, the SWMU's status appeared to be the same as that reported in Reference 3, with the exception of the SWMU's general dimensions. This unit is currently being addressed under the CERCLA Investigation of Ten Solid Waste Management Units.

11.10 REGULATORY STATUS

This SWMU is classified as a Moderate Priority Area of Concern. It is currently being investigated under the CERCLA 10 SWMU SI program.

Photo 29: SEAD-11, 9/14/90. View of the Old Construction Debris Landfill, facing west.

Photo 30: SEAD-11, 9/14/90. Close-up of the Old Construction Debris Landfill, facing west.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-11 DATE: 9/14/90 TIME: 8:10 a.m.

UNIT NAME: Old Construction Debris Landfill

PHOTO NUMBER: 29 and 30

ORIENTATION OF PHOTOGRAPH: Facing west

LOCATION WITHIN FACILITY: On the south side of Indian Creek Road, approximately 1,300 feet east of West Patrol Road

WEATHER CONDITIONS: Cloudy, 70°F

PHOTOGRAPHER: Dimitra Syriopoulou

12.0 <u>SWMU NUMBER: SEAD-12</u>

12.1 UNIT NAME

Building 804 and associated Radioactive Waste Burial Sites.

12.2 UNIT CHARACTERISTICS

12.2.1 <u>Unit Types</u>

12.2.1.1 Location A

Five separate burial pits located northeast of Building 813.

12.2.1.2 Location B

Building 804 and two burial pits located north of Building 804. A 5,000 gallon tank was buried in one of the pits. The other pit was used for dry storage.

12.2.2 <u>General Dimensions</u>

12.2.2.1 Location A

Five separate pits, the sizes of which are unknown.

12.2.2.2 Location B

Dry storage pit approximately 18 feet long by 10 feet wide by 4.5 feet deep. The size of the pit containing the 5,000 gallon storage tank is unknown.

12.2.3 <u>Approximate Dates of Usage</u>

Pre-1962.

12.2.4 <u>Operating Practices</u>

Radioactive wastes were reportedly buried in the five small pits located northeast of Building 813. The underground storage tank, located north of Building 804, was used for storage of wastewater. The wastewater was generated during the washing of radioactive contaminated clothing. The other pit located near Building 804 was used for dry storage.

12.2.5 Present Condition and Status

Location A was excavated in 1986. A sizeable amount of lab trash was found in the pits. The excavated trash and soil were loaded into containers and shipped to an authorized off-post radioactive waste landfill in December 1987. Surface-level radiation readings indicated that all radioactive contamination had been removed from the area. Location B, which included the 5,000 gallon tank and dry storage pit, was also excavated in 1986. No suspicious debris was encountered in the dry pit except for pieces of plywood. Location B was found to be free from radioactive contamination. The areas where the wastes were buried are shown in photographs taken on September 12, 1990, which are included at the end of this text.

12.3 WASTE CHARACTERISTICS

12.3.1 Specific Wastes Disposed

Radioactive and nonradioactive wastes from the clinic (gloves, etc.) and classified metal parts.

12.3.2 Migration and Dispersal Characteristics

Assuming that the waste was contaminated with radioactive particles, groundwater contamination could result from long-term burial of the wastes. Because the radioactive sites were excavated and the wastes removed to a radioactive waste site off-post, there is a low potential for a continuing release.

12.4 MIGRATION PATHWAYS

The migration pathway are groundwater and soil.

12.5 EVIDENCE OF RELEASE

No evidence of a release was observed. A summary of the radiological survey performed at Location A is included as Exhibit A-12. The survey found no radiological readings above background levels. Soil samples collected from the dry storage pit (Location B) were analyzed for isotopic content and found to be free of radioactive material contamination. These results are shown in Table A-12.

12.6 EXPOSURE POTENTIAL

Low.

12.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Mangement Units."

12.8 REFERENCES

References 3, 5 , 6, 8, 11 and 12. A list of references is provided as Appendix L.

12.9 COMMENTS

The information reported in Reference 3 has been updated. This SWMU has been classified as an AOC and is to be addressed under the CERCLA Investigation of Fifteen Solid Waste Management Units. As a note, Building 804 discussed under SEAD-72 is being investigated as part of SEAD-12B.

12.10 REGULATORY STATUS

This SWMU is classified as a Moderately Low Priority Area of Concern; This SWMU is currently being investigated under the CERCLA 15 SWMU SI program.

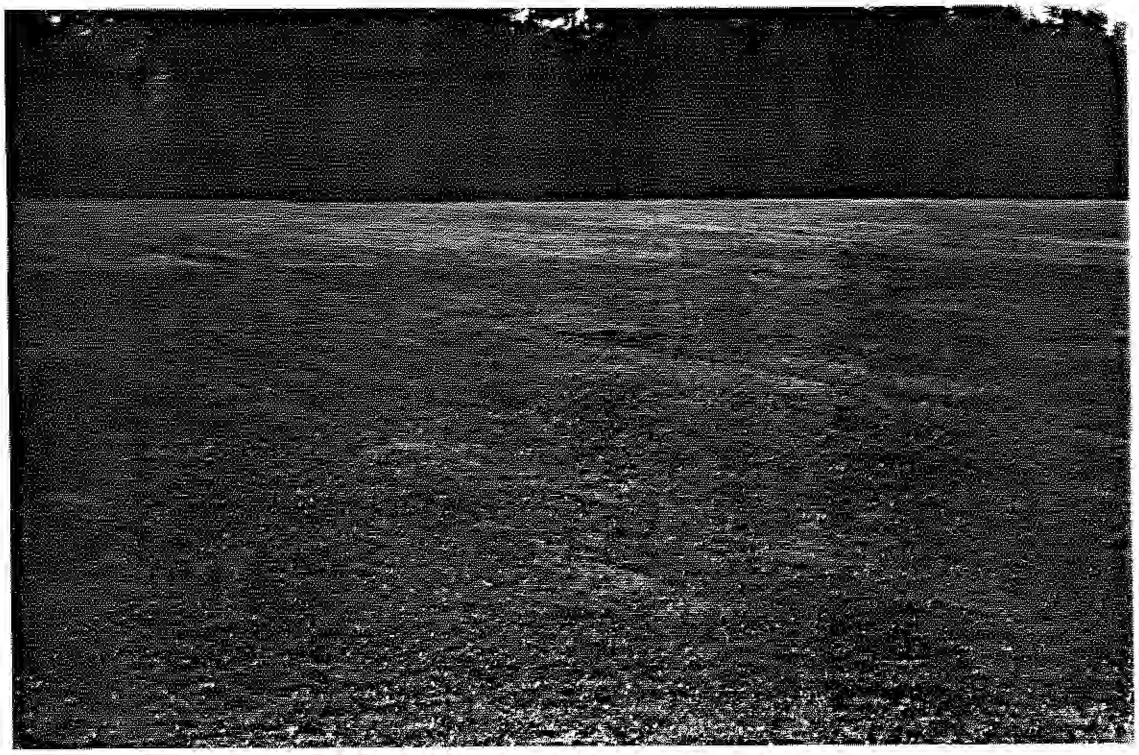


Photo 31: SEAD-12, 9/12/90. View of Location A of the Radioactive Waste Burial Sites, facing west.

Photo 32: SEAD-12, 9/12/90. View of Location B of the Radioactive Waste Burial Sites, facing northeast; the person in the foreground is standing at the approximate location of the 5,000 gallon Underground Storage Tank; the person in the background is standing in the proximity of the Dry Storage Pit.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-12 DATE: 9/12/90 TIME: 11:50 a.m.

UNIT NAME: Radioactive Waste Burial Sites

PHOTO NUMBER: 31 and 32

ORIENTATION OF PHOTOGRAPH: No. 31 facing west, No. 32 facing northeast

LOCATION WITHIN FACILITY: Exclusion Area : (a) Approximately 1,000 feet south of North Patrol Road and 500 feet west of East Maintenance Road (Photograph No. 31 - Location A), and (b) approximately 400 feet south of North Patrol Road and 1,000 feet east of Access Road (Photograph No. 32 - Location B)

WEATHER CONDITIONS: Sunny, 80°F

PHOTOGRAPHER: Randall W. Battaglia

EXHIBIT A-12

SUMMARY OF RADIOLOGICAL SURVEY PERFORMED AT SEAD-12 (LOCATION A)

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO

REFERENCE OR OFFICE SYMBOL SUBJECT Grid Survey

SSE-NX

TO: Safety Officer RPO FROM: Chief Alpha Team DATE: 5 July 88 CMT 1

1. Subject survey has been completed for some time but final compass readings were not established.

2. Attached is a copy of the initial DF that established the requirements and instrumentation to be used. In addition to this initial DF the following information is provided:

a. Instrumentation - One Ludlum Model 2220 w/SPA3 probe, S/N 31952 Probe S/N NA

One Ludlum Model 2220 w/Fidler probe, S/N 31963 Probe S/N MD734.

b. Standardization as stated on initial DF.

3. Survey was conducted for initial start point as depicted on attached portion of a current Depot map. Grid starting at 27.50 by 86.65 approx. Compass readings from start point were taken utilizing the peak of the water tower and a intersecting reading taken utilizing the peak of the commo tower near Bldg 812. The readings are: commo tower 268w, water tower 287w. Currently the start point is marked by a stake and red flag.

The survey consisted of a back and forth slow walk by two alpha team members. Each member carried an instrument as listed in para 2 above. The initial direction was on compass heading 95e until intersection of the patrol road. One step, approximately 3 feet, was taken in an easternly direction and the team headed in a back azimuth of 275w. This process continued until the entire noted area was completed. The western boundry of the survey area was determined by the start point and an azimuth of 5e.

5. This survey was conducted with no readings above background being noted. The background during each days survey by various teams did vary but in all cases each team noted no readings above their starting background.

6. Point of contacts for the survey are, Mr. J. Cleary or Mr. P. Louvier, at ext 30-207/560.

2 encl
as

PHILIP T. LOUVIER
CHIEF ALPHA TEAM

DISPOSITION FORM
For use of this form, see AR 340-15; the proponent agency is TAGO

REFERENCE OR OFFICE SYMBOL SUBJECT Grid Survey Q Area

SDSSE-NX

TO: Dir/SW FROM: Foreman, Maint Div DATE: 3 June 87 CMT 1

1. As requested a planning group has checked the burial pit logs and locations noted to determine where the need exist for a grid survey. This group toured the areas noted on the availabe logs and determined the areas that will be surveyed by the alpha team.

2. On 2 June 87 the undersigned contacted Mr. Cliff Taylor of the US Army RADCON Team to determine the best settings and instruments needed to accomplish your requested task. His response was as follows:

a. One Ludlum Model 2220 standardized with Am241, window at 100. High Voltage set at 1450, threshold set to 500, use in the gross or open window mode. (Fidler Probe)

b. One Ludlum Model 2220 standardized with Cs137, window as low as possible (12-20), High Voltage set at 950, threshold set to 500, use in the gross or open window mode. (SPA 3 Probe)

3. Using the instruments as listed in para 2 above will allow both low level and high level KEV energy to be counted.

Mr. J. Cleary and P. Louvier will mark and establish compass points for the area required. This will take place on 8 June 87 in the morning. A corner point will be made permanent that denotes the start location of all compass bearings used to accomplish the survey.

5. Mr. J. Cleary will establish a roster of personnel that will be used to accomplish the day to day monitoring. We anticipate that the project will take approximately one full week to complete once monitoring begins.

6. This division will use the Alpha Team Training Job Order unless we are furnished a Job Order by Safety or PF&C to accomplish the required survey.

PHILIP T. LOUVIER
Foreman
Maint Div DSW

CF John Cleary
8/9

North

Quad #1

1	2	3	4	5	6	7	8	9	10	11	12 Fence	13	14	15	16	17	18	19	20	21	22		24	25
450	450	450	450	450	450	450	500	500	450	550	450	450	450	450	500	500	450	450	450	450	400	450	450	450
450	450	450	450	450	450	450	500	500	450	450	450	450	450	450	450	500	450	450	450	450	400	400	450	450
450	450	450	450	450	450	450	550	500	450	450	450	450	450	500	450	500	500	450	450	500	450	450	450	500
450	450	450	450	450	450	450	550	500	450	450	450	500	450	450	450	500	450	450	500	450	450	450	450	450
450	450	450	450	450	450	450	500	500	450	500	450	500	450	500	450	400	450	500	450	500	450	450	500	450
450	450	500	450	450	450	450	600	450	450	600	450	500	500	500	500	450	500	450	450	450	450	450	500	500
450	450	500	450	450	500	450	450	450	500	600	500	500	500	500	500	500	500	600	500	450	500	500	450	450
450	450	500	500	450	500	450	450	450	500	600	500	600	600	500	600	500	500	500	500	450	500	500	500	500
450	450	500	500	450	500	500	450	500	500	600	500	620	550	600	600	600	600	500	500	500	500	600	500	500
450	450	500	500	500	500	500	450	500	500	600	550	600	600	600	600	600	600	800	500	500	500	600	500	500
450	450	500	500	500	450	500	450	500	500	620	600	600	620	600	700	600	700	800	600	600	600	700	600	500
450	450	500	500	500	450	500	450	500	500	600	600	650	600	600	800	650	800	700	700	600	600	600	600	600
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450	450	500	500	450	500	450	450	500	500	600	600	600	600	600	600	700	600	600	600	800	700	600	600	500
450	450	500	500	450	450	450	450	500	500	450	450	600	600	600	600	700	600	600	600	600	600	600	500	450
450	450	600	500	450	500	450	450	500	500	450	450	600	550	500	500	800	600	600	800	600	600	600	500	400
450																								

Feet

27 JUNE 86

NORTH

Quad #2

Row	26	27	28	29	30	31	32	33	34	35	36	37 Fence	38	39	40	41	42	43	44	45	46	47	48	Fence
1	450	450	400	400	450	450	450	450	450	450	450	450	400	450	400	400	450	450	400	500	450	400	420	440
2	450	400	450	400	450	400	450	450	450	400	450	450	400	400	400	450	450	400	450	450	450	400	450	420
3	500	400	400	400	400	400	400	400	500	400	450	400	450	400	400	400	400	450	450	450	450	450	450	380
4	400	400	450	400	400	400	400	450	400	400	400	400	400	400	450	400	400	400	400	400	450	450	450	400
5	450	450	450	450	450	450	450	450	450	450	450	400	400	400	450	450	400	400	450	450	450	450	450	420
6	400	400	450	450	450	450	450	450	450	450	450	450	450	400	400	450	450	450	450	450	400	450	450	400
7	450	450	400	400	450	400	450	450	400	400	450	400	400	400	400	400	450	400	400	450	400	500	450	420
8	500	500	400	400	450	450	450	400	400	450	400	400	450	400	400	450	450	400	400	450	450	400	450	440
9	500	400	450	500	450	400	500	400	450	500	500	450	450	500	500	400	500	400	500	450	400	450 / 450	450 / 450 / 500	440
10	450	400	450	400	450	400	450	500	450	400	400	400	500	500	450	400	450	400	500	400	450	450	500	420
11	450	450	450	400	450	450	500	450	450	450	450	450	450	500	450	450	400	450	500	500	450	500	450	340
12	450	450	450	400	400	450	450	450	450	400	500	450	450	450	450	450	400	500	450	500	450	450	450	440
13	500	500	500	450	500	500	450	450	500	500	500	450	450	500	450	450	500	400	450	450	500	450	450	420
14	500	450	450	475	450	450	500	500	450	450	500	500	450	450	450	400	450	500	470	450	~~300~~ 450	450	450	420
15	600	550	550	400	400	400	550	600	500	400	400	360	400	500	400	450	400	400	400	400	450	450	450	470
16	600	600	600	500	470	500	450	450	500	450	500	500	500	500	500	550	550	600	470	470	450	400	450	450
17	500	500	500	450	500	500	500	500	500	600	600	600	500	500	500	600	600	500	500	500	470	450	450	450
18	600	600	600	600	550	600	600	700	450	500	470	500	500	500	470	450	450	400	400	400	450	450	450	450 750

EAST

Fence

2730 ~ 86

0

NORTH

Quad #9

Fence

	1	2	3	4	5	6	7	8	9	10	10	12	13	14	15	16	17	18	19	20	21	22	23	24	25
18	~~450~~ 400	450	400	400	400	450	400	450	450	450	450	450	450	450	400	500	500	500	500	500	500	500	500	500	400
19	~~450~~ 400	400	450	400	400	450	400	450	450	450	410	450	400	450	500	500	500	500	500	500	500	500	500	450	400
20	~~450~~ 450	450	450	400	400	450	400	450	500	500	450	450	500	450	450	500	500	500	500	500	500	500	500	450	400
21	~~450~~ 400	450	450	400	400	450	400	450	500	450	450	450	500	500	450	500	500	450	500	500	500	500	450	500	500
22	400	450	400	400	400	450	400	400	450	450	400	400	450	400	450	500	500	500	500	500	600	500	500	450	500
23	450	400	450	400	400	450	500	400	500	450	400	450	450	400	400	500	500	500	500	500	500	500	450	500	500
24	450	400	400	450	450	450	450	400	450	450	450	450	450	400	450	500	500	500	500	500	500	500	450	400	500
25	450	450	400	450	450	450	400	400	450	400	450	500	450	500	450	400	500	500	500	500	500	500	450	400	450
26	400	400	400	500	450	400	400	400	450	400	450	500	500	500	500	500	500	500	500	500	500	500	450	400	400
27	400	400	400	500	450	400	450	400	500	400	450	450	450	450	450	400	500	500	500	500	500	500	450	400	400
28	450	400	400	450	400	400	450	450	450	400	400	500	450	500	500	500	500	450	500	500	500	500	500	450	400
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30	450	450	400	400	400	450	400	450	500	500	450	450	450	450	450	400	450	500	500	500	500	500	450	400	400
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32	500	450	450	500	450	450	450	450	500	500	450	450	450	500	450	450	450	500	500	500	500	500	500	450	500
33	450	400	450	400	400	450	450	450	450	500	450	450	500	450	500	450	500	500	500	500	500	500	500	500	500
34	450	450	450	400	400	450	450	450	450	500	450	450	500	400	500	500	450	500	500	500	500	500	450	500	500
35	450	450	450	400	400	400	450	450	500	500	450	450	450	400	500	500	500	500	500	500	500	500	500	500	450

36

30 Jun 4p

Background 350 [illegible]
Readings given as actual, background not subtracted.

North

Quad #4

E

	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	18	400
	325	350	350	300	400	300	400	350	375	300	350	300	300	350	350	300	250	300	300	300	350	250	300	19	400
	375	375	300	350	375	350	350	300	350	400	400	350	350	300	350	350	350	300	300	300	350	250	350	20	400
	325	350	325	350	350	300	325	300	350	450	350	300	350	300	325	350	350	300	300	300	350	350	350	21	420
	375	400	375	375	375	350	350	300	350	400	350	350	350	400	350	300	300	300	300	300	350	350	300	22	420
	350	350	375	375	400	350	325	300	400	350	350	350	350	400	350	350	300	375	350	300	350	250	300	23	400
	350	325	300	300	400	375	325	325	350	350	375	350	325	350	350	300	300	300	350	350	300	300	300	24	400
	425	375	375	350	375	300	300	300	350	400	350	350	350	350	350	350	350	300	300	375	350	300	300	25	400
	375	375	375	375	325	300	300	300	300	375	300	300	325	300	375	300	350	350	375	350	300	300	300	26	400
	375	350	300	350	300	375	375	325	350	300	350	350	300	300	325	375	350	300	300	300	350	300	300	27	440
	350	375	350	350	350	350	350	300	350	350	300	300	300	350	350	400	350	300	300	300	350	300	350	28	420
	375	350	400	400	375	300	350	325	350	350	375	400	350	375	350	350	300	300	300	350	300	300	300	29	440
	375	375	325	350	350	350	375	325	350	350	300	350	400	300	350	300	350	350	350	350	300	300	300	30	400
	350	350	375	325	325	300	300	300	400	350	350	300	300	300	375	350	350	350	350	350	300	300	300	31	420
	425	350	325	325	325	300	350	350	350	400	400	350	350	350	350	350	350	350	350	350	300	300	300	32	400
	325	325	350	350	300	300	300	300	350	350	350	350	350	350	350	400	350	350	300	300	350	300	350	33	420
	325	350	350	300	300	350	350	300	350	375	350	350	350	300	350	325	350	300	300	300	350	300	300	34	400
	300	300	300	350	325	300	350	400	350	350	300	350	325	300	400	300	300	300	300	300	300	350	300	35	400
	300	300	300	325	300	300	250	400	300	350	300	350	350	350	350	350	300	350	350	300	300	350	300	36	420

Fence

Readings ... 350 ... on ... [illegible]
dings, given are actual, background not subtracted.

NORTH

Quad #5

Fence

325	350	350	300	300	350	375	350	375	350	350	350	350	300	300	400	475	475	500	450	400	400	400	350
350	350	350	300	350	375	300	300	350	350	350	300	325	350	325	400	400	450	475	425	425	450	400	400
350	350	350	300	350	350	300	300	250	350	325	350	325	325	350	425	425	425	475	475	450	350	350	350
350	325	350	300	300	350	350	350	300	350	350	350	325	325	350	450	425	425	450	450	450	450	450	400
375	350	350	300	350	350	350	350	350	300	325	350	325	325	350	425	400	400	400	400	400	450	400	400
350	325	375	400	350	350	350	325	350	350	350	300	400	375	350	425	425	400	425	400	425	350	350	400
300	275	300	350	350	375	350	325	350	350	400	350	375	375	425	400	500	550	450	450	500	400	400	400
350	350	350	300	350	350	300	325	350	400	350	350	350	375	375	475	475	450	450	450	475	400	375	375
350	350	300	400	400	400	300	350	375	400	450	450	350	425	400	550	450	475	600	550	475	450	375	350
325	300	300	400	400	400	400	450	400	375	450	350	425	450	450	450	450	450	500	475	475	375	400	400
300	350	350	500	500	500	350	300	325	375	400	350	400	425	425	425	450	475	500	475	475	350	350	400
325	325	325	500	500	500	375	400	300	350	350	375	475	450	450	450	425	450	500	550	500	450	425	400
400	450	400	500	500	500	400	350	325	350	400	400	450	475	500	450	450	500	475	550	550	425	450	450
500	500	400	500	550	450	400	350	325	350	350	400	600	700	500	475	475	500	450	475	475	450	450	400
500	500	500	475	500	475	450	450	375	400	400	450	500	550	475	475	475	475	500	500	600	500	600	600
500	500	500	500	500	500	450	400	400	300	350	450	600	550	500	475	475	500	550	600	550	500	500	500
500	500	500	500	500	500	400	450	400	300	500	600	550	550	600	500	475	500	500	600	500	500	500	500
500	500	500	500	500	500	400	375	375	350	400	500	550	500	500	400	425	500	600	600	500	500	450	600

Background 350 CPM on LUD 2220
readings given are actual, background not subtracted.

North

QUAD #6

36 Fence

350	350	350	300	300	300	400	380	420	400	400	400	380	400	400	400	400	420	400	440	400	400	400	37	400
325	350	325	300	300	300	400	380	420	400	400	400	400	400	420	420	420	420	380	420	420	420	420	38	400
300	300	350	350	350	300	420	420	400	420	380	400	400	400	400	400	440	400	420	380	400	400	400	39	400
300	400	350	350	350	350	400	420	420	400	400	400	420	400	400	440	440	400	400	420	400	400	550	40	400
300	400	400	350	350	350	400	400	420	400	420	400	400	400	400	400	420	420	420	400	380	420	400	41	400
400	375	375	350	350	400	420	440	400	420	440	420	440	400	400	380	400	400	420	400	420	400	400	42	400
350	350	300	350	350	350	420	400	420	440	400	400	400	420	420	380	400	380	400	420	420	420	420	43	400
350	375	350	400	375	350	440	420	400	420	420	420	420	420	440	400	360	420	420	400	380	440	440	44	380
375	325	325	350	350	400	420	440	400	440	420	420	440	380	440	440	420	440	440	420	400	420	460	45	440
350	350	300	350	350	350	440	420	420	420	440	380	420	450	480	460	420	420	400	420	420	480	400	46	500
350	400	450	400	400	400	420	500	420	400	440	550	500	460	480	450	440	440	440	460	440	400	440	47	460
400	450	460	500	450	450	460	500	480	500	480	600	600	480	500	500	550	460	480	500	480	550	550	48	480
425	450	450	500	600	600	600	600	480	600	550	650	600	500	600	650	600	460	460	500	550	550	550	49	500
600	450	450	600	550	550	500	500	550	600	600	600	600	550	550	600	550	440	460	650	550	600	480	50	500
500	600	500	600	600	600	480	600	550	650	550	600	400	550	550	500	500	440	500	480	500	500	550	51	500
450	500	500	450	500	500	500	600	600	650	600	650	650	550	580	480	480	550	700	500	500	500	500	52	500
450	500	600	500	600	500	600	600	600	600	700	600	650	550	500	550	500	550	600	600	600	500	600	53	500
600	600	500	450	600	500	500	500	650	700	700	600	[illegible]	500	500	550	550	600	600	550	600	600	550	54	[illegible]

Fence

A12-13,7

NORTH

Quad - 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
55	420	400	700	700	700	650	500	500	500	500	500	500	450	600	550	550	500	420	500	600	500	500	500	500
56	440	460	650	650	650	600	500	500	500	500	500	500	500	500	550	550	500	500	550	550	500	500	550	550
57	400	700	700	650	600	600	550	550	500	500	500	550	400	500	500	500	550	550	600	550	500	400	550	550
58	400	700	600	700	800	600	550	550	500	500	500	500	500	500	500	500	550	550	550	550	500	500	550	550
59	650	550	700	700	800	700	500	500	550	550	500	500	500	500	500	500	550	550	600	600	500	500	550	550
60	420	410	470	480	600	600	550	500	500	500	500	500	500	500	550	550	500	550	550	550	500	500	550	550
61	400	380	400	480	500	480	500	500	500	500	500	500	500	600	550	550	500	500	550	500	450	500	500	500
62	440	400	380	440	480	480	500	500	500	500	500	500	500	500	550	500	500	500	500	500	450	450	500	500
63	400	440	420	420	440	440	500	500	500	500	500	500	500	500	450	450	450	450	450	450	450	450	500	500
64	500	420	440	440	480	460	450	500	500	500	450	450	450	450	450	450	450	450	450	450	450	450	500	500
65	400	420	440	420	480	480	500	500	500	500	450	500	450	450	450	450	500	500	450	450	450	450	500	450
66	440	420	440	440	420	420	500	500	500	500	500	450	400	450	450	500	500	500	450	450	400	450	450	450
67	400	420	400	440	420	420	500	500	500	500	450	450	450	400	500	500	500	500	450	450	400	400	450	450
68	420	420	420	420	440	380	500	500	500	500	450	400	450	450	550	500	450	450	450	450	400	400	400	400
69	400	400	420	420	380	400	500	500	500	500	400	400	450	450	500	500	500	500	450	400	450	450	400	500
70	420	400	400	400	400	400	500	500	500	500	450	450	450	450	500	500	500	500	400	400	450	450	500	500
71	400	380	380	400	400	400	500	500	500	500	450	400	450	450	500	500	500	500	400	400	400	450	500	500
72	420		400	400	400	420	500	500	500	500	450	450	450	450	500	500	500	500	450	450	450	450	500	500

8 JUL 86 BG - 500 [illegible] 5 m/, clear about 80°

A12-14

Quad #B

NORTH

26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	54
550	550	550	550	550	500	500	500	550	550	500	500	500	500	550	550	550	500	500	500	450	500	500	55
500	500	500	500	550	550	500	550	550	500	500	550	500	500	550	550	550	550	500	450	500	500	500	56
500	500	500	500	500	500	550	550	500	550	550	550	500	500	500	500	500	500	500	500	500	500	500	57
550	500	550	550	500	500	550	500	550	500	550	550	500	500	550	550	550	500	500	500	500	500	500	58
550	550	550	500	450	500	550	550	550	550	550	500	450	450	550	550	550	500	500	500	500	500	500	59
500	500	500	450	450	450	550	550	550	550	500	500	500	450	550	550	550	500	500	500	550	450	450	60
500	500	450	450	450	450	550	550	500	500	500	500	500	500	500	500	500	500	500	500	500	450	450	61
500	500	500	500	500	450	550	550	500	500	500	500	500	500	500	500	500	500	500	500	500	400	450	62
500	500	500	500	450	500	500	500	500	500	500	450	450	500	500	500	500	450	500	450	450	450	400	63
500	500	450	450	400	450	500	500	500	500	450	450	400	450	500	500	500	450	450	450	450	450	450	64
450	500	450	450	400	400	500	500	500	500	450	450	450	500	550	400	400	400	500	450	450	400	400	65
450	450	450	450	450	450	500	500	500	500	450	450	500	450	500	400	450	400	400	500	450	450	450	66
450	450	450	500	400	450	450	450	500	500	450	450	450	500	500	500	500	450	450	500	450	450	450	67
450	450	500	450	400	400	500	500	500	500	450	500	450	450	500	500	500	450	450	450	450	400	400	68
450	500	450	450	400	400	450	450	400	500	500	500	450	450	500	500	500	450	450	450	450	400	400	69
450	450	400	400	450	450	450	450	400	400	500	500	500	450	500	450	450	450	400	450	400	400	400	70
500	450	400	400	400	400	500	450	450	400	450	450	450	450	500	500	500	450	450	400	400	450	450	71
500	450	400	400	400	400	550	550	450	450	500	500	450	450	450	450	450	450	450	400	400	450	450	72

3 Jul 86

Fence

NORIN

Quad #9

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
500	550	550	500	500	500	450	450	500	450	400	450	400	450	450	450	450	450	400	400	450	400	500	450	450
500	500	500	550	500	500	500	450	450	450	400	400	400	400	450	500	500	400	450	400	400	400	500	500	500
500	500	550	550	450	450	500	500	500	500	450	450	400	450	450	400	400	400	500	450	450	450	500	500	500
500	500	550	500	450	450	450	500	500	500	400	400	450	400	400	450	400	400	450	500	450	450	500	500	500
500	500	500	550	500	450	450	450	450	450	450	450	400	450	400	400	400	450	450	450	450	400	500	500	450
450	450	500	500	500	500	500	500	450	450	450	450	450	450	400	400	450	450	450	500	400	400	500	500	500
450	400	500	500	550	550	450	450	450	450	450	450	460	450	450	450	450	450	450	450	450	450	500	450	500
450	450	500	450	450	450	450	450	450	500	500	500	450	450	450	450	400	450	450	450	500	450	500	500	500

Fence

8 = Y 86

A12-16

TABLE A-12

SOIL ANALYSIS RESULTS FROM THE DRY PIT NORTH OF BUILDING 804

MAY 1986

TABLE A-12
SOIL ANALYSIS RESULTS
FROM THE DRY PIT NORTH OF BUILDING 804

Sample No.	Description	Findings
1	24 inches center	< MDA
2	24 inches north	< MDA
3	Mass 79.4 g	< MDA
4	Plywood found in hole	< MDA
5	54 inches west	< MDA
6	22 inches	< MDA
7	stuck to plywood at 2 feet	< MDA
8	16 inches south	< MDA
9	20 inches center	< MDA
10	20 inches east	< MDA
11	54 inches east	< MDA
12	44 inches east	< MDA
13	40 inches north	< MDA
14	54 inches SE	< MDA
15	20 inches east	< MDA
16	26 inches southwest	< MDA

NOTES:

1) The samples were analyzed on a Nuclear Data, Model 682 Multi-Channel Analyzer utilizing an Ortec Gamma - X intrinsic germanium detector.
2) MDA - minimum detectable activities.
3) Pit was excavated on May 27, 1986. The only suspicious debris encountered was pieces of plywood.
4) Soil samples were collected from the bottom of the pit (54") and when the pit was partially backfilled (22").

13.0 SWMU NUMBER: SEAD-13

13.1 UNIT NAME

IRFNA (Inhibited Red Fuming Nitric Acid) Disposal Site.

13.2 UNIT CHARACTERISTICS

13.2.1 Unit Type

Limestone-lined neutralization pits.

13.2.2 Design Features

Six pits 30 feet long, 8 feet wide and 4 feet deep. Five of the pits were used for acid dumping. The pits were formed using a bulldozer to scrape down to a shale stratum 4 feet below grade. Limestone was placed in the pits to a depth of approximately 2.5 feet. The sides of the pits were also covered with limestone.

13.2.3 Approximate Dates of Usage

Early 1960s.

13.2.4 Operating Practices

Barrels (18.8 gallon capacity) of unserviceable IRFNA were stored on pallets near the west end of the pits. A stainless steel ejector, operated by water pressure, was fitted into a barrel with water flowing through the ejector. The ejector discharged a mixture of water and IRFNA through a long polyethylene hose under the water surface in the pit being used. Five minutes were required to empty a barrel. Ten barrels were usually discharged into a single pit during a day's operation.

13.2.5 Present Condition and Status

Abandoned. The exact locations of the pits are unknown. Reference 13, *Disposal of IRFNA by Soil Absorption, Seneca Ordnance Depot*, shows the location of the pits near the west end of the East-West Base Line Road on the southside of the road (see Exhibit A-13 for report). Abandoned aboveground piping was observed in the areas southeast and southwest of the Duck Ponds (see photos 36 through 38). This piping could have been used during the IRFNA disposal project. The aboveground piping shown in Photo 36, appeared to have been an emergency shower. The IRFNA Disposal report stated that a deluge shower was used for personnel decontamination. Also, an abandoned water hydrant was observed southwest of the Duck Ponds. Possibly, this water hydrant was used to supply water pressure to the stainless steel ejector. Photographs of the general area, taken on September 11, and November 27, 1990, are shown on the pages following this text.

13.3. WASTE CHARACTERISTICS

13.3.1 Specific Wastes Disposed

IRFNA, an oxidizer used in missile liquid propellant systems.

13.3.2 Physical and Chemical Characteristics

Composition is 81.3-84.5 percent nitric acid (HNO_3), 13-15 percent nitrogen dioxide (NO_2), 0.5-0.7 percent hydrofluoric acid (HF) and 2.0-3.0 percent water.

13.3.3 Migration and Dispersal Characteristics

After neutralization of the IRFNA, the primary constituents of concern would be nitrates, nitrites, and fluoride, all of which could migrate into the groundwater.

13.3.4 Toxicological Characteristics

MCLs are available for nitrate, nitrite and fluoride (see Appendix E for drinking water regulations).

13.4 MIGRATION PATHWAYS

The migration pathways are groundwater and surface water (if covered by the Duck Ponds).

13.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

13.6 EXPOSURE POTENTIAL

Moderate.

13.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 10 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ES1 of Ten Solid Waste Management Units."

13.8 REFERENCES 3, 5, 6, 8 AND 13

References 3, 5, 6, 8 and 13. A list of references is provided as Appendix L.

13.9 COMMENTS

The information reported in Reference 3 has been updated. This unit has been classified as an AOC and is currently being addressed under the CERCLA Investigation of Ten Solid Waste Management Units.

13.10 REGULATORY STATUS

This SWMU is classified as a Moderate Priority Area of Concern. It is currently being investigated under the CERCLA 10 SWMU SI program.

Photo 33: SEAD-13, 9/11/90. View of one possible location of the IRFNA Disposal Site (south of East-West Base Line Road), facing south.

Photo 34: SEAD-13, 9/11/90. View of one possible location of the IRFNA Disposal Site (under the Duck Ponds; south of East-West Base Line Road), facing west; the possible site is located at the left side of the photograph, in the southern part of the pond.

Photo 35: SEAD-13, 11/27/90. View of the possible location of the IRFNA Disposal Site, facing east; the possible site is located to the right side of the fence, in the southern part of the pond.

Photo 36: SEAD-13, 11/27/90. View of the aboveground piping observed on the southwest side of the Duck Ponds, facing north. The piping may be the deluge shower referred to in the 1960 IRFNA Disposal Report. Similar piping was observed on the southeast side of the Duck Ponds.

Photo 37: SEAD-13, 11/27/90. View of the aboveground piping observed in the general area of the IRFNA Disposal Site, facing north towards East-West Base Line Road, on the east side of the Duck Ponds.

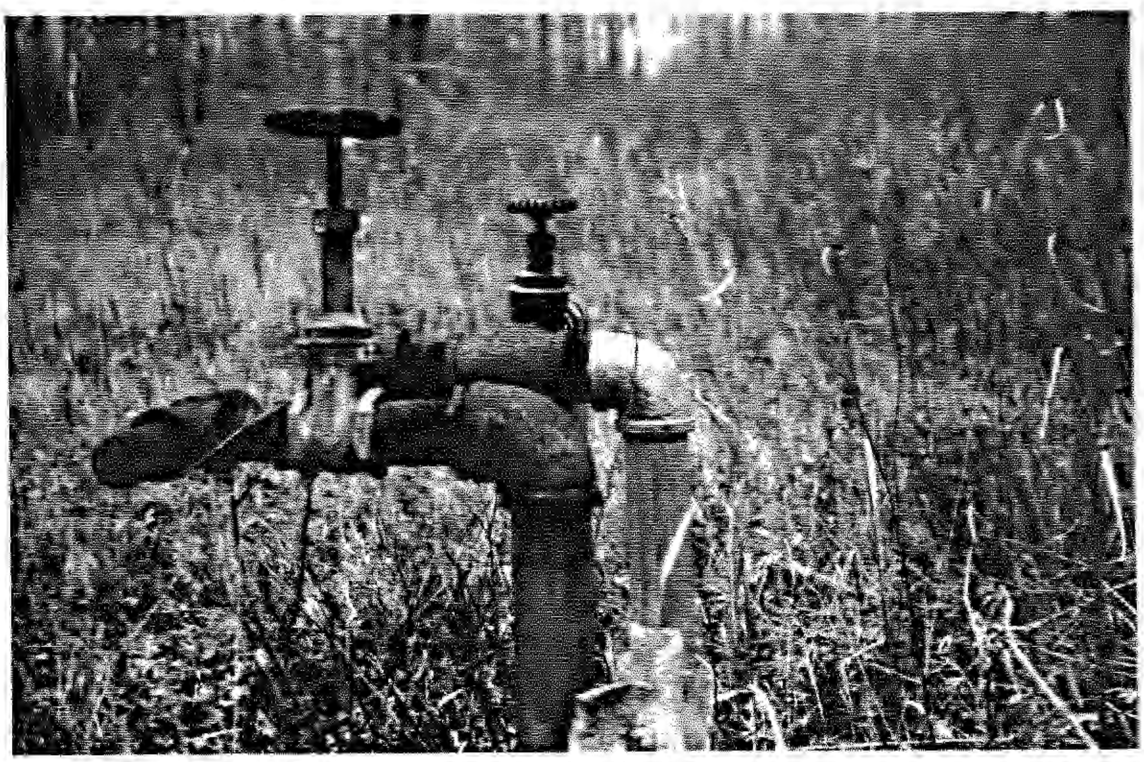


Photo 38: SEAD-13, 11/27/90. Close-up of the aboveground piping shown in Photograph 37, facing south

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-13

Photo 33 and 34	DATE:	9/11/90	TIME:	8:55 a.m.
Photo 35 -38	DATE:	11/27/90	TIME:	12:30 p.m.

UNIT NAME: IRFNA Disposal Site

PHOTO NUMBER: 33 through 38

ORIENTATION OF PHOTOGRAPH: No. 33 facing south, No. 34 facing west, No. 35 facing east, No. 36 facing north, No. 37 facing north, No. 38 facing south

LOCATION WITHIN FACILITY: On the south side of East-West Base Line Road, approximately 2,000 feet west of East Patrol Road

WEATHER CONDITIONS: Cloudy, 70°F on 9/11/90
Cloudy 65° on 11/27/90

PHOTOGRAPHER: Dimitra Syriopoulou (9/11/90)
Julie Hubbs (11/27/90)

EXHIBIT A-13

DISPOSAL OF IRFNA BY SOIL ABSORPTION, SENECA ORDNANCE DEPOT AUGUST 16, 1960

file SWMU's

MEDEI-E

16 AUG 1960

SUBJECT: Disposal of IRFNA by Soil Absorption, Seneca Ordnance Depot

THRU: The Surgeon General
Department of the Army
Washington 25, D. C.
ATTN: MEDCE-EH

Note: Telecon 6 Mar 61 Surgeon General's office ... this report ... informally ... Lt Col McCall, S3O

TO: Commanding Officer
Seneca Ordnance Depot
Romulus, New York

Forwarded herewith is Report of Sanitary Engineering Study No. 3642E4-60, "Disposal of Inhibited Red Fuming Nitric Acid by Soil Absorption", conducted at Seneca Ordnance Depot, Romulus, New York, on 6 May 1960 and 9 June 1960 by Dan W. Duttweiler, Captain, MSC, Sanitary Engineer of this Laboratory. The report contains findings of the study, observations based on these findings and recommendations with respect to certain of these findings.

1 Incl
Rept of San
Engr Stdy #3642E4-60,
Seneca Ord Dep

Adam J. Rapalski
ADAM J. RAPALSKI
Colonel, MC
Commanding

COMPLETED

FILE

HEADQUARTERS
U. S. ARMY ENVIRONMENTAL HEALTH LABORATORY
United States Army Medical Service
Army Chemical Center, Maryland

MEDZI-E

REPORT OF SANITARY ENGINEERING STUDY NO. 364214-60
DISPOSAL OF INHIBITED RED FUMING NITRIC ACID BY SOIL ABSORPTION
SENECA ORDNANCE DEPOT
ROMULUS, NEW YORK

1. AUTHORITY. Letter, ORDKL-COA, Seneca Ordnance Depot, 3 May 1960, subject: "Environmental Health Survey", to Commanding General, First U. S. Army and indorsements thereto.

2. REFERENCES.

a. Mozola, Andrew J., "The Ground Water Resources of Seneca County, New York", Bulletin GW-26, Water Power and Control Commission, Department of Conservation, State of New York, Albany, New York, 1951.

b. Luther, D. Dana, "Geology of the Geneva-Ovid Quadrangles", Museum Bulletin 128, Education Department Bulletin No. 445, University of the State of New York, Albany, New York, April 1909.

c. Pearson, C. S., et al, "Soil Survey of Seneca County, New York", Series 1936, No. 14, U. S. Department of Agriculture, Bureau of Plant Industry, April 1942.

d. Anonymous, "Finger Lakes Drainage Basin", Oswego River Drainage Basin Survey Series Report No. 4, New York State Department of Health Water Pollution Control Board, December 1956.

e. Anonymous, "Classifications and Standards of Quality and Purity for Fresh Surface Waters of the Finger Lakes Drainage Basin", New York State Department of Health Water Pollution Control Board, 19 November 1958.

f. Anonymous, "Rules and Classifications and Standards of Quality and Purity for Waters of New York State", New York State Department of Health Water Pollution Control Board, 25 October 1950.

g. TB ORD 66C, "Guided Missile Nitric Acid (IRFNA)", Department of the Army, 8 November 1956.

h. TB MED 229, "Sanitary Control of Water Supplies at Fixed Installations", Department of the Army, 17 December 1957.

3. OBJECTIVE. The purpose of this study was to determine the nature and extent of possible hazards to ground water resources in the vicinity of Seneca Ordnance Depot, which may result from the disposal of unserviceable inhibited red fuming nitric acid (IRFNA) by discharge into the soil.

4. BACKGROUND.

a. IRFNA is an oxidizer used in missile liquid propellant systems. Its composition (ref 2g) is 81.3% - 84.5% nitric acid (HNO_3), 13% - 15% nitrogen dioxide (NO_2), 0.5% - 0.7% hydrofluoric acid (HF), and 2.0% - 3.0% water.

b. There is a continuing need to dispose of quantities of unserviceable IRFNA. One method authorized (ref 2g) is the use of a shallow trench partially filled with limestone or slaked lime. The limestone or slaked lime is completely covered with water and the acid is introduced into the trench under water.

5. DESCRIPTION OF DISPOSAL SYSTEM.

a. As shown on Plate E-18, the disposal site is located near the west end of East West Base Line Road on the south side of the road. The site includes six pits, each about eight feet wide and 30 feet long, of which five are used for acid-dumping. The pits have been formed by a bulldozer scraping to a shale stratum about four feet below grade. Limestone has been placed in the pits to a depth of approximately two and one-half feet, and the four sides of each pit have been covered with limestone. The area is generally level, with some surface water standing in the vicinity. Depth of water in the pits is one - two feet, prior to dumping acid.

b. Barrels of unserviceable IRFNA, with a capacity of 18.8 gallons, are brought as needed to the disposal site from their storage area and placed on a pallet on a roller conveyer near the west end of the pits. A stainless steel ejector, operated by water pressure using the Depot water system, is fitted into a barrel with water flowing thru the ejector. The ejector discharges a mixture of water and IRFNA thru a long plastic (reportedly polyethylene) hose under the water surface in the pit in use. Approximately five minutes are required to empty a barrel, depending upon the quantity of acid contained. Usually 10 barrels are discharged into a single pit during the day's operation.

c. Workers wear full protective acid-handler's suits, including boots, gloves, helmets, and self-contained breathing apparatus, while handling contaminated barrels. A deluge shower is used for personnel decontamination. Containers of sodium bicarbonate solutions, as well as running water, are used for decontaminating parts. A hose is used periodically to decontaminate barrel exteriors.

MEDEI-E Rapt of San Engr Stdy #3642E4-60 (Seneca Ord Dep, Romulus, New York)

6. PROCEDURES.

a. The study began with a preliminary visit to Seneca Ordnance Depot on 6 May 1960 to obtain information regarding the quality of the ground water prior to the beginning of the acid disposal operation, and to determine the extent and character of the disposal operation. Abandoned wells were investigated as suitable ground water sampling points, and samples of ground- and surface-water were taken for chemical analyses. It was expected that the information acquired would provide a "baseline" from which to judge possible ground water pollution by IRFNA.

b. A search of available literature was begun regarding the geology and water resources in the vicinity.

c. A second visit was made to the Depot on 9-10 June 1960 to observe the acid-disposal operation, to secure additional ground water samples, and to determine, if possible, the general pollutional characteristics of the waste discharged to the soil.

d. Analytical methods used in this study were those contained in "Standard Methods for the Examination of Water, Sewage and Industrial Wastes", 10th Edition, American Public Health Association, 1955.

7. FINDINGS.

a. Seneca Ordnance Depot is in Seneca County, New York, at a latitude of 43°45' North, and about midway between Seneca and Cayuga Lakes. It is located in the heart of the glacial till plain (ref 2a, 2c) which lies north of the Appalachian Plateau (extending southward from Lodi, New York) and south of the glacial lake plain bordering the Seneca River. The Depot is about 700 feet above sea level, while water levels in Seneca Lake and in Cayuga Lake are about 445 feet and 382 feet respectively. The reservation lies astride three surface-drainage basins (ref 2d) which drain respectively northward to the Seneca River, eastward to Cayuga Lake, and westward to Seneca Lake. Drainage is poor in some places because of the flat topography, and internal surficial soil drainage is reported to be very slow (ref 2c).

b. The mean annual precipitation at Romulus, New York, for the period of record 1890 - 1922 (ref 2a) was 30.97 inches, with a maximum annual precipitation of 43.20 inches and a minimum annual precipitation of 22.22 inches.

c. In the vicinity of the Depot, the surficial soils "are developed from shallow calcareous shaly glacial till over shale bedrock" (ref 2c). Shale bedrock is reached at a depth of 30 - 40 inches (ref 2c). The surface soil, which is referred to as "Romulus silty clay loam", is reported to be slightly acid, the subsurface soil to be neutral, and the subsoil at a depth of 30 inches, alkaline (ref 2c).

d. The soil of this area is underlaid by sedimentary rocks of the Upper Silurian thru Upper Devonian geologic age with an aggregate thickness of more than 2000 feet (ref 2a). Within the reservation, north of a roughly east-west line thru Romulus, New York, the consolidated strata beneath the surficial soil are (in descending order) Ludlowville shale, Skaneateles shale, Marcellus shale (including an upper layer sometimes known as Cardiff shale), Onondaga limestone, Oriskany sandstone, and finally formations of the Upper Silurian period at and below sea level. South of the east-west line, the consolidated strata are Moscow shale, Tichenor limestone (considered also as an upper layer of Ludlowville shale), Ludlowville shale, and the remaining subterranean formations mentioned above. The shales named are classed as the "Hamilton group". The underlying strata generally dip gently (about 30 feet per mile) in a southwest direction. (A north-south section and an east-west section at Romulus of the geologic strata are shown in Plate E-20). In contrast, the bedrock surface slopes about 10 feet per mile generally in a northerly direction; bedrock contours are uncertain within the reservation. Brief descriptions of the individual members of the Hamilton group (ref 2a) follow:

(1) <u>Moscow Shale</u>. The upper part is dark, highly friable, and less calcareous and fossiliferous than the lower two-thirds which is a soft gray calcareous shale containing an abundance of fossils. Weathered surfaces generally are medium to light gray and may be stained by iron oxide. The Moscow shale is about 140 feet thick and is broken by many joint openings which strike N 65° E and N 25° - 30° W.

(2) <u>Tichenor Limestone</u> (member of the Ludlowville shale). This stratum is composed of layers of dense light-colored limestone that are several inches thick, overlaid by a hard calcareous shale about five feet thick. Its resistance to erosion has produced small cascades or falls in some of the ravines in Seneca County.

(3) <u>Ludlowville Shale</u>. The upper part is more calcareous and coarser in texture than the middle beds which consist of soft sandy shale containing calcareous lenses and an occasional layer of sandstone. The lower beds are hard calcareous layers which are resistant to erosion. The Ludlowville shale is about 140 feet thick.

(4) <u>Skaneateles Shale</u>. This stratum is about 185 feet thick with joints striking N 75° E and N 30° W. The upper beds are calcareous and gray-to-blue in color, while the lower beds are less calcareous and dark and fissile.

(5) Marcellus Shale. The oldest of the Hamilton group, this is a black, slate-like bituminous shale which contains layers rich in iron sulfide and calcareous concretions. It is very fissile with joints striking N 25° W and N 65° - 75° E. The bed is about 50 feet thick.

e. (1) The ground water hydrology of the area is strongly influenced by the Hamilton group shales. As stated in reference 2a:

"The shales are relatively impermeable and absorb, transmit, and yield water very slowly. Although the porosity of some shales may be high, the small size of the openings between constituent grains inhibits rapid transmission of water. The joints and other secondary openings in the shales are generally very narrow or are filled with fine silt or clay. The number of such openings diminishes with depth. Inasmuch as the shale beds are composed dominantly of insoluble clay minerals, there is little opportunity for the widening of secondary openings thru solutional activity.

"The low permeability of the shales tends to inhibit downward seepage of water from the surficial deposits. Where such beds crop out in steep slopes, there generally are springs or seeps resulting from lateral movement of water thus prevented from going deeper."

Most of the wells in the county piercing bedrock tap the Hamilton group. Yields range from one-quarter of a gallon per minute (gpm) to 60 gpm, with an average of about 11 gpm. Total yield of all wells utilizing the Hamilton group is estimated at 900 gpm. The wells range in depth from 18 to 665 feet, and water level ranges from 3 to 170 feet below the land surface. Table 1 shows results of four analyses of water from the Hamilton group, as reported in reference 2a. Water from the Hamilton group is primarily used for farming and domestic purposes; only three wells are used commercially, and only one industrially.

(2) The most prolific aquifers in the county are the formations below the Hamilton group shales, including the Onondaga limestone, and the upper strata (limestones and dolomites) of the Upper Silurian deposits. Conditions are favorable in the northern part of the county for recharge of ground water in these strata. The limestone beds are reportedly "heavily jointed and fractured and in many instances show marked affects of solutional cavity" (ref 2a). These beds are at a depth of about 515 feet or more below ground elevation at the Depot.

(3) The occurrence of ground water in the glacial till overlying the Hamilton group shales is highly variable and uncertain. Dug wells in this soil often fail during the summer when the water table declines below the bottom of the wells. Many of the dug wells in the till areas reach bedrock and some are extended several feet into the rock.

Yields of wells range from 0.5 to 75 gpm with an average of 7 gpm. Most of the springs issuing from the unconsolidated deposits are seepage springs at the contact between bedrock and overlying mantle. Information regarding chemical quality of ground water in the glacial till (ref 2a) is limited and suggests high total-, carbonate-, and noncarbonate- hardness and dissolved solids content, high sulfate, and a pH about 7.1.

(4) There are no major users of ground water in the area adjacent to the Depot. The Depot utilizes water from Seneca Lake, and the town of Romulus reportedly purchases water from the Depot. Individual homes and restaurants without connections to these supplies presumably use ground water.

f. Results of analyses of samples taken from wells within the Depot, Reeder Creek, surface water in the disposal site, and ground water supplies on the west border of the reservation are shown in Table 2. Locations of these sampling points are shown in Plate E-18.

g. Results of analyses of samples taken from the acid disposal pits are shown in Table 3. Sample 1 was taken from Pit No. 1 immediately after 10 barrels of IRFNA were dumped on 10 June 1960. This pit had previously received 12 barrels on 2 June, and 5 barrels on 6 June. Sample 2 was taken from Pit No. 4 on 10 June; a total of 30 barrels of acid had been dumped in this pit on 1, 2, and 6 June. The disposal operation had been suspended for a few days prior to 10 June to permit placing additional limestone in the pits along the earth walls, since there had been evidence of liquid loss by lateral leaching thru these walls of the diluted acid above the limestone bed. This was confirmed by analysis of Sample H, Table 2. During the dumping operation, wisps of nitrogen dioxide (NO_2) "fumes" were observed emerging from large bubbles forming intermittently on the liquid surface in the pit. Considerable gas, presumably CO_2, was evolved with the liquid.

8. DISCUSSION.

a. The character of the liquid absorbed from the pits by the soil could not be determined directly, under the circumstances of this study. However, it can be estimated from the available information. The waste discharged to the pits is diluted IRFNA. The chemical reaction which takes place in the pits is probably:

$$CaCO_3 + 2HNO_3 \rightarrow Ca(NO_3)_2 + CO_2 + H_2O$$

CO_2 production in the pit was confirmed by observation. Although the pH of the pit contents is very low immediately after dumping, it increases with time, and most of the liquid entering the soil probably has a pH of 5 or greater. Calcium nitrate is very soluble in water and is presumably carried with the absorbed liquid. The nitrate and fluoride concentrations of the absorbed liquid are probably very high, in view of the high concentrations in the pit contents.

b. Travel of the absorbed waste is difficult to assess. Probably most of the waste is retained in the soil overlying the Hamilton group shales, where its movement is likely to follow bedrock slopes which are presumably much like the ground surface slopes. The rate of movement of the waste northward (or the soluble ions contributed by the waste to the ground water) might be as low as 0.0025 feet per day (0.9 feet per year), in view of the low permeability of the glacial till and the gentle slope of about 10 feet per mile of bedrock. However, subsurface idiosyncracies might result in unexpected movement, such as downward penetration into the underlying shales, or movement over the shales in a different direction. The disposal site is so located that contact of the absorbed waste with the Tichenor limestone is improbable. This stratum might, thru solutional activity, be capable of conveying the waste long distances to the south. Rate and direction of movement of the waste appear to warrant more thorough investigation.

c. The pollutional characteristics of the waste must be judged in relation to the ground waters into which the waste passes. From the analytical data available, it appears that the waste would tend to increase the concentrations of nitrate-nitrogen, fluoride, iron, calcium, and total hardness of the ground water it enters. Increase of hardness and calcium content would probably be unobjectionable in waters of the glacial till or Hamilton group shales from an economic, health, or esthetic standpoint, since these are already very high. Increase of nitrates and fluoride in water of the Hamilton group shales might be objectionable from a health standpoint, since evidence exists of the possibility of moderately high nitrate content (12 mg/1) and no fluoride content of this water. No standard for maximum nitrate concentrations has been adopted in the U. S. Public Health Service standards for drinking waters which are generally applied by New York State (ref 2f). A guide to the maximum permissible nitrate concentration in drinking waters is contained in reference 2h, which limits nitrate concentrations in water supplies for fixed military installations to 20.0 ppm (20 mg/1). The USPHS limit for fluoride in drinking water is 1.5 ppm (1.5 mg/1). The creation of nitrate concentrations greater than 20 mg/1, or fluoride concentrations greater than 1.5 mg/1, in ground water supplies of the area by acid-dumping would be undesirable. There is no information available regarding the nitrate content of glacial till waters other than those within the reservation, where concentrations were very low. Fluoride concentrations ranged from low to high at the wells sampled. Increase in iron concentrations in waters used for domestic purposes would probably give rise to complaints of clothing staining and poor performance of ion-exchange water softeners.

MEDZI-E Rept of San Engr Stdy 036424-60 (Seneca Ord Dep, Romulus, New York)

9. CONCLUSIONS.

a. The disposal of IRFNA by soil absorption from pits filled with limestone created no immediate hazard to domestic or other ground water supplies outside the reservation of Seneca Ordnance Depot.

b. The subterranean stratum into which the waste is discharged, and the subsequent direction and rate of subsurface movement, are uncertain.

c. The major pollutional attributes of the waste are the high nitrate-nitrogen and fluoride contents.

d. Continuing surveillance of the ground waters in the area surrounding the disposal site is necessary to insure that pollution of these waters will not create undesirable conditions within the reservation or in the area outside the depot.

10. RECOMMENDATIONS.

a. A series of observation wells should be installed around the disposal site as shown in Plate E-19.

b. Monthly analyses of waters in the observation wells should be made to determine nitrate-nitrogen, fluorides, chlorides, pH, total hardness, dissolved solids or specific conductivity, and calcium. Analytical methods used should be as described in par 6d.

c. Representatives of this Laboratory should revisit the acid-dumping site periodically and review analytical data and other information to ascertain the progress of the subsurface waste movement.

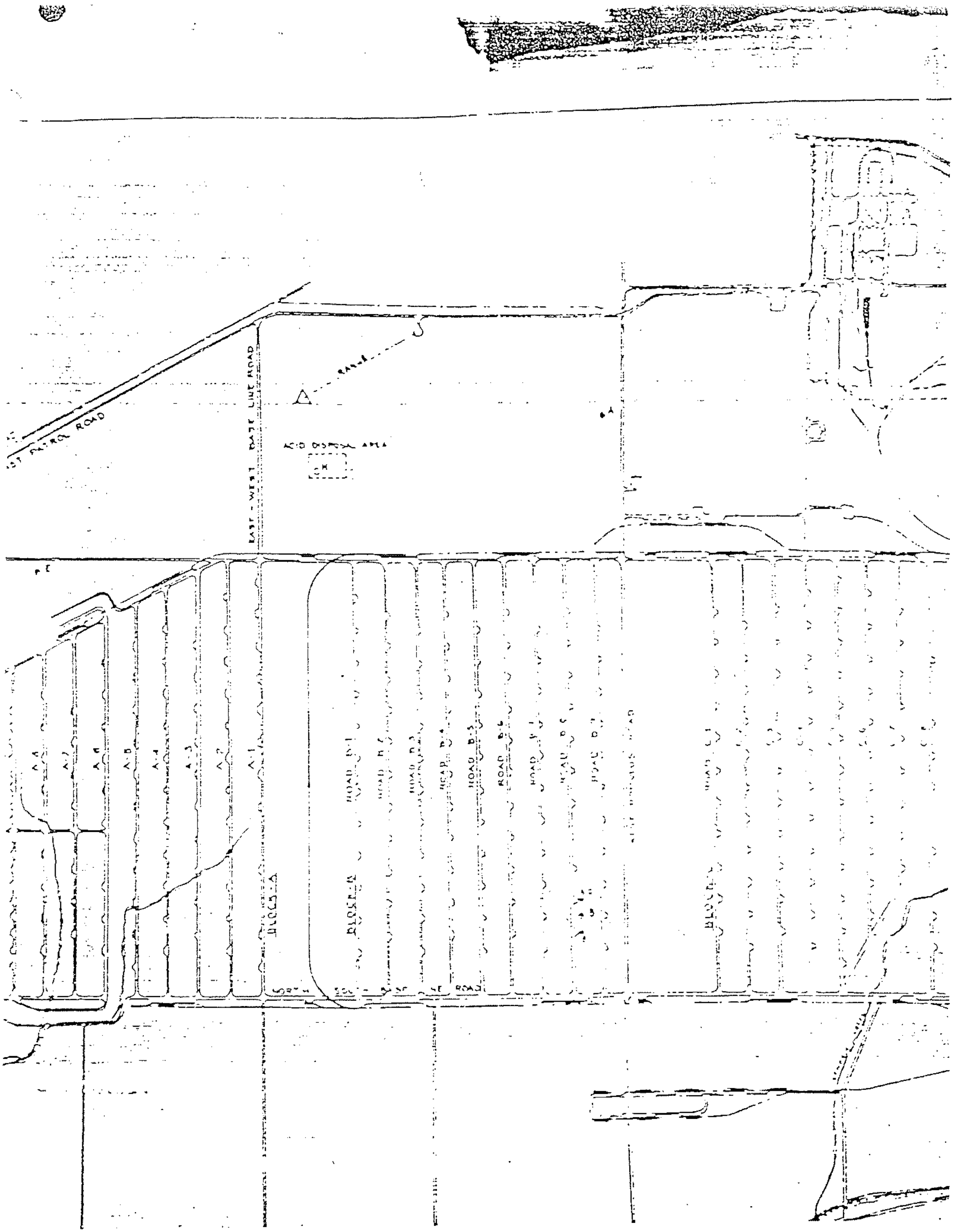
11. CONSULTATION AND ASSISTANCE. Assistance on any aspect of this problem is available from this Laboratory upon request.

David W. Duttweiler
DAVID W. DUTTWEILER
Captain, MSC
Sanitary Engineer

6 Incl
1. Plate E-18
2. Plate E-20
3. Table 1
4. Table 2
5. Table 3
6. Plate E-19

APPROVED:

Adam J. Rapalski
ADAM J. RAPALSKI
Colonel, MC
Commanding


EAST - WEST BASE LINE ROAD
ACID DISPOSAL AREA
BLOCK A
BLOCK B
BLOCK C
ROAD B-1
ROAD B-5
ROAD B-6
NORTH - SOUTH BASE LINE ROAD

HEDEI-E

TABLE 2
RESULTS OF ANALISES OF WATER SAMPLES
SENECA ORDNANCE DEPOT

LOCATION	STRATUM	DATE	PH	DISSOLVED SOLIDS (mg/1)	SPECIFIC CONDUCTANCE (micromhos per cm at 25°C)	TOTAL ALKALINITY (as $CaCO_3$) (mg/1)	CALCIUM (as Ca) (mg/1)	TOTAL HARDNESS (as $CaCO_3$) (mg/1)	NITRATE-N (mg/1)	FLUORIDE (mg/1)	CHLORIDE (mg/1)	TOTAL IRON (mg/1)
A	Glacial till	6 May 60	7.0	---	1,264	527	72.6	610	0.05	---	32.8	--
		9 Jun 60	7.3	906	1,204	563	176	634	0.1	1.0	36.0	[illegible]
B	Glacial till	6 May 60	6.9	---	503	240	62.2	277	0.8	---	4.0	[illegible]
		9 Jun 60	7.4	364	470	257	91.4	290	0.7	0.47	5.5	[illegible]
C	Hamilton Group	6 May 60	7.1	---	1,419	303	154	759	2.7	---	128	[illegible]
D	Glacial till	6 May 60	7.4	---	775	310	37.7	240	0.2	---	9.0	[illegible]
E	Glacial till	6 May 60	7.2	374	524	265	45.2	270	0.05	---	6.1	[illegible]
F ("Lampost Restaurant")	Unknown	9 Jun 60	6.8	594	790	327	105	446	1.2	0.95	31.6	4 [illegible]
G (McLemore Residence)	Unknown	9 Jun 60	7.4	623	766	294	109	407	0.1	3.30	42.)	6.[illegible]
H (Disposal Area)	Surface water adjacent to disposal pits	9 Jun 60	5.4	57,400	40,400	(acid)	10,300	33,700	8,820	23.7	87.5	100
Reeder Creek	Surface water	6 May 60	7.4	---	548	211	45.1	280	0.05	---	13.6	---

MEDEI-E

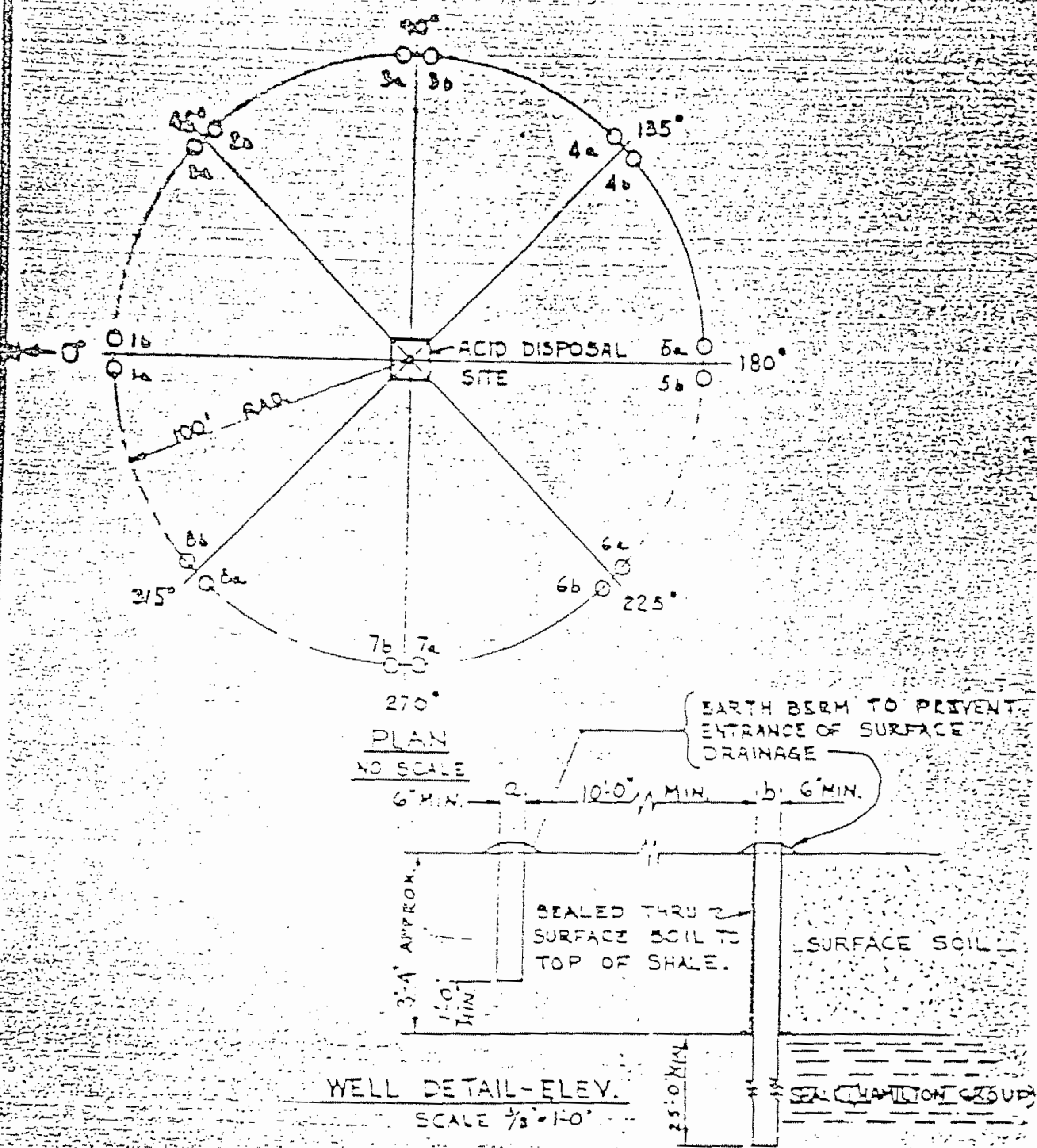
TABLE 3

RESULTS OF ANALYSES OF WASTE SAMPLES

SENECA ORDNANCE DEPOT

SAMPLE NUMBER	LOCATION	PH	TOTAL SOLIDS (mg/1)	DISSOLVED SOLIDS (mg/1)	SPECIFIC CONDUCTANCE (micromhos per cm at 25°C)	CALCIUM (as Ca) (mg/1)	TOTAL HARDNESS (as $CaCO_3$) (mg/1)	NITRATE-N (mg/1)	FLUORIDE (mg/1)	CHLORIDE (mg/1)
1	Pit Number 1 after dumping 10 bbls IRFNA	1.5	94,000	72,600	69,000	15,500	46,700	13,000	23.5	101
2	Pit Number 4 four days after dumping 30 bbls IRFNA	3.4	118,000	100,000	62,000	17,700	55,600	16,100	392	110

San Eng Proj No. 3642EL-60



PROPOSED SURVEILLANCE WELLS, SENECA ORDNANCE DEPOT, N.Y. SANITARY ENGINEERING STUDY No. 3642 E4-60	DATE 6-27-60 DRAWN W.S.
UNITED STATES ARMY ENVIRONMENTAL HEALTH LABORATORY ARMY CHEMICAL CENTER, MARYLAND	APPROVED [signature] SCALE AS SHOWN PLATE E-19

14.0 SWMU NUMBER: SEAD-14

14.1 UNIT NAME

Refuse Burning Pits (2 units).

14.2 UNIT CHARACTERISTICS

14.2.1 Unit Type

Solid waste burning pits.

14.2.2 General Dimensions

Two pits, 40 feet by 80 feet each.

14.2.3 Approximate Dates of Usage

1941 to 1974.

14.2.4 Operating Practices

Refuse was dumped into the pits and burned at least once per week. Metal was removed for recycling, and the ash was pushed into the adjacent ash landfill.

14.2.5 Present Condition and Status

Abandoned. The incinerator, SEAD-15, replaced the pits in 1974. A photograph of the area, taken on September 14, 1990, is shown on the page following this text.

14.3 WASTE CHARACTERISTICS

14.3.1 Specific Wastes Disposes

All wastes generated on the depot including domestic wastes from the housing area, wastes from the administration area, and oils and solvent sludges from the shops.

14.3.2 Physical and Chemical Characteristics

Heavy metals, oils, and solvents are the primary constituents of concern.

14.3.3 Migration and Dispersal Characteristics

Of the three constituents of concern, the solvent compounds are the most mobile in the groundwater environment. The oil breakdown products and the heavy metals may also migrate, but probably at a slower rate due to the clays in the area.

14.3.4 Toxicological Characteristics

MCLs are available for many of the constituents of concern as shown in Appendix E.

14.4. MIGRATION PATHWAYS

The migration pathway is groundwater.

14.5 EVIDENCE OF RELEASE

There is evidence of a release. See Section 6.5 of SEAD-6. The Ash Landfill.

14.6 EXPOSURE POTENTIAL

Very high. SEDA has identified the refuse burning pits and the SWMUs adjacent to the burning pits (SEAD-3, SEAD-6, SEAD-8 and SEAD-15) as AOCs.

14.7 RECOMMENDATIONS FOR SAMPLING

For RI/FS purposes, SEAD-14 has been grouped with SEAD-3, SEAD-6, SEAD-8, and SEAD-15 as one operable unit. A CERCLA RI/FS is being conducted for the Ash Landfill Operable Unit and the detailed sampling and analysis for this investigation is described therein.

14.8 REFERENCES

References 1, 3, 5, 6 and 9. A list of references is provided as Appendix L.

14.9 COMMENTS

Based on the visual site inspection, performed on September 14, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

14.10 REGULATORY STATUS

This SWMU is classified as a High Priority Area of Concern. It is part of the Ash Landfill Operable Unit that is currently being investigated under the CERCLA RI/FS process.

Photo 39: SEAD-14, 9/14/90. View of the Refuse Burning Pits, facing northeast; the orange flagging shows the approximate location of the pits.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-14 DATE: 9/14/90 TIME: 7:50 a.m.

UNIT NAME: Refuse Burning Pits

PHOTO NUMBER: 39

ORIENTATION OF PHOTOGRAPH: Facing northeast

LOCATION WITHIN FACILITY: Approximately 8,000 feet north of West Smith Farm Road and 1,500 feet east of West Patrol Road

WEATHER CONDITIONS: Cloudy, 70°F

PHOTOGRAPHER: Julie Y. Hubbs

15.0 SWMU NUMBER: SEAD-15

15.1 UNIT NAME

Building 2207 - Abandoned Solid Waste Incinerator

15.2 UNIT CHARACTERISTICS

15.2.1 Unit Type

Solid waste incinerator.

15.2.2 Design Features

The incinerator was a multiple chamber, batched, 2,000 lb/hr capacity unit designed to burn a mixture of rubbish and garbage. Features on the unit included an automatic ram-type feeder, a refractory-lined furnace with secondary combustion and settling chamber, a reciprocating stoker, a residue conveyor for ash removal, combustion air fans, a wet gas scrubber, an induced draft fan, and a refractory-lined stack.

15.2.3 Approximate Dates of Usage

1974 to 1979.

15.2.4 Operating Practices

Depot refuse was incinerated once per week. Approximately 18 tons of refuse per week were generated, but some was not incinerated (large items went to the Non-Combustible Fill Landfill (SEAD-8)). There was a frequent problem with unburned items due to the receipt of wet garbage and bulky items. The operator had to hand-sort the refuse to remove items which would not burn.

15.2.5 Present Condition and Status

The incinerator was abandoned after being destroyed by fire on May 8, 1979. Photographs of the unit, taken on September 10, 1990, are shown on the page following this text.

15.3 WASTE CHARACTERISTICS

15.3.1 Specific Wastes Disposed

Domestic waste from depot activities and family housing. Some small munitions and asbestos were occasionally burned.

15.4 MIGRATION PATHWAYS

The migration pathway is air.

15.5 EVIDENCE OF RELEASE

Permitted emissions. A release of hazardous constituents has been identified in the area. The source of the release may be from the Refuse Burning Pits (SEAD-14), the Ash Landfill (SEAD-6), or the incinerator cooling water pond (SEAD-3).

15.6 EXPOSURE POTENTIAL

High (see SEAD-6).

15.7 RECOMMENDATIONS FOR SAMPLING

The abandoned solid waste incinerator, Refuse Burning Pits, Ash Landfill and the incinerator cooling water pond have been identified by SEDA as AOCs. For RI/FS purposes, these units are being treated as one operable unit. A CERCLA RI/FS is being conducted for the Ash Landfill Operable Unit and detailed sampling and analyses for this investigation is described therein.

15.8 REFERENCES

References 3, 5, and 6. A list of references is provided as Appendix L.

15.9 COMMENTS

Based on the visual site inspection, performed on September 10, 1990, the unit's status appeared to be the same as that reported in Reference 3.

15.10 REGULATORY STATUS

This SWMU is classified as a High Priority Area of Concern. It is part of the Ash Landfill Operable Unit that is currently being investigated under the CERCLA RI/FS process.

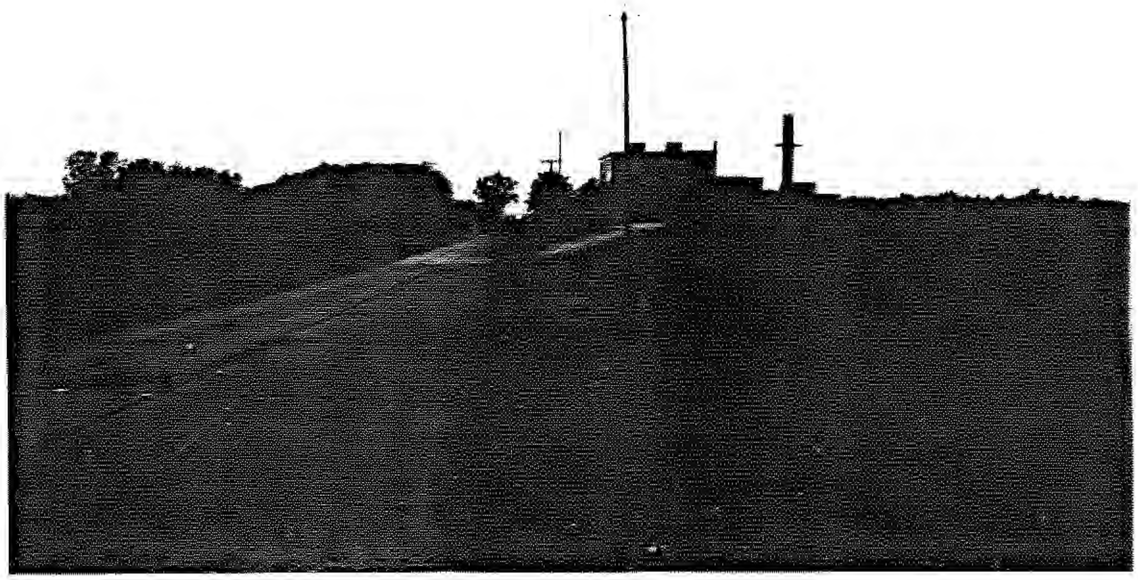


Photo 40: SEAD-15, 9/10/90. View of the Abandoned Solid Waste Incinerator - Building 2207, facing northwest

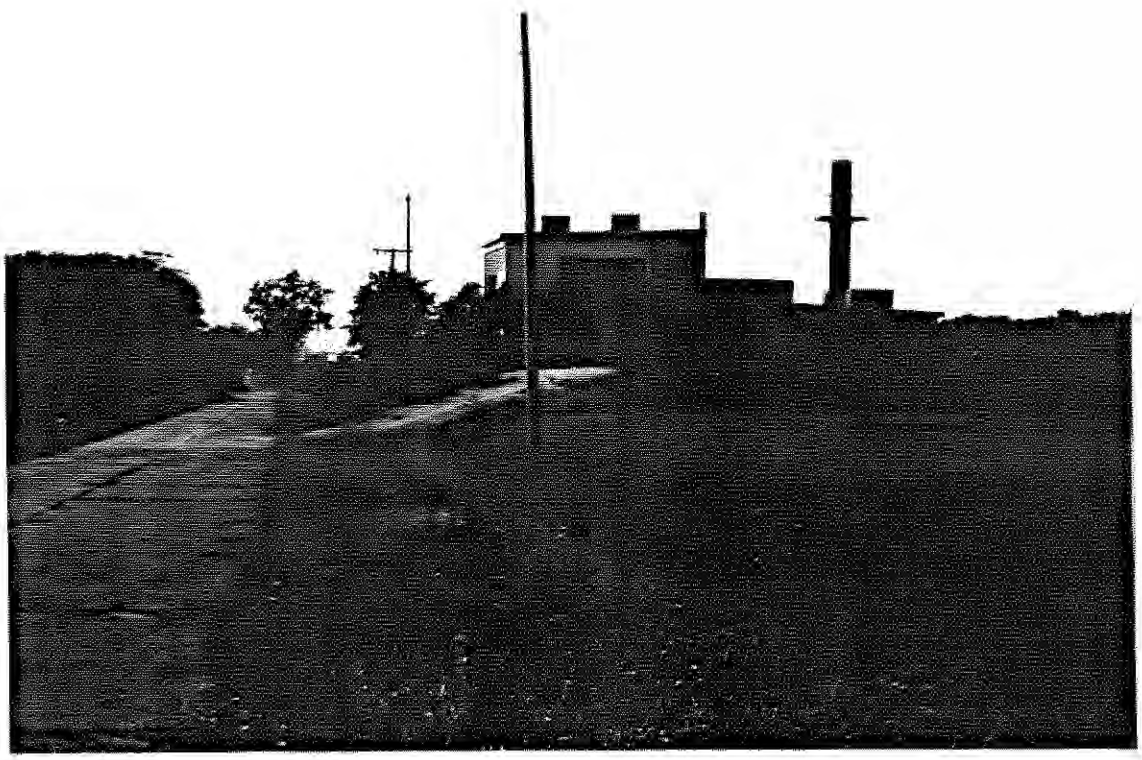


Photo 41: SEAD-15, 9/10/90. View of the Abandoned Solid Waste Incinerator - Building 2207, facing northwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-15 DATE: 9/10/90 TIME: 3:30 p.m.

UNIT NAME: Building 2207 - Abandoned Solid Waste Incinerator

PHOTO NUMBER: 40 and 41

ORIENTATION OF PHOTOGRAPH: Facing northwest

LOCATION WITHIN FACILITY: On the north side of West Smith Farm Road

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

16.0 SWMU NUMBER: SEAD-16

16.1 UNIT NAME

Building S-311 - Abandoned Deactivation Furnace.

16.2 UNIT CHARACTERISTICS

16.2.1 Unit Type

Munitions deactivation furnace.

16.2.2 Design Features

A general plan view of the building is shown in Figure A-16. Design features of the furnace are unknown.

16.2.3 Approximate Dates of Usage

1945 to the mid - 1960s.

16.2.4 Operating Practices

Small arms munitions were destroyed by incineration. No air pollution or dust control devices were installed. The pipes located above the building (see Photo 43) may have conveyed propellants. Propellants may have also been stored in the building.

16.2.5 Present Condition and Status

Abandoned. The furnace area was flooded with rainwater entering from the lower ramp door. Photographs of the SWMU, taken in September 1990, are shown on the pages following this text.

16.3 WASTE CHARACTERISTICS

16.3.1 Specific Wastes Disposed

Obsolete and unserviceable small arms munitions.

16.3.2 <u>Physical and Chemical Characteristics</u>

Explosive compounds and heavy metals (primarily lead and barium).

16.3.3 <u>Migration and Dispersal Characteristics</u>

The explosives should have been completely destroyed in the furnace. Heavy metals probably exited in the ash and dust.

16.3.4 <u>Toxicological Characteristics</u>

Health advisories have been finalized for the explosive compounds HMX, RDX, and TNT. These are given in Appendix E. MCLs have not been established for the explosive compounds of concern. It has been reported that the only explosive compound which may eventually be assigned a MCL is 2,4-DNT. Since MCLs do not exist for the explosives, guidance for interpreting explosive compounds in groundwater samples has been developed by the Army Environmental Hygiene Agency. This guidance document has been included as Appendix F. MCLs have been established for many of the heavy metals of concern as shown in Appendix E.

16.4 MIGRATION PATHWAYS

Migration pathways are air, soil and groundwater.

16.5 EVIDENCE OF RELEASE

No evidence of a release was observed. Since soil samples from near the existing deactivation furnace (SEAD-17) have exhibited high lead concentrations, it would be assumed that the soils surrounding the abandoned deactivation furnace would also show high lead concentrations, especially since the SWMU had no pollution control devices.

16.6 EXPOSURE POTENTIAL

Moderate.

16.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 10 Solid Waste Management Units. The investation program is described in the "Workplan for CERCLA ESI of Ten Solid Waste Management Units."

16.8 REFERENCES

References 3, 5, 6, and 8. A list of references is provided as Appendix L.

16.9 COMMENTS

Based on the visual site inspection, performed on September 13, 1990, the SWMU's status appeared to be the same as that reported in Reference 3. This unit has been classified as an AOC and is currently being addressed under the CERCLA Investigation of Ten Solid Waste Management Units.

16.10 REGULATORY STATUS

This SWMU is classified as a High Priority Area of Concern. It is currently being investigated under the CERCLA 10 SWMU SI program.

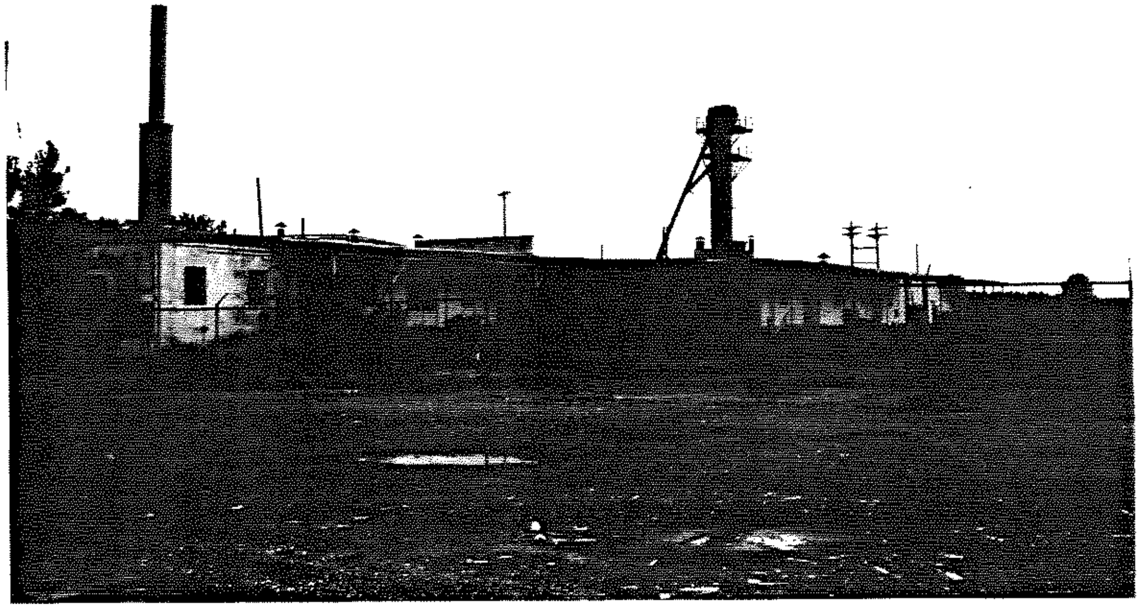


Photo 42: SEAD-16, 9/11/90. View of the Abandoned Deactivation Furnace - Building S-311, facing southeast.

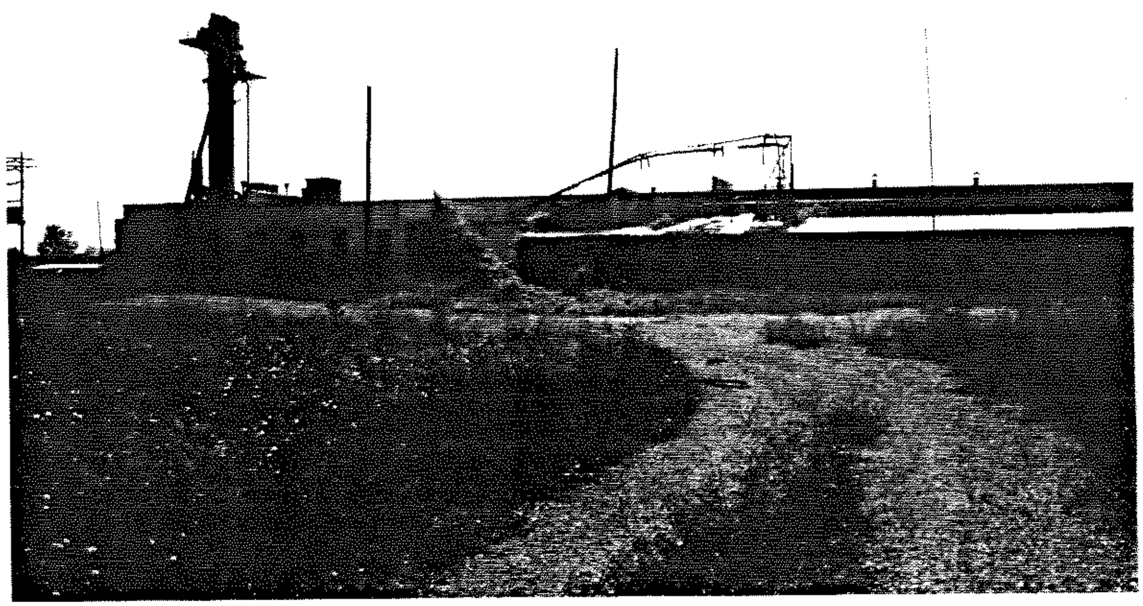


Photo 43: SEAD-16, 9/13/90. View of the Abandoned Deactivation Furnace - Building S-311, facing southwest.

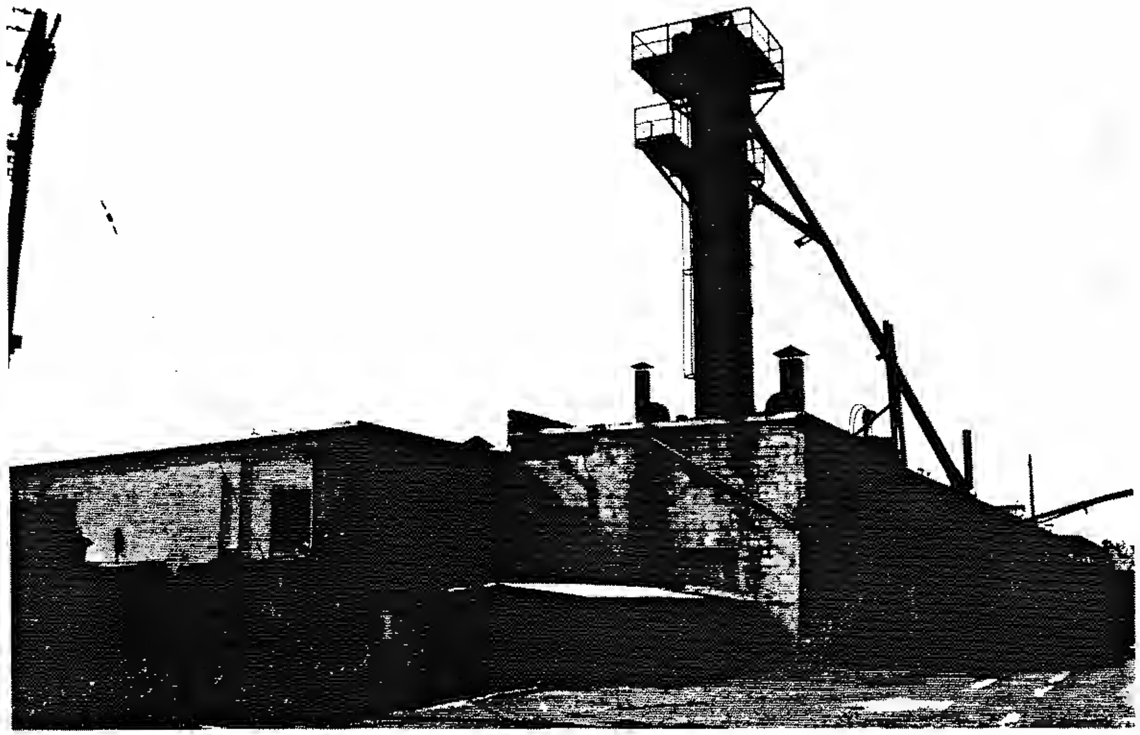


Photo 44: SEAD-16, 9/13/90. View of the Abandoned Deactivation Furnace - Building S-311, facing northwest.

Photo 45: SEAD-16, 9/13/90. Interior of the Abandoned Deactivation Furnace - Building S-311, the doorway on the south wall is the entrance to the furnace room.

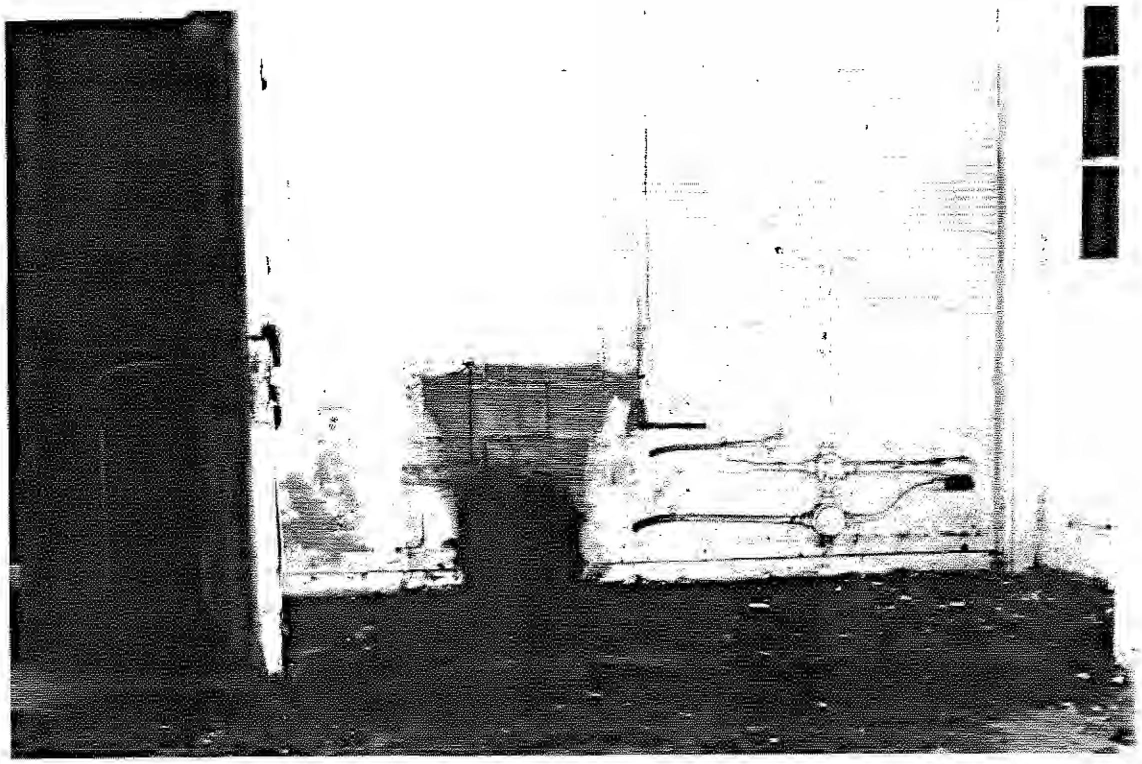


Photo 46: SEAD-16, 9/13/90. Interior of the Abandoned Deactivation Furnace - Building S-311, facing south towards the furnace room (close-up)

Photo 47: SEAD-16, 9/13/90. Interior of the Abandoned Deactivation Furnace - Building S-311, facing north away from the furnace room.

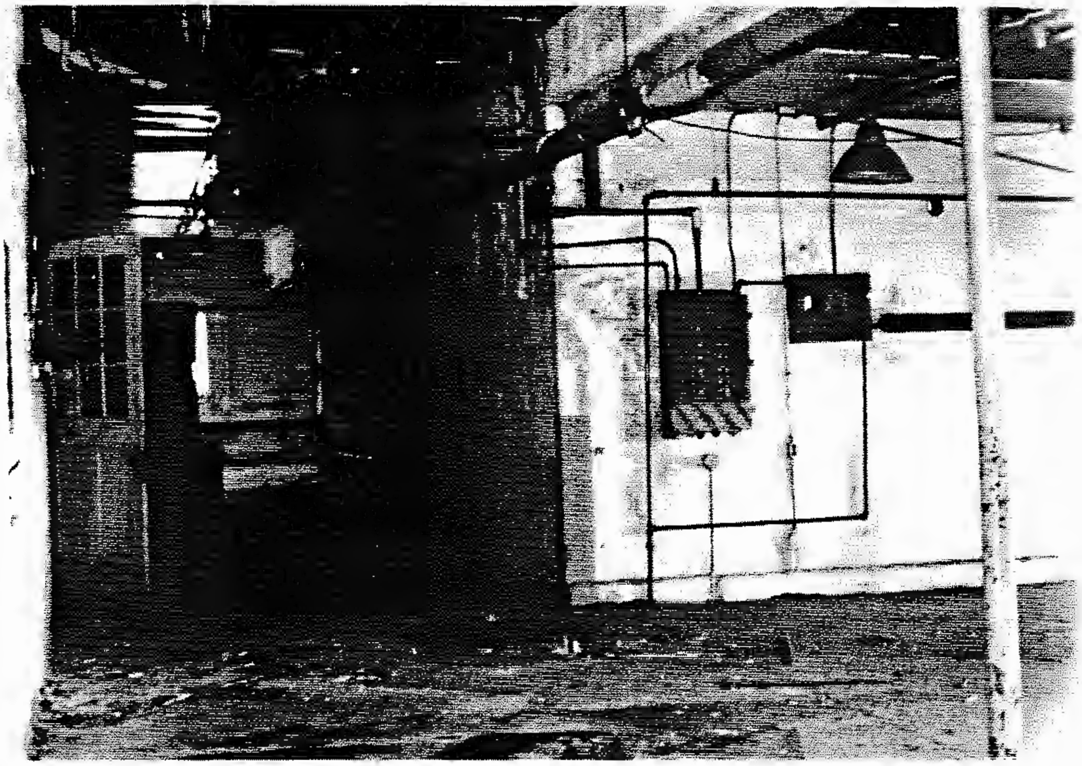


Photo 48: SEAD-16, 9/13/90. Interior of the Abandoned Deactivation Furnace - Building S-311, facing south, (view of the room adjacent to the furnace room).

Photo 49: SEAD-16, 9/13/90. Interior of the Abandoned Deactivation Furnace - Building S-311, facing south, (view of the room adjacent to the furnace room).

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-16 DATE: 9/11/90 TIME: 1:30 p.m.
DATE: 9/13/90 TIME: 2:55 p.m.

UNIT NAME: Building S-311 - Abandoned Deactivation Furnace

PHOTO NUMBER: 42 (on 9/11/90) and 43 through 49 (on 9/13/90)

ORIENTATION OF PHOTOGRAPH: No. 42 facing southeast, No. 43 facing southwest, No. 44. facing northwest, No. 45 and 46 facing south, No. 47 facing north, No. 48 and 49 facing south.

LOCATION WITHIN FACILITY: Approximately 1,500 feet south of the intersection of Administration Avenue and South Street.

WEATHER CONDITIONS: Partly cloudy, 75°F on 9/11/90; Sunny, 80°F on 9/13/90

PHOTOGRAPHER: Dimitra Syriopoulou (No. 42 through 44) , Julie Hubbs (No. 45 through 49)

FIGURE A-16

PLAN VIEW OF BUILDING S-311
ABANDONED DEACTIVATION FURNACE

17.0 SWMU NUMBER: SEAD-17

17.1 UNIT NAME

Building 376 - Existing Deactivation Furnace

17.2 UNIT CHARACTERISTICS

17.2.1 Unit Type

Munitions deactivation furnace.

17.2.2 Design Features

The deactivation furnace consists of a rotary kiln retort and feed and discharge assemblies. The revolving retort is made of cast steel. The kiln has a cross-sectional area of 4.6 square feet and is 20 feet long. The kiln is fired by a No. 2 fuel oil burner. The furnace's feed system consists of a waste feed weighing system, a primary waste feed conveyor, and a secondary conveyor. The furnace is equipped with an Air Pollution Control System (APCS). The APCS consists of an afterburner, gas coolers, cyclone separator, baghouse, compressor, induced draft fan, stack, and associated duct work.

17.2.3 Approximate Dates of Usage

1962 to present. A dust collection system was added in 1978. The unit was upgraded in 1989.

17.2.4 Operating Practices

Unpacked ammunition is placed on a conveyor for transfer to the deactivation furnace at prescribed intervals. The ammunition is burned and exploded by the heat in the furnace. The residue form the furnace is transferred by an endless conveyor to an approved hazardous waste container and allowed to cool. When cooled, the scrap metal is disposed of in barrels for transfer to the Defense, Reutilization, and Marketing Office (DRMO).

17.2.5 Present Condition and Status

The furnace has been included in the facility's Part B permit application. The unit was upgraded in 1989 to meet the operating requirements for incinerators detailed in 40 CFR Part 264 Subpart O. As part of the RCRA regulations, interim closure of the unit was conducted in 1989. The plan for conducting the trail burn has been prepared. The trail burn will be conducted after review and approval of the trail burn plan by the NYSDEC and the USEPA. A photograph of the unit, take on September 11, 1990, is shown on the page following this text.

17.3 WASTE CHARACTERISTICS

17.3.1 Specific Wastes Disposed

Obsolete and unserviceable small arms munitions (20 mm or less in size), fuzes, boosters, firing devices.

17.3.2 Physical and Chemical Characteristics

Explosive compounds and heavy metals (primarily lead and barium).

17.3.3 Migration and Dispersal Characteristics

The explosives should be completely destroyed in the furnace. Heavy metals probably exit in the ash and in the dust.

17.3.4 Toxicological Characteristics

Health advisories have been finalized for the explosive compounds, HMX, RDX, and TNT. These are given in Appendix E. MCLs have not been established for the explosive compounds of concern. It has been reported that the only explosive compound which may eventually be assigned a MCL is 2,4-DNT. Since MCLs do not exist for the explosives, guidance for interpreting explosive compounds in ground water samples has been developed by the Army Environmental Hygiene Agency. This guidance document has been included as Appendix F. MCLs have been established for many of the heavy metals of concern as shown in Appendix E.

17.4 MIGRATION PATHWAYS

Migration pathways are air, soil and groundwater.

17.5 EVIDENCE OF RELEASE

17.5.1 Inspection by the USEPA

During an inspection by the USEPA in July 1985, SEDA was cited for a violation of opacity limitation (exceeded 20 percent). SEDA revised the feed rate and altered mix proportions to alleviate the problem. Prior to the upgrade, a small pit below the molten metal exit used to hold rainwater and drained into the ground probably via a pipe. It is possible that heavy metals could have leached from the dust into the water.

17.5.2 Surface Soil Samples and Wipe Samples

Surface soil samples and wipe samples were collected during the interim closure process. These results are shown in Table A-17. The soil samples were below the EP Toxicity limit for barium. However, 18 of the 29 soil samples exceeded the EP Toxicity limitation for lead.

17.6 EXPOSURE POTENTIAL

Moderate.

17.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 10 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Ten Solid Waste Management Units."

17.8 REFERENCES

References 3, 4, 5, 6, and 8. A list of references is provided in Appendix L.

17.9 COMMENTS

The information reported in Reference 3 has been updated. This unit has been classified as an AOC and is currently being addressed under the CERCLA Investigation of Ten Solid Waste Management Units.

17.10 REGULATORY STATUS

This SWMU is classified as a High Priority Area of Concern. It is currently being investigated under the CERCLA 10 SWMU SI program.

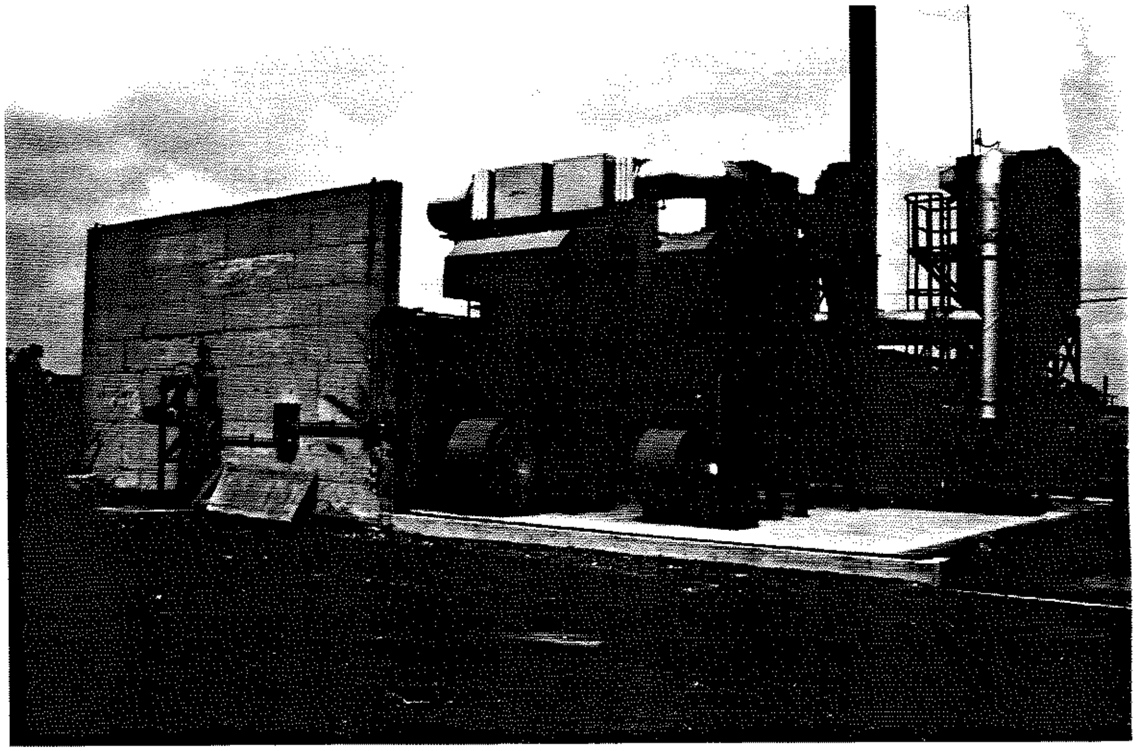


Photo 50: SEAD-17, 9/11/90. View of the Existing Deactivation Furnace - Building 367, facing northeast.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-17 DATE: 9/11/90 TIME: 1:35 p.m.

UNIT NAME: Building 367 - Existing Deactivation Furnace

PHOTO NUMBER: 50

ORIENTATION OF PHOTOGRAPH: Facing northeast

LOCATION WITHIN FACILITY: Approximately 2,000 feet south of the intersection of Administration Avenue and Ordnance Road

WEATHER CONDITIONS: Partly cloudy, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

TABLE A-17

ANALYSIS RESULTS FROM SURFACE SOIL AND WIPE SAMPLES EXISTING DEACTIVATION FURNACE

SURFACE SOIL SAMPLING DATE: NOVEMBER 1, 1989

WIPE SAMPLING DATES: FEBRUARY 23, MAY 2, AND JUNE 20 1990

TABLE A-17

I. ANALYSIS RESULTS FROM SURFACE SOIL SAMPLES COLLECTED NEAR THE DEACTIVATION FURNACE. SAMPLING DATE: NOVEMBER 1, 1989

Sample No.	Units	Parameters EP Toxicity	
		Barium	Lead
1	mg/l	<10.0	19
2	mg/l	<10.0	32.7
3	mg/l	<10.0	<1.00
4	mg/l	<10.0	<1.00
5	mg/l	<10.0	270.0
6	mg/l	<10.0	44.5
7	mg/l	<10.0	31.0
8	mg/l	<10.0	2.7
9	mg/l	<10.0	4.3
10	mg/l	<10.0	<1.0
11	mg/l	<10.0	<1.0
12	mg/l	<10.0	<1.0
13	mg/l	<10.0	114.0
14	mg/l	<10.0	34.7
15	mg/l	<10.0	26.9
16	mg/l	<10.0	65.0
17	mg/l	<10.0	<1.0
18	mg/l	<10.0	279.0
19	mg/l	<10.0	117.0
20	mg/l	<10.0	43.7
21	mg/l	<10.0	326.0
22	mg/l	<10.0	384.0
23	mg/l	<10.0	44.1
24	mg/l	<10.0	29.8
25	mg/l	<10.0	197
26	mg/l	<10.0	<1.0
27	mg/l	<10.0	<1.0
28	mg/l	<10.0	<1.0
29	mg/l	<10.0	19.6

NOTE:
The EP Toxicity Limitation is 100.0 mg/l for barium, and 5.0 mg/l for lead.

TABLE A-17 (CONTINUED)

II. ANALYSIS RESULTS OF WIPE SAMPLES COLLECTED IN BUILDING 367 (DEACTIVATION FURNACE). SAMPLING DATE: FEBRUARY 23, 1990

Sample No.	Area	Units	Parameters	
			Lead	Barium
1	Retort R1	ug/100 cm^2	3970	< 100
2	Retort R2	ug/100 cm^2	17,700	1040
3	Floor F3	ug/100 cm^2	1480	< 100
4	Floor F4	ug/100 cm^2	1250	< 100
5	Floor F5	ug/100 cm^2	2510	143
6	Floor F6	ug/100 cm^2	4160	250
7	Floor F7	ug/100 cm^2	12,000	260
8	Floor F8	ug/100 cm^2	4030	153
9	Floor F9	ug/100 cm^2	8510	340
10	Floor F10	ug/100 cm^2	2770	< 100
11	Baghouse BN	ug/100 cm^2	8060	293
12	Baghouse BS	ug/100 cm^2	19,200	525
13	Baghouse BE	ug/100 cm^2	20,400	850
14	Baghouse BW	ug/100 cm^2	17,200	700
15	Cyclone Flange 11	ug/100 cm^2	290	1800
16	Cyclone Flange 12	ug/100 cm^2	597	< 100
17	Air Make-up Damper	ug/100 cm^2	56	< 100
18	AMD Flange 14	ug/100 cm^2	18	< 100
19	Induction Flange 15	ug/100 cm^2	36	< 100
20	I.F. Flange 16	ug/100 cm^2	195	< 100
21	I.F. Flange 17	ug/100 cm^2	75	< 100
22	I.F. Flange 18	ug/100 cm^2	185	< 100
23	Stack Flange 19	ug/100 cm^2	117	< 100
24	Hopper Flange 20	ug/100 cm^2	685	< 100
25	Cyclone Bottom ID 21	ug/100 cm^2	232,000	11,100
26	Stack ID 22	ug/100 cm^2	7890	543
27	Hopper OD Baghouse 23	ug/100 cm^2	4950	238
28	Curved Duct to Cyclone ID 24	ug/100 cm^2	103,000	6210
29	Cyclone Flex Sect. ID 25	ug/100 cm^2	224,000	7320

TABLE A-17 (CONTINUED)

II. ANALYSIS RESULTS OF WIPE SAMPLES COLLECTED IN BUILDING 367 (DEACTIVATION FURNACE). SAMPLING DATE: FEBRUARY 23, 1990

Sample No.	Area	Units	Parameters	
			Lead	Barium
30	Fan #26	ug/100 cm^2	17,500	970
31	Fan #27	ug/100 cm^2	4870	210
32	Air Make-up ID 28	ug/100 cm^2	133,000	4860
33	Air Make-up ID 29	ug/100 cm^2	203,000	4320
34	Filter Bag Screen 30	ug/100 cm^2	241	<100
35	Field Blank	ug/100 cm^2	<10	<100
36	Field Blank Duplicate	ug/100 cm^2	60.9	<100

TABLE A-17 (CONTINUED)

III. ANALYSIS RESULTS OF WIPE SAMPLES COLLECTED IN BUILDING 367 (DEACTIVATION FURNACE). SAMPLING DATE: MAY 2, 1990

Sample No.	Area	Units	Parameters	
			Lead	Barium
1	RR1 Retort Exit	ug/100 cm^2	124,100	170
2	RR2 Retort Entrance	ug/100 cm^2	14,000	434
3	FR3 Floor Furnace Room	ug/100 cm^2	2,840	88
4	FR4 Floor Furnace Room	ug/100 cm^2	3,700	264
5	FR5 Floor Furnace Room	ug/100 cm^2	1,040	68
6	FR6 Floor Furnace Room	ug/100 cm^2	1,040	100
7	FR7 Floor Baghouse Slab	ug/100 cm^2	2,860	142
8	FR8 Floor Baghouse Slab	ug/100 cm^2	9,800	344
9	FR9 Floor Baghouse Slab	ug/100 cm^2	4,300	142
10	FR10 Floor Baghouse Slab	ug/100 cm^2	870	<40
11	FR 12 Cyclone Flange	ug/100 cm^2	1,050	46
12	FR13 Air Make-Up Damper	ug/100 cm^2	2,700	420
13	FR15 Ind. Fan Flange	ug/100 cm^2	600	<40
14	FR 16 Ind. Fan Flange	ug/100 cm^2	176	<40
15	FR17 Ind. Fan Flange	ug/100 cm^2	140	<40
16	FR19 Stack Flange	ug/100 cm^2	1,200	188
17	FR20 Baghouse Hopper Flange	ug/100 cm^2	790	<40
18	#31 East Wall Baghouse	ug/100 cm^2	590	<40
19	#32 West Wall Baghouse	ug/100 cm^2	560	<40
20	#33 North Wall Baghouse	ug/100 cm^2	380	<40
21	#34 South Wall Flange	ug/100 cm^2	540	<40
22	FR 26 Ind. Fan Flange	ug/100 cm^2	370	<40
23	FR27 Ind. Fan Flange	ug/100 cm^2	770	<40
24	#30 Filter Screen	ug/100 cm^2	920	90
25	#35 Inside Air Make-up	ug/100 cm^2	4,100	232
26	#36 Inside Fan Duct	ug/100 cm^2	1,960	104
27	#37 Inside Cyclone Flange	ug/100 cm^2	3,100	308
28	#38 Inside Stack	ug/100 cm^2	3,400	184
29	#39 Inside Stack	ug/100 cm^2	3,360	250

TABLE A-17 (CONTINUED)

III. ANALYSIS RESULTS OF WIPE SAMPLES COLLECTED IN BUILDING 367 (DEACTIVATION FURNACE). SAMPLING DATE: MAY 2, 1990

Sample No.	Area	Units	Parameters	
			Lead	Barium
30	#40 Inside Stack	$ug/100\ cm^2$	7,400	444
31	#41 Inside Stack	$ug/100\ cm^2$	3,100	112
32	#42 Inside Stack	$ug/100\ cm^2$	5,700	234
33	#23 Baghouse Hopper Flange	$ug/100\ cm^2$	8,900	362
34	#18 Ind. Fan Flange	$ug/100\ cm^2$	690	<40
35	Field Blank	$ug/100\ cm^2$	62	<40

TABLE A-17 (CONTINUED)

IV. ANALYSIS RESULTS OF WIPE SAMPLES COLLECTED IN BUILDING 367 (DEACTIVATION FURNACE). SAMPLING DATE: JUNE 20, 1990

Sample No.	Area	Units	Parameters	
			Lead	Barium
1	Retort Entrance	ug/wipe	82.3	< 40
2	Floor	ug/wipe	1516	201
3	Floor	ug/wipe	472	142
4	Retort Exit	ug/wipe	122	< 40
5	Floor	ug/wipe	2950	390
6	Floor	ug/wipe	354	148
7	N. Wall Baghouse Hopper	ug/wipe	< 40.0	14.3
8	S. Wall Baghouse	ug/wipe	< 40.0	24.8
9	W. Wall Baghouse	ug/wipe	< 40.0	17.6
10	E. Wall Baghouse	ug/wipe	< 40.0	82.1
11	Floor Under Baghouse	ug/wipe	< 40.0	21.8
12	Floor Immediately after acid wash	ug/wipe	< 40.0	1,350
13	Floor under Baghouse immediately after acid wash	ug/wipe	< 40.0	0.44
14	Field Blank	ug/wipe	< 40.0	1.53

18.0 SWMU NUMBER: SEAD-18

18.1 UNIT NAME.

Building 709- Classified Document Incinerator.

18.2 UNIT CHARACTERISTICS

18.2.1 Unit Type

Incinerator.

18.2.2 Design Features

The incinerator is the single chamber, propane-fired Washburn and Granger model S-200. It is rated at 96 lb/hr with normal chargings of 30-40 lb/day of classified documents. The incinerator is not equipped with air pollution control devices.

18.2.3 Approximate Dates of Usage

From 1956 until 1983, a classified document incinerator was operational in Building 709 (see Figure A-18, Location A). In 1983, Building 709 was torn down, and a new building was constructed in an adjacent location (see Figure A-18, Location B). The new building, also named Building 709, is a state-of-the-art incinerator.

18.2.4 Operating Practices

Classified paper documents are incinerated. The resultant ash is disposed off-post in a sanitary landfill. Before SEDA had a solid waste disposal contract, the ash was buried in the Ash Landfill (SEAD-6).

18.2.5 Present Condition and Status

Operational. A photograph of the unit, taken on September 13, 1990, is shown on the page following this text.

18.3 WASTE CHARACTERISTICS

18.3.1 Specific Wastes Disposed

Classified paper documents and occasionally infectious wastes, which was limited to a few medical wipes (not since regulated by New York State).

18.3.2 Physical and Chemical Characteristics

Primarily paper with some plastic and possibly glass.

18.3.3 Migration and Dispersal Characteristics

Ash from the paper may disperse through the stack.

18.4 MIGRATION PATHWAYS

The migration pathways is air. However, the pathway is not believed to be a concern because emissions are mostly ash from paper, and E.P. Toxicity testing of the ash indicated that it was within acceptable limits.

18.5 EVIDENCE OF RELEASE

According to SEDA personnel, the ash was analyzed for EP Toxicity metals and no violations were observed.

18.6 EXPOSURE POTENTIAL

Low.

18.7 RECOMMENDATIONS FOR SAMPLING

None.

18.8 REFERENCES

References 3, 5 and 6. A list of references is provided as Appendix L.

18.9 COMMENTS

Based on the visual site inspection, performed on September 13, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

18.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

Photo 51: SEAD-18, 9/13/90. View of the Classified Document Incinerator - Building 709 (Location B), facing southeast.

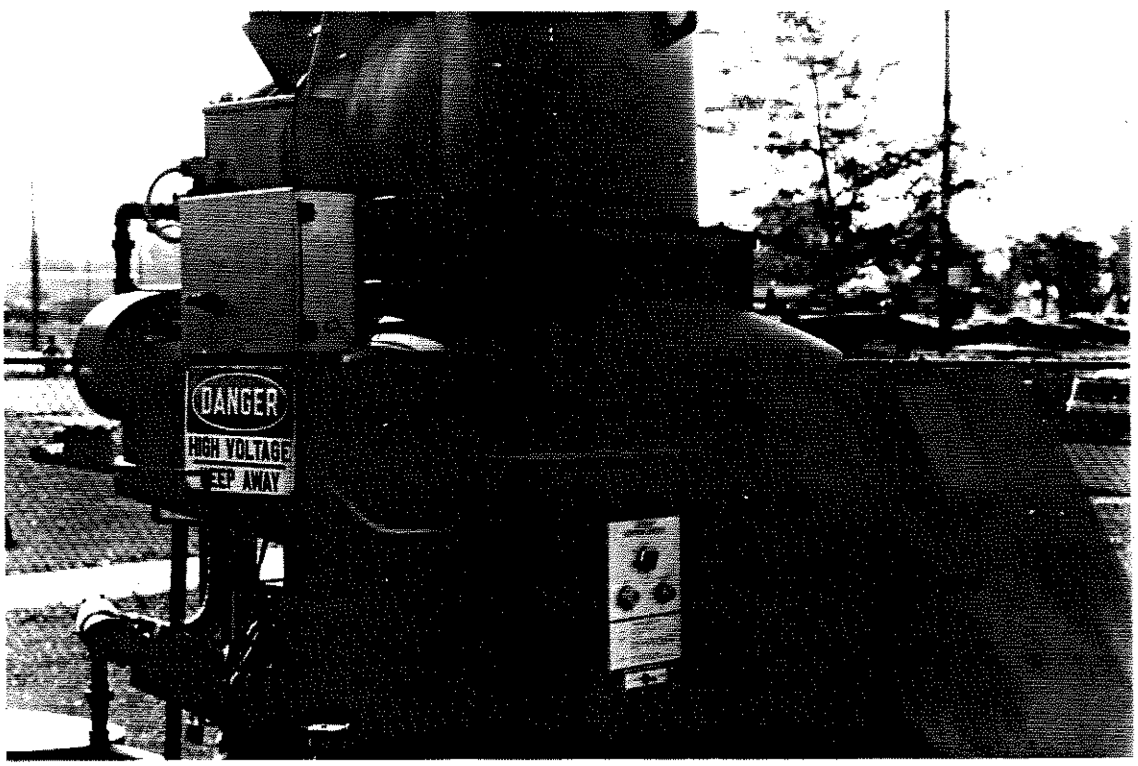


Photo 52: SEAD-18, 9/13/90. Close-up of the Classified Document Incinerator - Building 709 (Location B), facing east.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-18 DATE: 9/13/90 TIME: 8:55 a.m.

UNIT NAME: Building 709 - Classified Document Incinerator (Location B)

PHOTO NUMBER: 51 and 52

ORIENTATION OF PHOTOGRAPH: No. 51 facing southeast, No. 52 facing east

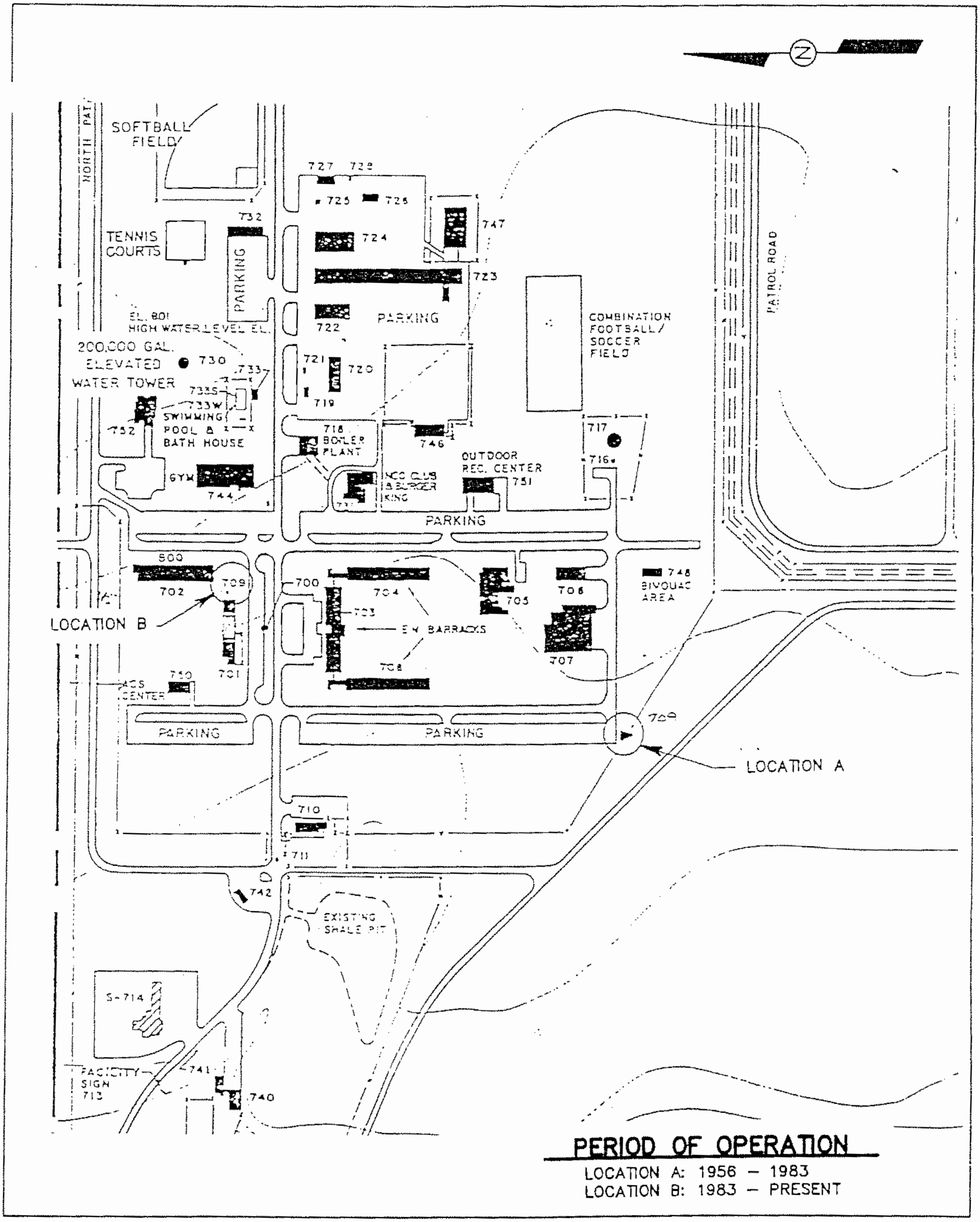
LOCATION WITHIN FACILITY: Approximately 500 feet south of the North Patrol Road Emergency Gate

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Randall W. Battaglia

FIGURE A-18

BUILDING 709 - CLASSIFIED DOCUMENT INCINERATOR



ERCE

LOCATION OF CLASSIFIED DOCUMENT INCINERATOR

FIGURE A-18

19.0 SWMU NUMBER: SEAD-19

19.1 UNIT NAME

Building 801 - Classified Document Incinerator.

19.2 UNIT CHARACTERISTICS

19.2.1 Unit Type

Incinerator.

19.2.2 Design Features

The incinerator is the single chamber, propane-fired Washburn and Granger model S-200. It is rated at 96 lb/hr with normal chargings of 30-40 lb/day of classified documents. The incinerator is not equipped with air pollution control devices.

19.2.3 Approximate Dates of Usage

A classified document incinerator operated at this location between approximately 1956 and 1983. In 1983, the incinerator was replaced with the modern, upgraded incinerator which is currently operational.

19.2.4 Operating Practices

Classified paper (and possibly plastic) documents are incinerated only. The resultant ash is disposed off-post in a sanitary landfill. Before SEDA had a solid waste disposal contract, the ash was buried in the Ash Landfill.

19.2.5 Present Condition and Status

Operational.

19.3 WASTE CHARACTERISTICS

19.3.1 Specific Wastes Disposed

Classified documents only.

19.3.2 Physical and Chemical Characteristics

Primarily paper with some plastic and possibly glass.

19.3.3 Migration and Dispersal Characteristics

Ash from the paper may disperse through the stack.

19.4 MIGRATION PATHWAYS

The migration pathway is air. However, the pathway is not believed to be a concern because emissions are mostly ash from paper, and EP Toxicity testing of the ash indicated that it was within acceptable limits.

19.5 EVIDENCE OF RELEASE

According to SEDA personnel, the ash was analyzed for EP Toxicity metals and no violations were observed.

19.6 EXPOSURE POTENTIAL

Low.

19.7 RECOMMENDATIONS FOR SAMPLING

None.

19.8 REFERENCES

References 3, 5, and 6. A list of references is provided as Appendix L.

19.9 COMMENTS

Photographs of this SWMU were not available. A visual inspection of the SWMU was not performed due to security requirements. SEDA personnel verified that the SWMU's status was the same as that reported in Reference 3.

19.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

20.0 SWMU NUMBER: SEAD-20

20.1 UNIT NAME

Sewage Treatment Plant (STP) No. 4.

20.2 UNIT CHARACTERISTICS

20.2.1 Unit Type

Sewage treatment plant.

20.2.2 Design Features

STP No. 4 was designed for a maximum flow of 250,000 gallons per day. The plant equipment includes a bar screen, a wet well, a dual-chambered Imhoff tank, a covered first-rate trickling filter with plastic media, a secondary clarifier, and two sludge drying beds (approximately 35 feet by 35 feet each). The wetlands are used for tertiary treatment.

20.2.3 Approximate Dates of Usage

1942 to present.

20.2.4 Operating Practices

Flow is received from the administration area, the warehouse area, the Military Elliot Acres Housing Complex, and the adjacent civilian communities of Romulus and Varick. Sludges are periodically removed from the sludge drying beds and are stored in the sewage sludge waste piles (SEAD-5).

20.2.5 Present Condition and Status

Operational. A new Imhoff, tank and sludge storage facility were constructed in 1988. The sludge drying beds tiles were also repaired in 1988. Photographs of the facility, taken on September 11, 1990, are shown on the pages following this text.

20.2.6 Government Agency

The government agency that regulates the SWMU is NYSDEC under SPDES Permit No. NY0021296. The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is David Kiser at NYSDEC's Region 8 Division of Water.

20.3 SPECIFIC WASTES DISPOSED

Domestic wastewater. Very small industrial discharges enter the system from boiler plant blowdown. The SWMU's State Pollutant Discharge Elimination System (SPDES) permit is shown in Exhibit A-20. Seneca does not have industrial discharges to its sewage treatment plants.

20.4 MIGRATION PATHWAYS

No migration pathways were identified.

20.5 EVIDENCE OF RELEASE

The facility has reported no SPDES violations in the last 3 years.

20.6 EXPOSURE POTENTIAL

Low.

20.7 RECOMMENDATIONS FOR SAMPLING

None.

20.8 REFERENCES.

References 3, 5, and 6. A list of references is provided as Appendix L.

20.9 COMMENTS

The information reported in Reference 3 has been updated.

20.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

Photo 53: SEAD-20, 9/11/90. View of the Sewage Treatment Plant No.4, facing north.

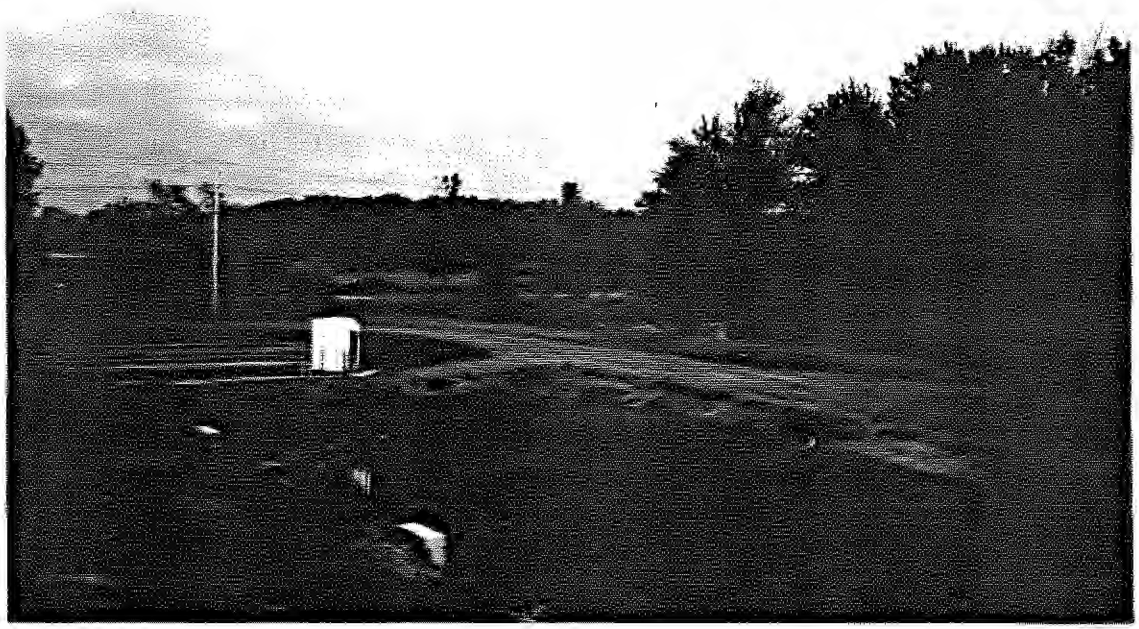


Photo 54: SEAD-20, 9/11/90. View of the sludge drying beds - Sewage Treatment Plant No.4, facing northeast

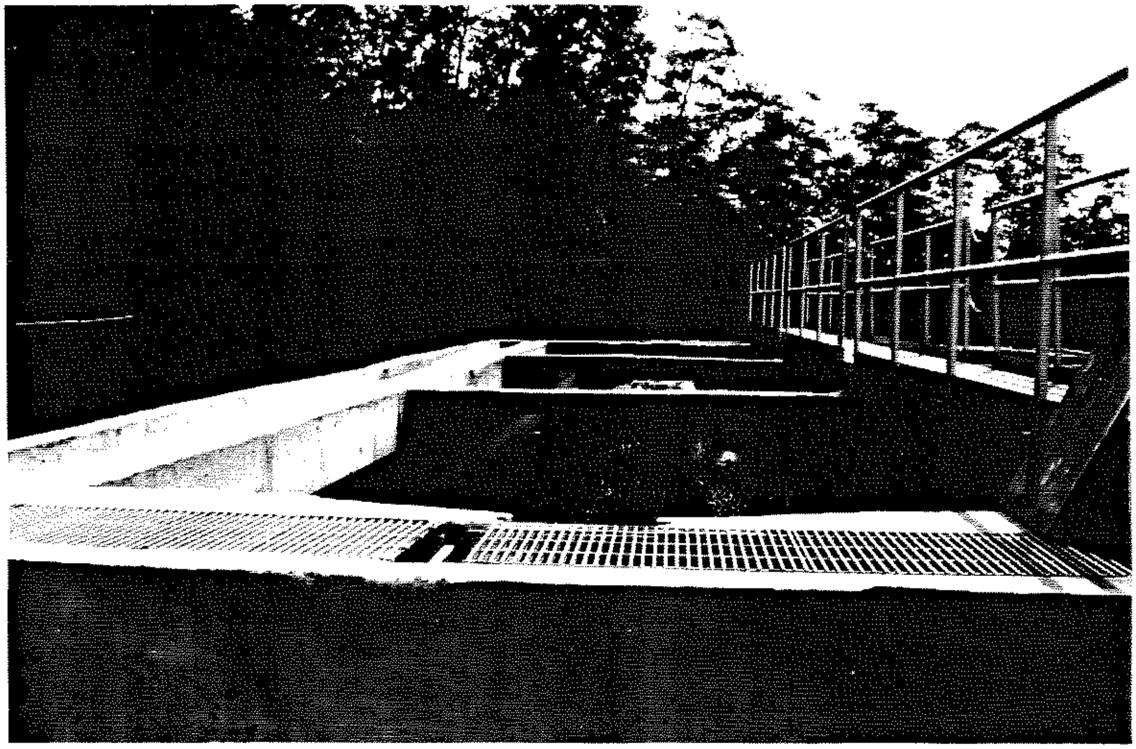


Photo 55: SEAD-20, 9/11/90. View of the east half of the Imhoff tank - Sewage Treatment Plant No.4, facing south.

Photo 56: SEAD-20, 9/11/90. View of the sludge storage area - Sewage Treatment Plant No.4, facing southewest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-20 DATE: 9/11/90 TIME: 1:45 p.m.

UNIT NAME: Sewage Treatment Plant No. 4

PHOTO NUMBER: 53 through 56

ORIENTATION OF PHOTOGRAPH: No. 53 facing north, No. 54 facing northeast, No. 55 facing south, No. 56 facing southwest

LOCATION WITHIN FACILITY: On the south side of West Romulus Road, approximately 2,500 feet west of East Patrol Road

WEATHER CONDITIONS: Partly cloudy, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

EXHIBIT A-20

SPDES PERMIT NO. NY0021296

91-20-2b (7/84)

Facility ID # NY0021296

Final EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS 001A (Bldg. 4 STP)

During the Period Beginning 5/1/89

and lasting until 5/1/94

the discharges from the permitted facility shall be limited and monitored by the permittee as specified below:

TABLE 1

Outfall Number	Effluent Limitations (Maximum Limits except where otherwise indicated)			
001A	(X)	Flow	30 day arithmetic mean	0.250 (X) MGD ( ) GPD
	(X)	BOD_5	30 day arithmetic mean	30 mg/l and 62.5 lbs/day (*1)
	(X)	BOD_5	7 day arithmetic mean	45 mg/l and 93.8 lbs/day
	( )	BOD_5	Daily	___ mg/l and ___ lbs/day
	( )	UOD (*2)	Daily	___ mg/l and ___ lbs/day
	(X)	Suspended Solids	30 day arithmetic mean	30 mg/l and 62.5 lbs/day (*1)
	(X)	Suspended Solids	7 day arithmetic mean	45 mg/l and 93.8 lbs/day
	( )	Suspended Solids	Daily	___ mg/l and ___ lbs/day

( ) Effluent disinfection required: ( ) all year

( ) Seasonal from ______ to ______

( ) Fecal Coliform 30 day geometric mean shall not exceed 200/100 ml

( ) Fecal Coliform 7 day geometric mean shall not exceed 400/100 ml

( ) Fecal Coliform 6 hour geometric mean shall not exceed 800/100 ml (*3)

( ) Fecal Coliform No individual sample may exceed 2400/100 ml (*3)

If chlorine is used for disinfection, a chlorine residual of ______ mg/l shall be maintained in the chlorine contact chamber whenever disinfection is required. If specified here, the chlorine residual in the final discharge shall not exceed ______ mg/l.

( )	Total Coliform	Daily	______/100 ml
( )	Total Kjeldahl Nitrogen	Daily	______mg/l as N
( )	Ammonia	Daily	______mg/l as NH_3
( )	Dissolved Oxygen	Minimum	greater than ______mg/l
(X)	pH	Range	6.0 to 9.0
(X)	Settleable Solids	Daily	less than 0.3 ml/l
( )	Phosphorus	Daily	______mg/l as P
( )	Total Nitrogen	Daily	______mg/l as N
( )	______		

CONTINUED ON REVERSE SIDE

TABLE 2

itoring Requirements

	Parameter	Frequency	Sample Type	Sample Location Influent	Sample Location Effluent
[X]	Total Flow, MGD	Continuous	N/A	X	X
[X]	BOD_5, mg/l	1/mo.	6 hr.comp.	X	X
[X]	Suspended Solids, mg/l	1/mo.	6 hr.comp.	X	X
[ ]	Fecal Coliform, No./100 ml				
[ ]	Total Coliform, No./100 ml				
[ ]	Total Kjeldahl Nitrogen, mg/l as N				
[ ]	Ammonia, mg/l as NH_3				
[ ]	Dissolved Oxygen, mg/l				
[X]	pH	daily	grab	X	X
[X]	Settleable Solids, ml/l	daily	grab	X	X
[ ]	Residual Chlorine, mg/l				(*4
[ ]	Phosphorus, mg/l as P				
[X]	Temperature, °C	daily	grab	X	X
[ ]	Total Nitrogen, mg/l as N				
[ ]	Visual Observation				
[ ]					

NOTE: (*1) [illegible] and effluent values shall not exceed 15 % of influent values.
(*2) (Ultimate Oxygen Demand) shall be computed and reported as follows.
UOD = [illegible] x $CBOD_5$ + 4.1 2 x TKN (Total Kjeldahl Nitrogen).
(*3) [illegible] in the Interstate Sanitation District.
(*4) [illegible] chamber effluent and final effluent if limits are specified for both.

Final EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS 001B (Bldg. 4 STP Effluent from Wetlands Treatment)

During the Period Beginning 5/1/89

and lasting until 5/1/94

the discharges from the permitted facility shall be limited and monitored by the permittee as specified below:

Outfall Number	TABLE 1 Effluent Limitations (Maximum Limits except where otherwise indicated)		
001B	( ) Flow	30 day arithmetic mean	______ ( )MGD ( )GPD
	( ) BOD_5	30 day arithmetic mean	____mg/l and ____lbs/day(*1)
	( ) BOD_5	7 day arithmetic mean	____mg/l and ____lbs/day
	( ) BOD_5	Daily	____mg/l and ____lbs/day
	( ) UOD (*2)	Daily	____mg/l and ____lbs/day
	( ) Suspended Solids	30 day arithmetic mean	____mg/l and ____lbs/day(*1)
	( ) Suspended Solids	7 day arithmetic mean	____mg/l and ____lbs/day
	( ) Suspended Solids	Daily	____mg/l and ____lbs/day

( ) Effluent disinfection required: ( ) all year

( ) Seasonal from ______ to ______

( ) Fecal Coliform 30 day geometric mean shall not exceed 200/100 ml

( ) Fecal Coliform 7 day geometric mean shall not exceed 400/100 ml

( ) Fecal Coliform 6 hour geometric mean shall not exceed 800/100 ml (*3)

( ) Fecal Coliform No individual sample may exceed 2400/100 ml (*3)

If chlorine is used for disinfection, a chlorine residual of ______ mg/l shall be maintained in the chlorine contact chamber whenever disinfection is required. If specified here, the chlorine residual in the final discharge shall not exceed ______ mg/l.

( ) Total Coliform	Daily	______/100 ml
( ) Total Kjeldahl Nitrogen	Daily	______/mg/l as N
( ) Ammonia	Daily	______/mg/l as NH_3
( ) Dissolved Oxygen	Minimum	greater than ______mg/l
( ) pH	Range	______ to ______
( ) Settleable Solids	Daily	______ml/l
( ) Phosphorus	Daily	______mg/l as P
( ) Total Nitrogen	Daily	______mg/l as N
( ) ______		

CONTINUED ON REVERSE SIDE

TABLE 2

Monitoring Requirements

	Parameter	Frequency	Sample Type	Sample Location: Influent	Sample Location: Effluent
[X]	Total Flow, MGD	Continuous	N/A		X
[X]	BOD_5, mg/l	1/month	6 hr.comp.		X
[X]	Suspended Solids, mg/l	1/month	6 hr.comp.		X
[ ]	Fecal Coliform, No./100 ml				
[ ]	Total Coliform, No./100 ml				
[ ]	Total Kjeldahl Nitrogen, mg/l as N				
[X]	Ammonia, mg/l as NH_3	1/month	6 hr.comp.		X
[ ]	Dissolved Oxygen, mg/l				
[X]	pH	1/month	grab		X
[ ]	Settleable Solids, ml/l				
[ ]	Residual Chlorine, mg/l				(*4)
[ ]	Phosphorus, mg/l as P				
[ ]	Temperature, °C				
[ ]	Total Nitrogen, mg/l as N				
[ ]	Visual Observation				
[ ]					

NOTE: *1) [illegible] and effluent values shall not exceed ______% of influent values.

*2) (Ultimate Oxygen Demand) shall be computed and reported as follows:
UOD = [illegible] x $CBOD_5$ + [illegible] x TKN (Total Kjeldahl Nitrogen).

*3) Applicable only in the Interstate Sanitation District.

*4) [illegible] contact chamber effluent and final effluent [illegible] are specified for both

21.0 SWMU NUMBER: SEAD-21

21.1 UNIT NAME

Sewage Treatment Plant No. 715.

21.2 UNIT CHARACTERISTICS

21.2.1 Unit Type

Sewage Treatment Plant.

21.2.2 Design Features

The permitted capacity of the plant is 300,000 gallons per day. The design capacity of the facility is 750,000 gallons per day. The plant equipment consists of a grinder pump and comminutor, a primary settling chamber, two rotating biological contactors (RBCs), a secondary clarifier, sand filters, sludge holding tank, sludge digestion tank (old Imhoff tank), and two concrete-lined sludge drying beds with gravel and sand floors (approximately 40 feet by 15 feet each).

21.2.3 Approximate Dates of Usage

1956 to present.

21.2.4 Operating Practices

Flow is received from the troop area. Sludges are periodically removed and stored in the sewage sludge waste piles (SEAD-5). The effluent from this unit discharges into Reeder Creek.

21.2.5 Present Condition and Status

Operational. Photographs of the facility, taken on September 13 , 1990, are shown on the pages following this text.

21.2.6 Government Agency

The government agency that regulates this SWMU is NYSDEC under SPDES Permit No. NY0021296. The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is David Kiser at NYSDEC's Region 8 Division of Water.

21.3 SPECIFIC WASTES DISPOSED

Domestic wastewater from the troop area at the north end of the depot. The SWMU's State Pollutant Discharge Elimination System (SPDES) permit is shown in Exhibit A-21. Seneca does not have industrial discharges to its sewage treatment plants.

21.4 MIGRATION PATHWAYS

No were identified.

21.5 EVIDENCE OF RELEASE

SPDES permit violations were recorded for biochemical oxygen demand and suspended solids in 1986 (due to high flow rates which caused sloughing of microbial solids from the RBC's). Since that time, no violations of the SPDES permit have been reported.

21.6 EXPOSURE POTENTIAL

Low.

21.7 RECOMMENDATIONS FOR SAMPLING

None.

21.8 REFERENCES.

References 3, 5, and 6. A list of references is provided as Appendix L.

21.9 COMMENTS

Based on the visual site inspection, performed on September 13, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

21.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

Photo 57: SEAD-21, 9/13/90. View of the Sewage Treatment Plant No.715, facing southwest.

Photo 58: SEAD-21, 9/13/90. View of Primary Treatment - Sewage Treatment Plant No.715, facing east.

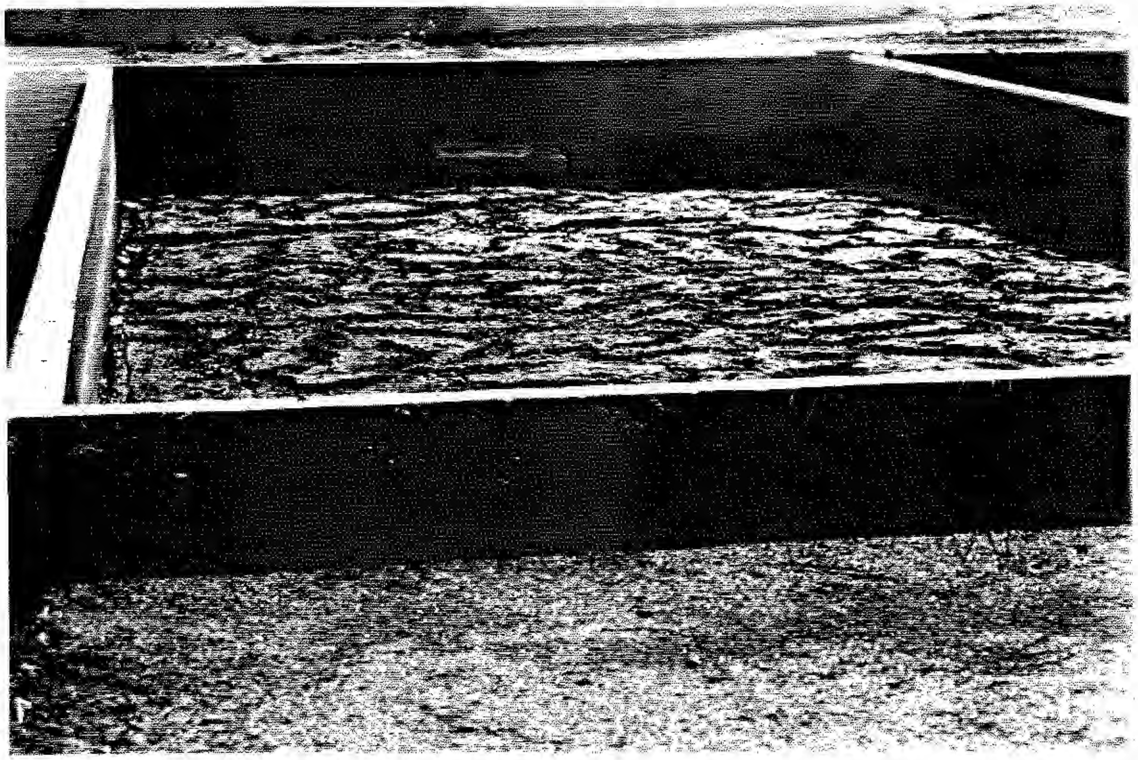


Photo 59: SEAD-21, 9/13/90. View of one of the two sludge drying beds of Sewage Treatment Plant No.715, facing southeast.

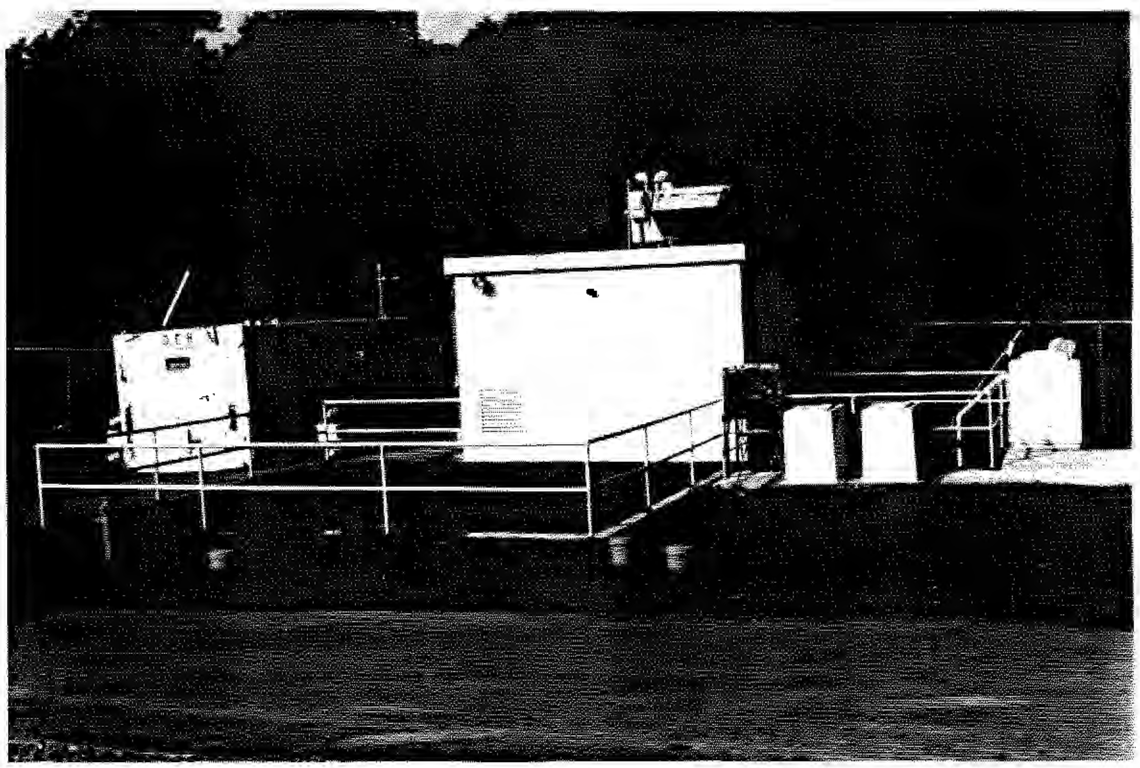


Photo 60: SEAD-21, 9/13/90. View of the final treatment - Sewage Treatment Plant No 715, facing west.

Photo 61: SEAD-21, 9/13/90 View of the effluent from Sewage Treatment Plant No 715, facing west.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-21 DATE: 9/13/90 TIME: 9:10 a.m.

UNIT NAME: Sewage Treatment Plant No. 715

PHOTO NUMBER: 57 through 61

ORIENTATION OF PHOTOGRAPH: No. 57 facing southwest, No. 58 facing east, No. 59 facing southeast, No. 60 and 61 facing west

LOCATION WITHIN FACILITY: On the south side of Access Road, approximately 2,000 feet west of the North Patrol Road Emergency Gate

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

EXHIBIT A-21

SPDES PERMIT NO. NY0021296

91-20-2b (7/84)

Facility ID # NY-0021296

Part 1, Page 4 of 5

Final EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS 002 (Bldg. 715 STP)

During the Period Beginning 5/1/89

and lasting until 5/1/94

the discharges from the permitted facility shall be limited and monitored by the permittee as specified below:

TABLE 1

Outfall Number	Effluent Limitations (Maximum Limits except where otherwise indicated)		
002	(x) Flow	30 day arithmetic mean	0.300 (x) MGD ( ) GPD
	( ) $CBOD_5$	30 day arithmetic mean	____ mg/l and ____ lbs/day (*1)
	( ) $CBOD_5$	7 day arithmetic mean	____ mg/l and ____ lbs/day
	(x) $CBOD_5$	Daily	5 mg/l and 12.5 lbs/day
	( ) UOD (*2)	Daily	____ mg/l and ____ lbs/day
	(x) Suspended Solids	30 day arithmetic mean	10 mg/l and 25.0 lbs/day (*1)
	(x) Suspended Solids	7 day arithmetic mean	20 mg/l and 50.0 lbs/day
	( ) Suspended Solids	Daily	____ mg/l and ____ lbs/day

( ) Effluent disinfection required: ( ) all year

( ) Seasonal from ______________ to ______________

( ) Fecal Coliform 30 day geometric mean shall not exceed 200/100 ml

( ) Fecal Coliform 7 day geometric mean shall not exceed 400/100 ml

( ) Fecal Coliform 6 hour geometric mean shall not exceed 800/100 ml (*3)

( ) Fecal Coliform No individual sample may exceed 2400/100 ml (*3)

If chlorine is used for disinfection, a chlorine residual of ________ mg/l shall be maintained in the chlorine contact chamber whenever disinfection is required. If specified here, the chlorine residual in the final discharge shall not exceed ________ mg/l.

( )	Total Coliform	Daily	________ /100 ml
( )	Total Kjeldahl Nitrogen	Daily	________ mg/l as N
(x)	Ammonia	Daily	2.0 mg/l as NH_3
(x)	Dissolved Oxygen	Minimum	greater than 7.0 mg/l
(x)	pH	Range	6.0 to 9.0
(x)	Settleable Solids	Daily	less than 0.1 ml/l
( )	Phosphorus	Daily	________ mg/l as P
( )	Total Nitrogen	Daily	________ mg/l as N
( )	________________		

CONTINUED ON REVERSE SIDE

TABLE 2

Monitoring Requirements

	Parameter	Frequency	Sample Type	Sample Location: Influent	Sample Location: Effluent
X	Total Flow, MGD	Continuous	N/A	X	
X	$CBOD_5$, mg/l	1/month	6 hr.comp.	X	X
X	Suspended Solids, mg/l	1/month	6 hr.comp.	X	X
	Fecal Coliform, No./100 ml				
	Total Coliform, No./100 ml				
	Total Kjeldahl Nitrogen, mg/l as N				
X	Ammonia, mg/l as NH_3	1/month	6 hr.comp.		X
X	Dissolved Oxygen, mg/l	1/week	grab		X
X	pH	daily	grab	X	X
X	Settleable Solids, ml/l	daily	grab	X	X
	Residual Chlorine, mg/l				
	Phosphorus, mg/l as P				
X	Temperature, °C	daily	grab	X	
	Total Nitrogen, mg/l as N				
	Visual Observation				

NOTE: *1 [illegible] and effluent values shall not exceed 15 % of influent values.

*2 (Ultimate Oxygen Demand) shall be computed and reported as follows:

UOD = 1.5 x $CBOD_5$ + 4.5 x TKN (Total Kjeldahl Nitrogen)

*3 [illegible] in the Interstate Sanitation District

*4 [illegible] effluent and final effluent [illegible] are specified for both

22.0 SWMU NUMBER: SEAD-22

22.1 UNIT NAME

Sewage Treatment Plant No. 314.

22.2 UNIT CHARACTERISTICS

22.2.1 Unit Type

Abandoned sewage treatment plant.

22.2.2 Design Features

The old plant included a bar screen, an Imhoff tank, a 30-foot diameter trickling filter, a secondary clarifier, a chlorination chamber, and a sludge drying bed. The plant was converted to a lift station for STP No. 4 in 1978. The design flow capacity was 100,000 gallons per day.

22.2.3 Approximate Dates of Usage

1941 to October 1978 when converted to a lift station.

22.2.4 Operating Practices

Wastewater was received from the warehouse area, treated and then discharged to Kendaia Creek.

22.2.5 Present Condition and Status

Presently, a lift station for STP No. 4. All parts of the original operation have been removed or filled and covered with shale and soil. The area is grassy, but several parts of the foundation can be seen. Photographs of the unit, taken on September 13, 1990, are shown on the following pages.

22.2.6 Government Agency

The government agency that regulates this SWMU is NYSDEC. No SPDES Permit number was required during the time of the treatment plant's operation. The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associtae contact is David Kiser at NYSDEC's Region 8 Division of Water.

22.3 SPECIFIC WASTES DISPOSED

Domestic wastewater from the warehouse area. Seneca does not have industrial dischrges to its sewage treatment plants.

22.4 MIGRATION PATHWAYS

No were identified.

22.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

22.6 EXPOSURE POTENTIAL

Low.

22.7 RECOMMENDATIONS FOR SAMPLING

None.

22.8 REFERENCES.

References 3, 5, and 6. A list of references is provided as Appendix L.

22.9 COMMENTS

Based on the visual site inspection, performed on September 13, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

22.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

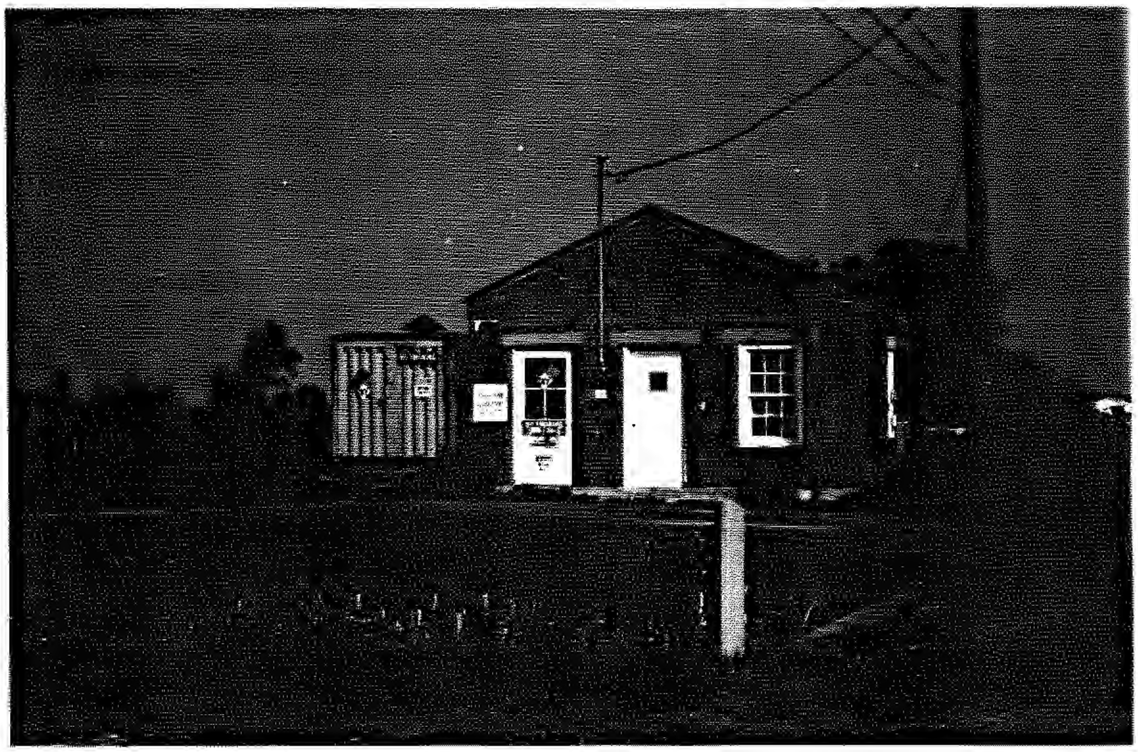


Photo 62: SEAD-22, 9/13/90. View of Sewage Treatment Plant No.314, facing north.

Photo 63: SEAD-22, 9/13/90. View of the trickling filter, Sewage Treatment Plant No.314, facing south.

Photo 64: SEAD-22, 9/13/90. View of the trickling filter, Sewage Treatment Plant No.314, facing southeast.

Photo 65: SEAD-22, 9/10/90. View of the location of the former sludge drying beds, Sewage Treatment Plant No.314, facing west (the concrete in the foreground indicates the approximate location).

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-22 DATE: 9/10/90 TIME: 4:00 p.m.

DATE: 9/13/90 TIME: 10:50 a.m.

UNIT NAME: Sewage Treatment Plant No. 314

PHOTO NUMBER: 62 through 64 (on 9/13/90) and No. 65 (on 9/10/90)

ORIENTATION OF PHOTOGRAPH: No. 62 facing north, No. 63 facing south, No. 64 facing southeast, No. 65 facing west

LOCATION WITHIN FACILITY: On the north side of 3rd Street, approximately 500 feet west of Avenue A

WEATHER CONDITIONS: Sunny, 75°F on 9/10/90 and 9/13/90

PHOTOGRAPHER: Dimitra Syriopoulou

23.0 SWMU NUMBER: SEAD-23

23.1 UNIT NAME

Open Burning Ground.

23.2 UNIT CHARACTERISTICS

23.2.1 Unit Type

Open burning grounds.

23.2.2 Design Features

The open burning grounds consists of nine burning pads (A through J) on approximately 30 acres. The pads are constructed of broken shale. A map of the area is shown in Figure A-23.

23.2.3 Approximate Dates of Usage

The burning pads were used from the late 1950s to 1986 or 1987.

23.2.4 Operating Practices

Combustible beds of pallets and wooden boxes were prepared on a burning pad. The explosives, propellant contaminated casings or components were then placed on the combustible bed. A trail of propellant approximately 200 feet long, 24 inches wide, and 3 inches deep was placed on the ground. Electric squib was placed in the propellant trail and connected to firing wires. The operator fired the circuits from the office after taking the proper safety precautions. All metal parts were recovered for recycling through the DRMO.

23.2.5 Present Condition and Status

In October 1989, a report entitled Criteria Development Report for Closure of Nine Burning Pads, Seneca Army Depot, Romulus, New York was prepared. However, RCRA closure was deferred when SEDA was proposed for the National Priorities List. The burning pads have recently been replaced with a burning tray (see Photo 67). The burning pads were placed out of service in 1986 or 1987. The open burning grounds are currently under interim status. Photographs of the area, taken on September 11, 1990, are shown on the pages following this text.

23.3 WASTE CHARACTERISTICS.

23.3.1 Specific Wastes Disposed

Explosives, contaminated trash, fuzes containing lead compounds, and projectiles containing TNT, Comp B, and Amatol were burned.

23.3.2 Physical and Chemical Characteristics

Heavy metals, nitrates, and explosive compounds are the constituents of concern.

23.3.3 Migration and Dispersal Characteristics

The metals, nitrates, and explosives can migrate into the ground water, but also can be adsorbed onto the soil (particularly the clay particles).

23.3.4 Toxicological Characteristics

Health advisories have been finalized for the explosive compounds, HMX, RDX and TNT. These are given in Appendix E. MCLs have not been established for the explosive compounds of concern. It has been reported that the only explosive compound which may eventually be assigned a MCL is 2,4-DNT. Since MCLs do not exist for the explosives, guidance for interpreting explosive compounds in groundwater samples has been developed by the Army Environmental Hygiene Agency. This guidance document has been included as Appendix F. MCLs have been established for many of the heavy metals of concern as shown in Appendix E.

23.4 MIGRATION PATHWAYS

Migration pathways are air, soil and groundwater, surface water.

23.5 EVIDENCE OF RELEASE

Table A-23 shows the ground water level and quality data available for the area. Groundwater contamination by metals and explosive compounds may be present in the active section of the burning pad area, but the perimeter groundwater monitoring wells remain clean.

23.6 EXPOSURE POTENTIAL

High.

23.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA RI/FS is being conducted for the Open Burning Grounds and the detailed sampling and analysis for this investigation is described therein.

23.8 REFERENCES.

References 3,5,6,14. A list of references is provided in Appendix L.

23.9 COMMENTS

The information reported in Reference 3 has been updated as necessary. This unit is currently being addressed in an RI/FS.

23.10 REGULATORY STATUS

This SWMU is classified as a High Priority Area of Concern. It is currently being investigated under the CERCLA RI/FS process.

Photo 66: SEAD-23, 9/11/90. View of the one of the nine burning pads - Open Burning Ground, facing southeast.

Photo 67: SEAD-23, 9/11/90. View of the current burning tray at the Open Burning Ground, facing southeast.

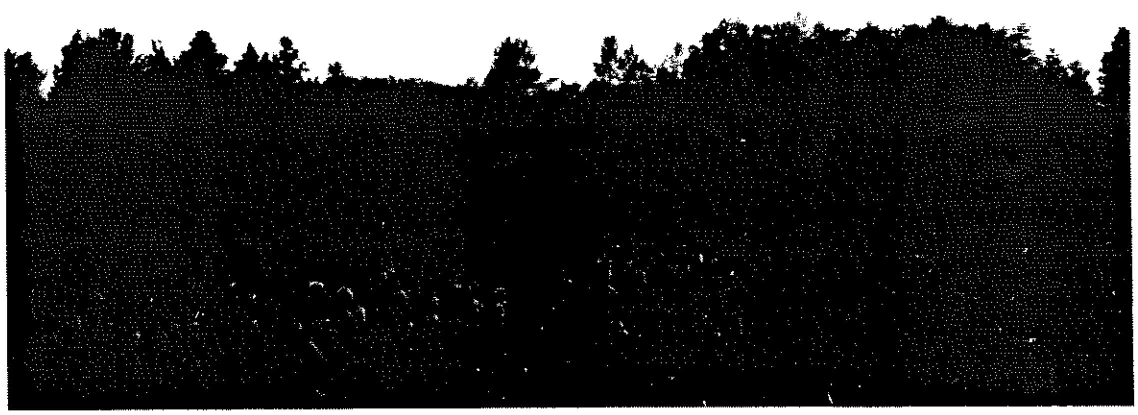


Photo 68: SEAD-23, 9/11/90. View of one of the nine burning pads - Open Burning Ground, facing south.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-23 DATE: 9/11/90 TIME: 2:15 p.m.

UNIT NAME: Open Burning Ground

PHOTO NUMBER: 66 through 68

ORIENTATION OF PHOTOGRAPH: No. 66 and 67 facing southeast, No. 68 facing south

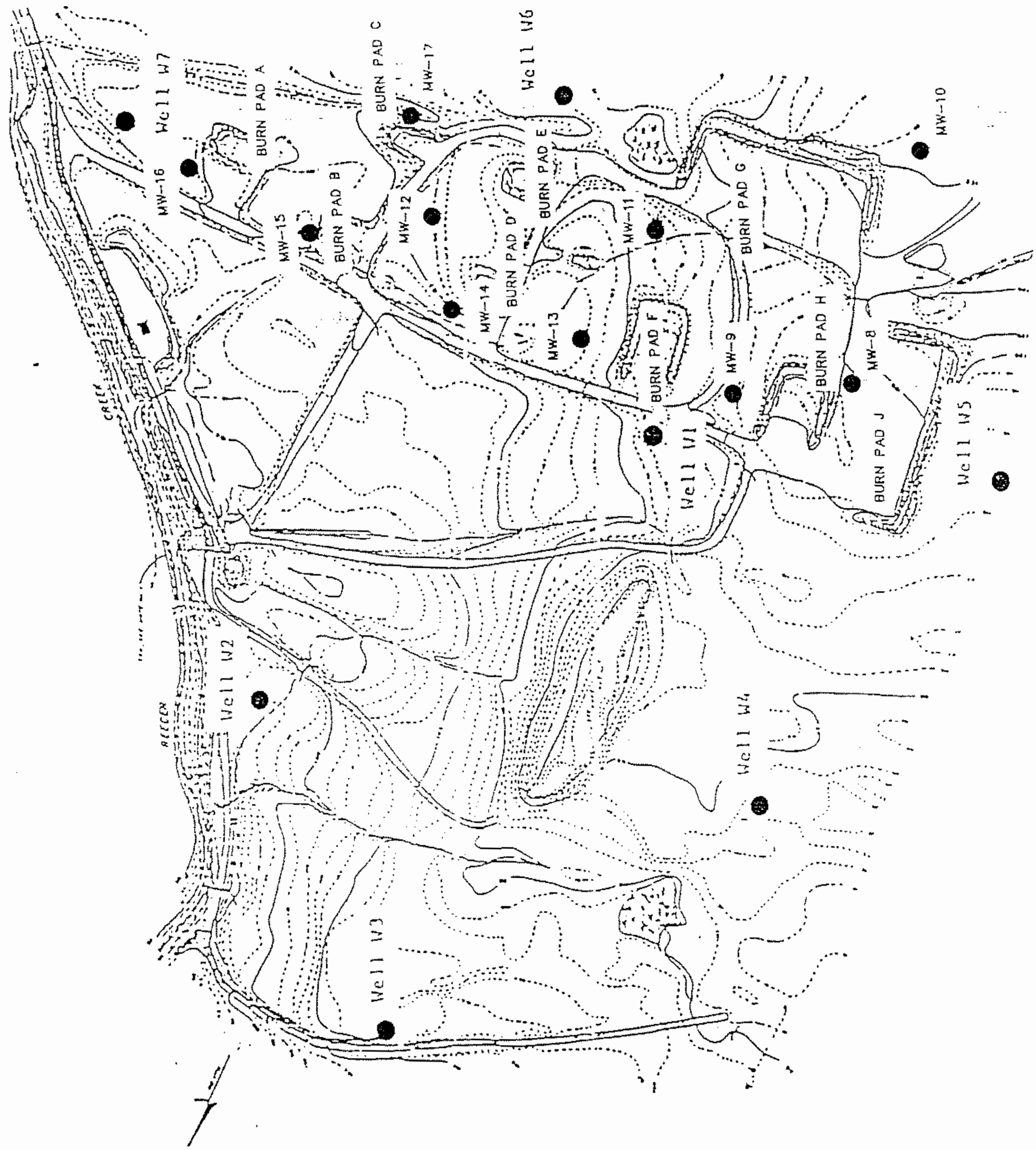
LOCATION WITHIN FACILITY: Approximately 2,000 feet east of West Patrol Road and 2,000 feet south of North Patrol Road

WEATHER CONDITIONS: Partly cloudy, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

FIGURE A-23

MAP OF THE DEMOLITION GROUNDS AT SENECA ARMY DEPOT



SOURCE: REFERENCE 3

ERC Environmental and Energy Services Co.

MAP OF DEMOLITION GROUND AT SENECA ARMY DEPOT

FIGURE A-23

TABLE A-23

GROUND WATER LEVEL AND QUALITY DATA FROM THE DEMOLITION GROUNDS

SOURCE: REFERENCE 3

Sampling Sites Results

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

SAMPLING SITES RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	B W5	W4	W6	W1	W3	W2	W7
WATER										
LEVELS (A)	04 JAN 82		FT	118.5	109.7	110.8	111.3	105.3	95.4	99.4
LEVELS (A)	13 APR 82		FT	118.2	109.4	110.9	111.6	105.4	94.7	103.3
LEVELS (A)	28 JUN 82		FT	116.3	108.2	108.7	108.2	102.6	93.4	99.9
LEVELS (A)	27 SEP 82		FT	112.9	107.2	105.2	108.6	99.7	92.6	
LEVELS (A)	07 FEB 83		FT	118.2	109.8	110.5	110.9	105.2	94.6	103.0
LEVELS (A)	08 AUG 83		FT	112.9	106.1	105.0		99.9	92.3	
LEVELS (A)	14 FEB 84		FT	118.3	108.9	109.7	109.3	105.5	94.9	103.1
LEVELS (A)	26 JUN 84		FT	109.4		109.6	109.3	104.6	94.8	99.3
LEVELS (A)	27 JUN 84		FT		109.0					
LEVELS (A)	17 SEP 84		FT	115.8	107.9	108.6	109.3	103.6	93.7	100.7
LEVELS (A)	19 MAR 85		FT	D	110.2	110.3	110.5	105.3	93.7	103.6
LEVELS (A)	12 SEP 85		FT	113.1		104.3	106.3	99.4	92.3	
LEVELS (A)	17 MAR 86		FT	118.5	110.8	110.0	112.9	105.5	95.7	104.0
LEVELS (A)	16 SEP 86		FT	115.7	108.3	107.7	107.5	102.5	93.1	99.8
LEVELS (A)	16 MAR 87		FT	118.5	109.8	111.0	110.5	104.9	94.1	102.8

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

SAMPLING SITES
RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	B W5	W4	W6	W1	W3	W2	W7
ARSENIC	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
ARSENIC	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
ARSENIC	29 JUN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
ARSENIC	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
BARIUM	05 JAN 82	.10	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	13 APR 82	.10	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	29 JUN 82	.10	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	28 SEP 82	.10	MGL	ND		ND	ND	ND	ND	
CADMIUM	05 JAN 82	5.000	UGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	13 APR 82	5.000	UGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	29 JUN 82	5.000	UGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	28 SEP 82	5.000	UGL	ND		ND	ND	ND	ND	
CHROMIUM	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	29 JUN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
FLUORIDE	05 JAN 82	.1	MGL	.3	.2	.3	.1	.2	.1	.3
FLUORIDE	13 APR 82	.1	MGL	.3	.2	.2	.2	.2	.1	.2
FLUORIDE	29 JUN 82	.1	MGL	.4	.2	.2	.2	.2	.2	.3
FLUORIDE	28 SEP 82	.1	MGL	.3	.2	.2	.2	.2	.2	
LEAD	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
LEAD	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
LEAD	29 JUN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
LEAD	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
MERCURY	05 JAN 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	13 APR 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	29 JUN 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	28 SEP 82	.2	UGL	ND	ND	ND	ND	ND	ND	
NO2+NO3 AS N	05 JAN 82	.05	MGL	6.70	.71	1.20	1.60	.08	ND	.22
NO2+NO3 AS N	13 APR 82	.05	MGL	5.00	.49	1.00	1.00	.13	ND	.38
NO2+NO3 AS N	29 JUN 82	.05	MGL	6.00	.52	2.00	2.00	.06	ND	.30
NO2+NO3 AS N	28 SEP 82	.05	MGL	10.00	.12	3.00	2.00	.08	ND	
SELENIUM	05 JAN 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SELENIUM	13 APR 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SELENIUM	29 JUN 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SELENIUM	28 SEP 82	.005	MGL	ND		ND	ND	ND	ND	
SILVER	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	29 JUN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
ENDRIN	05 JAN 82	.04	UGL	ND	ND	ND	ND	ND	ND	ND

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

SAMPLING SITES
RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	W5	W4	W6	W1	W3	W2	W7
ENDRIN	13 APR 82	40.00	UGL	ND	ND	ND	ND	ND	ND	ND
ENDRIN	29 JUN 82	.04	UGL	ND	ND	ND	ND	ND	ND	ND
ENDRIN	28 SEP 82	.04	UGL	ND		ND	ND	ND	ND	
LINDANE	05 JAN 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	13 APR 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	29 JUN 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	28 SEP 82	.08	UGL	ND		ND	ND	ND	ND	
TOXAPHENE	05 JAN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	13 APR 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	29 JUN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	28 SEP 82	1.6	UGL	ND		ND	ND	ND	ND	
METHOXYCHLOR	05 JAN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	13 APR 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	29 JUN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	28 SEP 82	1.6	UGL	ND		ND	ND	ND	ND	
2,4-D	05 JAN 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	13 APR 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	29 JUN 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	28 SEP 82	3.8	UGL	ND		ND	ND	ND	ND	
SILVEX	05 JAN 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	13 APR 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	29 JUN 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	28 SEP 82	.5	UGL	ND		ND	ND	ND	ND	
GROSS ALPHA	05 JAN 82	4.61	PCL	ND	ND	ND	ND	ND	4.14	ND
GROSS ALPHA	13 APR 82	3.37	PCL	3.33	ND	2.63	2.30	3.64	3.39	ND
GROSS ALPHA	29 JUN 82	6.49	PCL	4.81	4.26	5.99	ND	12.60	9.04	3.87
GROSS ALPHA	28 SEP 82	5.20	PCL	ND		ND	ND	ND		
RADIUM-226	28 JUN 82	.24	PCL			ND	.27	ND	ND	
RADIUM-226	28 SEP 82	.18	PCL	ND						
GROSS BETA	05 JAN 82	1.52	PCL	2.02	3.01	2.06	2.31	2.91	2.12	ND
GROSS BETA	13 APR 82	1.64	PCL	ND	1.60	ND	2.05	2.08	ND	ND
GROSS BETA	29 JUN 82	1.86	PCL	1.59	3.34	ND	1.62	1.96	1.99	ND
GROSS BETA	28 SEP 82	1.76	PCL	ND		1.22	1.85	3.14		
CHLORIDE	05 JAN 82	1.0	MGL	4.6	10.0	17.6	7.9	28.5	5.8	3.5
CHLORIDE	13 APR 82	1.0	MGL	4.0	9.0	3.0	7.0	46.0	4.9	2.0
CHLORIDE	29 JUN 82	1.0	MGL	9.0	9.0	11.0	12.0	51.0	10.0	7.0
CHLORIDE	28 SEP 82	1.0	MGL	1.0	ND	ND	3.0	11.2	6.0	
CHLORIDE	08 FEB 83	1.0	MGL	2.0	6.0	7.0	6.0	9.0	5.0	2.0
CHLORIDE	09 AUG 83	1.0	MGL	3.0	5.0	3.0		15.0	4.0	
CHLORIDE	14 FEB 84	2.0	MGL	ND	8.7	20.0	2.3	4.0	ND	ND
CHLORIDE	20 MAR 85	1.0	MGL		6.0	12.0	7.0	15.0	4.0	3.0

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

SAMPLING SITES
RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	B W5	W4	W6	W1	W3	W2	W7
CHLORIDE	10 MAR 86	1.0	MGL	3.0	5.0	4.0	5.0	6.0	3.0	2.0
CHLORIDE	17 MAR 87	1.0	MGL	2.0	4.0	4.0	6.0	5.0	3.0	1.0
IRON	05 JAN 82	.02	MGL	.13	.15	.27	.15	.19	.10	.14
IRON	13 APR 82	.03	MGL	ND	.08	.09	.10	.10	.02	.10
IRON	29 JUN 82	.03	MGL	ND	.24	.26	.44#	.06	.09	.70#
IRON	28 SEP 82	.02	MGL	.12		.24	.19	.23	.09	
IRON	08 FEB 83	.02	MGL	.13	.10	.15	.09	.07	.06	.08
IRON	09 AUG 83	.02	MGL	.09	.16	.25		.07	.12	
IRON	14 FEB 84	.10	MGL	.15	.11	ND	ND	ND	ND	1.02#
IRON	20 MAR 85	.10	MGL		ND	ND	ND	ND	ND	ND
IRON	18 MAR 86	.03	MGL	ND	ND	.03	ND	ND	ND	ND
IRON	17 MAR 87	.10	MGL	ND	ND	ND	ND	ND	ND	ND
MANGANESE	05 JAN 82	.010	MGL	.270#	.040	.300#	ND	ND	.070#	.090#
MANGANESE	13 APR 82	.010	MGL	.100#	.060#	.040	.020	ND	.050	.030
MANGANESE	29 JUN 82	.001	MGL	.210#	.050	.020	.020	.030	.130#	.010
MANGANESE	28 SEP 82	.010	MGL	ND		ND	ND	.040	.160#	
MANGANESE	08 FEB 83	.010	MGL	.020	.120#	.020	ND	ND	.010	.010
MANGANESE	09 AUG 83	.001	MGL	.120#	.320#	.010		.020	.210#	
MANGANESE	14 FEB 84	.030	MGL	ND	ND	.035	ND	ND	ND	ND
MANGANESE	20 MAR 85	.030	MGL		.085#	.045	ND	ND	.038	ND
MANGANESE	18 MAR 86	.010	MGL	ND	.120#	ND	ND	ND	ND	ND
MANGANESE	17 MAR 87	.030	MGL	.078#	.275#	ND	ND	ND	ND	ND
PHENOL	05 JAN 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	13 APR 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	29 JUN 82	.01	MGL	ND	ND	ND	.018	ND	ND	ND
PHENOL	28 SEP 82	.01	MGL	.018	.018	ND	.028	ND	.018	
PHENOL	08 FEB 83	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	09 AUG 83	.01	MGL	ND	ND	ND		ND	ND	
PHENOL	14 FEB 84	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	20 MAR 85	.01	MGL		ND	ND	ND	ND	ND	ND
PHENOL	18 MAR 86	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	17 MAR 87	.01	MGL	ND	ND	ND	ND	ND	ND	ND
SODIUM	05 JAN 82	1.	MGL	15.	28.	20.	15.	14.	22.	12.
SODIUM	13 APR 82	1.	MGL	10.	37.	8.	11.	15.	21.	10.
SODIUM	29 JUN 82	1.	MGL	12.	11.	9.	15.	20.	24.	8.
SODIUM	28 SEP 82	1.	MGL	12.		9.	8.	10.	16.	
SODIUM	08 FEB 83	1.	MGL	21.	37.	11.	12.	8.	15.	7.
SODIUM	09 AUG 83	1.	MGL	16.	36.	11.		9.	15.	
SODIUM	14 FEB 84	1	MGL	7	7.	16.	5.	4.	14.	3.
SODIUM	20 MAR 85	1	MGL		23.	24.	9.	7.	9.	2.
SODIUM	18 MAR 86	1	MGL	8.	20.	30.	7.	5.	6.	4.

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

SAMPLING SITES
RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	B W5	W4	W6	W1	W3	W2	W7
SODIUM	17 MAR 87	1.	MGL	8.	30	14.	11.	6.	9.	4.
SULFATE	05 JAN 82	2.0	MGL	57.5	327.08	38.8	233.0	147.0	225.0	77.0
SULFATE	13 APR 82	2.0	MGL	110.0	330.08	100.0	220.0	210.0	263.08	84.0
SULFATE	29 JUN 82	2.0	MGL	110.0	150.0	100.0	250.08	220.0	293.08	70.0
SULFATE	28 SEP 82	2.0	MGL	130.0	81.0	88.0	180.0	194.0	280.08	
SULFATE	08 FEB 83	2.0	MGL	93.0	600.08	110.0	210.0	100.0	200.0	74.0
SULFATE	09 AUG 83	2.0	MGL	129.0	333.08	106.0		215.0	203.0	
SULFATE	14 FEB 84	2.0	MGL	51.0	117.0	130.0	119.0	148.0	108.0	7.3
SULFATE	20 MAR 85	2.0	MGL		306.06	231.0	231.0	194.0	180.0	47.0
SULFATE	18 MAR 86	2.0	MGL	77.0	283.08	63.0	248.0	148.0	117.0	57.0
SULFATE	17 MAR 87	2.0	MGL	24.0	255.08	67.0	160.0	56.0	6.0	27.0
COND(FIELD)	20 MAR 85	1.	UMC		680.	440.	540.	550.	490.	270.
COND(FIELD)	18 MAR 86	1.	UMC	435.	650.	315.	460.	440.	340.	240.
COND(FIELD)	18 MAR 86	1.	UMC	415.	645.	320.	460.	440.	335.	240.
COND(FIELD)	18 MAR 86	1.	UMC	415.	650.	315.	460.	450.	335.	240.
COND(FIELD)	18 MAR 86	1.	UMC	415.	645.	310.	460.	445.	335.	235.
COND(FIELD)	17 MAR 87	1.	UMC	380.	700.	400.	500.	445.	450.	310.
COND(FIELD)	17 MAR 87	1.	UMC	375.	705.	400.	495.	440.	445.	315.
COND(FIELD)	17 MAR 87	1.	UMC	370.	700.	405.	500.	445.	450.	315.
COND(FIELD)	17 MAR 87	1.	UMC	375.	695.	405.	500.	440.	440.	315.
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	29 JUN 82		PH	7.8	7.8	7.8	8.1	7.7	7.8	7.8
PH(FIELD)	29 JUN 82		PH	7.8	7.8	7.8	8.1	7.7	7.8	7.8
PH(FIELD)	29 JUN 82		PH	7.8	7.8	7.8	8.1	7.7	7.8	7.8
PH(FIELD)	29 JUN 82		PH	7.8	7.8	7.8	8.1	7.7	7.8	7.8
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	09 AUG 83		PH	7.1	6.9	6.9		7.0	7.1	

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

SAMPLING SITES
RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	C W5	W4	W6	W1	W3	W2	W7
PH(FIELD)	09 AUG 83		PH	7.1	6.9	6.9		7.0	7.1	
PH(FIELD)	09 AUG 83		PH	7.1	6.9	6.9		7.0	7.1	
PH(FIELD)	09 AUG 83		PH	7.1	6.9	6.9		7.0	7.1	
PH(FIELD)	14 FEB 84		PH	7.3	6.8	7.2	7.3	7.4	7.4	7.5
PH(FIELD)	14 FEB 84		PH	7.3	6.9	7.2	7.3	7.4	7.5	7.5
PH(FIELD)	14 FEB 84		PH	7.4	6.8	7.3	7.3	7.4	7.4	7.6
PH(FIELD)	14 FEB 84		PH	7.3	6.9	7.3	7.3	7.5	7.4	7.6
PH(FIELD)	27 JUN 84		PH	7.0	6.8	7.1	7.1	7.0	7.1	7.1
PH(FIELD)	18 SEP 84		PH	8.4	7.5	7.6	7.6	7.5	7.1	7.6
PH(FIELD)	18 SEP 84		PH	8.3	7.6	7.5	7.7	7.4	7.1	7.5
PH(FIELD)	18 SEP 84		PH	8.4	7.6	7.5	7.7	7.4	7.1	7.5
PH(FIELD)	18 SEP 84		PH	8.3	7.5	7.6	7.6	7.4	7.2	7.5
PH(FIELD)	20 MAR 85		PH		6.8	6.9	6.7	6.8	7.0	7.0
PH(FIELD)	13 SEP 85		PH	7.1		7.1	7.1	7.1	7.0	
PH(FIELD)	18 MAR 86		PH	7.1	6.8	7.4	7.2	7.0	7.2	7.3
PH(FIELD)	18 MAR 86		PH	7.1	6.9	7.4	7.3	7.1	7.3	7.3
PH(FIELD)	18 MAR 86		PH	7.1	6.8	7.4	7.2	7.0	7.3	7.3
PH(FIELD)	18 MAR 86		PH	7.1	6.8	7.4	7.1	7.0	7.2	7.3
PH(FIELD)	16 SEP 86		PH	7.1	7.0	7.4	6.9	7.0	7.0	7.2
PH(FIELD)	17 MAR 87		PH	6.9	7.3	7.4	6.9	7.2	7.1	6.9
PH(FIELD)	17 MAR 87		PH	7.0	7.2	7.4	6.8	7.1	7.0	7.0
PH(FIELD)	17 MAR 87		PH	6.8	7.1	7.5	6.9	7.1	6.9	6.8
PH(FIELD)	17 MAR 87		PH	6.9	7.2	7.4	6.9	7.1	6.9	6.9
PH(LAB)	14 FEB 84		PH	7.9	7.7	7.8	7.7	7.8	7.9	7.5
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	860.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1120.	722.	850.	860.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	850.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	850.	920.	640.
SPEC COND	13 APR 82	1.	UMC	719.	1300.	699.	810.	1000.	975.	639.
SPEC COND	13 APR 82	1.	UMC	718.	1302.	699.	810.	1000.	972.	639.
SPEC COND	13 APR 82	1.	UMC	719.	1301.	699.	810.	1000.	974.	640.
SPEC COND	13 APR 82	1.	UMC	720.	1300.	699.	810.	1000.	973.	638.
SPEC COND	29 JUN 82	1.	UMC	620.	590.	580.	750.	1040.	890.	490.
SPEC COND	29 JUN 82	1.	UMC	620.	590.	580.	760.	1030.	890.	490.
SPEC COND	29 JUN 82	1.	UMC	620.	600.	585.	760.	1030.	890.	490.
SPEC COND	29 JUN 82	1.	UMC	620.	600.	580.	750.	1030.	890.	490.
SPEC COND	28 SEP 82	1.	UMC	795.		665.	700.	925.	980.	
SPEC COND	28 SEP 82	1.	UMC	790.		665.	700.	920.	980.	
SPEC COND	28 SEP 82	1.	UMC	795.		665.	700.	920.	980.	
SPEC COND	28 SEP 82	1.	UMC	795.		665.	700.	920.	980.	
SPEC COND	08 FEB 83	1.	UMC	580.	1160.	685.	760.	680.	755.	605.

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

SAMPLING SITES
RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	B W5	W4	W6	W1	W3	W2	W7
SPEC COND	08 FEB 83	1.	UMC	580.	1160.	690.	755.	680.	755.	605.
SPEC COND	08 FEB 83	1.	UMC	585.	1160.	680.	755.	680.	760.	600.
SPEC COND	08 FEB 83	1.	UMC	580.	1160.	685.	760.	685.	760.	600.
SPEC COND	09 AUG 83	1.	UMC	900.	1190.	1020.		1050.	930.	
SPEC COND	09 AUG 83	1.	UMC	890.	1200.	1020.		1050.	940.	
SPEC COND	09 AUG 83	1	UMC	890.	1190.	1020.		1040.	940.	
SPEC COND	09 AUG 83	1.	UMC	900.	1200.	1020.		1040.	940.	
SPEC COND	14 FEB 84	1.	UMC	360.	430.	620.	400.	500.	570.	88.
SPEC COND	14 FEB 84	1.	UMC	360.	420.	620.	410.	510.	580.	97.
SPEC COND	14 FEB 84	1	UMC	360.	430.	620.	400.	510.	580.	88.
SPEC COND	14 FEB 84	1	UMC	360.	430.	630.	400.	510.	570.	88.
SPEC COND	18 SEP 84	1.	UMC	710.	1000.	620.	670.	760.	860.	500.
SPEC COND	18 SEP 84	1.	UMC	720.	990.	620.	680.	760.	860.	500.
SPEC COND	18 SEP 84	1.	UMC	720.	1000.	620.	680.	760.	860.	490.
SPEC COND	18 SEP 84	1.	UMC	720.	1000.	620.	680.	760.	860.	510.
SPEC COND	20 MAR 85	1.	UMC		990.	700.	750.	760.	750.	390.
SPEC COND	20 MAR 85	1.	UMC		1000.	700.	750.	760.	740.	400.
SPEC COND	20 MAR 85	1.	UMC		1000.	700.	750.	760.	740.	390.
SPEC COND	20 MAR 85	1.	UMC		990.	700.	760.	760.	740.	390.
SPEC COND	13 SEP 85	1.	UMC	720.		610.	880.	830.	840.	
SPEC COND	13 SEP 85	1.	UMC	720.		600.	880.	840.	840.	
SPEC COND	13 SEP 85	1.	UMC	730.		600.	870.	840.	840.	
SPEC COND	13 SEP 85	1.	UMC	730.		600.	880.	830.	830.	
SPEC COND	18 MAR 86	1.	UMC	590.	960.	490.	670.	620.	520.	3600.
SPEC COND	18 MAR 86	1.	UMC	590.	960.	500.	660.	620.	520.	3600.
SPEC COND	18 MAR 86	1.	UMC	590.	950.	500.	670.	620.	520.	3600.
SPEC COND	18 MAR 86	1.	UMC	590.	950.	490.	660.	610.	520.	3600.
SPEC COND	16 SEP 86	1.	UMC	710.	1160.	690.	870.	950.	820.	600.
SPEC COND	16 SEP 86	1.	UMC	720.	1150.	690.	880.	950.	810.	600.
SPEC COND	16 SEP 86	1	UMC	710.	1150.	690.	880.	950.	820.	600.
SPEC COND	16 SEP 86	1.	UMC	720.	1160	690.	880.	960.	820.	610.
SPEC COND	17 MAR 87	1.	UMC	640.	990.	670.	820.	710.	730.	530.
SPEC COND	17 MAR 87	1.	UMC	630.	1000.	680.	810.	710.	730.	530.
SPEC COND	17 MAR 87	1.	UMC	630.	1000.	680.	820.	720.	730.	530.
SPEC COND	17 MAR 87	1.	UMC	640.	1000.	690.	820.	710.	740.	530.
TOC	05 JAN 82	1	MG/L	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	.1	MG/L	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	.1	MG/L	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	.1	MG/L	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	13 APR 82	.1	MG/L	39.0	54.0	40.0	37.0	48.0	44.0	40.0
TOC	13 APR 82	.1	MG/L	39.0	54.0	40.0	37.0	47.0	44.0	40.0

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

SAMPLING SITES
RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	B W5	W4	W6	W1	W3	W2	W7
TOC	13 APR 82	.1	MGL	40.0	54.0	42.0	37.0	47.0	44.0	40.0
TOC	13 APR 82	.1	MGL	39.0	55.0	43.0	37.0	48.0	44.0	40.0
TOC	29 JUN 82	.1	MGL	43.0	30.0	43.0	42.0	53.0	42.0	38.0
TOC	29 JUN 82	.1	MGL	42.0	30.0	41.0	40.0	53.0	42.0	39.0
TOC	29 JUN 82	.1	MGL	42.0	30.0	43.0	40.0	54.0	41.0	40.0
TOC	29 JUN 82	.1	MGL	42.0	30.0	43.0	42.0	54.0	43.0	38.0
TOC	28 SEP 82	.1	MGL	37.0	28.0	39.0	21.0	44.0	4.0	
TOC	28 SEP 82	.1	MGL	38.0	29.0	39.0	23.0	43.0	4.0	
TOC	28 SEP 82	.1	MGL	37.0	27.0	39.0	22.0	43.0	4.0	
TOC	28 SEP 82	.1	MGL	38.0	28.0	39.0	22.0	43.0	4.0	
TOC	08 FEB 83	.1	MGL	23.0	32.0	26.0	22.0	27.0	25.0	26.0
TOC	08 FEB 83	.1	MGL	23.0	33.0	27.0	22.0	26.0	25.0	26.0
TOC	08 FEB 83	.1	MGL	24.0	32.0	27.0	22.0	27.0	25.0	26.0
TOC	08 FEB 83	.1	MGL	23.0	33.0	27.0	22.0	27.0	25.0	26.0
TOC	09 AUG 83	.1	MGL	53.0	47.0	46.0		74.0	23.0	
TOC	09 AUG 83	.1	MGL	53.0	47.0	47.0		74.0	22.0	
TOC	09 AUG 83	.1	MGL	54.0	46.0	45.0		74.0	21.0	
TOC	09 AUG 83	.1	MGL	53.0	46.0	46.0		74.0	22.0	
TOC	14 FEB 84	.1	MGL	24.0	35.0	32.0	24.0	29.0	29.0	12.0
TOC	14 FEB 84	.1	MGL	23.0	36.0	33.0	24.0	29.0	29.0	11.0
TOC	14 FEB 84	.1	MGL	23.0	36.0	33.0	24.0	29.0	30.0	11.0
TOC	14 FEB 84	.1	MGL	24.0	35.0	32.0	24.0	29.0	29.0	11.0
TOC	18 SEP 84	.1	MGL	3.0	3.0	3.0	3.0	4.0	3.0	3.0
TOC	18 SEP 84	.1	MGL	3.0	4.0	3.0	3.0	4.0	3.0	4.0
TOC	18 SEP 84	.1	MGL	3.0	4.0	3.0	3.0	4.0	3.0	2.0
TOC	18 SEP 84	.1	MGL	3.0	4.0	3.0	3.0	5.0	4.0	3.0
TOC	20 MAR 85	.1	MGL		5.9	8.8	5.9	6.0	4.1	9.5
TOC	20 MAR 85	.1	MGL		5.7	8.8	6.1	6.0	4.0	9.6
TOC	20 MAR 85	.1	MGL		5.8	8.7	5.8	6.0	4.1	9.4
TOC	20 MAR 85	.1	MGL		5.7	8.8	5.9	6.0	4.1	9.5
TOC	13 SEP 85	.1	MGL	3.4		3.0	2.7	3.3	2.1	
TOC	13 SEP 85	.1	MGL	3.4		2.7	2.5	3.2	3.3	
TOC	13 SEP 85	.1	MGL	3.4		2.8	2.6	3.3	3.1	
TOC	13 SEP 85	.1	MGL	3.4		2.9	2.5	3.3	3.5	
TOC	18 MAR 86	.1	MGL	3.4	3.6	6.3	5.0	5.4	3.5	4.2
TOC	18 MAR 86	.1	MGL	3.4	3.5	6.3	5.0	5.1	3.5	4.2
TOC	18 MAR 86	.1	MGL	3.4	3.5	6.4	5.0	5.1	3.4	4.2
TOC	18 MAR 86	.1	MGL	3.4	3.5	6.2	5.2	5.2	3.7	4.2
TOC	16 SEP 86	.1	MGL	5.1	4.7	5.3	5.2	6.2	4.7	5.2
TOC	16 SEP 86	.1	MGL	5.0	4.7	5.4	5.4	6.2	4.9	5.1
TOC	16 SEP 86	.1	MGL	5.0	4.8	5.4	5.4	6.3	4.7	5.1

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

SAMPLING SITES
RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	B W5	W4	W6	W1	W3	W2	W7
TOC	16 SEP 86	.1	MGL	4.9	4.8	5.5	5.4	6.2	4.8	5.2
TOC	17 MAR 87	.1	MGL	5.0	3.8	3.7	2.3	5.6	4.0	3.6
TOC	17 MAR 87	.1	MGL	5.0	3.7	3.8	2.2	5.5	4.0	3.6
TOC	17 MAR 87	.1	MGL	4.9	3.6	3.7	2.2	5.5	3.9	3.5
TOC	17 MAR 87	.1	MGL	5.0	3.7	3.8	2.1	5.6	4.0	3.5
TOX	05 JAN 82	.010	MGL	ND	.060	.033	.016	.063	.048	.021
TOX	05 JAN 82	.010	MGL	ND	.050	.025	ND	.038	.059	.039
TOX	05 JAN 82	.010	MGL	ND	.050	.014	.019	.048	.016	.034
TOX	05 JAN 82	.010	MGL	.016	.052	.013	.016	.046	.056	.020
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	.014
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	13 APR 82	.010	MGL	ND	ND	.012	ND	.011	ND	.010
TOX	29 JUN 82	.010	MGL	ND	ND	ND	.017	.063	.069	.026
TOX	29 JUN 82	.010	MGL	.064	ND	ND	.076	ND	.039	.028
TOX	29 JUN 82	.010	MGL	.098	ND	.015	.070	.051	.026	.031
TOX	29 JUN 82	.010	MGL	.045	ND	ND	.066	ND	.082	.020
TOX	28 SEP 82	.010	MGL	.041		.130	.067	.096		
TOX	28 SEP 82	.010	MGL	ND		.080	ND	.069		
TOX	28 SEP 82	.010	MGL	ND		.095	.077	ND		
TOX	28 SEP 82	.010	MGL	ND		.095	.040	.062		
TOX	08 FEB 83	.010	MGL	.043	.030	.040	.039	.046	.017	.030
TOX	08 FEB 83	.010	MGL	.042	.047	.047	.028	.046	.033	.038
TOX	08 FEB 83	.010	MGL	.042	.041	.040	.044	.031	.039	.047
TOX	08 FEB 83	.010	MGL	.036	.041	.043	.041	.056	.038	.036
TOX	09 AUG 83	.010	MGL	.041	.040	.041		ND	ND	
TOX	09 AUG 83	.010	MGL	.036	.041	.036		ND	ND	
TOX	09 AUG 83	.010	MGL	.042	.038	.039		ND	ND	
TOX	09 AUG 83	.010	MGL	.040	.040	.036		ND	ND	
TOX	14 FEB 84	.010	MGL	.070	.064	ND	.037	.055	.064	ND
TOX	14 FEB 84	.010	MGL	.060	.074	ND	.035	.055	.030	.014
TOX	14 FEB 84	.010	MGL	.077	.041	ND	.036	.049	.044	.014
TOX	14 FEB 84	.010	MGL	.032	.062	ND	.039	.064	.041	.012
TOX	18 SEP 84	.010	MGL	.022	.016	ND	.015	.013	ND	.027
TOX	18 SEP 84	.010	MGL	.022	.018	.011	.025	.012	ND	.034
TOX	18 SEP 84	.010	MGL	.020	.016	ND	.013	ND	ND	.045
TOX	18 SEP 84	.010	MGL	.021	.026	.012	.013		ND	.045
TOX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	.012
TOX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	.013
TOX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	.014
TOX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	.014

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

SAMPLING SITES
RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	B W5	W4	W6	W1	W3	W2	W7
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	18 MAR 86	.010	MGL	ND	ND	.010	ND	ND	ND	ND
TOX	18 MAR 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	18 MAR 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	18 MAR 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TDS	29 JUN 82	1.	MGL	465.	431.	406.	672.#	704.#	690.#	382.
2,4,6-TNT	27 JUN 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4,6-TNT	18 SEP 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4,6-TNT	20 MAR 85	.001	MGL		ND	ND	ND	ND	ND	ND
2,4,6-TNT	13 SEP 85	.001	MGL	ND		ND	ND	ND	ND	
2,4,6-TNT	18 MAR 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4,6-TNT	16 SEP 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4,6-TNT	17 MAR 87	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	27 JUN 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	18 SEP 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	20 MAR 85	.001	MGL		ND	ND	ND	ND	ND	ND
2,4-DNT	13 SEP 85	.001	MGL	ND		ND	ND	ND	ND	
2,4-DNT	18 MAR 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	16 SEP 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	17 MAR 87	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	27 JUN 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	18 SEP 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	20 MAR 85	.001	MGL		ND	ND	ND	ND	ND	ND
2,6-DNT	13 SEP 85	.001	MGL	ND		ND	ND	ND	ND	
2,6-DNT	18 MAR 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	16 SEP 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6 DNT	17 MAR 87	.001	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	27 JUN 84	.010	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	18 SEP 84	.010	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	ND

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

SAMPLING SITES
RESULTS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	W5	W4	W6	W1	W3	W2	W7
RDX	13 SEP 85	.030	MGL	ND		ND	ND	ND	ND	
RDX	18 MAR 86	.030	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	16 SEP 86	.030	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	17 MAR 87	.030	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	27 JUN 84	.100	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	18 SEP 84	.100	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	20 MAR 85	.100	MGL		ND	ND	ND	ND	ND	ND
HMX	13 SEP 85	.100	MGL	ND		ND	ND	ND	ND	
HMX	18 MAR 86	.100	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	16 SEP 86	.100	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	17 MAR 87	.100	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	27 JUN 84	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	18 SEP 84	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	ND
TETRYL	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TETRYL	18 MAR 86	.005	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

LEGEND

NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMENTAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.

B   UPGRADIENT SITE
\#   VALUE EXCEEDS A NATIONAL SECONDARY DRINKING WATER REGULATION CRITERIA
&   VALUE EXCEEDS A STATE WATER QUALITY STANDARD OR CRITERIA

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

24.0 SWMU NUMBER: SEAD-24

24.1 UNIT NAME

Abandoned Powder Burning Pit.

24.2 UNIT CHARACTERISTICS

24.2.1 Unit Type

Powder burning area.

24.2.2 General Dimensions

U-shaped 4-foot high berm approximately 150 feet across and 325 feet long. An adjacent shale covered area may also have been used (the area west of the berm).

24.2.3 Approximate Dates of Usage

1940s to 1950s.

24.2.4 Operating Practices

Unknown.

24.2.5 Present Condition and Status

Abandoned. Grasses are growing in the area inside the berm. Photographs of the SWMU, taken on September 10, 1990, are shown on the page following this text.

24.3 WASTE CHARACTERISTICS

24.3.1 Specific Wastes Disposed

Black powder, M10 and M6 solid propellants, probably explosive-contaminated trash.

24.3.2 Physical and Chemical Characteristics

Explosive compounds are the primary constituents of concern.

24.3.3 Migration and Dispersal Characteristics

Explosive compounds may migrate into the groundwater.

24.3.4 Toxicological Characteristics

Health advisories have been finalized for the explosive compounds, HMX, RDX and TNT. These are given in Appendix E. MCLs have not been established for the explosive compounds of concern. It has been reported that the only explosive compound which may eventually be assigned a MCL is 2,4-DNT. Since MCLs do not exist for the explosives, guidance for interpreting explosive compounds in ground water samples has been developed by the Army Environmental Hygiene Agency. This guidance document has been included as Appendix F. MCLs have been established for many of the heavy metals of concern as shown in Appendix E.

24.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

24.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

24.6 EXPOSURE POTENTIAL

Moderate.

24.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investitation of 10 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

24.8 REFERENCES.

References 3, 5, 6, and 8. A list of references is provided as Appendix L.

24.9 COMMENTS

Based on the visual site inspection, performed on September 10, 1990, the SWMU's status appeared to be the same as that reported in Reference 3. The USEPA has classified SEAD-24 as a high priority AOC and will be addressed under the CERCLA Investigation of the 10 Solid Waste Management Units report.

24.10 REGULATORY STATUS

This SWMU is classified as a High Priority Area. It is currently being investigated under the CERCLA 10 SWMU SI program.

Photo 69: SEAD-24. 9/10/90. View of the Abandoned Power Burning Pit, facing south.

Photo 70: SEAD-24. 9/10/90. View of the Abandoned Power Burning Pit, facing south.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-24 DATE: 9/10/90 TIME: 3:50 p.m.

UNIT NAME: Abandoned Powder Burning Pit

PHOTO NUMBER: 69 and 70

ORIENTATION OF PHOTOGRAPH: Facing south

LOCATION WITHIN FACILITY: On the south side of West Kendaia Road, approximately 800 feet east of West Patrol Road

WEATHER CONDITIONS: Sunny, 75 °F

PHOTOGRAPHER: Julie Y. Hubbs

25.0 SWMU NUMBER: SEAD-25

25.1 UNIT NAME

Fire Training and Demonstration Pad.

25.2 UNIT CHARACTERISTICS

25.2.1 Unit Type

Fire training pad.

25.2.2 General Dimensions

Approximately 90 feet by 100 feet.

25.2.3 Approximate Dates of Usage

Since late 1960s.

25.2.4 Operating Practices

At one time, the pad was used for fire control training, but it is now used once or twice a year for fire fighting demonstrations.

25.2.5 Present Condition and Status

A gravel area sparsely covered with grass. Photographs of the area, taken on September 14, 1990, are shown on the pages following this text.

25.3 WASTE CHARACTERISTICS.

25.3.1 Specific Wastes Disposed

Water-contaminated fuels and occasionally used oil.

25.3.2 Physical and Chemical Characteristics

Breakdown products of petroleum products (benzene, xylene, and toluene). Lead may also be a constituent of concern if leaded fuels were used (very likely).

25.3.3 Migration and Dispersal Characteristics

The petroleum breakdown products and heavy metals may migrate in the ground water.

25.3.4 Toxicological Characteristics

MCLs and health advisories are available for benzene, xylene, and toluene. A MCL has also been established for lead (see Appendix E).

25.4 MIGRATION PATHWAYS

Migration pathways are air, soil and groundwater.

25.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

25.6 EXPOSURE POTENTIAL

Moderate.

25.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 10 Solid Waste Management Units. The investigation program is described in the Workplan for CERCLA ESI of Ten Solid Waste Management Units."

25.8 REFERENCES

References 3, 5, 6, and 8. A list of references is provided as Appendix L.

25.9 COMMENTS

Based on the visual site inspection, performed on September 14, 1990, the SWMU's status appeared to be the same as that reported in Reference 3 with the exception of the SWMU's general dimensions. The USEPA has classified SEAD-25 as a high priority AOC and will be addressed under the CERCLA Investigation of the 10 Solid Waste Management Units Report.

25.10 REGULATORY STATUS

This SWMU is classified as a High Priority Area of Concern. It is currently being investigated under the CERCLA 10 SWMU SI program

Photo 71: SEAD-25, 9/14/90. View of the Fire Training and Demonstration Pad, facing southwest.

Photo 72: SEAD-25, 9/14/90. View of the Fire Training and Demonstration Pad, facing west.

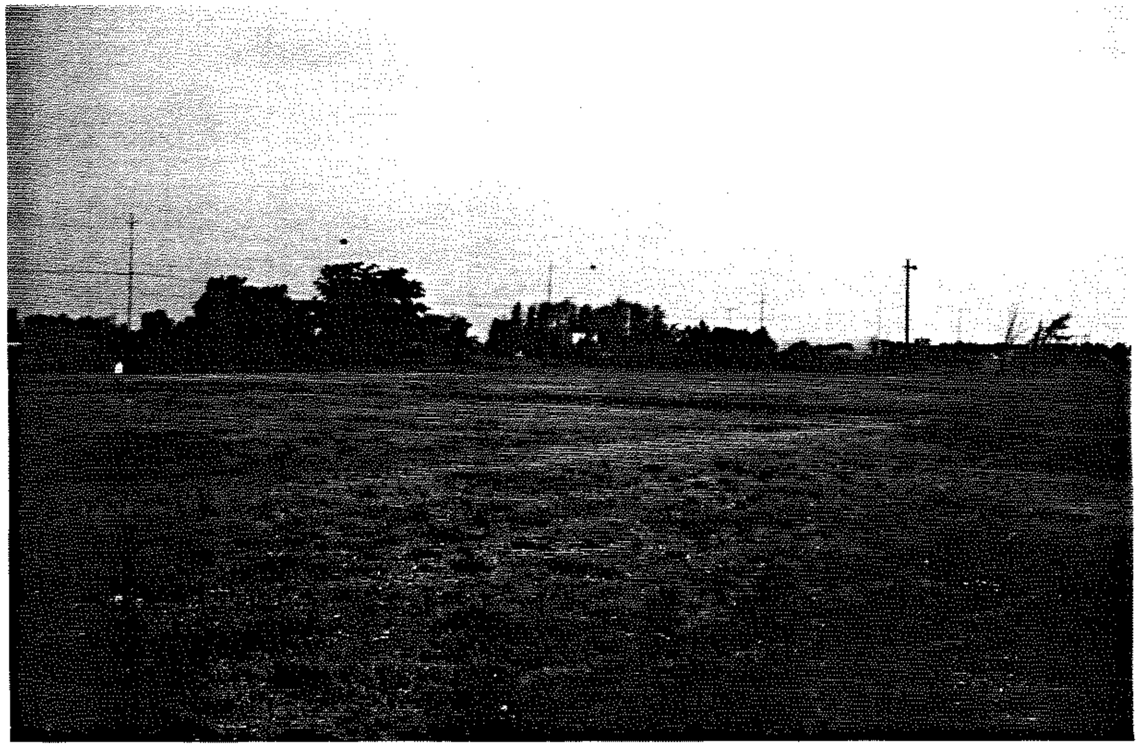


Photo 73: SEAD-25, 9/14/90. View of the Fire Training and Demonstration Pad, facing northwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-25 DATE: 9/14/90 TIME: 7:35 a.m.

UNIT NAME: Fire Training and Demonstration Pad

PHOTO NUMBER: 71 through 73

ORIENTATION OF PHOTOGRAPH: No. 71 facing southwest, No. 72 facing west, No. 73 facing northwest

LOCATION WITHIN FACILITY: In the northwest quadrant of the intersection of Administration Avenue and Ordnance Road

WEATHER CONDITIONS: Cloudy, 70°F

PHOTOGRAPHER: Dimitra Syriopoulou

26.0 SWMU NUMBER: SEAD-26

26.1 UNIT NAME

Fire Training Pit.

26.2 UNIT CHARACTERISTICS

26.2.1 Unit Type

Fire training pit.

26.2.2 Design Features

The fire training pit is approximately 75 feet in diameter and approximately 3 feet deep. A bentonite liner was installed in 1982 or 1983. The fire training area is approximately 6 acres.

26.2.3 Approximate Dates of Usage

1977 to present.

26.2.4 Operating Practices

Various flammable materials are floated on water, ignited, and extinguished. The pit is used one to four times a year for fire fighting training. Prior to 1977, the fire training area surrounding the pit may have also been used for fire demonstrations.

26.2.5 Present Condition and Status

Active. The fire pit was full of water. Metal drums, concrete rubble and other debris were observed on the south end of the fire training area. Photographs of the SWMU, taken on September 11, and November 27, 1990, are shown on the pages following this text.

26.3 WASTE CHARACTERISTICS

26.3.1 Specific Wastes Disposed

26.3.1.1 Fire Training Area

Water-contaminated fuels, used oil and spent industrial solvents (prior to RCRA).

26.3.1.2 Debris Area south of the Fire Training Pit

Unknown. Metal drums and concrete rubble were observed.

26.3.2 Physical and Chemical Characteristics

Breakdown products of petroleum products (benzene, xylene, and toluene). Lead may also be a constituent of concern if leaded fuels were used (very likely).

26.3.3 Migration and Dispersal Characteristics

The petroleum breakdown products and heavy metals may migrate in the groundwater.

26.3.4 Toxicological Characteristics

MCLs and health advisories are available for benzene, xylene and toluene. A MCL has also been established for lead (see Appendix E).

26.4 MIGRATION PATHWAYS

Migration pathways are air, soil and groundwater.

26.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

26.6 EXPOSURE POTENTIAL

Moderate.

26.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 10 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Ten Solid Waste Management Units."

26.8 REFERENCES.

References 3, 5, 6, and 8. A list of references is provided as Appendix L.

26.9 COMMENTS

The information reported in Reference 3 has been updated. The USEPA has classified SEAD-26 as a high priority AOC and will be addressed under the CERCLA Investigation of the 10 Solid Waste Management Units Report.

26.10 REGULATORY STATUS

This SWMU is classified as High Priority Area of Concern. It is currently being investigated under the CERCLA 10 SWMU SI program.

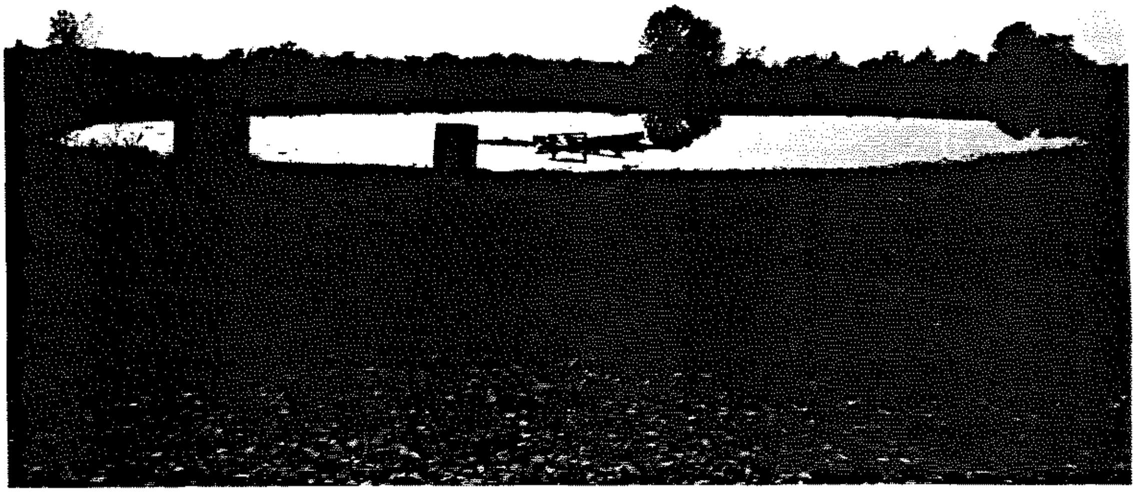


Photo 74: SEAD-26, 9/11/90. View of the Fire Training Pit, facing west.

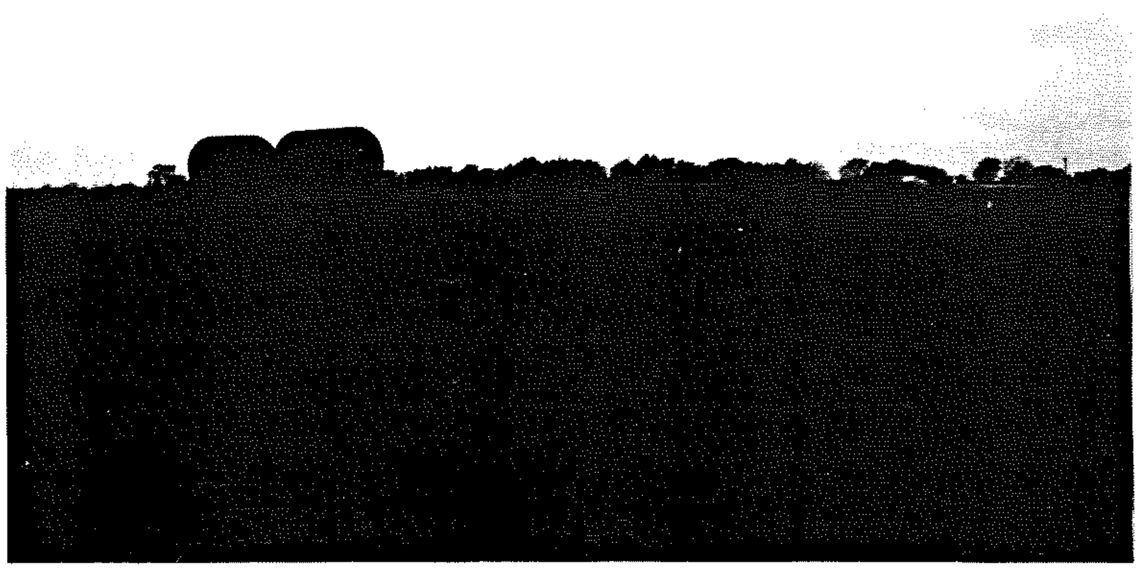


Photo 75: SEAD-26, 9/11/90. View of the Fire Training Pit Area, facing northwest.

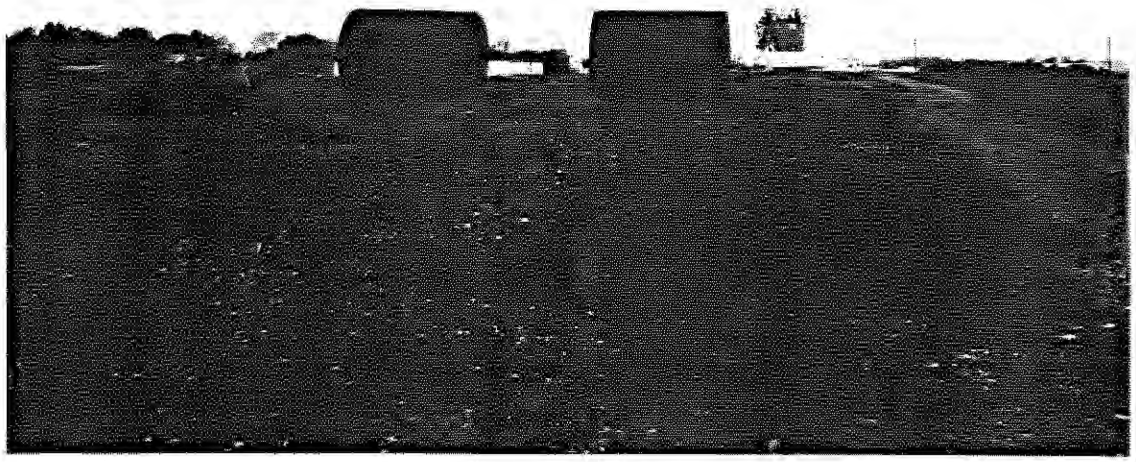


Photo 76: SEAD-26, 9/11/90. View of the Fire Training Pit Area, facing north.

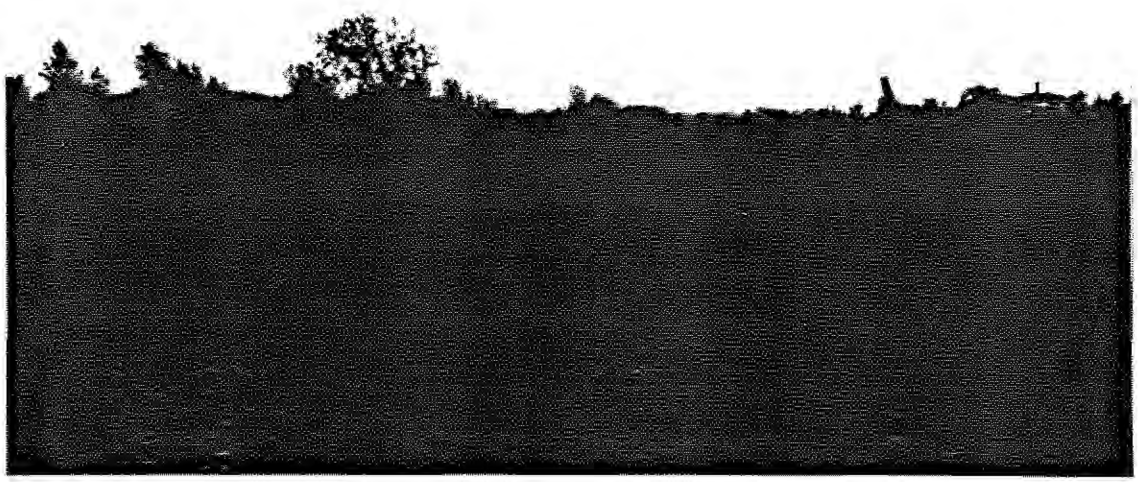


Photo 77: SEAD-26, 9/11/90. View of the Fire Training Pit Area, facing south

Photo 78: SEAD-26, 11/27/90. View of the debris area located south of the Fire Training Pit, facing south.

Photo 79: SEAD-26, 11/27/90. View of the debris area located south of the Fire Training Pit, facing south

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-26

Photo 75 - 78	DATE: 9/11/90	TIME: 12:30 P. M.
79 and 80	DATE: 11/27/90	TIME: 10:30 A. M.

UNIT NAME: Fire Training Pit

PHOTO NUMBER: 74 through 79

ORIENTATION OF PHOTOGRAPH: No. 74 facing west, No. 75 facing northwest, No. 76 facing north, No. 77 facing south, No. 78 facing south, No. 79 facing south

LOCATION WITHIN FACILITY: Approximately 500 feet south of 7th Street and 400 feet west of Brady Road.

WEATHER CONDITIONS: Partly cloudy, 75°F on 9/11/90
Cloudy, 65°F on 11/27/90

PHOTOGRAPHER: Dimitra Syriopoulou (9/11/90)
Julie Hubbs (11/27/90)

27.0 SWMU NUMBER: SEAD-27

27.1 UNIT NAME

Building 360 - Steam Cleaning Waste Tank.

27.2 UNIT CHARACTERISTICS

27.2.1 Unit Type

Open top indoor tank.

27.2.2 Design Features

Open top concrete tank with a grate over the top. The dimensions are 35 feet long by 12 feet wide, and the deepest part is 4 feet. The capacity is 4,500 gallons when filled to near the top or 1,100 gallons to the 2-foot freeboard mark.

27.2.3 Approximate Dates of Usage

1976 to November, 1989.

27.2.4 Operating Practices

Building 360 at the Seneca Army Depot is a building where old equipment was refurbished and reconstructed. Lathes, presses, metal working machines were degreased with steam, high pressure water and detergents in the cleaning area. After steam cleaning the equipment is moved to other portions of Building 360 for rehabilitation.

The existing cleaning area is a 20'-6" wide by 38'-6" long portion of Building 360 separated from the rest of Building 360 by a high bay cinder block wall. Track mounted carts carrying the equipment to be refurbished were rolled into the cleaning area, through a roll-up-door, on a permanently installed rail system. Metal grating was placed adjacent to and in the middle of the rail system. The floor slopes to the metal grating. Please refer to the attached sketch titled "Building 360 Partial Plan". Under the metal grating is a trench system which slopes from a depth of 2'-0" on the west end to a depth of 2'-10" toward the east end. Water and grease flowed through the trench system to an accumulation pit at the east end. The accumulation pit is constructed with openings through both rail foundation walls. The pit depth is 3'-4" under the metal grating. The width of the pit is 10'-6". The pit length is 3'-0". The accumulation pit was emptied into approved waste removal vehicles and disposed of as hazardous waste at an approved storage facility.

Since cleaning operations ceased on January 2, 1990, SEDA has periodically monitored the depth of water in the accumulation pit to determine if water levels in the pit are affected by varying groundwater levels. SEDA has also periodically rinsed the pit and disposed of the rinseate as hazardous waste but has never had the pit tested after rinsing for contamination. A manifest detailing information on the removal and disposal of the final volume of waste is included in the Closure Plan (Exhibit A-27) at the end of this report. An analysis of sludge from the bottom of the pit and water in the pit was completed in 1987 and the results are included in the Closure Plan.

27.2.5 Present Condition and Status

Inactive. Closure plans are presently being reviewed by NYSDEC. After approval of the plan, closure of the tank will be completed. A machine-cleaning facility with hand-sprayed units followed by bulk storage and reuse will replace the present operation. The used solvent will be periodically replaced with fresh solvent and recycled by an off-post contractor. Photographs of the unit, taken on September 12, 1990, are shown on the pages following this text.

27.3 WASTE CHARACTERISTICS.

27.3.1 Specific Wastes Disposed

Wastewater from steam cleaning industrial plant equipment.

27.3.2 Physical and Chemical Characteristics

The wastewater has been tested, and was reported to have high concentrations of lead. According to the closure plan (Exhibit A-27) the wastewater contains oil, water, detergent, grease, dirt, traces of "stoddard" solvent, paint thinner, paint chips, metal fillings and PCBs. The quantities and dates of removal are indicated in Exhibit A-27.

A copy of the manifest detailing information on the removal and disposal of the final volume of waste is included in the Closure Plan. An analysis of sludge in the bottom of the pit and water in the pit was completed in 1987. A copy of the laboratory analysis results and fluid level records is included in the Closure Plan.

27.3.3 Migration and Dispersal Characteristics

Dissolved lead can migrate into the ground water.

27.3.4 Toxicological Characteristics

An action level has been established for lead as shown in Appendix E (0.015 mg/L).

27.4 MIGRATION PATHWAYS

If a leak developed in the tank, the soil and groundwater could be affected.

27.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

27.6 EXPOSURE POTENTIAL

Very low, assuming that the tank is intact.

27.7 RECOMMENDATIONS FOR SAMPLING

Closure of the tank is planned under RCRA. The closure plan contains a sampling and analysis plan that will be implemented upon approval of the Closure Plan. Notes of Conference from September 25, 1992 indicate that the RCRA Hazardous Waste Tank Closure Plan is being reviewed by NYSDEC RCRA compliance authorities. SEDA will provide NYSDEC with closure plan sampling and analysis results when generated.

27.8 REFERENCES.

References 3, and 5. A list of references is provided as Appendix L.

27.9 COMMENTS

The information reported in Reference 3 has been updated. The proper classification of this unit will be determined based on closure test results.

27.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern pending implementation of the RCRA Closure Plan. Successful implementation of this plan will serve as the CERCLA Completion Report.

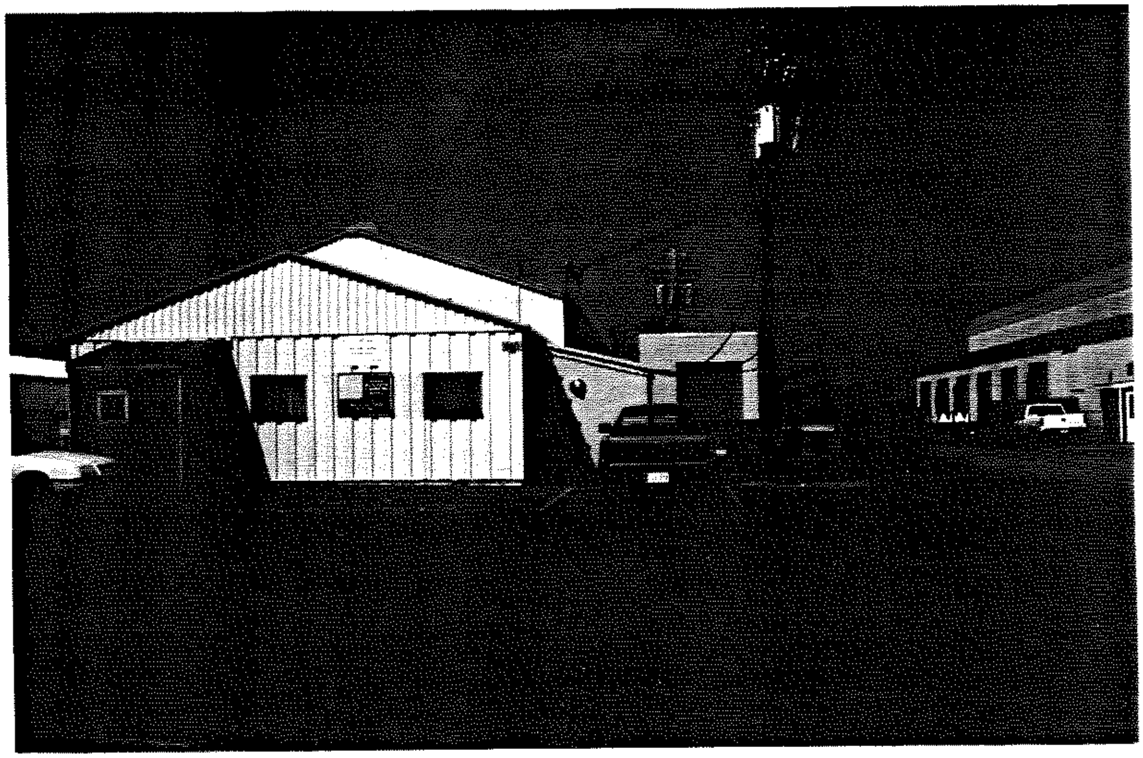


Photo 80: SEAD-27, 9/12/90. View of the Building 360, the location of the Steam Cleaning Waste Tank, facing north.

Photo 81: SEAD-27, 9/12/90. View of the Steam Cleaning Waste Tank - Building 360, facing west.

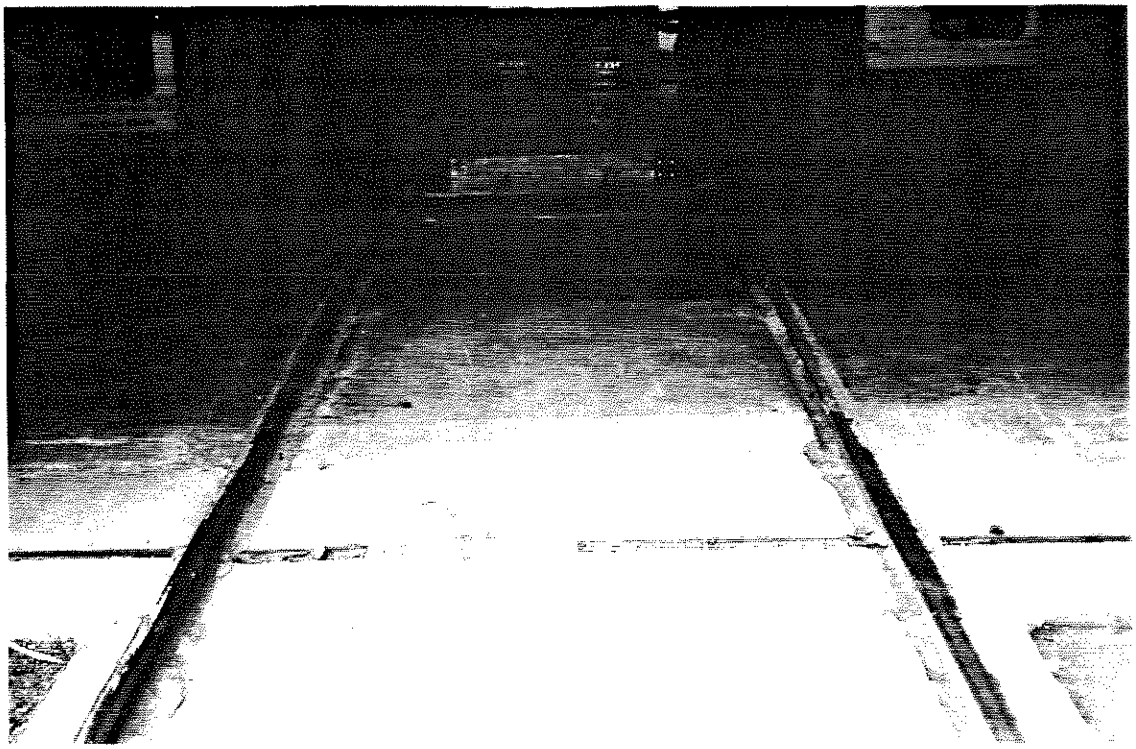


Photo 82: SEAD-27, 9/12/90. Close-up of the Steam Cleaning Waste Tank - Building 360, facing west.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-27 DATE: 9/12/90 TIME: 2:00 p.m.

UNIT NAME: Building 360 - Steam Cleaning Waste Tank

PHOTO NUMBER: 80 through 82

ORIENTATION OF PHOTOGRAPH: No.80 facing north, No. 81 and 82 facing west

LOCATION WITHIN FACILITY: Approximately 250 feet northwest of the west end of 1st Street.

WEATHER CONDITIONS: Sunny, 80°F

PHOTOGRAPHER: Dimitra Syriopoulou

EXHIBIT A-27

Additional Information for
Building 360 Steam Cleaning Waste Tank:
SEAD-27

TABLE OF CONTENTS

SENECA ARMY DEPOT
BUILDING 360 CLOSURE PLAN
STEAM JENNY PIT

I. FACILITY CONDITIONS

A. General Information

The objective of closing the Steam Jenny Pit at Building 360 at the Seneca Army Depot is that the existing hazardous collection pit does not conform to current hazardous waste tank regulations and because it was indeterminant, based on inspections, to ensure that the pit did not leak. The objective is also to identify the extent of possible contaminations and to use this plan as a guide to decontaminate or remove hazardous substances. Systematic sampling, testing and quality control procedures will be implemented to assure proper decontamination and possible abandonment of the system. This objective does not include the remediation of contaminated ground water. If necessary, this will be done in the future as part of remedial work accomplished through either Seneca's Interagency Agreement (IAG) with DEC and EPA, or a post-closure permit to be issued by DEC.

Building 360 at the Seneca Army Depot is a building where old equipment is refurbished and reconstructed. Lathes, presses, metal working machines are degreased with steam, high pressure water and detergents in the cleaning area. Heavy metals, PCB's and greases are possible hazardous substances generated from the equipment. After steam cleaning the equipment is moved to other portions of Building 360 for rehabilitation.

The existing cleaning area is a 20'- 6" wide by 38'- 6" long portion of Building 360 separated from the rest of Building 360 by a high bay cinder block wall. Track mounted carts carrying the equipment to be refurbished, are rolled into the cleaning area, through a roll-up-door, on a permanently installed rail system. Metal grating has been placed adjacent to and in the middle of the rail system. The floor slopes to the metal grating. Please refer to the attached sketch titled "Building 360 Partial Plan".

Under the metal grating is a trench system which slopes from a depth of 2'- 0" on the west end to a depth of 2'- 10" toward the east end. Please refer to the attached sketch titled "Section B". Water and grease flow through the trench system to an accumulation pit at the east end. The accumulation pit is constructed with openings through both rail foundation walls. The pit depth is 3'- 4" under the metal grating. The width of the pit is 10'- 6". The pit length is 3'- 0". Please refer to the attached sketches titled "Section A and Section B". The accumulation pit is emptied into approved waste removal vehicles and disposed of as hazardous waste at an approved storage facility.

Since cleaning operations ceased on January 2, 1990, Seneca has periodically monitored the depth of water in the accumulation pit to determine if water levels in the pit are affected by varying groundwater levels. Seneca has also periodically rinsed the pit and disposed of the rinseate as hazardous waste but has never had the pit tested after rinsing for contamination. A manifest detailing information on the removal and disposal of the final volume of waste is included at the end of this report. An analysis of sludge from the bottom of the pit and water in the pit was completed in 1987. A copy of the laboratory analysis results is included in Appendix 2 of this plan.

B. Equipment

The equipment used in the cleaning process is a track mounted cart. Also, equipment to be cleaned can be hand carried or dollies used for transport into the cleaning area. There is no available inventory of equipment which has been cleaned in Building 360.

C. Schedule of Closure

The cleaning of equipment in Building 360 cleaning area ceased prior to January 2, 1990. According to 6NYCRR Part 373-3.7 (d)(2), all closure activities must be completed within 180 days after approval of the closure plan. Please refer to the schedule of closure activities at the end of this report for closure schedule. Groundwater remediations are not included in the schedule.

II. WASTE REMOVAL

The volume of waste which can accumulate in the tank up to the two-foot freeboard marker is 1200 gallons. If the accumulate pit is filled to floor level, waste volume is approximately 5,000 gallons. In the past, the waste was pumped from the accumulation pit into an approved tank truck and transported to an approved hazardous waste disposal facility. Currently, the cleaning area is not being used.

The wastewater contains oil, water, detergent, grease, dirt, traces of "stoddard" solvent, paint thinner, paint chips, metal fillings and PCB's. The quantities and dates of removal are indicated as follows:

June 16, 1983	5,000 Gal.
June 23, 1983	5,000 Gal.
March 9, 1984	5,000 Gal.
June 22, 1984	5,000 Gal.
August 12, 1985	5,000 Gal.
July 9, 1986	5,000 Gal.
September 30, 1986	4,500 Gal.
January 26, 1988	4,107 Gal.
January 27, 1988	4,107 Gal.
June 17, 1988	3,700 Gal.
October 26, 1988	3,700 Gal.
October 27, 1988	1,420 Gal.
December 21, 1988	4,775 Gal.
January 2, 1990	2,000 Gal.

A copy of the manifest detailing information on the removal and disposal of the final volume of waste is included at the end of this report. An analysis of sludge in the bottom of the pit and water in the pit was completed in 1987. A copy of the laboratory analysis results and fluid level records is included in Appendix 2 of this plan.

III. SAMPLING

Existing metal grating will be removed with wrenches and torches. The grating will be scrubbed with detergent and water and stored for reuse. The rinseate will be wet-vacuumed and disposed of as a hazardous waste.

Samples will be taken at locations shown on the attached sketches. The concrete flooring of the accumulation pit will be saw cut and jackhammered for the thickness of the concrete.

Sampling Scheme: The middle of each of the three trenches are approximately 4 ft. on-center. Three samples will be taken on the centerline of the center trench. The samples will be taken 8 ft. apart. Please see the attached sketch titled "Building 360 Sampling Plan".

The Building 360 Sampling Plan sketch has been divided into a 4 ft. x 8 ft. grid. The 4 ft. (east-west) grid lines have been labeled A, B, C, D, and E. The 8 ft. (north-south) grid lines have been labeled 1, 2, and 3. Samples will be taken at locations C-1, C-2, and C-3.

The concrete will be saw cut and jackhammered at each sample location. Concrete chip samples from the upper layer, middle layer and lower layer will be placed in a "ziploc" bag, labeled and sent to the laboratory for analysis. Undisturbed samples from the soil/gravel strata below the concrete will be taken with an auger and thin wall tube sampler. Using the auger bit, begin drilling and periodically remove accumulated soils to a depth of 12 inches below the bottom of the concrete. Slowly and carefully remove the auger so that soils do not fall back into auger hole. Remove the auger tip from the drill rod and replace with a decontaminated thin wall tube sampler. Install proper cutting tip. Carefully lower sampler down borehole. Gradually force sampler into soil. Care should be taken to avoid scraping borehole sides. Hammering of the drill rods to facilitate coring should be avoided as the vibrations may cause the boring walls to collapse. Remove corer and unscrew drill rods. Remove cutting tip and remove core from device. Discard top of core (approximately 1 inch), which represents any material collected by the corer before penetration of the layer in question. Place remaining core into sample container.

The auger shall then be used to remove soil/gravel to depth two feet below the groundwater surface. The groundwater shall be pumped out to remove possible contaminations from upper soil layers. The groundwater shall be allowed to settle for 24 hours prior to sampling. It is anticipated that groundwater will be encountered within a depth of 4 feet below the accumulation pit. One sample of groundwater will be taken, with a weighted bottle, from each sample location and sent to a laboratory for analysis. Field samples will be screened using a photoionization detector. The sample locations will be backfilled with new crushed gravel and non-shrink grout.

If the testing of the groundwater and soil samples indicate hazardous materials concentrations in excess of the allowable limits stated in the testing section of the closure plan, monitoring wells will be installed. Two fifteen foot deep monitoring wells will be installed. One monitoring well will be placed upgrade of Building 360, and one monitoring well is to be placed downgrade of Building 360.

An existing sump pump adjacent to the cleaning area in Building 360 is used to relieve groundwater levels. This pump will be used as a monitoring location. Groundwater will be sampled and tested once a month for three months.

The remediation plan, in the event of extensive soil or groundwater contamination will be accomplished through the RCRA program should the IAG clean-up not be done in a timely manner as determined by DEC.

In the event the soil surrounding Building 360 is determined to reveal extensive contamination levels in excess of the allowable limits stated in the testing section of the closure plan, additional soil sampling and testing will be required. Additional samples will be taken on the "C" grid line, every sixteen feet from the end of the building for a distance of 48 foot. The time allowed for further sampling is indicated on the Closure Schedule.

In accordance with 6NYCRR Part 373-3.10 (h)(2), if it cannot be demonstrated that all contaminated soils can be practicably removed or decontaminated, then the tank system must be closed as a landfill and 6NYCRR Part 373-3.14 (d) would apply. All the requirements for landfills specified in 6NYCRR Part 373-3.7 and 373-3.8 would have to be met.

IV. TESTING

The following table showing the media, constituent, preparatory method and EPA SW-846 method will be utilized for testing criteria of the Steam Jenny Closure.

Table 1
Steam Jenny Pit Closure
Test Method Scheme

TABLE 1 STEAM JENNY PIT CLOSURE TEST METHOD SCHEME			
MEDIA	CONSTITUENT	PREPARATORY METHOD	EPA SW-846 METHOD
CONCRETE	PCB'S Cd Cr Pb	3510/3520 1311(TCLP) 1311(TCLP) 1311(TCLP)	3540/3550/8080 3050/6010 3050/6010 3050/6010
SOIL	VOLATILES PCB's Cd Cr Pb	------- 3540/3550 3050 3050 3050	8240 3540/3550/8080 3050/6010 3050/6010 3050/6010
WATER	VOLATILES SEMI-VOLATILES PCB's Cd Cr Pb	------- ------- 3510/3520 3010 3010 3020	8240 8270 3510/3520/8080 3010/6010 3010/6010 7421
NOTE: The methods indicated above are referenced from EPA SW-846, "Test Methods for Evaluating Solid Waste".			

The specific criteria that will be used to determine that the containment action levels are acceptable can be found in the following Table 2:

TABLE 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION ACTION LEVELS

CONSTITUENT	GROUNDWATER/ ACTION LEVEL	SOIL/SEDIMENT ACTION LEVEL*
Cadmium	5 μg/L	8 μg/L
Chromium	5 μg/L	5 PPM
Lead	2.5 μg/L	5 PPM
PCB's	0.1 μg/L	1 PPM

* Action levels for the concrete sample will fall into the soil/sediment action level.

V. QUALITY ASSURANCE/QUALITY CONTROL

The purpose of this section is to state the minimum requirements of a quality assurance project plan for field sample collection and laboratory testing. The regulating standards can be found in the "RCRA Quality Assurance Project Plan Guidance" dated March 28, 1991 of the New York State Department of Environmental Conservation Division of Hazardous Substances Regulation.

Appendix 1 of this report describes in detail the requirements for the quality assurance project plan for the Building 360 Closure Plan.

VI. DECONTAMINATION PROCEDURES FOR FINAL CLOSURE

A. General

If all contaminated soils cannot practicably be removed or decontaminated, then the tank system must be closed as a landfill.

If the concrete cores are contaminated above RCRA limits, then the concrete, (except for foundations and footings) will be removed and disposed as a hazardous waste. Background core samples will be taken. New concrete will then be placed in kind. Underpinning and shoring of foundation walls will be required.

If soil and groundwater samples reveal extensive contamination, the site will be investigated/remediated under Seneca's Interagency Agreement with DEC and EPA. Should the IAG clean-up not be done in a timely manner as determined by the Department, a plan to remediate the area will be accomplished through the RCRA program.

B. Decontamination

If contaminant is limited to the surfaces of the concrete, then the following decontamination procedures will apply:

1. All contaminated areas including walls and floors will be scrubbed with industrial detergent and water, then rinsed;

2. Water will be collected with a wet-vacuum;

3. Additional samples of the surface concrete will be taken by core drilling the concrete for a depth of one inch and chipping the concrete loose. Samples will be taken randomly but within one foot of the original samples. Concrete samples will be placed in plastic sealable bags for transport to a laboratory for testing. Concrete core holes will be filled with non-shrink grout; and

4. If testing reveals the need for further decontamination, then muriatic acid will be used for decontamination and resampling will be done as noted in Item 3.

C. Equipment

An inventory of the equipment to be used during decontamination and sampling procedures may include but not be limited to the following:

1. Personnel protective equipment;

2. Augers, thin-wall tube samplers;

3. Weighted bottles;

4. Detergents and solvents (if necessary);

5. Muriatic acid;

6. Brooms, buckets, brushes, scrapers;

7. Hose and nozzles;

8. Wrenches, cutting torches (for removal of grating);

9. Clean plastic sealable bags for placing concrete and soil samples;

10. Labels;

11. Wet-vacuum, HEPA vacuum;

12. Six mil plastic over sandbags sealed with duct tape for contaminant dike at doorway openings;

13. Backhoe (for removal of extensive contamination if necessary);

14. 55 gallon DOT approved drums for disposal of equipment, concrete, and soils;

15. Jackhammer; and

16. Concrete saws.

A list of personnel protective equipment may include but not be limited to the following:

1. "TYVEK" brand coveralls with hoods;

2. Safety goggles;

3. Steel toed shoes;

4. Butyl or viton gloves;

5. Duct tape;

6. Half face or full face respirators with HEPA filters; and

7. Emergency eyewash.

D. <u>Run-on, Run-off Control</u>

Rinseate from decontamination operations will be contained using sand-bag diking and 6-mil plastic sheets connected with duct tape. The plastic will be used to facilitate collection of wastewater. Wastewater will be collected using a "wet-vac" type vacuum. The wastewater, or rinseate, will be vacuumed from the plastic or directly from concrete surfaces. Since the facility is above grade, run-on is not a concern.

VII. HAZARDOUS WASTE DISPOSAL

Wastewater, rinseate, concrete, soil, protective equipment, tools, plastic, etc. will be placed in 55 gallon DOT approved drums. Drums can be placed at Seneca's hazardous waste conforming storage building #307. A sketch is included at the end of this closure plan.

The accumulated hazardous waste will be disposed of by competitive bid. Land disposal rules will apply. Some soils will be treated prior to disposal. The operations at Frontier Chemicals in Niagara Falls, New York is a typical off-site hazardous waste management facility which may be used for disposal, depending on bids.

VIII. ABANDONMENT/CONSTRUCTION

If soil samples reveal extensive contamination, then the Steam Jenny Building will be closed as a landfill. If the concrete is to be removed, then new concrete will be placed to achieve the existing trench functions.

The new steam cleaning operation will utilize a high pressure, high temperature water system. The rinseate water will be recycled and reused. The recycled water will be filtered to remove grease, oils and metals. The recycled water will be re-heated and re-used.

VIX. CERTIFICATION

Certification by an independent New York registered professional engineer can begin once activities listed in this closure plan are complete. The amount of contaminated soil and concrete will then be known for disposal purposes. Samples and tests required by the New York State Department of Environmental Conservation will be taken at that time.

Within 60 days of final completion of closure, a certification of closure documenting the closure activities must be made by a qualified independent engineer registered in New York State. The certification must state that closure was executed in accordance with the approved closure plan.

APPENDIX 1

QUALITY ASSURANCE PROJECT PLAN

FOR

BUILDING 360 CLOSURE PLAN

SENECA ARMY DEPOT
ROMULUS, NEW YORK

PREPARED BY:

CAMPBELL DESIGN GROUP, P.C.
CIVIL, ELECTRICAL, AND MECHANICAL ENGINEERS
301 SOUTH MAIN STREET
HORSEHEADS, NEW YORK 14845

CDG FILE NO. 60-9422

OCTOBER 28, 1992

TABLE OF CONTENTS

28.0 SWMU NUMBER: SEAD-28

28.1 UNIT NAME

Building 360 - Underground Waste Oil Tanks.

28.2 UNIT CHARACTERISTICS

28.2.1 Unit Type

Two underground waste oil storage tanks (Tank IDs: NYS 205 Building 355E) and NYS 206 (Building 355W)). The regulation permit numbers are 355E and 355W, respectively. Design regulations are not applicable for these tanks.

28.2.2 Design Features

28.2.2.1 Capacity of tanks

2,005 gallons (each).

28.2.2.2 Tank Material

Fiberglass.

28.2.2.3 Tank Internal Protection

None.

28.2.2.4 Tank External Protection

None.

28.2.2.5 Piping Type

Galvanized Steel.

28.2.2.6 Depth to Top of Tank

Approximately 4 feet.

28.2.2.7 Containment Devices

None.

28.2.2.8 Overburden Conditions

Crushed rock.

28.2.3 Approximate Dates of Usage

August, 1981 to present.

28.2.4 Operating Practices

Waste oil is stored in the tanks for use as a fuel supplement in the boiler located at Building 718 (see SEAD-32 and SEAD-61). Previously, it was also used as a fuel supplement in the boilers located in Buildings 319 (SEAD-37) and 121 (SEAD-36). The government agency which regulates this unit is NYSDEC's Region 8 Division of Water with input from the Federal Projects Section, Division of Hazardous Waste Remediation, Central office. The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is Wendy Stevenson of NYSDEC's Division of Spills Management.

28.2.5 Present Condition and Status

On July 13, 1993 while attempting to pump out the oil in the 2,005 gallon used oil tank identified as 355W, it was determined that the tank contained water as approximately 300 gallons were removed before pumping operations was stopped.

On July 14th the tank was gauged for water through the pump out pipe and water was present in the pipe.

On July 16th a decisions was made to remove the tank, and it was the removed. Upon removal no oil contamination was found in the excavation which had filled with groundwater. A small crack did exist on the top of the tank but this may have been caused during excavation. It was then determined that the water inside the tank must have been poured into it along with used oil and that the water inside the pump out pipe was trapped in there by a thick oil sludge which had gotten inside the bottom of the pipe.

As the mission of the depot has changed it was determined to not replace this tank.

The remaining 2,005 gallon used oil tank identified as 355E, is still in service and is scheduled for a tightness test by June 30, 1994.

Photographs of the tank locations are shown on the pages following this text.

28.3 WASTE CHARACTERISTICS.

28.3.1 Specific Wastes Disposed

Waste oil. Periodically, the waste oil is sampled during winter months. Typical analytical results for the waste oil are shown in Table A-28. The constituents analyzed were below the used oil specifications reported in 40 CFR 266.40 (e) (Used oil burned for energy recovery).

28.3.2 Migration and Dispersal Characteristics

Leakage of the tanks could result in a release of waste oil to the groundwater table.

28.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater. A release of oil from the underground storage tanks would have a direct impact on the subsurface soil. The release would also likely impact the groundwater due to migration through the soil, however, the amount of oil released, the retention capacity of the soil and the depth of the water table relative to the release point would determine the extent of groundwater impacts.

Soil and groundwater migration pathways are significant because they provide a means by which pertinent exposure scenarious could result from a release of oil. The most likely being direct contact during excavation. Drinking water on SEDA is supplied from an off-site source; groundwater at SEDA is not currently used for drinking water. Impacts to indoor air quality are not believed to be significant as the oil does not contain a large volatile compenent.

28.5 EVIDENCE OF RELEASE

Waste oil had been spilled around the tanks as shown in Photos 85 and 86. However, there was no visual evidence that these areas constituted more than surficial contamination. Since the visual site inspection, SEDA personnel have reported that the surficial soils have been removed and disposed of appropriately. The tanks were tested in July 1988, using the "Tegrity

Tester" (Exhibit A-28). Both tanks passed. The test results for the tanks were +0.029 gph for NYS 205 and +0.01 gph for NYS 206. The tank test are attached.

28.6 EXPOSURE POTENTIAL

Low given that the tank is in good condition.

28.7 RECOMMENDATIONS FOR SAMPLING

None. Tightness testing will be performed by June 30, 1994.

28.8 REFERENCES.

References 3, 5, 6, and 15. A list of references is provided as Appendix L.

28.9 COMMENTS

The information reported in Reference 3 has been updated. SEDA submitted tank tightness results dated July 1988 to NYSDEC. Because of the water found in the tank during the removal process, NYSDEC informed SEDA is writing on May 23, 1994 that they require that SEAD-28 be classified as an area of concern.

28.10 REGULATORY STATUS:

This SWMU is classified as a Low Priority Area of Concern under CERCLA. It will be addressed further either through a CERCLA SI or a removal action.

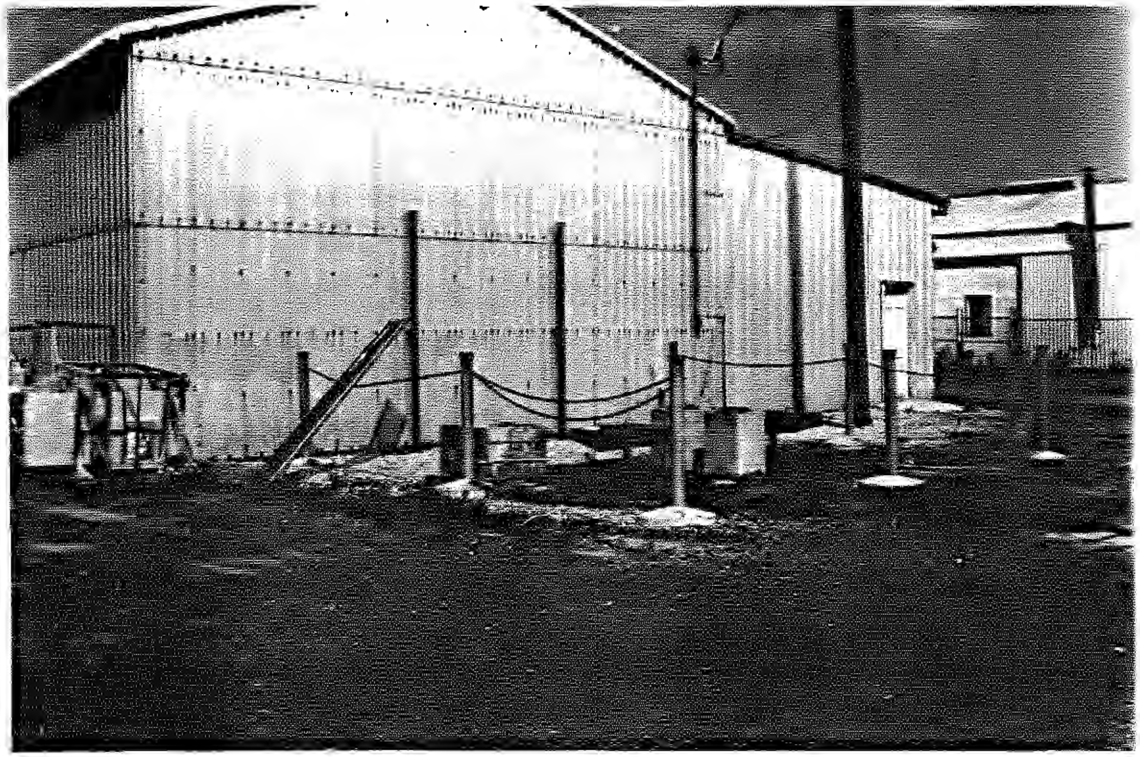


Photo 83: SEAD-28, 9/12/90. View of the location of two Underground Waste Oil Tanks - Building 360, facing east.

Photo 84: SEAD-28, 9/12/90. View of the location of two Underground Waste Oil Tanks - Building 360, facing northeast.

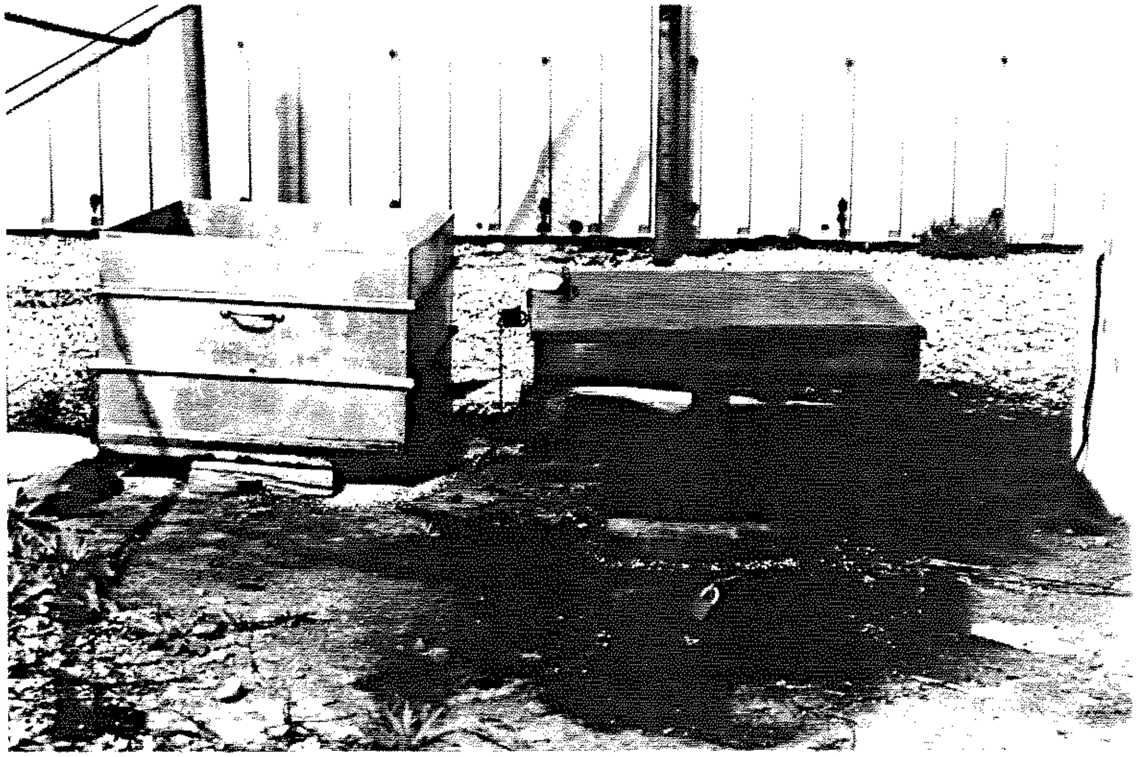


Photo 85: SEAD-28, 9/12/90. Close-up of the location of the left Underground Waste Oil Tank, facing northeast.

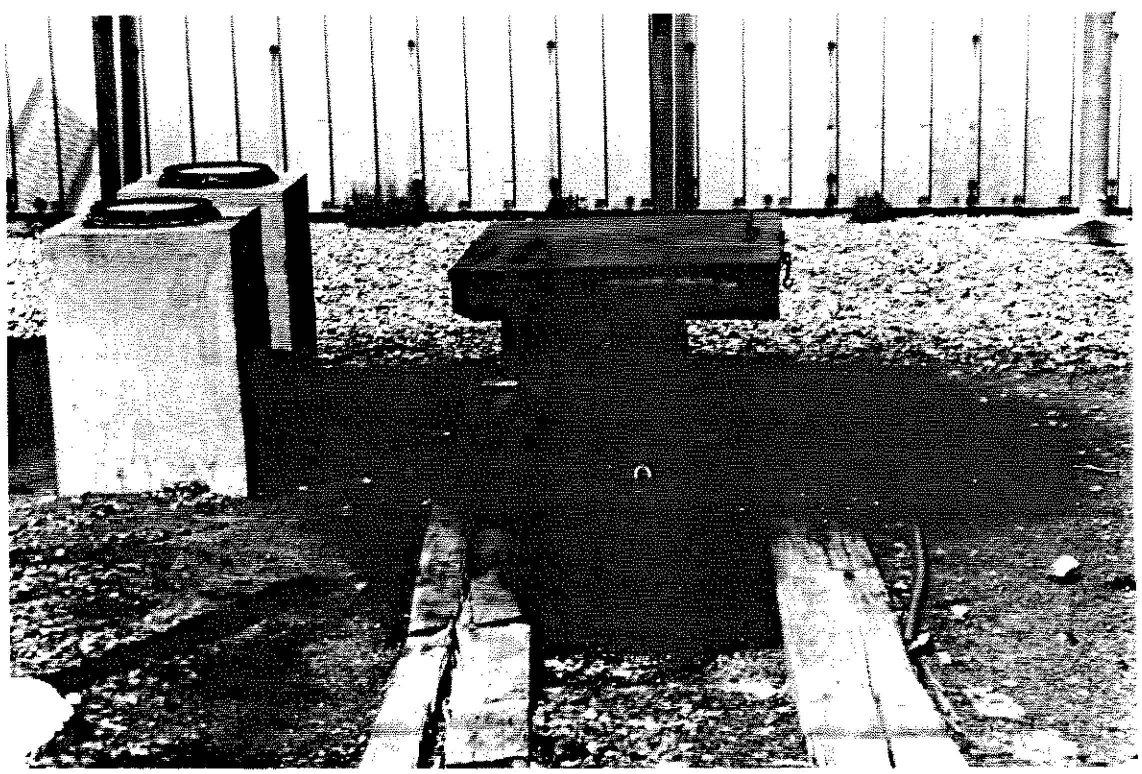


Photo 86: SEAD-28, 9/12/90. Close-up of the right Underground Waste Oil Tank, facing northeast.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-28 DATE: 9/12/90 TIME: 2:10 p.m.

UNIT NAME: Building 360 - Underground Waste Oil Tanks (2 units)

PHOTO NUMBER: 83 through 86

ORIENTATION OF PHOTOGRAPH: No.83 facing east, No. 84 through 86 facing northeast.

LOCATION WITHIN FACILITY: Approximately 250 feet northwest of the west end of 1st Street.

WEATHER CONDITIONS: Sunny, 85°F

PHOTOGRAPHER: Dimitra Syriopoulou

Exhibit A-28

Additional Information for
Building 360 UST: SEAD-28
(Tank Tightness Test Results)

SOILTEST®

AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

1 TANK OPERATOR

NAME / ADDRESS: SENECA ARMY DEPOT, Rt 96, ROMULUS NY
PHONE: 607-869-1450

2 TANKS TO BE TESTED

Bldg 355 E+W

IDENTIFICATION	CAPACITY—GALS.	MANUFACTURER	STEEL/FIBRGLS.	AGE—YRS.
WASTE OIL	2130	OWNS CORN	FIBER GLASS	
"	"	"	"	

3 WATER TABLE

DISTANCE FROM GRADE TO WATER 83 1/2 INS.

4 TANK FILL-UP

TANK WILL BE FILLED 11 PM (TIME) ON 7/27/87
EXTRA 5 GALS PRODUCT AVAILABLE FROM
FILL UP TO BE ARRANGED BY MR. Tom Enroth PHONE (607) 869-1450
CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )

5 OUTSIDE CONTRACTORS

NAME ADDRESS PHONE

6 OFFICIALS TO BE CONTACTED

NAME AUTHORITY PHONE

7 SPECIAL NOTES OR PRECAUTIONS

THESE SYSTEM SHOWED THIS TIGHTNESS AT TIME OF TEST ONLY

8 TEST RESULTS

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

TANK IDENT Reg # 205 and 206	TANK IS TIGHT	TANK IS NOT TIGHT	LEAK RATE G. P. H.	TEST DATE
WASTE OIL 2130	X		+.029	7/29/87
" " "	X		+.01	7/29/87

9 CERTIFICATION

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED William J. Dost CERTIFICATE NO. 1034
ISSUE DATE 4/2/87
FOR (TEST COMPANY) The Petroleum Works
ADDRESS P.O. Box 6645
ITHACA, NY STATE 14851 ZIP

ST-6 (REV. 2/87)

AINLAY TANK TIGHTNESS TEST No. ______

WASTE OIL

TANK I.D.
INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)
TANK DIAMETER ~~5?~~ 65 1/2 INS   FILL PIPE LENGTH ~~5?~~ 58 INS

WATER IN TANK
(a) START WATER IN TANK 0 INS   (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS   (d) END WATER IN TANK 0 GALS

2 PRODUCT VOLUME
(a) NOMINAL CAPACITY 2130 GALS   (c) DEDUCT WATER IN TANK 0 GALS
(b) ACTUAL CAPACITY 2130 GALS   (d) TOTAL PRODUCT VOL. 2130 GALS
(FROM TANK CHART)

3 FILL PIPE EXTENSION
(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 50 (h) INS
(b) DENSITY OF TANK PRODUCT = 031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{50 \times 0.036}{031}$ = 58.06 INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

4 PRELIM TEST DATA
(a) START TEMP CHECK 9:05 AM/PM   (d) A.P.I. GRAVITY 32.5 AT 88 °F
(b) END TEMP CHECK 10:36 AM/PM   (e) A.P.I. GRAVITY 30.5 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 8 HRS   (f) COEFF. OF EXPANSION 00044595

5 TEST DATA
(a) START TEST 9:35 AM/PM: END TEST 10:36 AM/PM: TEST TIME 61 MINS.

TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.	TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 61.2692 − 61.3654 = +/− 096 °F.
(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.
= 2130 (12d) × 096 (15b) × 00044595 (14f) = +/− 091 GALS.
(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST .... +/− .12 GALS.
(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] .... = +.12 + −091 = +/− .029 GALS.
(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{+029 \times 60}{61 \ (15a)}$ = +029 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB Seneca Army Depot
ADDRESS Romulus, NY
DATE 7/29/87
TESTER William Dantos
TEST COMPANY The Petroleum Works Ithaca, NY

```
TIME 29:09:05
CH1    20.5392 DEG
CH2    28.2448 DEG F
CH3    27.1278 DEG F
AVG    27.7668 DEG F

   E 29:09:10
CH1    66.2954 DEG F
CH2    60.8662 DEG F
CH3    54.1592 DEG F
AVG    60.5407 DEG F

TIME 29:09:15
CH1    67.2443 DEG F
CH2    61.7369 DEG F
CH3    54.7190 DEG F
AVG    61.3592 DEG F

TIME 29:09:20
CH1    67.2866 DEG F
CH2    61.7702 DEG F
CH3    54.7168 DEG F
AVG    61.3879 DEG F

TIME 29:09:25
CH1    67.2685 DEG F
CH2    61.7551 DEG F
CH3    54.7025 DEG F
AVG    61.3722 DEG F

TIME 29:09:30
CH1    67.2330 DEG F
CH2    61.7583 DEG F
       54.6975 DEG F
       61.3650 DEG F
```

BLDG # 355

START TEST

```
TIME 29:09:35
CH1    67.2520 DEG F
CH2    61.7397 DEG F
CH3    54.7205 DEG F
AVG    61.3654 DEG F

TIME 29:09:40
CH1    67.2840 DEG F
CH2    61.7040 DEG F
CH3    54.7393 DEG F
AVG    61.3582 DEG F

TIME 29:09:45
CH1    67.3006 DEG F
CH2    61.6821 DEG F
CH3    54.7395 DEG F
AVG    61.3514 DEG F

  ME 29:09:50
       67.3063 DEG F
 H2    61.6500 DEG F
 H3    54.7403 DEG F
 VG    61.3381 DEG F

IME 29:09:55
H1     67.3014 DEG F
H2     61.6045 DEG F
H3     54.7671 DEG F
VG     61.3204 DEG F

IME 29:10:00
H1     67.2917 DEG F
H2     61.5857 DEG F
H3     54.7912 DEG F
VG     61.3148 DEG F

IME 29:10:05
H1     67.2839 DEG F
H2     61.5764 DEG F
H3     54.7963 DEG F
VG     61.3098 DEG F

IME 29:10:10
H1     67.2852 DEG F
H2     61.5505 DEG F
H3     54.7824 DEG F
VG     61.2941 DEG F

IME 29:10:15
H1     67.2877 DEG F
H2     61.5136 DEG F
H3     54.7701 DEG F
VG     61.2740 DEG F

IME 29:10:20
H1     67.2828 DEG F
H2     61.4696 DEG F
H3     54.7796 DEG F
VG     61.2532 DEG F

IME 29:10:25
H1     67.2840 DEG F
H2     61.4657 DEG F
H3     54.7978 DEG F
VG     61.2551 DEG F

IME 29:10:30
H1     67.2862 DEG F
H2     61.4851 DEG F
H3     54.8216 DEG F
VG     61.2714 DEG F

IME 29:10:35
H1     67.2845 DEG F
H2     61.4793 DEG F
H3     54.8373 DEG F
VG     61.2721 DEG F

IME 29:10:36
H1     67.2816 DEG F
H2     61.4750 DEG F
H3     54.8391 DEG F
VG     61.2692 DEG F*
```

END TEST

IME 29:08:40
H1 53.5339 DEG F
H2 43.6069 DEG F
H3 42.8126 DEG F
VG 45.7633 DEG F

IME 29:08:45
H1 63.8291 DEG F
H2 58.8746 DEG F
H3 52.9460 DEG F
VG 58.6237 DEG F

IME 29:08:50
H1 64.0980 DEG F
H2 59.2778 DEG F
H3 53.1999 DEG F
VG 58.9652 DEG F

IME 29:08:55
H1 64.1452 DEG F
H2 59.2952 DEG F
H3 53.2132 DEG F
VG 58.9877 DEG F

IME 29:09:00
H1 64.1654 DEG F
H2 59.2946 DEG F
H3 53.2041 DEG F
VG 58.9913 DEG F

BLDG # 355

START TEST

IME 29:09:05
H1 64.1606 DEG F
H2 59.2914 DEG F
H3 53.1946 DEG F
VG 58.9850 DEG F

IME 29:09:10
H1 64.1805 DEG F
H2 59.2950 DEG F
H3 53.1967 DEG F
VG 58.9924 DEG F

IME 29:09:15
H1 64.1744 DEG F
H2 59.2940 DEG F
H3 53.1964 DEG F
VG 58.9923 DEG F

IME 29:09:20
H1 64.1624 DEG F
H2 59.3013 DEG F
H3 53.1982 DEG F
VG 58.9921 DEG F

IME 29:09:25
H1 64.1687 DEG F
H2 59.3016 DEG F
H3 53.2026 DEG F
VG 58.9948 DEG F

IME 29:09:30
H1 64.1610 DEG F
H2 59.2935 DEG F
H3 53.1958 DEG F
VG 58.9836 DEG F

IME 29:09:35
H1 64.1426 DEG F
H2 59.2908 DEG F
H3 53.1892 DEG F
VG 58.9793 DEG F

IME 29:09:40
H1 64.1412 DEG F
H2 59.2968 DEG F
H3 53.1982 DEG F
VG 58.9867 DEG F

IME 29:09:45
H1 64.1338 DEG F
H2 59.2933 DEG F
H3 53.1926 DEG F
VG 58.9800 DEG F

IME 29:09:50
H1 64.1360 DEG F
H2 59.2953 DEG F
H3 53.1965 DEG F
VG 58.9828 DEG F

IME 29:09:55
H1 64.1351 DEG F
H2 59.2981 DEG F
H3 53.1964 DEG F
VG 58.9833 DEG F

IME 29:10:00
H1 64.1348 DEG F
H2 59.2959 DEG F
H3 53.1939 DEG F
VG 58.9817 DEG F

IME 29:10:05
H1 64.1338 DEG F
H2 59.2983 DEG F
H3 53.1966 DEG F
VG 58.9819 DEG F

IME 29:10:08
H1 64.1351 DEG F
H2 59.2978 DEG F
H3 53.1962 DEG F
VG 58.9848 DEG F*

AINLAY TANK TIGHTNESS TEST No. ________

16 TANK I.D.

WASTE OIL

INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 65 INS FILL PIPE LENGTH 60 INS

17 WATER IN TANK

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

18 PRODUCT VOLUME

(a) NOMINAL CAPACITY 2130 GALS (c) DEDUCT WATER IN TANK 0 GALS
(b) ACTUAL CAPACITY 2130 GALS (d) TOTAL PRODUCT VOL 2130 GALS
(FROM TANK CHART)

19 FILL PIPE EXTENSION

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 50 (h) INS
(b) DENSITY OF TANK PRODUCT = 031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)} = \frac{50 \times 0.036}{036} = 58.06$

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

20 PRELIM TEST DATA

(a) START TEMP CHECK 8:40 AM/PM (d) A.P.I. GRAVITY 31.8 AT 84 °F
(b) END TEMP CHECK 10:08 AM/PM (e) A.P.I. GRAVITY 30.1 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 8 HRS (f) COEFF. OF EXPANSION 00044451

21 TEST DATA

(a) START TEST 9:05 AM/PM: END TEST 10:08 AM/PM: TEST TIME 63 MINS.

+011

TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.	TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 58.9848 − 58.9850 = ±.0002
(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.
= 2130 (18d) × .0002 (21b) × 00044451 (20f) = ±.0001 GAL
(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST .... ± .011 GAL
(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] .... = +.011 + −.0001 = ±.011 GAL
(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}} = \frac{+.011 \times 60}{63 \text{ (21a)}} = +.01$ G.P.H.

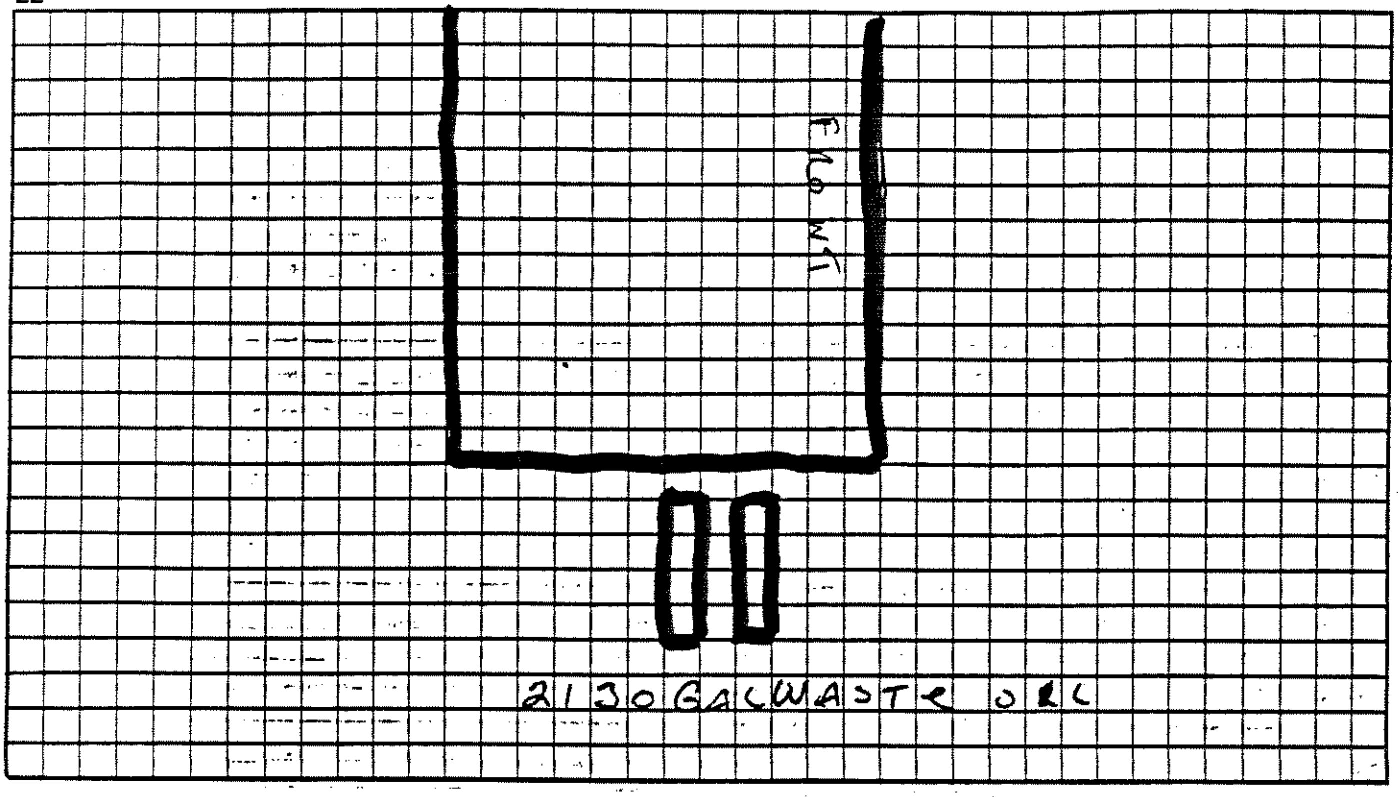
THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

TESTER William Dantos
TEST COMPANY The Petroleum Works Ithaca, NY
JOB Seneca Army Depot DATE 7/29/87
ADDRESS Romulus, NY

TEST SITE LAYOUT

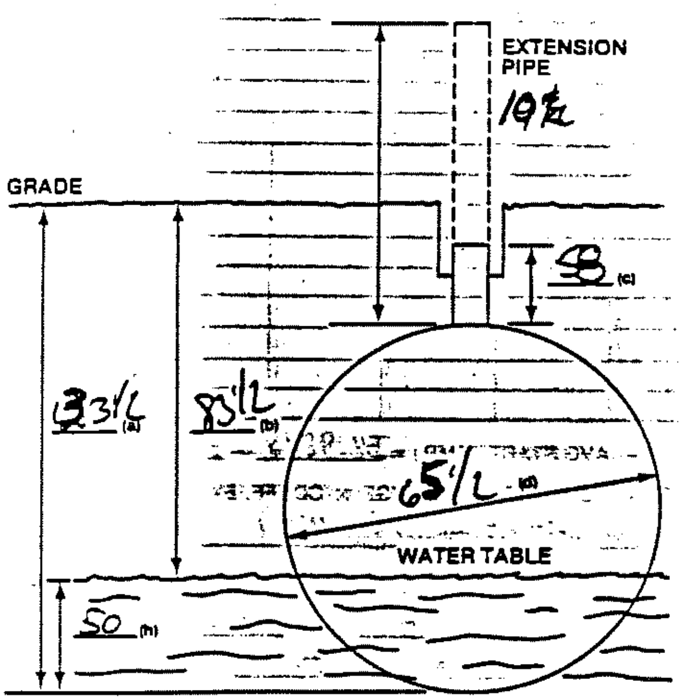
22



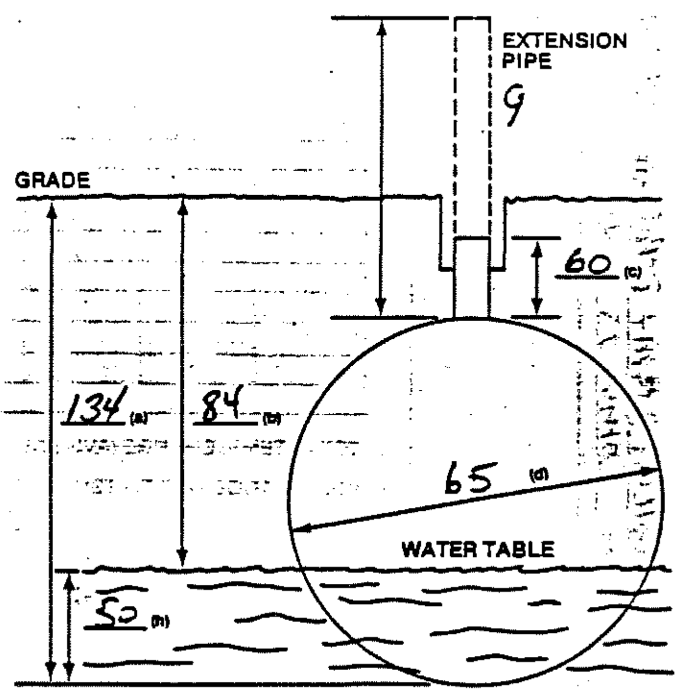
TEST COMPANY The Petroleum Works

23

TEST 1: TANK DIMENSIONS



TEST 2: TANK DIMENSIONS



ADDRESS

TANK IDENT. BLDG# 2130 GAL	TANK IDENT. BLDG# 2130 GAL

TABLE A-28

WASTE OIL SAMPLING RESULTS
FEBRUARY 5, 1988

TABLE A-28

Parameter	Units	Results		Used Oil Specification*
		355E	355W	
Chlorine	%	0.09	0.06	-
Arsenic	mg/kg	<0.04	<0.04	5
Cadmium	mg/kg	1.39	1.39	2
Chromium	mg/kg	<0.40	<0.40	10
Lead	mg/kg	31.9	52.2	100
Flashpoint	F°	>150	>150	100 (minimum)
PCB 1221	mg/kg	<1	<1	-
PCB 1232	mg/kg	<1	<1	-
PCB 1016	mg/kg	<1	<1	-
PCB 1242	mg/kg	<1	<1	-
PCB 1248	mg/kg	<1	<1	-
PCB 1254	mg/kg	<1	<1	-
PCB 1260	mg/kg	<1	<1	-
PCB 1262	mg/kg	<1	<1	-
PCB 1268	mg/kg	<1	<1	-
TOTAL PCB's	mg/kg	<1	<1	-

* Used oil exceeding these specification levels is subject to regulation under 40 CFR 266 Subpart E.

29.0 SWMU NUMBER: SEAD-29

29.1 UNIT NAME

Building 732 - Underground Waste Oil Tank.

29.2 UNIT CHARACTERISTICS

29.2.1 Unit Type

Underground waste oil storage tank (Tank ID: NYS 207). The regulatory permit number is 732. Design regulations for this tank are not applicable.

29.2.2 Design Features

29.2.2.1 Capacity of Tank

550 gallons.

29.2.2.2 Tank Material

Fiberglass.

29.2.2.3 Tank Internal Protection

Unknown.

29.2.2.4 Tank External Protection

Unknown.

29.2.2.5 Piping Type

Galvanized Steel.

29.2.2.6 Depth to Top of Tank

Approximately 4 feet.

29.2.2.7 Containment Devices

None.

29.2.2.8 Overburden Conditions

Soil and grass cover.

29.2.3 Approximate Dates of Usage

1981 to present.

29.2.4 Operating Practices

Waste oil is stored in the tank for latter use as a fuel supplement in the boiler located at Building 718 (SEAD-32 and SEAD-61). Previously, it was also used as a fuel supplement in the boilers located in Buildings 319 (SEAD-37) and 121 (SEAD-36). The government agency which regulates this unit is NYSDEC's Region 8 Division of Water with input from the Federal Projects Section, Division of Hazardous Waste Remediation, Central office. The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is Wendy Stevenson of NYSDEC's Region 8 Division of Spills Management.

29.2.5 Present Condition and Status

On July 13, 1993 the 500 gallon used oil tank which serviced this building was pumped out leaving approximately 1 inch of used oil. This building was taken out of service and mothballed prior to this pump out so tank is no longer used. However tank will be tank tightness tested according to EPA regulations. As tank was last tested in September 1992 it is not due a tank tightness test until September 1997.

The photographs following this text, taken on September 13, 1990, show the location of the tank.

29.3 WASTE CHARACTERISTICS.

29.3.1 Specific Wastes Disposed

Waste oil from the auto shop.

29.3.2 Migration and Dispersal Characteristics

Leakage of the tank could result in a release of a waste oil to the groundwater.

29.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater. A release of oil from the underground storage tank would have a direct impact on the subsurface soil. The release would also likely impact the groundwater due to migration through the soil, however, the amount of oil released, the retention capacity of the soil and the depth of the water table relative to the release point would determine the extent of groundwater impacts.

Soil and groundwater migration pathways are significant because they provide a means by which pertinent exposure scenarios could result from a release of oil. The most likely being direct contact during excavation. Drinking water on SEDA is supplied from an off-site source; groundwater at SEDA is not currently used for drinking water. Impacts to indoor air quality are not believed to be significant as the oil does not contain a large volatile component.

29.5 EVIDENCE OF RELEASE

Waste oil had been spilled around the tank as shown in Photo 88. However, there was no visual evidence that the spill area constituted more than surficial contamination. Since the visual site inspection, SEDA personnel have reported that the surficial soils have been removed and disposed of appropriately. The tank was tested for tightness usint the "Tegrity Tester" method on September 23, 1992 (Exhibit A-29). The results indicate that the tank tested tight with a leak rate of +.012 gallons per hour. A copy of the tank test is attached.

29.6 EXPOSURE POTENTIAL

Low given that tank is in good condition.

29.7 RECOMMENDATIONS FOR SAMPLING

None. Tightness testing will be performed in September 1997.

29.8 REFERENCES.

References 3, 5, 6, and 15. A list of references is provided as Appendix L.

29.9 COMMENTS

The information reported in Reference 3 has been updated. Based on Notes of Conference SEDA submitted tank tightness results dated September 1992 to NYSDEC.

29.10 REGULATORY STATUS:

This SWMU is classified as a No Action SWMU under CERCLA.

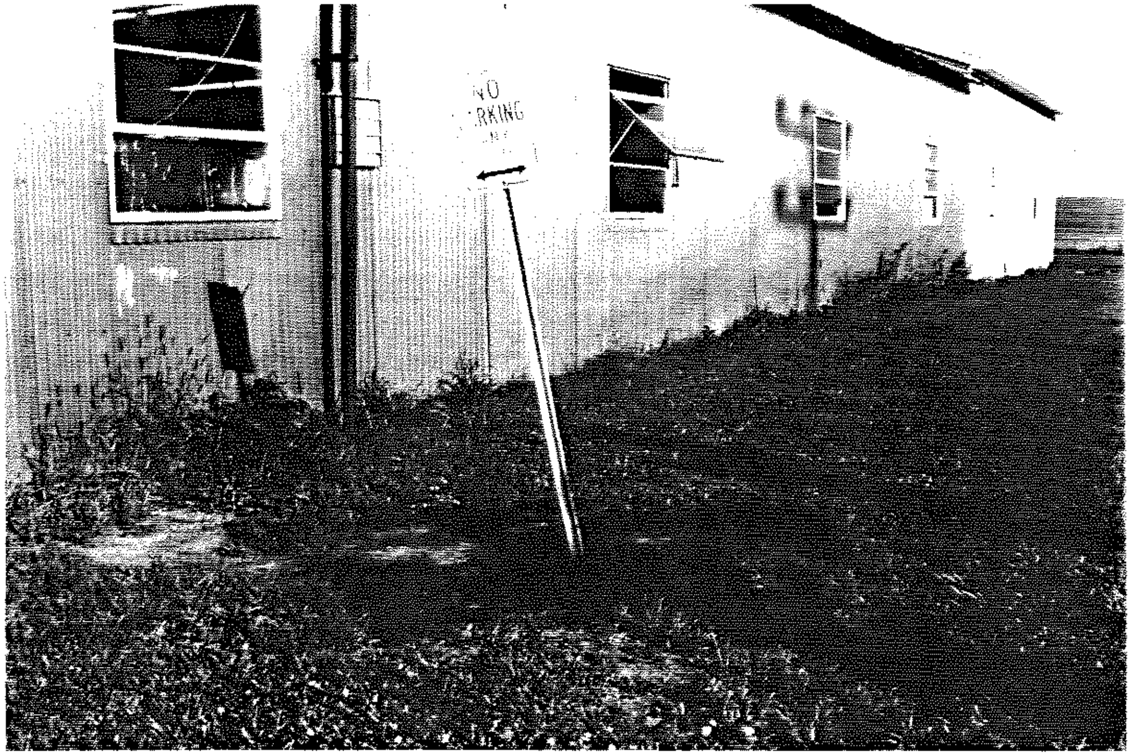


Photo 87: SEAD-29, 9/13/90. View of the location of the Underground Waste Oil Tank - Building 732, facing northwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-29 DATE: 9/13/90 TIME: 8:45 a.m.

UNIT NAME: Building 732 - Underground Waste Oil Tank

PHOTO NUMBER: 87

ORIENTATION OF PHOTOGRAPH: Facing northwest

LOCATION WITHIN FACILITY: On Access Road, approximately 1000 feet west of Maintenance Road.

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

Exhibit A-29

Additional Information for
Building 732 UST: SEAD-29
(Tank Tightness Test Results)

SOILTEST®

AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

1 TANK OPERATOR

NAME / ADDRESS / PHONE

SENECA ARMY DEPOT 607-869-1532
RT 96 ROMULUS N.Y. 14541
TOM GRASEK

2 TANKS TO BE TESTED

IDENTIFICATION	CAPACITY—GALS.	MANUFACTURER	~~STEEL~~/FIBRGLS.	AGE—YRS.
BLDG # 732	550	UNKNOWN	FIBRGLS	UNKNOWN

WATER TABLE

DISTANCE FROM GRADE TO WATER 60+ INS.

4 TANK FILL-UP

TANK WILL BE FILLED 1200 (TIME) ON 9/22/92
EXTRA 5 GALS PRODUCT AVAILABLE FROM OWNER
FILL UP TO BE ARRANGED BY MR. TOM GRASEK PHONE ( ) SAME
CONTACT AT STORAGE TERMINAL IS MR. UNKNOWN PHONE ( )

5 OUTSIDE CONTRACTORS

NAME / ADDRESS / PHONE

NONE

6 OFFICIALS TO BE CONTACTED

NAME / AUTHORITY / PHONE

NONE

7 SPECIAL NOTES OR PRECAUTIONS

WASTE OIL TANK TESTED WITH #2 FUEL OIL

8 TEST RESULTS

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

TANK IDENT	TANK IS TIGHT	TANK IS NOT TIGHT	LEAK RATE G. P. H.	TEST DATE
TANK #1 BLDG # 732	X		+.012	9/23/92

9 CERTIFICATION

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

SIGNED [signature] CERTIFICATE NO. 2139-A
ISSUE DATE 12/20/90

FOR (TEST COMPANY) ENVIRONMENTAL PRODUCTS & SERVICES
ADDRESS 532 STATE FAIR BLVD
SYRACUSE N.Y. 13209
STATE ZIP

ST 6 (RE

AINLAY TANK TIGHTNESS TEST No. ________

10 TANK I.D.	INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.) TANK DIAMETER ________ INS FILL PIPE LENGTH ________ IN
11 WATER IN TANK	(a) START WATER IN TANK ________ INS (c) END WATER IN TANK ________ INS (b) START WATER IN TANK ________ GALS (d) END WATER IN TANK ________ GAL
12 PRODUCT VOLUME	(a) NOMINAL CAPACITY ________ GALS (c) DEDUCT WATER IN TANK ________ GA (b) ACTUAL CAPACITY ________ GALS (d) TOTAL PRODUCT VOL. ________ GA (FROM TANK CHART) (e) PIPING ________ GA (f) TOTAL ________ GA
13 FILL PIPE EXTENSION	(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = ________ (h) INS (b) DENSITY OF TANK PRODUCT = ________ (w) LB/CU. IN. (FROM TABLES) DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN. (c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{\times 0.036}{}$ = ________ NOTE: TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I.
14 PRELIM TEST DATA	(a) A.P.I. GRAVITY ________ AT ________ °F (b) A.P.I. GRAVITY ________ AT 60°F (c) COEFF. OF EXPANSION ________
15 TEST DATA	(a) START TEST ________ AM/PM: END TEST ________ AM/PM: TEST TIME ________ MINS. (b) TEMPERATURE CHANGE DURING TEST = (SLOPE OF "BEST FIT" LINE) × (TEST TIME) = ________ × ________ = +/- ________ °F. (c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP. = ________ (12f) × ________ (15b) × ________ (14c) = +/- ________ G (d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST.................. = +/- ________ G (e) VOL. CHANGE NOT DUE TO TEMP [(c) - (d)]......... = ________ - ________ = +/- ________ G (f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{\times 60}{(15a)}$ = ________ G.P.H. THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIO FIRE PROTECTION ASSOC. BULLETIN N.F.P.A. 329. THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☐
16 NOTES	

TEST COMPANY ________

ADDRESS ________

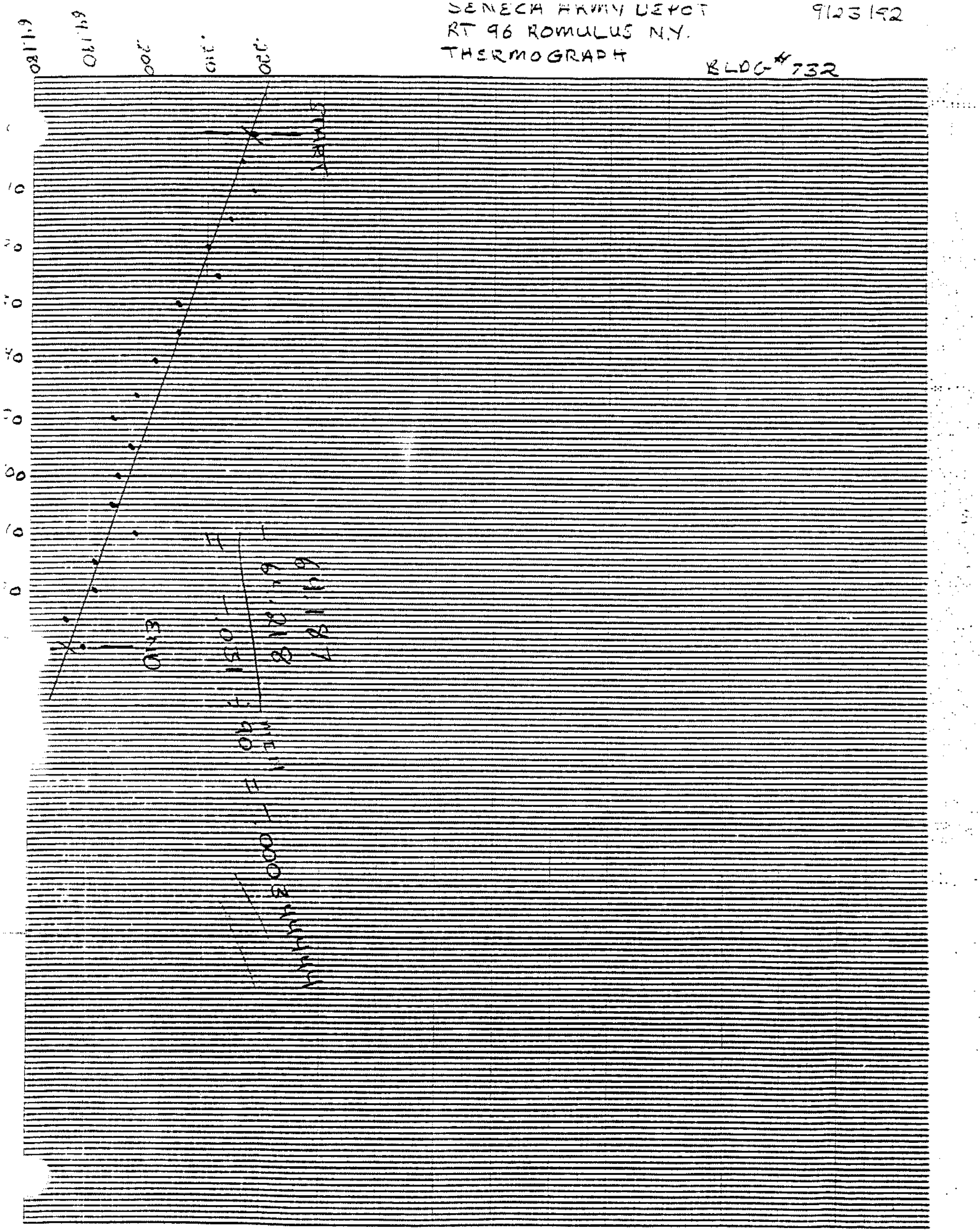
AINLAY TANK TIGHTNESS TEST No. ______

COMPANY E.P.S.

ADDRESS RT 96 Romulus N.Y.

10 TANK I.D.	INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.) TANK DIAMETER 42" INS FILL PIPE LENGTH 46 INS
11 WATER IN TANK	(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS (b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS
12 PRODUCT VOLUME	(a) NOMINAL CAPACITY 550 GALS (c) DEDUCT WATER IN TANK - 0 GALS (b) ACTUAL CAPACITY 550 GALS (d) TOTAL PRODUCT VOL 550 GALS (FROM TANK CHART) (e) PIPING 5 GALS (f) TOTAL 555 GALS
13 FILL PIPE EXTENSION	(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS (b) DENSITY OF TANK PRODUCT = .031 (w) LB/CU. IN. (FROM TABLES) DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN. (c) ADDITIONAL HEAD REQUIRED = (h) x 0.036 / (w) = x 0.036 = 0 INS NOTE: TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I.
14 PRELIM TEST DATA	(a) A.P.I. GRAVITY 33.5 AT 64.0 °F (b) A.P.I. GRAVITY 33.2 AT 60°F (c) COEFF. OF EXPANSION .00045569
15 TEST DATA	(a) START TEST 0900 AM/PM: END TEST 10:30 AM/PM: TEST TIME 90 MINS. (b) TEMPERATURE CHANGE DURING TEST = (SLOPE OF "BEST FIT" LINE) × (TEST TIME) -.000344444 × 90 = -0.031 °F. (c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP. = 555 (12f) × -.031 (15b) × .00045569 (14c) = -0.008 GALS. (d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST.................. -.026 GALS. (e) VOL. CHANGE NOT DUE TO TEMP [(c) - (d)]......... = -.008 - +.026 -.018 GALS. (f) LEAK RATE = (e) × 60 / TIME OF TEST (MINS) = +.018 × 60 / 90 (15a) = +.012 G.P.H. THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329. THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐
16 NOTES	none

SENECA ARMY DEPOT 9/23/92
RT 96 ROMULUS N.Y.
THERMOGRAPH BLDG #732



30.0 SWMU NUMBER: SEAD-30

30.1 UNIT NAME

Building 118 - Underground Waste Oil Tank (removed).

30.2 UNIT CHARACTERISTICS

30.2.1 Unit Type

Underground waste oil storage tank (Tank ID: NYS 208). The regulatory permit number is 118. Design regulations for this tank are not applicable.

30.2.2 Design Features

30.2.2.1 Capacity of Tank

550 gallons.

30.2.2.2 Tank Material

Bare steel.

30.2.2.3 Tank Internal Protection

Unknown.

30.2.2.4 Tank External Protection

Unknown.

30.2.2.5 Piping Type

Unknown.

30.2.2.6 Depth to Top of Tank

One foot four inches.

30.2.2.7 Containment Devices

None.

30.2.2.8 Overburden Conditions

Soil and grass cover.

30.2.3 Approximate Dates of Usage

1941 to 1992.

30.2.4 Operating Practices

Waste oil was stored in the tank for latter use as a fuel supplement in the boiler located at Building 718 (SEAD-32 and SEAD-61). Previously, it was also used as a fuel supplement in the boilers located in Buildings 319 (SEAD-37) and 121 (SEAD-36). The government agency which regulates this unit is NYSDEC's Region 8 Division of Water within from the Federal Projects Section, Division of Hazardous Waste Remediation, Central office. The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is Wendy Stevenson of NYSDEC's Region 8 Division of Spills Management.

30.2.5 Present Condition and Status

Removed from ground.

30.3 WASTE CHARACTERISTICS

30.3.1 Specific Wastes Disposed

Waste oil from auto maintenance. Periodically, the waste oil was sampled during winter months. Typical analytical results for the waste oil are shown in Table A-30. The constituents analyzed were below the used oil specifications reported in 40 CFR 266.40 (e) (Used oil burned for energy recovery).

30.3.2 Migration and Dispersal Characteristics

Leakage from the tank could result in a release of waste oil to the groundwater. Migration pathways are soil and groundwater.

30.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater. A release of oil from the underground storage tank would have a direct impact on the subsurface soil. The release would also likely impact the groundwater due to migration through the soil, however, the amount of oil released, the retention capacity of the soil and the depth of the water table relative to the release point would determine the extent of groundwater impacts.

Soil and groundwater migration pathways are significant because they provide a means by which pertinent exposure scenarios could result from a release of oil. The most likely being direct contact during excavation. Drinking water on SEDA is supplied from an off-site source; groundwater at SEDA is not currently used for drinking water. Impacts to indoor air quality are not believed to be significant as the oil does not contain a large volatile component.

30.5 EVIDENCE OF RELEASE

According to SEDA personnal, no evidence of a release was observed when the waste oil tank was removed in 1992. Photographs of the tank pit are included in Exhibit A-30. The tank removal was overseen by a NYSDEC representative who did not require any confirmatory soil sampling when the excavation was open.

30.6 EXPOSURE POTENTIAL

Low.

30.7 RECOMMENDATIONS FOR SAMPLING

None.

30.8 REFERENCES.

References 3, 5, 6, and 15. A list of references is provided in Appendix L.

30.9 COMMENTS

The information reported in Reference 3 has been updated.

30.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

Photo 88: SEAD-30, 9/13/90. View of the location of the Underground Waste Oil Tank - Building 118, facing north.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-30 DATE: 9/13/90 TIME: 10:00 a.m.

UNIT NAME: Building 118 - Underground Waste Oil Tank

PHOTO NUMBER: 88

ORIENTATION OF PHOTOGRAPH: Facing north

LOCATION WITHIN FACILITY: In the northwest quadrant of the intersection of South Street and 2nd Avenue.

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

Exhibit A-30

Additional Information for
SEAD-30, Building 118 Waste Oil Tank

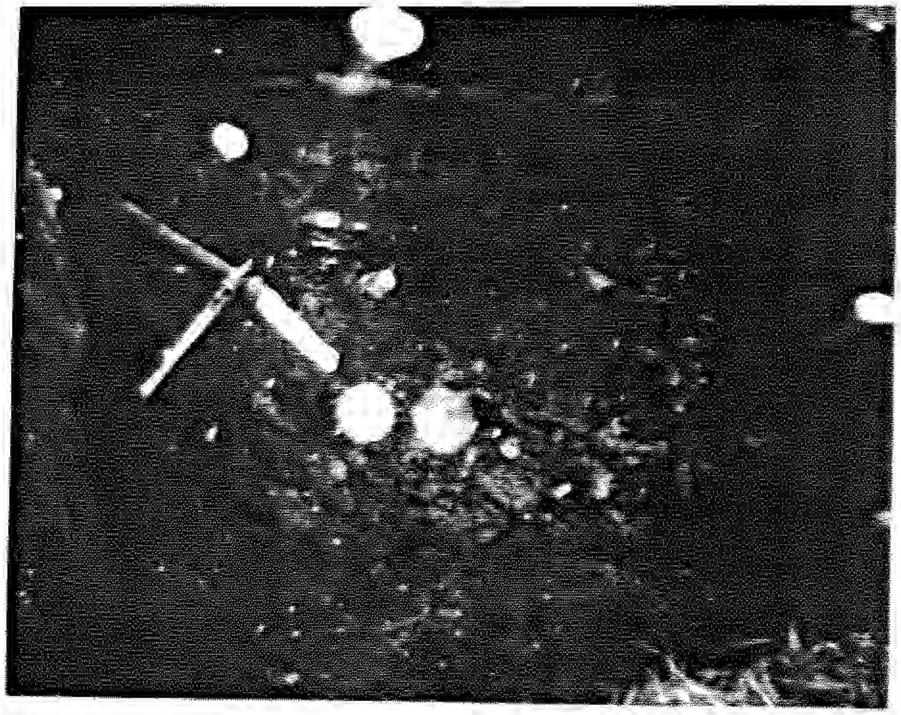


Photo A: Waste Oil Tank Excavation Pit at Building 118, SEAD-30.

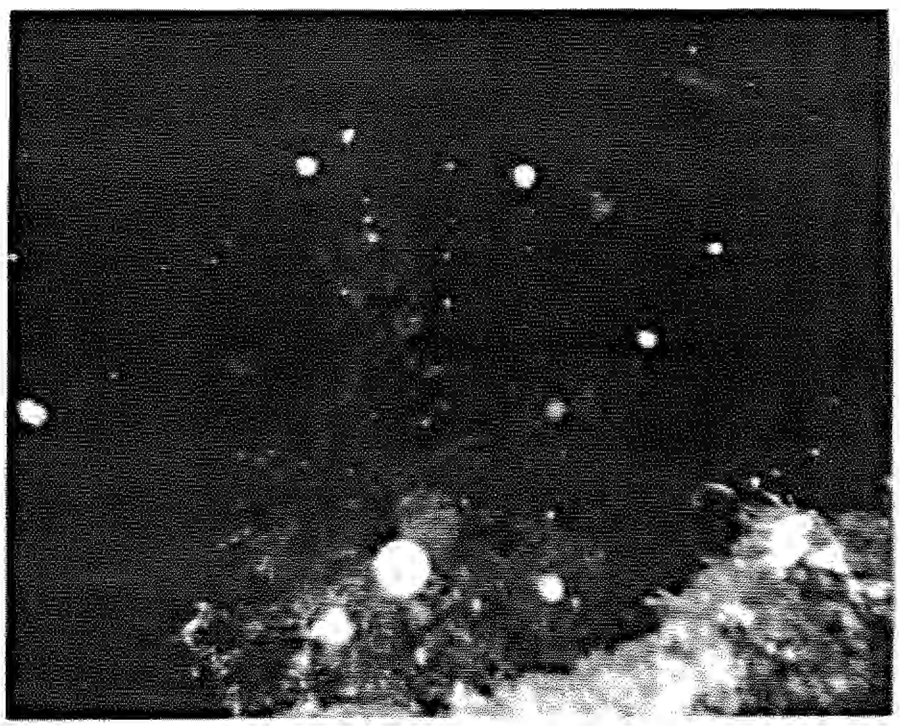


Photo B: Waste Oil Tank Excavation Pit at Building 118, SEAD-30.

TABLE A-30

WASTE OIL SAMPLING RESULTS
FEBRUARY 5, 1988

TABLE A-30

Parameter	Units	Results	Used Oil Specification*
Chlorine	%	0.08	-
Arsenic	mg/kg	<0.04	5
Cadmium	mg/kg	<0.40	2
Chromium	mg/kg	0.58	10
Lead	mg/kg	16.6	100
Flashpoint	F°	>150	100 (minimum)
PCB 1221	mg/kg	<1	-
PCB 1232	mg/kg	<1	-
PCB 1016	mg/kg	<1	-
PCB 1242	mg/kg	<1	-
PCB 1248	mg/kg	<1	-
PCB 1254	mg/kg	<1	-
PCB 1260	mg/kg	<1	-
PCB 1262	mg/kg	<1	-
PCB 1268	mg/kg	<1	-
TOTAL PCB's	mg/kg	<1	-

* Used oil exceeding these specification levels is subject to regulation under 40 CFR 266 Subpart E.

31.0 SWMU NUMBER: SEAD-31

31.1 UNIT NAME

Building 117 - Underground Waste Oil Tank.

31.2 UNIT CHARACTERISTICS.

31.2.1 Unit Type

Underground waste oil storage tank (Tank ID: NYS 204). The regulatory permit number is 117. Design regulations for this tank are not applicable.

31.2.2 Design Features

31.2.2.1 Capacity of Tank

2,005 gallons.

31.2.2.2 Tank Material

Fiberglass.

31.2.2.3 Tank Internal Protection

None.

31.2.2.4 Tank External Protection

None.

31.2.2.5 Piping Type

Galvanized Steel.

31.2.2.6 Depth to Top of Tank

Approximately 4 feet.

31.2.2.7 Containment Devices

None.

31.2.2.8 Overburden Conditions

Ground over tank area, building on one side, grass on one side, asphalt pavement on two sides.

31.2.3 Approximate Dates of Usage

October, 1982 to present.

31.2.4 Operating Practices

Waste oil is stored in the tank for latter use as a fuel supplement in the boiler located at Building 718 (SEAD-35). Previously, it was also used as a fuel supplement in the boilers located in Buildings 319 (SEAD-37) and 121 (SEAD-36). The government agency that regulates this unit is NYSDEC Region 8 Division of Water with input from the Federal Projects Section, Division of Hazardous Waste Remediation, Central Office. The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Manager). The associate contact is Wendy Stevenson of NYSDEC's Division of Spills Management.

31.2.5 Present Condition and Status

The 2,005 gallon used oil tank is still active and is scheduled to be tank tightness tested by June 30, 1994.

31.3 WASTE CHARACTERISTICS.

31.3.1 Specific Wastes Disposed

Waste oil. Periodically, the waste oil is sampled during the winter months. Typical analytical results for the waste oil are shown in Table A-31. The constituents analyzed were below the used oil specifications reported in 40 CFR 266.40 (e) (Used oil burned for energy recovery). The analytical results are shown in Table A-31.

31.3.2 Migration and Dispersal Characteristics

Leakage from the tank could result in a release of waste oil to the groundwater.

31.4 MIGRATION PATHWAYS

Soil and groundwater are migration pathways. A release of oil from the underground storage tank would have a direct impact on the subsurface soil. The release would also likely impact the groundwater due to migration through the soil, however, the amount of oil released, the retention capacity of the soil and the depth of the water table relative to the release point would determine the extent of groundwater impacts.

Soil and groundwater migration pathways are significant because they provide a means by which pertinent exposure scenarios could result from a release of oil. The most likely being direct contact during excavation. Drinking water on SEDA is supplied from an off-site source; groundwater at SEDA is not currently used for drinking water. Impacts to indoor air quality are not believed to be significant as the oil does not contain a large volatile component.

31.5 EVIDENCE OF RELEASE

No evidence of a release was observed. The tank was tested in October, 1988, using the "Tegrity Tester" (Exhibit A-31). The tank passed (with a leak rate of +0.023 gallons per hour).

31.6 EXPOSURE POTENTIAL

Low, given that the tank is in good condition.

31.7 RECOMMENDATIONS FOR SAMPLING

None. Tightness testing will be performed by June 30, 1994.

31.8 REFERENCES.

References 3, 5, 6, and 15. A list of references is provided as Appendix L.

31.9 COMMENTS

The information reported in Reference 3 has been updated. Based on Notes of Conference SEDA submitted tank tightness results dated October 1988 to NYSDEC. NYSDEC received the results (which indicated that another tightness test should be completed to verify their integrity.

31.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

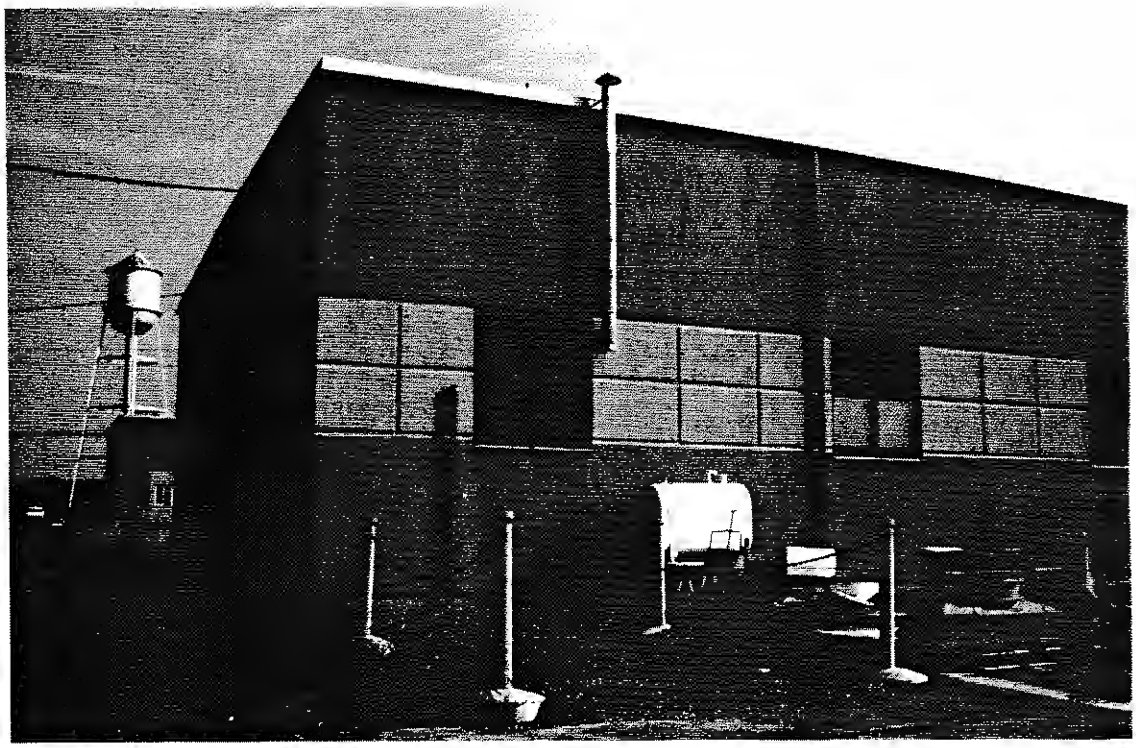


Photo 89: SEAD-31, 9/12/90. View of the location of the Underground Waste Oil Tank - Building 117, facing northeast.

Photo 90: SEAD-31, 9/12/90. Close-up of the location of Underground Waste Oil Tank - Building 117, facing northeast

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-31 DATE: 9/12/90 TIME: 9:40 a.m.

UNIT NAME: Building 117 - Underground Waste Oil Tank

PHOTO NUMBER: 89 and 90

ORIENTATION OF PHOTOGRAPH: Facing northeast.

LOCATION WITHIN FACILITY: In the southwest quadrant of the intersection of Center Street and 2nd Avenue.

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

EXHIBIT A-31

Additional Information for
Building 117 UST: SEAD-31
(Tank Tightness Test Results)

SOILTEST®

AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

1 TANK OPERATOR	NAME ADDRESS PHONE Seneca Army Depot 607-869-1450 RT 96 Romulus, NY

2 TANKS TO BE TESTED

Bldg 117

IDENTIFICATION	CAPACITY—GALS.	MANUFACTURER	STEEL/FIBRGLS.	AGE—YRS.
WASTE OIL	2130	OWNS-CORNING	FIBER GLASS	8

3 WATER TABLE

DISTANCE FROM GRADE TO WATER 106 3/4 INS.

4 TANK FILL-UP

TANK WILL BE FILLED 10 A (TIME) ON 10/7/88

EXTRA 5 GALS PRODUCT AVAILABLE FROM TRUCK

FILL UP TO BE ARRANGED BY MR. Tom Enroth PHONE (607) 869-1450

CONTACT AT STORAGE TERMINAL IS MR. PHONE ( )

5 OUTSIDE CONTRACTORS

NAME ADDRESS PHONE

6 OFFICIALS TO BE CONTACTED

NAME AUTHORITY PHONE

7 SPECIAL NOTES OR PRECAUTIONS

THIS SYSTEM SHOWED THIS TIGHTNESS AT TIME OF TEST ONLY.

8 TEST RESULTS

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN N.F.P.A. 329.

TANK IDENT Reg# 204	TANK IS TIGHT	TANK IS NOT TIGHT	LEAK RATE G. P. H.	TEST DATE
WASTE OIL 2130	X		+.023	10/8/88

9 CERTIFICATION

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

CERTIFICATE NO. 1034

SIGNED Will J. Bart ISSUE DATE 4/2/88

FOR (TEST COMPANY) The Petroleum Works

ADDRESS P.O. Box 6695

Ithaca, NY 14851

STATE ZIP

ST 8 (REV. 2/8

AINLAY TANK TIGHTNESS TEST No.

BLDG #117 WASTE OIL

JOB Seneca Army Depot
ADDRESS Romulus, NY
DATE 10/8/94

ANK I.D.

INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 63 1/2 INS FILL PIPE LENGTH 45 1/4 INS

VATER IN ANK

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

RODUCT OLUME

(a) NOMINAL CAPACITY 2130 GALS (c) DEDUCT WATER IN TANK 0 GALS
(b) ACTUAL CAPACITY 2135 GALS (d) TOTAL PRODUCT VOL. 2135 GALS
(FROM TANK CHART)

LL PE (TENSION

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 2 (h) INS
(b) DENSITY OF TANK PRODUCT = 031 (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)} = \frac{2 \times 0.036}{031} = 2.32$ INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

RELIM EST DATA

(a) START TEMP CHECK 6:34 AM/PM (d) A.P.I. GRAVITY 29.6 AT 44 °F
(b) END TEMP CHECK 8:13 AM/PM (e) A.P.I. GRAVITY 30.7 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 8 HRS (f) COEFF. OF EXPANSION .00044666

TEST DATA

2
+.04
+.16

(a) START TEST 7:10 AM/PM: END TEST 8:13 AM/PM: TEST TIME 63 MINS.

TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.	TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 62.1049 − 62.2486 = +/− .143 °F.

(c) VOL. CHANGE DUE TO TEMP. = PRODUCT VOL. x TEMP. CHANGE x COEFF. EXP.
= 2135 (12d) x −.143 (15b) x .00044666 (14f) = +/− .136 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST .... = +/− .160 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] .... = +.160 + −.136 = +/− .024 GALS.

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}} = \frac{+.024 \times 60}{63\ (15a)} = +.023$ G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

TESTER William Bartos
TEST COMPANY The Petroleum Works, Ithaca, NY

```
TIME  8:07:25
CH1   59.8462 DEG F
CH2   61.9144 DEG F
CH3   65.2388 DEG F
AVG   62.2452 DEG F

TIME  8:07:30
CH1   59.6356 DEG F
CH2   61.9312 DEG F
CH3   65.2565 DEG F
AVG   62.1900 DEG F

TIME  8:07:35
CH1   59.6299 DEG F
CH2   61.9137 DEG F
CH3   65.2676 DEG F
AVG   62.1836 DEG F

TIME  8:07:40
CH1   59.7537 DEG F
CH2   61.9019 DEG F
CH3   65.2757 DEG F
AVG   62.2112 DEG F

TIME  8:07:45
CH1   59.7530 DEG F
CH2   61.8916 DEG F
CH3   65.2855 DEG F
AVG   62.2068 DEG F

TIME  8:07:50
CH1   59.7844 DEG F
CH2   61.8759 DEG F
CH3   65.2916 DEG F
AVG   62.2082 DEG F

TIME  8:07:55
CH1   59.7755 DEG F
CH2   61.8575 DEG F
CH3   65.2922 DEG F
AVG   62.1969 DEG F

TIME  8:08:00
CH1   59.6460 DEG F
CH2   61.8550 DEG F
CH3   65.2997 DEG F
AVG   62.1655 DEG F

TIME  8:08:05
CH1   59.5628 DEG F
CH2   61.8554 DEG F
CH3   65.2989 DEG F
AVG   62.1454 DEG F

TIME  8:08:10
CH1   59.4035 DEG F
CH2   61.8573 DEG F
CH3   65.2995 DEG F
AVG   62.1050 DEG F

TIME  8:08:13
CH1   59.4021 DEG F
CH2   61.8590 DEG F
CH3   65.2997 DEG F
AVG   62.1049 DEG F*
```

End Test

```
TIME  8:06:38
CH1   11.3814 DEG F
CH2   18.9985 DEG F
CH3   10.3661 DEG F
AVG   14.4875 DEG F*

TIME  8:06:40
CH1   43.2069 DEG F
CH2   46.7767 DEG F
CH3   46.0193 DEG F
AVG   45.5448 DEG F

TIME  8:06:45
CH1   59.0364 DEG F
CH2   60.8824 DEG F
CH3   63.5437 DEG F
AVG   61.0819 DEG F

TIME  8:06:50
CH1   59.9245 DEG F
CH2   61.7368 DEG F
CH3   64.6103 DEG F
AVG   62.0023 DEG F

TIME  8:06:55
CH1   59.9089 DEG F
CH2   61.9001 DEG F
CH3   64.8880 DEG F
AVG   62.1500 DEG F

TIME  8:07:00
CH1   59.9618 DEG F
CH2   61.9590 DEG F
CH3   65.0353 DEG F
AVG   62.2318 DEG F

TIME  8:07:05
CH1   60.0010 DEG F
CH2   61.9737 DEG F
CH3   65.1125 DEG F
AVG   62.2664 DEG F
```

BLDG # 117

WASTE OK

2130

START TEST

```
TIME  8:07:10
CH1   59.8739 DEG F
CH2   61.9768 DEG F
CH3   65.1617 DEG F
AVG   62.2480 DEG F

TIME  8:07:15
CH1   60.0936 DEG F
CH2   61.9711 DEG F
CH3   65.1950 DEG F
AVG   62.3089 DEG F

TIME  8:07:20
CH1   59.9086 DEG F
CH2   61.9584 DEG F
CH3   65.2181 DEG F
AVG   62.2631 DEG F
```

AINLAY TANK TIGHTNESS TEST No. ______

JOB ______ ADDRESS ______ DATE __/__/__ TESTER ______ TEST COMPANY ______

16 TANK I.D.

INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER ______ INS FILL PIPE LENGTH ______ INS

17 WATER IN TANK

(a) START WATER IN TANK ______ INS (c) END WATER IN TANK ______ INS
(b) START WATER IN TANK ______ GALS (d) END WATER IN TANK ______ GALS

18 PRODUCT VOLUME

(a) NOMINAL CAPACITY ______ GALS (c) DEDUCT WATER IN TANK ______ GALS
(b) ACTUAL CAPACITY ______ GALS (d) TOTAL PRODUCT VOL ______ GALS
(FROM TANK CHART)

19 FILL PIPE EXTENSION

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = ______ (h) INS
(b) DENSITY OF TANK PRODUCT = ______ (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED $= \dfrac{(h) \times 0.036}{(w)} = \dfrac{\_\_\_ \times 0.036}{\_\_\_} =$ ______ IN

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

20 PRELIM TEST DATA

(a) START TEMP CHECK ______ AM/PM (d) A.P.I. GRAVITY ______ AT ______ °F
(b) END TEMP CHECK ______ AM/PM (e) A.P.I. GRAVITY ______ AT 60 °F
(c) TIME SINCE LAST LIQ. ADDED ______ HRS (f) COEFF. OF EXPANSION ______

21 TEST DATA

(a) START TEST ______ AM/PM: END TEST ______ AM/PM: TEST TIME ______ MINS.

TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.	TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = ______ − ______ = +/− ______ °F

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= ______ (18d) × ______ (21b) × ______ (20f) = +/− ______ GALS

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST .... = +/− ______ GALS

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] .... = ______ + ______ = +/− ______ GALS

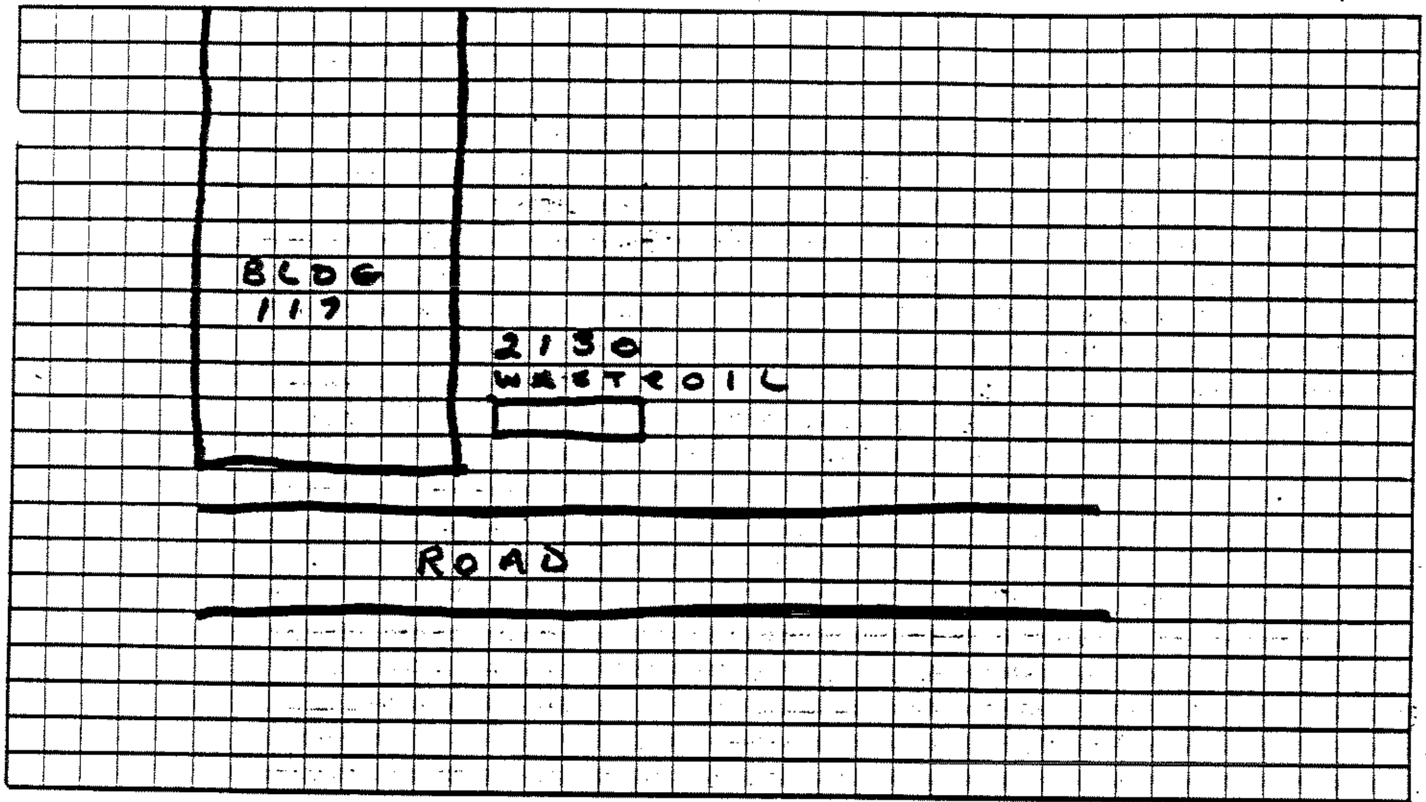
(f) LEAK RATE $= \dfrac{(e) \times 60}{\text{TIME OF TEST (MINS)}} = \dfrac{\_\_\_ \times 60}{(21a)} =$ ______ G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☐ / THE TANK IS NOT TIGHT ☐

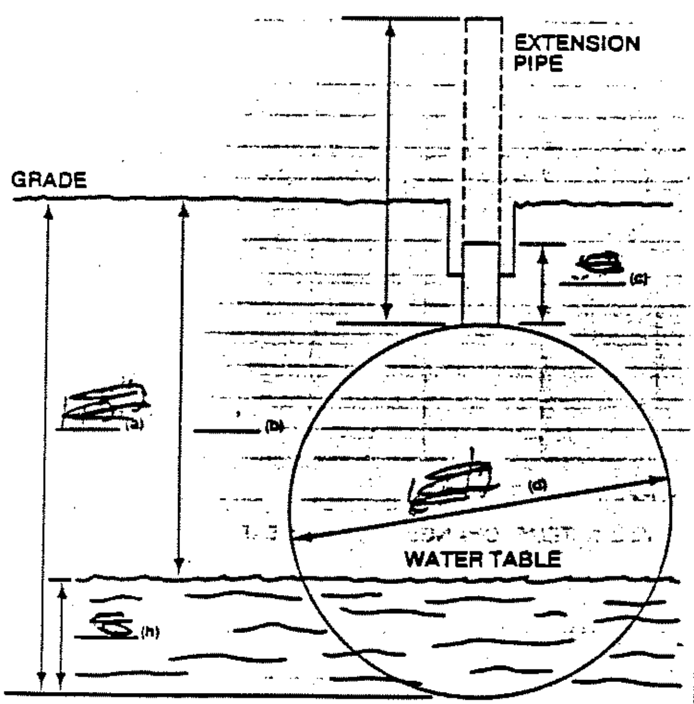
TEST SITE LAYOUT

22



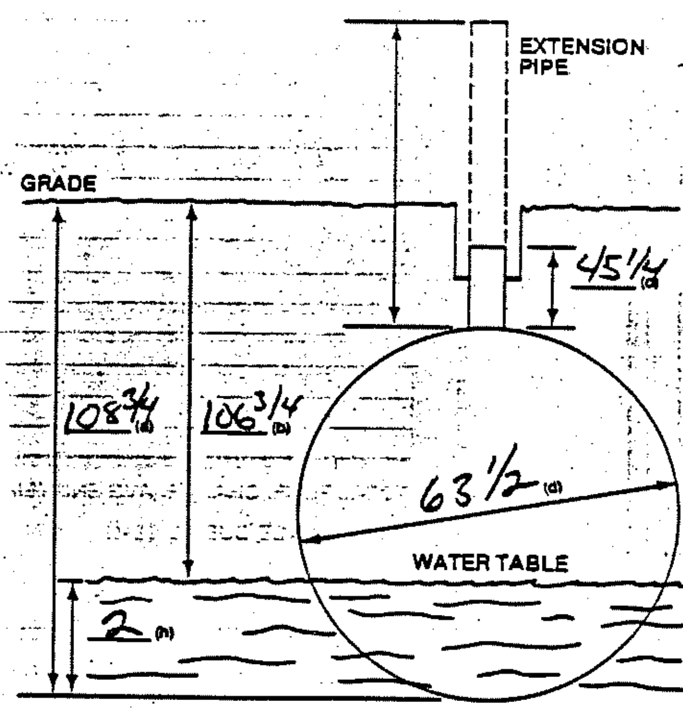
23

TEST 1: TANK DIMENSIONS



TANK IDENT.

TEST 2: TANK DIMENSIONS



TANK IDENT. BLDG# 117 WASTE OIL

TABLE A-31

WASTE OIL SAMPLING RESULTS
FEBRUARY 5, 1988

TABLE A-31

Parameter	Units	Results	Used Oil Specification*
Chlorine	%	0.09	-
Arsenic	mg/kg	<0.04	5
Cadmium	mg/kg	0.59	2
Chromium	mg/kg	1.38	10
Lead	mg/kg	19.9	100
Flashpoint	F°	>150	100 (minimum)
PCB 1221	mg/kg	<1	-
PCB 1232	mg/kg	<1	-
PCB 1016	mg/kg	<1	-
PCB 1242	mg/kg	<1	-
PCB 1248	mg/kg	<1	-
PCB 1254	mg/kg	<1	-
PCB 1260	mg/kg	<1	-
PCB 1262	mg/kg	<1	-
PCB 1268	mg/kg	<1	-
TOTAL PCB's	mg/kg	<1	-

* Used oil exceeding these specification levels is subject to regulation under 40 CFR 266 Subpart E.

32.0 SWMU NUMBER: SEAD-32

32.1 UNIT NAME

Building 718 - Underground Waste Oil Tanks.

32.2 UNIT CHARACTERISTICS

32.2.1 Unit Type

Underground waste oil storage tanks (2 units). The regulator permit number is not available at this time. Design regulations for these tanks are not applicable.

32.2.2 Design Features

Tank A has a maximum storage capacity of 40,000 gallons. Tank B has a maximum storage capacity of 20,000 gallons. Both tanks are of steel construction.

32.2.3 Approximate Dates of Usage

Tanks A and B were in use since 1956. Small quantities of waste oil were stored in the tanks from 1982 to 1989. Less than 5 percent by volume waste oil was mixed with No. 6 fuel oil.

32.2.4 Operating Practices

From 1956 to present, the primary use of Tanks A and B has been for the storage of fuel (primarily No. 6 fuel). Prior to 1981, SEDA disposed of waste oil through various practices (such as burning in open fires during fire training practices). With RCRA, this practice changed and SEDA tried, whenever possible, to reclaim waste oil for its energy value as a fuel supplement. In 1981, SEDA started to introduce small quantities of the waste oil (200 to 400 gallon batches) into the fuel tanks when a bulk (7000 gallon) delivery of No. 6 virgin fuel was scheduled. The fuel was pumped off after the waste oil was put in the fuel tank to achieve mixing. In 1989, this practice was discontinued when a new 10,000 gallon dual walled fiberglass waste oil tank with an interstitial space monitoring system was constructed at Boiler Building 718 (SEAD-61). The waste oil from the new Building 718 tank can now be burned directly by a single boiler in Building 718 that was previously modified for that purpose. The government agency that regulates this unit is NYSDEC's Region 8 Division of Water with input from the Federal Projects Section, Division of Hazardous Waste Remediation, Conrol Office. The primary NYSDEC Region 8 contact is Frank Ricotta (Regional Engineer). The associate contact is Wendy Stevenson of NYSDEC's Region 8 Division of Spills Management.

32.2.5 Present Condition and Status

Inactive. Photographs of the tank locations are shown on the pages following this text.

32.3 WASTE CHARACTERISTICS

32.3.1 Specific Wastes Disposed

No. 6 fuel with small quantities of waste oil (less than 5 percent by volume). The constituents of the waste oil are the same as presented in exhibit A-28.

32.3.2 Migration and Dispersal Characteristics

Leakage from the tanks could result in a release of oil floating to the groundwater table.

32.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater. A release of oil from the underground storage tank would have a direct impact on the subsurface soil. The release would also likely impact the groundwater due to migration through the soil, however, the amount of oil released, the retention capacity of the soil and the depth of the water table relative to the release point would determine the extent of groundwater impacts.

Soil and groundwater migration pathways are significant because they provide a means by which pertinent exposure scenarios could result from a release of oil. The most likely being direct contact during excavation. Drinking water on SEDA is supplied from an off-site source; groundwater at SEDA is not currently used for drinking water. Impacts to indoor air quality are not believed to be significant as the oil does not contain a large volatile component.

32.5 EVIDENCE OF RELEASE

A limited sampling program was performed in 1994 to obtain evidence of a release. In order to avoid puncturing any existing tanks or lines, Ground Penetrating Radar (GPR) was performed to determine the boundaries of the underground storage tanks. One boring was advanced at the estimated downgradient location midway between the two tanks and one boring was advanced at the estimated upgradient location midway between the two tanks (see Figure SEAD-32). The downgradient location was determined in the field, based upon site topography. All borings were advanced to auger refusal. The borings were continuously sampled using hollow stem augers and split spoon soil samplers. Each split spoon sample was screened in the field with an Organic Vapor Meter (OVM), equipped with a Photoionization Detector (PID). Every split spoon sample was evaluated for the presence of Volatile Organic Compounds, oil and the depth to water. A soil sample from the split spoon sample at the same boring location that produced the highest OVM field screening result was retained for analysis. An additional soil sample from another split spoon which contained the most visually stained soil was also retained for chemical analysis. If no elevated OVM or oil was present in any of the collected split spoon samples, the sample collected at the water table, was submitted for chemical analysis. If both the highest OVM reading and the most visually, oil stained sample was identified in different split spoon samples, the sample with the highest OVM reading was submitted for VOCs and the most visually stained soil was submitted for Total Recoverable Petroleum Hydrocarbon (TRPH) analysis. In this instance, it may be possible that no soil sample was collected from the split spoon at the water table. Each boring was completed as a monitoring well. Following well development, one groundwater sample was obtained from each well and submitted for chemical analysis. Both soil and water samples were analyzed for Volatile Organic Compounds (VOCs CLP-TCL) and TRPH (Method 418.1). Analytical reports are included in Appendix I.

The results of the limited sampling indicate that no Volatile Organic Compounds (VOCs) were detected above method detection limits in the soil from SB32-1 and SB32-2 [Table A-32(A)]. Total petroleum hydrocarbon (TPH) were detected at 90 and 81 parts per million (ppm), respectively, in the samples from these borings. No volatile organic compounds (VOCs) were detected in groundwater samples from monitoring wells MW32-1 and MW32-2 [Table A-32(B)]. A groundwater sample collected from MW32-1 contained 0.69 ppm of TPH; no TPH was detected in the groundwater samples from well MW32-2.

32.6 EXPOSURE POTENTIAL

Moderate.

32.7 RECOMMENDATIONS FOR SAMPLING

Additional sampling should be conducted to determine the extent of TPH in the soil.

32.8 REFERENCES. 3, 5, 6, 16

References 3, 5, 6, and 16. A list of references is provided as Appendix L.

32.9 COMMENTS

Based on the visual site inspection, performed on September 13, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

32.10 REGULATORY

This SWMU is classified as a Low Priority Area of Concern under CERCLA. It will be addressed further either through a CERCLA SI or a removal action.

Photo 91: SEAD-32, 9/13/90. View of the location of the 20,000 gallon Underground Waste Oil Tank - Building 718, facing north.

Photo 92: SEAD-32, 9/13/90. View of the location of the 40,000 gallon Underground Waste Oil Tank - Building 718, facing southwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-32 DATE: 9/13/90 TIME: 8:40 a.m.

UNIT NAME: Building 718 - Underground Waste Oil Tanks (2 units)

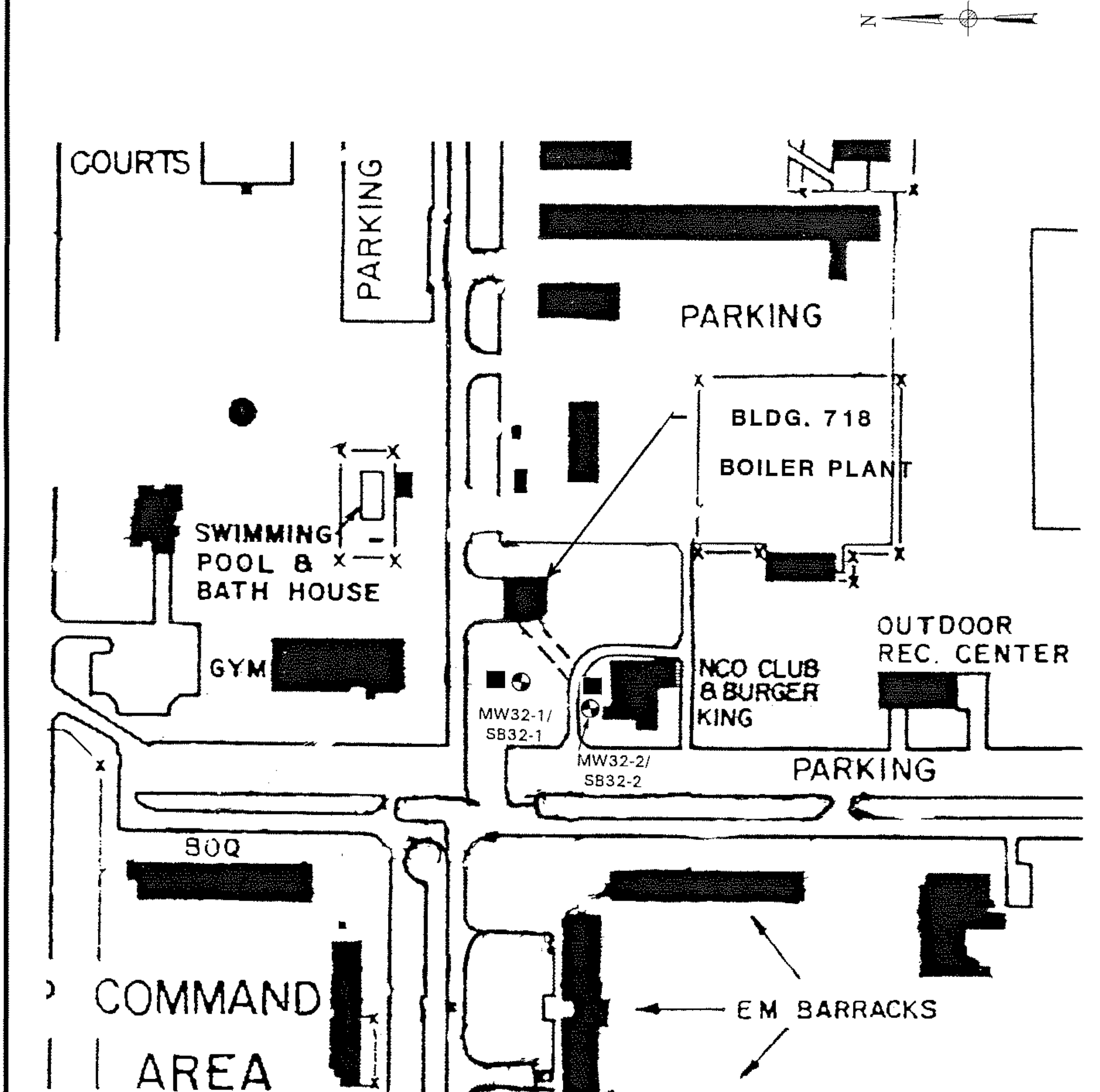
PHOTO NUMBER: 91 and 92

ORIENTATION OF PHOTOGRAPH: No. 91 facing north, No. 92 facing southwest.

LOCATION WITHIN FACILITY: On the south side of Access Road, approximately 750 feet south-southeast of the North Patrol Road Emergency Gate.

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou



LEGEND

MONITORING WELL

SOIL BORING

SURFACE SAMPLE

PARSONS

ENGINEERING-SCIENCE, INC.

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT

SWMU CLASSIFICATION STUDY
LIMITED SAMPLING

DEPT. ENVIRONMENTAL ENGINEERING

NO. 720517-01002

FIGURE A-32
SEAD 32
SAMPLE LOCATIONS

SCALE 1" = 200'

TABLES A-32A & B

Soil and Groundwater
Analytical Results

TABLE A-32(A)
SOIL ANALYTICAL DATA: Volatile Organics,
TPH and Solids
SEAD-32

		MATRIX	SOIL	SOIL
	S10ALM.WK3	LOCATION	SEAD-32	SEAD-32
	SDG 41316	DEPTH(FT.)	2-4	2-4
		DATE	01/10/94	01/10/94
		ES ID	SB32-1	SB32-2
		LAB ID	208175	208401
CAS NO.	COMPOUND	UNITS		
74-87-3	Chloromethane	ug/Kg	12 U	11 U
74-83-9	Bromomethane	ug/Kg	12 U	11 U
75-01-4	Vinyl Chloride	ug/Kg	12 U	11 U
75-00-3	Chloroethane	ug/Kg	12 U	11 U
75-09-2	Methylene Chloride	ug/Kg	12 U	1 J
67-64-1	Acetone	ug/Kg	12 U	11 U
75-15-0	Carbon Disulfide	ug/Kg	12 U	11 U
75-35-4	1,1-Dichloroethene	ug/Kg	12 U	11 U
75-34-3	1,1-Dichloroethane	ug/Kg	12 U	11 U
540-59-0	1,2-Dichloroethene (total)	ug/Kg	12 U	11 U
67-66-3	Chloroform	ug/Kg	12 U	11 U
107-06-2	1,2-Dichloroethane	ug/Kg	12 U	11 U
78-93-3	2-Butanone	ug/Kg	12 U	11 U
71-55-6	1,1,1-Trichloroethane	ug/Kg	12 U	11 U
56-23-5	Carbon Tetrachloride	ug/Kg	12 U	11 U
75-27-4	Bromodichloromethane	ug/Kg	12 U	11 U
78-87-5	1,2-Dichloropropane	ug/Kg	12 U	11 U
10061-01-5	cis-1,3-Dichloropropene	ug/Kg	12 U	11 U
79-01-6	Trichloroethene	ug/Kg	12 U	11 U
124-48-1	Dibromochloromethane	ug/Kg	12 U	11 U
79-00-5	1,1,2-Trichloroethane	ug/Kg	12 U	11 U
71-43-2	Benzene	ug/Kg	12 U	11 U
10061-02-6	trans-1,3-Dichloropropene	ug/Kg	12 U	11 U
75-25-2	Bromoform	ug/Kg	12 U	11 U
108-10-1	4-Methyl-2-Pentanone	ug/Kg	12 U	11 U
591-78-6	2-Hexanone	ug/Kg	12 U	11 U
127-18-4	Tetrachloroethene	ug/Kg	12 U	11 U
79-34-5	1,1,2,2-Tetrachloroethane	ug/Kg	12 U	11 U
108-88-3	Toluene	ug/Kg	12 U	11 U
108-90-7	Chlorobenzene	ug/Kg	12 U	11 U
100-41-4	Ethylbenzene	ug/Kg	12 U	11 U
100-42-5	Styrene	ug/Kg	12 U	11 U
1330-20-7	Xylene (total)	ug/Kg	12 U	11 U
	Total Petroleum Hydrocarbons	mg/Kg	90	81
	Total Solids	%W/W	83.2	82

TABLE A-32(B)
GROUNDWATER ANALYTICAL RESULTS: Volatile Organics and TPH
SEAD-32

		S10ALMW.WK3	MATRIX	WATER	WATER	WATER
		SDG 42207	LOCATION	SEAD-32	SEAD-32	SEAD-32
			DATE	02/05/94	02/05/94	02/05/94
			ES ID	MW32-1	MW32-2	MW32-3
			LAB ID	210485	210487	210488
FORM	CAS NO.	COMPOUND	UNITS			(DUP OF MW32-1)
1A	74-87-3	Chloromethane	ug/L	10 U	10 U	10 U
1A	74-83-9	Bromomethane	ug/L	10 U	10 U	10 U
1A	75-01-4	Vinyl Chloride	ug/L	10 U	10 U	10 U
1A	75-00-3	Chloroethane	ug/L	10 U	10 U	10 U
1A	75-09-2	Methylene Chloride	ug/L	10 U	10 U	10 U
1A	67-64-1	Acetone	ug/L	10 U	10 U	10 U
1A	75-15-0	Carbon Disulfide	ug/L	10 U	10 U	10 U
1A	75-35-4	1,1-Dichloroethene	ug/L	10 U	10 U	10 U
1A	75-34-3	1,1-Dichloroethane	ug/L	10 U	10 U	10 U
1A	540-59-0	1,2-Dichloroethene (total)	ug/L	10 U	10 U	10 U
1A	67-66-3	Chloroform	ug/L	10 U	10 U	10 U
1A	107-06-2	1,2-Dichloroethane	ug/L	10 U	10 U	10 U
1A	78-93-3	2-Butanone	ug/L	10 U	10 U	10 U
1A	71-55-6	1,1,1-Trichloroethane	ug/L	10 U	10 U	10 U
1A	56-23-5	Carbon Tetrachloride	ug/L	10 U	10 U	10 U
1A	75-27-4	Bromodichloromethane	ug/L	10 U	10 U	10 U
1A	78-87-5	1,2-Dichloropropane	ug/L	10 U	10 U	10 U
1A	10061-01-5	cis-1,3-Dichloropropene	ug/L	10 U	10 U	10 U
1A	79-01-6	Trichloroethene	ug/L	10 U	10 U	10 U
1A	124-48-1	Dibromochloromethane	ug/L	10 U	10 U	10 U
1A	79-00-5	1,1,2-Trichloroethane	ug/L	10 U	10 U	10 U
1A	71-43-2	Benzene	ug/L	10 U	10 U	10 U
1A	10061-02-6	trans-1,3-Dichloropropene	ug/L	10 U	10 U	10 U
1A	75-25-2	Bromoform	ug/L	10 U	10 U	10 U
1A	108-10-1	4-Methyl-2-Pentanone	ug/L	10 U	10 U	10 U
1A	591-78-6	2-Hexanone	ug/L	10 U	10 U	10 U
1A	127-18-4	Tetrachloroethene	ug/L	10 U	10 U	10 U
1A	79-34-5	1,1,2,2-Tetrachloroethane	ug/L	10 U	10 U	10 U
1A	108-88-3	Toluene	ug/L	10 U	10 U	10 U
1A	108-90-7	Chlorobenzene	ug/L	10 U	10 U	10 U
1A	100-41-4	Ethylbenzene	ug/L	10 U	10 U	10 U
1A	100-42-5	Styrene	ug/L	10 U	10 U	10 U
1A	1330-20-7	Xylene (total)	ug/L	10 U	10 U	10 U
		Total Petroleum Hydrocarbons	mg/L	0.69	0.39 U	0.53

33.0 SWMU NUMBER: SEAD-33

33.1 UNIT NAME

Building 121 - Underground Waste Oil Tank.

33.2 UNIT CHARACTERISTICS

33.2.1 Unit Type

Underground waste oil storage tank. The regulator permit number is not available at this time. Design regulations for this tank are not applicable.

33.2.2 Design Features

The steel tank has a maximum storage capacity of 30,000 gallons.

33.2.3 Approximate Dates of Usage

The tank has been in use from 1943 to present. Small quantities of waste oil were stored in the tank from 1982 to 1989.

33.2.4 Operating Practices

From 1943 to present, the primary use of the tank has been for the storage of fuel (primarily No. 6 fuel). Prior to 1981, SEDA disposed of waste oil through various practices (such as burning in open fires at fire training practices). With RCRA, this practice changed and SEDA tried, whenever possible, to reclaim waste oil for its energy value as a fuel supplement. In 1982, SEDA started to introduce small quantities of the waste oil (200 to 400 gallon batches) into the fuel tanks when a bulk (7000 gallon) delivery of No. 6 virgin fuel was scheduled. The fuel was pumped off after the waste oil was put in the fuel tank to achieve mixing. In 1989, this practice was discontinued when a new waste oil tank was constructed at Boiler Building 718 (SEAD-61). The waste oil from the new Building 718 tank can now be burned directly by a single boiler in Boiler Plant 718 that was previously modified for that purpose. Thus, waste oil is no longer stored in this tank. The government agency that regulates this unit is NYSDEC's Region 8 Division of Water with input from the Federal Projects Section, Division of Hazardous Waste Remediation, Control Office. The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is Wendy Stevenson of NYSDEC's Division of Spills Management.

33.2.5 Present Condition and Status

In use. Photographs of the tank's location is shown on the following page.

33.3 WASTE CHARACTERISTICS

33.3.1 Specific Wastes Disposed

No. 6 fuel, small quantities of waste oil. No waste oil has ever been burned that tested as a hazardous waste.

33.3.2 Migration and Dispersal Characteristics

Leakage from the tank could result in a release of oil to the groundwater.

33.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater. A release of oil from the underground storage tank would have a direct impact on the subsurface soil. The release would also likely impact the groundwater due to migration through the soil, however, the amount of oil released, the retention capacity of the soil and the depth of the water table relative to the release point would determine the extent of groundwater impacts.

Soil and groundwater migration pathways are significant because they provide a means by which pertinent exposure scenarios could result from a release of oil. The most likely being direct contact during excavation. Drinking water on SEDA is supplied from an off-site source; groundwater at SEDA is not currently used for drinking water. Impacts to indoor air quality are not believed to be significant as the oil does not contain a large volatile component.

33.5 EVIDENCE OF RELEASE

A limited sampling program was performed in 1994 to obtain evidence of a release. The procedures to evaluate this SWMU were identical to those as described previously for SEAD-32. GPR was performed to determine the boundaries of the underground storage tank. One boring was advanced downgradient of the tank location and one was advanced at the upgradient locaiton (see Figure SEAD-33). The borings were continuously sampled and screened in the field with an OVM. One soil sample from each boring, the one with the highest field screening result, the most visually stained sample or, if no oil or OVM readings are observed, the sample, the sample at the water table, was submitted for chemical analysis.

A monitoring well was installed in each boring. At this time of sampling, no groundwater was present in the wells and thus no samples were obtained from the wells. Only soil samples were analyzed for Volatile Organic Compounds (VOCs - CLP-TCL) and TRPH (Method 418.1). Analytical reports are included in Appendices I.

The results of the limited sampling indicate that no VOCs were detected above method detection limits in soil samples SB33-1.1 and SB33-2.1 [Table A-33(A)]. Total petroleum hydrocarbons were detected in both soil samples with 78 ppm being detected in SB33-1.1 and 470 ppm in SB33-2.1. At the time of sampling MW33-1 and MW33-2, no groundwater was present in the wells, and thus no groundwater analytical data is available for these locations.

33.6 EXPOSURE POTENTIAL

Moderate.

33.7 RECOMMENDATIONS FOR SAMPLING

Additional sampling should be conducted to determine the extent of TPH in soil.

33.8 REFERENCES.

References 3, 5, 6, and 16. A list of references is provided as Appendix L.

33.9 COMMENTS

Based on the visual site inspection, performed on September 13, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

33.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern under CERCLA. It will be addressed further either through a CERCLA SI or a removal action.

Photo 93: SEAD-33, 9/13/90. View of the location of Underground Waste Oil Tank - Building 121, facing east.

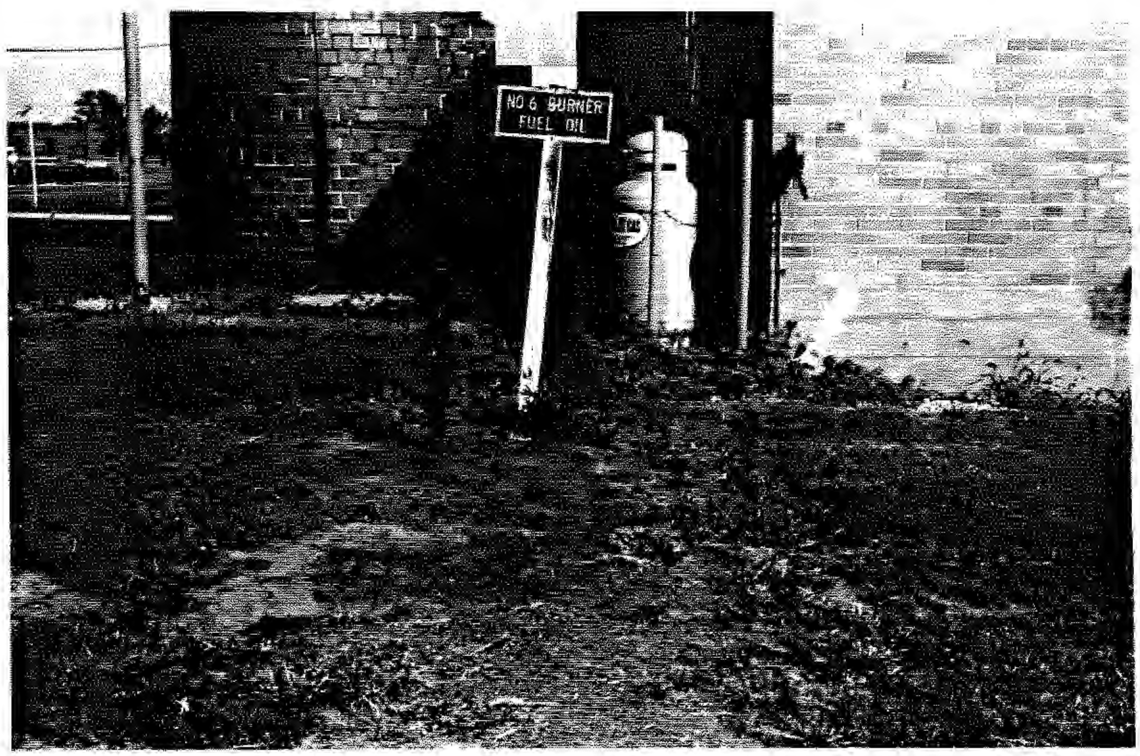


Photo 94: SEAD-33, 9/13/90. Close-up of the location of Underground Waste Oil Tank - Building 121, facing east.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-33 DATE: 9/13/90 TIME: 3:45 p.m.

UNIT NAME: Building 121 - Underground Waste Oil Tank

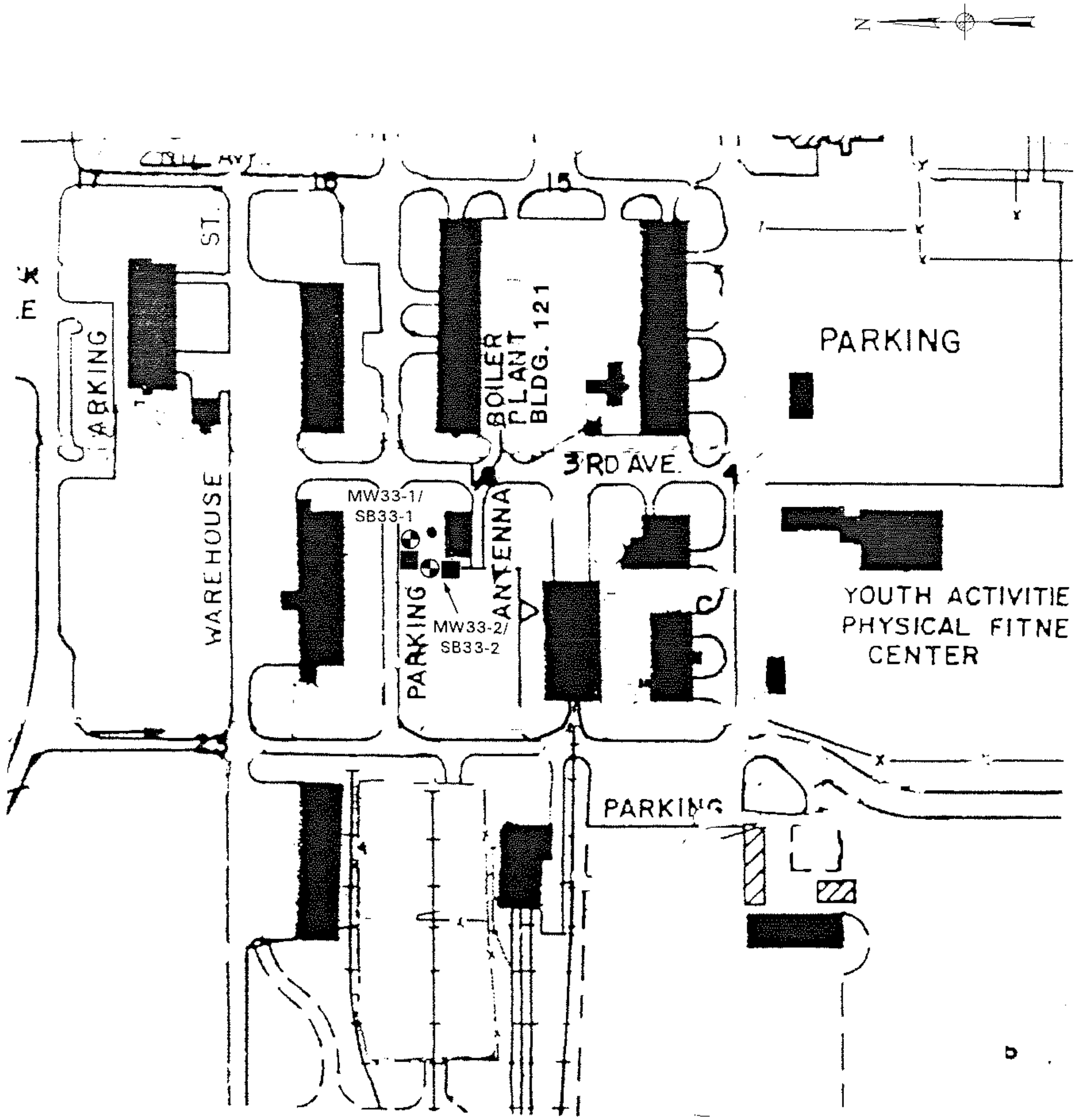
PHOTO NUMBER: 93 and 94

ORIENTATION OF PHOTOGRAPH: Facing east.

LOCATION WITHIN FACILITY: On the south side of Center Street, approximately 250 feet east of 4th Avenue.

WEATHER CONDITIONS: Sunny, 80°F

PHOTOGRAPHER: Dimitra Syriopoulou



LEGEND

- MONITORING WELL
- SOIL BORING
- SURFACE SAMPLE

PARSONS ENGINEERING-SCIENCE, INC.	
CLIENT/PROJECT TITLE SENECA ARMY DEPOT SWMU CLASSIFICATION STUDY LIMITED SAMPLING	
DEPT. ENVIRONMENTAL ENGINEERING	NO. 720517-01002
FIGURE A-33 SEAD 33 SAMPLE LOCATIONS	
SCALE 1"=200'	

TABLE A-33

Soil Analytical Results

TABLE A-33
SOIL ANALYTICAL DATA: Volatile Organics,
TPH and Solids
SEAD-33

		MATRIX	SOIL	SOIL	SOIL
	S10ALM.WK3	LOCATION	SEAD-33	SEAD-33	SEAD-33
	SDG 41316	DEPTH(FT.)	2-4	4-6	2-4
		DATE	12/16/93	12/15/93	12/16/93
		ES ID	SB33-1.1	SB33-2.1	SB33-1.2
		LAB ID	207129	207098	207130
CAS NO.	COMPOUND	UNITS			(SB33-1.1DUP)
74-87-3	Chloromethane	ug/Kg	11 U	12 U	11 U
74-83-9	Bromomethane	ug/Kg	11 U	12 U	11 U
75-01-4	Vinyl Chloride	ug/Kg	11 U	12 U	11 U
75-00-3	Chloroethane	ug/Kg	11 U	12 U	11 U
75-09-2	Methylene Chloride	ug/Kg	11 U	12 U	11 U
67-64-1	Acetone	ug/Kg	11 U	12 U	11 U
75-15-0	Carbon Disulfide	ug/Kg	11 U	12 U	11 U
75-35-4	1,1-Dichloroethene	ug/Kg	11 U	12 U	11 U
75-34-3	1,1-Dichloroethane	ug/Kg	11 U	12 U	11 U
540-59-0	1,2-Dichloroethene (total)	ug/Kg	11 U	12 U	11 U
67-66-3	Chloroform	ug/Kg	11 U	12 U	11 U
107-06-2	1,2-Dichloroethane	ug/Kg	11 U	12 U	11 U
78-93-3	2-Butanone	ug/Kg	11 U	12 U	11 U
71-55-6	1,1,1-Trichloroethane	ug/Kg	11 U	12 U	11 U
56-23-5	Carbon Tetrachloride	ug/Kg	11 U	12 U	11 U
75-27-4	Bromodichloromethane	ug/Kg	11 U	12 U	11 U
78-87-5	1,2-Dichloropropane	ug/Kg	11 U	12 U	11 U
10061-01-5	cis-1,3-Dichloropropene	ug/Kg	11 U	12 U	11 U
79-01-6	Trichloroethene	ug/Kg	11 U	12 U	11 U
124-48-1	Dibromochloromethane	ug/Kg	11 U	12 U	11 U
79-00-5	1,1,2-Trichloroethane	ug/Kg	11 U	12 U	11 U
71-43-2	Benzene	ug/Kg	11 U	12 U	11 U
10061-02-6	trans-1,3-Dichloropropene	ug/Kg	11 U	12 U	11 U
75-25-2	Bromoform	ug/Kg	11 U	12 U	11 U
108-10-1	4-Methyl-2-Pentanone	ug/Kg	11 U	12 U	11 U
591-78-6	2-Hexanone	ug/Kg	11 U	12 U	11 U
127-18-4	Tetrachloroethene	ug/Kg	11 U	12 U	11 U
79-34-5	1,1,2,2-Tetrachloroethane	ug/Kg	11 U	12 U	11 U
108-88-3	Toluene	ug/Kg	11 U	12 U	11 U
108-90-7	Chlorobenzene	ug/Kg	11 U	12 U	11 U
100-41-4	Ethylbenzene	ug/Kg	11 U	12 U	11 U
100-42-5	Styrene	ug/Kg	11 U	12 U	11 U
1330-20-7	Xylene (total)	ug/Kg	11 U	12 U	11 U
	Total Petroleum Hydrocarbons	mg/Kg	78	470	NA
	Total Solids	%W/W	86.2	91.6	NA

H:\ENG\SENECA\LIMITED\TABLES\SVOC.WK3

34.0 SWMU NUMBER: SEAD-34

34.1 UNIT NAME

Building 319 - Underground Waste Oil Tanks.

34.2 UNIT CHARACTERISTICS

34.2.1 Unit Type

Underground waste oil storage tanks (2 units). The regulator permit number is not available at this time. Design regulations for these tanks are not applicable.

34.2.2 Design Features

Tank A has a maximum storage capacity of 30,000 gallons. Tank B has a maximum storage capacity of 20,000 gallons. Both tanks are constructed of steel.

34.2.3 Approximate Dates of Usage

Tanks A and B have been in use from 1951 to present. Small quantities of waste oil were stored in the tanks from 1982 to 1989.

34.2.4 Operating Practices

From 1956 to present, the primary use of the tanks has been for the storage of fuel (primarily No. 6 fuel). Prior to 1981, SEDA disposed of waste oil through various practices (such as burning in open fires at fire training practices). With RCRA, this practice changed and SEDA tried, whenever possible, to reclaim waste oil for its energy value as a fuel supplement. In 1982, SEDA started to introduce small quantities of the waste oil (200 to 400 gallon batches) into the fuel tank when a bulk (7000 gallon) delivery of No. 6 virgin fuel was scheduled. The fuel was pumped off after the waste oil was put in the fuel tank to achieve mixing. In 1989, this practice was discontinued when a new waste oil tank was constructed at Boiler Building 718 (SEAD-61). The waste oil from the new Building 718 tank can be burned directly by a single boiler in Boiler Plant 718 that was previously modified for that purpose. Thus, waste oil is no longer stored in these tanks. The government agency that regulates this unit is NYSDEC's Region 8 Division of Water with input from The Federal Projects Section, Division of Hazardous Waste Remediation, Central Office. The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is Wendy Stevenson of NYSDEC's Region 8 Division of Spills Management.

34.2.5 Present Condition and Status

In use. Photographs of the tank locations are shown on the page following this text.

34.3 WASTE CHARACTERISTICS

34.3.1 Specific Wastes Disposed

No. 6 fuel and small quantities of waste oil were disposed of at this SWMU. No waste oil has ever been burned that tested as a hazardous waste.

34.3.2 Migration and Dispersal Characteristics

Leakage from the tanks could result in the release of waste oil to the groundwater table.

34.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater. A release of oil from the underground storage tank would have a direct impact on the subsurface soil. The release would also likely impact the groundwater due to migration through the soil, however, the amount of oil released, the retention capacity of the soil and the depth of the water table relative to the release point would determine the extent of groundwater impacts.

Soil and groundwater migration pathways are significant because they provide a means by which pertinent exposure scenarios could result from a release of oil. The most likely being direct contact during excavation. Drinking water on SEDA is supplied from an off-site source; groundwater at SEDA is not currently used for drinking water. Impacts to indoor air quality are not believed to be significant as the oil does not contain a large volatile component.

34.5 EVIDENCE OF RELEASE

Waste oil had been spilled around the tanks' fill pipes as shown in Photo 96. However, there was no visual evidence that these areas constituted more than surficial contamination. Since the visual site inspection, SEDA personnel have reported that the surficial soils have been removed and disposed of appropriately.

A limited sampling program was performed in 1994 to obtain evidence of a release. As described for both SEAD-32 and SEAD-33, GPR was performed to determine the boundaries of the underground storage tanks. One boring was advanced downgradient of each of the two tank locations and was advanced upgradient of the tank locations (see Figure SEAD-34). The borings were continuously sampled and screened in the field with an organic vapor meter. One soil sample from each boring, the one with the highest field screening result, the most visually stained sample or, if no oil or OVM readings are observed the sample from the water table, was submitted for chemical analysis. A monitoring well was installed in each boring. One groundwater sample was obtained from each well and submitted for chemical analysis. Both soil and water samples were analyzed for Volatile Organic Compounds (VOCs - CLP-TCL) and TRPH (Method 418.1). Analytical reports are included in Appendices I.

The results of the limited sampling indicate that no VOCs were detected above method detection limits in soil samples SB34-1.1 and SB34-2.1 [Table A-34 (A)]. Total petroleum hydrocarbons were detected at 81 and 93, respectively, in the above-mentioned samples. No VOCs or TPH were detected in either of the two wells sampled [Table A-34(B)].

34.6 EXPOSURE POTENTIAL

Moderate.

34.7 RECOMMENDATIONS FOR SAMPLING

Additional sampling should be conducted to determine the extent of TPH in soil.

34.8 REFERENCES.

References 3, 5, 6, and 16. A list of references is provided as Appendix L.

34.9 COMMENTS

Based on the visual site inspection, performed on September 12, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

34.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern under CERCLA. It will be addressed further either through a CERCLA SI or a removal action.

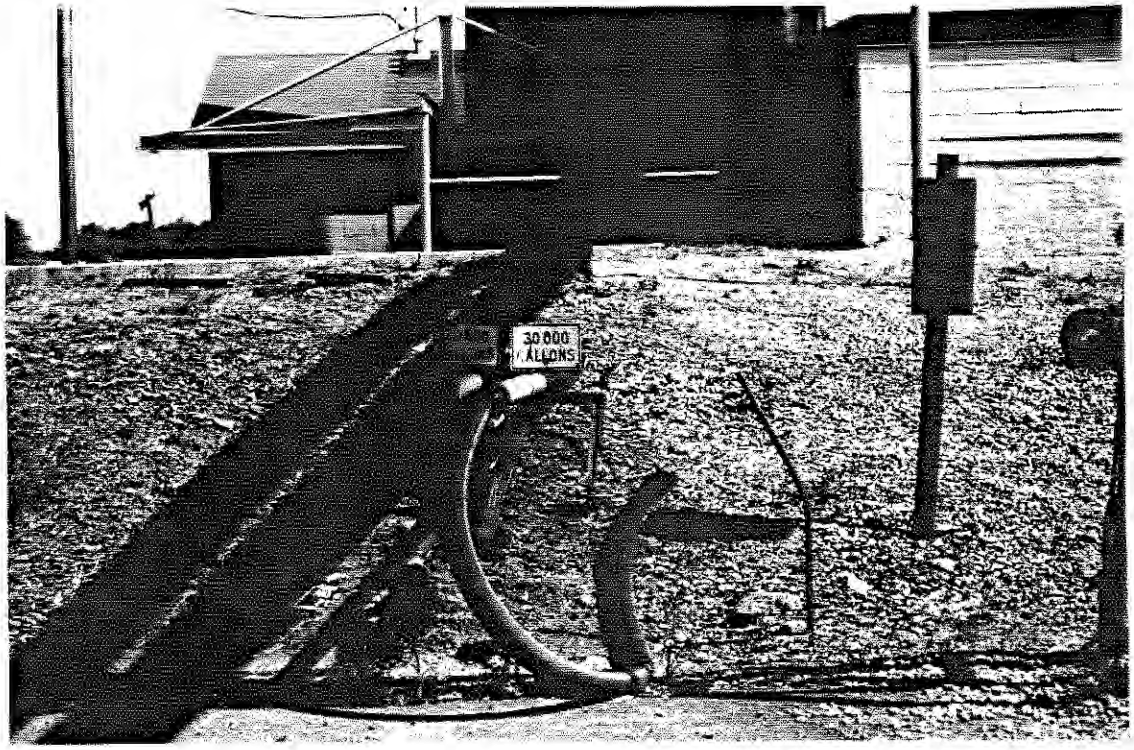


Photo 95: SEAD-34, 9/12/90. View of the location of two Underground Waste Oil Tanks - Building 319, facing east.

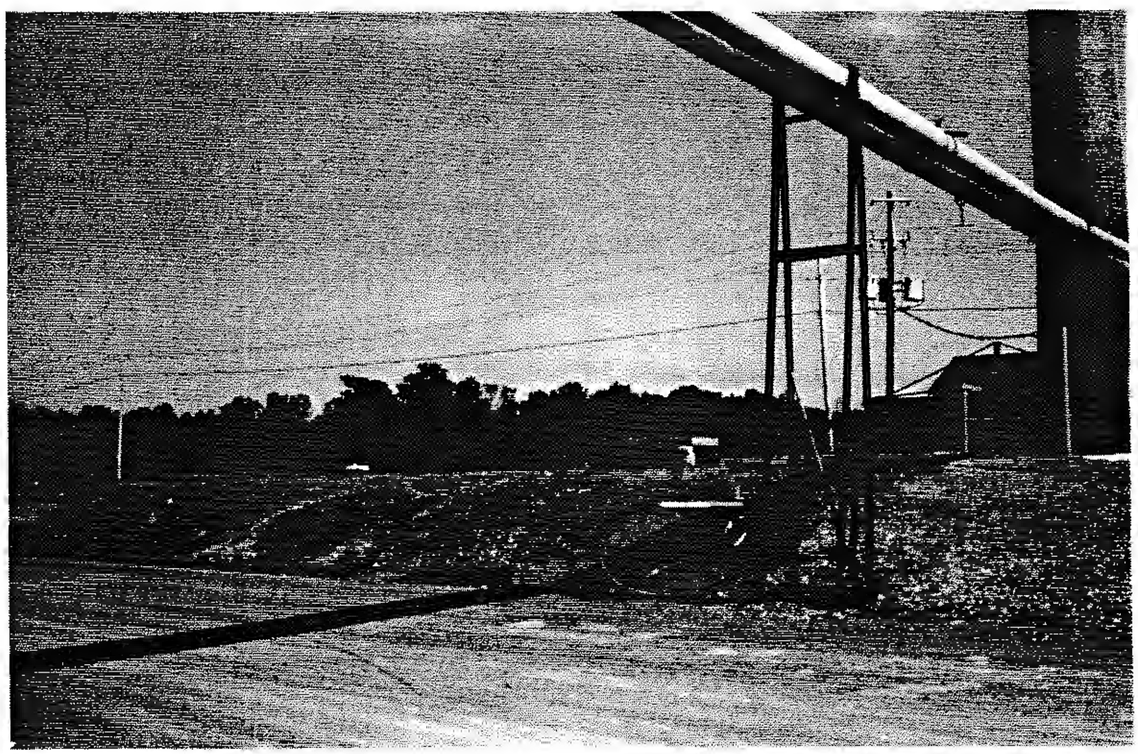


Photo 96: SEAD-34, 9/12/90. View of the location of two Underground Waste Oil Tanks - Building 319, facing northeast.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-34 DATE: 9/12/90 TIME: 1:45 p.m.

UNIT NAME: Building 319 - Underground Waste Oil Tanks (2 units)

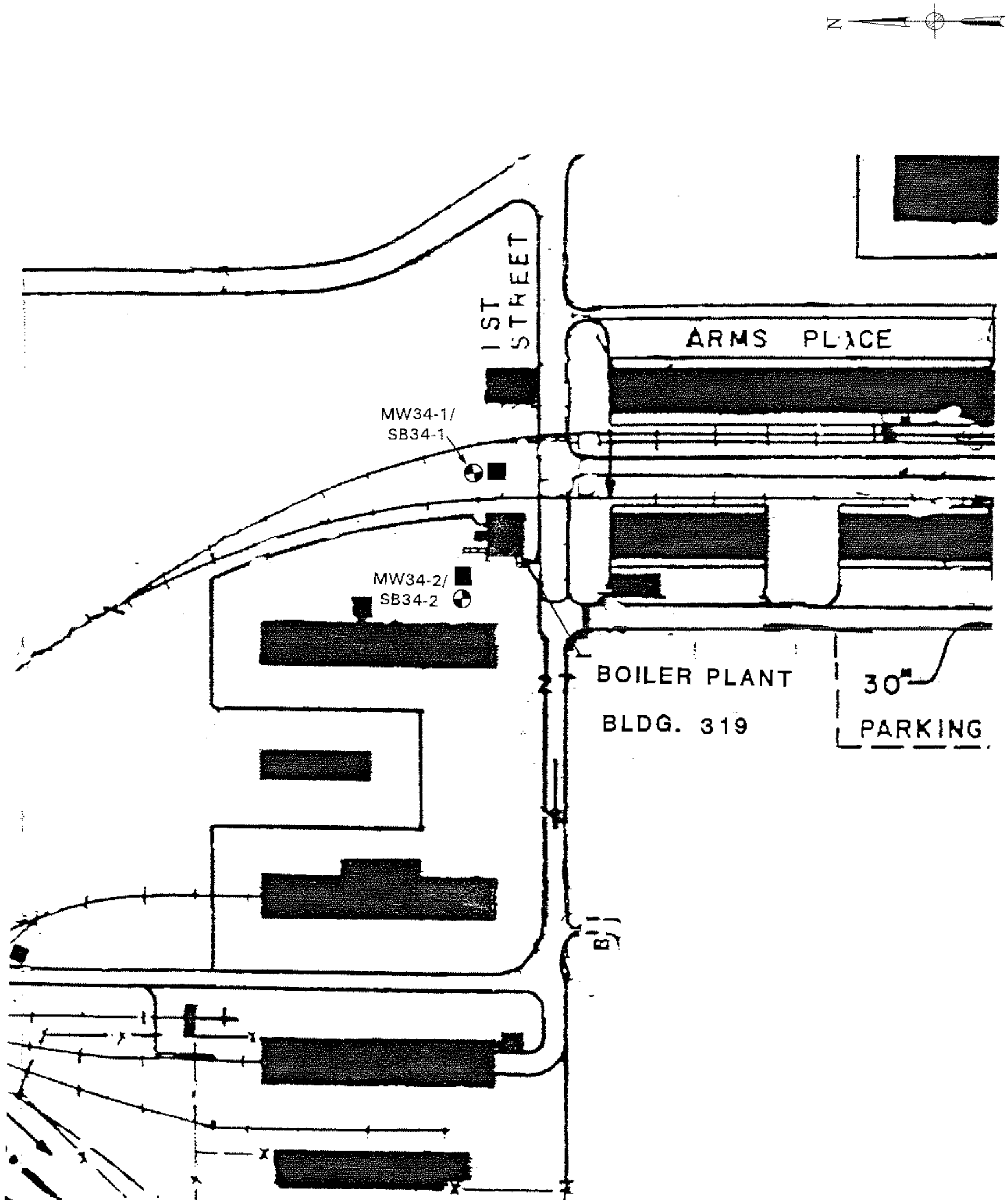
PHOTO NUMBER: 95 and 96

ORIENTATION OF PHOTOGRAPH: No. 95 facing east, No. 96 facing northeast.

LOCATION WITHIN FACILITY: On the north side of 1st Street, approximately 400 feet west of Administration Avenue.

WEATHER CONDITIONS: Sunny, 80°F

PHOTOGRAPHER: Dimitra Syriopoulou



LEGEND

- MONITORING WELL
- SOIL BORING
- SURFACE SAMPLE

PARSONS
ENGINEERING-SCIENCE, INC.

CLIENT/PROJECT TITLE
SENECA ARMY DEPOT
SWMU CLASSIFICATION STUDY
LIMITED SAMPLING

DEPT. ENVIRONMENTAL ENGINEERING	NO. 720517-01002

FIGURE A-34
SEAD 34
SAMPLE LOCATIONS

SCALE 1"=200'

TABLE A-34A & B

Soil and Groundwater Analytical Results

TABLE A-34(A)
SOIL ANALYTICAL DATA: Volatile Organics,
TPH and Solids
SEAD-34

		MATRIX	SOIL	SOIL
	S10ALM.WK3	LOCATION	SEAD-34	SEAD-34
	SDG 41316	DEPTH(FT.)	6-7	5-6
		DATE	12/15/93	12/14/93
		ES ID	SB34-1.1	SB34-2.1
		LAB ID	206930	206931
CAS NO.	COMPOUND	UNITS		
74-87-3	Chloromethane	ug/Kg	12 U	11 U
74-83-9	Bromomethane	ug/Kg	12 U	11 U
75-01-4	Vinyl Chloride	ug/Kg	12 U	11 U
75-00-3	Chloroethane	ug/Kg	12 U	11 U
75-09-2	Methylene Chloride	ug/Kg	12 U	11 U
67-64-1	Acetone	ug/Kg	24 U	24 U
75-15-0	Carbon Disulfide	ug/Kg	12 U	11 U
75-35-4	1,1-Dichloroethene	ug/Kg	12 U	11 U
75-34-3	1,1-Dichloroethane	ug/Kg	12 U	11 U
540-59-0	1,2-Dichloroethene (total)	ug/Kg	12 U	11 U
67-66-3	Chloroform	ug/Kg	12 U	11 U
107-06-2	1,2-Dichloroethane	ug/Kg	12 U	11 U
78-93-3	2-Butanone	ug/Kg	12 U	11 U
71-55-6	1,1,1-Trichloroethane	ug/Kg	12 U	11 U
56-23-5	Carbon Tetrachloride	ug/Kg	12 U	11 U
75-27-4	Bromodichloromethane	ug/Kg	12 U	11 U
78-87-5	1,2-Dichloropropane	ug/Kg	12 U	11 U
10061-01-5	cis-1,3-Dichloropropene	ug/Kg	12 U	11 U
79-01-6	Trichloroethene	ug/Kg	12 U	11 U
124-48-1	Dibromochloromethane	ug/Kg	12 U	11 U
79-00-5	1,1,2-Trichloroethane	ug/Kg	12 U	11 U
71-43-2	Benzene	ug/Kg	12 U	11 U
10061-02-6	trans-1,3-Dichloropropene	ug/Kg	12 U	11 U
75-25-2	Bromoform	ug/Kg	12 U	11 U
108-10-1	4-Methyl-2-Pentanone	ug/Kg	12 U	11 U
591-78-6	2-Hexanone	ug/Kg	12 U	11 U
127-18-4	Tetrachloroethene	ug/Kg	12 U	11 U
79-34-5	1,1,2,2-Tetrachloroethane	ug/Kg	12 U	11 U
108-88-3	Toluene	ug/Kg	12 U	11 U
108-90-7	Chlorobenzene	ug/Kg	12 U	11 U
100-41-4	Ethylbenzene	ug/Kg	12 U	11 U
100-42-5	Styrene	ug/Kg	12 U	11 U
1330-20-7	Xylene (total)	ug/Kg	12 U	11 U
	Total Petroleum Hydrocarbons	mg/Kg	81	93
	Total Solids	%W/W	82.4	84.8

TABLE A-34(B)
GROUNDWATER ANALYTICAL RESULTS: Volatile Organics and TPH
SEAD-34

		S10ALMW.WK3	MATRIX	WATER	WATER
		SDG 42207	LOCATION	SEAD-34	SEAD-34
			DATE	02/06/94	02/06/94
			ES ID	MW34-1	MW34-2
			LAB ID	210710	210711
FORM	CAS NO.	COMPOUND	UNITS		
1A	74-87-3	Chloromethane	ug/L	10 U	10 U
1A	74-83-9	Bromomethane	ug/L	10 U	10 U
1A	75-01-4	Vinyl Chloride	ug/L	10 U	10 U
1A	75-00-3	Chloroethane	ug/L	10 U	10 U
1A	75-09-2	Methylene Chloride	ug/L	10 U	10 U
1A	67-64-1	Acetone	ug/L	10 U	10 U
1A	75-15-0	Carbon Disulfide	ug/L	10 U	10 U
1A	75-35-4	1,1-Dichloroethene	ug/L	10 U	10 U
1A	75-34-3	1,1-Dichloroethane	ug/L	10 U	10 U
1A	540-59-0	1,2-Dichloroethene (total)	ug/L	10 U	10 U
1A	67-66-3	Chloroform	ug/L	10 U	10 U
1A	107-06-2	1,2-Dichloroethane	ug/L	10 U	10 U
1A	78-93-3	2-Butanone	ug/L	10 U	10 U
1A	71-55-6	1,1,1-Trichloroethane	ug/L	10 U	10 U
1A	56-23-5	Carbon Tetrachloride	ug/L	10 U	10 U
1A	75-27-4	Bromodichloromethane	ug/L	10 U	10 U
1A	78-87-5	1,2-Dichloropropane	ug/L	10 U	10 U
1A	10061-01-5	cis-1,3-Dichloropropene	ug/L	10 U	10 U
1A	79-01-6	Trichloroethene	ug/L	10 U	10 U
1A	124-48-1	Dibromochloromethane	ug/L	10 U	10 U
1A	79-00-5	1,1,2-Trichloroethane	ug/L	10 U	10 U
1A	71-43-2	Benzene	ug/L	10 U	10 U
1A	10061-02-6	trans-1,3-Dichloropropene	ug/L	10 U	10 U
1A	75-25-2	Bromoform	ug/L	10 U	10 U
1A	108-10-1	4-Methyl-2-Pentanone	ug/L	10 U	10 U
1A	591-78-6	2-Hexanone	ug/L	10 U	10 U
1A	127-18-4	Tetrachloroethene	ug/L	10 U	10 U
1A	79-34-5	1,1,2,2-Tetrachloroethane	ug/L	10 U	10 U
1A	108-88-3	Toluene	ug/L	10 U	10 U
1A	108-90-7	Chlorobenzene	ug/L	10 U	10 U
1A	100-41-4	Ethylbenzene	ug/L	10 U	10 U
1A	100-42-5	Styrene	ug/L	10 U	10 U
1A	1330-20-7	Xylene (total)	ug/L	10 U	10 U
		Total Petroleum Hydrocarbons	mg/L	0.39 U	0.39 U

35.0 SWMU NUMBER: SEAD-35

35.1 UNIT NAME

Building 718 - Waste Oil-Burning Boilers.

35.2 UNIT CHARACTERISTICS

35.2.1 Unit Type

Waste oil-burning boilers (3 units).

35.2.2 Design Features

Each boiler has a capacity rating of 10 MBtu/hr. The combustion rate for each boiler is 15.5 gal/hr. The regulations under which this unit was designed are not applicable.

35.2.3 Approximate Dates of Usage

Waste oil was used in all three boilers from 1982 to 1989. During this period, the boilers experienced operational problems. In 1989, one of the boilers was modified to burn only waste oil. Since these modifications, all other boilers at SEDA have ceased using waste oil.

35.2.4 Present Condition and Status

The boilers are functional. Photographs of the facility, taken on September 13, 1990, are shown on the pages following this text. Design features, including capacity ratings and cooler combustion rates have been reviewed.

35.2.5 Government Agency

The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is Tom Marriot of NYSDEC's Region 8 Division of Air Resources. The regulatory Emission Point Source Permit Identification Number is 453089-0046-07183.

35.3 WASTE CHARACTERISTICS

35.3.1 Specific Wastes Disposed

Waste oil was burned in the three boilers to provide space heating and hot water production. Presently only one boiler uses waste oil.

35.3.2 Physical and Chemical Characteristics

The waste oil was occasionally reported to be high in lead content.

35.4 MIGRATION PATHWAYS

The migration pathway is air.

35.5 EVIDENCE OF RELEASE

Permitted air emissions. No air pollution control devices.

35.6 EXPOSURE POTENTIAL

Low.

35.7 RECOMMENDATIONS FOR SAMPLING

None.

35.8 REFERENCES

References 3, 5, and 6. A list of references is provided in Appendix L.

35.9 COMMENTS

The information reported in Reference 3 has been updated.

35.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

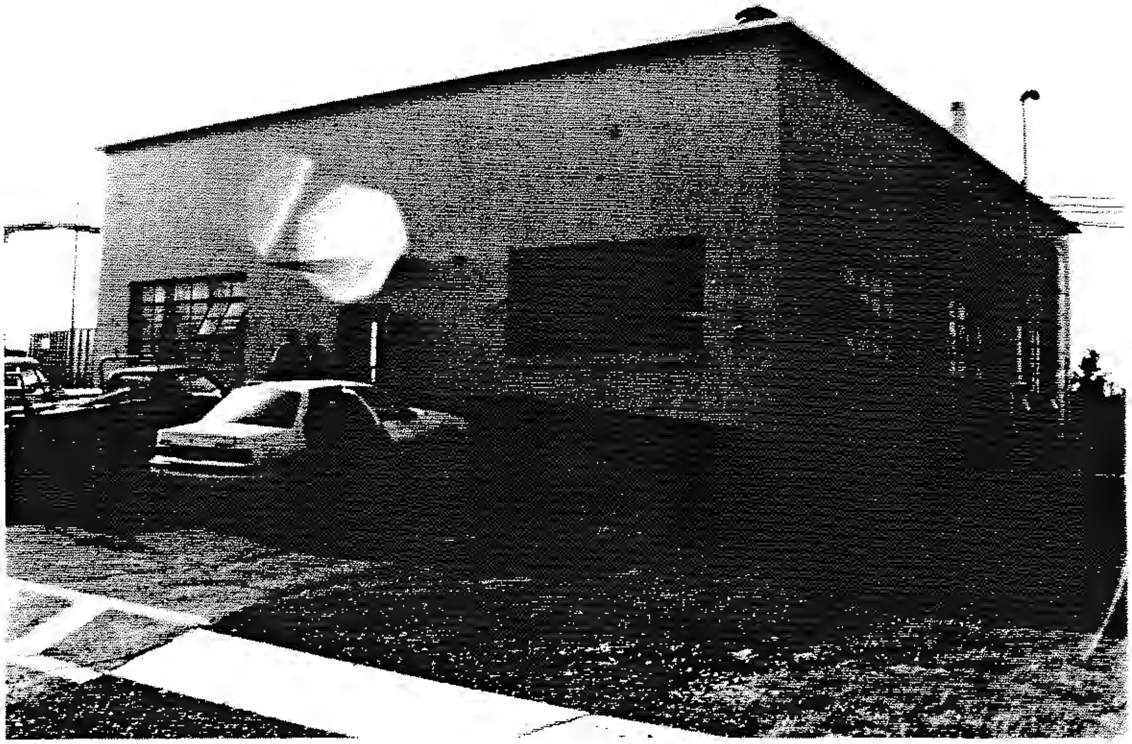


Photo 97: SEAD-35 and SEAD-41, 9/13/90. View of Building 718 where three Waste Oil - Burning Boilers are located, facing south; the Boiler Blowdown Leach Pit (SEAD-41) is located in the vicinity of the building.

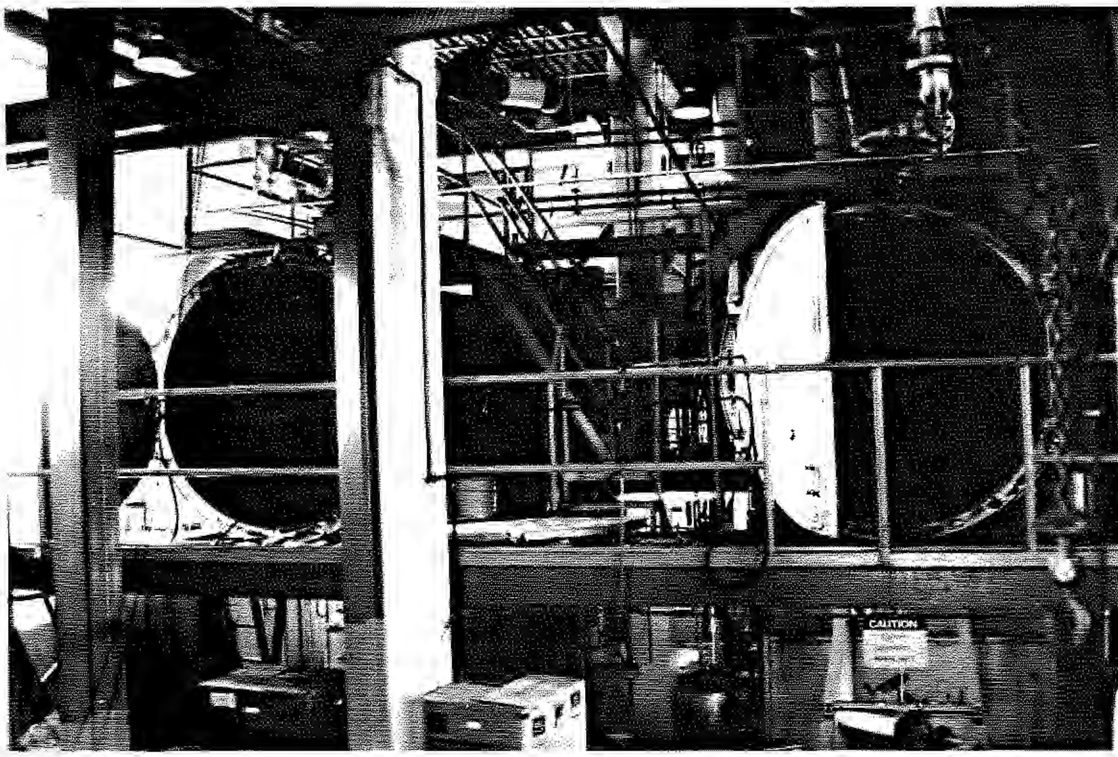


Photo 98: SEAD-35, 9/13/90. View of the most easterly and central boilers of the three Waste Oil - Burning Boilers - Building 718, facing south.

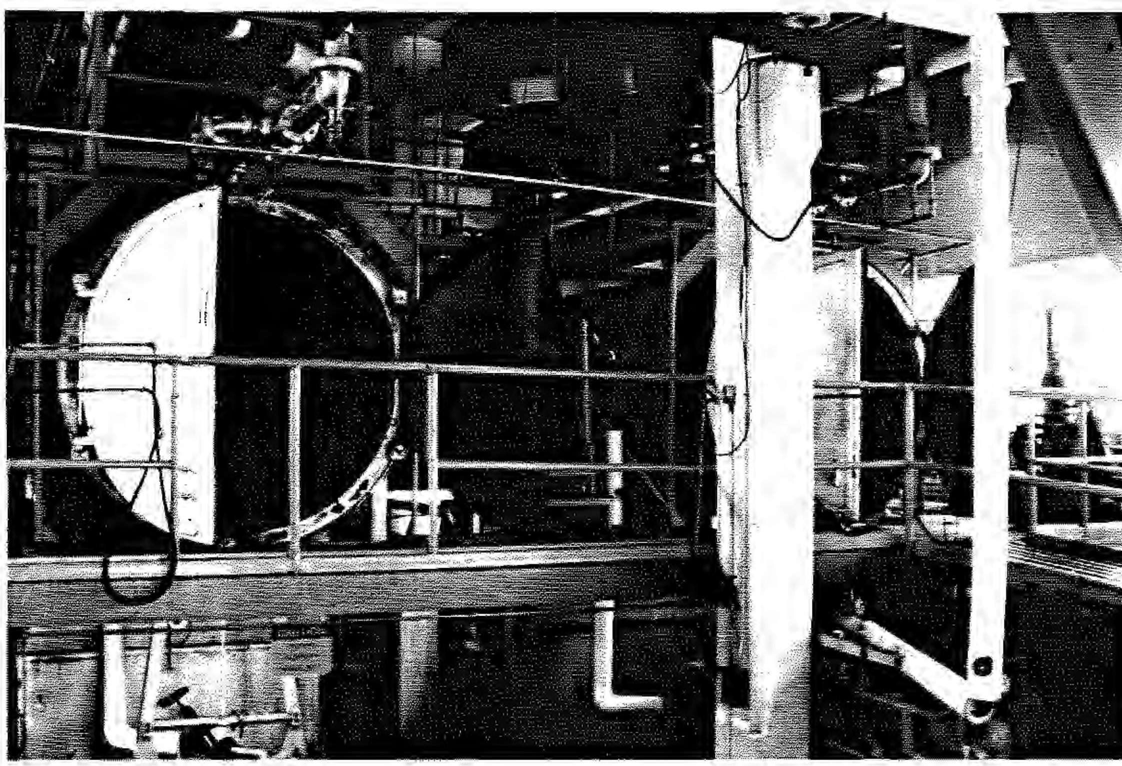


Photo 99: SEAD-35, 9/13/90. View of the central and most westerly boilers of the three Waste Oil - Burning Boilers - Building 718, facing south.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-35 DATE: 9/13/90 TIME: 8:30 a.m.

UNIT NAME: Building 718 - Waste Oil - Burning Boilers (3 units)

PHOTO NUMBER: 97 through 99

ORIENTATION OF PHOTOGRAPH: Facing south.

LOCATION WITHIN FACILITY: On the south side of Access Road, approximately 750 feet south-southeast of the North Patrol Road Emergency Gate.

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

36.0 SWMU NUMBER: SEAD-36

36.1 UNIT NAME

Building 121 - Waste Oil-Burning Boilers.

36.2 UNIT CHARACTERISTICS

36.2.1 Unit Type

Two waste oil-burning boilers and one coal fired unit.

36.2.2 Design Features

Each boiler has a capacity rating of 6.6 MBtu/hr. The combustion rate for each boiler is 10.6 gal/hr. The regulations under which the units were designed are not applicable.

36.2.3 Approximate Dates of Usage

Waste oil was burned in the two waste oil-burning boilers from 1982 to 1989. Waste oil was never burned in the coal fired unit.

36.2.4 Present Condition and Status

All boilers are functional. Photographs of the facility, taken on September 12, 1990, are shown on the following pages. Design features, including capacity ratings and boiler contruction rates have been reviewed.

36.2.5 Regulatory Agency

The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Manager). The associate contact is Tom Marriott of NYSDEC's Region 8 Division of Air Resources. The regulatory Emission Point Source Permit Identification Number is 453089-0046-00121.

36.3 WASTE CHARACTERISTICS

36.3.1 Specific Wastes Disposed

Waste oil was burned in the two waste oil-burning boilers for space heating and hot water production.

36.3.2 Physical and Chemical Characteristics

The waste oil was occasionally reported to be high in lead content.

36.4 MIGRATION PATHWAYS

The migration pathway is air.

36.5 EVIDENCE OF RELEASE

Permitted air emissions. No air pollution control devices.

36.6 EXPOSURE POTENTIAL

Low.

36.7 RECOMMENDATIONS FOR SAMPLING

None.

36.8 REFERENCES

References 3, 5, and 6. A list of references is provided as Appendix L.

36.9 COMMENTS

The information reported in Reference 3 has been updated.

36.10 REGULATORY STATUS

This SWMU is classified as a No action SWMU under CERCLA.

Photo 100: SEAD-36 and SEAD-39, 9/12/90. View of Building 121, where three Waste Oil - Burning Boilers are located, facing west; the Boiler Blowdown Leach Pit (SEAD-39) is located in the vicinity of the building.

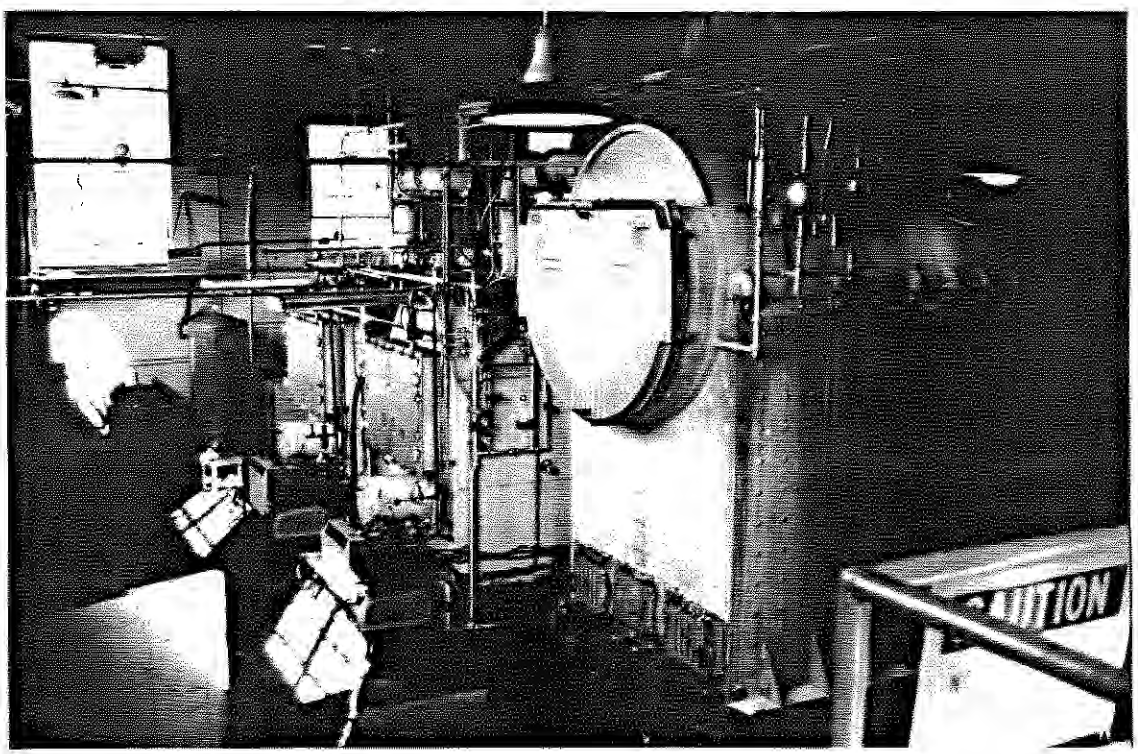


Photo 101: SEAD-36, 9/12/90. View of two Waste Oil - Burning Boilers - Building 121, facing northwest. The largest boiler is a coal fired unit that never burned waste oil

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-36 DATE: 9/12/90 TIME: 9:25 a.m.

UNIT NAME: Building 121 - Waste Oil - Burning Boilers (2 units)

PHOTO NUMBER: 100 and 101

ORIENTATION OF PHOTOGRAPH: No. 100 facing west, No. 101 facing northwest.

LOCATION WITHIN FACILITY: On the south side of Center Street, approximately 250 feet east of 4th Avenue

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

37.0 SWMU NUMBER: SEAD-37

37.1 UNIT NAME

Building 319 - Waste Oil-Burning Boilers.

37.2 UNIT CHARACTERISTICS

37.2.1 Unit Type

Waste oil-burning boilers (2 units).

37.2.2 Design Features

Boilers A and B have capacity ratings of 12.0 and 16.1 MBtu/hr, respectively. Each boiler has a combustion rate of 32.9 gal/hr. The regulations under which the units were designed are not applicable.

37.2.3 Approximate Dates of Usage

Waste oil was burned in the boilers from 1982 to 1989.

37.2.4 Present Condition and Status

All boilers are functional. Photographs of the unit, taken on September 12, 1990, are shown on the following pages. Design features including capacity ratings and boiler construction rates have been reviewed.

37.2.5 Regulatory Agency

The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is Tom Marriott of NYSDEC's Region 8 Division of Air Resources. The regulatory Emission Point Source Permit Identification Number is 453089-0046-00319.

37.3 WASTE CHARACTERISTICS

37.3.1 Specific Wastes Disposed

Waste oil was burned as fuel in the boilers for providing space heating and hot water production.

37.3.2 Physical and Chemical Characteristics

The waste oil was occasionally reported to be high in lead content.

37.4 MIGRATION PATHWAYS

The migration pathway is air.

37.5 EVIDENCE OF RELEASE

Permitted air emissions. No air pollution control devices.

37.6 EXPOSURE POTENTIAL

Low.

37.7 RECOMMENDATIONS FOR SAMPLING

None.

37.8 REFERENCES

References 3, 5, and 6. A list of references is provided in Appendix L.

37.9 COMMENTS

The information reported in Reference 3 has been updated.

37.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

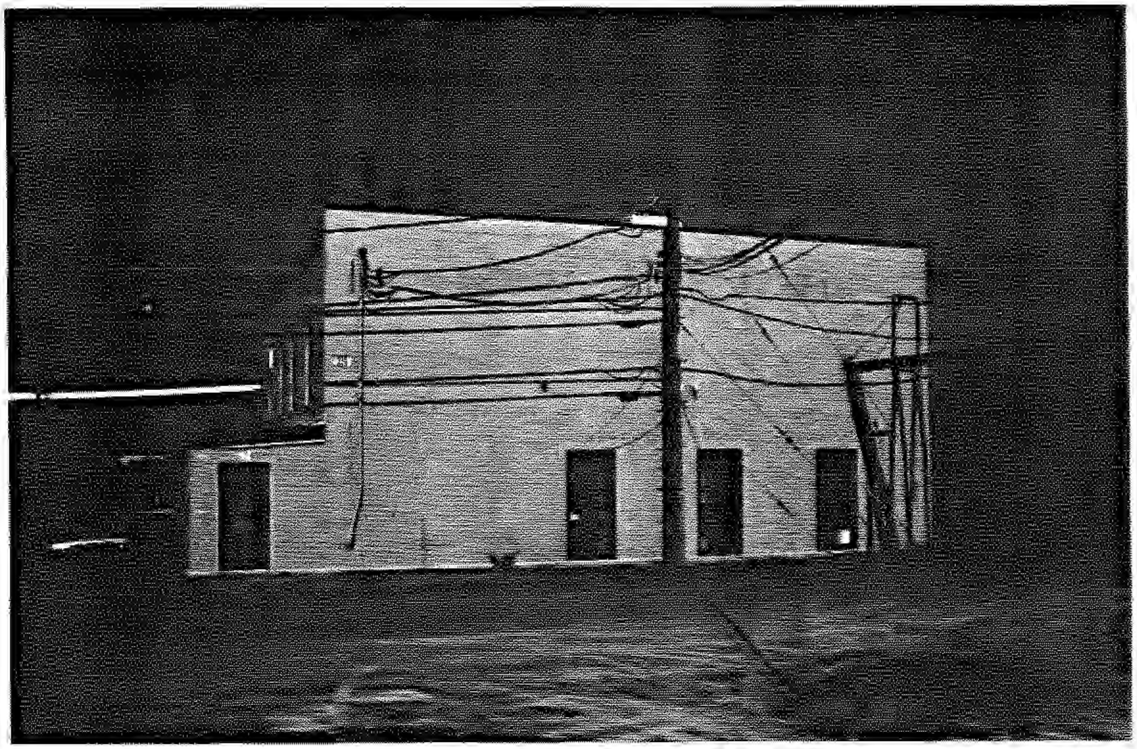


Photo 102: SEAD-37 and SEAD-40, 9/12/90. View of Building 319, where two Waste Oil - Burning Boilers are located, facing northeast; the Boiler Blowdown Leach Pit (SEAD-40) is located in the vicinity of the building.

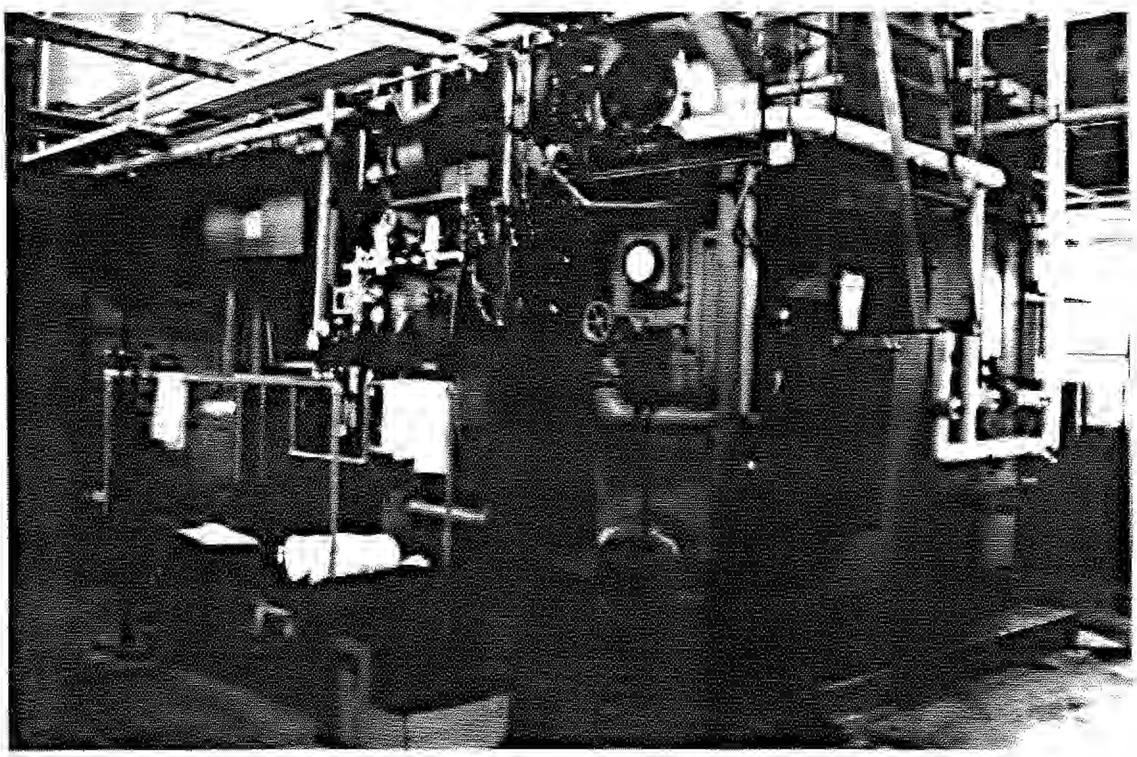


Photo 103: SEAD-37, 9/12/90. View of Waste Oil - Burning Boiler - Building 319, facing northeast.

Photo 104: SEAD-37, 9/12/90. View of Waste Oil - Burning Boiler - Building 319, facing west.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-37 DATE: 9/12/90 TIME: 1:45 p.m.

UNIT NAME: Building 319 - Waste Oil - Burning Boilers (2 units)

PHOTO NUMBER: 102 through 104

ORIENTATION OF PHOTOGRAPH: No. 102 and 103 facing northeast, No. 104 facing west.

LOCATION WITHIN FACILITY: On the north side of 1st Street, approximately 400 feet west of Administration Avenue

WEATHER CONDITIONS: Sunny, 80°F

PHOTOGRAPHER: Dimitra Syriopoulou

38.0 SWMU NUMBER: SEAD-38

38.1 UNIT NAME

Building 2079 - Boiler Plant Blowdown Leach Pit.

38.2 UNIT CHARACTERISTICS

38.2.1 Unit Type

Leach Pit.

38.2.2 Design Features

Unknown.

38.2.3 Approximate Dates of Usage

From the time the boilers were used until the time when the blowdown points were connected to the sanitary sewer system (1979 or 1980).

38.2.4 Operating Practices

The boilers discharged 400 to 800 gallons per day at the rate of three times every 24 hours. The flow drained partly in the ground and partly to nearby drainage ditches.

38.2.5 Present Condition and Status

All blowdown points are currently connected to the sanitary sewer system. The old leaching area was not visible. A photograph of the general location of the leach pit is shown on the page following this text.

38.3 WASTE CHARACTERISTICS

38.3.1 Specific Wastes Disposed

The boiler blowdown water probably contained tannins, caustic soda (sodium hydroxide), and sodium phosphate.

38.3.2 Physical and Chemical Characteristics

Tannins are plant-derived phenolic compounds.

38.3.3 Migration and Dispersal Characteristics

Any of the three constituents may migrate to the groundwater.

38.3.4 Toxicological Characteristics

Tannin is an experimental carcinogen and tumorigen. However, tannin has not been listed as a hazardous constituent in Appendix VIII of CFR 261. Also, no MCLs or health advisories have been established for tannin.

38.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

38.5 EVIDENCE OF RELEASE

A limited sampling program was performed in 1994 to obtain evidence of a release. One boring was advanced in the approximate center of the Building 2079-Boiler Plant Blowdown Leach Pit (see Figure SEAD 38). The boring was continuously sampled and field screened with an OVM. One soil sample, the split spoon soil sample that was either the most visually stained sample, or has the highest OVM field screening reading, or if no visual staining or elevated OVM headings are detected then the sample at the water table was submitted for chemical analysis. Unlike the strategy presented for the underground storage tanks, if the highest OVM reading and the sample with the highest visual staining was observed at different locations in the boring, the location with the greatest visual staining was sampled for chemical analysis, since volatile organics were not sampled at the blowdown pit. The hierachy of sampling was: 1) visual staining, 2) highest OVM reading and 3) the water table. Four surface samples, (0-2"), were obtained inside the perimeter of the leach pit for chemical analysis (see Figure SEAD-38). Chemical analyses consisted of pH (Method 9045) and TRPH (Method 418.1). Analytical tables are reports are included in Appendices I.

The results of the limited sampling indicate that total petroluem hydrocarbons were detected in surface soil samples. Two of the surface soil samples contain 104 and 110 ppm of TPH, while two others contain significantly higher concentrations of 1840 and 1940 ppm. The subsurface soil sample (from 2-4') contained only 85 ppm TPH. The two anomalously high TPH concentrations in the surface soil samples constitute evidence of release of petroleum hydrocarbons.

The pH results in soil indicate that the soil indicate that the soil ranges in pH from 7.35 to 7.47 in surface soils and is 8.93 in the subsurface soil sample. These are not unusual values.

38.6 EXPOSURE POTENTIAL

Moderate.

38.7 RECOMMENDATIONS FOR SAMPLING

Additional sampling is recommended to determine the extent of TPH in soil.

38.8 REFERENCES 3, 5, 6, 17

References 3, 5, 6, and 17. A list of references is provided as Appendix L.

38.9 COMMENTS

Based on the visual site inspection, performed on September 13, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

38.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern under CERCLA. It will be addressed further through either a CERCLA SI or a removal action.

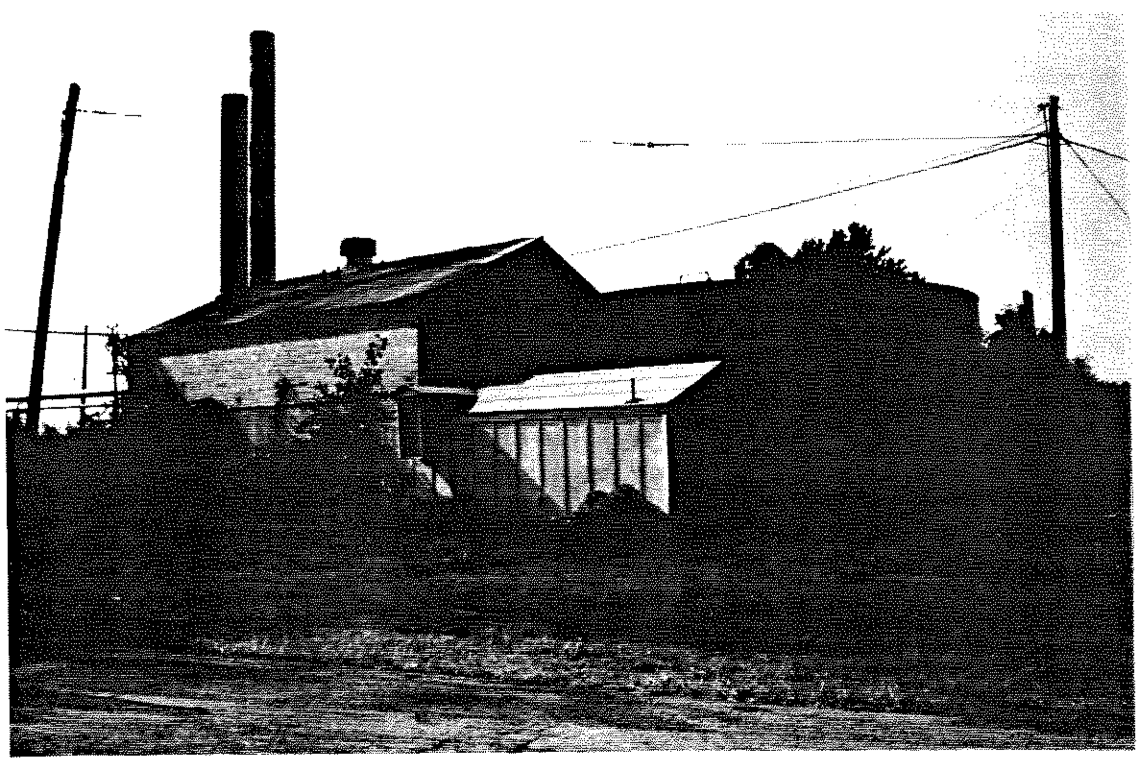


Photo 105: SEAD-38, 9/13/90. View of Building 2079, in the vicinity where the Boiler Blowdown Leach Pit is located, facing south.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-38 DATE: 9/13/90 TIME: 10:35 a. m.

UNIT NAME: Building 2079 - Boiler Plant Blowdown Leach Pit

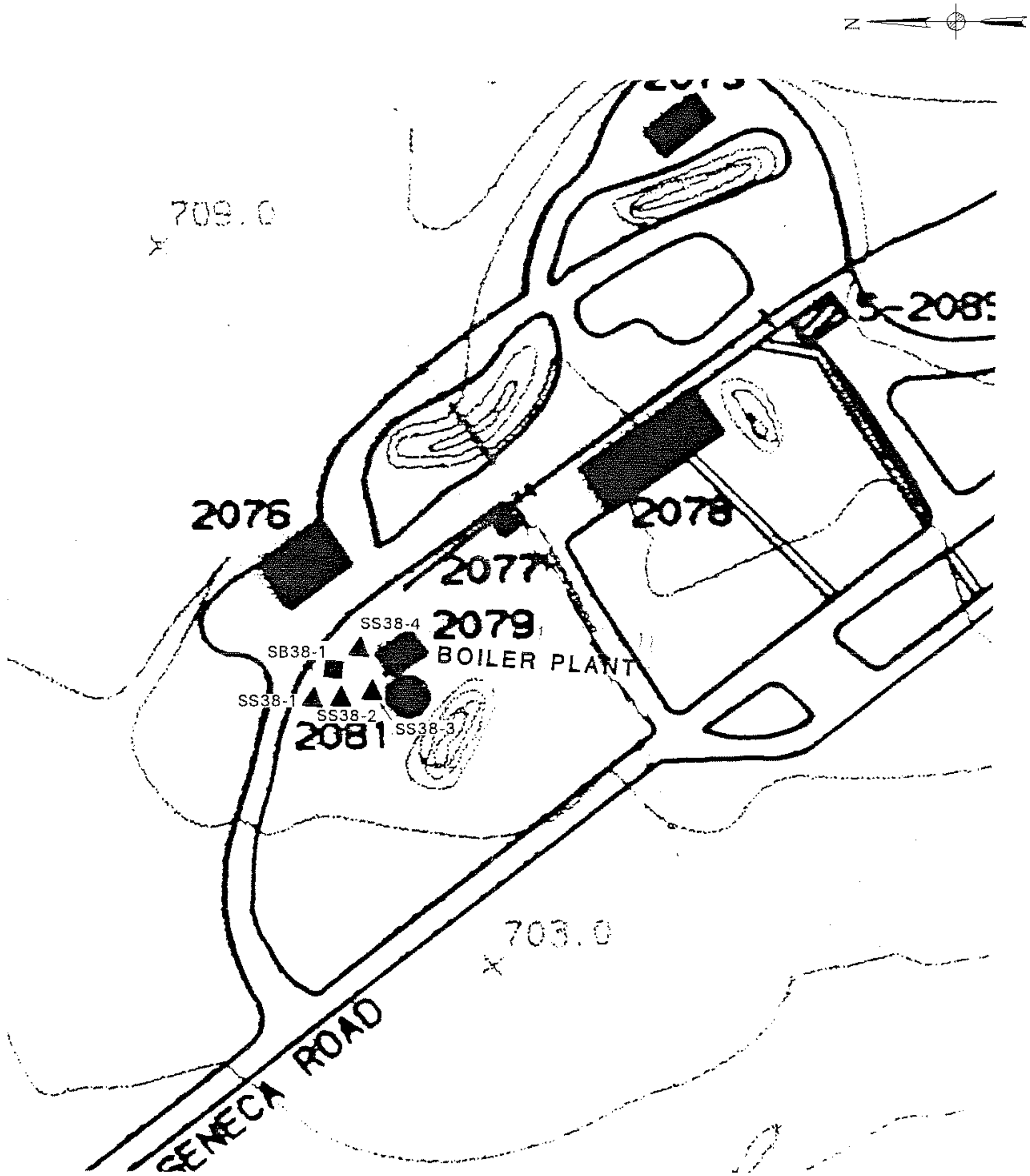
PHOTO NUMBER: 105

ORIENTATION OF PHOTOGRAPH: Facing south

LOCATION WITHIN FACILITY: Approximately 1000 feet east-southeast of the intersection of Ovid Road and Indian Creek Road.

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou



PARSONS
ENGINEERING-SCIENCE, INC.

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT
SWMU CLASSIFICATION STUDY
LIMITED SAMPLING

DEPT. ENVIRONMENTAL ENGINEERING	NO. 720517-01002

FIGURE A-38
SEAD 38
SAMPLE LOCATIONS

SCALE 1" =200'

LEGEND

- MONITORING WELL
- SOIL BORING
- SURFACE SAMPLE

TABLE A-38

Soil Analytical Results

TABLE A-38
SOIL ANALYTICAL RESULTS: TPH, pH and Solids
SEAD-38

S10OSB99.WK3 (38)	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL
SDG 41726	LOCATION	SEAD-38	SEAD-38	SEAD-38	SEAD-38	SEAD-38
	DEPTH(FT.)	0-0.2	0-0.2	0-0.2	0-0.2	2-4
	DATE	12/17/93	12/17/93	12/17/93	12/17/93	1/09/94
	ES ID	SS38-1	SS38-2	SS38-3	SS38-4	SB38-1
	LAB ID	207135	207136	207137	207138	208176
COMPOUND	UNITS					
Total Petroleum Hydrocarbons	mg/Kg	1840	104	1940	110	85
pH	standard units	7.36	7.46	7.47	7.4	8.93
Total Solids	%W/W	60.2	79.8	80.1	86	88.8

39.0 SWMU NUMBER: SEAD-39

39.1 UNIT NAME

Building 121 - Boiler Plant Blowdown Leach Pit.

39.2 UNIT CHARACTERISTICS

39.2.1 Unit Type

Leach Pit.

39.2.2 Design Features

Unknown.

39.2.3 Approximate Dates of Usage

From the time the boilers were used until the time when the blowdown points were connected to the sanitary sewer system (1979 or 1980).

39.2.4 Operating Practices

The boilers discharged 400 to 800 gallons per day at the rate of three times every 24 hours. The flow drained partly in the ground and partly to nearby drainage ditches.

39.2.5 Present Condition and Status

All blowdown points are currently connected to the sanitary sewer system. The old leaching area was not visible. The location of the leach pit is in the vicinity of Building 121 (see SEAD-36 for photographs).

39.3 WASTE CHARACTERISTICS

39.3.1 Specific Wastes Disposed

The boiler blowdown water probably contained tannins, caustic soda (sodium hydroxide), and sodium phosphate.

39.3.2 Physical and Chemical Characteristics

Tannins are plant-derived phenolic compounds.

39.3.3 Migration and Dispersal Characteristics

Any of the three constituents may migrate to the groundwater.

39.3.4 Toxicological Characteristics

Tannin is an experimental carcinogen and tumorigen. However, tannin has not been listed as a hazardous constituent in Appendix VIII of CFR 261. Also, no MCLs or health advisories have been established for tannin.

39.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

39.5 EVIDENCE OF RELEASE

A limited sampling program wa performed in 1994 to obtain evidence of a release. Similar to SEAD-38, one boring was advanced in the approximate center of the Building 121 -Boiler Plant Blowdown Leach Pit (see Figure SEAD-39). The boring was continously sampled and field screened with an OVM. Depending upon the observations during the drilling program one soil sample, either the most visually stained sample, or the sample with the highest OVM field result, or the sample from the water table, was submitted for chemical analysis. The hierarchy of sampling was the same as described for SEAD-38. This hierachy sampling order was: 1) visual staining, 2) highest OVM reading and 3) the water table. Four surface samples were obtained inside the perimeter of the leach pit for chemical analysis (see Figure SEAD 39). Chemical analyses consisted of pH (Method 9045) and TRPH (Method 418.1). Field sampling data forms and analytical reports are included in Appendices I and J, respectively.

The results of the limited sampling indicate that total petroleum hydrocarbons were detected in surface and subsurface soil samples on-site. All of the soil samples, with the exception of one (SS39-1), contained TPH concentrations of less than 100 ppm; SS39-1 contained 118 ppm TPH. The pH values in the soils ranged from 7.9 to 8.9, which are not unusual for these soils.

39.6 EXPOSURE POTENTIAL

Moderate.

39.7 RECOMMENDATIONS FOR SAMPLING

Additional sampling is recommended to determine the extent of TPH in soil.

39.8 REFERENCES

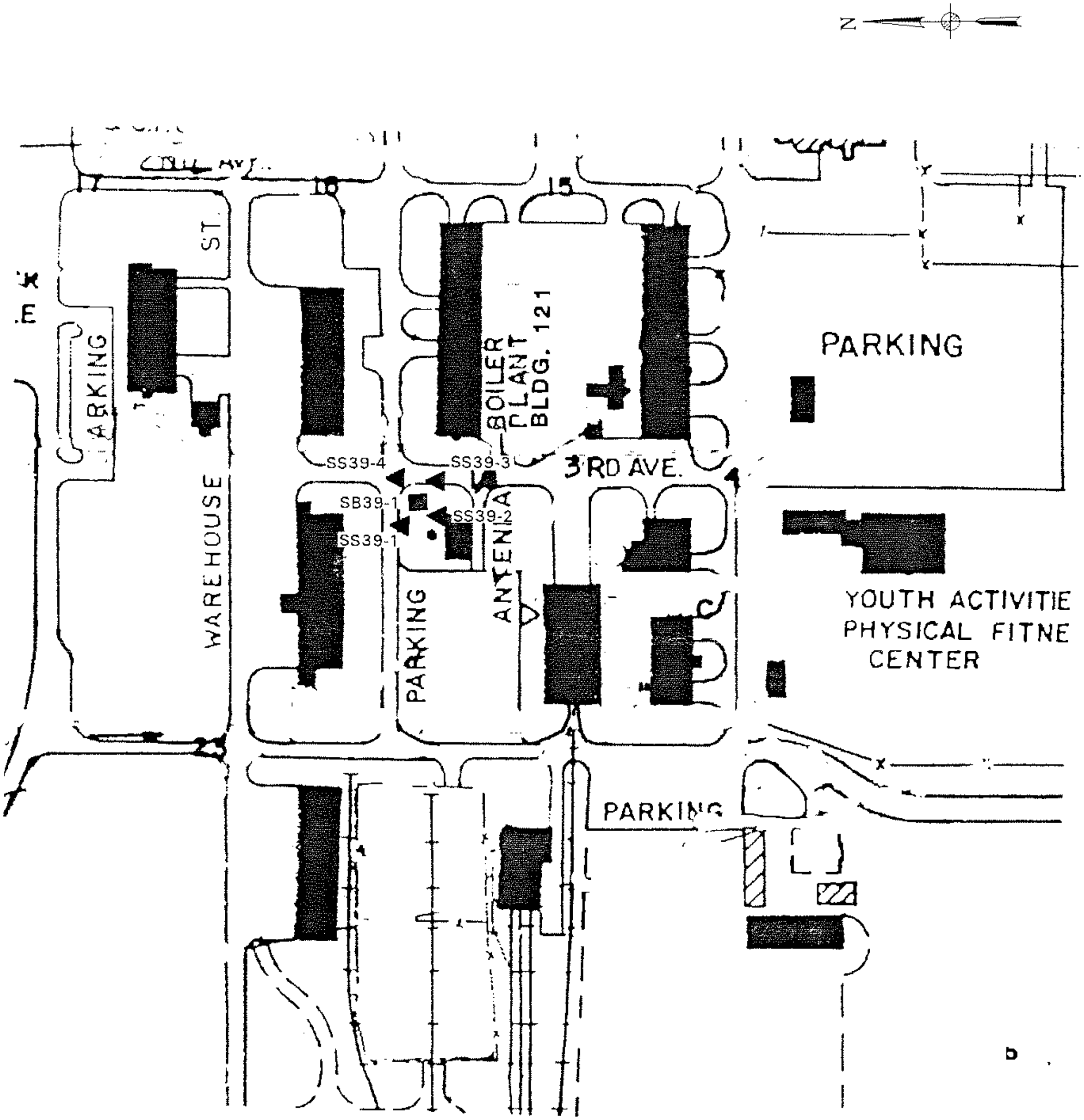
References 3, 5, 6, and 17. A list of references is provided as Appendix L.

39.9 COMMENTS

Based on the visual inspection, performed on September 12, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

39.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern under CERCLA. It will be addressed further through either a CERCLA SI or a removal action.



LEGEND

- MONITORING WELL
- SOIL BORING
- SURFACE SAMPLE

PARSONS
ENGINEERING-SCIENCE, INC.

CLIENT/PROJECT TITLE
SENECA ARMY DEPOT
SWMU CLASSIFICATION STUDY
LIMITED SAMPLING

DEPT. ENVIRONMENTAL ENGINEERING	NO. 720517-01002

FIGURE A-39
SEAD 39
SAMPLE LOCATIONS

SCALE 1"=200'

TABLE A-39

Soil Analytical Results

TABLE A-39
SOIL ANALYTICAL RESULTS: TPH, pH and Solids
SEAD-39

S10OSB99.WK3 (39)	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL
SDG 41726	LOCATION	SEAD-39	SEAD-39	SEAD-39	SEAD-39	SEAD-39
	DEPTH(FT.)	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2
	DATE	1/12/94	1/24/94	1/12/94	1/12/94	1/12/94
	ES ID	SS39-1	SS39-1	SS39-2	SS39-3	SS39-4
	LAB ID	208403	209343	208404	208405	208406
COMPOUND	UNITS					
Total Petroleum Hydrocarbons	mg/Kg	98	118	71	63	65
pH	standard units	7.9	7.91	8.9	8.34	8.03
Total Solids	%W/W	83.2	82.1	79.8	84.6	83.9

TABLE A-39
SOIL ANALYTICAL RESULTS: Solids, TPH, and pH
SEAD-39

S10OSB99.WK3 (39)	MATRIX	SOIL	SOIL	SOIL
SDG 41726	LOCATION	SEAD-39	SEAD-39	SEAD-39
	DEPTH(FT.)	3-5	0-0.2	3-5
	DATE	12/16/93	1/24/94	12/16/93
	ES ID	SB39-1.1	SS39-5	SB39-1.2
	LAB ID	207131	209345	207133
COMPOUND	UNITS		(SS39-1DUP)	(SB39-1.1DUP)
Total Petroleum Hydrocarbons	mg/Kg	89	90	72
pH	standard units	7.2	8.18	7.39
Total Solids	%W/W	85.8	82.5	84.7

40.0 SWMU NUMBER: SEAD-40

40.1 UNIT NAME

Building 319 - Boiler Plant Blowdown Leach Pit.

40.2 UNIT CHARACTERISTICS

40.2.1 Unit Type

Leach Pit.

40.2.2 Design Features

Unknown.

40.2.3 Approximate Dates of Usage

From the time the boilers were used until the time when the blowdown points were connected to the sanitary sewer system (1979 or 1980).

40.2.4 Operating Practices

The boilers discharged 400 to 800 gallons per day at the rate of three times every 24 hours. The flow drained partly in the ground and partly to nearby drainage ditches.

40.2.5 Present Condition and Status

All blowdown points are currently connected to the sanitary sewer system. The old leaching area was not visible. The leach pit is located in the vicinity of Building 319 (see SEAD-37 for photographs).

40.3 WASTE CHARACTERISTICS

40.3.1 Specific Wastes Disposed

The boiler blowdown water probably contained tannins, caustic soda (sodium hydroxide), and sodium phosphate.

40.3.2 Physical and Chemical Characteristics

Tannins are plant-derived phenolic compounds.

40.3.3 Migration and Dispersal Characteristics

Any of the three constituents may migrate to the groundwater.

40.3.4 Toxicological Characteristics

Tannin in an experimental carcinogen and tumorigen. However, tannin has not been listed as a hazardous constituent in Appendix VIII of CFR 261. Also, no MCLs or health advisories have been established for tannin.

40.4 MIGRATION PATHWAYS

Migration pathways and soil and groundwater.

40.5 EVIDENCE OF RELEASE

A limited sampling program was performed in 1994 to obtain evidence of a release. Similar to SEAD-38 and SEAD-39, one boring was advanced in the approximate center of the Building 319 - Boiler Plant Blowdown Leach Pit (see Figure SEAD-40). The boring was continuously sampled and field screened with an OVM. One soil sample either the most visually stained soil, the one with the highest OVM field screening, or if no elevated OVM reading or staining is observed, the sample at the water table, was submitted for chemical analysis. The hierarchy of sampling will be the same as described for SEAD-38. This hierachy sampling order is: 1) visual staining, 2) highest OVM reading and 3) the water table. Four surface samples, 0-2",were obtained inside the perimeter of the leach pit for chemical analysis (see Figure SEAD-40). Chemical analysis consisted of pH (Method 9045) and TRPH (Method 418.1). Analytical reports are included in the Appendices I.

The results of the limited sampling indicate that total petroleum hydrocarbons (TPH) were detected in surface and subsurface soil samples (Table A-40). One of the surface soil samples SS40-3 contained a TPH concentration of 1640 ppm. The three other surface soils contained significantly higher than 100 ppm TPH although and samples were less than 1,000ppm (Table A-40). The subsurface soil sample contained 1230 ppm TPH, which is a similar concentration to SS40-3, the subsurface soil sample.

The pH values were between 7.29 and 7.86 for all soil samples. These are not unusual values for this soil. The TPH concentrations found in surface and subsurface soil samples are believed to constitute evidence of a release

40.6 EXPOSURE POTENTIAL

Moderate.

40.7 RECOMMENDATIONS FOR SAMPLING

Additional sampling is recommended to determine the extent of TPH in soil.

40.8 REFERENCES

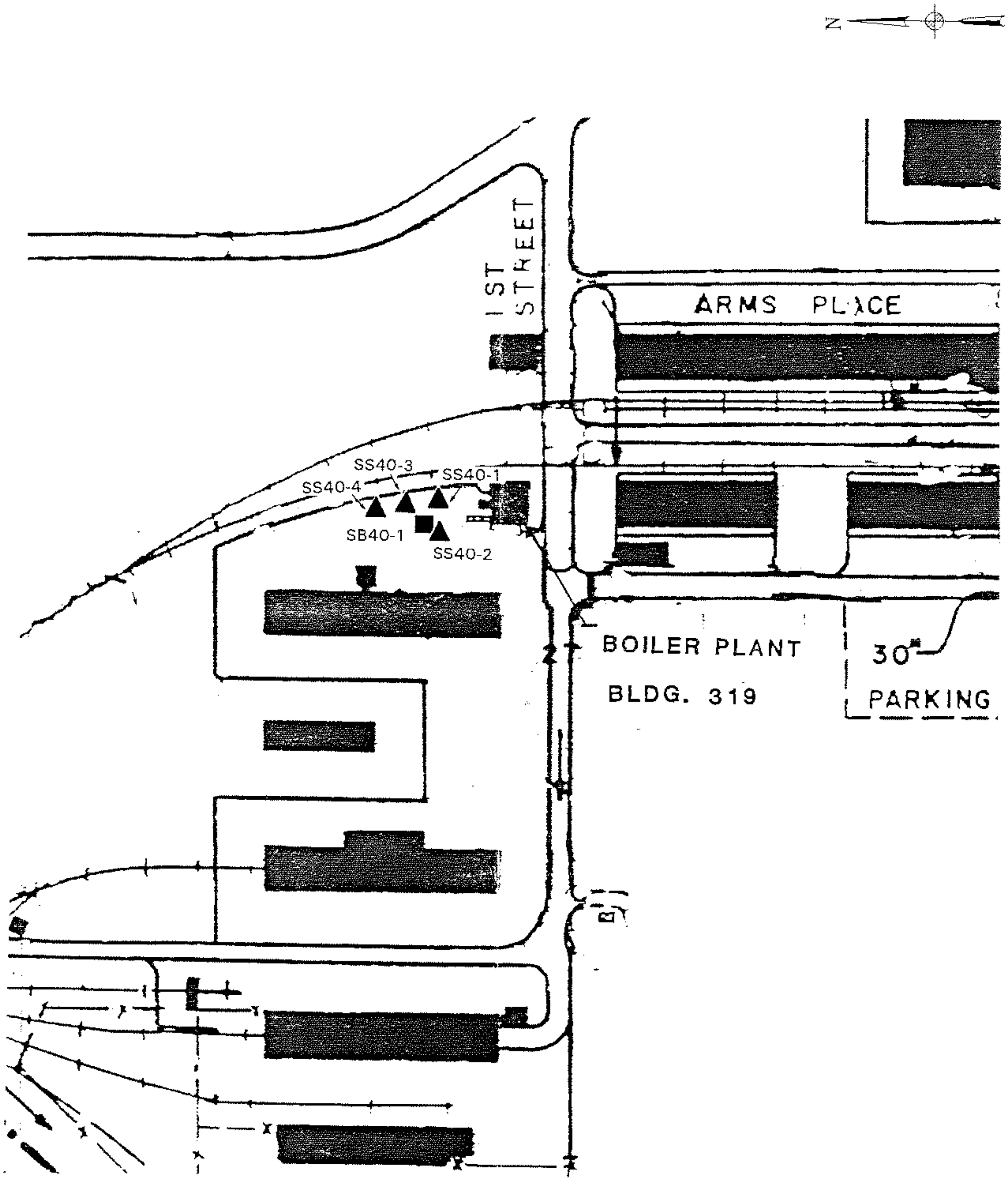
References 3, 5, 6, and 17. A list of references is provided as Appendix L.

40.9 COMMENTS

Based on the visual site inspection, performed on September 12, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

40.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern under CERCLA. It will be addressed further through either a CERCLA SI or a removal action.



LEGEND

- MONITORING WELL
- SOIL BORING
- SURFACE SAMPLE

PARSONS
ENGINEERING-SCIENCE, INC.

CLIENT/PROJECT TITLE
SENECA ARMY DEPOT
SWMU CLASSIFICATION STUDY
LIMITED SAMPLING

DEPT. ENVIRONMENTAL ENGINEERING	NO. 720517-01002

FIGURE A-40
SEAD 40
SAMPLE LOCATIONS

SCALE 1"=200'

TABLE A-40

Soil Analytical Results

TABLE A-40
SOIL ANALYTICAL RESULTS: TPH, pH and Solids
SEAD-40

S10OSB99.WK3 (40)	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL
SDG 41726	LOCATION	SEAD-40	SEAD-40	SEAD-40	SEAD-40	SEAD-40
	DEPTH(FT.)	4-6	0-0.2	0-0.2	0-0.2	0-0.2
	DATE	12/16/93	12/17/93	12/17/93	12/17/93	12/17/93
	ES ID	SB40-1.1	SS40-1	SS40-2	SS40-3	SS40-4
	LAB ID	207134	207139	207141	207142	207143
COMPOUND	UNITS					
Total Petroleum Hydrocarbons	mg/Kg	1270	300	420	1640	680
pH	standard units	7.37	7.86	7.64	7.54	7.29
Total Solids	%W/W	85.4	90.8	89.2	81.1	69.9

TABLE A–40
SOIL ANALYTICAL RESULTS: TPH, pH and Solids
SEAD–40

S10OSB99.WK3 (40)	MATRIX	SOIL
SDG 41726	LOCATION	SEAD–40
	DEPTH(FT.)	0–0.2
	DATE	12/17/93
	ES ID	SS40–5
	LAB ID	207144
COMPOUND	UNITS	(SS40–1DUP)
Total Petroleum Hydrocarbons	mg/Kg	270
pH	standard units	8.15
Total Solids	%W/W	91.8

41.0 SWMU NUMBER: SEAD-41

41.1 UNIT NAME

Building 718 - Boiler Plant Blowdown Leach Pit.

41.2 UNIT CHARACTERISTICS.

41.2.1 Unit Type

Leach Pit.

41.2.2 Design Features

Unknown.

41.2.3 Approximate Dates of Usage

From the time the boilers were used until the time when the blowdown points were connected to the sanitary sewer system (1979 or 1980).

41.2.4 Operating Practices

The boilers discharged 400 to 800 gallons per day at the rate of three times every 24 hours. The flow drained partly in the ground and partly to nearby drainage ditches.

41.2.5 Present Condition and Status

All blowdown points are currently connected to the sanitary sewer system. The old leaching area was not visible. The leach pit is located in the vicinity of Building 718 (see SEAD-35 for photographs).

41.3 WASTE CHARACTERISTICS

41.3.1 Specific Wastes Disposed

The boiler blowdown water probably contained tannins, caustic soda (sodium hydroxide), and sodium phosphate.

41.3.2 Physical and Chemical Characteristics

Tannins are plant-derived phenolic compounds.

41.3.3 Migration and Dispersal Characteristics

Any of the three constituents may migrate to the groundwater.

41.3.4 Toxicological Characteristics

Tannin is an experimental carcinogen and tumorigen. However, tannin has not been listed as a hazardous constituent in Appendix VIII of CFR 261. Also, no MCLs or health advisories have been established for tannin.

41.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

41.5 EVIDENCE OF RELEASE

A limited sampling program was conducted in 1994 to obtain evidence of a release. In a manner similar to SEAD-38, SEAD-39 and SEAD-40, one boring was advanced in the approximate center of the Building 718 - Boiler Plant Blowdown Leach Pit (see Figure SEAD-41). The boring was continuously sampled and field screened with an organic vapor meter. One soil sample, the one with the highest field screening, the greatest oil staining or the sample at the water table, was submitted for chemical analysis. The hierarchy of sampling was the same as described for SEAD-38. This hierachy sampling order is: 1) visual staining, 2) highest OVM reading and 3) the water table. Four surface samples, 0-2", were obtained inside the perimeter of the leach pit and were chemically analyzed (see Figure SEAD 41). Chemical analysis consisted of pH (Method 9045) and TRPH (Method 418.1). Analytical reports are included in Appendices I.

The results of the limited sampling indicate that total petroleum hydrocarbons were detected in surface and subsurface soil samples (Table A-41). The surface soil samples contained TPH concentrations of 144 and 300 ppm while the other two samples contained only 40 and 70 ppm. The subsurface soil sample contained only 66 ppm of TPH. The pH value ranged between 8.19 and 8.74. The TPH concentrations found in the surface soils are believed to constitute evidence of a release.

41.6 EXPOSURE POTENTIAL

Moderate.

41.7 RECOMMENDATIONS FOR SAMPLING

Additional sampling is recommended to determine the extent of TPH in soil.

41.8 REFERENCES

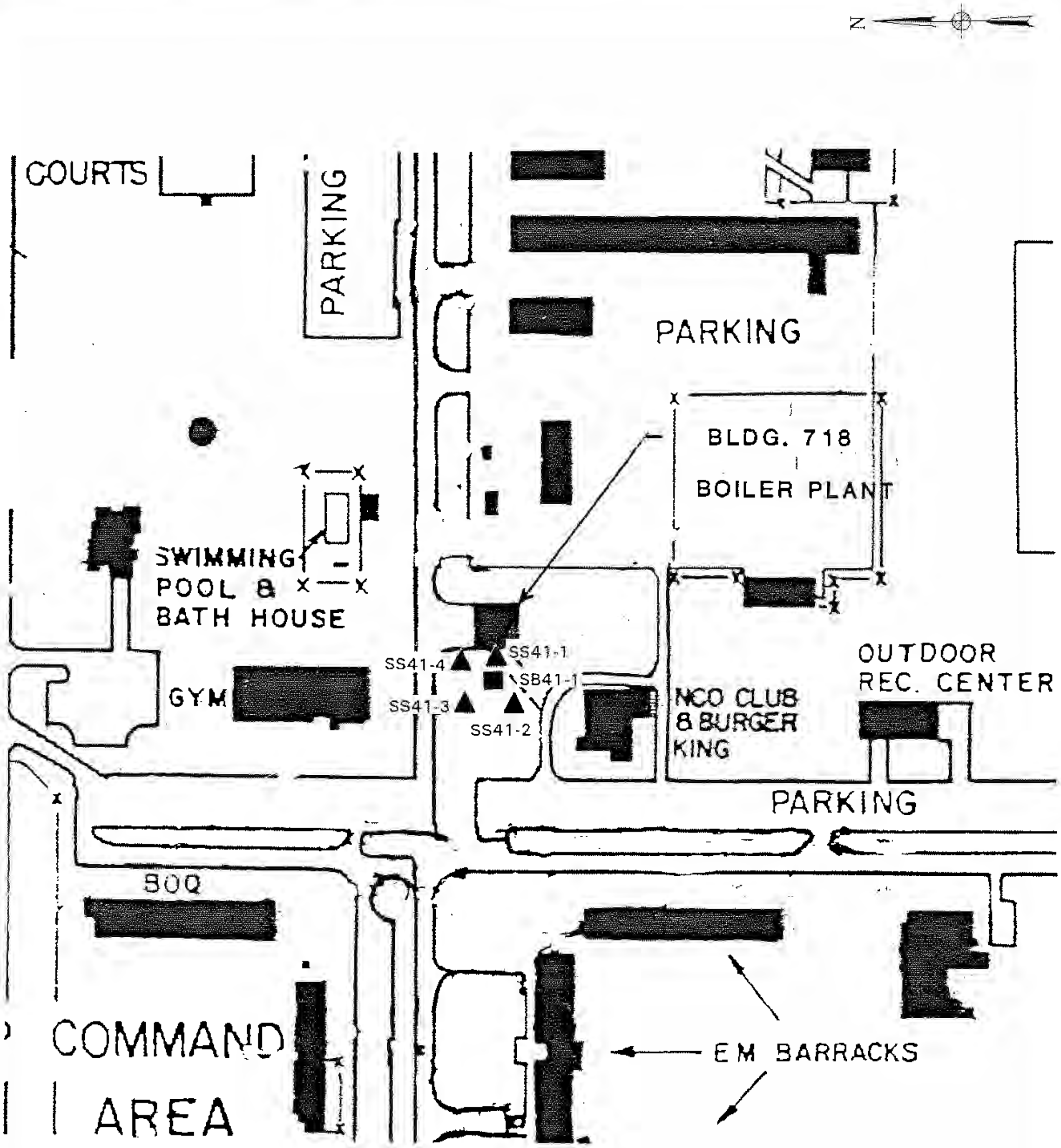
References 3, 5, 6, and 17. A list of references is provided as Appendix L.

41.9 COMMENTS

Based on the visual site inspection, performed on September 13, 1990, the SWMU's status appeared to be the same as that reported in Reference 3.

41.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern under CERCLA. It will be addressed further through either a CERCLA SI or a removal action.



LEGEND

- MONITORING WELL
- SOIL BORING
- SURFACE SAMPLE

PARSONS
ENGINEERING-SCIENCE, INC.

CLIENT/PROJECT TITLE
SENECA ARMY DEPOT
SWMU CLASSIFICATION STUDY
LIMITED SAMPLING

DEPT. ENVIRONMENTAL ENGINEERING | NO. 720517-01002

FIGURE A-41
SEAD 41
SAMPLE LOCATIONS

SCALE 1"=200'

TABLE A-41

Soil Analytical Results

TABLE A-41
SOIL ANALYTICAL RESULTS: TPH, pH and Solids
SEAD-41

S10OSB99.WK3 (41)	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL
SDG 41726	LOCATION	SEAD-41	SEAD-41	SEAD-41	SEAD-41	SEAD-41
	DEPTH(FT.)	0-0.2	0-0.2	0-0.2	0-0.2	2-4
	DATE	1/11/94	1/11/94	1/11/94	1/12/94	1/11/94
	ES ID	SS41-1	SS41-2	SS41-3	SS41-4	SB41-1
	LAB ID	208407	208408	208409	208410	208402
COMPOUND	UNITS					
Total Petroleum Hydrocarbons	mg/Kg	144	40	300	70	66
pH	standard units	8.74	8.57	8.49	8.19	8.64
Total Solids	%W/W	88.3	86.5	84.4	84	85.1

42.0 SWMU NUMBER: SEAD-42

42.1 UNIT NAME

Building 106 - Preventive Medicine Laboratory.

42.2 UNIT CHARACTERISTICS

42.2.1 Unit Type

A laboratory in Building 106.

42.2.2 Design Features

A plan view of the building is shown in Figure A-42. The brick building measures 167 feet long by 63 feet wide. The Preventive Medicine Laboratory, shown in the northeast section of the building, measures 12 feet by 28 feet.

42.2.3 Approximate Dates of Usage

The building, presently in use, was constructed circa 1975.

42.2.4 Operating Practices

Medical and dental care for SEDA personnel is performed in Building 106.

42.2.5 Present Condition and Status

The 1980 USATHAMA report indicated that clinical laboratory work and potable water analyses were performed in the Preventive Medicine Laboratory (Building 106). During the visual site inspection, performed on November 28, 1990, Building 106 personnel were asked questions pertaining to the location of the Preventive Medicine Laboratory. Personnel stated that they were unaware of this laboratory. They further stated that the laboratory used for clinical analyses was not the area shown as the Preventive Medicine Laboratory on the construction drawings, but was the area located southwest of the Preventive Medicine Laboratory (see Figure A-42). They also stated that potable water analyses were not conducted in the building but were shipped to Fort Drum for analysis. Photographs of the building, taken on September 14, 1990, are shown on the following page. The laboratory, shown in Photo 107, is used for clinical laboratory work only.

42.2.6 Regulatory Agency

The County Health Department (Geneva District Office) regulates management of infectious wastes (NY Regs Title 6 Section 364.9).

42.3 SPECIFIC WASTES DISPOSED

Laboratory wastes from clinical analysis.

42.4 MIGRATION PATHWAYS

Not applicable.

42.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

42.6 EXPOSURE POTENTIAL

Low.

42.7 RECOMMENDATIONS FOR SAMPLING

None.

42.8 REFERENCES

References 3, 5, and 8. A list of references is provided as Appendix L.

42.9 COMMENTS

In January 1980, this facility was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a location of known or suspected waste materials (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the unit was due to the fact that waste was not handled at the unit. The facility was again added to the SWMU submission list in August, 1988, by the New York State Department of Environmental Conservation (Reference 5).

42.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

Photo 106: SEAD-42, 9/14/90. View of Building 106, where the Preventive Medicine Laboratory is located, facing southeast.

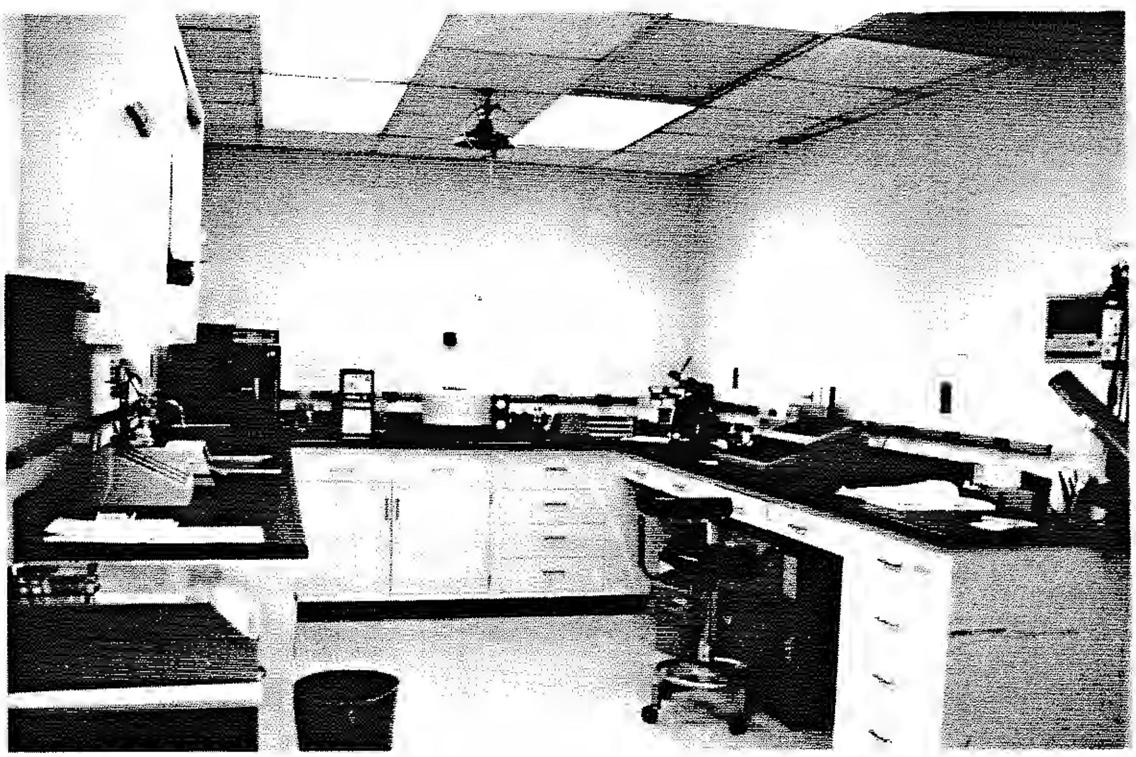


Photo 107: SEAD-42, 9/14/90. View of the Clinical Analysis Laboratory - Building 106, facing east

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-42 DATE: 9/14/90 TIME: 7:30 a. m.

UNIT NAME: Building 106 - Preventive Medicine Laboratory

PHOTO NUMBER: 106 and 107

ORIENTATION OF PHOTOGRAPH: No. 106 facing southeast, No. 107 facing east.

LOCATION WITHIN FACILITY: On the south side of North Street, approximately 200 feet west of 2nd Avenue.

WEATHER CONDITIONS: Cloudy, 70°F

PHOTOGRAPHER: Dimitra Syriopoulou

FIGURE A-42

PLAN VIEW OF BUILDING 106
MEDICAL - DENTAL CLINIC

43.0 SWMU NUMBER: SEAD-43 (refer to SEAD-56)

43.1 UNIT NAME

Building 606 - Old Missile Propellant Test Laboratory.

43.2 UNIT CHARACTERISTICS

43.2.1 Unit Type

Missile Propellant Test Laboratory.

43.2.2 Design Features

Refer to SEAD-56 for a plan view of Building 606.

43.2.3 Approximate Dates of Usage

Reported to have been operated in the 1960s.

43.2.4 Operating Practices

Unknown.

43.2.5 Present Condition and Status

Building 606 is presently used for herbicide and pesticide storage (refer to SEAD-56 for description).

43.3 SPECIFIC WASTES DISPOSED

Unknown. Possibly IRFNA, liquid propellants.

43.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

43.5 EVIDENCE OF RELEASE

Refer to SEAD-56.

43.6 EXPOSURE POTENTIAL

Moderate.

43.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units". (Refer to SEAD-56).

43.8 REFERENCES

References 3, 5, and 8. A list of references is provided as Appendix L.

43.9 COMMENTS

In January 1980, this facility was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a location of known or suspected waste materials (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the unit was due to the fact that waste was not handled at the unit. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5).

43.10 REGULATORY STATUS

This SWMU is classified as a Moderately Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

44.0 SWMU NUMBER: SEAD-44

44.1 UNIT NAME

Quality Assurance Test Laboratory.

44.2 UNIT CHARACTERISTICS

44.2.1 Unit Type

Material Proof and Surveillance Test Area.

44.2.2 General Dimensions

44.2.2.1 Location A (West of Building 616)

Measurements of a shale covered area located west of Building 616 were taken. The area measured 65 feet by 230 feet (approximately 0.35 acres).

44.2.2.2 Location B (Brady Road)

Measurements of a concrete pad were taken. The pad measured 20 feet by 50 feet. West of the pad was a metal shed. The area (pad and shelter) covered approximately 1 acre.

44.2.3 Approximate Dates of Usage

Between 1960 and 1980.

44.2.4 Operating Practices

The area (Location A or Location B) was used for quality assurance testing of CS grenades, firing devices, and pyrotechnics. The materials were tested in small amounts, usually 24 rounds per test.

44.2.5 Present Condition and Status

Inactive. A barren area, covered with shale, was observed at Location A (see photographs 108 and 109). A concrete pad, metal shed and flag pole were observed at Location B (see photographs 110 through 113 included at the end of this text).

44.3 WASTE CHARACTERISTICS

44.3.1 Specific Wastes Disposed

CS grenades, firing devices, and pyrotechnics.

44.3.2 Physical and Chemical Characteristics

Heavy metals and explosive compounds are the constituents of concern.

44.3.3 Migration and Dispersal Characteristics

The metals and explosives can migrate into the groundwater but can also be adsorbed onto the soil (particularly clay).

44.3.4 Toxicological Characteristics

Health advisories have been finalized for the explosive compounds, HMX, RDX, and TNT. These are given in Appendix E. MCLs have not been established for the explosive compounds of concern. It has been reported that the only explosive compound which may eventually be assigned a MCL is 2,4-DNT. Since MCLs do not exist for the explosives, guidance for interpreting explosive compounds in ground water samples has been developed by the Army Environmental Hygiene Agency. This guidance document has been included as Appendix F. MCLs have been established for many of the heavy metals of concern as shown in Appendix E.

44.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

44.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

44.6 EXPOSURE POTENTIAL

Moderate.

44.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

44.8 REFERENCES.

References 3, 5, and 8. A list of references is provided as Appendix L.

44.9 COMMENTS

In January 1980, this facility was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a location of known or suspected waste materials (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the unit was due to the fact that waste was not handled at the unit. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5).

44.10 REGULATORY STATUS

This SWMU is classified as a Moderately Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

Photo 108: SEAD-44, 9/13/90. View of Location A of the Quality Assurance Test Laboratory, facing south.

Photo 109: SEAD-44, 9/13/90. Close-up of Location A of the Quality Assurance Test Laboratory, facing south.

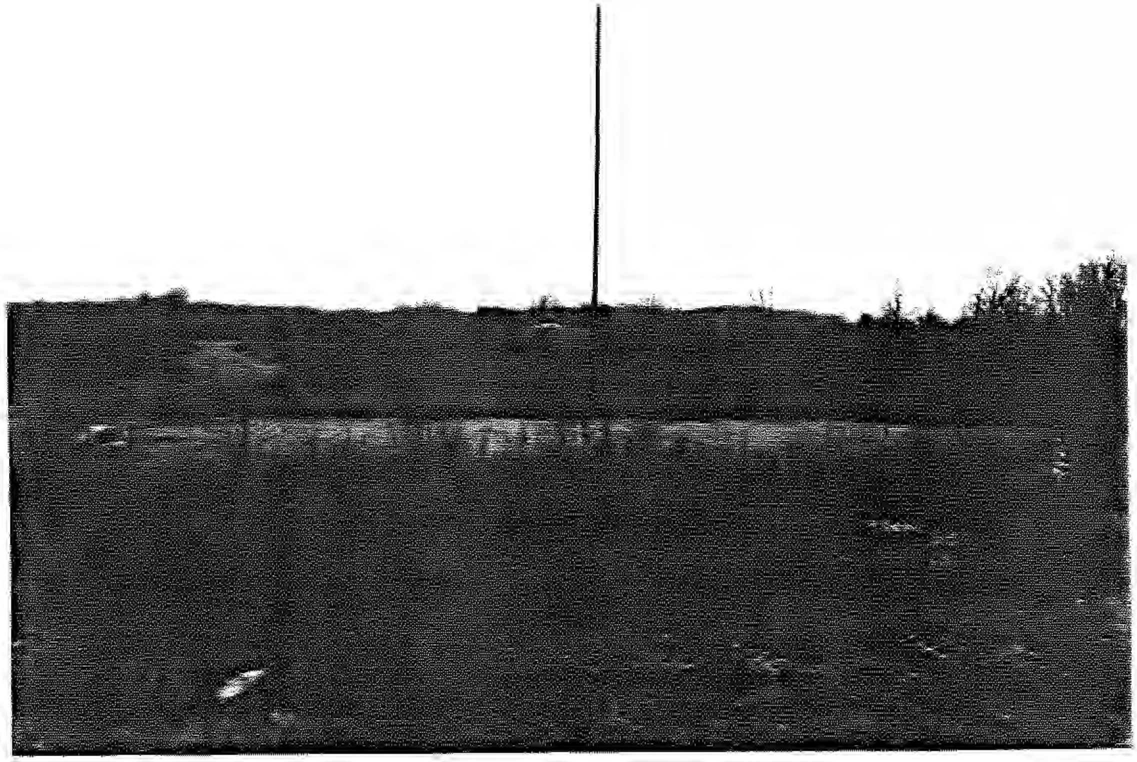


Photo 110: SEAD-44, 11/29/90. View of Location B of the Quality Assurance Test Laboratory, facing west.

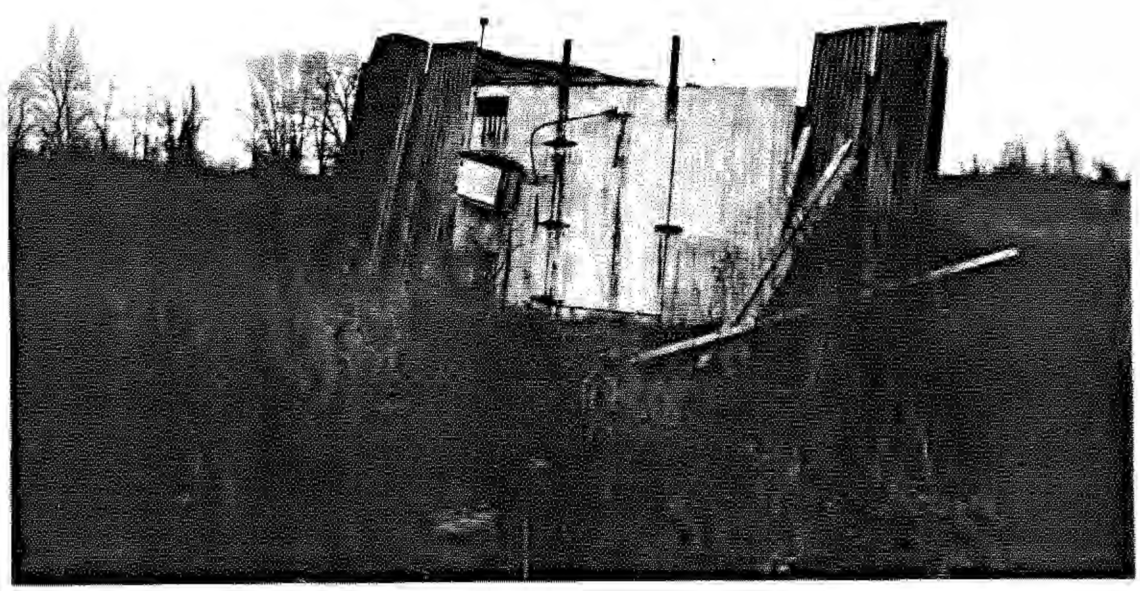


Photo 111: SEAD-44, 11/29/90. View of the shed shown in the background of Photograph 110, facing east

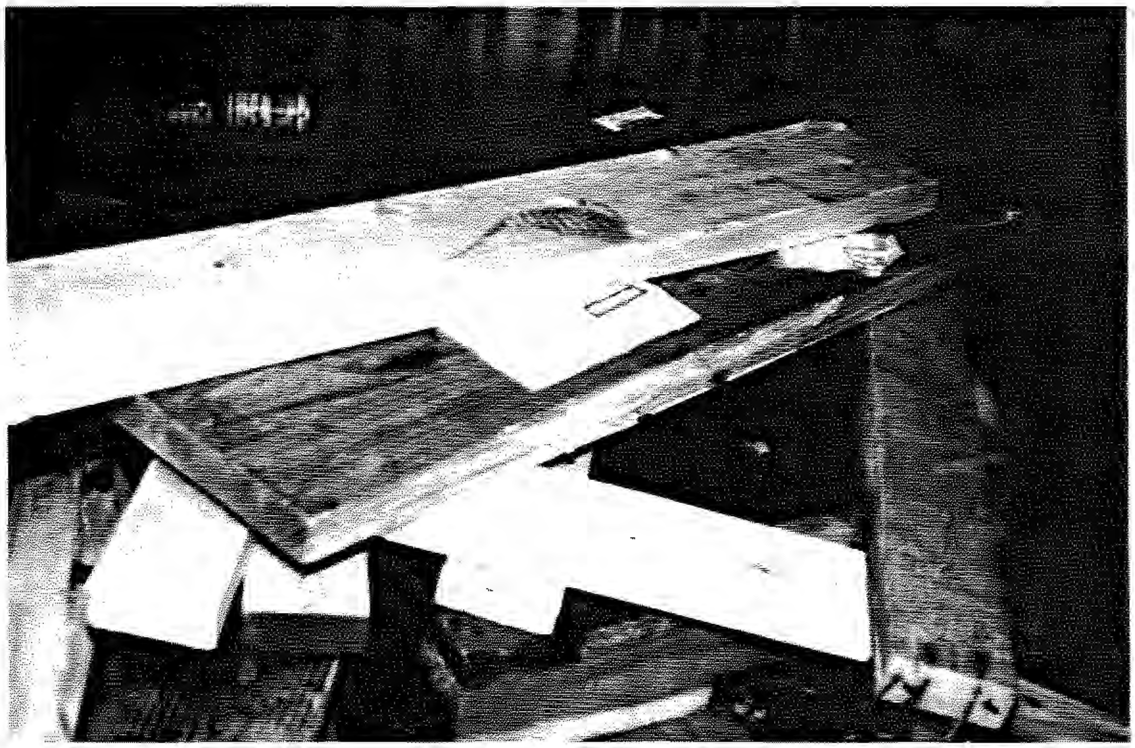


Photo 112: SEAD-44, 11/29/90. Interior of the shed shown in photograph 111, facing east.

Photo 113: SEAD-44, 11/29/90. View of Location B of the Quality Assurance Test Laboratory, facing east.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-44 DATE: 9/13/90 TIME: 2:30 p.m.

DATE: 11/29/90 TIME: 8:30 a.m.

UNIT NAME: Quality Assurance Test Laboratory

PHOTO NUMBER: 108 and 109 (on 9/13/90), 110 through 113 (on 11/29/90)

ORIENTATION OF PHOTOGRAPH: No. 108 and 109, facing south, No. 110 facing west, No. 111 - 113 facing east.

LOCATION WITHIN FACILITY: Approximately 1,500 feet east of Brady Road and 1,500 feet north of South Patrol Road.

WEATHER CONDITIONS: Sunny, 80°F on 9/13/90
Cloudy, 65°F on 11/29/90

PHOTOGRAPHER: Dimitra Syriopoulou (9/13/90)
Julie Hubbs (11/29/90)

45.0 SWMU NUMBER: SEAD-45

45.1 UNIT NAME

Demolition Area.

45.2 UNIT CHARACTERISTICS

45.2.1 Unit Type

Open detonation (OD) ground.

45.2.2 Design Features

The OD grounds consist of a detonation hill which covers approximately 1.0 acre. The hill is glacial material which is moved around for the detonation activities.

45.2.3 Approximate Dates of Usage

The detonation area has been in use from 1941 to the present.

45.2.4 Operating Practices

Material to be detonated is placed in a bulldozed hole with demolition material to destroy the ammunition or components. Primer cord is attached to the demolition material, blasting caps are attached to the primer cord, and the primer cord is attached to the circuit wire. The hole is backfilled and a minimum of 8 feet of soil is placed over the material to be detonated. The operator detonates the material after returning to the dugout and taking the proper safety precautions.

45.2.5 Present Condition and Status

The detonation ground is active. The OD grounds are currently under interim status. A photograph of the area, taken on September 11, 1990, is shown on the page following this text.

45.3 WASTE CHARACTERISTICS

45.3.1 Specific Wastes Disposed

Large obsolete unserviceable ammunition and components are destroyed by detonation.

45.3.2 Physical and Chemical Characteristics

Heavy metals, nitrates, and explosive compounds are the constituents of concern.

45.3.3 Migration and Dispersal Characteristics

The metals , nitrates, and explosives can migrate into the ground water, but also can be adsorbed onto the soil (particularly the clay particles).

45.3.4 Toxicological Characteristics

Health advisories have been finalized for the explosive compounds, HMX, RDX, and TNT. These are given in Appendix E. MCLs have not been established for the explosive compounds of concern. It has been reported that the only explosive compound which may eventually be assigned a MCL is 2,4-DNT. Since MCLs do not exist for the explosives, guidance for interpreting explosive compounds in ground water samples has been developed by the Army Environmental Hygiene Agency. This guidance document has been included as Appendix F. MCLs have been established for many of the heavy metals of concern as shown in Appendix E.

45.4 MIGRATION PATHWAYS

Migration pathways are air, soil, groundwater, surface water.

45.5 EVIDENCE OF RELEASE

In 1982, USAEHA analyzed soil samples collected from 8 locations around this area (pits #2, 4, 6 and 8). Analysis was performed for EP Toxicity (As, Ba, Cd, Cr, Hg, Pb, Se, and Ag) and explosives (HMX, RDX, Tetryl, 2,4,6-TNT, 2,4-DNT, 2,6-DNT). The analytical results indicated the presence of Cd in all samples (0.19-0.45 mg/l). Explosives were also found in each sample (RDX 1.4-1.7 ug/l; Tetryl 1.6-16.3 ug/l; 2,4,6-TNT 2.2-61 ug/l; 2,4-DNT 1.1-1.9 ug/l). The groundwater under this area is suspected to be contaminated with heavy metals (see SEAD-23).

45.6 EXPOSURE POTENTIAL

Moderate.

45.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 10 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Ten Solid Waste Management Units."

45.8 REFERENCES

References 3, 5, 6, and 8. A list of references is provided in Appendix L.

45.9 COMMENTS

The U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) originally identified this facility as a location of known or suspected waste materials (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the unit was due to the fact that it was combined with the unit designated as SEAD-23. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 3).

45.10 REGULATORY STATUS

This SWMU is classified as a High Priority Area of Concern. It is currently being investigated under the CERCLA 10 SWMU SI program.

Photo 114: SEAD-45, 9/11/90. View of the detonation grounds - Open Burning Ground, facing northwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-45 DATE: 9/11/90 TIME: 2:15 p.m.

UNIT NAME: Open Detonation Ground

PHOTO NUMBER: 114

ORIENTATION OF PHOTOGRAPH: Facing northwest

LOCATION WITHIN FACILITY: Approximately 2,000 feet east of West Patrol Road and 2,000 feet south of North Patrol Road

WEATHER CONDITIONS: Partly cloudy, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

Exhibit A-45

Additional Information for
Open Detonation Grounds: SEAD-45
(Composition and Property of OB/OD Materials)

Table D-11

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
TNT	TNT - 100%	888	1005	202.392	203.361
Explosive D	Ammonium picrate - 100%	862	1086	194.610	195.016
5"/38 Projectile (Explosive D)*	Explosive D - 100% (7.5 lb/projectile)	862	—	194.610	—
Dynamite	Dynamite - 100% (.43 lb/stick)	—	—	—	—
175mm Projectile (TNT)*	TNT - 100% (30.3 lb/projectile)	888	—	202.392	—
3.5" Rocket (Comp B)*	Comp B - 84% (1.88 lb/rocket) Propellant - 16% (.36 lb/rocket)	938	—	194.655	—
500 lb Bomb MK82H6*	H6 - 100% (192 lb/bomb)	1205	—	190.713	—
Comp-B	RDX - 59.4% TNT - 39.6% Candella wax - 1%	938	1280	194.655	194.661
5"/38 Projectile (Comp B)*	Comp B - 100% (7.5 lb/projectile)	938	—	194.655	—
250 lb Bomb MK81H6*	H6 - 100% (100 lb/bomb)	1205	—	190.713	—
90 mm Projectile (TNT)*	TNT - 100% (2.15 lb/projectile)	888	—	202.392	—
Depth Bomb MK54-1 (HBX)*	HBX - 100%	1107	—	193.595	—
Torpedo Warhead MK16-6 (HBX)*	HBX - 100% (643 lb/warhead)	1107	—	193.595	—
Depth Charge MK4-0 (TNT)*	TNT - 97.7% (33.4 lb/charge) Double-based propellant - 2.3% (0.8 lb/charge)	888	—	202.392	—
500 lb Bomb (Tritonal)*	Tritonal - 100%	888	—	202.392	—
PETN	PETN - 100%	667	1120	187.961	187.961
Lead Styphnate	Lead styphnate - 100%	848	1144	151.721	151.721
HMX	HMX - 100%	808	1259	192.749	192.749
RDX	RDX - 100%	811	1266	192.749	192.749
NC (12.6%N)	Nitrocellulose - 100%	984	1315	185.353	185.353
NQ	Nitroguanidine - 100%	772	1035	203.228	203.228
NG	Nitroglycerine - 100%	492	927	188.621	188.621
Tetryl	Tetryl - 100%	970	1316	188.506	188.510
Tritonal	TNT - 80% Aluminum - 20%	1135	1498	189.983	189.991

* Note: Temperature and combustion product data are derived from reported values calculated using computer programs (1986 Army Computer Program, 1988 Army Computer Program, and 1987 Navy Computer Program).

Table D-11 (Cont'd)

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
Comp-A3	RDX - 91.0% Candellia wax 9.0%	895	1230	203.569	203.615
C4	RDX - 91.0% Poly-isobutlene - 9.0%	876	1191	206.124	206.284
HBX-1	RDX - 39.8% TNT - 37.8% Aluminum - 16.9% Candellia wax - 5.0% Calcium chloride - 0.50%	1107	1497	193.595	193.605
Low Velocity Dynamite*	RDX - 17.4% TNT - 67.8% Pentacrithritol - 8.6% R-45M - 2.8% Droctyl sebacate - 1.3% Cellulose acetate - 8.0%	868	—	212.158	—
H6	RDX - 44.8% TNT - 29.9% Aluminum - 19.9% Candellia wax - 5.0% Calcium chloride - 0.50%	1205	1611	190.713	190.724
Medium Velocity Dynamite*	RDX - 75.0% TNT - 15.0% Sucrose - 5.0% JP-4 - 4.0% Poly-isobutlene - 1.0%	883	—	202.569	—

* Note: Temperature and combustion product data are derived from reported values calculated using computer programs (1986 Army Computer Program, 1988 Army Computer Program, and 1987 Navy Computer Program).

Table D-11 (Cont'd)

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
Propellant M26E1 (Double-based)	NC - 68.7% NG - 25.0% Ethyl Centralite - 6.0%	976	1286	186.049	186.050
Propellant SPDF (Single-based)*	NC - 97.7% Diphenylamine - 0.49% Lead carbonate - 0.74% Potassium sulfate - 1.0%	—	1315	—	181.090
Propellant SPCF (Single-based)*	NC - 94.0% Ethyl centralite - 1.0% N-butyl stearate - 3.0% Lead carbonate - 1.0% Potassium sulfate - 1.0%	—	1315	—	174.232
Propellant M15	NC - 20.0% NG - 19.0% NQ - 54.7% Ethyl centralite - 6.0% Cryolite - 0.30%	861	1117	196.261	196.341
Propellant M6	NC - 85.3% Dinitrotoluene - 9.8% Dibutylphthalate - 2.9% Potassium sulfate - 0.98% Diphenylamine - 0.98%	898	1147	193.994	194.080
Propellant M10	NC - 85.3% Dinitrotoluene - 9.8% Dibutylphthalate - 2.9% Potassium sulfate - 0.98% Diphenylamine - 0.98%	898	1147	193.994	194.080

* Note: Temperature and combustion product data are derived from reported values calculated using computer programs (1986 Army Computer Program, 1988 Army Computer Program, and 1987 Navy Computer Program).

Table D-11 (Cont'd)

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
Propellant SPD	NC - 99.0% Diphenylamine - 1.0%	969	1285	186.834	186.834
Propellant M30A2	NC - 27.0% NG - 22.5% NQ - 46.25% Urea - 1.50% Potassium nitrate - 2.75% Water - 0.15%	749	1087	193.289	193.296
Black Powder	Potassium nitrate - 74% Charcoal - 15.6% Sulfur - 10.4%	—	—	—	—
20 mm HEI M97 (Fuse M75)	TNT - 46.7% NC - 41.59% Magnesium-alluminum alloy - 1.48% Barium nitrate - 1.56% Tetryl - 7.47% Mercury fulminate - 0.52% Diphenylamine - 0.36% Lead azide - 0.26%	908	—	193.792	—
20 mm HEI M97 (Fuse M505A3)	NC - 33.92% NG - 4.13% Dibutyl phthalate - 3.26% RDX - 6.12% Aluminum - 3.72% Diphenylamine - 0.49% HMX - 0.53% Barium nitrate - 0.13% TNT - 47.7%	911	—	195.778	—
NOWTH-80-1 (MK 23)	R-45M-14.22% Aluminum - 80%	873	1247	191.877	192.128
X256 (MK12)	NC - 49.89% NG - 33.6% Lead - 1.74%	1042	1405	183.244	183.244

Table D-11 (Cont'd)

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
N-60 (Smokey Sam)	R-45M - 11.97% Zinc - 40% AP - 44%	1034	1213	172.363	172.302
N-50 (5" Gun Projectile)	R-45M - 11% Aluminum - 18% AP - 65%	1363	1831	182.785	182.934
N-5 (ASROC and MK22)	NC - 50% NG - 34.9% Lead - 1.03%	934	1220	190.913	190.917
AA2 (MK 90)	NC - 51% NG - 38.6% Lead - 0.44%	990	1348	185.334	185.251
AA6 (ZUNI)	NC - 49% NG - 38.8% Lead - 0.30%	1029	1404	184.060	184.061
HEN-12 (RAPEC/SEAGNAT)	NC - 49% NG - 40.6% Lead - 1.37%	1001	1366	183.739	183.676
BX-180/BX185 (MK18 Booster)	Butarez - 17% AP - 79%	907	1280	191.354	191.489
BX-180/BX185 (MK18 Sustainer)	Butarez - 15% AP - 79%	802	1173	190.099	190.663
BX-180H (CKU-5/A Sustainer)	Butarez - 12.4% AP - 80%	842	1218	192.051	192.411
TPH-9001 (CKU-7/A Sustainer)	Butarez - 14% AP - 80%	818	1197	191.596	192.084
PBXN-106 (MK115)	RDX - 75%	938	1300	196.208	196.209
NOSIH (BC-10) (MQM-107)	R-45M - 8.4% Aluminum - 44% AP - 43.1b	2059	2321	170.256	170.656
XM39 (LOVA)	Cellulose acetate butyrene - 12% RDX - 76% NC - 4%	863	1133	202.818	203.065

Table D-11 (Cont'd)

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
PBXN-103	NC - 6% AP - 40% Aluminum - 27% Metriol Trinitrate - 23%	1602	2138	166.513	167.065
PBX (AF)-108	RDX - 82% PPG - 10.7% Isodecyl pelargonate - 5.3%	840	1068	210.517	212.954
20mm HEI-T Cartridge M246*	Lead styphnate - 0.17% Barium carbonate - 0.17% NC - 70% NG - 7.05% Aluminum - 5.49% Strontium nitrate - 1.94% Magnesium - 1.02% Tetryl - 10.3%	970	—	161.952	—
20mm HEI-T Cartridge M599*	Lead styphnate - 0.15% Barium nitrate - 0.14% NC - 77.58% NG - 7.81% Zinc stearate - 3.38% Strontium nitrate - 0.82% Magnesium - 0.49% Tetryl - 6.94% Lead azide - 0.16% Potassium chlorate - 0.04%	984	—	171.611	—

* Note: Temperature and combustion product data are derived from reported values calculated using computer programs (1986 Army Computer Program, 1988 Army Computer Program, and 1987 Navy Computer Program).

Table D-11 (Cont'd)

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
20mm HEI-T Cartridge M242*	Lead styphnate - 0.17% NC - 68.4% NG - 6.9% RDX - 12% Aluminum - 6.4% Strontium nitrate - 1.83% Magnesium - 0.94% Polyvinyl chloride - 0.57% Barium nitrate - 0.17%	811	—	162.926	—
20mm HEI Cartridge M56A3*	Lead styphnate - 0.12% Barium nitrate - 0.14% NC - 56.48% NG - 5.69% Tetryl - 18.23% Lead azide - 0.42% Potassium chlorate - 0.13% Lead sulfocyanate - 0.04% RDX - 10.78% Aluminum - 6.09%	811	—	170.374	—
20mm HEI Cartridge M97A2*	Lead styphnate - 0.14% Barium nitrate - 0.16% NC - 56% NG - 5.65% Tetryl - 30.83%	970	—	172.571	—

* Note: Temperature and combustion product data are derived from reported values calculated using computer programs (1986 Army Computer Program, 1988 Army Computer Program, and 1987 Navy Computer Program).

Table D-11 (Cont'd)

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
20mm HEI Cartridge M210*	Lead azide - 0.49% Potassium chlorate - 0.15% Lead sulfocyanate - 0.05% Aluminum - 5.18% Lead styphnate - 0.04% Barium nitrate - 0.02% NC - 73.71% NG - 7.43% Tetryl - 10.56%	970	—	170.545	—
20mm API Cartridge M53*	Aluminum - 5.78% Lead styphnate - 0.20% Barium nitrate - 0.22% NC - 85.98% NG - 8.67%	984	—	175.72	—
Fuze M66	Potassium chlorate - 1.57% Magnesium-alluminum alloy - 1.57% Total weight - 3.34 lb/fuse Lead azide - 8.98% Black powder - 1.2% Strontium nitrate - 49.4% Magnesium - 25.15% Polyvinyl chloride - 15.27%	—	—	—	—
Fuze M502	Total weight - 0.55 lb/fuse Lead azide - 83.63% Black powder - 7.27% Antimony sulfide - 3.64% Potassium chlorate - 3.61%	—	—	—	—

* Note: Temperature and combustion product data are derived from reported values calculated using computer programs (1986 Army Computer Program, 1988 Army Computer Program, and 1987 Navy Computer Program).

Table D-11 (Cont'd)

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
Fuze M557	Total weight - 0.30 lb/fuse Lead azide - 70% Black powder - 13.33% Antimony sulfide - 6.67% Potassium chlorate - 6.67%	—	—	—	—
20mm HET Cartridge MK4*	Tetryl - 13.67% NC - 84.95% Lead azide - 0.52%	970	—	183.226	—
20mm INC Cartridge Model 96*	Lead styphnate - 0.17% Barium nitrate - 0.13% Lead peroxide - 0.04% Zirconium - 0.04% Antimony sulfide - 0.04% NC - 65.64% NG - 6.62% Potassium perchlorate - 12.76% Magnesium-alluminum alloy - 12.76%	984	—	134,152	—
40mm HE-M406A*	Lead styphnate - 0.06% Antimony sulfide - 0.01% Barium nitrate - 0.03% Aluminum - 0.01% Lead azide - 0.17% RDX - 59.26% TNT - 38.45%	811	—	192.043	—
Booster M21A4-DOTA*	Tetryl - 98.88% Lead azide - 0.23%	970	—	186.395	—

* Note: Temperature and combustion product data are derived from reported values calculated using computer programs (1986 Army Computer Program, 1988 Army Computer Program, and 1987 Navy Computer Program).

Table D-11 (Cont'd)

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
57mm HE Cartridge M306A1-DOTA*	RDX - 20.39% TNT - 13.26% NC - 60.58% Potassium sulfate - 0.62% Tetryl - 1.59% Lead azide - 0.03% Potassium chlorate - 0.01% Black powder - 2.52% Lead styphnate - 0.0094%	811	—	181.423	—
40mm APT-(M81) DOTB*	Black powder - 1.39% Lead styphnate - 0.01% NC - 83.48% Dinitrotoluene - 9.8% Barium peroxide - 0.35%	984	—	154.733	—
20mm API-T Cartridge M601*	Lead styphnate - 0.12% Barium nitrate - 0.09% NC - 73% NG - 9.53% Strontium nitrate - 1.05% Polyvinyl chloride - 0.33% Potassium perchlorate - 0.33% Magnesium - 0.53%	984	—	153.283	—

* Note: Temperature and combustion product data are derived from reported values calculated using computer programs (1986 Army Computer Program, 1988 Army Computer Program, and 1987 Navy Computer Program).

Table D-11 (Cont'd)

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
20mm HEI-T Cartridge M599*	Lead styphnate - 0.05%	984	—	74.755	—
	Barium nitrate - 4.84%				
	NC - 35.66%				
	NG - 4.59%				
	Strontium nitrate - 0.52%				
	Magnesium - 0.26%				
	Polyvinyl chloride - 0.17%				
	Magnesium - 22.38%				
30mm HEI Projectile CTG*	TNT - 100%	888	—	203.392	—
152mm HEAT Projectile CTG*	Comp B-100%	938	—	194.655	—
30mm TP Projectile CTG*	Black powder - 100%	—	—	—	—
Rifle Grenade Heat M31(A)*	Comp B - 100%	938	—	194.655	—
Burster (A) w/ Initiator*	Tetryl - 68.24%	888	—	187.816	—
	TNT - 29.24%				
	Lead styphnate - 2.52%				
Grenade MK3 w/ Fuze (M206A2)*	TNT - 75.57%	811	—	192.943	—
	RDX - 18.65%				
	Lead azide - 4.81%				
	Lead styphnate - 0.96%				
75mm Projectile*	TNT - 100%	888	—	202.392	—
105mm Projectile*	TNT - 48.58%	888	—	198.41	—
	Comp B - 51.42%				
Grenade MK3*	TNT - 100%	888	—	202.392	—
Propellant M1	NC - 84%	—	1139	—	196.070
	Dinitrotoluene - 10%				
	Dibutylphthalate - 5%				
	Diphenylamine - 1%				

* Note: Temperature and combustion product data are derived from reported values calculated using computer programs (1986 Army Computer Program, 1988 Army Computer Program, and 1987 Navy Computer Program).

Table D-11 (Cont'd)

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
Propellant N5	NC - 50% NG - 35% Diethyl phthalate - 10.5% Dimtrodiphenylamine - 2% Lead salicylate - 1% Lead-2-ethylhexoate - 1.3% Candellia wax - 0.2%	—	—	—	—
JATO Rocket Motor MK6-1	AN583F - 99.83% Black power - 0.17%	—	1181	—	192.071
Propellant AN583F	Ammonium perchlorate - 75% Polyester resin - 14.7% Steryne - 9% t-Butyl catechol solution - 0.6% Cumene hydroperoxide - 0.25% Copper chromite - 0.15% Lecithin - 0.3%	—	—	—	—
Propellant M17*	NC - 22% NG - 21.5% NQ - 54.7%	—	927	—	192.497
Propellant M30A1*	NC - 28% NG - 22.5% NQ - 47% Potassium sulfate - 1%	—	927	—	189.856
Propellant M30*	NC - 28% NG - 22.5% NQ - 44.7%	—	927	—	191.278

* Note: Temperature and combustion product data are derived from reported values calculated using computer programs (1986 Army Computer Program, 1988 Army Computer Program, and 1987 Navy Computer Program).

Table D-11 (Cont'd)

COMPOSITION AND PROPERTY OF OB/OD MATERIALS

Material	Composition	Temperature (°K) OD	Temperature (°K) OB	Combustion Product Volume (l/100g of Munition @ STP) OD	Combustion Product Volume (l/100g of Munition @ STP) OB
Rocket Motor*	NC - 89.3% NG - 9% Diphenylamine - 0.9% Sodium sulfate - 0.15%	—	1315	—	182.496
Detent*	Tetryl - 100%	970	1316	188.506	188.510
MK 117, 118	Black powder - 100%	—	—	—	—
MK125-5	Black powder - 100%	—	—	—	—
4.5" Gun M7	M13 propellant - 100%	—	—	—	—
4.5" Gun M8	M16 propellant - 100%	—	—	—	—
120mm Gun M15A2*	M15 propellant - 100%	—	861	—	196.261
120mm Gun M45*	M17 propellant - 100%	—	927	—	192.497
120mm Gun M46*	M17 propellant - 100%	—	927	—	192.497
155mm HOW M3*	M1 propellant - 100%	—	1139	—	196.070
155mm HOW M4A1*	M1 propellant - 100%	—	1139	—	196.070
155mm Gun M19*	M6 propellant - 100%	—	898	—	193.994
175mm M86*	M6 propellant - 100%	—	898	—	193.994
175mm M124*	M6 propellant - 100%	—	898	—	193.994
8" Gun M9	Smoke powder - 100%	—	—	—	—
8" Gun M10	Smoke powder - 100%	—	—	—	—
8" Gun M13*	M6 propellant - 100%	—	898	—	193.994
8" HOW M1*	M1 propellant - 100%	—	1139	—	196.070
8" HOW M2*	M1 propellant - 100%	—	1139	—	196.070
8" HOW M188*	M30A1 propellant - 100%	—	927	—	189.856
240mm HOW M26*	M6 propellant - 100%	—	898	—	193.994
105mm HOW*	M6 propellant - 100%	—	898	—	193.994
105mm HOW*	M1 propellant - 100%	—	1139	—	196.070

* Note: Temperature and combustion product data are derived from reported values calculated using computer programs (1986 Army Computer Program, 1988 Army Computer Program, and 1987 Navy Computer Program).

46.0 SWMU NUMBER: SEAD-46

46.1 UNIT NAME

Small Arms Range.

46.2 UNIT CHARACTERISTICS

46.2.1 Unit Type

Material Proof and Surveillance Test Area.

46.2.2 General Dimensions

Approximately 1 to 2 acres.

46.2.3 Approximate Dates of Usage

Used through 1960.

46.2.4 Operating Practices

The range was used for testing fire tracers. An unknown number of rockets (3.5-inch) were fired into an earthen barricade at one end of the range. Possibly the hill shown in Photo 116 was used as a backdrop during target practice.

46.2.5 Present Condition and Status

The area is presently used for training troops. Only blank ammunition is used during training practices. Photographs of the area, taken on September 13, 1990, are shown on the following page following this text.

46.3 WASTE CHARACTERISTICS

46.3.1 Specific Wastes Disposed

Fire tracers, rockets (3.5-inch).

46.3.2 Physical and Chemical Characteristics

Heavy metals and explosives are the constituents of concern.

46.3.3 Migration and Dispersal Characteristics

The metals and explosives can migrate into the ground water but can also be adsorbed into the soil (especially clay).

46.3.4 Toxicological Characteristics

Health advisories have been finalized for the explosive compounds, HMX, RDX, and TNT. These are given in Appendix E. MCLs have not been established for the explosive compounds of concern. It has been reported that the only explosive compound which may eventually be assigned a MCL is 2,4-DNT. Since MCLs do not exist for the explosives, guidance for interpreting explosive compounds in ground water samples has been developed by the Army Environmental Hygiene Agency. This guidance document has been included as Appendix F. MCLs have been established for many of the heavy metals of concern as shown in Appendix E.

46.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

46.5 EVIDENCE OF RELEASE

None observed.

46.6 EXPOSURE POTENTIAL

Moderate.

46.7 RECOMMENDATIONS FOR SAMPLING

Soil samples should be collected from the face of the hill shown in Photo 116. Since explosive compounds may exist in the soils, all sampling should be supervised by UXO personnel.

46.8 REFERENCES

References 3, 5, and 8. A list of references is provided as Appendix L.

46.9 COMMENTS

In January 1980, this facility was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a location of known or suspected waste materials (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the unit was due to the fact that wastes were not handled at the unit. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5).

46.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern under CERCLA. It will be addressed further, through either CERCLA SI or a removal action.

Photo 115: SEAD-46, 9/13/90. View of the Small Arms Range Area, facing east.

Photo 116: SEAD-46, 9/13/90. View of the Small Arms Range Area, facing north.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-46 DATE: 9/13/90 TIME: 9:40 a.m.

UNIT NAME: Small Arms Range

PHOTO NUMBER: 115 and 116

ORIENTATION OF PHOTOGRAPH: No. 115 facing east, No. 116 facing north.

LOCATION WITHIN FACILITY: Approximately 1,000 feet west of East Patrol Road and 1,000 feet south of East-West Base Line Road.

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

47.0 SWMU NUMBER: SEAD-47

47.1 UNIT NAME

Buildings 321 and 806-Radiation Calibration Source Storage.

47.2 UNIT CHARACTERISTICS

47.2.1 Unit Type

Radioactive Materials Storage Area.

47.2.2 Design Features

Building 321 measures approximately 200 feet by 60 feet. The building's floor is of concrete construction and the walls are of concrete block construction. The building has two docks measuring approximately 200 feet by 60 feet each. The docks are located on the east and west sides of the building. Building 806 is a concrete block structure which measures approximately 100 feet by 40 feet. Design regulations for this unit are not applicable.

47.2.3 Approximate Dates of Usage

Unknown.

47.2.4 Operating Practices

Radiation calibration sources are stored in these buildings. The isotopes include cobalt-60, uranium-235, radium-226, strontium-yttrium-90, and plutonium-239.

47.2.5 Present Condition and Status

Active. Prior to storage in Buildings 321 and 806, the calibration sources were stored in Buildings 804, 807 and 815.

47.2.6 Regulatory Agency

The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is Paul Marges of NYSDEC's (Albany) Radiation Bureau, Division of Hazardous Substance Regulations. There are not applicable regulatory permit ID numbers.

47.3 SPECIFIC WASTES DISPOSED

Radioactive materials are stored not disposed in these buildings.

47.4 MIGRATION PATHWAYS

There are not likely migration pathways, given the design features discussed in Section 47.2.2.

47.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

47.6 EXPOSURE POTENTIAL

Low.

47.7 RECOMMENDATIONS FOR SAMPLING

No further action is recommended for this unit.

47.8 REFERENCES

References 3, 5, and 8. A list of references is provided as Appendix L.

47.9 COMMENTS

In January 1980, this facility was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a location of known or suspected waste materials (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the unit was due to the fact that the facility was used for material storage, not waste storage. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5).

47.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

48.0 SWMU NUMBER: SEAD-48

48.1 UNIT NAME

Pitchblend Storage Igl-

~~256-895-1602~~

Pitchblende 40's
DU - until 1979
Army-survey 1986
Cleaned 1984 cleanup
1988 NRC letter
NYSDOH 1993

13 May 1985
July 1985 - decon by RADCON.
Oct 1987 - NRC Close out.

June 1993 - NYSDOH

...wn in Figure A-48. The eleven ...ad EO800. Each igloo measures ...d of each igloo is a 6-foot by 6- ... the road. The remaining area

I... s were used for storage of a... iblend ore was removed and c... ely 1979. The igloos were e...

48...

Inactive.

48.3 SPECIFIC WASTES DISPOSED

Specifc wastes disposed of at the SWMU are as discussed above.

48.4 MIGRATION PATHWAYS

Migration pathways are soil, groundwater and surface water.

48.5 EVIDENCE OF RELEASE

In 1976, the eleven igloos were radiologically surveyed by the Oak Ridge National Laboratory for the U.S. Department of Energy (DOE). The survey measured the extent of contamination in the igloos, the surface waters in the vicinity, and along a rail spur leading to the area. The survey concluded that no health hazards existed. However, it was found that the radiation levels present were in excess of allowable concentrations that would permit unrestricted use of the igloos and the surrounding areas. The survey indicated that the residual radioactivity from the ore was confined to the interiors of eight igloos and to the outdoor areas near the entrances to these igloos. In May 1985, the United States Army Ballistics Laboratory conducted a radiological survey of the 11 igloos which comprise SEAD-48. The recommendations of the report were 1) decontamination of those areas in the interior of igloo EO804 exceeding 5000 dpm/100 cm^2 alpha contamination be accomplished by sandblasting grinding or other dry surface clearing methods and 2) soil removal to a depth of six inches to reduce outdoor levels to background at EO804 and EO811. The Army Ballistics Laboratory Report "Radiological Survey of Seneca Army Depot", January 1986, is attached to this report. In 1985, SEAD developed a Plan for Reclamation of the igloos. A copy of this plan "Proposed Action: Pitchblend Residue Remedial Action Project". The SEDA Safety Officer coordinated the decontamination of the bunkers in July 1985. SEDA removed contaminated soils and residues around the igloos and vacuum blasted the concrete on the interior of the igloos. The materials collected at the area were disposed of under the U.S. Nuclear Regulatory Commission regulations. The residues were transported to a disposal site located in Barnwell, S.C. The cleanup activities were coordinated with the New York State Health Department. The United States Army Environmental Hygiene Agency (AEHA) provided a close-out survey of the area, concluding that, "after decontamination, the bunkers (E801-E811) and the surrounding area conform to the requirements for unrestricted use".

A close-out survey of the bunkers was conducted by the United States Nuclear Regulatory Commission (NRC) in October 1987. The closeout inspection report has been included as Exhibit A-48.

NYSDEC and NYSDOH performed a follow-up radiological survey of SEAD-48 [pitchblende storage igloos FO802, EO804, EO806, EO808, EO809 and EO710 (a background location)] on June 10, 1993. Soil and wipe samples were collected from igloos EO804, EO806, EO808 and EO710. The survey results indicate that there are several areas of contamination inside and outside of igloo EO804 and one hot spot in igloo EO808 that require further remediation. The areas of contamination in building EO804 are along he concrete drainage ditch, in the outside drains that exit the building on the north wall at a height of one to two feet aboveground level, and in the soil outside near the drains. The debris samples, collected inside building EO804 and in one spot in building EO808, and the soil samples have elevated concentrations of U-238 and Ra-226.

48.6 EXPOSURE POTENTIAL

Low.

48.7 RECOMMENDATIONS FOR SAMPLING

NYSDEC recommends that the SWMU be investigated further.

48.8 REFERENCES

References 3, 5, 6, 8, and 18. A list of references is provided as Appendix L.

48.9 COMMENTS

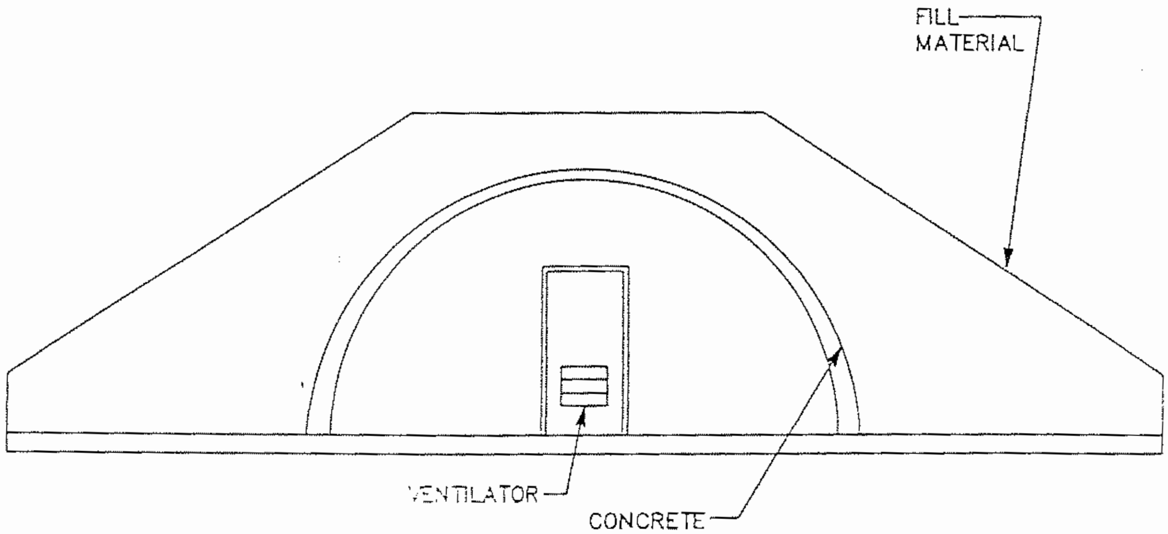
In January 1980, this facility was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a location of known or suspected waste materials (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the unit was due to the fact that the facility was used for material storage, not waste storage. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5). Based on the results of the radiological survey by NYSDEC and NYSDOH, NYSDEC recommended that SEAD-48 be classified as an Area of Concern.

48.10 REGULATORY STATUS:

This SWMU is classified as a Low Priority Area of Concern under CERCLA. It will be addressed further either through a CERCLA SI or a removal action.

FIGURE A-48

TYPICAL CROSS-SECTION OF PITCHBLEND STORAGE IGLOO



NOTE

DRAWING ADAPTED FROM UNDERGROUND MAGAZINE, PLAN, ELEVATION, AND DETAILS, PLAT NUMBER 6501, BY CONSTRUCTION DIVISION OFFICE OF QUARTERMASTER GENERAL, SENECA ORDNANCE DEPOT, DATED JULY 25, 1941.

ERC Environmental and Energy Services Co.

TYPICAL CROSS-SECTION OF PITCHBLEND STORAGE IGLOO

FIGURE A-48

EXHIBIT A-48

CLOSEOUT INSPECTION REPORT

FOR THE

PITCHBLEND STORAGE IGLOOS

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406

02 MAY 1988

Docket No. 040-08526 License No. SUC-1275

Department of the Army
ATTN: Colonel William R. Holmes
Commander, Seneca Army Depot
SDSSE-AX
Romulus, New York 14541-5001

Gentlemen:

Subject: Closeout Inspection No. 87-002

This refers to the closeout safety inspection conducted by Ms. E. Ullrich and Mr. R. Ladun of this office on October 29, 1987 at the Seneca Army Depot of activities authorized by the above listed NRC license. Areas examined during this closeout inspection are described in the Inspection Report which is enclosed with this letter. Within these areas, the inspection consisted of observations by the inspectors, interviews with personnel, selective examination of representative records, and independent measurements by the inspectors. The findings of the inspection were discussed with yourself at the conclusion of the inspection. A copy of the NRC inspection report is enclosed.

Within the scope of this inspection, no violations were identified.

Based on the results of this inspection, we have no objection to the release of Bunkers E0801-30811 for unrestricted use.

In accordance with Section 2.790 of the NRC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosure will be placed in the Public Document Room. No reply to this letter is required.

Your cooperation with us is appreciated.

Sincerely,

John D. Kinneman, Chief
Nuclear Materials Safety Section B
Division of Radiation Safety
and Safeguards

Enclosure: NRC Region I Inspection Report No. 87-002

A48-6

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 040-08526/87-002

Docket No. 040-08526

License No. SUC-1275 Priority 3 Category E

Licensee: U.S. Department of the Army

Facility Name: Seneca Army Depot

Inspection At: Romulus, New York

Inspection Conducted: October 29, 1987

Inspectors: Elizabeth Ullrich
Elizabeth Ullrich, Health Physicist — 4/25/88 date signed

Richard H. Ladun
Richard Ladun, Health Physicist — 4-28-88 date signed

Approved by: John D. Kinneman
John D. Kinneman, Chief
Nuclear Materials Safety Section A — 4/28/88 date signed

Inspection Summary: Closeout inspection on October 29, 1987 (Inspection No. 040-08526/87-002).

Areas Inspected: Announced, closeout inspection limited to a survey of Bunkers E0801-E0811 for residual contamination prior to release of the facilities for unrestricted use. Twenty-seven wipes were taken and assayed for removable alpha and beta activity. Specified areas of the facility were surveyed to identify fixed radioactive contamination. Two soil samples and a water sample were analyzed for gamma activity.

Results: No violations were identified. No detectable removable radioactive contamination was found. No radiation levels above background were found. No levels of activity above naturally occurring environmental concentrations were detected. The licensee's survey report enclosed with their letter dated May 26, 1987 accurately reflects the condition of the portions of the facilities surveyed.

DETAILS

1. Persons Contacted

   *Thomas Stincic, Radiation Protection Officer
   *Thomas Battaglia, Safety Director
   *Col. William R. Holmes, Commander

   *denotes those present at the exit interview.

2. Background

   Seneca Army Depot covers approximately 10,000 acres, a large portion of which is occupied by munitions bunkers. Eleven of these bunkers were used in the 1940's to store approximately 2000 barrels of pitchblende ore. After removal of the ore, normal storage of munitions was resumed.

   Radioactive contamination in the vicinity of the eleven bunkers was identified in 1976 by ERDA, as part of the "Formerly Utilized MED/AEC Sites Remedial Action Program". The Seneca Safety Office coordinated the decontamination of the bunkers in July 1985. The U.S. Army Radiation Control Team (RADCON) performed the initial assessment and on-site health physics assistance during decontamination. Soil analysis and other health physics support were provided by the U.S. Army Belvoir Research and Development Center. Whole-body counting for workers was done at Bethesda Naval Hospital by Uniformed Services University of Health Sciences (USUHS). The U.S. Army Environmental Hygiene Agency (AEHA) provided a close-out survey of the area. Results of these efforts were documented, and copies sent to NRC Region I in May 1987.

   A close-out survey of the bunkers was conducted by the inspectors on October 29, 1987. A 10 minute videotape documenting the decontamination procedures was viewed and records were examined. Documents submitted to the NRC Region I Office were reviewed, and are enclosed as Attachments.

   The eleven bunkers (E0801-E0811) are located along road E0800 within a secured area. Each bunker is approximately 25 feet wide by 80 feet long. A 6 foot by 6 foot concrete pad is located at the north end of each bunker, in front of the door. A gravel area extends from the pad to the road. The remaining area around the bunkers is field grass. The bunkers are currently empty, and there are no plans for use in the near future.

3. Instrumentation Used

   Gamma radiation level measurements were made with a Ludlum Model 19 Micro-R Meter, Serial No. NRC-019637. The background radiation level was approximately 12 microrems per hour with this instrument.

Wipes were counted on a Tennelec Model LB 5100 gas flow proportional counter in the Region I Laboratory. The minimum detectable activity for this unit was calculated to be 24 disintegrations per minute (dpm) for beta, and 3 dpm for alpha.

Soil and water samples were counted on an intrinsic germanium detector and a multichannel analyzer in the Region I Laboratory.

4. Radiation Survey Results

Radiation level surveys were done in and around the bunkers. No radiation levels above background were detected throughout the areas surveyed.

5. Survey for Removable Contamination

Twenty-seven wipes were taken from floor surfaces inside the bunkers. Analysis of these wipes show no areas above the minimum detectable activity.

A water sample and a soil sample were taken on the east side of the pad in front of bunker E0804, an area from which contaminated soil had been removed. Analysis of the water sample showed no identifiable gamma peaks. Analysis of the soil sample showed only environmental levels of cesium-137 and potassium-40. A second soil sample was taken from the pad area of bunker E0804. Analysis of this sample showed environmental levels of potassium-40 and thallium-208.

6. Receipt and Transfer of Licensed Material

The inspectors reviewed the licensees records for the disposal of the licensed materials.

No violations were identified.

7. Personnel Monitoring

Dosimetry and bioassay records or personnel involved in the decontamination of the bunker were reviewed.

No violations were identified.

8. Exit Interview

The scope and results of the inspection were discussed with the individuals identified in Section 1.

EXHIBIT A-48 (A)

Radiological survey of SEAD-48-
Pitchblende Storage Igloos: 802,
804, 806, 808, 809 and 710 (background
location outside) by NYSDEC and NYSDOH

STATE OF NEW YORK - DEPARTMENT OF HEALTH

INTEROFFICE MEMORANDUM

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

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

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

DATE: September 7, 1993

Summary-

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

Details-

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

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

Survey methodology-

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

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

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

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

Results-

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

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

Survey meter readings-

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

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

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

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

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

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

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

William Condon, Chief, Environmental Radiation Section

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

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

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

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

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

E0804 Wall at drain East side 40 microR/hr maximum

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

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

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

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

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

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

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

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

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

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

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

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

William Condon, Chief, Environmental Radiation Section

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

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

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

E0804W2 Igloo E0804 52 + 5 dpm 54 + 4 dpm

E0806W1 Igloo E0806 <20 dpm/<20 dpm

cc: Dr. Rimawi
Mr. Huang

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

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID-93208356 SAMPLE RECEIVED 93/06/18 CHARGE 5.00
PROGRAM: 171 STATE-WIDE RADIATION SURVEILLANCE PROGRAM
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:4955
POLITICAL SUBDIVISION:ROMULUS COUNTY:SENECA
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: SENECA ARMY DEPOT ROMULUS - ON SITE
DESCRIPTION:#1-E080451-SOIL INSIDE IGLOO 804 IN HOT SPOT IN DRAIN
DESCRIPTION:EAST WALL CENTER
REPORTING LAB: 20:NUCLEAR CHEMISTRY LABORATORY
TEST PATTERN: 20-0046:U235,U238,TH232,RA226,CS137,K40
SAMPLE TYPE: 600:SOIL, SAND
TIME OF SAMPLING: 93/06/11 : DATE PRINTED:93/07/21

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

PARAMETER	RESULT
URANIUM-238 (TH-234)	2.0E 1 +/- 1.0E 1 PCI/G
THORIUM-232 (AC-228)	< 3.E 0 PCI/G
RADIUM-226 (BI-214)	3.3E 1 +/- 0.6E 1 PCI/G
POTASSIUM - 40	< 1.5E 1 PCI/G
CESIUM - 137	< 7.E-1 PCI/G
URANIUM - 235	6.E 0 +/- 5.E 0 PCI/G

**** END OF REPORT ****

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WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

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

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

------------PARAMETER------------	----------RESULT----------
URANIUM-238 (TH-234)	[illegible]
THORIUM-232 (AC-228)	[illegible]
RADIUM-226 (BI-214)	2.41E 1 +/- 0.08E 1 PCI/G
POTASSIUM - 40	1.80E 1 +/- 0.13E 1 PCI/G
CESIUM - 137	[illegible]
URANIUM - 235	[illegible]

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NYS STATE DEPT. HEALTH SUBMITTED BY: [illegible]
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PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID:932083562 SAMPLE RECEIVED:93/06/16 CHARGE: 4.00
PROGRAM: 721:STATE WIDE RADIATION SURVEILLANCE PROGRAM
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:4955
POLITICAL SUBDIVISION:ROMULUS COUNTY:SENECA
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: SENECA ARMY DEPOT ROMULUS ON SITE
DESCRIPTION:#3-E080454-SOIL @ DEPTH OF 4-6INS. OUTSIDE DRAIN NORTHWALL
DESCRIPTION:EAST 804
REPORTING LAB: 20:NUCLEAR CHEMISTRY LABORATORY
TEST PATTERN: 20-0046:U235,U238,TH232,RA226,CS137,K40
SAMPLE TYPE: 600:SOIL, SAND
TIME OF SAMPLING: 93/06/11 : DATE PRINTED:93/07/21

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

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

**** END OF REPORT ****

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PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID:93208356[illegible] SAMPLE RECEIVED:93/06/[illegible] CHARGE: [illegible].00
PROGRAM: 17:STATE-WIDE RADIATION SURVEILLANCE PROGRAM
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:4955
POLITICAL SUBDIVISION:ROMULUS COUNTY:SENECA
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: SENECA ARMY DEPOT ROMULUS ON SITE
DESCRIPTION:#5-E071051-BACKGROUND SAMPLE OUTSIDE OF IGLOO 710 NOT USED
DESCRIPTION:FOR RADIOACTIVE STORAGE
REPORTING LAB: 20:NUCLEAR CHEMISTRY LABORATORY
TEST PATTERN: ZD-0046:U235,U238,TH232,RA226,CS137,K40
SAMPLE TYPE: 600:SOIL, SAND
TIME OF SAMPLING: 93/06/11 : DATE PRINTED:93/07/21

ANALYSES: ZD-0046 U235,U238,TH232,RA226,CS137,K40

PARAMETER	RESULT
URANIUM-238 (TH-234)	[illegible]
THORIUM-232 (AC-228)	[illegible]
RADIUM-226 (BI-214)	7.9E -1 +/- 0.8E -1 PCI/G
POTASSIUM - 40	1.77E 1 +/- 0.11E 1 PCI/G
CESIUM - 137	6.8E -[illegible] +/- 0.5E -[illegible] PCI/G
URANIUM - 235	< 7.1E -[illegible] PCI/G

**** END OF REPORT ****

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TOTAL P.12

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Radiological Analysis of Wipe Samples

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

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

LINC Accession No.	Field Number	Specific Location	Suspected Contaminant	dpm Gross Alpha	dpm Gross Beta
9320835624	1	324-1 Bldg 324	Ra, U	<20	<20
9320835625	2	356-1 Bldg 356		<20	<20
9320835626	3	356-2 " "		<20	<20
9320835627	4	356-3 " "		<20	<20
9320835628	5	357-1 Bldg 357		<20	<20
9320835629	6	357-2 " "		<20	<20
9320835630	7	357-3 " "		<20	<20
9320835631	8	E0804WI-Igloo E0804		77 ± 6	48 ± 3
9320835632	9	E0804S2-Igloo E0804		52 ± 5	54 ± 4
9320835633	10	E0806WI-Igloo E0806		<20	<20

Date Received: ______ Reported by: JD Date Reported: 7/14/93

NCL-7 (5/93)

TOTAL P.02

49.0 SWMU NUMBER: SEAD-49

49.1 UNIT NAME

Building 356 - Columbite Ore Storage.

49.2 UNIT CHARACTERISTICS

49.2.1 Unit Type

Columbite Ore Storage Area.

49.2.2 Design Features

Building 356 is a concrete block warehouse with concrete floors. The warehouse measures 200 feet wide by 1000 feet long and consists of 5 separate units. Each unit is divided by a concrete masonry firewall. The units were designed under the Atomic Energy Act; radioactive materials are regulated under 10 CFR.

49.2.3 Approximate Dates of Usage

Building 324: 1954 to 1973. Building 357: 1954 to 1984 or 1985. Building 356: 1984 or 1985 to present.

49.2.4 Operating Practices

Columbite ore, a mixture of the oxides of iron, manganese, niobium, and tantalum, has been stored in Buildings 324, 357, and 356. The ores from Building 324 were moved to Building 357 in 1973. Building 324 was swept clean after the ore was transferred to Building 357. The columbite ore was removed from Building 357 in 1984 or 1985. The ore was originally kept in burlap bags. Some of the ore used to be stored in drums in Building 356. In May 1993, the Columbite Ore (5,284 drums) was transfered from Building 356 to a DLA facility in Binghamton, New York.

49.2.5 Present Condition and Status

Columbite ore is now stored in drums in Building 356. Photographs of the storage area are shown on the following pages.

49.2.6 Regulatory Agency

The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate point of contact is Randy Nemecek NYSDEC's Region 8 Supervisor of Minerals Programs. The regulatory permit ID number is NRC license #SUC-1275.

49.3 SPECIFIC WASTES DISPOSED

Columbite ore is a mixture of the oxides of iron, manganese, niobium, and tantalum. Neither niobium nor tantalum has any naturally occurring radioactive isotopes. However, radium-226 and thorium-232 may be present as impurities. Materials are stored, not disposed.

49.4 MIGRATION PATHWAYS

There is a possibility of release of radon gas to the air.

49.5 EVIDENCE OF RELEASE

No evidence of a release was observed. NYSDEC and NYSDOH performed a radiological survey of SEAD-49, Columbite Ore Storage. Exhibit A-48A presents the results of a radiological survey of buildings 356, 357 and 324 at SEAD-49.

In a related study, a report titled, "Update of the Initial Installation Assessment of Seneca Army Report, NY" (ESE/USATHAMA, August 1988) discusses an evaluation of the concern that acid rain falling on ore and minerals exposed in stockpiles at SEDA may release metals from these ore piles into the environment. The potential for solubilizing toxic metals and their subsequent migration was examined. It was determined that the solubilities of these ore bodies, even in the presence or dilute acid contained in acid rain, were not sufficient to contaminate the groundwater. However, the study did conclude that ores may migrate into the environment a airborn or water-born particulate matter.

49.6 EXPOSURE POTENTIAL

Low.

49.7 RECOMMENDATIONS FOR SAMPLING

No further action is recommended for this unit.

49.8 REFERENCES

References 3, 5, and 8. A list of references is provided as Appendix L.

49.9 COMMENTS

In January, 1980 this facility was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a location where hazardous/toxic materials were stored (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the unit was due to the fact that the facility was used for material storage, not waste storage. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5). SCR Resolution Meeting Minutes (9/25/92) indicate that final classification of the unit would be based upon limited sampling at Building 356, the Columbite Ore Storage Facility. NYSDEC and NYSDOH performed a site radiological survey of SEAD-49 (Columbite Ore Storage Area) on 6/10/93. Based on these results NYSDEC recommended a No Action classification for SEAD-49.

49.10 REGULARTORY STATUS:

This SWMU is classified No Action SWMU under CERCLA.

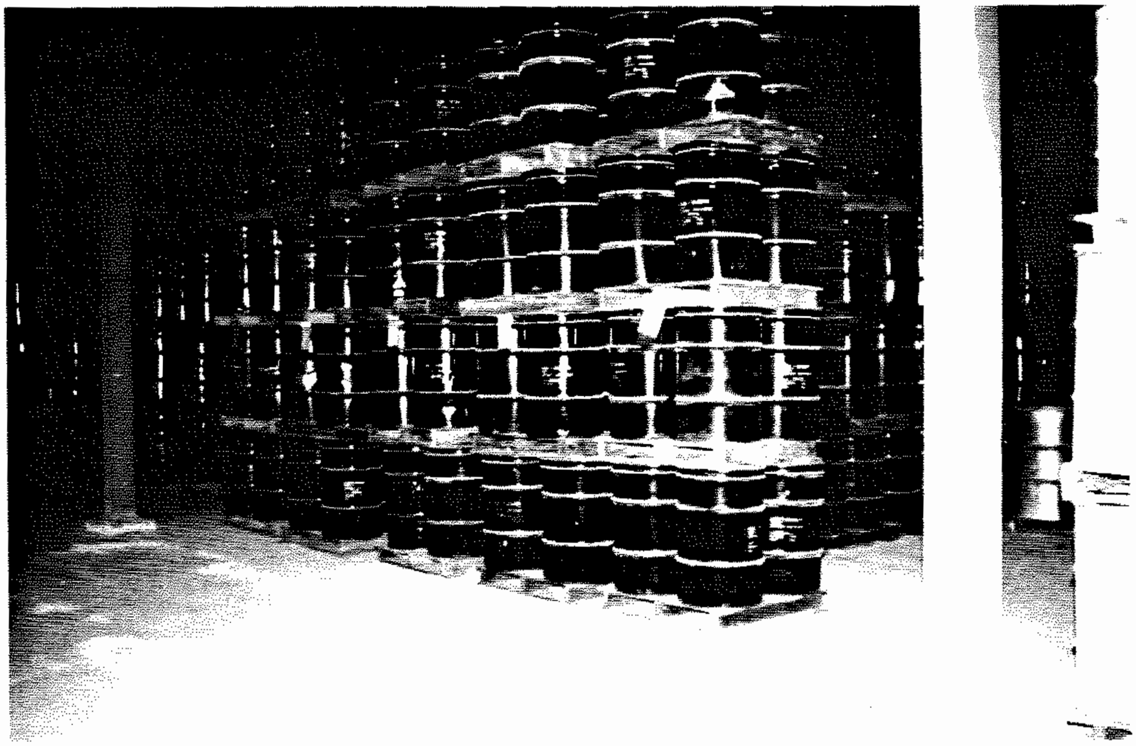


Photo 117: SEAD-49, 11/29/90. View of the Columbite Ore Storage facility - Building 356.

Photo 118: SEAD-49, 11/29/90. Close-up of the Columbite Ore - Building 356.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-49 DATE: 11/29/90 TIME: 7:45 a.m.

UNIT NAME: Buildings 356 - Columbite Ore Storage

PHOTO NUMBER: 117 and 118

ORIENTATION OF PHOTOGRAPH: Facing east.

LOCATION WITHIN FACILITY: Approximately 3,000 feet east of Brady Road at Building 356

WEATHER CONDITIONS: Cloudy, 65°F

PHOTOGRAPHER: Julie Hubbs

50.0 SWMU NUMBER: SEAD-50 (refer to SEAD-54)

50.1 UNIT NAME

Tank Farm.

50.2 UNIT CHARACTERISTICS

50.2.1 Unit Type

Aboveground storage tanks (4 existing units).

50.2.2 Design Features

Steel tanks, sizes unknown.

50.2.3 Approximate Dates of Usage

Unknown.

50.2.4 Operating Practices

The tanks were constructed for solid storage. SEDA personnel have reported that the only materials stored in the tanks were antimony, rutile, asbestos and silicon carbide.

50.2.5 Present Condition and Status

An approximate number of storage tanks was estimated by walking the site and counting the number of barren areas covered with gravel. There were approximately 7 rows where tanks had previously existed. The 5 first rows to the north appeared to have approximately 6 tanks. The two most southern rows appeared to have about 14 tanks each. Thus, the estimated number of tanks was approximately 60. While walking the site, a few aggregates of black, iridescent, prismatic crystals were observed in the eastern portion of the tank storage area. These aggregates may have been previously stored in the tanks. Four tanks currently exist. Reportedly, all tanks are empty with the exception of Tank Number 88. No leaks have been detected or spills reported from any of the tanks. Each tank is marked by an identifying sign as shown in the following photographs. Each sign had the following information:

50.2.5.1 Tank # 8; Antimony B; Domestic and Bolivia; SB 68.24%; Type Sulfide Ore (Photo 122).

This tank is currently empty.

50.2.5.2 Tank # 17; Antimony; Grade B; Bolivia SB 65.15%; Type Sulfide Ore (Photo 121).

This tank is currently empty.

50.2.5.3 Tank # 88; Asbestos B-1; Portuguese; Type Amosite (Photo 120).

This tank currently contains asbestos.

50.2.5.4 Tank # 302; Rutile Ore; Australia; TI02 97.31% (Photo 123).

This tank is currently empty.

50.3 SPECIFIC WASTES DISPOSED

Materials were stored not disposed of at this SWMU.

50.4 MIGRATION PATHWAYS

Migration pathways are soil, groundwater, and air.

50.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

50.6 EXPOSURE POTENTIAL

Low.

50.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

50.8 REFERENCES

References 3, 5, and 8. A list of references is provided as Appendix L.

50.9 COMMENTS

In January 1980, this facility was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a location of known or suspected waste material (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the unit was due to the fact that the facility was used for material storage, not waste storage. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5). SCR Resolution Meeting Minutes (9/25/92) indicate that SEAD-50 would be addressed under a CERCLA Site Investigation Workplan. Also SEAD-50 would be combined with SEAD-54 as a single AOC in future Site Investigation workplans. SEAD-50 (and SEAD-54) is being investigated as described in the "Draft Final Workplan for CERCLA ESI of Fifteen Solid Waste Management Units", September 1993, prepared by Engineering-Science. However, the two units (SEAD-50 and SEAD-54) will remain as separate SWMUs in this classification report.

50.10 REGULATORY STATUS:

This SWMU is classified as a Moderately Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

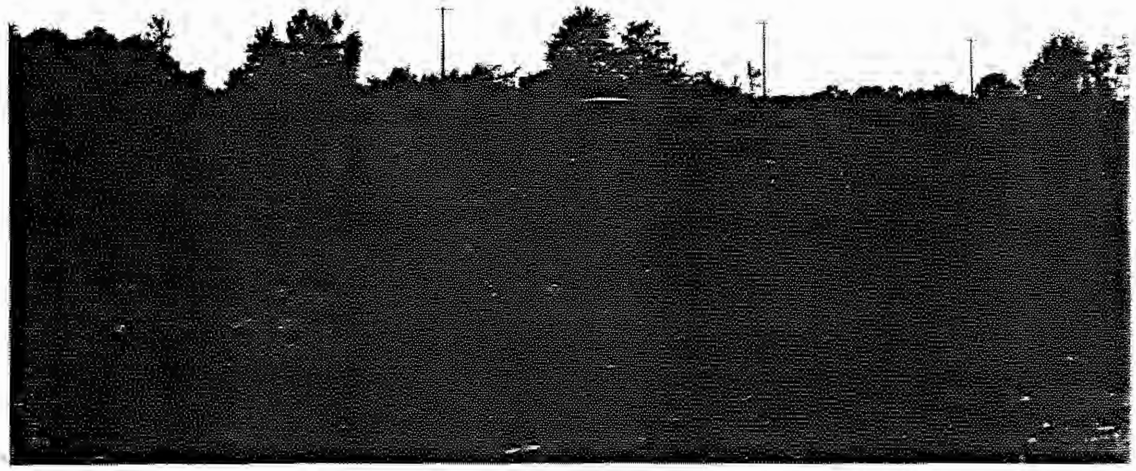


Photo 119: SEAD-50, 9/12/90. View of the Tank Farm, facing southwest.

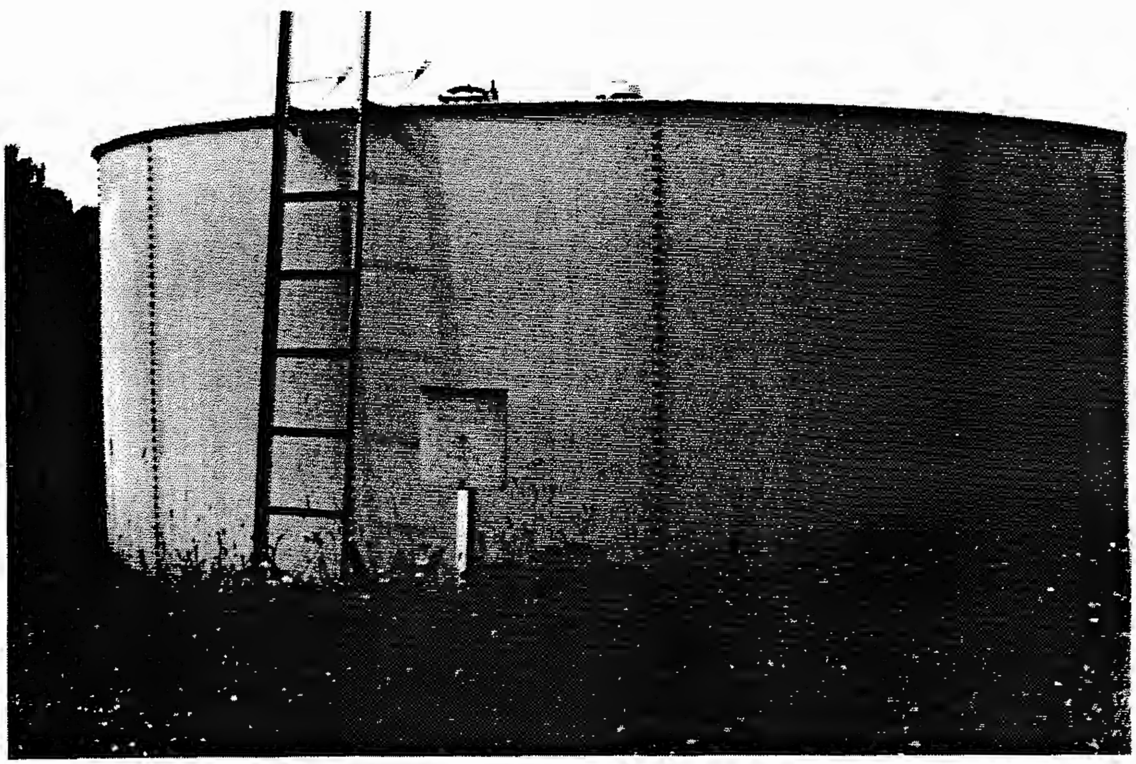


Photo 120: SEAD-50, 9/12/90. View of the Asbestos Tank located at the Tank Farm, facing north.

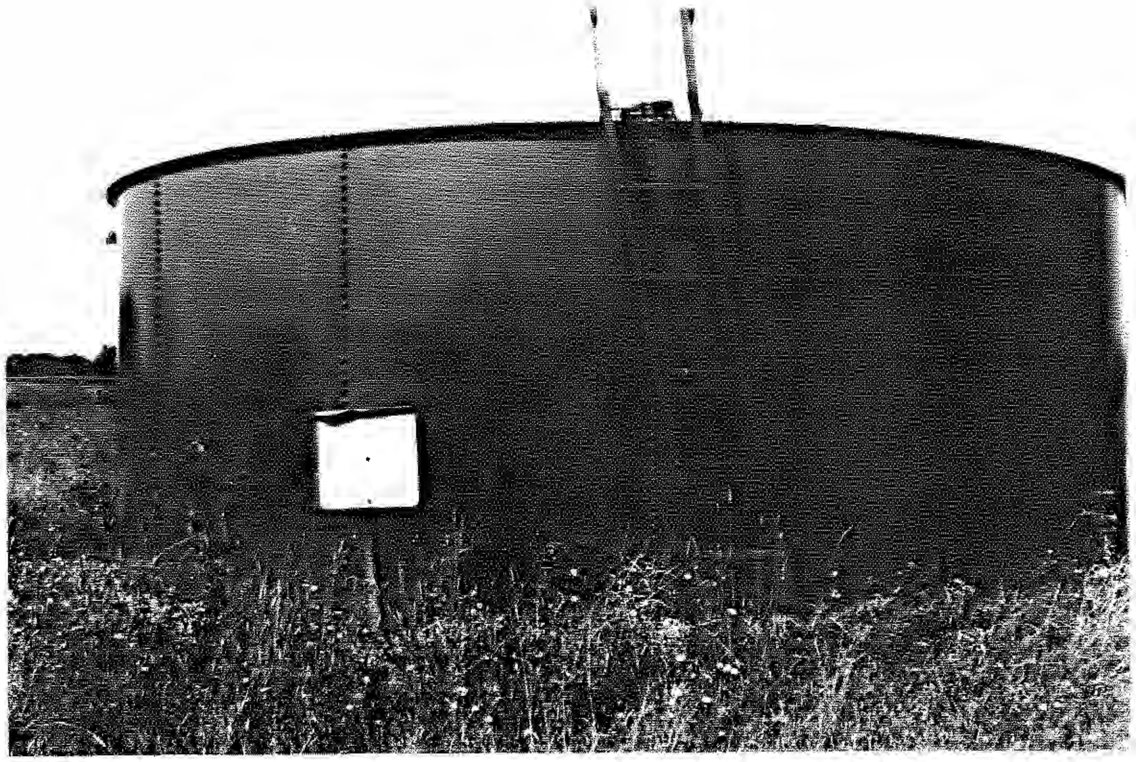


Photo 121: SEAD-50, 9/12/90. View of the Sulfide Ore Tank (Tank No. 8) located at the Tank Farm, facing north.

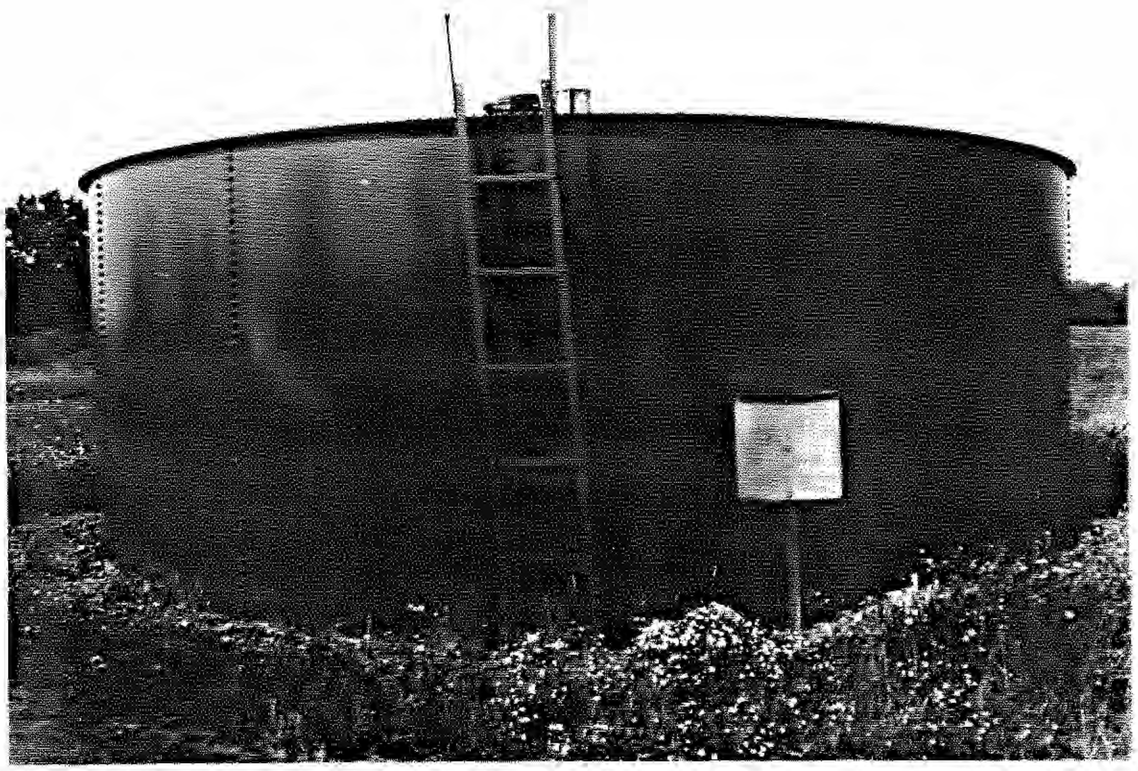


Photo 122: SEAD-50, 9/12/90. View of the Sulfide Ore Tank (Tank No. 17) located at the Tank Farm, facing north.

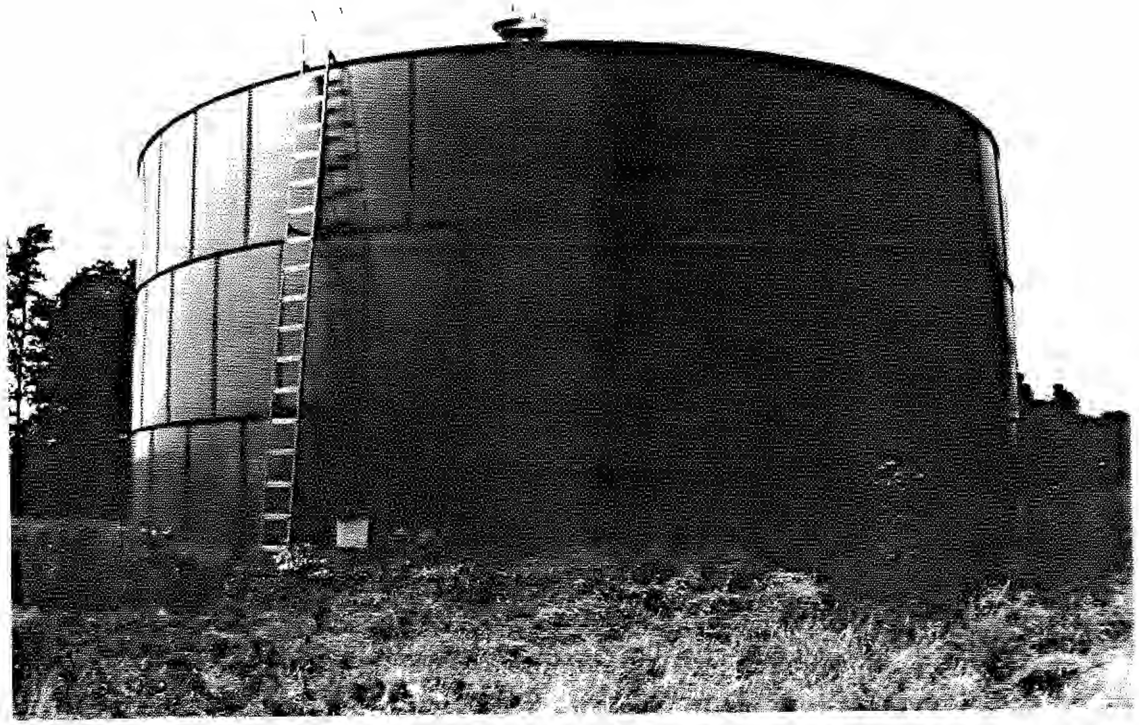


Photo 123: SEAD-50, 9/12/90. View of the Rutile Ore Tank located at the Tank Farm, facing north.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-50 DATE: 9/12/90 TIME: 3:05 p.m.

UNIT NAME: Tank Farm

PHOTO NUMBER: 119 through 123

ORIENTATION OF PHOTOGRAPH: No. 119 facing southwest, No. 120 through 123 facing north.

LOCATION WITHIN FACILITY: Between East Patrol Road and Avenue H.

WEATHER CONDITIONS: Sunny, 80°F

PHOTOGRAPHER: Dimitra Syriopoulou

51.0 SWMU NUMBER: SEAD-51

51.1 UNIT NAME

Herbicide Usage-Perimeter of High Security Area.

51.2 UNIT CHARACTERISTICS

51.2.1 Unit Type

Herbicide Usage Area.

51.2.2 General Dimensions

A strip of land approximately 50 feet wide, at the perimeter of the Exclusion Area.

51.2.3 Approximate Dates of Usage

Unknown.

51.2.4 Operating Practices

The perimeter of the exclusion area in the northern part of the SEDA has been treated in the past with a variety of herbicides, including 2,4-D and 2,4,5-T. Dioxin, a herbicide contaminant, is found at low levels in 2,4,5-T.

51.2.5 Present Condition and Status

SEDA presently uses Boracil as a soil sterilant for total elimination of vegetation in the high security area. The perimeter of the high security area was observed to be devoid of vegetation.

51.2.6 Regulatory Agency

The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contact is Dixon Rollins at NYSDEC Region 8 Division of Hazardous Substance Regulators. A regulatory permit ID number for this unit is not applicable.

51.3 SPECIFIC WASTES DISPOSED

Wastes are not disposed of at this SWMU.

51.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater. In 1980, the U.S. Army Toxic and Hazardous Materials Agency concluded that there was not a significant risk of migration of residual herbicide via surface or subsurface means and that no adverse impacts had been observed or were expected to be observed beyond the point of application (addendum to Reference 8).

51.5 EVIDENCE OF RELEASE

In 1983, a monitoring survey was conducted to evaluate the distribution of herbicides in various components of the environment. No herbicides were found in the air at the time of collection. Of the sixteen soil samples collected, only three contained herbicides (2,4-D: 0.04 ppm, 0.078 ppm, and 0.055 ppm; 2,4,5-T: 0.008 ppm and 0.011 ppm). EPA's health-based criteria for 2,4-D and 2,4,5-T in soils is 800 ppm and 200 ppm respectively (see Appendix G for health-based criteria). Thus, the levels found in 1983 are well below the established criteria for soils. It would be expected that the groundwater levels would also be below the standards based on the low levels found in the soil. The analysis results from this survey are shown in Table A-51.

51.6 EXPOSURE POTENTIAL

Low.

51.7 RECOMMENDATIONS FOR SAMPLING

NYSDEC and NYSDOH recommended that limited sampling be performed.

51.8 REFERENCES 3, 5, 8, AND 19

References 3, 5, 8, and 19. A list of references is provided as Appendix L.

51.9 COMMENTS

In January 1980, this area was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a location of known or suspected waste materials (Reference 8). In 1987, the SWMU was deleted from the SWMU submission list by the U.S. Army

Environmental Hygiene Agency (Reference 5). The reason for deleting the SWMU was due to the fact that the there was no handling of waste. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5). SCR Resolution Meeting Minutes (9/25/93) indicate that at a minimum limited smapling be performed at the unit. Furthermore, NYSDEC and the Army agreed to re-evaluate analytical results contained in previous studies with respect to current action Levles. The previous reports are: 1) "Pesticide Monitoring Survey No. 17-44-0240-84 Evaluation of Pesticide Distribution in Selected Components of Seneca Army Depot (AEHA, 1984)"; 2) "Pesticide Monitoring Special Study No. 17-44-0987-84 Analysis of Environmental Samples for Herbicide content, Seneca Army Depot Activity (AEHA, 1983)" and 3) "Installation Assessment of Seneca Army Depot, Report No. 157 (USATHAMA, 1980)."

NYSDEC after reviewing the analytical data from these reports, observed that 2,4-D, 2,4,5-T and Silvex were present in 3 soil samples. Also NYSDEC states that "the 1983 analysis did not include analysis for other herbicides which were used at the base like bromacil, arsenal, rounup (glyphosate), tordon 10K (picloram), simiazine 80W, borocil IV and dioxin (which is a contaminant found in 2,4,5-T)." During subsequent conversations between the Army and NYSDEC it was agreed that since the current land use required the on-going application of herbicides and that these herbcides was applied by licensed applicators, then as long as the land use does not change no limited sampling is required and this SWMU is classified as a No Action SWMU.

51.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

TABLE A-51

ANALYSIS RESULTS FROM PESTICIDE MONITORING SPECIAL STUDY NO. 17-44-0987-84 ANALYSIS OF ENVIRONMENTAL SAMPLES FOR HERBICIDE CONTENT

SENECA ARMY DEPOT SEPTEMBER 12, 1983

TABLE A-51

Sample Type and Location (1)	Pesticide Concentration	Sample Type and Location	Pesticide Concentration
Soil, SW corner Inner fence Surface	ND(2)	Soil, South Boundary Fresh excavation Surface	2,4-D 0.055 ppm 2,4,5-T 0.011 ppm
Soil, SW corner Inner fence 3" depth	ND(2)	Soil, NE corner Outer fence Surface	ND(2)
Soil, NW corner Inner fence Surface	ND(2)	Soil, NE corner Outer fence 6" depth	ND(2)
Soil, NW corner Inner fence 3" depth	ND(2)	Soil, NE corner Outer fence 12" depth	ND(2)
Soil, SE corner Inner fence Surface	2,4-D 0.04 ppm 2,4,5-T 0.008 ppm	Soil, NW corner Outer fence Surface	ND(2)
Soil, SE corner Inner fence 4" depth	ND(2)	Soil, NW corner Outer fence 3" depth	ND(2)
Soil, NE corner Inner fence Surface	ND(2)	Water, SW Corner Inner fence	ND(2)
Soil, NE corner Inner fence 4" depth	ND(2)	Air, NW Corner Inner fence	ND(2)
Soil, Middle east side Inner fence Surface	2,4-D 0.078 ppm	Air, SE Corner Inner fence	ND(2)
Soil, Middle east side Inner fence 4" depth	ND(2)		

(1) Samples were collected August 10-11, 1983. Two air samples, 16 soil samples, and one water sample were collected from the area between the fences of the high security area at SEAD.
(2) No pesticides detected at the lower limits of detectability.

DEPARTMENT OF THE ARMY Mr. Olds/klo/AUTOVON
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY 584-3613
ABERDEEN PROVING GROUND, MARYLAND 21010

REPLY TO
ATTENTION OF

HSHB-RP-MO 27 OCT 1983

SUBJECT: Pesticide Monitoring Special Study No. 17-44-0987-84, Analysis of Environmental Samples for Herbicide Content, Seneca Army Depot Activity, NY, 12 September 1983

Commander
US Army Materiel Development
and Readiness Command
ATTN: DRCSG
5001 Eisenhower Ave
Alexandria, VA 22333

1. AUTHORITY. Message P261300Z, Jul 83, CDRDESCOM, DRSDS-RM-EF, subject: Priority USAEHA Support for Seneca Army Depot (SEAD).

2. REFERENCE. Fonecon, 26 July 1983, Mr. Battaglia, SEAD, SDSSE-AD and Mr. Olds, this agency, HSHB-RP-MO, subject: SAB.

3. PURPOSE. To evaluate environmental samples collected at Seneca Army Depot Activity for herbicide residues.

4. PROCEDURES.

a. During the period 10-11 August 1983, 16 soil samples, 2 air samples and one water sample, were collected from the area between the fences of the high security area at SEAD.

b. Two air samples were collected, one from the NW corner of the fenced area and one from the SE corner. Since the primary means of exposure would be by respirable dust, glass fiber filters were used for collection.

c. A total of 16 soil samples were collected from both the inner and outer fenced area. The soil in this area is very sandy/gravely on the surface with clay located 3-12 inches below the surface. Samples were collected at the surface and top of the clay material.

d. One water sample was collected from a puddle of standing water at the SW corner of the fenced in area. This puddle appeared to be accumulation from a recent rainfall.

5. FINDINGS. Results of analyses are presented in inclosure 1 and the pesticides analyzed for and the lower limits of detectability are presented in inclosure 2.

6. DISCUSSION.

a. There were no detectable levels of 2,4-D, 2,4,5-T or silvex found in the air samples.

b. Only three soil samples showed concentrations of any of the herbicides in question. The levels of 2,4-D and 2,4,5-T found in these samples are only slightly above the lower limits of detectability and are very low environmental levels. It is not surprising to find these pesticides in light of the past history of use in the area. Although there are no established criteria for pesticides in soil, these low levels do not appear to pose any health threat to workers in the area.

c. The water sample contained no detectable levels of any of the herbicides for which analyses were done.

7. CONCLUSIONS. No herbicides were found in the air at the time of collection. Only three soil samples contained herbicides and and these were levels lower than might be expected considering the past history of use in the area. The water sample contained no detectable levels of the herbicides for which analysis was done.

8. TECHNICAL ASSISTANCE. Further information concerning these data may be obtained by contacting the Project Officer, Mr. Kenneth L. Olds, AUTOVON 584-3613/4131. Requests for services should be directed through appropriate command channels of the requesting activity to the Commander, US Army Environmental Hygiene Agency, ATTN: HSHB-RP-MO, Aberdeen Proving Ground, MD

21010, with an information copy furnished the Commander, US Army Health Services Command, ATTN: HSPA-P, Fort Sam Houston, TX 78234.

FOR THE COMMANDER:

Alexander F. Dohany, LTC
for JOSEPH T. WHITLAW, JR
Colonel, MSC
Director, Radiation and
Environmental Sciences

2 Incl
as

REVIEWED BY:

TIMOTHY B. WEYANDT M.D., M.P.H.
MAJ, MC
Assistant for Chemical Warfare and
Health Hazard Evaluation

CF:
HQDA (DASG-PSP)
Cdr, HSC (HSPA-P)
Cdr, DESCOM (DRSDS-RM-EF)
Cdr, DARCOM (DRCIS-A)
Cdr, DARCOM (DRCIS-RI-IC)
Cdr, Engineering District, New York (NANCO)
Cdr, SEAD (2 cy)
Cdr, MEDDAC, Ft Devens (PVNTMED Actv)(2 cy)
Cdr, WRAMC (PVNTMED Actv)
C, USAEHA-Rgn Div North

HSHB-RP-MO
SUBJECT: Pesticide Monitoring Special Study No. 17-44-0987-84, Analysis of Environmental Samples for Herbicide Content, Seneca Army Depot Activity, NY, 12 September 1983

TABLE. RESULTS OF ANALYSES

SAMPLE	PMPMD NO.	AEHA NO.	PESTICIDE CONCENTRATION
Soil, SW corner Inner fence Surface	SP-5713	C-5934	ND*
Soil, SW corner Inner fence 3" depth	SP-5714	C-5935	ND*
Soil, NW corner Inner fence Surface	SP-5715	C-5936	ND*
Soil, NW corner Inner fence 3" depth	SP-5716	C-5937	ND*
Soil, SE corner Inner fence Surface	SP-5717	C-5938	2,4-D 0.04 ppm 2,4,5-T 0.008 ppm
Soil, SE corner Inner fence 4" depth	SP-5718	C-5939	ND*
Soil, NE corner Inner fence Surface	SP-5719	C-5940	ND*
Soil, NE corner Inner fence 4" depth	SP-5720	C-5941	ND*
Soil, Middle east side Inner fence Surface	SP-5721	C-5942	2,4-D 0.078 ppm
Soil, Middle east side Inner Fence 4" depth	SP-5722	C-5943	ND*

HSHB-RP-MO
SUBJECT: Pesticide Monitoring Special Study No. 17-44-0987-84, Analysis of Environmental Samples for Herbicide Content, Seneca Army Depot Activity, NY, 12 September 1983

TABLE. RESULTS OF ANALYSES (Cont)

SAMPLE	PMPMD NO.	AEHA NO.	PESTICIDE CONCENTRATION
Soil, South Boundary Fresh excavation Surface	SP-5724	C-5945	2,4-D 0.055 ppm 2,4,5-T 0.011 ppm
Soil, NE corner Outer fence Surface	SP-5725	C-5946	ND*
Soil, NE corner Outer fence 6" depth	SP-5726	C-5947	ND*
Soil, NE corner Outer fence 12" depth	SP-5729	C-5950	ND*
Soil, NW corner Outer fence Surface	SP-5727	C-5948	ND*
Soil, NW corner Outer fence 3" depth	SP-5728	C-5949	ND*
Water, SW Corner Inner fence	SP-5723	C-5944	ND*
Air, NW Corner Inner fence	SP-5730	C-5951	ND*

HSHB-RP-MO
SUBJECT: Pesticide Monitoring Special Study No. 17-44-0987-84, Analysis of Environmental Samples for Herbicide Content, Seneca Army Depot Activity, NY, 12 September 1983

TABLE. RESULTS OF ANALYSES (Cont)

SAMPLE	PMPMD NO.	AEHA NO.	PESTICIDE CONCENTRATION
Air, SE Corner Inner fence	SP-5731	C-5952	ND*

* No pesticides detected at the lower limits of detectability.

DONALD J. KIPPENBERGER, Ph.D.
CPT. MSC
Chief, Pesticide Analysis Branch
Organic Environmental Chemistry Division

HSHB-RP-MO
SUBJECT: Pesticide Monitoring Special Study No. 17-44-0987-84, Analysis of Environmental Samples for Herbicide Content, Seneca Army Depot Activity, NY, 12 September 1983

ANALYTICAL LIMITS OF DETECTABILITY OF HERBICIDES

COMPOUND	SOIL LIMIT OF DET. (ppm)	WATER LIMIT OF DET. (ppb)	AIR LIMIT OF DET. ($\mu g/m^3$)
2,4-D	0.009	3.8	0.05
2,4,5-T	0.004	0.5	0.025
silvex	0.004	0.5	0.025

for J. Harold Veigel

DONALD J. KIPPENBERGER, Ph.D.
CPT. MSC
Chief, Pesticide Analysis Branch
Organic Environmental Chemistry Division

52.0 <u>SWMU NUMBER: SEAD-52</u>

52.1 UNIT NAME

Buildings 608 and 612 - Ammunition Breakdown Area.

52.2 UNIT CHARACTERISTICS

52.2.1 <u>Unit Type</u>

Demilitarization Units.

52.2.2 <u>Design Features</u>

Building 612 is a concrete block structure which is approximately 60 feet wide, 300 feet long, and 15 feet high. Covered platforms are located on the north and south ends of the building. Building 608 is also a concrete block structure which is approximately 20 feet wide by 20 feet long and 12 feet high. A concrete ramp extends from the front of the building to north of the building as shown in Photo 126 included at the end of this text.

52.2.3 <u>Approximate Dates of Usage</u>

1940s to present time.

52.2.4 <u>Operating Practices</u>

Buildings 608 and 612 have been used for the breakdown and maintenance of ammunitions. The removed powder was reportedly sold or burned at the burning ground.

52.2.5 <u>Present Condition and Status</u>

Active.

52.3 SPECIFIC WASTES DISPOSED

The materials handled at the ammunitions breakdown area are not considered wastes. The materials are either reused or stored for latter use. If the materials become obsolete, they are taken to the demolition grounds. Once received at the demolition grounds, the materials are considered wastes and appropriate actions are taken to dispose of them.

52.4 MIGRATION PATHWAYS

If released, contaminants may migrate to soil and groundwater.

52.5 EVIDENCE OF RELEASE

A limited sampling program was performed. A description of the program is presented below.

Bldg. 608 - Four surface sooil samples, 0-2" were collected, one from each corner of the building.

Bldg. 611 - Four surface soil samples, 0-2" were collected, one from each corner of the building.

Bldg. 612 - Ten surface soil samples, 0-2", were collected, one from each corner of the building, two from the long sides of the building, approximately 100 feet apart, and one from the middle of each of the shorter sides.

All samples were chemically analyzed for explosives (Method 8330).

Analytical reports are included in Appendices I.

The results of the limited sampling indicate that three explosive compounds (tetryl, 2,4,6-trinitrotoluene, and 2,4-dinitrotoluene) were detected in 10 surface soil samples (Table A-52). The samples collected from the east side of Brady Road (SS52-1 through SS52-8 east of building 612) were generally free of explosive compounds, with the exception of SS52-1 and SS52-6 which contained 110 and 280 parts per billion (ppb), respectively, of the compound 2,4-dinitrotoluene.

All of the samples that were collected around Building 612 (except two) contained explosive compounds. 2,4-dinitrotoluene was the most frequently detected compound and ranged in concnetration from 91 ppb to 2100 ppb. The compound 2,4,6-trinitrotoluene was detected in only two samples and tetryl in only one sample. The two samples in which explosive compounds were not detected (SS52-15 and SS52-16) are located on the southwest side of Building 612.

Although no NYSDEC standards are available for the explosive compounds detected, their presence in the surface soils at SEAD-52 constitutes evidence of a release.

52.6 EXPOSURE POTENTIAL

Low.

52.7 RECOMMENDATIONS FOR SAMPLING

Additional sampling should be performed as part of a CERCLA SI to determine the extent of explosives in the environment.

52.8 REFERENCES

References 3, 5, and 8. A list of references is provided as Appendix L.

52.9 COMMENTS

In January 1980, this SWMU was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a location of known or suspected waste materials (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the unit was due to the fact that the there was no handling of waste at the SWMU. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5). SCR Resolution Meeting Minutes (9/25/92) indicate that limited sampling of soil adjacent to storage buildings 608, 61, and 61
should be conducted. Limited sampling was performed. Classification is reserved by NYSDEC.

52.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern under CERCLA. It will be addressed further either through a CERCLA SI or a removal action.

Photo 124: SEAD-52, 9/11/90. View of the Ammunition Breakdown Area - Building 612, facing north.

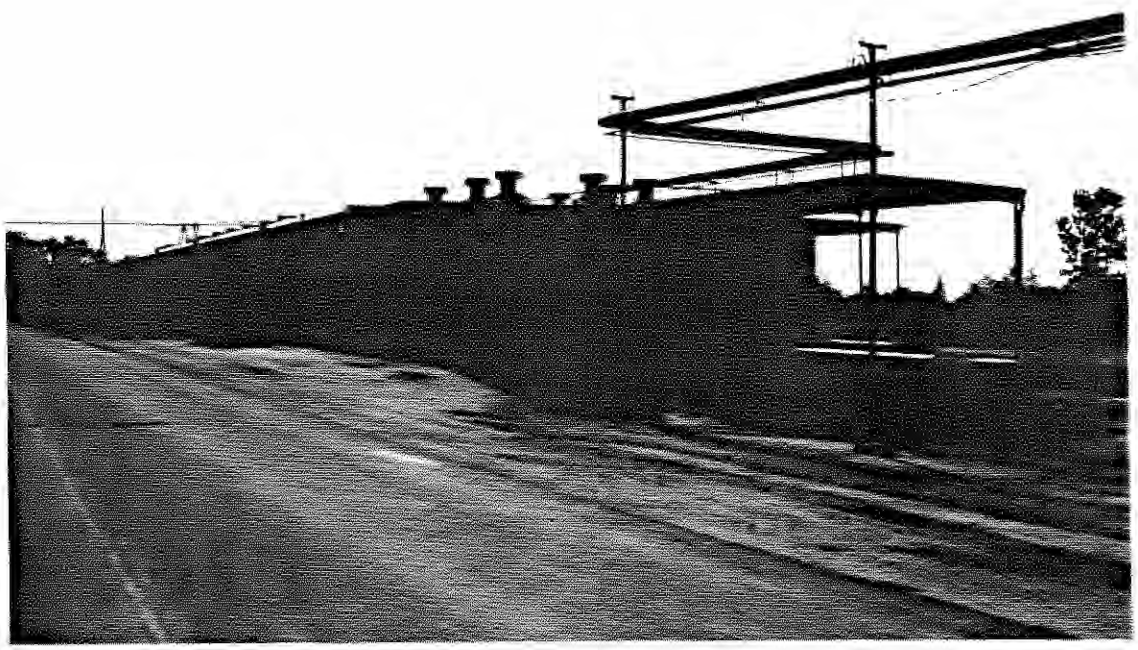


Photo 125: SEAD-52, 9/13/90. View of the Ammunition Breakdown Area - Building 612, facing south

<u>Photo 126</u>: SEAD-52, 9/13/90. View of the Ammunition Breakdown Area - Building 608, facing southwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-52 DATE: 9/11/90 TIME: 2:45 p.m.

DATE: 9/13/90 TIME: 2:15 p.m.

UNIT NAME: Buildings 608 and 612 - Ammunition Breakdown Area

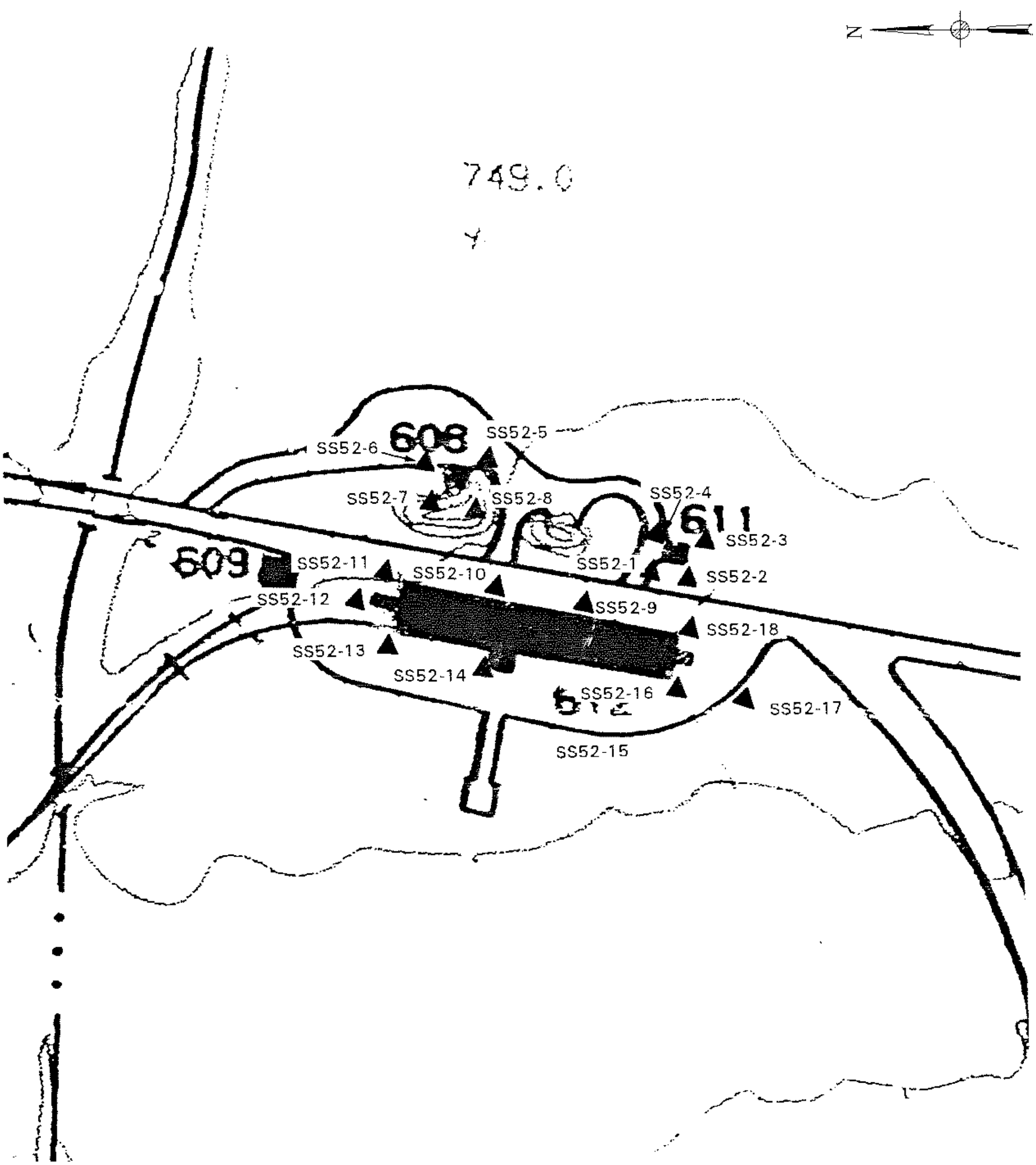
PHOTO NUMBER: 124 (on 9/11/90), 125 and 126 (on 9/13/90)

ORIENTATION OF PHOTOGRAPH: No. 124 facing north, No. 125 facing south, No. 126 facing southwest.

LOCATION WITHIN FACILITY: On Brady Road, approximately 2,200 feet from the South Patrol Road.

WEATHER CONDITIONS: Partly cloudy, 75°F on 9/11/90; Sunny, 80°F on 9/13/90.

PHOTOGRAPHER: Dimitra Syriopoulou



LEGEND

- MONITORING WELL
- SOIL BORING
- SURFACE SAMPLE

PARSONS

ENGINEERING-SCIENCE, INC.

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT

SWMU CLASSIFICATION STUDY
LIMITED SAMPLING

DEPT. ENVIRONMENTAL ENGINEERING	NO. 720517-01002

FIGURE A-52
SEAD 52
SAMPLE LOCATIONS

SCALE 1"=200'

TABLE A-52

Soil Analytical Results

TABLE A-52
SURFACE SOIL ANALYTICAL RESULTS: Nirtroaromatics and Solids
SEAD-52

S10ELM.WK3 (52)	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL
SDG 41316	LOCATION	SEAD-52	SEAD-52	SEAD-52	SEAD-52	SEAD-52
	DEPTH (FT)	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2
	DATE	12/16/93	12/16/93	12/16/93	12/16/93	12/16/93
	ES ID	SS52-1	SS52-2	SS52-3	SS52-4	SS52-5
	LAB ID	207145	207146	207147	207148	207149
COMPOUND	UNITS					
HMX	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
RDX	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
1,3,5-Trinitrobenzene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
1,3-Dinitrobenzene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
Tetryl	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
2,4,6-Trinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
4-amino-2,6-Dinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
2-amino-4,6-Dinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
2,6-Dinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
2,4-Dinitrotoluene	ug/Kg	110 J	130 UJ	130 UJ	130 UJ	130 UJ
Total Solids	%W/W	77.3	65.8	69.2	66.5	74.8

TABLE A-52
SURFACE SOIL ANALYTICAL RESULTS: Nirtroaromatics and Solids
SEAD-52

S10ELM.WK3 (52)	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL
SDG 41316	LOCATION	SEAD-52	SEAD-52	SEAD-52	SEAD-52	SEAD-52
	DEPTH (FT)	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2
	DATE	12/16/93	12/16/93	12/16/93	12/16/93	12/16/93
	ES ID	SS52-6	SS52-7	SS52-8	SS52-9	SS52-10
	LAB ID	207150	207151	207152	207153	207154
COMPOUND	UNITS					
HMX	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
RDX	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
1,3,5-Trinitrobenzene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
1,3-Dinitrobenzene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
Tetryl	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
2,4,6-Trinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
4-amino-2,6-Dinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
2-amino-4,6-Dinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
2,6-Dinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
2,4-Dinitrotoluene	ug/Kg	280 J	130 UJ	130 UJ	490 J	99 J
Total Solids	%W/W	89.8	73.8	76.2	87.3	89

TABLE A-52
SURFACE SOIL ANALYTICAL RESULTS: Nirtroaromatics and Solids
SEAD-52

S10ELM.WK3 (52)	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL
SDG 41316	LOCATION	SEAD-52	SEAD-52	SEAD-52	SEAD-52	SEAD-52
	DEPTH (FT)	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2
	DATE	12/16/93	12/16/93	12/16/93	12/16/93	12/16/93
	ES ID	SS52-11	SS52-12	SS52-13	SS52-14	SS52-15
	LAB ID	207155	207156	207157	207158	207159
COMPOUND	UNITS					
HMX	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
RDX	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
1,3,5-Trinitrobenzene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
1,3-Dinitrobenzene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
Tetryl	ug/Kg	150 J	130 UJ	130 UJ	130 UJ	130 UJ
2,4,6-Trinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	160 J	130 UJ
4-amino-2,6-Dinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
2-amino-4,6-Dinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
2,6-Dinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ	130 UJ
2,4-Dinitrotoluene	ug/Kg	130 UJ	91 J	200 J	1500 J	130 UJ
Total Solids	%W/W	92.5	88	88.1	86.8	84.3

TABLE A-52
SURFACE SOIL ANALYTICAL RESULTS: Nirtroaromatics and Solids
SEAD-52

S10ELM.WK3 (52)	MATRIX	SOIL	SOIL	SOIL	SOIL
SDG 41316	LOCATION	SEAD-52	SEAD-52	SEAD-52	SEAD-52
	DEPTH (FT)	0-0.2	0-0.2	0-0.2	0-0.2
	DATE	12/16/93	12/16/93	12/16/93	12/16/93
	ES ID	SS52-16	SS52-17	SS52-18	SS52-19
	LAB ID	207160	207161	207162	207163
COMPOUND	UNITS				(SS52-1DUP)
HMX	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ
RDX	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ
1,3,5-Trinitrobenzene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ
1,3-Dinitrobenzene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ
Tetryl	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ
2,4,6-Trinitrotoluene	ug/Kg	130 UJ	410 J	130 UJ	130 UJ
4-amino-2,6-Dinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ
2-amino-4,6-Dinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ
2,6-Dinitrotoluene	ug/Kg	130 UJ	130 UJ	130 UJ	130 UJ
2,4-Dinitrotoluene	ug/Kg	130 UJ	1800 J	2100 J	120 J
Total Solids	%W/W	81	74.2	89.6	78.2

53.0 SWMU NUMBER: SEAD-53

53.1 UNIT NAME

Munitions Storage Igloos.

53.2 UNIT CHARACTERISTICS

53.2.1 Unit Type

Munitions Storage Area.

53.2.2 Design Features

A typical cross-section of a munitions storage igloo is shown in Figure A-53.

53.2.3 Approximate Dates of Usage

1941 to present.

53.2.4 Operating Practices

The igloos are used for storage of munitions and supplies.

53.2.5 Present Condition and Status

Active.

53.3 SPECIFIC WASTES DISPOSED

Materials are stored, not disposed of at this SWMU.

53.4 MIGRATION PATHWAYS

If released, contaminants may migrate into soil and groundwater. Condensation drainage pipes that originate at floor level inside the igloo exit from the front of the structure and provide a physical pathway for a release to soil and groundwater.

53.5 EVIDENCE OF RELEASE

None reported.

53.6 EXPOSURE POTENTIAL

Low.

53.7 RECOMMENDATIONS FOR SAMPLING

No further action is recommended for this unit.

53.8 REFERENCES

References 3, 5, and 8. A list of references is provided as Appendix L.

53.9 COMMENTS

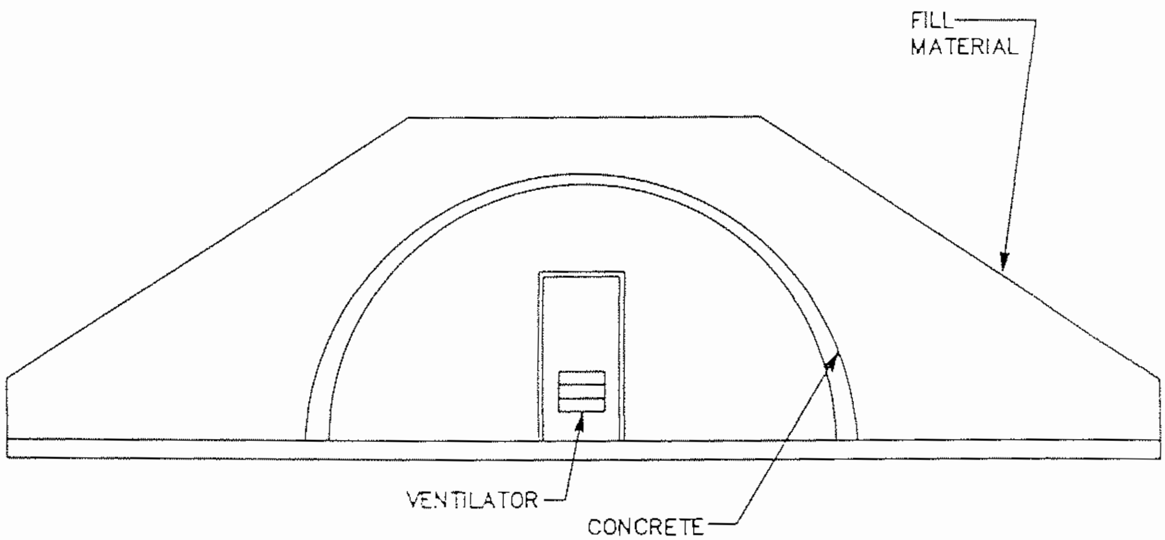
In January 1980, this SWMU was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a hazardous materials handling and storage area (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the SWMU was due to the fact that the igloos were used for material storage, not waste storage. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5). SCR Resolution Meeting Minutes indicate that NYSDEC maintains that a release from a storage igloo must not be completely ruled out, and prefers to keep the issue of future investigation of SEDA munitions igloos open.

53.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

FIGURE A-53

TYPICAL CROSS-SECTION OF A MUNITIONS STORAGE IGLOO



NOTE

DRAWING ADAPTED FROM UNDERGROUND MAGAZINE, PLAN, ELEVATION, AND DETAILS, PLAT NUMBER 6501, BY CONSTRUCTION DIVISION OFFICE OF QUARTERMASTER GENERAL, SENECA ORDNANCE DEPOT, DATED JULY 25, 1941.

ERC Environmental and Energy Services Co.

TYPICAL CROSS-SECTION OF MUNITIONS STORAGE IGLOO

FIGURE A-53

54.0 SWMU NUMBER: SEAD-54 (refer to SEAD-50)

54.1 UNIT NAME

Asbestos Storage.

54.2 UNIT CHARACTERISTICS

54.2.1 Unit Type

Aboveground storage tank.

54.2.2 Design Features

Steel tank. Size unknown.

54.2.3 Approximate Dates of Usage

Unknown.

54.2.4 Operating Practices

The tank was constructed for storage of fibrous asbestos.

54.2.5 Present Condition and Status

Still in existence. Photographs of the Asbestos Storage unit, taken on September 12, 1990, are shown under the SWMU description for SEAD-50 and is one of the four tanks included in that unit.

54.3 SPECIFIC WASTES DISPOSED

Materials are stored, not disposed of at the Asbestos Storage Unit.

54.4 MIGRATION PATHWAYS

Contaminants, if released, may migrate to the air.

54.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

54.6 EXPOSURE POTENTIAL

Low.

54.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at the Asbestos Storage Unit as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

54.8 REFERENCES

References 3, 5, and 8. A list of references is provided as Appendix L.

54.9 COMMENTS

In January 1980, the Asbestos Storage Unit was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a hazardous materials storage area (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the SWMU was due to the fact that materials, not wastes, were stored. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5).

SEAD-50 is combined with SEAD-54 as a single AOC in future site investigation workplans. The two SWMUs will remain separate in the SCR. SEAD-50 is currently being investigated under the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units".

54.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI Program.

55.0 SWMU NUMBER: SEAD-55

55.1 UNIT NAME

Building 357 - Tannin Storage.

55.2 UNIT CHARACTERISTICS

55.2.1 Unit Type

Tannin Storage Area.

55.2.2 Design Features

Building 357 is a concrete block warehouse which measures 200 feet wide by 1000 feet long and consists of 5 separate units. Each unit is divided by a concrete masonry firewall.

55.2.3 Approximate Dates of Usage

Late 1978 to present.

55.2.4 Operating Practices

It has been reported that tannin (used for boiler plant water treatment) was stored in Building 348 until late 1978. In 1978, the tannin was transferred to Building 357.

55.2.5 Present Condition and Status

Tannin is presently stored in Section 2 of Building 357. Photographs of the unit, taken on November 29, 1990, are shown on the page following this text.

55.3 SPECIFIC WASTES DISPOSED

Materials are stored, not disposed of, in the building.

55.4 MIGRATION PATHWAYS

If the tannin were spilled on the ground during transfer, the soils and groundwater may be impacted.

55.5 EVIDENCE OF RELEASE

No evidence of a release was observed. The tannin is stored in bags grouped together in wooden frames; it is unlikely that a release would occur during storage.

It is unlikely that a release of tannin would result in impacts to soil and groundwater within the storage facility, as tannin is a solid and any release would be contained by the concrete floor and could be cleaned up according to proper procedures. Any small spills of solid tannin released to soil during the transfer process could be contained relatively easily and cleaned up.

55.6 EXPOSURE POTENTIAL

Low.

55.7 RECOMMENDATIONS FOR SAMPLING

No further action is recommended for this unit.

55.8 REFERENCES

References 3, 5, and 8. A list of references is provided as Appendix L.

55.9 COMMENTS

In January 1980, this SWMU was identified by the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) as a hazardous materials storage area (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the SWMU was due to the fact that materials, not wastes, were stored. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5).

55.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

Photo 127: SEAD-55, 9/12/90. View of the Tannin Storage Area - Building 357, facing east.

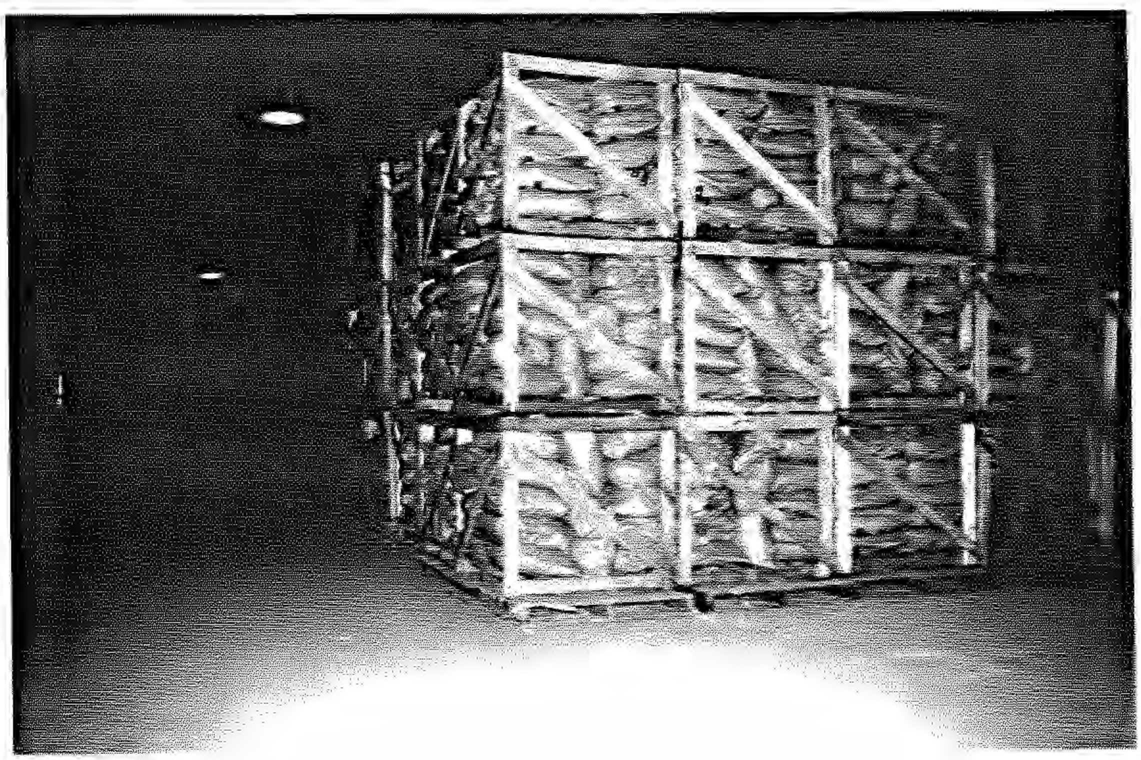


Photo 128: SEAD-55, 11/29/90. View of the Tannin Storage Area - Building 357.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-55

DATE: 9/12/90 TIME: 2:25 p.m.
DATE: 11/29/90 TIME: 7:30 a.m.

UNIT NAME: Building 357 - Tannin Storage

PHOTO NUMBER: 127 (on 9/12/90), 128 (on 11/29/90)

ORIENTATION OF PHOTOGRAPH: Facing east.

LOCATION WITHIN FACILITY: West of the East Patrol Road, approximately 1,500 feet southeast of Avenue H.

WEATHER CONDITIONS: Sunny, 80°F on 9/12/90
Cloudy, 55°F on 11/29/90

PHOTOGRAPHER: Dimitra Syriopoulou (9/12/90)
Julie Hubbs (11/29/90)

56.0 SWMU NUMBER: SEAD-56 (refer to SEAD-43)

56.1 UNIT NAME

Building 606 - Herbicide and Pesticide Storage.

56.2 UNIT CHARACTERISTICS

56.2.1 Unit Type

Material Storage Area.

56.2.2 Design Features

Building 606 is a concrete block building which measures approximately 40 feet wide by 80 feet long. The storage building was renovated in 1979 to include the following safety and health designs: 1) a ventilation fan with louvered door vents; 2) a local exhaust for the mixing area; 3) shower emergency spill kits; 4) a fire protection system connected directly with the on-post fire department; and 5) adequate shop signs and disposal procedures. The building's drains and concrete floors bave been sealed. Domestic and laundry wastewaters from the facility are discharged to a septic tank system which is located south of the building. A floor plan of the building is shown in Figure A-56.

56.2.3 Approximate Dates of Usage

Building 606 has been used for herbicide and pesticide storage since 1976. Prior to this, the building was designated as the Old Missile Propellant Test Laboratory (SEAD-43).

56.2.4 Operating Practices

A variety of pesticide and herbicide compounds and dispersal equipment are stored in Building 606. Preparation of the compounds prior to dispersal is carried out in a separate section of the building. The containers used for mixing of pesticides are washed out at the end of completion of operation. The washwater was previously stored in an underground tank for use in later applications. A Pest Management Review, conducted in 1984, recommended that the underground tank be removed. SEDA has since terminated the use of this tank. SEDA has excavated the tank and placed a new one in a concrete vault (to contain any accidental spills or leaks). A pesticide rinseate building, located east of Building 606, has been constructed. The rinsate from the building discharges to the new underground storage tank. The system has not yet been placed into operation.

56.2.5 Present Condition and Status

Active.

56.3 SPECIFIC WASTES DISPOSED

Materials are stored not disposed of in the building. The types of herbicides and pesticides stored in Building 606 are shown in Table D-56.

56.4 MIGRATION PATHWAYS

Contaminants, if released, may migrate to soil and groundwater.

56.5 EVIDENCE OF RELEASE

A barren area was observed in the front of the building (see Photo 131). There may have been a spill in this area.

56.6 EXPOSURE POTENTIAL

Moderate.

56.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the installation of investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units.

56.8 REFERENCES

References 3, 5, 8, and 20. A list of references is provided as Appendix L.

56.9 COMMENTS

The U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) originally identified this facility as a herbicide/pesticide storage area in January, 1980 (Reference 8). In 1987, the facility was deleted from the SWMU submission list by the U.S. Army Environmental Hygiene Agency (Reference 3). The reason for deleting the SWMU was due to the fact that materials, not wastes, were stored in the building. The facility was again added to the SWMU list in August, 1988 by the New York State Department of Environmental Conservation (Reference 5).

SEAD-56 is currently being investigated under the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units." It is being investigated jointly with SEAD-43 and SEAD-69.

56.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

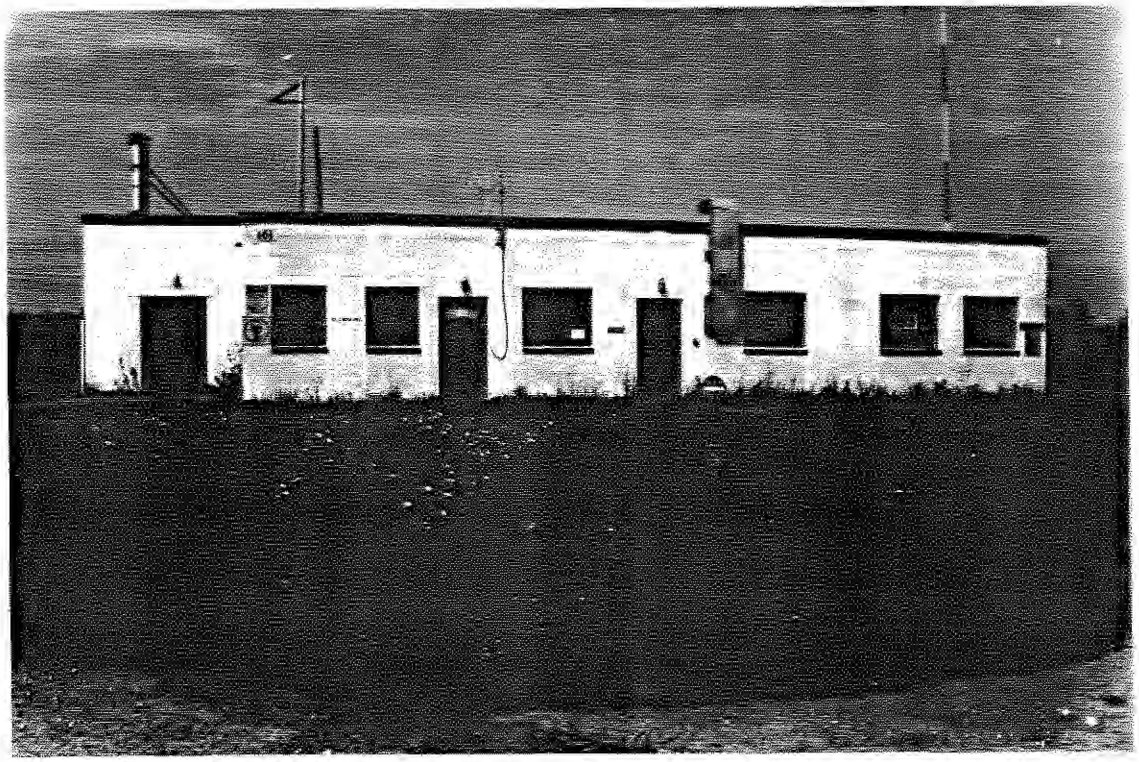


Photo 129: SEAD-56, 9/12/90. View of the Herbicide and Pesticide Storage Area - Building 606, facing north.

Photo 130: SEAD-56, 9/12/90. Close-up of the signs posted on the Herbicide and Pesticide Storage Area, facing north.

Photo 131: SEAD-56, 9/12/90. Stressed vegetation located close to the Herbicide and Pesticide Storage Area - Building 606, facing north.

Photo 132: SEAD-56, 9/12/90. Pesticide Rinseate Building located west of the Herbicide and Pesticide Storage Building, facing west.

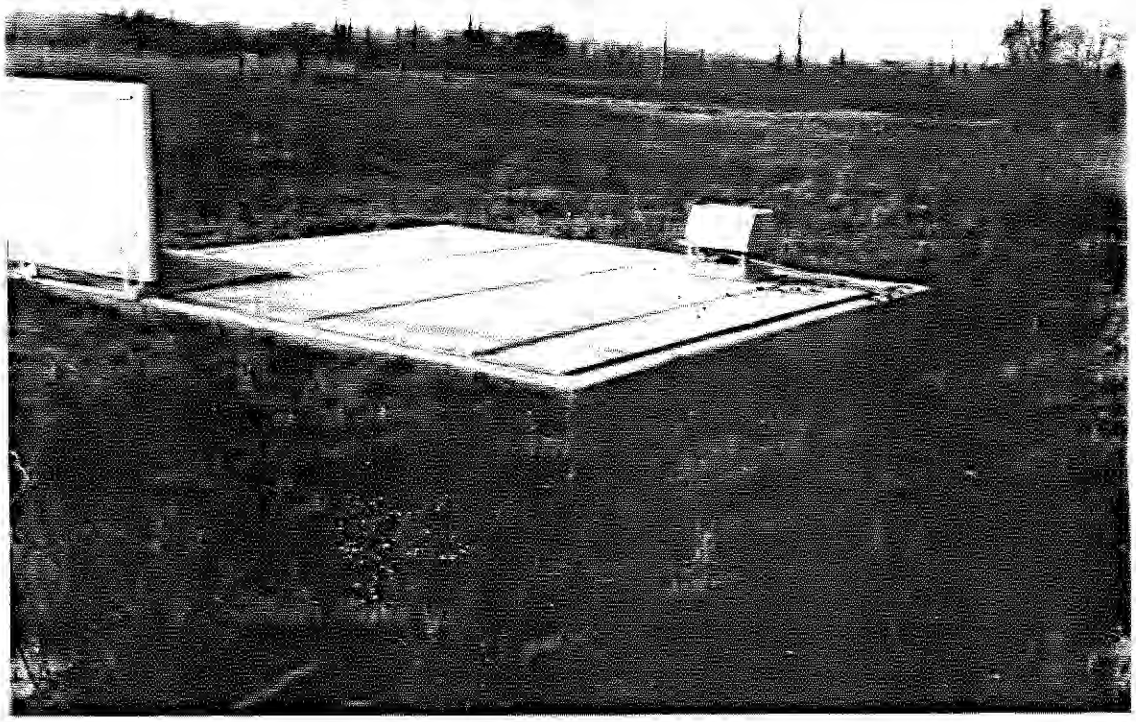


Photo 133: SEAD-56, 11/28/90. Below ground concrete pesticide rinseate collection vault, Herbicide and Pesticide Storage Area - Building 606, facing southwest.

Photo 134: SEAD-56, 9/12/90. View of the septic tank system, Herbicide and Pesticide Storage Area - Building 606, facing south.

Photo 135: SEAD-56, 11/28/90. View of the Mixing Area Room, Herbicide and Pesticide Storage Area - Building 606, facing west.

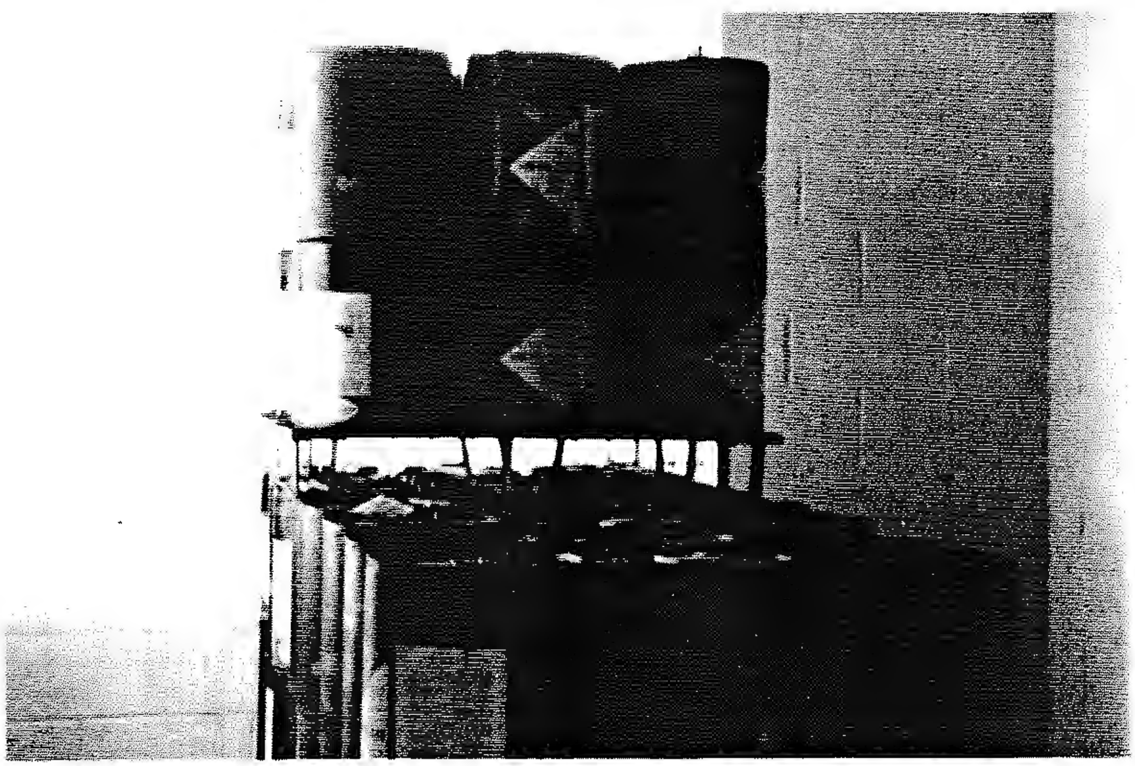


Photo 136: SEAD-56, 11/28/90. View of the Herbicide Storage Room, Herbicide and Pesticide Storage Area - Building 606, facing east.

Photo 137: SEAD-56, 11/28/90. View of the Herbicide Storage Room, Herbicide and Pesticide Storage Area - Building 606, facing west.

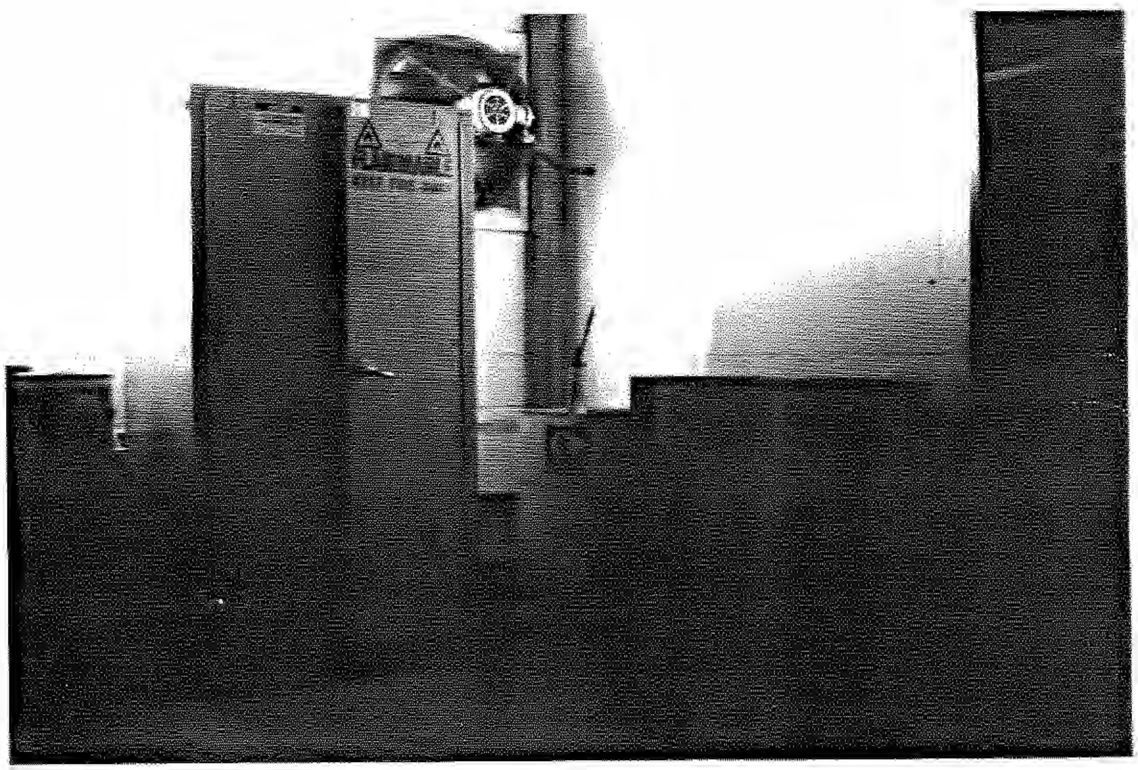


Photo 138: SEAD-56, 11/28/90. View of the Pesticide Storage Room, Herbicide and Pesticide Storage Area - Building 606, facing south.

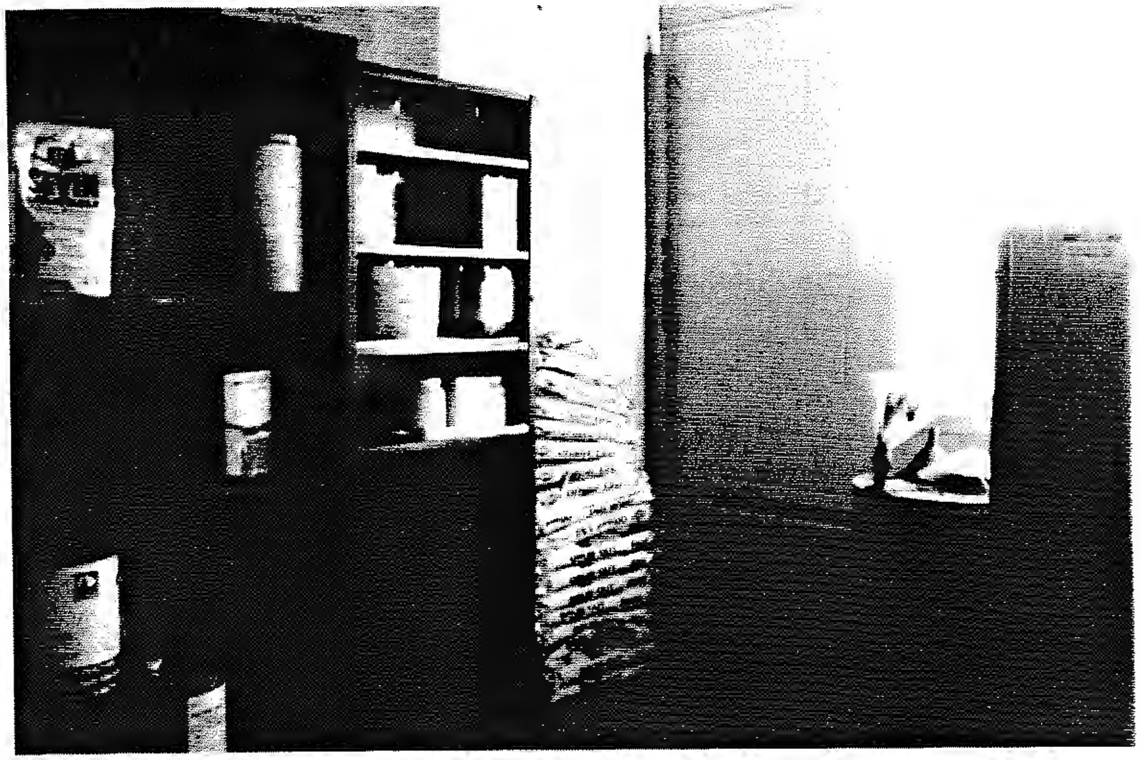


Photo 139: SEAD-56, 11/28/90. View of the Pesticide Storage Room, Herbicide and Pesticide Storage Area - Building 606, facing southeast.

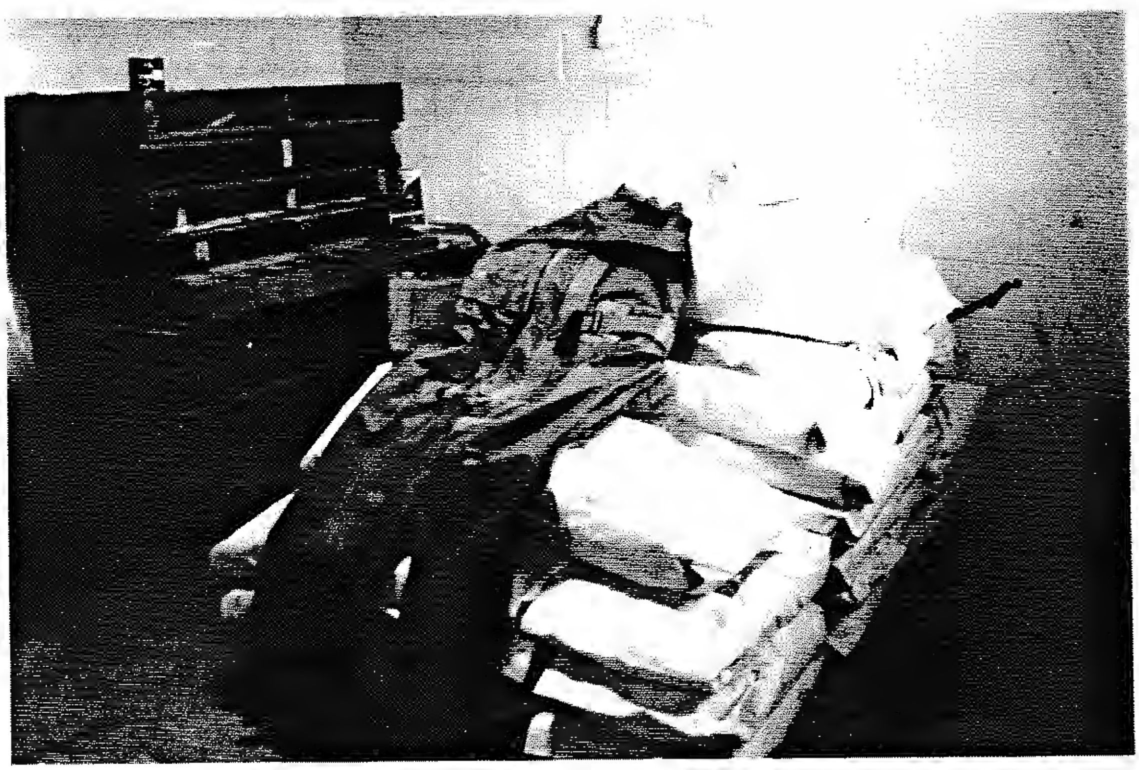


Photo 140: SEAD-56, 11/28/90. View of the Bulk Storage and Suspended Registration Room, Herbicide and Pesticide Storage Area - Building 606, facing west.

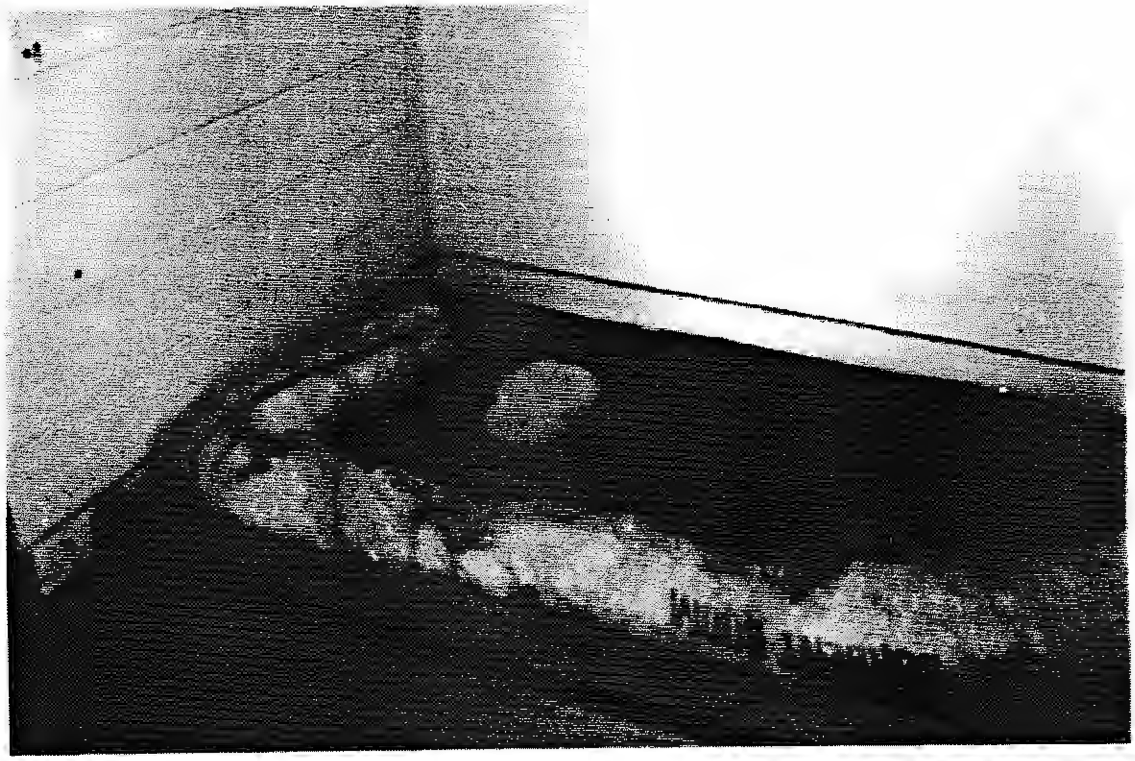


Photo 141: SEAD-56, 11/28/90. View of the emergency shower's sealed drain, Herbicide and Pesticide Storage Area - Building 606, facing west.

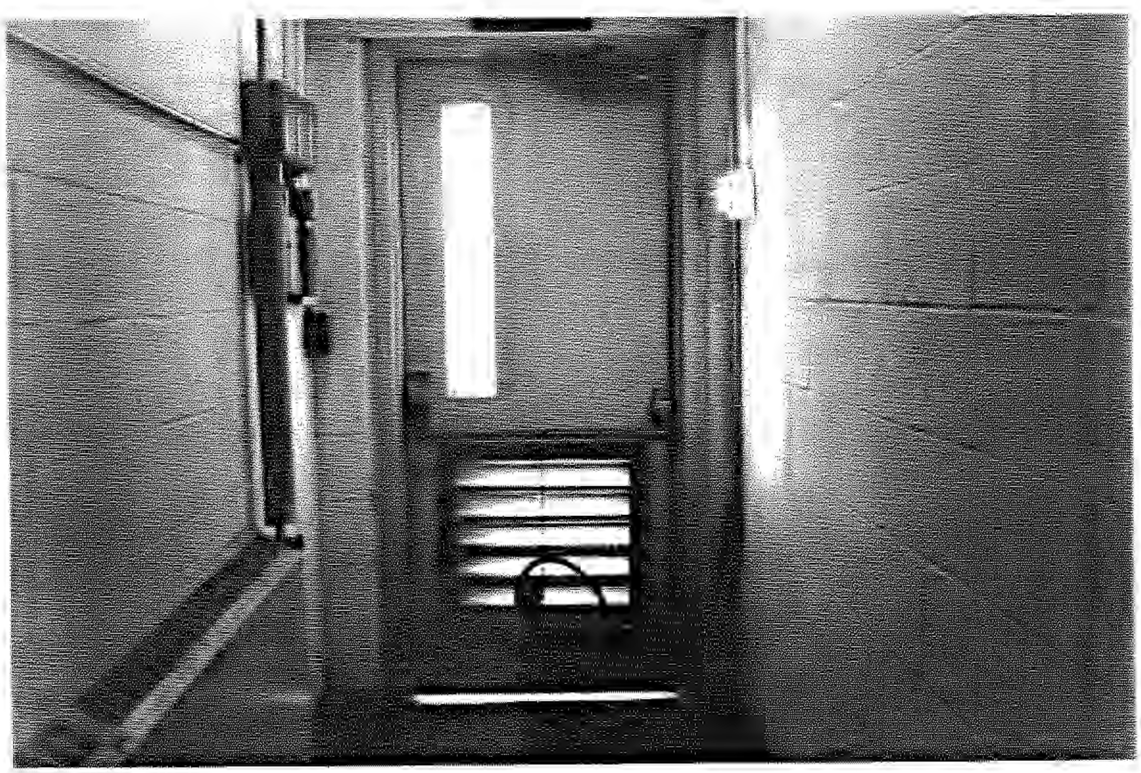


Photo 142: SEAD-56, 11/28/90. View of the ventilation system located in the front hallway of the Herbicide and Pesticide Storage Area - Building 606, facing south.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-43 and SEAD-56 DATE: 9/12/90 TIME: 2:35 p.m.
DATE: 11/28/90 TIME: 7:30 a.m.

UNIT NAME: Building 606 - Old Missile Propellant Test Laboratory (SEAD-43) and Herbicide and Pesticide Storage Area (SEAD-56)

PHOTO NUMBER: 129 through 132 and 134 (on 9/12/90)
133 and 135 through 142 (on 11/28/90)

ORIENTATION OF PHOTOGRAPH: No. 129 facing north, No. 130 facing north, No 131 facing north, 132 facing west, No. 133 facing southwest, No. 134 facing south, No. 135 facing west, No. 136 facing east, No. 137 facing west, No. 138 facing south, No 139 facing southeast, No. 140 facing west, No. 141 facing west, No. 142 facing south.

LOCATION WITHIN FACILITY: Approximately 3,000 feet north of South Patrol Road and 2,200 feet west of East Patrol Road.

WEATHER CONDITIONS: Sunny, 80°F on 9/12/90
Cloudy, 60°F on 11/28/90

PHOTOGRAPHER: Dimitra Syriopoulou (9/12/90)
Julie Hubbs (11/28/90)

FIGURE A-56

PLAN VIEW OF BUILDING 606
HERBICIDE AND PESTICIDE STORAGE

TABLE A-56

HERBICIDES AND PESTICIDES STORED IN BUILDING 606

TABLE A-56
HERBCIDES AND PESTICIDES
STORED IN BUILDING 606

Pesticide Storage Area
Pesticide Storage Room
Diazinon 4E spray
Ortho Hornet and Wasp Killer
FICAM-W WWP
OFF Aerosol
Synthrin liquid concentrate
Pegeon-9 strychnine grain bait (1)
Diazinon dust
Phostoxin tablets, gas
Mariate 2-MR emulsifiable concentrate
Sythion 5E emulsifiable concentrate (2)
Vaposector liquid concentrate(2)
Sevin Carbaryl WWP
Malathion liquid concentrate
Warfarin Anticoagulant
Diphacin paraffin anticoagulant
Cutter insect repellent aerosol
Tree wound dressing aerosol
D-Con flea fogger
Herbicide Storage Room
Round-up liquid concentrate
Low Vol 2, 4-D liquid concentrate
Princep 80W WWP
UROX-B-water sol. concentrate
Arsenal
Bulk and Suspended Registration Storage Room
Tordon 10K pellets
Boracil IV granular
Weed and feed lawn
Storage in SW Corner Room
15-15-15 garden fertilizer
Tree spikes 5-10-15
Grub-Out

NOTES:
(1) Not used.
(2) Not in stock during the visual site inspection.

57.0 SWMU NUMBER: SEAD-57

57.1 UNIT NAME

Explosive Ordnance Disposal Area.

57.2 UNIT CHARACTERISTICS

57.2.1 Unit Type

Open Detonation Area.

57.2.2 General Dimensions

A berm approximately 4 feet wide and 8 to 10 feet high with an inside diameter of approximately 70 feet.

57.2.3 Approximate Dates of Usage

1941 to present.

57.2.4 Operating Practices

In the past, the area was used for open detonation. The area may have also been used for the disposal of explosives.

57.2.5 Present Condition and Status

Active. Used for bomb squad training.

57.3 WASTE CHARACTERISTICS

57.3.1 Specific Wastes Disposed

In the past, the site may have been used for disposal of explosives.

57.3.2 Physical and Chemical Characteristics

Heavy metals, nitrates, and explosive compounds are the constituents of concern.

57.3.3 Migration and Dispersal Characteristics

The metals, nitrates, and explosives can migrate into the groundwater, but can also be adsorbed onto the soil (particularly the clay particles).

57.3.4 Toxicological Characteristics

Health advisories have been finalized for the explosive compounds HMX, RDX and TNT. These are given in Appendix E. MCLs have not been established for the explosive compounds of concern. It has been reported that the only explosive compound which may eventually be assigned a MCL is 2,4-DNT. Since MCLs do not exist for the explosives, guidance for interpreting explosive compunds in ground water samples have been developed by the Army Environmental Hygiene Agency. This guidance document has been included as Appendix F. MCLs have been established for many of the heavy metals of concern as shown in Appendix E.

57.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

57.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

57.6 EXPOSURE POTENTIAL

Moderate.

57.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the installation of investigation of 10 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Ten Solid Waste Management Units.

57.8 REFERENCES

Reference 44 A list of references is provided in Appendix L.

57.9 COMMENTS

This SWMU was recently add to the SWMU list by SEDA personnel. SEAD-57 is currently being investigated under the "Workplan for CERCLA ESI of Ten Solid Waste Management Units".

57.10 REGULATORY STATUS

This SWMU is classified as a Moderate Priority Area of Concern. It is currently being investigated under the CERCLA 10 SWMU SI Program.

Photo 143: SEAD-57, 9/12/90. View of the Explosive Ordnance Disposal Area, facing south.

Photo 144: SEAD-57, 9/12/90. Close-up of the Explosive Ordnance Disposal Area, facing east.

Photo 145: SEAD-57, 9/12/90. Close-up of the Explosive Ordnance Disposal Area, facing southeast.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-57 DATE: 9/12/90 TIME: 2:00 p.m.

UNIT NAME: Explosive Ordnance Disposal Area

PHOTO NUMBER: 143 through 145

ORIENTATION OF PHOTOGRAPH: No. 143 facing south, No 144 facing east No. 145 facing southeast.

LOCATION WITHIN FACILITY: Approximately 2,000 feet east of the West Patrol Road and 1,000 feet north of the East-West Base Line Road.

WEATHER CONDITIONS: Sunny, 80°F

PHOTOGRAPHER: Dimitra Syriopoulou

58.0 SWMU NUMBER: SEAD-58

58.1 UNIT NAME

Debris Area near Booster Station 2131.

58.2 UNIT CHARACTERISTICS

58.2.1 Unit Type

Fill Area.

58.2.2 Design Features

Unknown.

58.2.3 Approximate Dates of Usage

Unknown.

58.2.4 Operating Practices

Unknown. Possibly used for the disposal of barrels containing DDT.

58.2.5 Present Condition and Status

The site was observed from a helicopter in February, 1990. The debris area was reportedly located east of Booster Station Number 2131. On November 27, 1990, the area east of Booster Station 2131 was visually inspected. However, the debris area could not be located. A photograph of the booster station is shown on the page following this text.

58.3 WASTES CHARACTERISTICS

58.3.1 Specific Wastes Disposed

Unknown. Possibly, DDT.

58.3.2 Physical and Chemical Characteristics

DDT is a contact insecticide which is very persistent in the environment.

58.3.3 Migration and Dispersal Characteristics

DDT would probably be adsorbed by soil particles, but could also migrate to groundwater.

58.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

58.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

58.6 EXPOSURE POTENTIAL

Moderate due to the uncertainty of the SWMU's contents.

58.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the installation of investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units.

58.8 REFERENCES

Reference 45. A list of references is provided in Appendix L.

58.9 COMMENTS

This site was recently added to the SWMU list by SEDA personnel. SEAD-58 is currently being investigated under the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units".

58.10 REGULATORY STATUS

This SWMU is classified as Moderatley Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

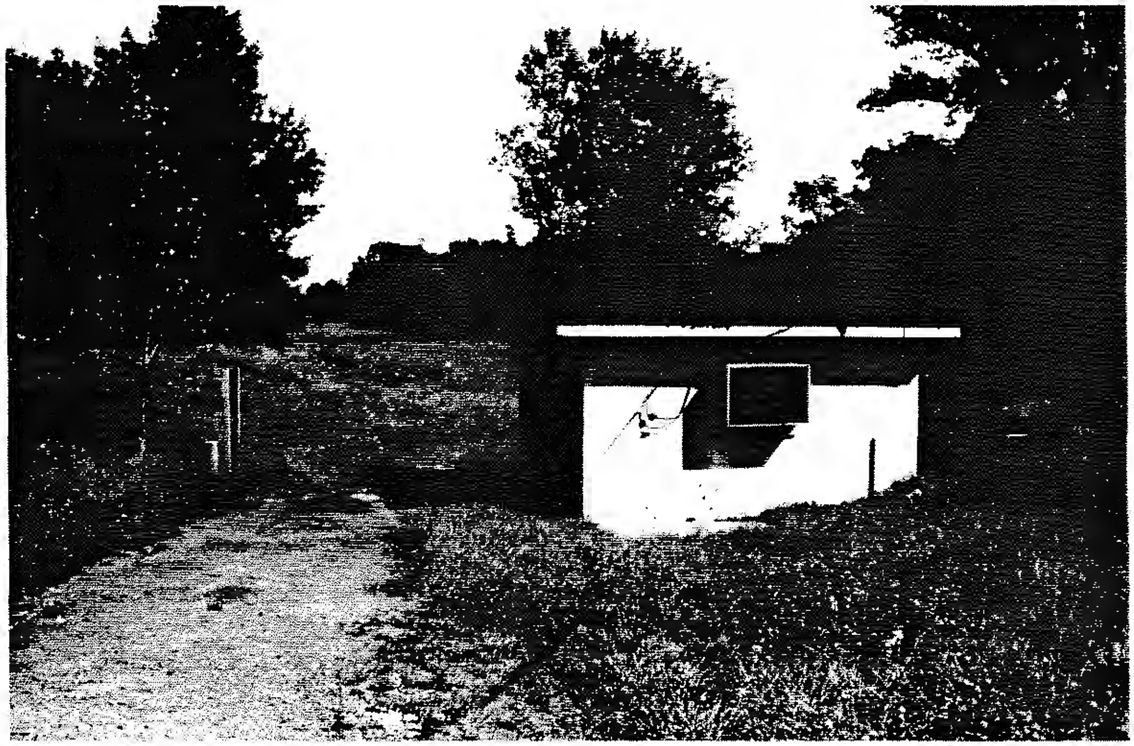


Photo 146: SEAD-58, 9/13/90. View of the Booster Station - Building 2131, facing east.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-58 DATE: 9/13/90 TIME: 2:45 p.m.

UNIT NAME: Debris Area near Booster Station 2131

PHOTO NUMBER: 146

ORIENTATION OF PHOTOGRAPH: Facing east.

LOCATION WITHIN FACILITY: In the northeast quadrant of the intersection of West Patrol Road and West Kendaia Road.

WEATHER CONDITIONS: Sunny, 80°F

PHOTOGRAPHER: Dimitra Syriopoulou

59.0 <u>SWMU NUMBER: SEAD-59</u>

59.1 UNIT NAME

Fill Area West of Building 135.

59.2 UNIT CHARACTERISTICS

59.2.1 <u>Unit Type</u>

Fill Area.

59.2.2 <u>General Dimensions</u>

Approximately 150 feet in diameter with a maximum depth of 10 feet.

59.2.3 <u>Approximate Dates of Usage</u>

Unknown.

59.2.4 <u>Operating Practices</u>

The area was potentially used for the disposal of construction debris.

59.2.5 <u>Present Condition and Status</u>

The site was covered with vegetation as shown in the photographs taken on September 11, 1990.

59.3 SPECIFIC WASTES DISPOSED

Unknown.

59.4 MIGRATION PATHWAYS

The migration pathway is groundwater.

59.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

59.6 EXPOSURE POTENTIAL

Moderate due to the uncertainty of the SWMU's contents.

59.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units.

59.8 REFERENCES

Reference 45. A list of references is provided in Appendix L.

59.9 COMMENTS

This site was recently added to the SWMU list by SEDA personnel. SEAD-59 is currently being investigated under the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units".

59.10 REGULATION STATUS

This SWMU is classified as a Moderately Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

Photo 147: SEAD-59, 9/11/90. View of the Fill Area - West of Building 135, facing northwest.

Photo 148: SEAD-59, 9/11/90. View of the Fill Area - West of Building 135, facing northwest.

Photo 149: SEAD-59, 9/11/90. View of the Fill Area - West of Building 135, facing northeast.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-59 DATE: 9/11/90 TIME: 9:10 a.m.

UNIT NAME: Fill Area west of Building 135

PHOTO NUMBER: 147 through 149

ORIENTATION OF PHOTOGRAPH: No. 147 and 148 facing northwest, No. 149 facing northeast.

LOCATION WITHIN FACILITY: Approximately 1,100 feet west of the intersection of Administration Avenue and South Street.

WEATHER CONDITIONS: Cloudy, 70°F

PHOTOGRAPHER: Dimitra Syriopoulou

60.0 SWMU NUMBER: SEAD-60

60.1 UNIT NAME

Oil Discharge adjacent to Building 609.

60.2 UNIT CHARACTERISTICS

60.2.1 Unit Type

Spill Area adjacent to Boiler Building 609.

60.2.2 General Dimensions

Approximately 25 feet by 10 feet.

60.2.3 Approximate Dates of Usage

The spill area was first observed in 1989.

60.2.4 Operating Practices

Apparently, the oil which caused the spill came from a pipe located within the boiler building.

60.2.5 Present Condition and Status

As shown in the photographs following this text, an area of approximately 250 square feet is covered with oil.

60.3 SPECIFIC WASTES DISPOSED

Oil, the specific type unknown.

60.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

60.5 EVIDENCE OF RELEASE

Yes, evidence of a release was observed. A stained spill area is present.

60.6 EXPOSURE POTENTIAL

Moderate.

60.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the installation of investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units.

60.8 REFERENCES

Reference 45. A list of references is provided in Appendix L.

60.9 COMMENTS

This site was recently added to the SWMU list by SEDA personnel. SEAD-60 is currently being investigated under the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units".

60.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

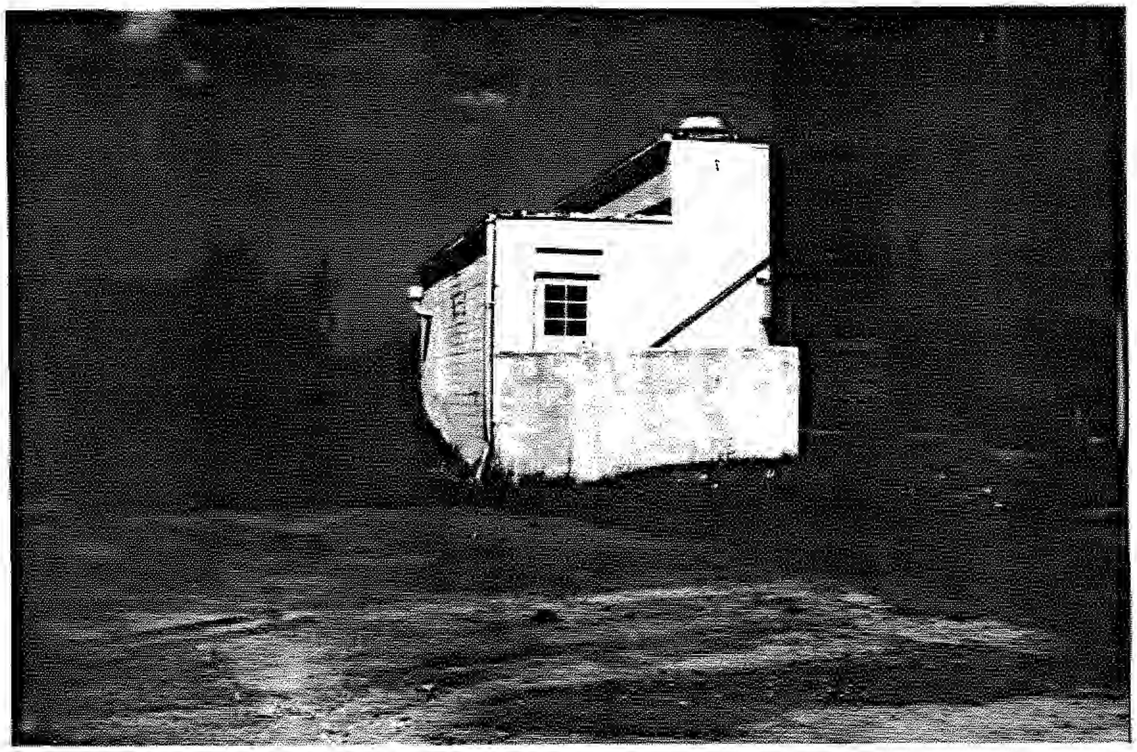


Photo 150: SEAD-60, 9/13/90. View of Oil Discharge - Building 609, facing north.

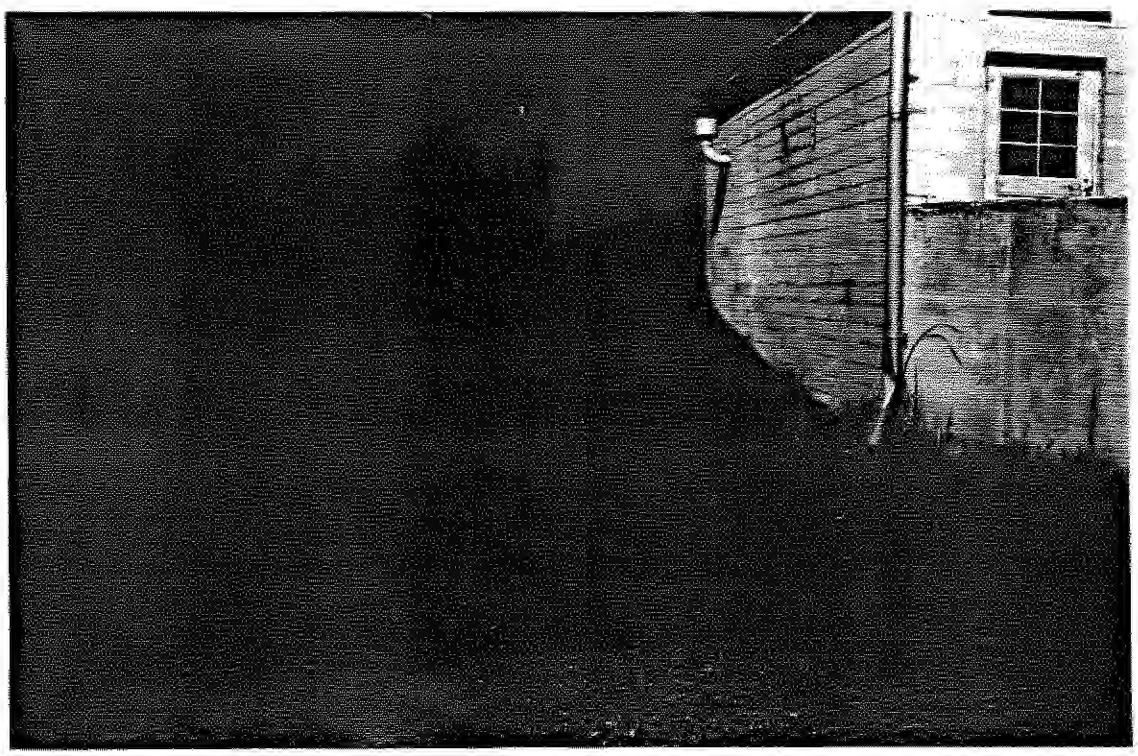


Photo 151: SEAD-60, 9/13/90. View of Oil Discharge - Building 609, facing north.

Photo 152: SEAD-60, 9/11/90. Close-up of Oil Discharge - Building 609, facing northeast.

Photo 153: SEAD-60, 9/11/90. Close-up of Oil Discharge - Building 609, facing northeast.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-60 DATE: 9/11/90 TIME: 2:55 p.m.
DATE: 9/13/90 TIME: 2:15 p.m.

UNIT NAME: Oil Discharge adjacent to Building 609

PHOTO NUMBER: 150 and 151 (on 9/13/90), 152 and 153 (on 9/11/90)

ORIENTATION OF PHOTOGRAPH: No. 150 and 151 facing north, No. 152 and 153 facing northeast.

LOCATION WITHIN FACILITY: On Brady Road, approximately 2,500 feet north of South Patrol Road.

WEATHER CONDITIONS: Partly cloudy, 75°F on 9/11/90; Sunny, 80°F on 9/13/90

PHOTOGRAPHER: Dimitra Syriopoulou

61.0 SWMU NUMBER: SEAD-61 (refer to SEAD-35)

61.1 UNIT NAME

Building 718 - Underground Waste Oil Storage Tank.

61.2 UNIT CHARACTERISTICS

61.2.1 Unit Type

Underground waste oil storage tank.

61.2.2 Design Features

A double-wall fiberglass tank with a maximum storage capacity of 10,000 gallons. The tank was designed in accordance with 6 NYCRR Part 614.

61.2.3 Approximate Dates of Usage

1989 to present.

61.2.4 Operating Practices

The tank is used for the storage of waste oil prior to burning in the adjacent boiler plant, located in Building 718.

61.2.5 Present Condition and Status

Active.

61.2.6 Regulatory Agency

The primary NYSDEC Region 8 point of contact is Frank Ricotta (Regional Engineer). The associate contacdt is Wendy Stevension of NYSDEC's Region 8 Division of Spills Management. The NYS Petroleum bulk storage number is 8-416418.

61.3 SPECIFIC WASTES DISPOSED

Waste oil is stored, not disposed of, at this SWMU.

61.4 MIGRATION PATHWAYS

Leakage of oil from the tank could result in a waste oil discharge to the groundwater. The likelihood of a release of waste oil to soil and groundwater is low as the tank is constructed of double-walled fiberglass and was recently installed (it was installed in 1989).

61.5 EVIDENCE OF RELEASE

No evidence of a release was observed. The liklihood of a release from the tank is low as it was recently installed.

61.6 EXPOSURE POTENTIAL

Low.

61.7 RECOMMENDATIONS FOR SAMPLING

None.

61.8 REFERENCES

None.

61.9 COMMENTS

This tank was recently added to the SWMU list by SEDA personnel.

61.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

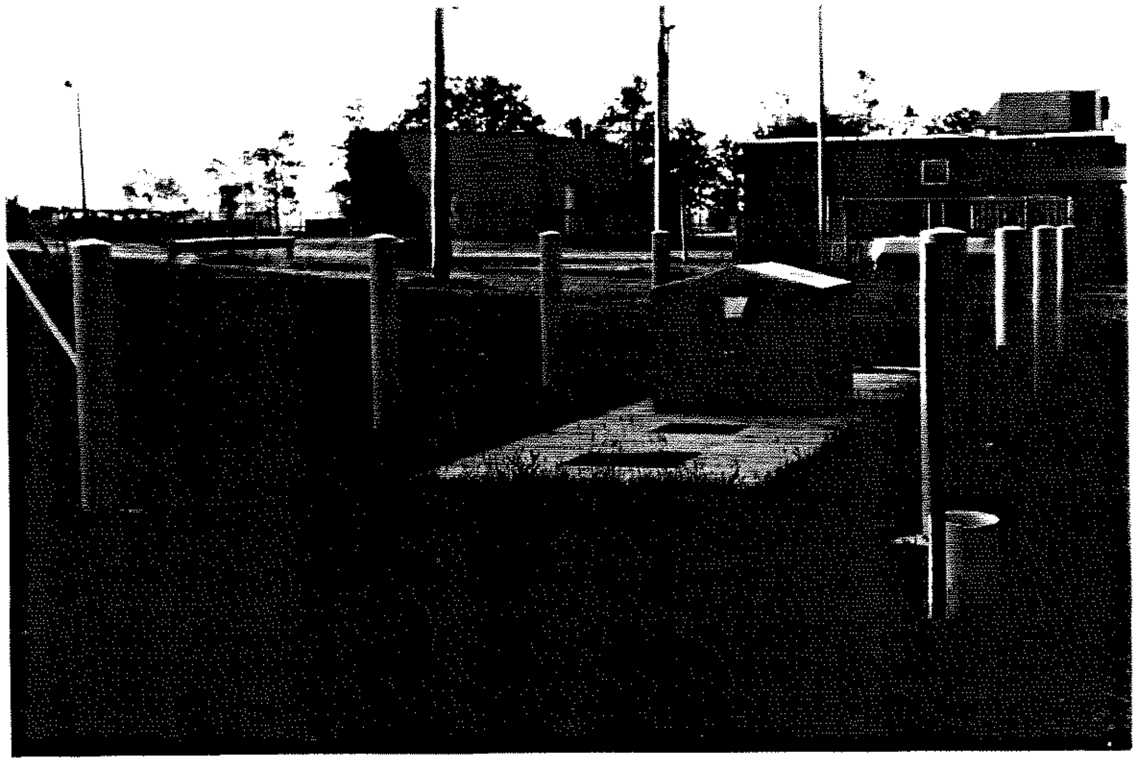


Photo 154: SEAD-61, 9/13/90. View of Underground Waste Oil Tank - Building 718, facing southeast.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-61 DATE: 9/13/90 TIME: 8:35 a.m.

UNIT NAME: Building 718 - Underground Waste Oil Tank

PHOTO NUMBER: 154

ORIENTATION OF PHOTOGRAPH: Facing southeast.

LOCATION WITHIN FACILITY: On Access Road, approximately 750 feet southeast of the North Patrol Road Emergency Gate.

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

62.0 SWMU NUMBER: SEAD-62

62.1 UNIT NAME

Nicotine Sulfate Disposal Area near Buildings 606 or 612.

62.2 UNIT CHARACTERISTICS

62.2.1 Unit Type

Disposal Area.

62.2.2 General Dimensions

Unknown.

62.2.3 Approximate Dates of Usage

Unknown.

62.2.4 Operating Practices

Unknown. Drums containing nicotine sulfate were reported to have been buried somewhere in the vicinity of Buildings 606 and 612.

62.2.5 Present Condition and Status

Unknown. The site has not been located. A photograph of the area between Buildings 606 and 612 is shown on the page following this text.

62.3 SPECIFIC WASTES DISPOSED

Possibly, nicotine sulfate. Nicotine sulfate is a poison by ingestion and skin contact.

62.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

62.5 EVIDENCE OF RELEASE

Unknown. However, no evidence of a release has been observed at the SWMU.

62.6 EXPOSURE POTENTIAL

Moderate due to the uncertainty of the wastes disposed.

62.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

62.8 REFERENCES 17 AND 45

References 17 and 45. A list of references is provided in Appendix L.

62.9 COMMENTS

This site has recently been added to the SWMU list by SEDA personnel. SEAD-62 is currently being investigated under the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units".

62.10 REGULATORY STATUS

This SWMU classified as a Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

Photo 155: SEAD-62, 9/11/90. View of the location of the Nicotine Sulfate Disposal Area - on south side of road near Buildings 606 and 612, facing east.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-62 DATE: 9/11/90 TIME: 3:10 p.m.

UNIT NAME: Nicotine Sulfate Area near Buildings 606 and 612

PHOTO NUMBER: 155

ORIENTATION OF PHOTOGRAPH: Facing east.

LOCATION WITHIN FACILITY: Approximately 1,000 feet east of Brady Road and 2,500 feet north of South Patrol Road.

WEATHER CONDITIONS: Partly cloudy, 75°F

PHOTOGRAPHER: Dimitra Syriopoulou

63.0 SWMU NUMBER: SEAD-63

63.1 UNIT NAME

Miscellaneous Components Burial Site.

63.2 UNIT CHARACTERISTICS

63.2.1 Unit Type

Burial Site.

63.2.2 General Dimensions

Approximately 80 feet by 65 feet.

63.2.3 Approximate Dates of Usage

1950s to 1960s.

63.2.4 Operating Practices

Inert materials were buried in the pit (i.e classified parts).

63.2.5 Present Condition and Status

The burial site has not been excavated. Photographs of the area are shown on the page following this text.

63.3 SPECIFIC WASTES DISPOSED

Inert materials.

63.4 MIGRATION PATHWAYS

The migration pathway is groundwater.

63.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

63.6 EXPOSURE POTENTIAL

Moderate due to the uncertainty of the SWMU's contents.

63.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

63.8 REFERENCES

Reference 45. A list of references is provided in Appendix L.

63.9 COMMENTS

This site was recently added to the SWMU list by SEDA personnel. SEAD-63 is currently being investigated under the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

63.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

Photo 156: SEAD-63, 9/12/90. View of the location of the Miscellaneous Components Burial Site, facing north.

Photo 157: SEAD-63, 9/12/90. View of the location of the Miscellaneous Components Burial Site, facing northwest; the tape is held across north-south dimension of the burial site.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-63 DATE: 9/12/90 TIME: 10:55 a.m.

UNIT NAME: Miscellaneous Components Burial Site

PHOTO NUMBER: 156 and 157

ORIENTATION OF PHOTOGRAPH: No. 156 facing north, No. 157 facing northwest.

LOCATION WITHIN FACILITY: Exclusion Area - In the southeast quadrant of the intersection of Patrol Road and Service Road No. 3

WEATHER CONDITIONS: Sunny, 75°F

PHOTOGRAPHER: Randall W. Battaglia

64.0 SWMU NUMBER: SEAD-64

64.1 UNIT NAME

Garbage Disposal Areas.

64.1.1 Location A

Debris landfill south of storage pad.

64.1.2 Location B

Disposal area south of classified yards.

64.1.3 Location C

Proposed landfill site.

64.1.4 Location D

Disposal area west of Building 2203.

64.2 UNIT CHARACTERISTICS

64.2.1 Unit Type

Disposal Areas.

64.2.2 General Dimensions

64.2.2.1 Location A

Approximately 200 feet by 350 feet.

64.2.2.2 Location B

Unknown.

64.2.2.3 Location C

Unknown.

64.2.2.4 Location D

Unknown.

64.2.3 <u>Approximate Dates of Usage. Unknown.</u>

64.2.4 <u>Operating Practices</u>

The areas possibly could have been used for garbage disposal during periods when the facility's solid waste incinerator was inoperable (SEAD-15).

64.2.5 <u>Present Condition and Status</u>

64.2.5.1 Location A

This debris landfill is located south of the storage pads at 7th Street. The area appeared to have been disturbed. A "No Dumping" sign has been placed in the area. No garbage or debris was observed. (Photos 158 and 159).

64.2.5.2 Location B

This debris area is located south of the classified yards and north of Ovid Road. Piles of fill material were observed in the area as shown in Photo 161.

64.2.5.3 Location C

The proposed landfill site is located north of South Patrol Road. A SEDA employee has reported that debris has been dumped at the site. The debris area could not be located during the visual site inspection. Groundwater monitoring wells have been placed around the unit as shown in Photos 162 and 163.

64.2.5.4 Location D

It has been reported that debris (i.e. crushed heavy gauge metal drums, empty smoke generating canisters and various other metallic debris) has been dumped at an area west of Building 2203 and east of West Patrol Road (Photos 164 and 165). The debris area could not be located during the visual site inspection.

64.3 SPECIFIC WASTES DISPOSED

Unknown. Possibly household garbage, metal drums.

64.4 MIGRATION PATHWAYS

The migration pathway is groundwater.

64.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

64.6 EXPOSURE POTENTIAL

Moderate due to the uncertainty of the contents.

64.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

64.8 REFERENCES

Reference 45. A list of references is provided in Appendix L.

64.9 COMMENTS

This SWMU was recently added to the SWMU list by SEDA personnel. SEAD-64-A, 64-B, 64-C, and 64-D are currently being investigated under the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

64.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern. It that is currently being investigated under the CERCLA 15 SWMU SI program.

Photo 158: SEAD-64, 11/27/90. View of Location A of Garbage Disposal Areas, Debris Landfill south of Storage Pad, facing south.

Photo 159: SEAD-64, 11/27/90. View of Location A of Garbage Disposal Areas, Debris Landfill south of Storage Pad, facing north.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-64 DATE: 11/27/90 TIME: 11:00 a.m.

UNIT NAME: Location A: Garbage Disposal Areas, Debris Landfill south of Storage Pad

PHOTO NUMBER: 158 and 159

ORIENTATION OF PHOTOGRAPH: No. 158 facing south, No. 159 facing north

LOCATION WITHIN FACILITY: Approximately 500 feet south of 7th Street and 800 feet east of Brady Road

WEATHER CONDITIONS: Cloudy, 65° F

PHOTOGRAPHER: Julie Hubbs

Photo 160: SEAD-64, 11/29/90. View of Location B of Garbage Disposal Areas, Debris Area south of Classification Yards, facing north.

Photo 161: SEAD-64, 11/29/90. View of Location B of Garbage Disposal Areas, Debris Area south of Classification Yards, facing east.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-64 DATE: 11/29/90 TIME: 9:00 a.m.

UNIT NAME: Location B: Garbage Disposal Areas, Disposal Area south of Classification Yards

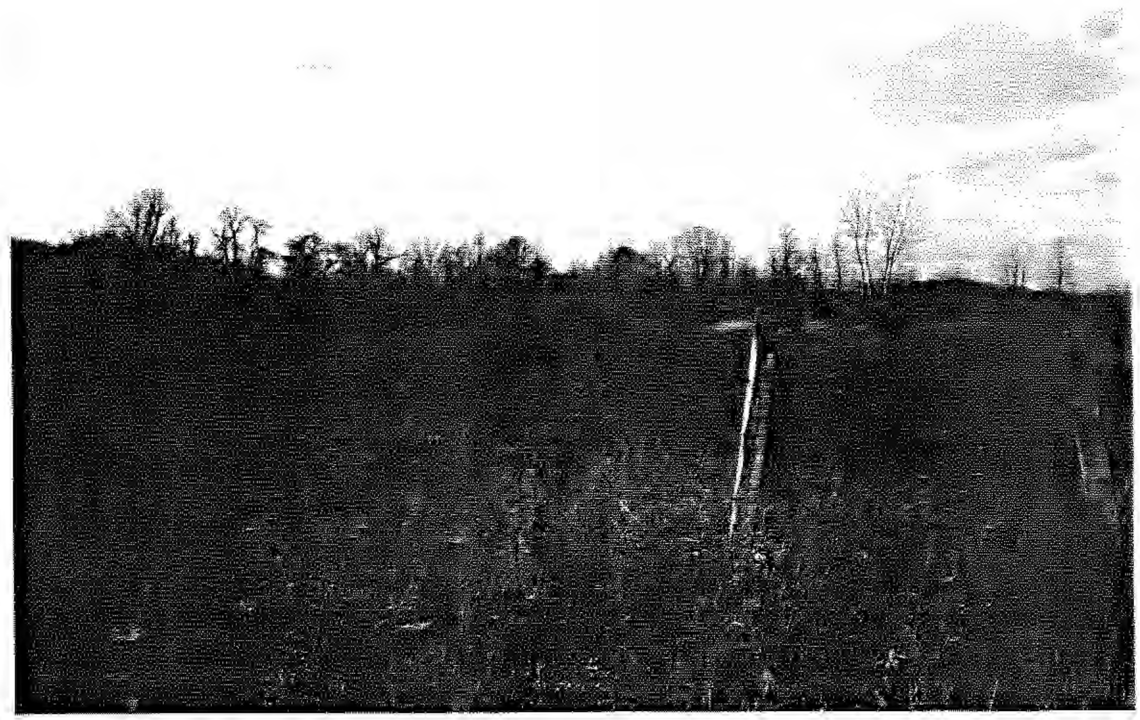
PHOTO NUMBER: 160 and 161

ORIENTATION OF PHOTOGRAPH: No. 160 facing north, No. 161 facing east

LOCATION WITHIN FACILITY: Approximately 100 feet north of Ovid Road and 400 feet east of Building 2086

WEATHER CONDITIONS: Cloudy, 55°F

PHOTOGRAPHER: Julie Hubbs



<u>Photo 162</u>: SEAD-64, 11/29/90. View of Location C of Garbage Disposal Areas, Proposed Landfill Site, facing northwest.

<u>Photo 163</u>: SEAD-64, 11/29/90. View of groundwater monitoring well, Location C of Garbage Disposal Areas, Proposed Landfill Site, facing northwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-64 DATE: 11/29/90 TIME: 11:00 a.m.

UNIT NAME: Location C: Garbage Disposal Areas, Proposed Landfill Site

PHOTO NUMBER: 162 and 163

ORIENTATION OF PHOTOGRAPH: Facing northwest

LOCATION WITHIN FACILITY: Approximately 400 feet north of South Patrol Road, and 2,500 feet east of Brady Road

WEATHER CONDITIONS: Cloudy, 55°F

PHOTOGRAPHER: Julie Hubbs

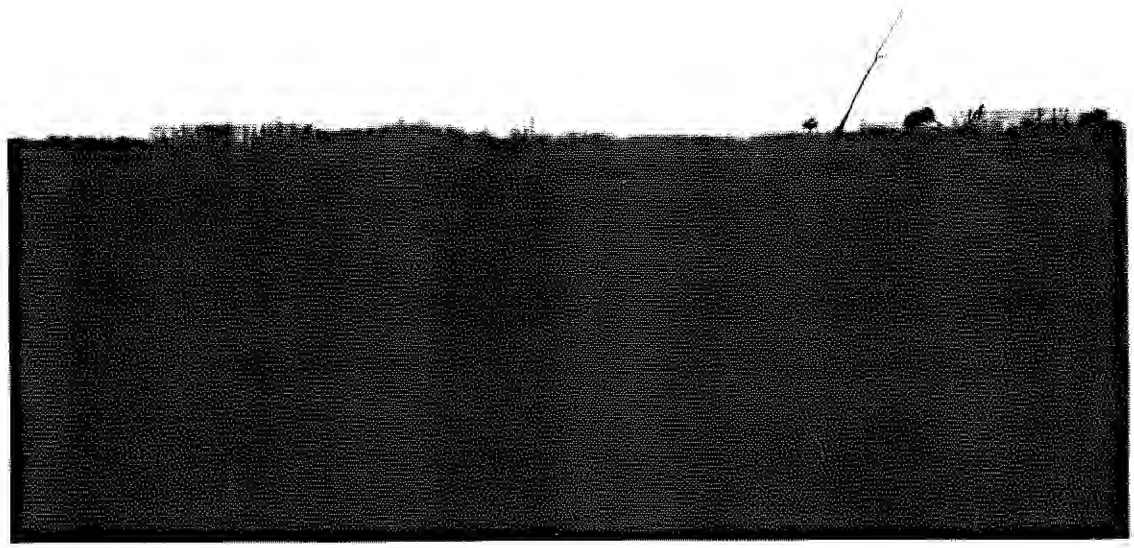


Photo 164: SEAD-64, 11/29/90. View of Location D of Garbage Disposal Areas, Disposal Area west of Building 2203, facing southwest.

Photo 165: SEAD-64, 11/29/90. View of Location D of Garbage Disposal Areas, Disposal Area west of Building 2203, facing southwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-64 DATE: 11/29/90 TIME: 12:30 p.m.

UNIT NAME: Location D: Garbage Disposal Areas,
Disposal Area west of Building 2203

PHOTO NUMBER: 164 and 165

ORIENTATION OF PHOTOGRAPH: Facing southwest

LOCATION WITHIN FACILITY: Approximately 1,500 feet south of West Smith Farm Road and 600 feet west of Building 2203.

WEATHER CONDITIONS: Cloudy, 55°F

PHOTOGRAPHER: Julie Hubbs

65.0 SWMU NUMBER: SEAD-65

65.1 UNIT NAME

Acid Storage Areas.

65.2 UNIT CHARACTERISTICS

65.2.1 UNIT TYPE

Acid Storage Areas. (Locations A, B, and C).

65.2.2 GENERAL DIMENSIONS

65.2.2.1 LOCATION A

Approximately 120 feet by 130 feet.

65.2.2.2 LOCATION B

Approximately 65 feet by 100 feet.

65.2.2.3 LOCATION C

Approximately 50 feet by 100 feet.

65.2.3 APPROXIMATE DATES OF USAGE

Unknown.

65.2.4 OPERATING PRACTICES

It was reported that acid was stored in two areas located south of the truck entrance gate.

65.2.5 PRESENT CONDITION AND STATUS

The area located south of the truck entrance gate was visually inspected on November 27, 1990. Three possible locations where structures may have existed were observed. Portions of a concrete foundation were observed at Locations A and B. A concrete pad and flagpole were observed at Location C. Photographs of these areas are shown on the pages following this text.

65.3 SPECIFIC WASTES DISPOSED

In the past, the sites may have been used for acid storage.

65.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

65.5 EVIDENCE OF RELEASE

No evidence of a release was observed. However, in a December 29, 1992 letter to SEDA EPA recommended measuring the pH of surface soils in the vicinity of the three acid storage areas.

ES collected surficial soil samples (0 to 6 inches) from fifteen locations in the vicinity of the acid storage areas: one sample from the corners of each area and one sample from the center of each area. These samples were analyzed in the field for pH using SW-846 Method 9045B. The results of these tests are presented on Table 65-1. All samples tested had a pH in the range of 6.59 to 8.09. These values are in the normal range for soils and do not constitute evidence of a release.

65.6 EXPOSURE POTENTIAL

Low.

65.7 RECOMMENDATIONS FOR SAMPLING

No additional sampling is recommended.

65.8 REFERENCES

None.

65.9 COMMENTS

This unit was recently added to the SWMU list by SEDA personnel.

65.10 REGULATORY STATUS

This SWMU is classified as a No Action SWMU under CERCLA.

Photo 166: SEAD-65, 11/29/90. View of Location A of Acid Storage Area, facing west.

Photo 167: SEAD-65, 11/29/90. View of concrete foundation, Location A, Acid Storage Area.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-65 DATE: 11/29/90 TIME: 2:00 p.m.

UNIT NAME: Location A: Acid Storage Area

PHOTO NUMBER: 166 and 167

ORIENTATION OF PHOTOGRAPH: Facing west

LOCATION WITHIN FACILITY: Approximately 500 feet north of West Romulus Road and 1,500 feet east of truck entrance

WEATHER CONDITIONS: Cloudy, 55°F

PHOTOGRAPHER: Julie Hubbs

Photo 168: SEAD-65, 11/29/90. View of Location B of Acid Storage Area, facing northeast.

Phote 169: SEAD-65, 11/29/90. View of concrete foundation, Location B, Acid Storage Facility.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-65 DATE: 11/29/90 TIME: 2:30 p.m.

UNIT NAME: Location B: Acid Storage Area

PHOTO NUMBER: 168 and 169

ORIENTATION OF PHOTOGRAPH: Facing northeast

LOCATION WITHIN FACILITY: Approximately 700 feet north of West Romulus Road and 1,300 feet east of truck entrance

WEATHER CONDITIONS: Cloudy, 55°F

PHOTOGRAPHER: Julie Hubbs

Photo 170: SEAD-65, 11/29/90. View of Location C of Acid Storage Area, facing southeast.

Photo 171: SEAD-65, 11/29/90. Close-up of Location C of Acid Storage Area, facing east.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-65 DATE: 11/29/90 TIME: 3:00 p.m.

UNIT NAME: Location C: Acid Storage Area

PHOTO NUMBER: 170 and 171

ORIENTATION OF PHOTOGRAPH: No. 170 facing southeast, No. 171 facing east

LOCATION WITHIN FACILITY: Approximately 1,200 feet north of West Patrol Road and 1,000 feet east of truck entrance

WEATHER CONDITIONS: Cloudy, 55°F

PHOTOGRAPHER: Julie Hubbs

TABLE A-65

Soil Analytical Results

TABLE A-65
SOIL ANALYTICAL RESULTS

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

66.0 SWMU NUMBER: SEAD-66

66. UNIT NAME

Pesticide Storage Area near Buildings 5 and 6.

66.2 UNIT CHARACTERISTICS

66.2.1 UNIT TYPE

Pesticide Storage Building.

66.2.2 GENERAL DIMENSIONS

Unknown.

66.2.3 APPROXIMATE DATES OF USAGE

Unknown.

66.2.4 OPERATING PRACTICES

It has been reported that pesticides were stored in a structure located in the vicinity of Buildings 5 and 6.

66.2.5 PRESENT CONDITION AND STATUS

The exact location of the pesticide storage building is unknown. A small metal shed was observed adjacent to Building 5. This shed possibly could have been used for storage of pesticides. A concrete pad was observed adjacent to Building 6. This area may have also been used for the storage of pesticides. Photographs of these areas are shown on the pages following the text.

66.3 SPECIFIC WASTES DISPOSED

It was reported that pesticides were stored, not disposed of in the building.

66.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

66.5 EVIDENCE OF RELEASE

No documented or visual evidence of a release from the SWMU is available. To investigate the possibility of a release, a limited sampling program was performed. Eight surface soil samples, 0-2" were collected form around the Pesticide Storage Area (Figure SEAD-66). These soil samples were analyzed for NYSDEC CLP pesticides. The analytical reports are included in Appendix I.

The limited sampling results indicate that seven pesticide compounds and one PCB compound were detected in surface soil samples at the site (Table A-66). The compounds 4,4'-DDE and 4,4'-DDT were the most frequently detected, occuring in all but one of the samples. They were also the only compounds to be detected at concentrations above the NYSDEC TAGMS in sample SS66-8 (Table A-66). In this sample, 4,4'-DDE and 4,4'-DDT were detected at concentrations of 8700 ppb and 36,000 ppb, respectively.

One PCB compound (Aroclor-1254) was detected in four of the eight samples between 24 and 80 ppb. All concentrations in the samples were below the NYSDEC TAGM of 1000 ppb for total PCBs.

The analytical data indicate that both pesticides and PCBs have been released to the surface soils at SEAD-66. 4,4'-DDE and 4,4'-DDT were detected at concentrations that exceeded their respective TAGMs. Therefore, based on the results of the limited sampling, evidence of release exists.

66.6 EXPOSURE POTENTIAL

Moderate.

66.7 RECOMMENDATIONS FOR SAMPLING

Additional sampling should be performed as part of CERCLA SI to determine the extent of pesticides in the environment.

66.8 REFERENCES

None.

66.9 COMMENTS

This unit was recently added to the SWMU list by SEDA personnel. Limited sampling was performed at this site to determine if further investigation is necessary.

66.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern. It will be addressed further either through a CERCLA SI or a removal action.

Photo 172: SEAD-66, 11/29/90. View of possible Pesticide Storage Area near Buildings 5 and 6 (Building 5 is the white block structure located in back of Building 6), facing north.

Photo 173: SEAD-66, 11/29/90. View of possible Pesticide Storage Area near Building 5, facing north.

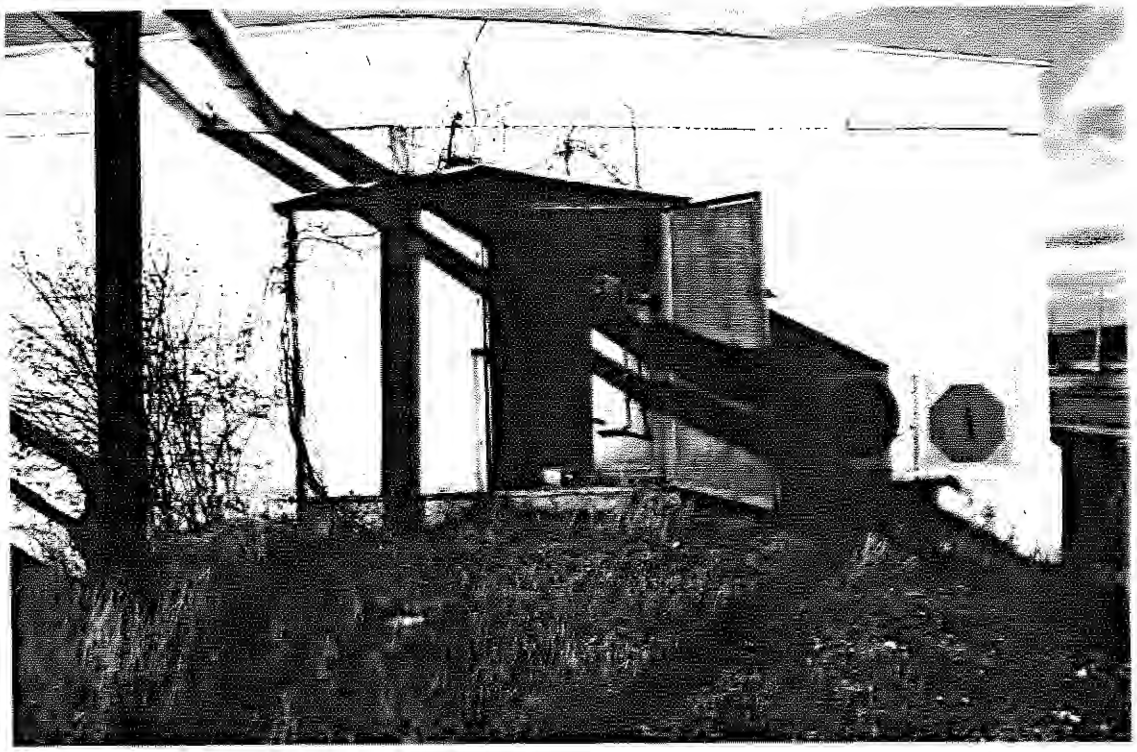


Photo 174: SEAD-66, 11/29/90. Close-up of possible Pesticide Storage Area near Building 5, facing north.

Photo 175: SEAD-66, 11/29/90. Close-up of possible Pesticide Storage Area near Building 6, facing northwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-66 DATE: 11/29/90 TIME: 1:00 p.m.

UNIT NAME: Pesticide Storage near Buildings 5 and 6

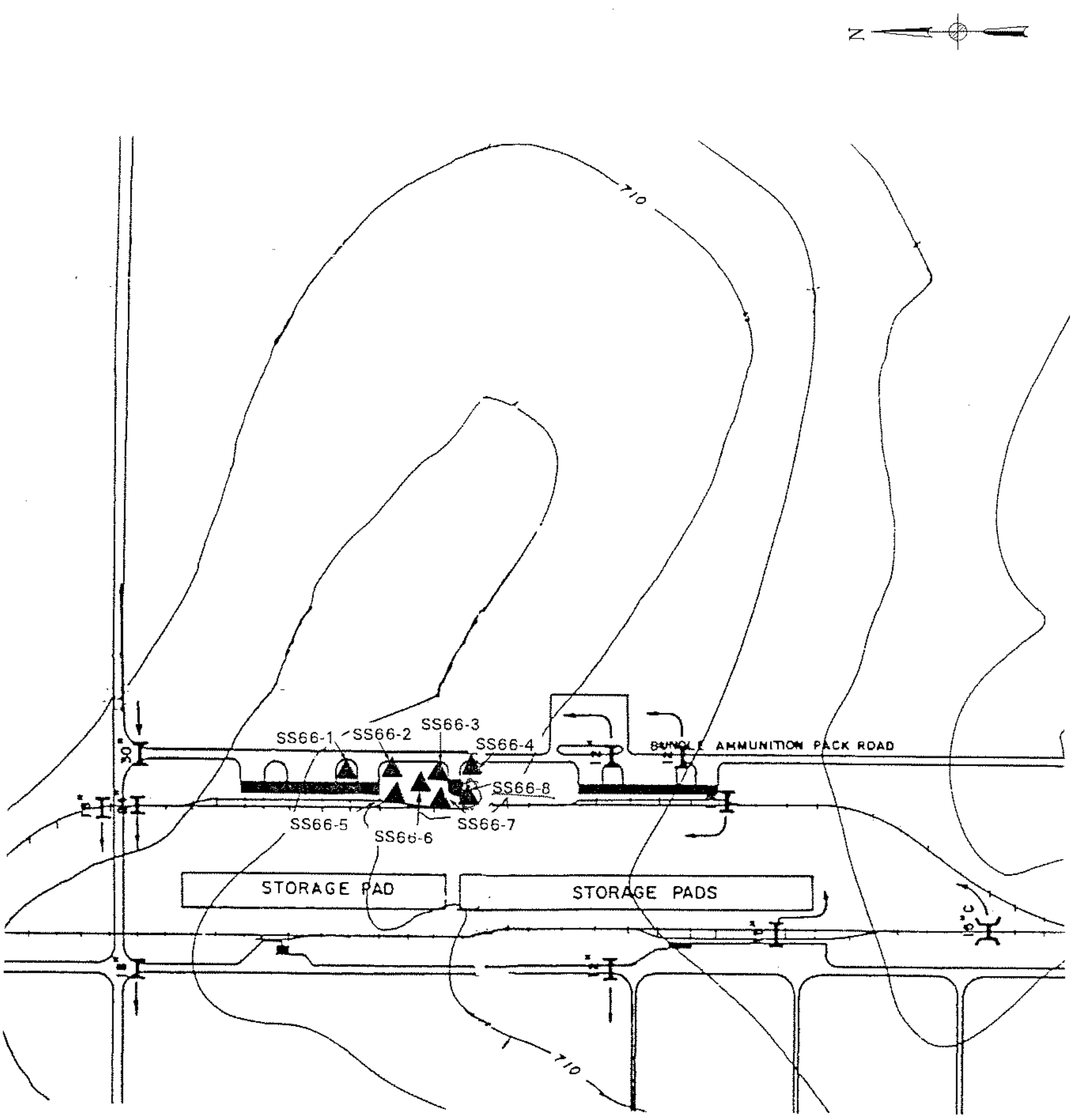
PHOTO NUMBER: 172 through 175

ORIENTATION OF PHOTOGRAPH: No. 172, 173 and 174, facing north, No. 175, facing northwest

LOCATION WITHIN FACILITY: Approximately 800 feet south of West Romulus Road at Buildings 5 and 6

WEATHER CONDITIONS: Cloudy, 55°F

PHOTOGRAPHER: Julie Hubbs



LEGEND

MONITORING WELL

SOIL BORING

SURFACE SAMPLE

PARSONS
ENGINEERING-SCIENCE, INC.

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT

SWMU CLASSIFICATION STUDY
LIMITED SAMPLING

DEPT. ENVIRONMENTAL ENGINEERING	NO. 720517-01002

FIGURE 66
SEAD 66
SAMPLE LOCATIONS

SCALE 1" =200'

TABLE A-66

Soil Analytical Results

TABLE A-66
SURFACE SOIL ANALYTICAL RESULTS: Pesticides and PCB Organics
SEAD-66

CAS NO.	COMPOUND		SOIL	SOIL	SOIL	SOIL	SOIL
	S10DLM.WK3 (66)	MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL
	SDG 41316	SITE	SEAD-66	SEAD-66	SEAD-66	SEAD-66	SEAD-66
		DEPTH(FT.)	0-0.2	0-0.2	0-0.2	0-0.2	0-0.2
		DATE	12/17/93	12/17/93	12/17/93	12/17/93	12/17/93
		ES ID	SS66-1	SS66-2	SS66-3RE	SS66-4	SS66-5
		LAB ID	207164	207165	207166	207167	207168
CAS NO.	COMPOUND	UNITS					
319-84-6	alpha-BHC	ug/Kg	1.8 U	2.3 U	2.1 UJ	11 U	2.3 UJ
319-85-7	beta-BHC	ug/Kg	1.8 U	2.3 U	2.1 UJ	11 U	2.3 UJ
319-86-8	delta-BHC	ug/Kg	1.8 U	2.3 U	2.1 UJ	11 U	2.3 UJ
58-89-9	gamma-BHC (Lindane)	ug/Kg	1.8 U	2.3 U	2.1 UJ	11 U	2.3 UJ
76-44-8	Heptachlor	ug/Kg	1.8 U	2.3 U	2.1 UJ	11 U	2.3 UJ
309-00-2	Aldrin	ug/Kg	1.8 U	2.3 U	2.1 UJ	11 U	2.3 UJ
1024-57-3	Heptachlor epoxide	ug/Kg	1.8 U	2.3 U	2.1 UJ	11 U	2.3 UJ
959-98-8	Endosulfan I	ug/Kg	3.2	4.3	9.4 J	11 U	2.3 UJ
60-57-1	Dieldrin	ug/Kg	3.5 U	4.4 U	4.1 UJ	22 U	4.5 UJ
72-55-9	4,4'-DDE	ug/Kg	4.5 J	2.5 J	3.1 J	110 J	4.7 J
72-20-8	Endrin	ug/Kg	3.5 U	4.4 U	4.1 UJ	22 U	4.5 UJ
33213-65-9	Endosulfan II	ug/Kg	3.5 U	4.4 U	4.1 UJ	22 U	3.5 J
72-54-8	4,4'-DDD	ug/Kg	3.5 U	4.4 U	4.1 UJ	11 J	2.7 J
1031-07-8	Endosulfan sulfate	ug/Kg	3.5 U	4.4 U	4.1 UJ	22 U	4.5 UJ
50-29-3	4,4'-DDT	ug/Kg	3.5 J	4.4 U	5.5 J	170	9.4 J
72-43-5	Methoxychlor	ug/Kg	18 U	23 U	21 UJ	110 U	23 UJ
53494-70-5	Endrin ketone	ug/Kg	3.5 U	4.4 U	4.1 UJ	22 U	4.5 UJ
7421-93-4	Endrin aldehyde	ug/Kg	3.5 U	4.4 U	4.1 UJ	22 U	4.5 UJ
5103-71-9	alpha-Chlordane	ug/Kg	1.8 U	2.3 U	2.1 UJ	11 U	2.3 UJ
5103-74-2	gamma-Chlordane	ug/Kg	1.8 U	2.3 U	2.1 UJ	11 U	2.3 UJ
8001-35-2	Toxaphene	ug/Kg	180 U	230 U	210 UJ	1100 U	230 UJ
12674-11-2	Aroclor-1016	ug/Kg	35 U	44 U	41 UJ	220 U	45 UJ
11104-28-2	Aroclor-1221	ug/Kg	72 U	89 U	84 UJ	450 U	92 UJ
11141-16-5	Aroclor-1232	ug/Kg	35 U	44 U	41 UJ	220 U	45 UJ
53469-21-9	Aroclor-1242	ug/Kg	35 U	44 U	41 UJ	220 U	45 UJ
12672-29-6	Aroclor-1248	ug/Kg	35 U	44 U	41 UJ	220 U	45 UJ
11097-69-1	Aroclor-1254	ug/Kg	43	44 U	31 J	220 U	45 UJ
11096-82-5	Aroclor-1260	ug/Kg	35 U	44 U	41 UJ	220 U	45 UJ
	Total Solids	%W/W	93	74.6	79.9	75.3	73

TABLE A-66
SURFACE SOIL ANALYTICAL RESULTS: Pesticides and PCB Organics
SEAD-66

	S10DLM.WK3 (66)	MATRIX	SOIL	SOIL	SOIL	SOIL
	SDG 41316	SITE	SEAD-66	SEAD-66	SEAD-66	SEAD-66
		DEPTH(FT.)	0-0.2	0-0.2	0-0.2	0-0.2
		DATE	12/17/93	12/17/93	12/17/93	12/17/93
		ES ID	SS66-6	SS66-7	SS66-8	SS66-9
		LAB ID	207169	207170	207171	207172
CAS NO.	COMPOUND	UNITS				(SS66-1DUP)
319-84-6	alpha-BHC	ug/Kg	2.1 U	2 UJ	19 U	2.1 U
319-85-7	beta-BHC	ug/Kg	2.1 U	2 UJ	19 U	2.1 U
319-86-8	delta-BHC	ug/Kg	2.1 U	2 UJ	19 U	2.1 U
58-89-9	gamma-BHC (Lindane)	ug/Kg	2.1 U	2 UJ	39	2.1 U
76-44-8	Heptachlor	ug/Kg	2.1 U	2 UJ	19 U	2.1 U
309-00-2	Aldrin	ug/Kg	2.1 U	2 UJ	19 U	2.1 U
1024-57-3	Heptachlor epoxide	ug/Kg	2.1 U	2 UJ	19 U	2.1 U
959-98-8	Endosulfan I	ug/Kg	2.1 U	2 UJ	19 U	6
60-57-1	Dieldrin	ug/Kg	4 U	4 UJ	37 U	4 U
72-55-9	4,4'-DDE	ug/Kg	4 U	4 J	8700	11 J
72-20-8	Endrin	ug/Kg	4 U	4 UJ	37 U	4 U
33213-65-9	Endosulfan II	ug/Kg	2.5 J	4 UJ	48 J	4 U
72-54-8	4,4'-DDD	ug/Kg	4 U	4 UJ	560 J	4 U
1031-07-8	Endosulfan sulfate	ug/Kg	4 U	4 UJ	37 U	4 U
50-29-3	4,4'-DDT	ug/Kg	2 J	25 J	36000	10 J
72-43-5	Methoxychlor	ug/Kg	21 U	20 UJ	190 U	21 U
53494-70-5	Endrin ketone	ug/Kg	4 U	4 UJ	37 U	4 U
7421-93-4	Endrin aldehyde	ug/Kg	4 U	4 UJ	37 U	4 U
5103-71-9	alpha-Chlordane	ug/Kg	2.1 U	1.3 J	16 J	2.1 U
5103-74-2	gamma-Chlordane	ug/Kg	2.1 U	2 UJ	19 U	2.1 U
8001-35-2	Toxaphene	ug/Kg	210 U	200 UJ	1900 U	210 U
12674-11-2	Aroclor-1016	ug/Kg	40 U	40 UJ	370 U	40 U
11104-28-2	Aroclor-1221	ug/Kg	82 U	81 UJ	740 U	82 U
11141-16-5	Aroclor-1232	ug/Kg	40 U	40 UJ	370 U	40 U
53469-21-9	Aroclor-1242	ug/Kg	40 U	40 UJ	370 U	40 U
12672-29-6	Aroclor-1248	ug/Kg	40 U	40 UJ	370 U	40 U
11097-69-1	Aroclor-1254	ug/Kg	40 U	24 J	370 U	80
11096-82-5	Aroclor-1260	ug/Kg	40 U	40 UJ	370 U	40 U
	Total Solids	%W/W	82	82.6	99	82.3

67.0 SWMU NUMBER: SEAD-67

67.1 UNIT NAME

Dump Site East of Sewage Treatment Plant No. 4.

67.2 UNIT CHARACTERISTICS

67.2.1 UNIT TYPE

Disposal Area (Waste Piles).

67.2.2 GENERAL DIMENSIONS

Unknown.

67.2.3 APPROXIMATE DATES OF USAGE

Unknown.

67.2.4 OPERATING PRACTICES

It has been reported by a SEDA worker that the referenced area has been used for dumping.

67.2.5 PRESENT CONDITION AND STATUS

Piles covered with vegetation were observed in the area. Photographs of the site are shown on the pages following this text.

67.3 SPECIFIC WASTES DISPOSED

Unknown.

67.4 MIGRATION PATHWAYS

The migration pathway is groundwater.

67.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

67.6 EXPOSURE POTENTIAL

Moderate due to the uncertainty of the disposal practices.

67.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

67.8 REFERENCES

Reference 45. A list of references is provided in Appendix L.

67.9 COMMENTS

This unit was recently added to the SWMU list by SEAD personnel. SEAD-67 is currently being investigated under the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

67.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

Photo 176: SEAD-67, 11/29/90. View of Dump Site east of Sewage Treatment Plant No. 4, facing south.

Photo 177: SEAD-67, 11/29/90. View of Dump Site east of Sewage Treatment Plant No. 4, facing east.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-67 DATE: 11/29/90 TIME: 1:30 p.m.

UNIT NAME: Dump Site east of Sewage Treatment Plant No. 4

PHOTO NUMBER: 176 and 177

ORIENTATION OF PHOTOGRAPH: No. 176 facing south, No. 177 facing east

LOCATION WITHIN FACILITY: Approximately 500 feet east of STP No. 4

WEATHER CONDITIONS: Cloudy, 55°F

PHOTOGRAPHER: Julie Hubbs

68.0 SWMU NUMBER: SEAD-68

68.1 UNIT NAME

Building S-335-Old Pest Control Shop.

68.2 UNIT CHARACTERISTICS

68.2.1 UNIT TYPE

Pesticide Storage Area.

68.2.2 GENERAL DIMENSIONS

Building S-335 is a white clapboard building which is approximately 30 feet wide by 20 feet long. The garage, located on the south end of the building, as shown in Photo 8, is used for fire training exercises.

68.2.3 APPROXIMATE DATES OF USAGE

Unknown.

68.2.4 OPERATING PRACTICES

It has been reported that a pest control shop was once located in Building S-335.

68.2.5 PRESENT CONDITION AND STATUS

The building is presently used for fire fighting training exercises. During the visual site inspection, fire fighting training equipment was observed in the south end of the building. The north end of the building was locked and could not be accessed. However, it was observed through a window that this section of the building was empty. Debris was observed on the floor.

68.3 SPECIFIC WASTES DISPOSED

Pesticides are suspected to have been disposed of at this SWMU.

68.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

68.5 EVIDENCE OF RELEASE

None observed.

68.6 EXPOSURE POTENTIAL

Low.

68.7 RECOMMENDATIONS FOR SAMPLING

No documentation or visual evidence of a release from the SWMU, has been recorded. However, SCR Resolution Meeting Minutes (9/25/92) document that this SWMU was classified as an Area of Concern by NYSDEC and SEDA was in agreement with this. EPA in a December 29, 1992 letter to SEDA recommended further study of this SWMU.

68.8 REFERENCES

None.

68.9 COMMENTS

This SWMU was recently added to the SWMU list by SEDA personnel. SEAD-68 is not currently being investigated under any CERCLA Site Investigation Workplan.

68.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern. It will be addressed further either through a CERCLA SI or a removal action.

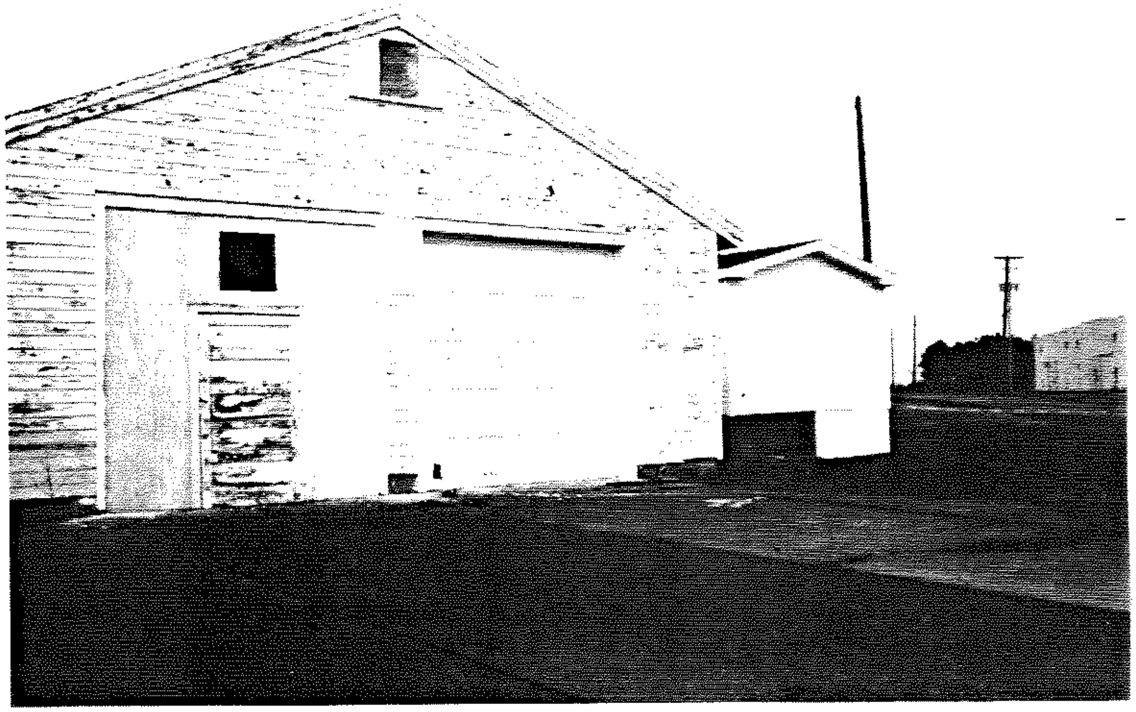


Photo 178: SEAD-68, 11/27/90. View of Pest Control Shop - Building S-335 (Old Firehouse), facing northeast.

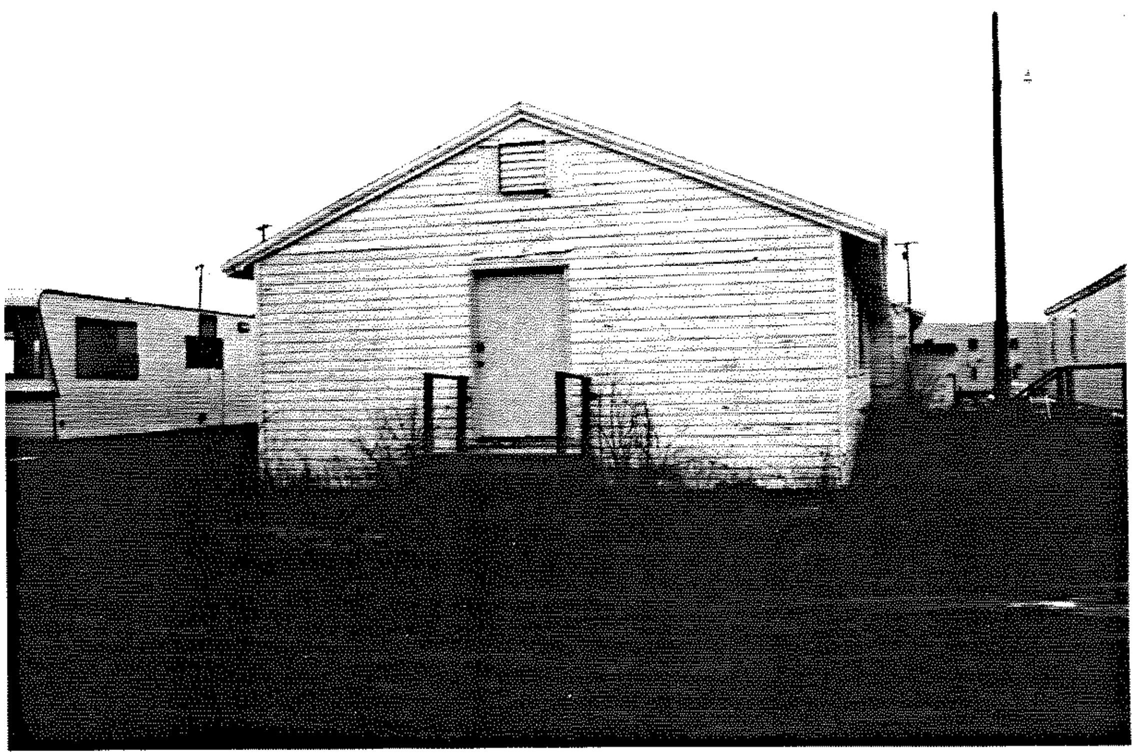


Photo 179: SEAD-68, 11/27/90. View of Pest Control Shop - Building S-335 (Old Firehouse), facing south.

Photo 180: SEAD-68, 11/27/90. View of Pest Control Shop - Building S-335 (Old Firehouse), facing east.

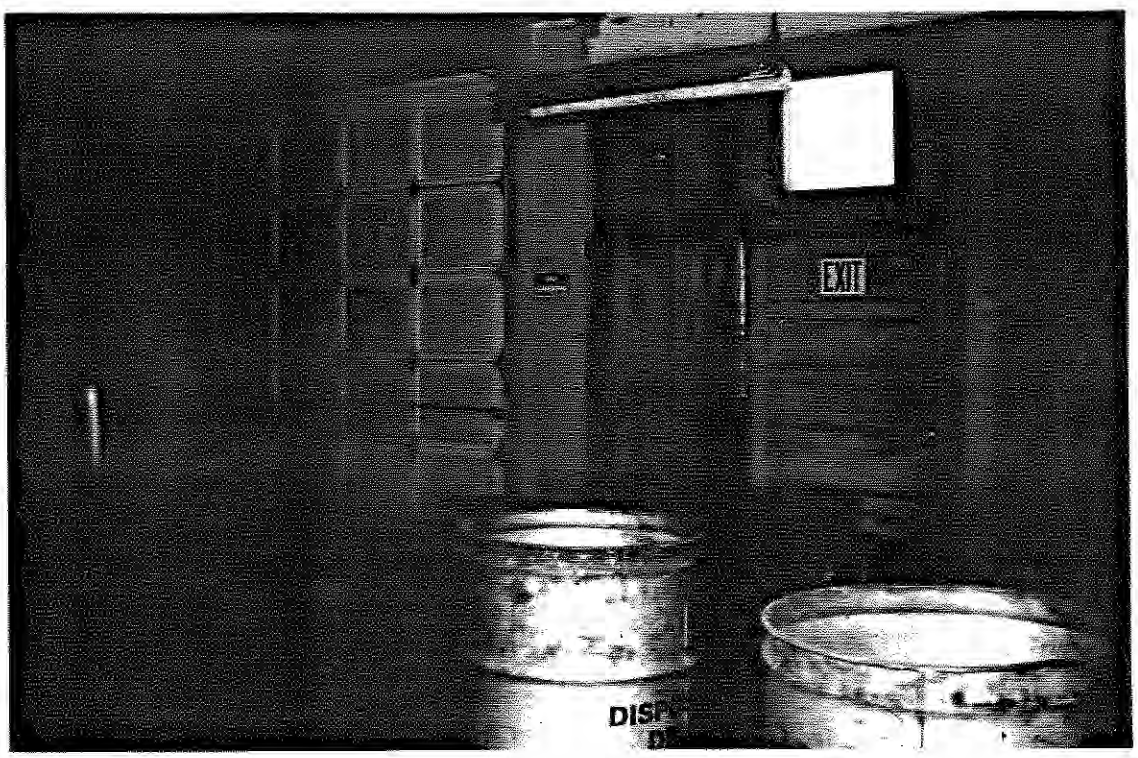


Photo 181: SEAD-68, 11/27/90. View of interior of Pest Control Shop - Building S-335 (Old Firehouse), facing southwest.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-68 DATE: 11/27/90 TIME: 10:15 a.m.

UNIT NAME: Building S-335 - Old Pest Control Shop

PHOTO NUMBER: 178 through 181

ORIENTATION OF PHOTOGRAPH: No. 178 facing northeast, No. 179 facing south, No. 180 facing east, No. 181 facing southwest

LOCATION WITHIN FACILITY: Intersection of 3rd Street and Avenue C

WEATHER CONDITIONS: Cloudy, 65°F

PHOTOGRAPHER: Julie Hubbs

69.0 SWMU NUMBER: SEAD-69

69.1 UNIT NAME

Building 606 - Disposal Area.

69.2 UNIT CHARACTERISTICS

69.2.1 UNIT TYPE

Disposal Area (Waste Piles).

69.2.2 GENERAL DIMENSIONS

Unknown.

69.2.3 APPROXIMATE DATES OF USAGE

Unknown.

69.2.4 OPERATING PRACTICES

SEDA personnel have reported that debris (i.e. fence posts, 2,4-D cans and pesticide cans) has been dumped in an area located southeast of Building 606.

69.2.5 PRESENT CONDITION AND STATUS

A pile covered with vegetation was observed in the area. Also, a depressed area which contained wire fence and concrete posts was observed to the north of the pile area. Photographs of the area are shown on the pages following this text.

69.3 SPECIFIC WASTES DISPOSED

Fence wire, concrete posts were disposed of at this SWMU. Possibly 2,4-D cans and pesticide cans were also disposed.

69.4 MIGRATION PATHWAYS

Migration pathways are soil and groundwater.

69.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

69.6 EXPOSURE POTENTIAL

Moderate due to the uncertainty of the SWMU's contents.

69.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

69.8 REFERENCES

Reference 45. A list of references are provided in Appendix L.

69.9 COMMENTS

This unit was recently added to the SWMU list by SEDA personnel. SEAD-69 is currently being investigated under the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

69.10 REGULATORY STATUS

This SWMU is classified as a Moderately Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

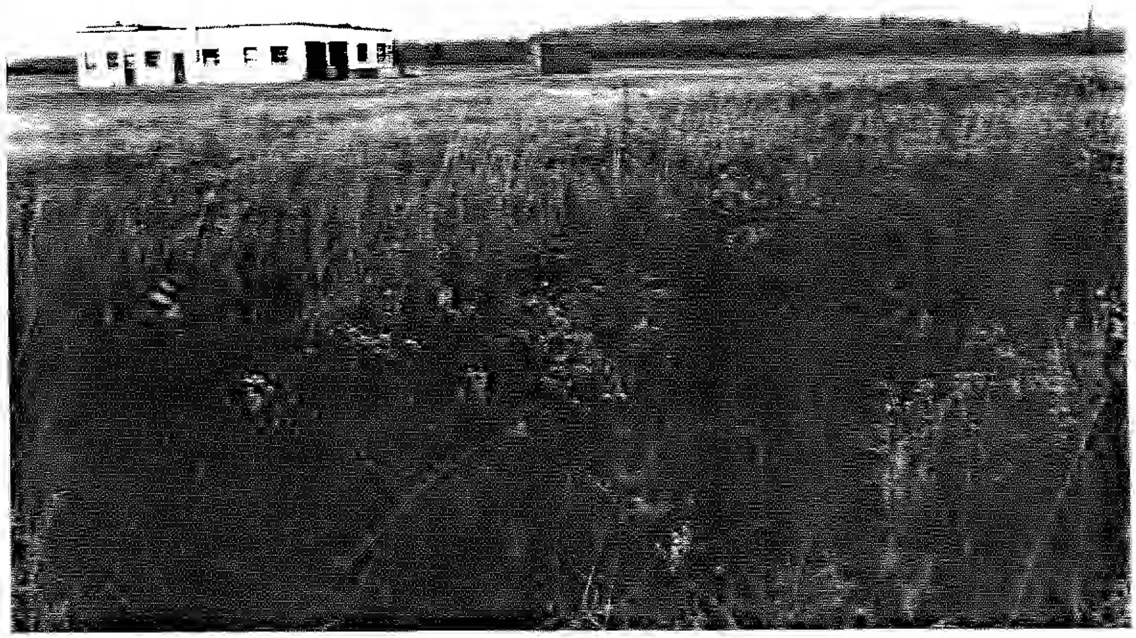


Photo 182: SEAD-69, 11/28/90. View of Disposal Area - Building 606, facing north.

Photo 183: SEAD-69, 11/28/90. View of Disposal Area - Building 606, facing east.

Photo 184: SEAD-69, 11/29/90. Close-up of Disposal Area - Building 606, facing east.

Photo 185: SEAD-69, 11/29/90. Close-up of Disposal Area - Building 606, facing east.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, Annex "M"

SWMU NUMBER: SEAD-69 DATE: 11/28/90 TIME: 1:30 p.m.
DATE: 11/29/90 TIME: 10:15 a.m.

UNIT NAME: Building 606 - Disposal Area

PHOTO NUMBER: 182 and 183 (on 11/28/90)
184 and 185 (on 11/29/90)

ORIENTATION OF PHOTOGRAPH: No. 182 facing north, No. 183, 184, and 185 facing east

LOCATION WITHIN FACILITY: Approximately 2,500 feet east of Brady Road and 400 feet south of Building 606

WEATHER CONDITIONS: Sunny, 65°F on 11/28/90;
Cloudy, 55°F on 11/29/90

PHOTOGRAPHER: Julie Hubbs

70.0 SWMU NUMBER: SEAD-70

70.1 UNIT NAME

Building 2110 - Filled Area

70.2 UNIT CHARACTERISTICS

70.2.1 Unit Type

Filled Area

70.2.2 Design Features

Directly east of Building T-2110 is a fill area that measures approximately 200 feet by 200 feet that has been designated as SEAD-70. Building T-2110 is located along the section of Igloo Road No. 5 that is on the west side of North-South Baseline Road.

70.2.3 Approximate Dates of Usage

70.2.4 Operating Practices

Building T-2110 may have at one time been used to house horses according to SEDA personnel. The fill area east of T-2110 has previously been used to dispose of construction debris. It is not known what else may have been buried at this site. Up to two years ago soldiers at SEDA used this location as a staging area.

70.2.5 Present Condition and Status - Inactive

The eastern section of this fill area contains railroad ties, rolls of barbed wire, wooden pallets, and other miscellaneous items. The area is sparsely vegetated, being covered with low lying grass and moss. The eastern sections of this site drops off several feet to a wooded area characterized by wetlands. Building T-2110 is old and dilapidated with piles of hay and sawdust located inside. The walls are broken and the contents are visible from the outside.

70.3 WASTE CHARACTERISTICS

70.3.1 Specific Waste Disposed

It is unknown what may have been disposed of in this fill area besides construction debris. Therefore, Pesticides/PCBs, VOCs, SVOCs, and heavy metals are considered to be contaminants of interest.

70.3.2 Physical and Chemical Characteristics

Unknown

70.3.3 Migration and Dispersion Characteristics

Unknown

70.4 MIGRATION PATHWAYS

It is unknown what wastes were buried in the fill area adjacent to Building T-2110. Therefore, soil, groundwater, air, and surface water are potential transport pathways.

70.5 EVIDENCE OF A RELEASE

No evidence of a release was observed.

70.6 EXPOSURE POTENTIAL

Low.

70.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

70.8 REFERENCES

Reference 45. A list of references is provided in Appendix L.

70.9 COMMENTS

The SCR resolution Meeting Minutes (9/25/92) indicate that there was a consensus that this SWMU should be classified as an Area of Concern.

70.10 REGULATORY STATUS

This SWMU is classified as a Low Priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

Photo 186: SEAD-70, 4-5-94. View of the filled area near Building 2110, the fill scarp occurs at the left-central portion of the photo, facing southwest.

Photo 187: SEAD-70, 4-5-94. View of the western portion of the filled area and a portion of Building 2110, facing south.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, ANNEX "M"

SWMU NUMBER: SEAD - 70

DATE: 4-4-94

TIME: 1030

DATE: ____________

TIME: ____________

UNIT NAME: BUILDING 2110 - FILLED AREA

PHOTO NUMBER: 186, 187

ORIENTATION OF PHOTOGRAPH: No. 186, facing southwest

No. 187, facing west

LOCATION WITHIN FACILITY: ON EASTERN-WESTERN BASELINE ROAD IN THE WESTERN PORTION OF SEDA

WEATHER CONDITIONS: Sunny 50°F

PHOTOGRAPHER: Kerry Smith

71.0 SWMU NUMBER: SEAD-71

71.1 UNIT NAME

Alleged paint disposal area.

71.2 UNIT CHARACTERISTICS

71.2.1 Unit Type

Pit or disposal area.

71.2.2 Design Features

SEAD-71 is a rumored paint and/or solvent disposal area. SEAD-71 is located west of Building 127 between a chain link fence and a dirt road that run near the railroad tracks. The site covers approximately 450 square feet.

71.2.3 Approximate Dates of Usage

No dates of activity are available.

71.2.4 Operating Practices

SEAD-71 is a small area where paints and/or solvents may have been disposed of in burial pits. It is not known what other activities may have occurred here.

71.2.5 Present Condition and Status

The suspected location is approximately 450 square feet and triangular shaped. The area is grassy and shows no signs of having been disturbed. A fence borders the east side of the suspected location. Adjacent to the fence are scrap materials, concrete parking signs and a utility pole. Railroad tracks run east to west alongside this location.

71.3 WASTE CHARACTERISTICS

71.3.1 Specific Waste Disposed

The primary constituents of concern are VOCs, SVOCs and heavy metals in the rumored paint and solvent burial pit.

71.4 MIGRATION PATHWAYS

The transport pathways for the chemicals of concern at the rumored paint and solvent burial pit include soil and groundwater.

71.5 EVIDENCE OF RELEASE

No evidence of a release was observed.

71.6 EXPOSURE POTENTIAL

Low.

71.7 RECOMMENDATIONS FOR SAMPLING

A CERCLA SI will be performed at this SWMU as part of the investigation of 15 Solid Waste Management Units. The investigation program is described in the "Workplan for CERCLA ESI of Fifteen Solid Waste Management Units."

71.8 REFERENCES

Reference 45. A list of references is provided in Appendix L.

71.9 COMMENTS

The SCR Resolution Meeting Minutes (9/25/92) indicate that there was a consensus that this SWMU should be classified as an Area of Concern.

71.10 REGULATORY STATUS

This SWMU is classified as a Low priority Area of Concern. It is currently being investigated under the CERCLA 15 SWMU SI program.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, ANNEX "M"

SWMU NUMBER: SEAD - 71

DATE: 4-4-94

TIME: 1815

DATE: ______

TIME: ______

UNIT NAME: ALLEGED PAINT DISPOSAL AREA

PHOTO NUMBER: 188, 189

ORIENTATION OF PHOTOGRAPH: No. 188, facing south

No. 189, facing southeast

LOCATION WITHIN FACILITY: WEST OF BUILDING 127 IN EASTERN PORTION OF SEDA

WEATHER CONDITIONS: Sunny 50°F

PHOTOGRAPHER: Kerry Smith

Photo 188: SEAD-71, 4-4-94. View of the Alleged Paint Disposal Area which is located beyond the first set of railroad tracks, facing south.

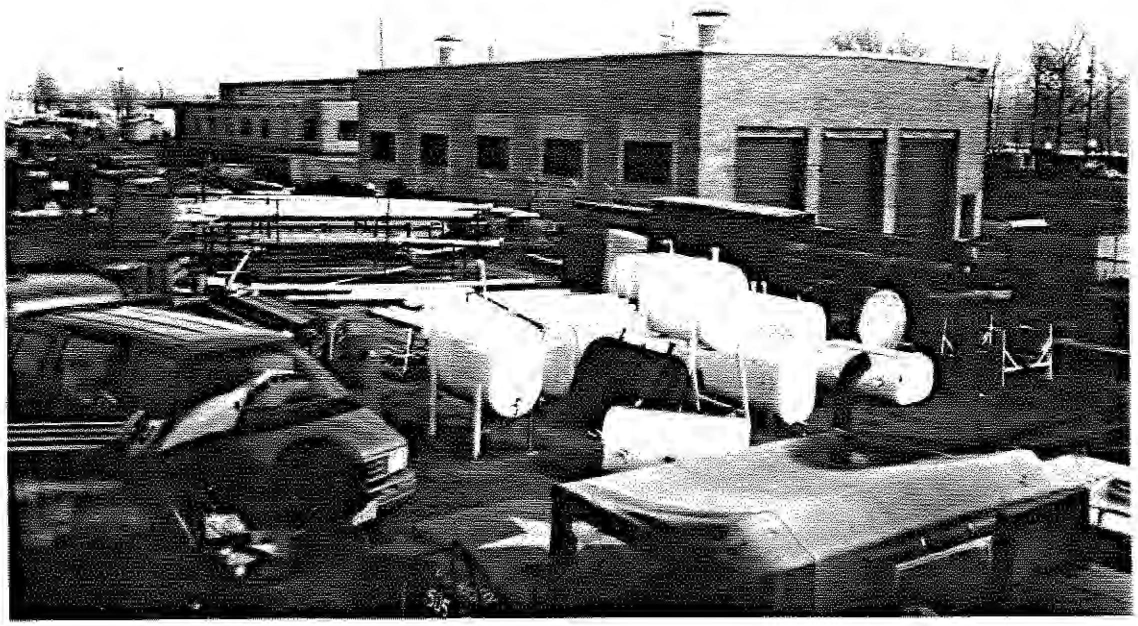


Photo 189: SEAD-71, 4-4-94. Close-up view of the Alleged Paint Disposal Area, facing southeast.

72.0 SWMU NUMBER: SEAD - 72

72.1 UNIT NAME

Building 803 - mixed waste storage facility.

72.2 UNIT CHARACTERISTICS

72.2.1 Unit Type

Mixed waste storage buildings.

72.2.2 Design Features

The approximate 35- by 25-foot building (803) consists of four below grade interior vaults which are covered by a canopy with false windows and doors. Building 803 meets conforming storage status for mixed waste 6 NYCRR part 373.

72.2.3 Approximate Dates of Usage

The building was built in 1958. It is currently inactive.

72.2.4 Operating Practices

The Army used Building 803 to store solid mixed waste.

72.2.5 Present Condition and Status

The building is included in the RCRA Part B Permit Application.

72.2.6 Regulatory Agency

The primary point of contact is Frank Ricotta (Regional Manager). The associate contact is Paul Marges of NYSDEC's (Albany) Radiation Bureau, Division of Hazardous Substances Regulation. The regulatory permit ID number for Building 803 is NY0213830820.

72.3 WASTE CHARACTERISTICS

72.3.1 Specific Waste Disposed

The Army used the building to store solid radioactive and mixed wastes.

72.4 MIGRATION PATHWAYS

Contaminants, if released, may impact soil and groundwater.

72.5 EVIDENCE OF RELEASE

No evidence of a release was observed. During the site visit by NYSDEC it was noted that all of the floor drains were plugged.

72.6 EXPOSURE POTENTIAL

Low.

72.7 RECOMMENDATIONS FOR SAMPLING

See Section 72.10 below.

72.8 REFERENCES

None.

72.9 COMMENTS

SCR Resolution Meeting Minutes indicated that NYSDEC Federal Facilities section would consult with applicable NYSDEC RCRA Compliance authorities. Upon consulting RCRA authorities, NYSDEC Federal Facilities would inform SEDA of the recommended classification. Subsequently, NYSDEC agreed with the Army that this unit be classified as a No Action SWMU.

72.10 REGULATORY STATUS

This SWMU, is classified as a No Action SWMU under CERCLA.

SOLID WASTE MANAGEMENT UNIT CLASSIFICATION STUDY
SENECA ARMY DEPOT, ROMULUS, NEW YORK
CONTRACT NO. DACA87-88-D-0079, ANNEX "M"

SWMU NUMBER: SEAD - 72

DATE: 4-4-94

TIME: 1540

DATE: ________

TIME: ________

UNIT NAME: BUILDING 803 - MIXED WASTE STORAGE FACILITY

PHOTO NUMBER: 190, 191

ORIENTATION OF PHOTOGRAPH: No. 190, facing north

No. 191, facing south

LOCATION WITHIN FACILITY: NORTHERN PORTION OF SEDA

WEATHER CONDITIONS: Sunny 50°F

PHOTOGRAPHER: Kerry Smith

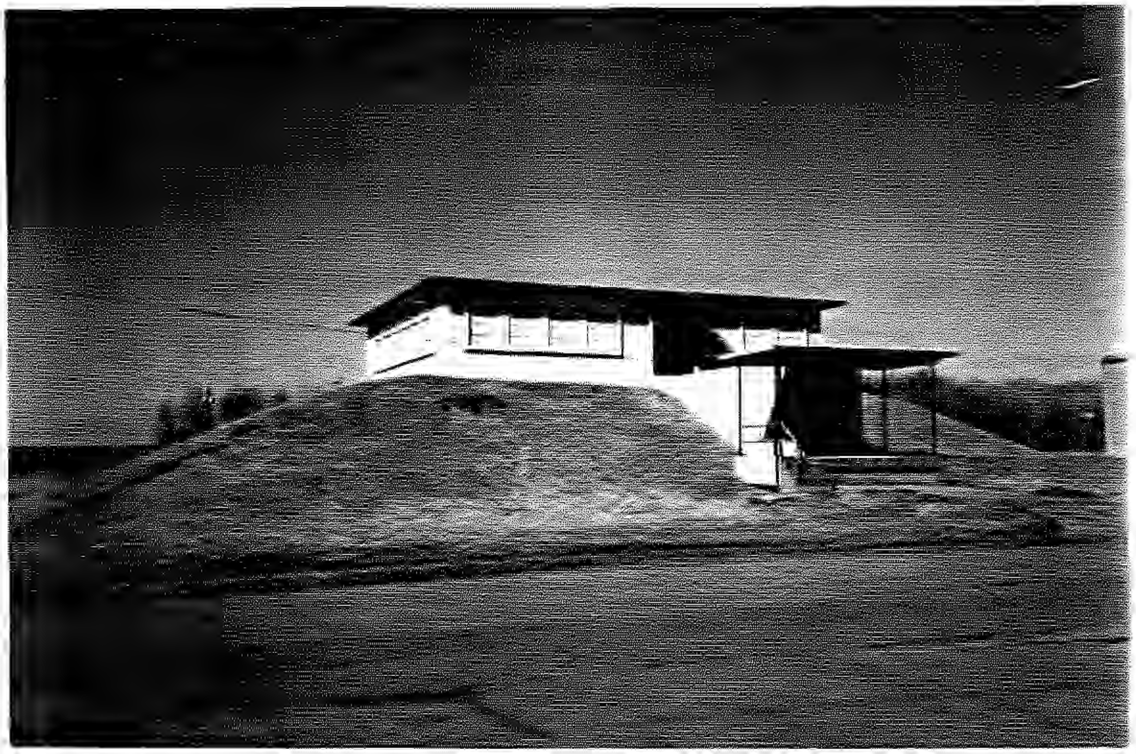


Photo 190: SEAD-72, 4-4-94. View of Building 803, the Mixed Waste Disposal Facility, facing north.

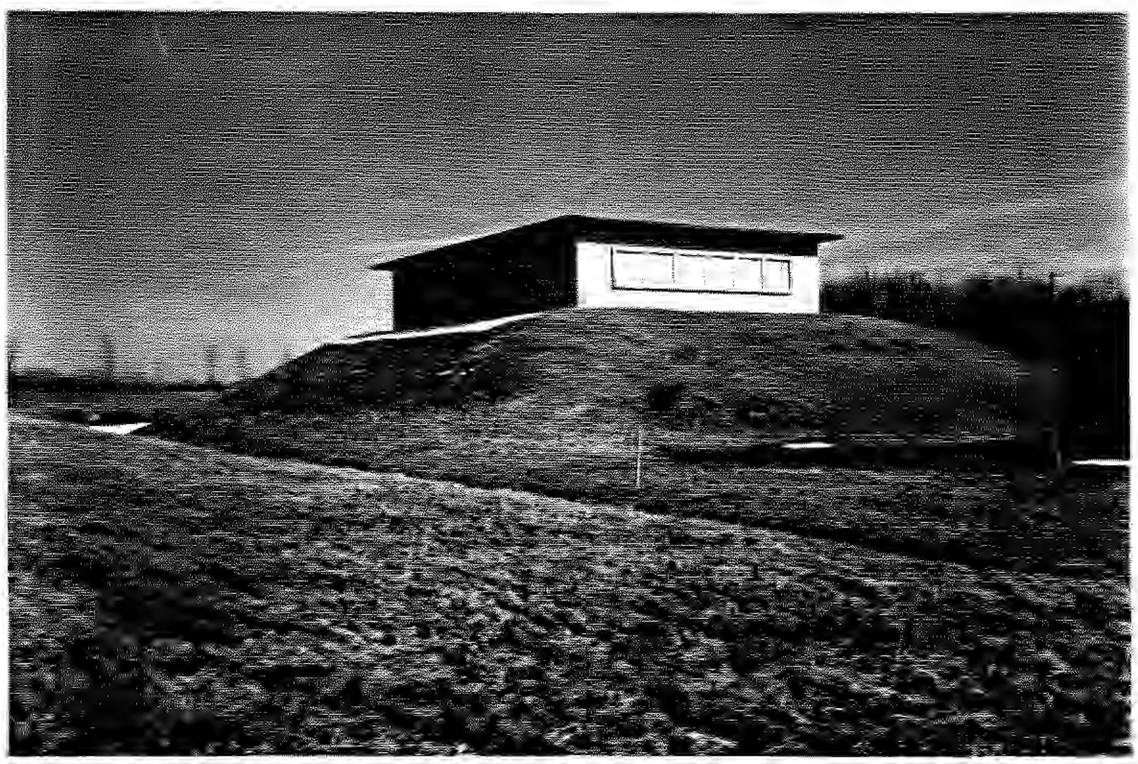


Photo 191: SEAD-72, 4-4-94. View of Building 803, the Mixed Waste Disposal Facility, facing south.

72.0 SWMU NUMBER: SEAD - 72

72.1 UNIT NAME

Building 803 - mixed waste storage facility.

72.2 UNIT CHARACTERISTICS

72.2.1 Unit Type

Mixed waste storage buildings.

72.2.2 Design Features

The approximate 35- by 25-foot building (803) consists of four below grade interior vaults which are covered by a canopy with false windows and doors. Building 803 meets conforming storage status for mixed waste 6 NYCRR part 373.

72.2.3 Approximate Dates of Usage

The building was built in 1958. It is currently inactive.

72.2.4 Operating Practices

The Army used Building 803 to store solid mixed waste.

72.2.5 Present Condition and Status

The building is included in the RCRA Part B Permit Application.

72.2.6 Regulatory Agency

The primary point of contact is Frank Ricotta (Regional Manager). The associate contact is Paul Marges of NYSDEC's (Albany) Radiation Bureau, Division of Hazardous Substances Regulation. The regulatory permit ID number for Building 803 is NY0213830820.

72.3 WASTE CHARACTERISTICS

72.3.1 Specific Waste Disposed

The Army used the building to store solid radioactive and mixed wastes.

72.4 MIGRATION PATHWAYS

Contaminants, if released, may impact soil and groundwater.

72.5 EVIDENCE OF RELEASE

No evidence of a release was observed. During the site visit by NYSDEC it was noted that all of the floor drains were plugged.

72.6 EXPOSURE POTENTIAL

Low.

72.7 RECOMMENDATIONS FOR SAMPLING

See Section 72.10 below.

72.8 REFERENCES

None.

72.9 COMMENTS

SCR Resolution Meeting Minutes indicated that NYSDEC Federal Facilities section would consult with applicable NYSDEC RCRA Compliance authorities. Upon consulting RCRA authorities, NYSDEC Federal Facilities would inform SEDA of the recommended classification. Subsequently, NYSDEC agreed with the Army that this unit be classified as a No Action SWMU.

72.10 REGULATORY STATUS

This SWMU, is classified as a No Action SWMU under CERCLA.