US Army Corps
of Engineers
HUNTSVILLE ENGINEERING
AND SUPPORT CENTER

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U.S. Department of Defense

Base Realignment and Closure

Ordnance and Explosives

ARCHIVES SEARCH REPORT

FINDINGS

SENECA ARMY DEPOT

ROMULUS, SENECA COUNTY, NEW YORK

DECEMBER 1998

Prepared by

US ARMY CORPS OF ENGINEERS

ST. LOUIS DISTRICT

TABLE OF CONTENTS

APPENDICES

REPORT PLATES

1.0 INTRODUCTION

1.1 Authority

Congress has enacted two laws since 1988 that provide for the closure, in part or in whole, of 125 military bases/facilities and the realignment of almost 100 others. The principal mechanism for implementing the policy in both statues has been an independent, bipartisan commission. Two of the most pressing issues are (1) providing assistance to local communities economically impacted by base closures and (2) establishing a cost-effective program of environmental clean-up at bases prior to their disposition.

During the decade of the 1980's, no major military bases were closed, largely because of procedural requirements established by Congress. After several legislative efforts to break the deadlock failed, Congress introduced a new base closure procedure in P.L. 100-526, enacted October 24, 1988. The statute established a bipartisan commission to make recommendations to Congress and the Secretary of Defense on closures and realignments.

On December 28, 1988, the commission issued its report, recommending closure of 86 installations, partial closure of 5, and realignment of 54 others. The Secretary of Defense approved its recommendation on January 5, 1989. Since the commission approach adopted by Congress was successful, new base closure legislation was introduced (P.L. 101-510) which also relied upon the services of an independent commission. This commission, in accordance with a statutory provision, is to meet in 1991, 1993, and 1995.

The Defense Base Closure and Realignment of 1990 (1990 Base Closure Act), Public Law 101-510 established the process by which Department of Defense (DoD) installations would be closed and/or realigned. The Defense Base Realignment and Closure Commission's 1995 (BRAC 95) report recommended Seneca Army Depot be closed.

On April 5, 1990, the U.S. Army Engineering and Support Center, Huntsville (USAESCH) was designated as the United States Army Corps of Engineers (USACE) Mandatory Center of Expertise (MCX) and Design Center for Ordnance and Explosive (OE) projects. USAESCH will also design and implement OE remediation programs for other branches of the Department of Defense when requested. In cooperation with the U.S. Army Engineering Support Center, Huntsville, the St. Louis District has been assigned the task of preparing an Archives Search Report (ASR) for Seneca Army Depot (SEAD), detailing ordnance, ammunition, and explosives, suspected chemical warfare materials (CWM) and any other warfare materials (i.e., radiological, biological).

1.2 Subject

SEAD is located west of, and adjacent to, Romulus, New York (see Plate 1).

SEAD consists of 10,600 acres and is made up of the main depot, the Seneca Army Airfield, and a portion of the former Lake Housing Area (see Plate 2).

Ordnance activities and facilities included receiving, storage, and shipment of ammunition; demilitarization and destruction of ammunition; function testing of ammunition; reconditioning of ammunition; small arms ranges; a grenade range; EOD ranges; liquid propellant storage; and special weapons storage.

The site is currently an active installation in the process of closing under Base Realignment and Closure (BRAC). Presently, ammunition activities consist of the gradual removal of all ammunition from the site.

Plans for the site after closure are shown on Plate 14.

1.3 Purpose

This ASR compiles ordnance related information obtained through historical research at various archives and records-holding facilities, aerial photography review, interviews with persons associated with the site, and a site inspection. All efforts were directed at determining the ordnance related areas on the site that will require removal actions prior to closure.

1.4 Scope

This is clearly a complex site. There are more than 500 ordnance related structures such as: igloos; magazines; ammunition rework shops; popping plants; and warehouses. There are demolition areas, EOD ranges, small arms ranges, suspected burial areas, function test ranges, and burn pads. It is likely there is contamination from ammunition washout activities. Some buildings are likely to have explosive residues still present. There have been, and continue to be, many studies of how to deal with HTRW and ordnance contamination on the site.

This report does not attempt to assess the condition of the interior of any buildings on the site. It is assumed that all buildings will be closed by SEAD in accordance with DA Regulation 385-64 and that magazines will be closed in accordance with Department of Defense Explosive Safety Board (DDESB) procedures.

There are HTRW issues at this site that are not within the scope of this report; Inhibited Red Fuming Nitric Acid (IRFNA) ponds and washout areas, burial sites in the Special

Weapons Area, and the igloos used for the Manhattan Project storage. These are mentioned briefly in this report but the specific previous studies (see Section 2.0) provide detailed information.

This report focuses on ordnance activities and is intended to supplement previous and ongoing studies at the site.

This report attempts to, as clearly and simply as possible, 1) identify all areas where ordnance activities occurred; 2) assess the likelihood that ordnance remains as a result of the activity; and 3) make recommendations regarding the areas that will require further action/investigation.

2.0 PREVIOUS INVESTIGATIONS

2.1 Corps of Engineers Documents

There is an ongoing environmental investigation at SEAD under the control of the Huntsville Technical Center and their contractor, Parsons Engineering. The following documents have already been developed:

Final, SWMU Classification Report, Seneca Army Depot Activity, Two Volumes, September 1994

Final, Remedial Investigation Report at the Open Burning Grounds, September 1994

Final, Expanded Site Inspection, Seven High Priority SWMU's, SEAD 4, 16, 17, 24, 25, 26, and 45

Draft Final, Expanded Site Inspection, Eight Moderately Low Priority AOC's, SEAD 5, 9, 12 (A and B), (43, 56, 69), 44 (A and B), 50, 58, and 59, Two Volumes, December 1995

Final, Expanded Site Inspection, Three Moderate Priority SWMU's, SEAD 11, 13, and 57, December 1995

Final, Project Scoping Plan for Performing a CERCLA Remedial Investigation/Feasibility Study (RI/FS) at Building 804, and the Associated Radioactive Waste Burial Sites (SEAD 12) and the Miscellaneous Components Burial Site (SEAD 63), June 1998

Final, Project Scoping Plan for Performing a CERCLA Remedial Investigation/Feasibility Study (RI/FS) at the IRFNA Disposal Pits (SEAD 13), September 1997

Draft Final, Remedial Investigation Report at the Abandoned Deactivation Furnace (SEAD 16) and the Active Deactivation Furnace (SEAD 17), April 1998

Draft, Project Scoping Plan for Performing a CERCLA Remedial Investigation/Feasibility Study (RI/FS) at the Open Detonation Grounds (SEAD 45) and the Explosive Ordnance Disposal Area (SEAD 57), Seneca Army Depot Activity, February 1996

Draft Final, Project Scoping Plan for Performing a CERCLA Remedial Investigation/Feasibility Study (RI/FS) at the Small Arms Range, Seneca Army Depot Activity, November 1996

Draft, Project Scoping Plan for Performing a CERCLA Remedial Investigation/Feasibility Study (RI/FS) at the Ammunition Breakdown Area (SEAD 52) and the Oil Discharge Area Adjacent to Building 609 (SEAD 60), Seneca Army Depot Activity, January 1996

Draft, Investigation of Environmental Baseline Survey Non-Evaluated Sites, SEAD 199A, SEAD 122 (A, B, C, D, E), and SEAD 123 (A, B, C, D, E, F)

Other Corps of Engineers Reports:

Criteria Development Report for the Closure of Nine Burning Pads, Seneca Army Depot, October 1989

Burning Pads B and H Closure, Seneca Army Depot, May 1985

2.2 Other Documents

Environmental Baseline Survey, Seneca Army Depot, March 12, 1997

Reuse Plan and Implementation Strategy, Seneca Army Depot, Prepared for Seneca County, New York, December 1996

Installation Assessment of Seneca Army Depot, Report No. 157, USATHAMA, January 1980

Update of the Initial Installation Assessment of Seneca Army Depot, USATHAMA, August 1988

Hazardous Waste Study No. 37-26-0778-86, Closure of Open Burning/Open Detonation Grounds Burning Pads, Seneca Army Depot, United States Army Environmental Hygiene Agency, January 1986

Radiological Survey of Seneca Army Depot, Special Publication BRL-SP-51, January 1986

3.0 SITE DESCRIPTION

3.1 Land usage

3.1.1 Location

The site is located west of, and adjacent to, Romulus, New York (see Plate 1).

3.1.2 Past Use

Ordnance activities and facilities included receiving, storage, and shipment of ammunition; demilitarization and destruction of ammunition; function testing of ammunition; reconditioning of ammunition; small arms ranges; a grenade range; EOD ranges; liquid propellant storage; and special weapons storage.

3.1.3 Present Use

The site is currently an active installation in the process of closing under BRAC. Ammunition activities continue and are primarily aimed at gradually removing all ammunition from the site.

3.2 Climatic Data

Based on the climatological data at Rochester, New York, Lake Ontario plays a major role in the site weather. In the summer its cooling effect inhibits the temperature from rising much above the low to mid 90's. In the winter, the modifying temperature effect prevents, at locations more than 15 miles inland, to drop below -30 degrees.

The lake plays a major role in winter snowfall distribution. Well inland from the lake and toward the airport, the seasonal snowfall is usually less than in the area north of the airport and toward the lake shore where wide variations occur. This is due to what is called the lake effect. Snowfall of one to two feet or more in 24 hours are common near the lake in winter due to the lake effect alone. The lake rarely freezes over because of its depth. The area is also prone to other heavy snowstorms and blizzards because of its proximity to the paths of low pressure systems coming up the east coast, out of the Ohio Valley, or to a lesser extent, from the Alberta area. The climate is favorable for winter sport activities with a continuous snow cover likely from December through March. The record lowest temperature is -19° Fahrenheit (F) in February 1979, and the record highest temperature is 100° F in June 1953.

Moisture in the air from the lake enhances the climatic conditions for fruit growing. Apples, peaches, pears, cantaloupes, plums, cherries, and grapes are grown abundantly in Greater Rochester and the Western Finger Lakes Region.

Precipitation is rather evenly distributed throughout the year. Excessive rains occur infrequently but may be caused by slowly moving thunderstorms, slowly moving or stalled major low pressure systems, or by hurricanes and tropical storms that move inland. Hail occurs occasionally and heavy fog is rare.

The prevailing wind direction is WNW, and the prevailing wind speed is 9.7 mph. A southwest wind gusting to 68 mph was recorded in March 1991.

3.3 Geology and Soils

3.3.1 Geology and Physiology

This site is within the Glaciated Allegheny Plateau subdivision of the Appalachians Plateaus province (Thornbury 1965). The Glaciated Allegheny Plateau was modified by Pleistocene glaciation, particularly the late Wisconsin glaciations. This Plateau was glaciated during at least three of the glacial ages as evidenced by remnant drifts. Of the Kansan, Illinoin and Wisconsin, only the Wisconsin drifts have marked topographic expression. Recent alluvium and Pleistocene glacial drift occupy up to 300 feet at the surface and unconformably overlie Upper Devonian through Upper Silurian sedimentary rocks.

The rocks underlying Seneca County range in age from Upper Silurian through Upper Devonian and have an aggregate thickness of more than 2000 feet. These sedimentaries are clastic and nonclastic continental deposits which were being deposited into the Appalachain geosyncline from the east. The Alleghenian orogeny ended depositon of these deposits by uplifting the trench, and a series of overturned folds and thrust-fault structures were produced (Cook and others 1983). Intensity of the compression diminished westward and northward, so that the sedimentary beds in Seneca County have been mildly folded. The regional dip of the formations is southwest, approximately 30-35 feet per mile. This regional dip coupled with a gradual rise in topography results in the successive exposure of younger formations from north to south. There are two distinct sets of joints throughout the area. A main set of joints, known as dip joints, which trend from N15-30°E to N30-45°W. The secondary set of joints, termed strike joints, are at right angles to the dip joint set. They trend from N60°E to 70°E and are generally parallel (Mozola 1951).

An extended period of erosion followed this uplift and the region was gradually reduced to a peneplain. The region was uplifted once again, and erosion continued with

renewed vigor. Major stream valleys developed in a north-south trending pattern and glaciation modified them, sometimes considerably (Mozola 1951).

There were four major topographic effects of the glaciation in the Allegheny Plateau region: 1) ground moraine and patchy end moraine deposition; 2) the "through valleys" system; 3) the Finger Lakes; and 4) permafrost features (Thornbury 1965). The ground moraine is extensive, giving the topography a distinctly glacial aspect. South of Finger Lakes, the moraine becomes patchy, especially in the valleys. The "through valleys" form a system in which there are many valley junctions at discordant altitudes. This network is a result of erosion by ice and glacial meltwaters and its trend parallels the major direction of ice movement, which would have facilitated glacial scouring. The Finger Lakes occupy preglacial stream valleys that have been over deepened and oversteepened by glacial erosion, in many respects resembling fiords. The floors of Seneca and Cayuga Lakes are below sea level, and both presently drain to the north. There apparently was no continuous zone of frozen ground adjacent to the southern margin of the ice sheet, however, in part of the plateau region of New York and Pennsylvania there was an increased intensity and frequency of freeze and thaw and possibly sporadic or discontinuous permafrost. Boulder fields, rock streams, excessive rock rubble, patterned ground and churned earth are all evidence of frost action under periglacial conditions (Thornbury 1965).

3.3.2 Soils

There are two distinct types of soils underlying the site. The soils nearest to Seneca Lake are typically well-drained, deep soils derived either from glacial till or limestone or shale. The typical profile is dark gray to grayish-brown silty clay approx 5 inches thick, permeability at 0.63-2.0 inches per hour; subsurface layer is thin, leached pale-brown to brown friable silty clay to a depth of about 11 inches. This layer has a permeability about the same as the upper layer, 0.2-2.0 inches per hour; the lower part is dark brown friable to firm heavy silt clay to a depth of approximately 26 inches. This lower layer has a permeability of <0.063 inches per hour. Beyond 26 inches in depth, a grayish brown to light olive brown calcareous, silty till is encountered. Bedrock is typically 4-20 inches deep.

Soils farther east from the Seneca Lake edge are poorly drained, moderately deep soils that were derived from glacial till, the till being derived from dark-gray to black calcareous silty shale. The typical profile of this type of soil is a surface layer about 9 inches thick of a dark-gray heavy silty clay, permeability of approximately 0.2-0.63 inches per hour. The subsoil at about 13 inches is a firm, distinctly mottled, dark grayish-brown light silty clay. The lower part, at a depth of about 22 inches, is calcareous till, firm, dark grayish-brown to olive-brown shaley silty clay. The subsoil and lower soil have poor permeability, less than 0.2 inches per hour. Depth to dark-gray brittle, heavily weathered shale bedrock is about 34 inches (Hutton 1972).

3.4 Hydrology

3.4.1 Ground Water

The site area is underlain by Middle and Upper Devonian sedimentary rocks, consisting mostly of shale and flagstone, interbedded with a few layers of sandstone and limestone of limited extent. The shales are relatively impermeable, making them absorb, transmit, and yield water very slowly. The unconsolidated deposits are more permeable, however, their thickness and physical characteristics have an important bearing on the yield that can be expected. Table 3-1 is a record of selected wells near the site.

TABLE 3-1
SELECTED WELLS NEAR THE SENECA ARMY DEPOT SITE

Well No.	Total Depth (ft)	Depth to Bedrock (ft)	Geologic Name	Depth to Water (ft)	Yield (gpm)
138	465	30	Onondaga limestone	40	1
202	65	16	Hamilton group	20	60
260	48	9	Hamilton group	4	60
308	115	18	Genesee group	10	10
310	157	31	Hamilton group	30	30
515	179	30	Hamilton group	30	15

From: Mozola 1951.

The best bedrock aquifer considering both quantity and quality is the Onondaga limestone of Lower Devonian age. It has a maximum thickness of 80 feet. Where the Onondaga is overlain directly by surficial deposits, the yield of wells is as great as 200 gpm. The Hamilton group, Middle Devonian, is extensively used for domestic supplies, but it can be affected by drought conditions. Yields range from 1-60 gpm. Generally,

the Camillus shale member of Silurian age is the most productive formation, with yields from 5-400gpm. The quality of the water is generally poor. The chloride and sulfate content increases with depth (Mozola 1951).

3.4.2 Surface Water

Elevations for the site range from about 460 feet to 700 feet above sea level. Runoff from the site flows west into the Seneca Lake and south to the Simpson Creek. Also the Reeder and Wilcox Creeks flowing west carry runoff from the site into the Seneca Lake. The site can be flooded by the creeks.

3.5 Ecology

The information provided for this site was compiled from the U.S. Fish and Wildlife Service (USFWS) and the New York Department of Environmental Conservation (NYDEC).

The USFWS reported that there are no known occurrences of federally-listed species in the vicinity of the site.

The NYDEC reported that there are no known reports of state-listed species occurring in the vicinity of the Seneca Army Depot. They did report that Seneca Lake, which borders the western edge of the Depot, is home to 35% of the State's wintering mallard (*Anas platyrhynchos*) population.

No additional information on the occurrence of rare or endangered species or natural communities is known at this time. This does not mean that other state or federally-listed species may not be present within the areas of interest. An on site inspection by appropriate state and federal personnel may be necessary to verify the presence, absence or location of listed species, or natural communities if remedial action is recommended as part of the final ASR.

3.6 Demographics

3.6.1 Center of Activity

The site is located near Waterloo Village in Seneca County, New York.

3.6.2 Population Density

CITY/COUNTY	AREA (sq.mi)	POPULATION	POP.DENSITY
Waterloo	2.4	5,116	2,131
Seneca	325	33,683	103

3.6.3 Types of Businesses and Industry

The number of business establishments in Seneca County can be broken down by type as follows: manufacturing, 7.0%; agriculture, .8%; trade, 36.2%; services and financial, 40.9%; and other, 14.6%. Of the people in the county employed by businesses, approximately .5% are unclassified. Foregoing percentages are at mid-March 1994.

3.6.4 Types of Housing

Housing in the Waterloo Village is composed of both single family and multi-family dwellings. The median value of 1,192 specified owner-occupied housing units is $47,600.

3.6.5 New Development in the Area

New development in the area is both commercial and residential.

3.6.6 Typical Cross Sections of the Population

Approximately 98.6% of the population in Waterloo Village is White; .6% Black; .1% American Indian, Eskimo or Aleut; .5% Asian or Pacific Islander; and .2% other races. The percent of the total population (of any race) that is of Hispanic origin is .5%. The part of the population under the age of 18 is 25.3%, and the part over the age of 65 is 17.1%. The median age is 35.8.

4.0 HISTORICAL ORDNANCE USAGE

4.1 Historical Site Summary

4.1.1 General History

When the Army arrived in Seneca, New York in 1941, the nearly 10,000 acres in Central New York State were abundant farmland. In June 1941, the War Department approved the munitions project, and in July 1941, construction for the Seneca Ordnance Depot (Depot) began. Construction workers completed nearly 500 storage igloos and six above ground magazines by the end of the year (Johnson 1984). With the construction of the administrative area, ammunition facilities, warehouses, utility structures and a few housing quarters completed in 1943, the Depot began its primary mission of receipt, storage, maintenance and supply of ammunition. As a filler Depot, it also issued and reconditioned ammunition for the First and Second Service Commands and for the Boston Port of Embarkation. This included all classes of ammunition and explosives except chemical ammunition other than smoke. In 1946, the Army assigned the Depot to the First Army, which included the New England States of New York, New Jersey and Delaware (Seneca Ordnance Depot 1946).

Established in 1941, the Demolition Pits served as the grounds for conducting ammunition disassembly, detonation and burning. This included numerous types of ammunition, components, guided missiles and explosives. An Explosive Scrap Furnace supported the detonation operation at the site. The Burn Pads functioned as the burning area for ammunition and ordnance contaminated material such as bulk explosives, pyrotechnics, artillery projectiles, fuzes, machine gun ammunition and projectiles using TNT (Organizational Manual 1961; Metcalf 1989). The nine burn pads are identified as A - I. Pads G and J were used for trash containing contamination from propellants, explosives and pyrotechnics. The Demolition Pits and Burning Pads together comprise 90 acres of demolition area at SEAD.

The Explosive Ordnance Disposal (EOD) Area has been active since 1941 and bomb squad training occurred there for many years (Parsons Engineering 1995a). Depot personnel performed detonations of conventional ammunition and explosives weighing less than 5 pounds (Parsons Engineering 1996a). The Ammunition Disassembly Plant buildings are also near the EOD area. The Army built them in the 1940's and 1950's. Army Reserve and National Guard troops utilized a Grenade Range near the EOD Range. All evidence indicates the troops used practice/training grenades only.

During the 1940's, the Army stored radioactive materials in connection with the Manhattan Project in igloos E0801 through E0811, on the south end of the Depot (Office of the Post Engineer 1977). The Army RADCON team performed a survey on these igloos during the week of 13 May 1985 (DTIC 1986).

Surveillance Laboratory activities began during the 1941 thru 1943 time period in buildings 17 and 18. Throughout World War II (WWII) inspectors determined suitability of ammunition, ammunition components and explosives for storage and issue. Sample lots were continually inspected for serviceable condition (Seneca Ordnance Depot 1945a). The Army built Bundle Ammunition Packing Buildings near the Surveillance Laboratory during 1941 thru 1943 (Industrial Mobilization 1942).

The original Popping Plant, Building S311, was built during 1942 and 1943. The Abandoned Deactivation Furnace is located in this building. An additional Popping Plant, Building 367, was built near the original one in 1961. The existing Deactivation Furnace was active in Building 367 from 1962 thru 1989. The furnace at the Popping Plant processed fired brass or steel cartridge cases at a temperature of 1,400° F. Cartridge cases having a live primer were popped and rendered inert (History 1943).

During 1941 thru 1943 the Army constructed several warehouse buildings on SEAD outside the fenced igloo area. These buildings stored general supplies and possibly small arms ammunition. The Small Arms Storage Building, Number 333, dates back to 1941 thru 1943. The Army constructed Ordnance Repair Shops in 1941 thru 1943 for maintenance on all depot vehicles and equipment. The Combat Equipment Area, established in 1942, was approximately 4.5 acres and was used to store all types of inert material including Jeeps, command cars, tanks, carry-alls, etc.

As the Depot experienced an increase of returned ammunition from overseas after WWII, the mission shifted from supply to storage maintenance and disposal. The Army also tasked SEAD with receipt, storage, care and maintenance of general supplies. In 1950, the Army constructed Ammunition Workshops in two locations and SEAD personnel conducted washout, refuzing, removal, deboostering and normal maintenance on rocket heads, high explosive shells, fuzes and hand grenades (Seneca Ordnance Depot 1953). The renovation and demilitarization of ammunition also included surveillance function testing. SEAD personnel sampled test lots of ammunition, including pyrotechnics, establishing the degree of serviceability (Seneca Ordnance Depot 1954).

Due to the increase in ammunition returned from overseas, and returns from Posts, Camps and Stations in 1946, the Army built outside storage sheds, also known as 'X' sites, and outside storage pads for storage of 2,000 pound bombs and other ammunition (Seneca Ordnance Depot 1945a). In January 1949, there were 26,480 tons of small arms ammunition of all conditions and grades in outside storage (Seneca Ordnance Depot 1949). By 1955, the Army sent 737 tons of grade 3 small arms ammunition and 2,093 tons of 20mm ammunition into open unprotected storage at Seneca Ordnance Depot (Warren 1955). In addition to outside storage, the Army constructed a Magazine Area, Buildings 701 thru 708, in 1954 thru 1956 for storing ammunition.

The War Department established Sampson Air Force Base in 1942 as a Navy Training Center. The Base was an Air Force training facility from 1950 until 1957 (Marienthal 1979: Bogardus n.d.). On June 24, 1958, the Department of the Air Force transferred 622.87 acres of the former Sampson Air Force Base to SEAD (Facilities Data 1975). This addition included a 5,000 foot long paved runway and the Lake Housing Area.

A Small Arms Range (aka 3.5" Rocket Range) is located on the northeastern portion of SEAD. A large berm is currently present. In addition to small arms, to include tracers and blanks, 3.5 inch rockets are reported to have been used there (Parsons Engineering 1996b).

Construction on the Liquid Propellant Test Laboratory, Building 606, began in July 1955 (Warren 1955). Laboratory personnel conducted operational or functional testing of explosive devices. These tests are believed to have occurred on the concrete foundation northwest of Building 606. Since 1976, herbicides and pesticides have been stored in Building 606 (Parsons Engineering 1995b). Construction of the Fuze Storage Building, in connection with Eastman Kodak Company and Picatinny Arsenal, began in September 1955 (Warren 1955).

Soldiers and Security Guards utilized Range 114 and Building 2302 for shotgun and revolver practice as well as rifle and machine gun firing (US Army Toxic Hazardous Materials Agency 1980). Between 1976 and 1979, the Army constructed a skeet and trap range adjacent to the rifle range. The Army built the Ronald Lee Kostenbader Physical Activity Center, Building 744, in 1981. The lower level of this building was used as a firing and indoor rifle range (RKG Associates, Inc. 1996).

Ammunition Inspectors from SEAD regularly sent ammunition, including unserviceable 150 pound bombs in June 1945 and 62,000 high explosive anti-tank mines in April 1946, to Pine Camp for demilitarization (Seneca Ordnance Depot 1945b; Seneca Ordnance Depot 1946). The Army redesignated Pine Camp as Camp Drum in 1951, and finally as Fort Drum in 1974 (Roberts 1988). Proposals for dumping ammunition at sea during 1955 thru 1957 required approval from Naval Ammunition Depot (NAD) Earle, New Jersey. The Ordnance Corps contemplated sending various types of unserviceable ammunition from SEAD to NAD Earle for sea disposal (Warren 1955; File 1955a). Historical documents do not indicate if shipments occurred.

Existing structures at SEAD include 519 igloos, 8 standard magazines, 2 inert magazines, 2 small arms warehouses and 19 general purpose warehouses. National Guard and Army Reserve units currently conduct annual training at SEAD (Seneca Army Depot Activity 1994). The DoD placed SEAD on the BRAC list in 1995.

4.1.2 Other Activities at SEAD

In 1956, the Atomic Energy Commission (AEC) built several buildings and 17 igloos for the Special Weapons Mission at the north end of SEAD. In 1961, the Commanding Officer, SEAD, assumed overall command of the Depot including the North Depot Activity. The 833rd Ordnance Company provided direction and general support for this Special Weapons Mission. Numerous reports exist about the status of contamination in the North Depot Area. In 1962, the Army changed the name of the Depot from Seneca Ordnance Depot to Seneca Army Depot (Osborne 1996).

The General Services Administration (GSA) constructed two large warehouses during 1953 and 1954 as SEAD received the mission of storage and issue of general supplies. During WW II, the Depot had a branch Prisoner of War (POW) Camp, holding over 200 prisoners working in the food industry (Osborne 1996). The exact location of this POW Camp is unknown. In 1969, SEAD received the function of storing Industrial Production Equipment (IPE). This new IPE mission required conversion of several buildings into machine shops. The US Coast Guard built a Loran C Transmitting Station at SEAD in 1977. During the 1980's, a major Medical and Dental operation resided at SEAD. The US Army Reserve and National Guard Components have conducted many years of training at SEAD (Johnson 1984).

4.1.3 Ordnance and Ordnance Related Items

The following list represents the types of ordnance found in documentation during research for SEAD. Although the research uncovered a large number of items, it is completely possible more ordnance appeared at SEAD.

White Phosphorous (WP)
Tetryl
HC Smoke
Propellent M10
Propellant M7
WP - Tetryl
PETN - Tetryl
PETN - Black Powder
Composition A-3
Tetrytol
High explosive tank mines
MK 1, high explosive 75mm shells
37mm rounds
3 inch practice trench mortar shells
M106 fuzes
M52; 100 pound, armor piercing bombs
M42, high explosive, 3 inch rounds
Black Powder
TNT - Composition "B"
Smoke (Rifle Grenade)
Propellant M1
RDX
PETN
PETN - TNT
PETN - Composition A-3
TNT
Composition C-4
primer percussion, MK11A3, 18 gr.
MK11 high explosive grenades
M10A3 fuzes
20mm ball ammunition
Anti-tank practice rockets (2.36 inch)
.45 caliber ammunition
3 inch shrapnel rounds

M45 37mm high explosive shells
155 mm powder charges and projectiles
2,000 pound bombs
tracer mixture
nitrocellulose
chemical ammunition:
- persistent vesicants
chemical ammunition:
- toxics, irritants and smoke
chemical ammunition:
- spontaneously inflammable
chemical ammunition:
- incendiary and readily inflammable
spotting and smoke puff charges
anti tank mine fuzes
primers and primer detonators
fuzes, time and detonating
blank ammunition for cannon
practice bombs with spotting charges
grenades-fragmentation and practice
light mortar shells (81mm or less)
explosive 'D'
D.N.T.
depth charges
torpedoes
various demo.bombs:
100, 250 and 500 pounds
90 mm shells
trinitrotoluene
.50 and .30 caliber ammunition
4.5 inch shells
75 mm smoke shells
57 mm ammunition
240 mm propellant charges
260 pound fragmentation bombs
10,000 pound bombs
90 pound fragmentation bombs
325 and 350 pound depth charge bombs
M51 fuzes
M504A1 fuzes
M308 WP smoke cartridges
81 mm high explosive mortars
M44 series 1,000 pound bombs
propellant charges
M1A1 cluster fragmentation bombs
M4 cluster fragmentation bombs
M40 TNT fragmentation bombs
76 mm projectiles
81 mm smoke WP
smokeless powder
Flashlight powder
Photoflash bombs
60 mm shells
8 inch Howitzer projectiles
Ball caliber 22 long rifle ammunition
12 guage shot gun shells
.50 caliber blank ammunition
cartridge, 20 mm, M99 target practice rounds
20 mm, M10, AC rounds
75 mm, M64, WP shells
adapters and boosters
grenade fuzes
detonators and blasting caps
small arms ammunition
fragmentation bombs
M308A1 cartridges for 57 mm rifle, w/ fuze M503
cartridge grenades
dynamite
picric acid
cluster, fragmentation bomb
tetryl, electric
detonators, percussion
M28A2, high explosive, 3.5 inch rockets
M10, practice AT mines
3 inch AA shells
bangalore torpedoes
M500 Fuzes
105 mm shells
antipersonnel mines
refuzing cluster bombs
76 mm ammunition
1,000 pound bombs
M9 flares
anti-personnel mines, M2A1
M502 fuzes
M97 fuzes
M61 and M61A1 fuzes
M306 high explosive cartridges
4.2 inch high explosive mortars
M71A1, light, inert, AT, mines
M66, HEAT shells
M26 cluster fragmentation bombs
M110A1 bomb nose fuzes
AN-M64 TNT and Amatol 500 pound bombs

AN-M64A1, comp. B, GP bombs
T2001, 4.5 inch practice rocket heads
MK 1, 3 inch rocket motors, British
155 mm mortars
M306A1 High explosive cartridges
M82, 90 pound fragmentation bombs
M3 anti-personnel mines with fuzes
.60 caliber cartridges
T206, inert, 30 mm, cartridges
M71, 90 mm, high explosive cartridges
M48, high explosive, 75 mm cartridges
M309A1, high explosive, 75 mm cartridges
T159, 30 mm cartridges
T158, 30 mm cartridges
T239E15, 30 mm projectiles
M1 delay firing devices
M6 parachute bombs
M8A1, aircraft, parachute flare
M9, practice, anti-tank mines
T199, 20 mm, electric cartridges
MK 148, rocket nose fuzes
20 mm Navy MKS Mod 0 fuzes
M43A1, TP shell
Propellants M10, M1, M7
M111 flare fuzes
M26, M21A4, M20A1 boosters
.60 caliber bullets
Primer, depth charge, CE 1.5", MK VIII, filled NH
M308A1 white phosphorous cartridges
M7A1 combination mines
7.62 mm dummy cartridges
M99, 20 mm, electric cartridges
T205, dummy, 30 mm, cartridges
M337, 75 mm blank cartridges
75 mm WP smoke cartridges
M3 and M7A1 mines
30 mm TP (British) cartridges
T204, 30 mm cartridges
T205, inert, dummy, 30 mm cartridges
M68, 81mm, training projectiles
M40, 23 pound, TNT fragmentation bomb
5 inch rockets
M55A1, 20 mm, ball, cartridges
MK 9, mod. 0, 2.25 inch rockets
M8, smoke grenade, HC with M200A2 fuzes
M22 detonator assemblies
M52A2, 81 mm mortar shell

(Von Hoene 1979; Seneca Ordnance Depot 1945b; Seneca Ordnance Depot 1946; Magazine Area 1942; History 1943; History 1944; Bonner 1944; Warren 1955; Bramlette 1957; Valigorsky 1957; Barber 1957a; Barber 1957b; Busbee 1957; Guenzler 1955; File 1955b; US Army Toxic and Hazardous Materials Agency 1980)

4.2 Review of Historical Records

Washington National Records Center
4205 Suitland Road
Suitland, MD 20409
POC: Velecia Chance
(301) 457-7010

Record Group 77 (Records of the Chief of Engineers)
Accession 52A0259 1946-48.
Box 89 Several folders on Seneca Ordnance Depot. Information about firing fighting equipment and electrical equipment. Repair of excess roads. Drainage work.
Box 90 Seneca folders. Storage tanks, funds for sprinkler system.

Accession 53A0325 1949-50.
Box 65 Thirteen folders on Seneca Army Depot.

Record Group 291 (Records of the Federal Property Resources Service)
Accession 81-0004
Box 15 One folder for Former Sampson Air Force Base. Documents about the 'Q' Area.

Record Group 330 (Records of the Secretary of Defense)
Accession 63A1574
Box 7 General information.
Accession 66A3342
Box 13 General information.

Record Group 338 (Records of the US Army Commands)
Accession 68A3887 Seneca Depot, 1964.
Box 1 Publication record sets.
Accession 69A0647 Seneca Army Depot, Romulus, NY, 1965.
Box 1 Management survey cases.
Accession 69A4817 Seneca Army Depot, 1965-67.
Boxes 1-3 Permanent orders.
Accession 70A0376 Seneca Depot, 1966.
Box 1 Management survey cases.
Accession 81-0216 Seneca Army Depot, Romulus, NY, 1976-78.
Box 1 Personnel orders.
Accession 81-0217 Seneca Army Depot, Romulus, NY, 1974-75.
Box 1 Permanent orders.
Accession 86-0618 Seneca Army Depot, Romulus, NY, 1979-81.
Box 1 Management survey cases.
Accession 86-0622 Seneca Army Depot, Romulus, NY.
Box 1 Enlisted promotions.

National Archives (I)
8th & Pennsylvania
Washington, DC 20408
POC: Mitch Yockelson
(202) 501-5671

Record Group 77 (Records of the Chief of Engineers)
Entry 391 1917-43.
Box 289 Selfridge Field thru Fort Shafter. No files on Seneca.

Record Group 175 (Records of the Chemical Warfare Service)
Entry 2 Index Briefs, 1918-42.
Three index cards for Seneca Ordnance Depot. Transfer of construction equipment.

Record Group 153 (Records of the Judge Advocate General)
Military Reservation Division File, 1809-1948.
Box 64 New York, Fort Porter and Whitehall.
Reservation File, 1800-1950.
Box 301 New York, Rochester and Fort Terry.

Record Group 394 (Records of the US Army Continental Commands, 1920-42).
Entry 72
Boxes 1 - 5 Second Corps Area.
Entry 120
Box 13 Historical Record of Posts and Buildings.
Box 14 Fort Myer thru Fort Pickett.

National Archives (II)
8601 Adelphi Road
College Park, MD 20740
POC: Ken Schlessinger
(301) 713-7250

Record Group 77 (Records of the Chief of Engineers)
Entry 106B General Correspondence 1918-45.
Box 229 General correspondence.
Boxes 251 - 254 General correspondence including Training Camps.
Box 473 One file on construction supply facilities 1941-43.
Entry 1014 General Correspondence with Divisions, 1941-45.
Boxes 50 - 59 North Atlantic Division. Personnel and organizational correspondence.
Entry 1019 Second Service Command.
Box 5 Many documents from Governors Island.
Box 6 This box contained no information on arsenal or depots.

Record Group 92 (Records of the Quartermaster General)
Entry 1892A
Box 565 Two folders on Seneca Ordnance Depot. Appraisal documents. Security measures for government installations.
Entries 1892B and 1892C The research team viewed and requested appropriate material and found no pertinent information for Seneca.

Record Group 107 (Records of the Secretary of War)
Entry 211 Establishment of Airfields and Air Bases 1940-45.
Box 209 One file on New York.

Record Group 112 (Records of the Office of the Surgeon General)
Entry 31 Geographic Series, 1941-42.
Box 225 One file on Seneca.
Box 728 Two folders on Seneca Ordnance Depot.
Entry 32 Geographic Series, 1938-44.
Box 59 No files on Seneca.
Box 88 Richmond General Depot thru Edgewood Arsenal.

Record Group 156 (Records of the Chief of Ordnance)
Entry 26D General Correspondence 1939-47.
Box 512 Savannah thru St Louis Medical. Two files on Seneca.
Box 513 St Louis thru Wingate. No files on Seneca.
Entry 646 Histories of Ordnance Installations and Activities 1940-45.
Box A410 Seneca Army Depot, volumes 1-3. Three binders on Seneca Histories.
Box A411 Volume 4-10. Several files on Seneca.
Box A413 Volume 1-3. Seneca Case Histories.
Entry 948
Box L239 Report on Southwest Proving Ground, 1945. Reports on track vehicles and weapons, 1945.

Record Group 159 (Records of the Inspector General)
Entry 26E General Correspondence, 1939-47.
Box 168 New York Ordnance District.
Box 192 A Special Inspection at Seneca, March 9, 1942.
Entry 26G Decimal File July 1948 - June 1949.
Box 480 First Army, but no information for Seneca.
Box 484 One folder on Seneca Ordnance Depot, several documents and a map.

Record Group 175 (Records of the Chemical Warfare Service)
General Correspondence, Station Series 1955-59.
Box 11 One folder on depots, 1955. Several folders specific chemical depots 1955.
Inspection Files, 1956-58.
Box 12 No files on Seneca.
Box 13 Inspection of Chemical Agencies and Commands. Reports on various Chemical Plants, New York Chemical Procurement District.

Record Group 269 (Records of the General Services Administration)
Real Property Disposal Case Files, 1945-53.
Box 56 One folder on Seneca Ordnance Depot. Copied real estate documents, 1946.

Record Group 326 (Records of the Atomic Energy Commission)
The archivist supervising these records told us this record group deals with policy level correspondence and are not site specific for Seneca Army Depot.

Record Group 336 (Records of the Chief of Transportation)
Historical Program Files, 1940-50.
Box 56 One folder on New York.
Box 105 Folders on several Port of Embarkations (POE) including Boston and New York. No mention of Seneca.
Box 113 Transportation - Monthly progress reports, 1945. Fiscal, supply, contracts, property disposal.
Box 161 Folder: Depot-New sites. No mention of Seneca.
Box 173 Port of New York, planning and control. Correspondence dealing with the management of the port itself. Information on Hoboken Terminal.
Box 365 Master planning and construction programming at postwar installations in the US and overseas. No mention of Seneca.
Organization and Planning Files, 1942-48.
Box 14 New York POE organizational manuals, 1944. San Francisco POE and Seattle POE.
Box 15 Seattle POE and New York POE. General policies.
Box 16 Standard Port Operating manuals, 1948. Activities and functions of military railways, 1943.

Record Group 337 (Records of the Army Ground Forces)
Entry 91
Box 10 General information on ammunition.
Entry 92A Army Field Forces.
Box 19 No information for Seneca.
Entry 98
Boxes 1 - 5 Administrative Files, History on Fort Story, Arctic Program.
Entry 99A
Box 4 Transportation section, 1947.
Entry 99B Decimal File 1948-49.
Box 11 No information for Seneca.

Record Group 338 (Records of the US Army Commands 1942-)

Corps Ordnance Section Reports.

Box 165 Overseas correspondence.

Field Director of Ammunition Plants, 1942-46.

Boxes 50820 - 50839 Binders with reports on numerous Ordnance Plants including New York Ordnance works. No mention of Seneca.

First Army - Administrative Sub Files, 1951-57.

Boxes 1 - 7 Budget estimates, awards and commendations, mobilizations, exercises and general administrative correspondence.

First Army - 1946.

Box 2 National Guard Activities in New York State. Good information on Governor's Island, including maps.

Box 8 General correspondence.

First Army - Facilities Control Files, 1961.

Box 90 Various exercises.

History of the II Corps, 1943-45.

Box 134 Tunisia, Sicily and Italy.

Ordnance Depot, 1940-67.

Box 64 - 69 Overseas depots.

Second Service Command.

Box 9 Gold bullion movement plans 1941. One folder on Second Corps Area.

Box 32 No files on Seneca.

Record Group 407 (Records of the Adjutant Office 1917 -)

AG Project Decimal File, 1940-45.

Box 4338 No files on Seneca.

Box 4339 Ogden Air Depot thru Stanley Ordnance Ammo Plant.

Boxes 4340 - 4341 Various installations.

Box 4346 Various installations.

Box 4469 Fort Winfield Scott thru Camp Shelby, no files on Seneca.

Record Group 429 (Records of the Organizations in the Executive Office of the President)

Entry 12

Box 97 One file on Seneca.

Entry 17

Box 39 Real Property Utilization Survey Report on Seneca.

Record Group 431 (Records of the Nuclear Regulatory Commission)

The archivist supervising the records told us these records focus on civilian use of nuclear energy and would not apply to military installations.

US Army Corps of Engineers
Office of History
7701 Telegraph Road
Alexandria, VA 22315-3865
POC: Lisa Wagner
(703) 428-6552

Military Construction Support Book, 1985.
Realty Control File Summary on Sampson Air Force Base.
Site Plans and Reservation Boundary Maps for Seneca.
Historical summary for Fort Drum (Pine Camp).

Chemical Biological Defense Agency Historical Office
Aberdeen Proving Ground
Edgewood, MD 21010
POC: Jeffrey Smart
(410) 671-4430

The research team viewed Tech Escort files and Army Ordnance Magazines and found no pertinent information.

US Army Environmental Center
Technical Information Center
Edgewood, MD 21010
POC: Julie Tracy
(410) 679-7878

Numerous environmental reports on Seneca Army Depot.

US Army Military History Institute
Reference Branch
22 Ashburn Drive
Carlisle Barracks
Carlisle, PA 17013
POC: John Slonaker
(717) 245-3601

Central Reference Room.
Owned, Sponsored & Leased Facilities, December 1945.
World War II site summary for Seneca.
Periodicals.
Computer Data Base.

US Army Center for Military History
1099 14th Street, N.W.
Washington, DC 20005-3402
POC: Mary Haynes
(201) 761-5416

Posts, Camps and Station. Data Sheet Files.
Data cards and documents on Seneca Ordnance Depot.
Library.
Several pamphlet articles on Military Installations in the Continental US with references to Seneca.

Defense Special Weapons Agency
6801 Telegraph Road
Alexandria, VA 22310-3398
POC: Linda Powell
(703) 325-1167

The research team viewed the 01 listing for Record Group 374 (Records of the Defense Nuclear Agency) and viewed the following SF-135s for records maintained at the Washington National Records Center in Suitland, MD:
Record Group 374-76-0008 IG Inspection Reports, 1962-73
Record Group 374-76-0010 Security, 1969-73.
Record Group 374-90-0011 Annual Historical Summary, 1965-83.
Record Group 374-90-0015 Site Audits, 1987.

National Personnel Records Center
Military Personnel Records
9700 Page Avenue
St Louis, MO 63125
POC: Wilson Sullivan
(314) 538-4085

Record Group 338 (Records of the US Army Commands)

Accession 56D579 Camp Drum.
Box 1 News, 1952.

Accession 57A3096 Ordnance and Ammo Command, Joliet, Hazmat 1949-50.
Box 16 Sunflower thru Volunteer.
Box 17 Wabash River.

Accession 57B5088 Mildist NY.
Box 1 Unit Histories, 1953.

Accession 58A0972 Camp Drum.
Box 1 Organizational Planning, 1953. Court martial files.

Accession 58A3140 Ordnance and Ammo Command, Joliet, Hazmat 1951-52.
Box 20 Ravenna thru Sunflower, nothing for Seneca.

Accession 58C3140 Ordnance and Ammo Command, Joliet 1954.
Box 5 St Louis thru Volunteer, nothing for Seneca.
Box 15 St Louis thru Twin Cities, nothing for Seneca.

Accession 58E3140 Ordnance and Ammo Command, Joliet 1953-54.
Box 5 Radford, Ravena, St Louis Ordnance Plant, Sunflower.
Box 15 Letterkenny, Los Angeles, Navajo, New York. Contracts.
Box 21 No folders for Seneca. Several arsenals including Joliet.

Accession 59A3388
Box 1 Research and development, 1953.

Accession 60A3150 Ordnance and Ammo Command, Joliet 1955.
Box 13 Navajo, Nebraska and New York.
Box 19 Several folders on Seneca. Ammunition report and visit at Seneca.

Accession 61A3161 Ordnance and Ammo Command, Joliet 1957.
Box 3 Alpha folders, nothing for Seneca.
Box 8 Ammunition lists for storage and maintenance at Seneca.
Box 10 Many lists of ammunition at Seneca.
Box 15 Joliet, Illinois - several ordnance plants - nothing for Seneca.

Accession 62A0387 Ordnance and Ammo Command, Joliet 1958.
Box 2 Various folders, nothing for Seneca.
Box 6 Alpha folders, nothing for Seneca.
Box 9 Ammunition lists for demilitarization at Seneca.

Accession 88-0143 Fort Drum.
Boxes 1-2 Personnel strength, Zero Balance Reports.

Accession 89-0070 Fort Drum.
Box 1 Zero Balance Report, 1987.

Record Group 342 (Records of the US Air Force Commands, Activities and Organizations)
Accession 50A5020 First Air Force.
Box 12 Seneca Air Force Base, general correspondence.

Kansas City Federal Records Center
200 Space Center Drive
Lee's Summit, MO 64064
POC: Elaine Christopher
(816) 478-7079

Record Group 77 (Records of the Chief of Engineers)
Accession 65A078
Box 2 Military construction records. Paint shop and sprinkler system at Seneca.
Box 5 Military construction records, but nothing for Seneca.
Box 9 One folder on Seneca Ordnance Depot.
Accession 79-011
Box 12 Planning report for Seneca, 1960 and Equipment Data for Seneca, 1963.

Record Group 121 (Records of the Public Building Service)
Accession 61A0199
Box 679738 Disposal records for sites in Delaware and New Jersey.
Boxes 679739 - 679743 General Services Administration in New York and New Jersey.
Accession 67A0108
Box 232990 Military sites in Maine, Massachusetts, Rhode Island, and Vermont.

Record Group 269 (Records of the General Services Administration)
Accession 66B0403
Box 324337 Military sites in New York and Pennsylvania.
Box 324338 Military sites in Delaware, Puerto Rico, Pennsylvania and New York. Nothing for Seneca.
Box 324339 Military sites in New York and Pennsylvania.
Box 324340 Military sites in New Jersey and New York.
Box 324346 Naval and Marine Corps Training Center, Bronx, New York, Air Force Plant #45, PA, Nike Battery NY-24, Amityville, NY.

Record Group 291 (Records of the Federal Property Resources Service)
Accession 67A017
Box 9 Sampson AFB, Hospital Area (Q Area), Naval Training Center.
Accession 70A185
Box 20 Sampson AFB appraisal. Sampson base map 1951.
Box 22 One folder on Seneca Army Depot, but no pertinent information.

National Archives (Northeast Region)
201 Varick Street
New York, NY 10014
POC: Greg Plunges
(212) 337-1300

Record Group 77 (Records of the Chief of Engineers)
The research team viewed several field survey notebooks regarding Seneca dated 1953 and found no pertinent information.

Record Group 156 (Records of the Chief of Ordnance)
Box 1 Good Conduct Medals issued to Seneca soldiers and correspondence about inactivation of 67th Ordnance Battalion in 1958. Maps.
Box 2 Semi-Annual History, 1954.
Box 3 Manuals.
Box 4 Organization Planning Files, 1958-63.
Box 5 Standard Operating Procedures Files 1952-53, 55-61. Ammunition and decontamination correspondence.

Record Group 270 (Records of the War Assets Administration)
Box 142 Two folders on Seneca Ordnance Depot. One large Seneca Ordnance Depot map dated January 1947.

Record Group 336 (Records of the Chief of Transportation)
Five unnumbered boxes dated 1940-53.

Seneca Army Depot
Facility Manager
Headquarters Building 123
Route 96, Romulus, NY 14541
POC: Steve Absolom
(607) 869-1309

Environmental Baseline Survey Report, Seneca Army Depot, 1997.
Solid Waste Management Unit Report for Seneca Army Depot, Volumes I and II, 1994.
Various historical maps, building lists, fact sheets and interviews.

New York State Archives
Cultural Education Center, Room 11D40
Empire State Plaza
Albany, NY 12230
POC: Richard Andress
(518) 474-8955

The archives research team used the archives computer to search for records on Seneca Army Depot, New York and found 34 matches. Almost all matches were for Willard State Hospital/Psychiatric Center. Nothing Copied.

Index Cards Files Reviewed
Maps - Geographic: Por - Sou.
74769 Highway Maps of Seneca County, New York for 1952, 1967, and 1978.

Aerial Photographic Records
Office of Panning Coordination
Box B1052-89 Mosaic Maps. Copied two maps.
Box NY-3-1508-1702 Copied frames 1700-1706 from above maps.

New York State Library
Cultural Education Center, 7th Floor
Empire State Plaza
Albany, New York 12230
POC: Reference Desk
(518) 473-5355

The archives research team used the library's computer for an on line search of records pertinent to Seneca Army Depot. Nothing copied.

US Army Corps of Engineers
New York District
Real Estate Division
26 Federal Plaza
New York, NY 10011-0090
POC: Roque Salicrup
(212) 264-4336

Real Estate Files

Boxes 1 - 9 Several large maps of Seneca Army Depot. Additional real estate information.

Project map files.

Four oversize maps. General site and military reservation maps about ownership and disposal of lands for Seneca Army Depot.

Parsons Engineering
30 Dan Road
Canton, MA 02021
POC: Mike Duchesneau
(781) 401-2492

The research team viewed numerous remedial investigations, feasibility studies, work plans and environmental baseline surveys for specific locations within Seneca Army Depot. The team also viewed a Reuse Plan and Implementation Strategy. The reports focused on hazardous, toxic and radioactive waste. The research team copied portions of the reports referencing the unexploded ordnance areas of Seneca Army Depot.

New York Public Library
42nd Street
New York, NY 10018
POC: Reference Desk
(212) 873-3400

Book: Nuclear Summer by Louise Krasniewicz.

New York Historical Society
170 Central Park, West
New York, NY 10024-5194
POC: Reference Desk
(212) 873-3400

The research team phoned and found no pertinent information. The Historical Society staff recommended we not visit.

Women's Rights National Historic Park
136 Fall Street
Seneca Falls, NY 13148
POC: Vivian Rose
(315) 568-0007

General information about civilian protestors and the activities at Seneca Army Depot. Book: Nuclear Summer by Louise Krasniewicz.

Sampson WW II Naval Museum
Route 96A
Romulus, NY 14541
(315) 585-6203

Information on the Sampson Naval Training Station, Romulus, New York 1942-46.

4.3 Summary of Interviews

4.3.1 Mr. Tom Grasek and Mr. Vern Conover, SEAD

Mr. Grasek has worked in the Environmental Office for 9 years. Mr. Conover has worked in ammunition destruction (demolition grounds) for 35 years.

We met with these gentlemen during our kickoff trip and they provided a tour of the facilities. We visited the demolition grounds, ranges, ammunition workshops, function test areas, and received a good overview of the Depot.

Specific information included discussion of activities at the demolition grounds and at the ammunition workshops.

Mr. Conover indicated that demolition activities in the demolition grounds were confined to the burn pads and demolition pits, but he knows there were kickouts. He also

indicated that fuzes had been burned in the cage in one of the larger burn pads, 3.5" rocket motors had been burned out in burn pad B, and that trash had been burned in one of the larger burn pads and buried behind the other larger burn pad.

4.3.2 Mr. Randy Battaglia, SEAD

Mr. Battaglia is an employee of the New York District, Corps of Engineers. His duty station is the Environmental Office at SEAD.

We met with Mr. Battaglia during our site visit. He reviewed our site visit plan map and was able to add three areas that he felt could be ordnance related.

One area is a bermed area near the 3.5" rocket range. He said this area was identified by UXB in 1992.

The next area was a berm near the bundle ammunition buildings.

The last was an area where he found drums he believes were propellant drums. He went with us to the two bermed areas to show us the general location of these features.

He also indicated he found spent 3.5" rocket motors near the 3.5" rocket range.

4.3.3 Mr. Glen White, former QASAS at SEAD

Mr. White was an ammunition inspector from 1955 to 1957 and then returned as QA Director from 1988 to 1989. While he was an ammunition inspector, he rotated through all the QASAS functions.

He provided the following information:

The 3.5" rocket range was used for function tests of the rocket motors. The warhead and fuzes were dummy. He does not recall details of the target area.

20mm HEI rounds were disassembled in the bundle ammunition buildings. He is certain the components were dealt with properly, but believes there is probably powder residue remaining in the buildings.

The function test range in the southeast portion of the depot was used to test fuzes and pyro devices.

He believes there is probably contaminated soil at the propellant storage area and the ammunition workshop area in the southwest portion of the Depot.

indicated that fuzes had been burned in the cage in one of the larger burn pads, 3.5" rocket motors had been burned out in burn pad B, and that trash had been burned in one of the larger burn pads and buried behind the other larger burn pad.

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4.3.3 Mr. Glen White, former QASAS at SEAD

Mr. White was an ammunition inspector from 1955 to 1957 and then returned as QA Director from 1988 to 1989. While he was an ammunition inspector, he rotated through all the QASAS functions.

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20mm HEI rounds were disassembled in the bundle ammunition buildings. He is certain the components were dealt with properly, but believes there is probably powder residue remaining in the buildings.

The function test range in the southeast portion of the depot was used to test fuzes and pyro devices.

He believes there is probably contaminated soil at the propellant storage area and the ammunition workshop area in the southwest portion of the Depot.

4.3.4 Mr. James Jones, former Explosives Supervisor

Mr. Jones stated that he started work at SEAD as an explosive operator in 1984. He became the explosive supervisor in 1986 and held that position until he went to work for the Fire Department in 1995. He stated that he worked with the QASAS that was assigned to SEAD and with the EOD Unit that was located on SEAD until June 1993. He also stated that he could mark the spots on the map where he and his team destroyed the code H ammunition. He would be glad to assist in providing information for our report.

4.3.5 Mr. Harry George, former Ammunition Supervisor

Mr. George worked on SEAD from 1947 to 1988. Mr. George placed several marks on the map indicating several areas that need to be investigated further. Mr. George began working in the Property Disposal Office and finished as the foreman of the Ammunition Area. Mr. George stated that his crew burned explosives, small arms, propellant, and anything that could be destroyed from the Ammunition area. He stated that many types and sizes of ammunition were destroyed in this area. He stated that when he took over the Ammunition Area the Burn and Explosive Area on the west side of the post was expanding into the 143rd's EOD range. He then stated that he instructed his crew to move toward the north end of their range in their current configuration. While using the earth moving equipment, several munitions were found that had been buried, these items were destroyed. He also stated that a man by the name of Baxter had a motto if it was to big to destroy bury it. The favorite place to bury munition and stuff, according to Mr. George, was an area called Indian Creek. This area is located near the Seneca Army Air Field. He stated that this would be a good area to check. He stated that a road going north from the road leading to the Liquid Propellant Storage Area was used to destroy fuzes and other items by the surveillance personnel. Mr. George was also concerned about the area around the Popping Plants. He stated that items sometimes had a tendency to be found in the area adjacent. Mr. George stated that Eastman-Kodak performed the function tests at the range off of Dunlop Rd on south post. Mr. George also stated that the abandoned landfill area and the old burn area was used for burning trash only.

4.3.6 Mr. John Fisher, retired EOD

Mr. Fisher is a retired MSG, EOD. He served with the 143rd Ord Det (EOD) SEAD from 1973 to 1983. He stated that during his time at SEAD the 143rd utilized an area on the east side of the post near the East-West Base Line Road and Fayette Road as a demolition and training area. He also stated that a wooden building was located in the same area where a quantity of ether had been stored after an incident on post. These items caught on fire and destroyed the building in 1978. He stated that metal projectiles that did not have explosive contents were thrown into the Duck Pond located

adjacent to the Demolition Area. He also stated that small amounts of explosive charges were used for training and fire works were also destroyed in this location. This location had a 3-4 lb limit due to it's proximity to the public. This range is located in the North-East portion of the post. Mr. Fisher stated that the range located on the west side of the post was used for different types of training. The 143rd had a couple of conexes, two old ratt rigg boxes, a trailer, and a block building that was used for storage of training items consisting of projectiles, rockets, mortars, and all types of munitions that may be encountered on an incident. The field setup consisted of an Ammunition Supply Point for different types of training situations that an EOD unit may encounter during any situation. The range on this side of the post had a ten pound limit. Mr. Fisher stated that the range was used about four times a month for destruction of explosive items. Many flares were destroyed on this range over the years. Mr. Fisher placed marks on the map indicating the areas of concern.

4.3.7 Mr. Ed Fagen, EOD at SEAD

MSG Fagen is retiring from the 725th Ord Co, Ft Drum, NY which is responsible for the SEAD. MSG Fagen was stationed at SEAD from 1986 to 1991 and stated that the 143rd Ord Det (EOD) used a separate range than the Depot did. The range was located on the north end of the post and one mile to the west of the Q area. He also stated that the 833 Ord Co and an MP unit were located there. He stated that during the time frame of 1989 to 1990 a couple of hunters had located a mine field near the old air field. They investigated the area and found a mine field that had been placed there to test the capability of finding the mines from the air. The unit found out through research that this test had been conducted by a university in the late 50's or early 60's. These mines were inert. They were M19 antitank mines. He also stated that in the general storage area that along E 800 Rd were high Alpha Readings. They would go into this area to practice the use of the AN-PDR-60 instrument. He stated that during the mid to late 40's material was stored from the Manhattan Project. This material was shipped in from a nearby university that had a small reactor. The university was not known.

4.3.8 Mr. Tim Critchfield, retired military

Mr. Critchfield was assigned to the Q area at SEAD in the late 1980's until his deployment to the Gulf War. He stated that near the north patrol road and the road coming south out of the Q area by the gas station, he remembers EOD personnel burning propellant bags for a short period of time until the QA personnel stated that this practice must stop. He could not remember the exact time frame nor could he remember anything else that would be of assistance.

4.3.9 Mr. Andrew Schwartz, Parsons Engineering

Mr. Schwartz works for Parsons Engineering in Atlanta, GA and participated in surveying Seneca Army Depot. In an area known as SEAD-4 (Ammunition Workshop #1) there was a rumor of projectiles buried in the field. Mr. Schwartz surveyed this area and found no anomalies. He also stated that an area known as SEAD-4a (Function Test Area) where 40mm grenades were tested and during the survey of the area they found parts and pieces of live items. Mr. Schwartz was involved with the surveying, interpretation, data gathering, and writing of the initial report.

Mr. Schwartz referred to the following reports prepared by Parsons: 7 high priority ESI, 3 moderately low, 8 moderately low, 7 low priority. These reports were compiled from geophysical data.

4.4 Aerial Photography Interpretation and Map Analysis

4.4.1 Interpretation of Aerial Photography/Photographic Sources

Government and contractor personnel conducted an aerial photography search to find available imagery which covers the site. Generally, the search was limited to imagery with less than 1:24,000 scale and provided stereo viewing, but acquired others as needed. Photographic analysis and land use interpretation were performed using the following photographic sources:

Photography Date	Approximate Scale	Source	Frame Identifier(s)
06 Jul 1954	1:20,000	NATIONAL ARCHIVES (USDA)	ARV-1N-34 thru 49 ARV-1N-88 thru 95 ARV-1N-119 thru 125
19 Jun 1963	1:20,000	ASCS	ARV-1DD-109 thru 115 ARV-2DD-48 thru 60 ARV-2DD-89 thru 97
25 May 1978	1:40,000	ASCS	36099 178-34 thru 40 36099 178-57 thru 60
07 Jul 1990	1:40,000	ASCS	36000 590-17 thru 19 36000 590-98 thru 103
22 Sep 1991	1:40,000	ASCS	36000 2390-22 thru 27
22 Apr 1994	1:40,000	ASCS	8040-23 thru 27

Photography Date	Approximate Scale	Source	Frame Identifier(s)
16 Apr 1995	1:40,000	ASCS	8776-15 thru 20

Photos were referenced using the following 1:24,000 USGS 7.5 Minute Series (topographic) Quadrangles:

Dresden, New York 1943 edition (photorevised 1978)
Geneva South, New York 1953 edition (photorevised 1978)
Ovid, New York 1970 edition
Romulus, New York 1953 edition

Aerial photography analysis focused initially on verification of all potential ordnance related areas found during historical research and interviews. Following this initial verification process, the areas requiring further action/investigation where analyzed in detail to determine if the aerial photography reveal more information about each area than was found in historical documents, drawings, and during interviews.

Areas Recommended For Further Action/Investigation

1) Burn Pads and Demolition Grounds. For all photo years, the size and shape of the burn pads and demolition grounds is essentially unchanged with the exception of the 1954 photos. The 1954 aerial photography indicate there may have been two other burn pads. These possible burn pads are still visible on the 1963 photos. By 1978, these possible burn pads are no longer visible (see Plate 5).

2) EOD Area #1. The first evidence of anything in this area appears on the 1963 photos. There are four possible shallow pits evenly spaced, (approximately 300' apart) along the west side of the access road. These possible shallow pits appear very faint on the 1978 photos. A berm is visible on the east side of the access road on the 1991 photos as well as 1994 and 1995 photos (see Plate 6).

3) Demo Range. The demo range cannot be specifically identified on any of the aerial photography. It appears as a densely wooded area on all photos.

4) Function Test Area and Nearby Pits. The function test area appears for the first time on the 1963 aerial photography. There are five structures at the end of the road and the entire area appears to be surrounded by firebreaks. The road to the function test area remains visible on all photos after 1963. The 1978 photos indicate two structures and the firebreaks are very faint. By 1991, the structures and firebreaks are no longer visible (see Plate 7).

The nearby pits appear for the first time on the 1978 photos. By 1991, there is a road turnout into this area. The 1991 photos indicate two pits with an earth mound near one of the pits (see Plate 7).

5) Burial Area near Indian Creek (see Plate 8). This area appears scarred on all aerial photography. The 1954 and 1963 photos indicate shallow depressions. It is not possible to distinguish any depressions after 1963 due to the scale of the aerial photography.

6) Popping Plants. The popping plants are verified by the aerial photography.

7) Grenade Range. The grenade range appears for the first time on the 1991 aerial photography. A tower and possible targets are visible.

8) Igloo Area. The igloo area is verified by the aerial photography.

9) 3.5" Rocket Range (see Plate 9). The berm associated with this range appears the first time on the 1954 aerial photography. There is a structure in front of the berm and there are ground scars just south and east of the berm on the 1954 and 1963 photos. After 1963, only the berm and the ground scars are visible on the aerial photography.

10) Liquid Propellant Storage Area. The liquid propellant storage area appears for the first time on the 1963 aerial photography. It remains visible on all photos after 1963.

11) EOD Area #3 (see Plate 9). This area appears for the first time on the 1954 aerial photography. It is a ground scarred area but also appears to be a shallow excavation. It is approximately 150' in diameter. The surrounding area is clear. It remains the same on the 1963 photos. By 1978, the surrounding area is becoming wooded. By 1991 and thereafter, the surrounding area is densely wooded.

12) EOD Area #2. Mr. Fisher, retired MSG, EOD, informed us of this area. It is now covered with water (duck pond). According to Mr. Fisher, explosive devices were used in this area, and non explosive metal projectiles were thrown into the water (see Plate 10).

<u>Areas Not Recommended For Further Action/Investigation.</u>

Ordnance related buildings and other structures are verified by the aerial photography but are not specifically discussed below.

1) Small Arms Ranges. The four small arms ranges are verified by the aerial photography.

2) Storage Pads. The storage pads are verified by the aerial photography.

3) Suspect Rail Car and Truck Areas. The suspect rail car area on the west side of the site is visible on aerial photography. The other suspect rail car spur and the suspect truck area are not visible on the photos.

4) Berms. Aside from the berms at small ranges, the 3.5" rocket range, the burn pads, and EOD ranges, there are no other berms visible on the photos.

5) Abandoned Powder Burn Area. This area appears for the first time on the 1954 aerial photography. It appears as a bermed area approximately 200' by 330'. There are three rectangular shapes just west of the berm that may be part of the powder burn area. By 1963, the features in this area are beginning to fade as if use has been discontinued. By 1978, the area appears to have returned to natural conditions (see Plate 11).

6) Propellant Charge Burn Area. The first evidence of any activity in this area appears in 1963. The area is lower than the road and it appears there is some ground scarring. It is essentially unchanged on the remaining photos.

7) Berm near the Bundle Ammunition Buildings (area described by Randy Battaglia). There is no evidence of a berm in the area described by Mr. Battaglia on any of the aerial photography.

There is a berm approximately 800' east of the area described by Mr. Battaglia. The berm is straight and approximately 400' long. It runs in a northeast-southwest direction. There are no roads leading to it or any improvements to suggest it was a range. It appears on all aerial photography and gradually became covered with trees over the years.

Other Possible Ordnance Related Areas

The aerial photography was analyzed in general to determine other possible areas of concern, such as other small arms ranges, EOD ranges, burial pits, etc. No other areas were noted.

4.4.2 Map Analysis

Map analysis was performed using the 1:24,000 USGS

Dresden, New York 1943 edition (photorevised 1978)
Geneva South, New York 1953 edition (photorevised 1978)
Ovid, New York 1970 edition
Romulus, New York 1953 edition

The above listed USGS quads show both planimetric and topographic features. SEAD lies on flat terrain. Very little vegetation covers the area. The site area mainly consists of hard and loose surface roads, buildings both large and small. Seneca Lake lies to the west of the Depot.

4.4.3 Aerial Photography Sources

EROS
US Geological Survey
EROS Data Center
Sioux Falls, SD 57198
POC: Customer Service
(605) 594-6151

No photos were ordered.

ASCS
US Department of Agriculture
Farm Service Agency
Aerial Photography Field Office
2222 W 2300 S
Salt Lake City, UT 84119-2020
POC: Customer Service
(801) 975-3503

Photos ordered and analyzed are listed in Section 4.4.1, Interpretation of Aerial Photography/Photographic Sources

National Archives (II)
Cartographic and Architectural Research
Room 3050
8601 Adelphi Road
College Park, MD 20740
POC: Jennifer Nelson
(301) 713-7040 ext. 230

Photos ordered and analyzed are listed in Section 4.4.1, Interpretation of Aerial Photography/Photographic Sources

5.0 REAL ESTATE

5.1 Confirmed DoD Ownership

SEAD consists of 10,600 acres and is made up of the main depot, the Seneca Army Airfield, and the Lake Housing Area (see Plate 2).

5.2 Potential DoD Ownership

None

5.3 Significant Past Ownership other than DoD

No significant past ownership other than DoD was found.

5.4 Present Ownership

The site is currently an active installation in the process of closing under BRAC. Ammunition activities consist of the gradual removal of all ammunition from the site.

Plans for the site after closure are shown on Plate 13.

6.0 SITE INSPECTION

6.1 General

This site visit was performed from 20-24 July 1998.

Corps of Engineers Participants:

Ted Moore	Project Manager
Hank Counts	UXO Specialist and Safety Officer
Jim Luebbert	Historian

SEAD Participant::

Tom Grasek

We coordinated the site visit with Mr. Steve Absolom, Base Environmental Coordinator. In addition to our inspection activities, we performed several interviews.

6.2 Analysis of Ordnance Activities

There are more than 500 ordnance related structures at SEAD. Our inspection strategy was to assume that the interiors of all structures would have to be properly cleared by SEAD personnel prior to disposal. In addition, ammunition is still being stored and disposed of. Our strategy was to inspect the areas surrounding buildings, but not the interior. An added note, assuming the interior of each building could be inspected in 15 minutes (including travel time and unlocking), it would have taken at least 4 weeks just to inspect building interiors.

The areas inspected are shown on Plate 3 and 14.

3.5" Rocket Range. We inspected the firing point, berm, and the areas in between. We did not find evidence of 3.5" rockets. We found spent small arms ammunition at the berm.

Bundle Ammunition Buildings. We found a blank 5.56mm round. These buildings appear to have been abandoned many years ago.

Surveillance Laboratory. We did not find ordnance in this area.

Original Popping Plant. There is spent small arms ammunition of every size and condition on the ground surrounding this building. This popping plant appears to have been abandoned many years ago.

Current Popping Plant. There is spent small arms ammunition of every size and condition on the ground surrounding this building.

Ordnance Repair Shops. We marked these on our map prior to knowing they are vehicle maintenance shops.

Small Arms Storage Building. We did not find ordnance in this area.

Warehouses. We selected a path that would sample the area between two rows of warehouses. We found spent 7.62mm ammunition near warehouses 327, 328, and 329.

Berm (Item 27 on Plate 3). There is no berm.

Fuze Storage Building (Item 41 on Plate 3). The building (shack) is still present. There is also a concrete slab and a metal pole. We did not find ordnance in this area.

Liquid Propellant Storage Area. We did not inspect this area during this visit. We visited this area during the kickoff trip and briefly walked the area. We did not find ordnance in this area.

Function Test Range. There are four pipes in the ground in this area that appear to have been used for tests. There is also a large berm next to the test area. We found four strands of what appears to be shot wires that lead to a box on a utility pole. We did not find ordnance near the pipes, but we found the remains of two 40mm grenades and 5.56mm blank ammunition on the road near the test area.

There is also an area on the right side of the road to the Function Test Range where there is a pit about 15' long X 5' wide X 3" deep that appears to have been used as a burn area. There was also an ammunition box in the hole. There is another pit that is now filled in with water and vegetation. We did not find ordnance in this area.

Ammunition Workshops (Item 16 on Plate 3). We found blank 5.56mm and 7.62mm ammunition and 7.62mm links in this area. We also got several 10+ hits on the Schoenstedt in the grassy areas near the buildings.

.45 Cal. Range. The range does not appear on drawings, but the drawings do show a range shack. The target berm is still present, but there is no evidence of the range shack. There are .38 cal and .45 cal projectiles in the berm. We did not find any other ordnance.

Suspect Rail Car Spur (Item 26 on Plate 3). We did not find evidence of a berm or ordnance.

Berm (Item 27 on Plate 3). There is no evidence of a berm or ordnance.

Suspect Rail Car Spur (Item 26, SW portion of site, Plate 3). The berm is still present. We did not find ordnance in this area.

Ammunition Workshops (Item 17 on Plate 3). We found blank 5.56mm and 7.62mm ammunition and a smoke grenade spoon in this area.

Rifle Range near the airfield. The rifle range clearly has been used for many years. There is a leadership reaction course, what appears to be a close combat range, and a gas chamber near the rifle range. We did not find ordnance in this area.

Skeet Range near the airfield. The range structures are still in place. We did not find ordnance related to the skeet range, but we found blank 5.56mm ammunition in the parking area near the range.

Landfill near the Burn Pits. We have verification the burn pits were used for trash. We did not inspect this area.

Burn Pit Area. We inspected this area and did not find ordnance. There were originally just burn pits in this area. An incinerator has been added.

Abandoned Powder Burn Pit. There are a hydrant and drain remaining in this area, but no evidence of powder burning activities.

Rifle Range near the Lake Housing Area. We found a tower and a small shack, but there is no target berm or evidence of ordnance in the area.

Magazine Area. We did not find ordnance in this area.

Suspect Truck Barricade. We did not find evidence of a barricade or ordnance.

Demo Range (Item 3 on Plate 3). It is near the EOD Area #1. We found a 75mm round in this area that had been split open using a shape charge.

EOD Area #1 (Item 2 on Plate 3). There is a berm where we found the remains of flares and small arms ammunition. There is a second area just across the road from the berm where there are shot holes and the remains of flares. We also found the remains of flares along the road that runs past the EOD area.

Grenade Range. This is a very well constructed range with numerous targets. We found the remains of several 40mm practice grenades. We did not find evidence of use of HE grenades.

Ammunition Disassembly Plant. There is a building, two berms, and a concrete shield. There are also small storage containers that were used by EOD. We did not find ordnance in this area.

Burn Pad Area. We inspected the burn pads and the areas outside and between the burn pads. We found the remains of small arms ammunition, fuzes, 3.5" rockets, igniter tubes, and trash. These items were found in and between the burn pads. In an area southwest of the two large burn pads, we found a 155mm projectile that had been split in half, base plates, and large solid metal projectiles. It is uncertain if these items had been buried at one time or if they are kickouts from the demolition pits.

There are shot wires at Burn Pad A. We got several 10+ hits in the open area between Burn Pads A and C.

Detonator Destruction Furnace. We did not find ordnance near this structure.

Demolition Pit Area. We did not go near the demolition pits but did walk the area in front of the pits on our way to Explosive Scrap Furnace. There are large amounts of kickout material surrounding the demolition pits.

Explosive Scrap Furnace. We did not find ordnance in this area.

Indoor Rifle Range (Building 744). We did not find ordnance in this area.

Igloos. We inspected the area in front of, and across the road from, two rows of igloos in the D igloo area. We got several 10+ hits along the ditch.

Loading/Unloading Platforms. We inspected the areas surrounding six loading platforms. We found the remains of spent fuzes and spent small arms ammunition near platform 2130.

Storage Sheds (X Sites). We did not find ordnance in these areas.

Open Storage Pads. We inspected a sampling of storage pads. We found a large amount of packing material on many of the pads, but we did not find ordnance.

Landing Zones. We inspected three landing zones. We did not find ordnance in these areas.

Areas from Information Obtained During Interviews:

We inspected the area where Mr. Battaglia reported propellant drums. We found one drum that was marked "10 - .30 cal carbines".

We inspected the area where Mr. Critchfield reported EOD burned prop charges. There was no evidence of burning activities. There is a sign on the nearby fence indicating the area is now used for fill.

We inspected an area near the 3.5" rocket range that Randy Battaglia indicated was an EOD area. There is a low berm (3-4' high) and the area within the berm is a circle about 150' in diameter. We did not find evidence of EOD activities.

6.3 Current Site Characterization

The site is still an active DoD installation but ordnance activities are winding down as the facility moves toward closure. Access to all parts of the installation requires neither special vehicles or an excessive amount of walking, but the site is fenced and patrolled and access is restricted to the main gate. Access to the ammunition area is also restricted.

7.0 EVALUATION OF ORDNANCE PRESENCE

7.1 General

The condition of the interior of buildings is considered outside the scope of this report.

The National Guard, Army Reserves, and ROTC have used many areas of SEAD for training. Spent small arms ammunition can be found on many areas of the site as a result of these activities.

The only known CWM activities on the site are the storage of incendiary ammunition and the gas chamber near the airfield.

We found more than 30 drawings specifically showing one or more ordnance activities. Most of these drawings came from the drawing room at SEAD. These drawings are included in this report as a separate volume. There is a spreadsheet in Appendix E which indicates the title and date of the drawing and the ordnance activities shown on the drawing.

A mosaic of 1991 aerial photography has been used as the basis for Plates 3, 4, and 14.

7.2 Specific Areas of Concern

As stated earlier in this report, this is a complex site. Using historical documents and drawings, aerial photography, and interviews, we have compiled a list of ordnance related areas and activities. With just a couple of exceptions, we inspected (sample walked) every area on the list. All areas on the list are shown on Plate 3. The areas inspected are also shown on Plate 14.

The following is an area by area assessment of all ordnance related activities divided into areas requiring further action/investigation and areas that do not require further action/investigation.

Areas Recommended For Further Action/Investigation

Many of the areas recommended for further action have been previously identified and designated as solid waste management units (SWMU). These SWMU designations (SEAD numbers) are included where appropriate.

Note: All areas recommended for further action/investigation are shown on Plate 4.

1) Burn Pads (SEAD 23) and Demolition Grounds (SEAD 45) . These areas appear on drawings and aerial photography. They were the topic of several interviews and they have been the subject of several studies.

Conventional ammunition stored at SEAD has the potential to be destroyed in this area (up to the 200 lb explosive limit). During the site inspection we found the remains of ammunition ranging from small arms up to 155mm HE. We did not find live ordnance, but it is likely there is live ordnance in this area as a result of kickouts from the burn pads and the demolition grounds.

Drawings show the blast radius for the demolition grounds and the burn pads as 1800'. This radius is consistent with the distance from the demolition grounds where we found fragments.

In addition to the current burn pad configuration, aerial photography (1954) indicate there may have been two other burn pads. By 1978, these possible burn pads are no longer visible. See Plate 5.

2) EOD Area #1 (SEAD 57). This EOD area appears on drawings and aerial photography, was the topic of interviews, and is the subject of studies. It consists of a berm approximately 30' in diameter and 6' high.

According to former EOD personnel we interviewed, there was a 10 lb explosive limit. We found the remains of many flares in and surrounding the berm. We found spent small arms ammunition inside the berm. We also found shot holes on the opposite side of the access road from the berm which contained destroyed flares. We also found the remains of destroyed flares at the end of the access road past the berm. The blast radius for this EOD area is 1800'.

The berm at this EOD area does not appear on aerial photography until after 1978. There are four areas on the 1963 aerial photography that may be shot holes. They are on the south side of the access road. The second area is approximately the location where we found shot holes during the site inspection. See Plate 6.

3) Demo Range (No SEAD designation). This range appeared on a drawing entitled Seneca Army Depot General Site and Building Plan dated 14 January 1988. We were uncertain if demo meant demolition or demonstration. During our inspection we found a 75mm projectile in this area that had been split open. It is our assumption that it was a demolition area. It appears on the drawing as approximately 40 acres. The coordinates where the 75mm round was found are: N 42° 46.13', W 76° 53.06'.

4) Function Test Area (No SEAD designation) and Nearby Pits (SEAD 44, Location A) (see Plate 7). Information regarding the function test area came from interviews. The

road leading to this area appears on several drawings. The exact extent of function tests in this area is unknown but it is suspected that fuzes were tested. The remains of 40mm grenades can be seen on the road near the test area along with spent small arms ammunition. One interviewee reported finding live 40mm grenades in the area.

According to Mr. Conover, current employee at the demolition grounds, there was another test area near the function test area, but he was not able to find the area during our initial visit to the site. We found an area along the road to the function test area that may be it. There are two pits. One has an ammunition box in it. The other is full of water. We have no specific knowledge about these pits. The coordinates for the pits are: N 42° 42.46', W 76° 50.06'.

5) Burial Area near Indian Creek (No SEAD designation) (see Plate 8). Information about this area was provided by Mr. George, a former ammunition supervisor. He indicated there was an attitude that if an item could not be destroyed it should be buried. He believes ammunition and non ordnance items were buried in this area. The area shown on Plates 3 and 8 is the general location he marked on our inspection map. We did not see surface evidence of burial activities.

6) Popping Plants (SEAD 16 and 17). The popping plants appear on drawings and aerial photography, were the topic of interviews, and are the subject of HTRW studies listed in Section 2.0.

During the site inspection, we couldn't walk 10' feet in any direction without finding some variety of spent small arms ammunition near these facilities. Mr. George specifically mentioned the popping plants as an area that should be investigated further.

7) Grenade Range (No SEAD designation). The grenade range appears on drawings and aerial photography and was the subject of interviews. According to Mr. Conover, only 40mm practice grenades were used on this range. During our site inspection, we found several in tact 40mm practice projectiles. There are mannequins, wood structures, and armor vehicles set up on the range for targets. There are foxholes at the firing line. There is no evidence on the targets or on the ground that HE grenades were used.

8) Igloo Area (SEAD 53). There are over 500 igloos and they appear on every drawing and aerial photograph of the site. Although random tossing of ammunition is not part of ammunition handling procedures, we decided to randomly inspect the area near a few igloos (see Plate 14). We inspected a portion of Igloo area D, specifically the ditch across from the igloos and the area surrounding the igloos. We got several 10+ hits on the back side of the ditch using a Schoenstedt magnetometer.

9) 3.5" Rocket Range (SEAD 46) (see Plate 9). This range appears on drawings as a range but not specifically as a 3.5" rocket range. The interview with Mr. Battaglia, a New York District Corps of Engineers employee stationed at SEAD, raised the suspicion about 3.5" rockets and the interview with Mr. White confirmed that 3.5" rocket motors were tested in the area. Although the rocket motors were static fired according to Mr. White, spent rocket motors have been found scattered over the area. We did not find ordnance during our inspection of the area.

10) Liquid Propellant Storage Area (SEAD 43). This area appears on drawings and aerial photography and was brought up during interviews as an area that should be investigated further. We did not find ordnance during our visit to this area.

11) EOD Area #3 (No SEAD designation) (see Plate 9). This area was reported by Mr. Battaglia. It is a flat area roughly 150' in diameter and appears to be surrounded by a berm (except a portion of the south end is open). The area appears on aerial photography, but there is no evidence of a berm on the photos. Early photos show the surrounding area as clear. The most recent aerial photography show the surrounding area to be wooded which is consistent with the current conditions. Personnel from UXB, an ordnance removal contractor, told Mr. Battaglia the area was an EOD disposal area. We did not find ordnance, but the lack of vegetation within the flat area raises concern regarding how the area was used. The coordinates for EOD Area #3 are: N 42° 45.92', W 76° 50.75'. This area did not appear on any drawings.

12) EOD Area #2 (No SEAD designation) . Mr. Fisher, retired MSG, EOD, informed us of this area. It is now covered with water (duck pond). According to Mr. Fisher, explosive devices were used in this area, and non explosive metal projectiles were thrown into the water (see Plate 10). This area appears to be within the IRFNA Disposal Site (SEAD 13) but the EOD activities were not related to the IRFNA disposal activities.

<u>Areas Not Recommended For Further Action/Investigation</u>

1) Areas surrounding ordnance related buildings (Items 12, 13, 14, 15, 16, 17, 18, 23, 32 and 37 on Plate 3). The list of ordnance related buildings was developed from historical documents and drawings. The area surrounding these buildings was inspected to see if ammunition had been randomly tossed. All we found was spent small arms ammunition and a spoon from a smoke grenade at one location. It appears these items are the result of National Guard, Army Reserve, and ROTC use of the facility.

There is anecdotal evidence that a file cabinet containing spare ammunition was buried in the field east of Ammunition Workshop #1 (Item 16 on Plate 3). We did not find evidence of this burial area during the site visit. Mr. Schwartz, a Parsons Engineering

employee, reported surveying this area and finding no anomalies. There was no evidence of a burial area on aerial photography.

2) Small Arms Ranges. We developed the list of small arms ranges from drawings and aerial photography. We only found spent small arms ammunition at the small arms ranges.

3) Storage Pads and X sites. There are numerous pads that appear on drawings and aerial photography. These pads were used at least in part for open air ammunition storage. We inspected many of these storage pads and found some spent small arms ammunition and packing materials.

There are several storage sheds known as X sites. We inspected these sheds and only found packing materials.

4) Landing zones. Numerous landing zones appear on the drawing entitled Seneca Army Depot General Site and Building Plan (Culverts) dated 1 March 1990. We inspected three of the landing zones (see Plate 3). We did not find ordnance.

5) Suspect Rail Car and Truck Areas. Two suspect rail car areas and one suspect truck area appear on drawings. These were areas where rail cars and trucks were placed while problems with shipping documents or the vehicles were resolved. We did not find ordnance in these areas.

6) Berms. Two horseshoe shaped berms appear on drawings with no description of the intended use (Item 27 on Plate 3). There was no evidence of these berms visible on the aerial photography. We did not find either of the berms or ordnance during our inspection of these areas.

7) Drums reported by Randy Battaglia. We found one drum during our site inspection. It was marked as a carbine container. In a later conversation with Mr. Battaglia, he verified the drum we found was in the area he had indicated.

8) Abandoned Powder Burn Area (SEAD 24). This area appears on many drawings and aerial photography. We found water pipes and a drain, but there was no evidence of open burn operations or ordnance (see Plate 11).

9) Loading/unloading Platforms. These platforms appear on nearly all drawings. We inspected a random sampling of platforms looking for tossed ammunition. At platform 2130, we found spent fuzes and spent small arms ammunition that appeared to be burnt. It appears that items destroyed at the popping plants were loaded on to rail cars at this platform.

10) Propellant Charge Burn Area. Mr. Critchfield, retired military, informed us of this area. We did not find evidence of any burning activities in this area during our site inspection. It is now designated a fill area.

11) Ammunition Disassembly Plant. This facility appears on many drawings. It is located within the blast radius for EOD Area #1 and the demolition grounds. We did not find ordnance in the immediate vicinity of this facility during our site inspection.

12) Detonator Destruction Furnace (within SEAD 23) . This facility appears on a drawing. It is located near the burn pads and demolition grounds and is within the blast area of the demolition grounds. We did not find ordnance in the immediate vicinity of this structure during our site inspection.

13) Explosive scrap furnace (within SEAD 45) . This facility appears on a drawing. It is located near and within the blast radius of the demolition grounds. We did not find ordnance in the immediate vicinity of this structure during our site inspection.

14) Berm near the Bundle Ammunition Buildings (Item 35 on Plate 3). Mr. Battaglia reported this berm. There is no evidence of the berm on the aerial photography.

15) R&D Area/Fuze Storage (SEAD 44, Location B) (Item 41 on Plate 3). This area appears on the drawing entitled Seneca Army Depot, Basic Information Maps, General Recreation Plan (South), dated 15 July 1958. Building 603 was an R&D building and building S-615 was used for fuze storage. There is a locked metal shed remaining on the site along with a concrete pad and metal pole. We did not find ordnance in this area during the site inspection.

8.0 EVALUATION OF OTHER SITE INFORMATION

1) Ammunition washout operations. Historical information indicates washout operations occurred near Ammunition Workshop #1 (see Plate 12). In addition, there are IRFNA disposal pits (SEAD 13) near the 3.5" Rocket Range according to Mr. Battaglia and Mr. Fisher.

2) Powder residues. The potential exists that any building where ammunition rework occurred could contain powder residue. This includes piping that carried powder to collection points and the area surrounding the collection points. Besides the two ammunition workshop areas, the bundle ammunition buildings were used for reworking 20mm HEI ammunition according to Mr. White.

3) Radiological issues. There are burial areas within the special weapons area that have been the subject of previous studies. Manhattan Project igloos have been the subject of previous studies and remediation activity (Area 38 on Plate 3).

APPENDIX A

REFERENCES

Demographic References

3.6.7 Information Sources

U.S. Census report as listed below:

- 1990 Census of Population and Housing, Seneca County, New York
- 1990 Census of Population and Housing, Waterloo Village, New York
- 1994 County and City Data Book, Land Area and Population, Seneca County, New York
- 1994 County and City Data Book, Land Area and Population, Waterloo Village, New York
- 1994 County Business Patterns, Seneca County, New York

Telephone interview

- Waterloo Village Clerk (07/30/98)

Geology and Soils Reference

Cook, F.A., Brown, L.D., Oliver, J.E.
1983 *The Southern Appalachians and the Growth of Continents.*

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APPENDIX B

GLOSSARY AND ACRONYMS

AAF	Army Air Field
AA	Anti-Aircraft
ADC	Air Defense Command
AEC	Army Environmental Center
AEC	Atomic Energy Commission
AFBCA	Air Force Base Conversion Agency
AFCS	Air Force Communications Service
AFLC	Air Force Logistics Command
AGO	Adjutant General's Office
AKA	Also Known As
AMA	Air Materiel Area
AMC	Air Materiel Command
ANG	Army National Guard
AP	Armor Piercing
APDS	Armor Piercing Discarding Sabot
APERS	Antipersonnel
APT	Armor Piercing with Tracer
ARDC	Air Research and Development Command
ASR	Archives Search Report
ATV	All Terrain Vehicle
Aux	Auxiliary
BAR	Browning Automatic Rifle
BD	Base Detonating
BD/DR	Building Demolition/Debris Removal
BE	Base Ejection
BGR	Bombing and Gunnery Range
BLM	Bureau of Land Management
BRAC	Base Realignment And Closure
CADD	Computer-Aided Design/Drafting
Cal	Caliber
CBDA	Chemical and Biological Defense Agency
CBDCOM	Chemical and Biological Defense Command
CE	Corps of Engineers
CEHNC	Corps of Engineers, Huntsville Support Center
CELMS	Corps of Engineers, St. Louis
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
cfs	Cubic Feet Per Second
COE	Chief of Engineers
COMP	Composition
CTG	Cartridge

CSM	Chemical Surety Material
CSM	Command Sergeant Major
CWM	Chemical Warfare Material
CWS	Chemical Warfare Service
DA	Department of the Army
DARCOM	Development and Readiness Command
DDESB	Department of Defense Explosive Safety Board
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DERP-FUDS	Defense Environmental Restoration Program-Formerly Used Defense Sites
DoD	Department of Defense
DOE	Department of Energy
DOI	Department of Interior
DTC	Desert Training Center
EBS	Environmental Baseline Survey
EE/CA	Engineering Evaluation/Cost Analysis
EIS	Environmental Impact Statement
EOD	Explosives Ordnance Disposal
EPA	Environmental Protection Agency
ERDA	Environmental Restoration Defense Account
4WD	Four Wheel Drive
F	Fahrenheit
FAA	Federal Aviation Administration
FDE	Findings and Determination of Eligibility
FFMC	Federal Farm Mortgage Corporation
FLCH	Flechette
FS	Feasibility Study
FUDS	Formerly Used Defense Sites
GEEIA	Ground Electronics Engineering Installation Agency
GIS	Graphic Information System
GSA	General Services Administration
HE	High Explosive
HEAT	High Explosive Anti-Tank
HEI	High Explosive Incendiary
HEP	Plastic
HE-S	Illuminating
HS	Mustard Gas
HTRW	Hazardous Toxic and Radioactive Waste
HTW	Hazardous and Toxic Waste
IAS	Initial Assessment Study
INPR	Inventory Project Report
IPE	Industrial Production Equipment

IRFNA	Inhibited Red Fuming Nitric Acid
IRP	Installation Restoration Program
JATO	Jet Assisted Take Off
MCX	Mandatory Center of Expertise
MG	Machine Gun
MG	Major General
mm	Millimeter
mph	Miles Per Hour
MT	Mechanical Time
MTSQ	Mechanical Time Super Quick
NARA	National Archives and Records Administration
NAS	Naval Air Station
NASA	National Aeronautical and Space Administration
NCA	Northern Communications Agency
NCDC	National Climatic Data Center
NCO	Non Commissioned Officer
NCP	National Contingency Plan
NEADS	Northeast Air Defense Sector
NFS	National Forest Service
NG	National Guard
NGVD	National Geodetic Vertical Datum
NOAA	National Oceanic and Atmospheric Administration
NOFA	No Further Action
NPRC	National Personnel Records Center
NRC	National Records Center
NYDEC	New York State Department of Environmental Conservation
OE	Ordnance and Explosives
OSHA	Occupational Safety and Health Act
PA	Preliminary Assessment
PBR	Precision Bombing Range
PD	Point Detonating
PIBD	Point Initiating, Base Detonating
PL	Public Law
POE	Port of Embarkations
POC	Point of Contact
POW	Prisoner of War
QASAS	Quality Assurance Specialist Ammunition Surveillance
RA	Removal Action
RAC	Risk Assessment Code
RD	Remedial Design
RG	Record Group
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study

SAC	Strategic Air Command
SARA	Superfund Amendments and Reauthorization Act
SCS	Soil Conservation Service
SEAD	Seneca Army Depot
SLD	St. Louis District, Corps of Engineers
SSHO	Site Safety and Health Officer
SSHP	Site Specific Safety and Health Plan
SWMU	Solid Waste Management Units
TECOM	Test Evaluation Command
TEU	Technical Escort Unit
TNT	Trinitrotoluene
TP	Target Practice
USA	United States of America
USACE	U.S. Army Corps of Engineers USADACS U.S. Army Defense Ammunition Center and School
USAED	U.S. Army Engineer District
USAESCH	U.S. Army Engineering and Support Center, Huntsville, AL
USATHMA	U.S. Army, Corps of Engineers, Toxic and Hazardous Materials Agency
USC	United States Code
USDA	U.S. Department of Army
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	Unexploded Ordnance
WAA	War Assets Administration
WCAFTC	West Coast Air Force Training Center
WD	War Department
WNRC	Washington National Records Center
WWII	World War II

APPENDIX C

TEXT / MANUALS

(NOT USED)

APPENDIX D

REPORTS / STUDIES

(NOT USED)

APPENDIX E

LETTERS / MEMORANDA / MISCELLANEOUS ITEMS

	Seneca Army Depot Reservation Plan	Seneca Army Depot Airfield	Seneca Army Depot Gen Site and Bldg Plan	Seneca Army Depot Military Trng Areas	Seneca Army Depot Gen Site and Bldg Plan (Culverts)	Seneca Army Depot	Seneca Army Depot Site Plan Open Burn Grounds
	May 85	2 Jul 85	14 Jan 88	6 Jan 89	1 Mar 90	25 Sep 90	25 Mar 92
3.5" Rocket Range							
Bundle Ammo Buildings	X		X		X		
Surveillance Lab	X		X	X	X		
Popping Plant (O)	X		X		X		
Popping Plant	X		X		X		
Small Arms Storage	X		X		X		
Warehouses	X		X		X		
Berm (Brady Rd)							
Fuse Storage							
Liquid Propellant Storage	X		X		X		
Function Test Range	X		X		X		
Ammo Work Shops #2	X		X		X		
.45 Cal Range & Range Shack							
Suspect Rail Car Spur (Ovid Rd)							
Farm (Fayette Rd)	X		X		X		
Suspect Rail Car Spur (W Patrol Rd)	X		X		X		
Ammo Work Shops #1	X		X		X		
Small Arms Range (Airfield)	X	X	X		X		
Skeet Range (Airfield)	X	X	X		X		
Abandoned Landfill (Smith Farm Rd)	X		X		X		
Burning Pit (Smith Farm Rd)	X		X		X		
Abandoned Powder Burn Pit	X		X		X		
Rifle Range - Lake Housing Area							
Magazines	X		X		X		
Suspect Truck Barricade							
Demo Range			X				
EOD Area #1	X		X		X		
Grenade Range			X				
Ammo Disassembly Plant	X		X		X		
Burn Pads	X		X		X		X
Detonator Destruction Furnace							X
Demolition Pits	X		X		X		X
Explosive Scrap Furnace							
Indoor Rifle Range (Bldg 744)			X		X		
Storage Sheds - X Sites	X		X		X		
Loading/Unloading Platforms							
Storage Pads	X				X		
Landing Zones						X	
Igloos	X		X		X		
Military Training Areas				X			
SWMU Locations							
Q/D Data							
Radioactive Material Contamination							

	Seneca Army Depot
	SWMU Locations
3.5" Rocket Range	
Bundle Ammo Buildings	
Surveillance Lab	
Popping Plant (O)	
Popping Plant	
Small Arms Storage	
Warehouses	
Berm (Brady Rd)	
Fuse Storage	
Liquid Propellant Storage	
Function Test Range	
Ammo Work Shops #2	
.45 Cal Range & Range Shack	
Suspect Rail Car Spur (Ovid Rd)	
Berm (Fayette Rd)	
Suspect Rail Car Spur (W Patrol Rd)	
Ammo Work Shops #1	
Small Arms Range (Airfield)	
Skeet Range (Airfield)	
Abandoned Landfill (Smith Farm Rd)	
Burning Pit (Smith Farm Rd)	
Abandoned Powder Burn Pit	
Rifle Range - Lake Housing Area	
Magazines	
Suspect Truck Barricade	
Demo Range	
EOD Area #1	
Grenade Range	
Ammo Disassembly Plant	
Burn Pads	
Detonator Destruction Furnace	
Demolition Pits	
Explosive Scrap Furnace	
Indoor Rifle Range (Bldg 744)	
Storage Sheds - X Sites	
Loading/Unloading Platforms	
Storage Pads	
Landing Zones	
Igloos	
Military Training Areas	
SWMU Locations	X
Q/D Data	
Radioactive Material Contamination	

APPENDIX F

REAL ESTATE DOCUMENTS

(NOT USED)

APPENDIX G

NEWSPAPERS / JOURNALS

(NOT USED)

APPENDIX H

INTERVIEWS

TELEPHONE OR VERBAL CONVERSATION RECORD

DATE 22 July 1998

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION
Seneca Army Depot

OUTGOING CALL

PERSON CALLING	ADDRESS	PHONE NUMBER AND EXT.
Ted Moore	CEMVS-ED-P	(314) 331-8849
PERSON CALLED	**OFFICE**	**PHONE NUMBER AND EXT.**
Randy Battaglia	Seneca Army Depot	607-869-1523

SUMMARY OF CONVERSATION:

Mr. Battaglia is an employee of the New York District, Corps of Engineers. His duty station is the Environmental Office at Seneca Army Depot.

We met with Mr. Battaglia during our site visit. He reviewed our site visit plan map and was able to add three areas that he felt could be ordnance related.

One area is a bermed area near the 3.5" rocket range. He said this area was identified by UXB in 1992. The next was a berm near the Bundle Ammunition Buildings.

The last was an area where he found drums he believes are propellant drums. He went with us to the two bermed areas to show us the location of these features.

He also indicated he found 3.5" rocket motors near the 3.5" rocket range.

TELEPHONE OR VERBAL CONVERSATION RECORD DATE June 1998

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION Seneca Army Depot		
OUTGOING CALL		
PERSON CALLING Ted Moore	ADDRESS CEMVS-ED-P	PHONE NUMBER AND EXT. (314) 331-8849
PERSON CALLED Tom Grasek Vern Conover	OFFICE Seneca Army Depot	PHONE NUMBER AND EXT. (607) 869-1309

SUMMARY OF CONVERSATION:

Mr. Grasek has worked in the Environmental Office for 9 years. Mr. Conover has worked in ammunition destruction (demo grounds) for 35 years.

We met with these gentlemen during our kickoff trip and they provided a tour of the facilities. We visited the demo grounds, ranges, ammunition workshops, function test areas, and received a good overview of the Depot.

Specific information included discussion of activities at the demo grounds and at the ammunition workshops.

Mr. Conover indicated that demolition activities in the demo grounds were confined to the burn pads and demo pits, but he knows there were kickouts. He also indicated that fuzes had been burned in the cage in one of the larger burn pads, 3.5" rocket motors had been burned out in burn pad B, and that trash had been burned in one of the larger burn pads and buried behind the other larger burn pads.

TELEPHONE OR VERBAL CONVERSATION RECORD

DATE 23 July 1998

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION Seneca Army Depot		
OUTGOING CALL		
PERSON CALLING Ted Moore	ADDRESS CEMVS-ED-P	PHONE NUMBER AND EXT. (314) 331-8849
PERSON CALLED Glen White	OFFICE Former QASAS, Seneca Army Depot	PHONE NUMBER AND EXT. (607) 582-6739

SUMMARY OF CONVERSATION:

Mr. White was an ammunition inspector from 1955-57 and then returned as QA Director from 1988-89. While he was an ammunition inspector, he rotated through all the QASAS functions.

He provided the following information:

The 3.5" rocket range was used for function tests of the rocket motors. The warhead and fuzes were dummy. He does not recall details of the target area.

20mm HEI rounds were disassembled in the Bundle Ammunition Buildings. He is certain the components were dealt with properly, but believes there is probably powder residue remaining in the buildings.

The function test range in the southeast portion of the depot was used to test fuzes and pyro devices.

He believes there is probably contaminated soil at the propellant storage area and the ammunition workshop area in the southwest portion of the Depot.

TELEPHONE OR VERBAL CONVERSATION RECORD

DATE 23 Jul 98

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION Seneca Army Depot		
OUTGOING CALL		
PERSON CALLING Hank Counts	ADDRESS CE ST Louis District	PHONE NUMBER AND EXTENSION 314-331-8762
PERSON CALLED Tim Critchfield, retired military	OFFICE	PHONE NUMBER AND EXTENSION 607-869-1438

SUMMARY OF CONVERSATION:

Mr. Critchfield was assigned to the Q area at Seneca Army Depot in the late 1980's till his deployment to the Gulf War. He stated that near N Patrol Rd and the road coming south out of the Q area by the gas station, he remembers propellant bags being burned for a short period of time until the QA personnel stated that this practice must stop. He could not remember the exact time frame nor could he remember anything else that would be of assistance.

TELEPHONE OR VERBAL CONVERSATION RECORD

DATE 14-Sep-1998

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION
Seneca Army Depot

OUTGOING CALL		
PERSON CALLING Hank Counts	ADDRESS CE St Louis District	PHONE NUMBER AND EXTENSION 314-331-8762
PERSON CALLED MSG Ed Fagen (R) 1 Jun 98 26667 Peach Lake Rd Watertown, NY 13601	OFFICE	PHONE NUMBER AND EXTENSION Hm 315-782-7692

SUMMARY OF CONVERSATION:

MSG Fagen is retiring from the 725th Ord Co, Ft Drum, NY which is responsible for the Seneca Army Depot. MSG Fagen was stationed at Seneca from 1986-91 and stated that the 143rd Ord Det (EOD) used a separate range than the Depot did. The range was located on the north end of the post and 1 mile to the west of the Q area. He also stated that the 833 Ord Co and an MP unit were located there. He stated that during the time frame of 89-90 a couple of hunters located a mine field near the old air field. They investigated the area and found a mine field that had been placed there to test the capability of finding the mines from the air. The unit found out through research that this test had been conducted by a university in the late 50's or early 60's. **These mines were inert.** They were M19 antitank mines. He also stated that in the general storage area along E 800 Rd were high Alpha readings. They would go into this area to practice the use of the AN-PDR-60 instrument. He stated that during the mid to late 40's material was stored from the Manhattan Project. This material was shipped in from a nearby university that had a small reactor. The university was not known.

TELEPHONE OR VERBAL CONVERSATION RECORD DATE 23 Jul 98

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION
Seneca Army Depot

OUTGOING CALL		
PERSON CALLING Hank Counts	ADDRESS CE ST Louis District	PHONE NUMBER AND EXTENSION 314-331-8762
PERSON CALLED John Fisher MSG (ret)	OFFICE 6998 132A Williard, NY	PHONE NUMBER AND EXTENSION 607-869-5655

SUMMARY OF CONVERSATION:

Mr. Fisher is a retired MSG Explosive Ordnance Disposal. He served with the 143d Ord Det (EOD) Seneca Army Depot from 1973-83. He stated that during his time at Seneca the 143d utilized an area on the east side of the post near the East-West Base line road and Fayette Road as a demolition and training area. He also stated that a wooden building was located in the same area where a quantity of ether had been stored after an incident on post. These items caught on fire and destroyed the building in 1978. He stated that metal projectiles that did not have explosive contents were thrown into the Duck Pond located adjacent to the demolition area. He also stated that small amounts of explosive charges were used for training and fire works were also destroyed in this location. This location had a 3-4 lb limit due to it's proximity to the public. This range is located in the North-East portion of the post. Mr. fisher stated that the range located on the west side of the post was used for different types of training. The 143d had a couple of conexes, 2 old ratt rigg boxes, a trailer, and a block building that was used for storage of training items consisting of projectiles, rockets, mortars, and all types of munitions that may be encountered on an incident. A field setup consisting of an Ammunition Supply Point for different types of training situations that an EOD unit may encounter during any situation. The range on this side of the post had a ten pound limit. Mr. Fisher stated that the range was used about 4 times a month for destruction of explosive items. Many flares were destroyed on this range over the years. Mr. Fisher placed marks on the map indicating the areas of concern.

TELEPHONE OR VERBAL CONVERSATION RECORD DATE 23 Jul 98

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION
Seneca Army Depot

OUTGOING CALL		
PERSON CALLING Hank Counts	ADDRESS CE ST Louis District	PHONE NUMBER AND EXTENSION 314-331-8762
PERSON CALLED Mr. Harry George Former Ammo Foreman 1947-1988 (ret)	OFFICE	PHONE NUMBER AND EXTENSION 607-789-2374

SUMMARY OF CONVERSATION:

Mr. George met with us at 1300 on the 23d of July 1998 at the front entrance of Seneca Army Depot, NY. Mr. George worked on Seneca Army Depot from 1947- 88. Mr. George placed several marks on the map indicating several areas that need to be investigated further.

Mr. George started out in the Property Disposal Office (PDO) and finished as the foreman of the Ammunition area. Mr. George stated that his crew burned explosives, small arms, propellants, and anything that could be destroyed from the ammunition area. He stated that many types and sizes of ammunition were destroyed in his area. He stated that when he took over the Ammunition area the burn and explosive area on the west side of the post was expanding into the 143d's EOD range. He then stated that he instructed his crew to move toward the north end of their range in their current configuration. While using the earth moving equipment several munitions were found that had been buried, these items were destroyed. He also stated that a man by the name of Baxter had a motto if it was too big to destroy, bury it. The favorite place to bury munitions and stuff, according to Mr. George, was an area called Indian Creek. This area is located near the Seneca Army Air Field. He stated that this would be a good area to check. He stated that a road going north from the road leading to the Liquid Propellant storage area was used to destroy fuzes and other items by the surveillance personnel. Mr. George was also concemed about the area around the popping plants. He stated that items sometimes had a tendency to be found in the area adjacent. Mr. George stated that Eastman-Kodak performed the function tests at the range off of the Dunlop Rd on south post. Mr. George also stated that the abandoned landfill and the old burn areas were used for burning trash only.

TELEPHONE OR VERBAL CONVERSATION RECORD DATE 14-Sep-1998

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION
Seneca Army Depot

OUTGOING CALL		
PERSON CALLING Hank Counts	ADDRESS CE St Louis District	PHONE NUMBER AND EXTENSION 314-331-8762
PERSON CALLED James Jones 9105 Rt 96 Interlocken, NY 14847	OFFICE	PHONE NUMBER AND EXTENSION Hm 607-532-4952

SUMMARY OF CONVERSATION:

Mr. Jones stated that he had started work at Seneca Depot as an explosive operator in 1984. He became the explosive supervisor in 1986 and held that position until he went to work for the Fire Department in 1995. He stated that he worked with the QASAS that was assigned to Seneca and with the EOD Unit that was located on Seneca until June 1993. He also stated that he could mark the spots on the map where he and his team destroyed the code H ammunition. He would be glad to assist in providing information for our report. He is going to contact me on the 29th of May to further discuss Seneca Army Depot.

TELEPHONE OR VERBAL CONVERSATION RECORD DATE 18 August 1998

For use of this form, see AR340-15; the proponent agency is the Adjutant General's Office.

SUBJECT OF CONVERSATION Seneca Army Depot		
OUTGOING CALL		
PERSON CALLING Hank Counts	ADDRESS CE St. Louis District	PHONE NUMBER AND EXT. (314) 331-8762
PERSON CALLED Andrew Schwartz	OFFICE Parsons Engineering Services Atlanta, GA	PHONE NUMBER AND EXT. (678) 969-2434

SUMMARY OF CONVERSATION:

Mr. Schwartz works for Parsons Engineering in Atlanta, GA and participated in surveying Seneca Army Depot. In an area known as SEAD-4 (Ammunition Workshop #1) there was a rumor of projectiles buried in the field. Mr. Schwartz surveyed this area and found no anomalies. He also stated that an area known as SEAD-4a (Function Test Area) where 40mm grenades were tested and during the survey of the area they found parts and pieces of live items. Mr. Schwartz was involved with the surveying, interpretation, data gathering, and writing of the initial report.

Mr. Schwartz referred to the following reports prepared by Parsons: 7 high priority ESI, 3 moderately low, 8 moderately low, 7 low priority. These reports were compiled from geophysical data.

APPENDIX I

PRESENT SITE PHOTOGRAPHS

Page/Photo #	Description
Page I - 4	
Photo # 1	General View of Burn Pad Area
Page I - 5	
Photo # 2	General View of Demo Grounds
Photo # 3	Typical Ordnance Found Within Blast Area of Demo Grounds
Page I - 6	**EOD AREA # 1**
Photo # 4	Berm at EOD Area # 1
Photo # 5	Ordnance Inside Berm at EOD Area # 1
Page I - 7	
Photo # 6	Ordnance Inside Berm at EOD Area # 1
Photo # 7	Ordnance Inside Berm at EOD Area # 1
Page I - 8	
Photo # 8	General View of EOD Area # 1 (Arrow # 1 Points to Shot Holes) (Arrow # 2 Points to Berm)
Photo # 9	Shot Holes Across Road From Berm at EOD Area # 1
Page I - 9	
Photo # 10	Spent Flares Found on Access Road to EOD Area # 1
Photo # 11	Spent Flares Found on Access Road to EOD Area # 1
Page I - 10	**Demo Range**
Photo # 12	General View of Demo Range
Page I - 11	
Photo # 13	75mm Round Found in Demo Range
Photo # 14	75mm Round Found in Demo Range

PHOTO # 1
GENERAL VIEW OF BURN PAD AREA

PHOTO # 2
GENERAL VIEW OF DEMO GROUNDS

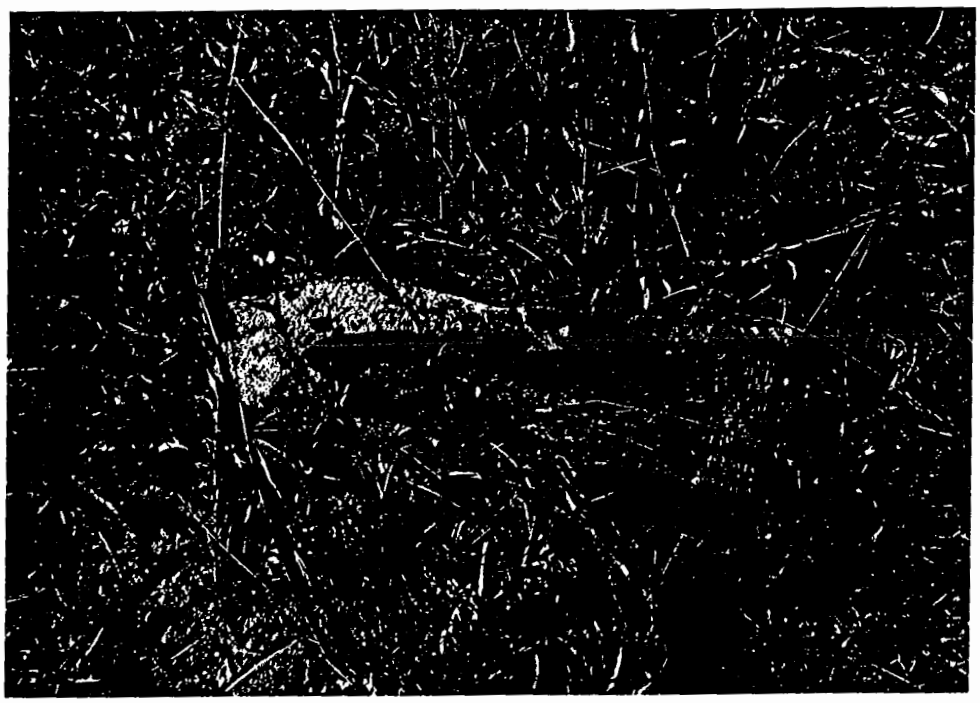


PHOTO # 3
TYPICAL ORDNANCE FOUND WITHIN BLAST AREA OF DEMO GROUNDS

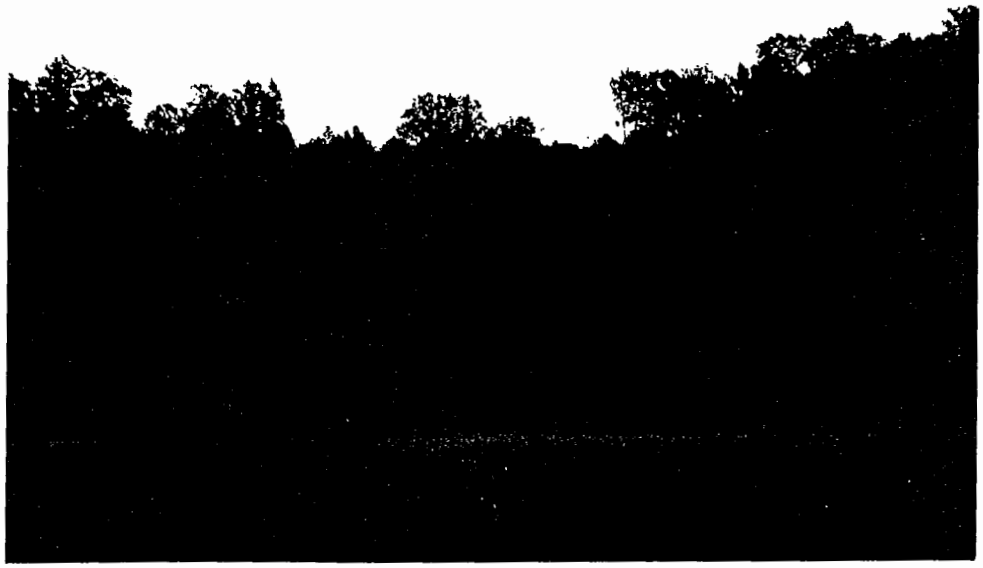


PHOTO # 4
BERM AT EOD AREA # 1

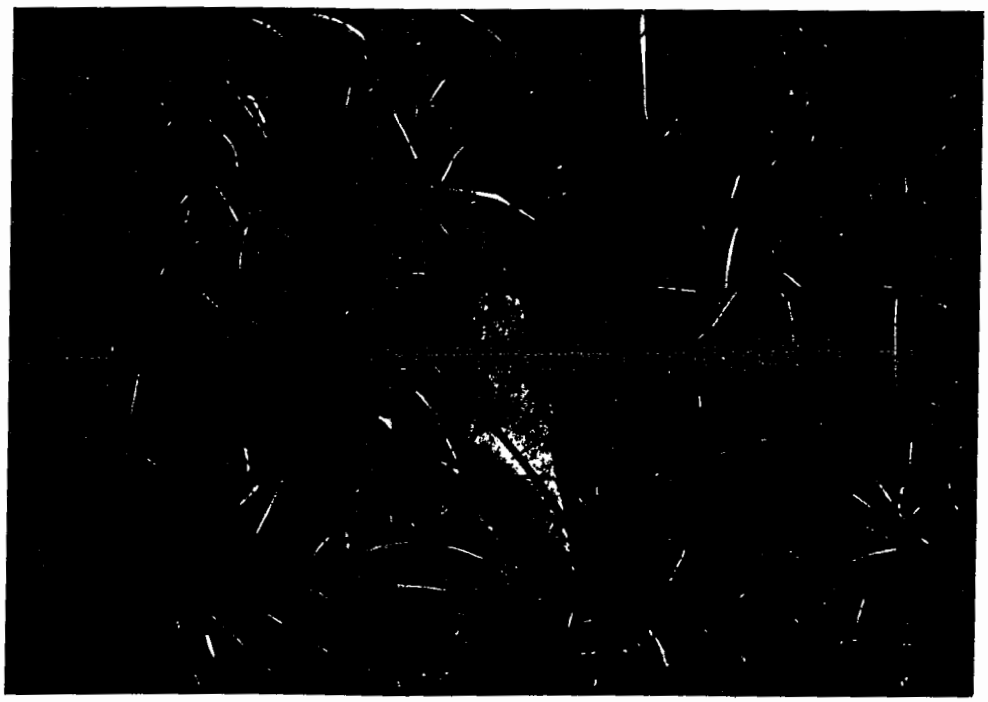


PHOTO # 5
ORDNANCE INSIDE BERM AT EOD AREA # 1

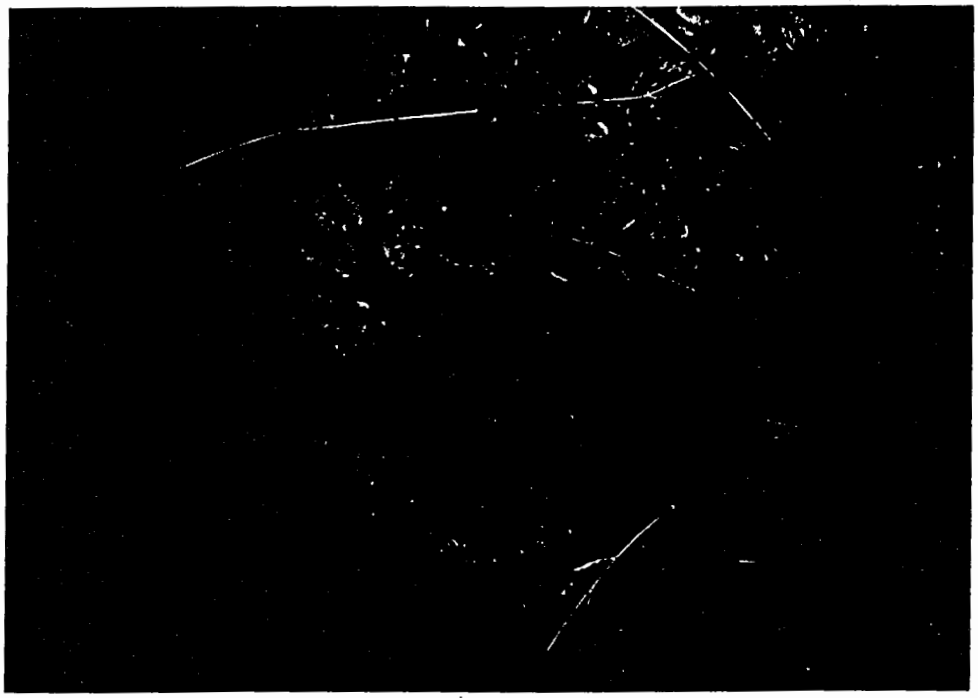


PHOTO # 6
ORDNANCE INSIDE BERM AT EOD AREA # 1

ORDNANCE INSIDE BERM AT EOD AREA # 1
PHOTO # 7

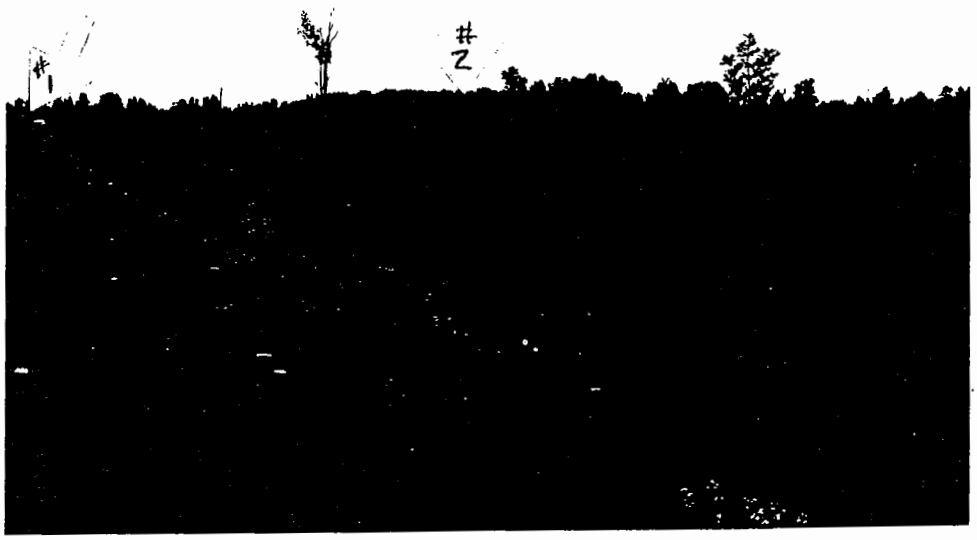


PHOTO # 8
GENERAL VIEW OF EOD AREA # 1
(ARROW # 1 POINTS TO SHOT HOLES)
(ARROW # 2 POINTS TO BERM)

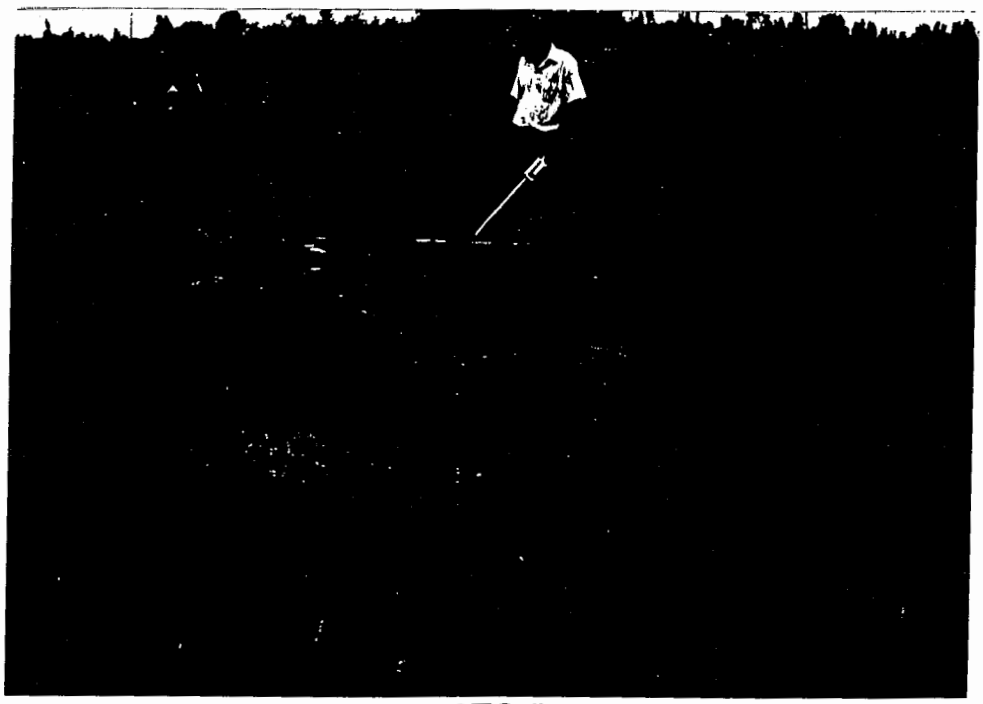


PHOTO # 9
SHOT HOLES ACROSS ROAD FROM BERM AT EOD AREA # 1

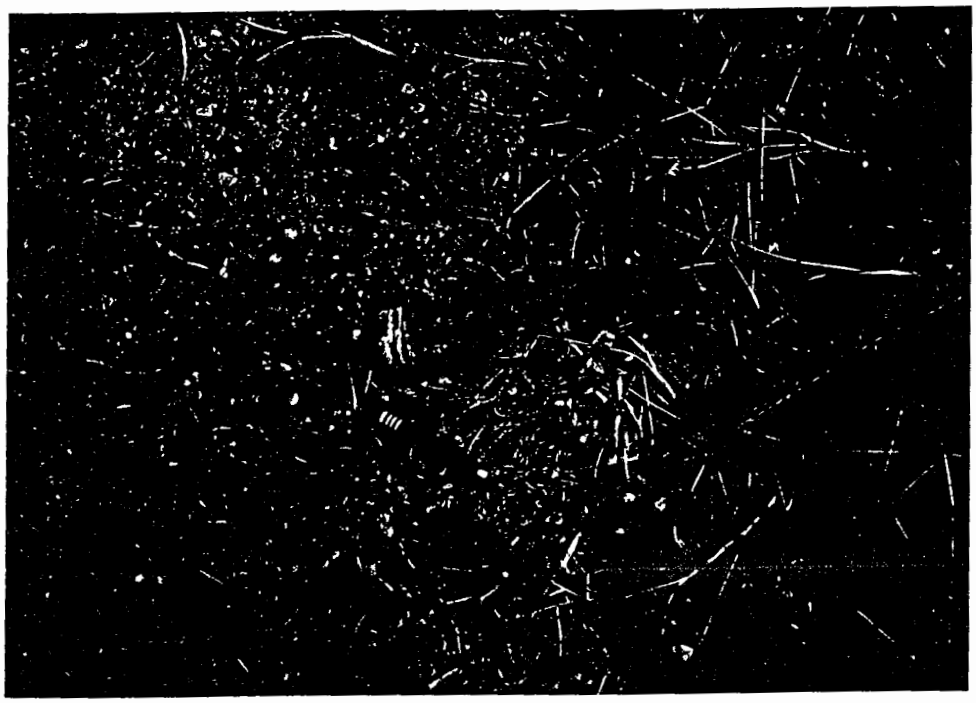


PHOTO # 10
SPENT FLARES FOUND ON ACCESS ROAD TO EOD AREA # 1

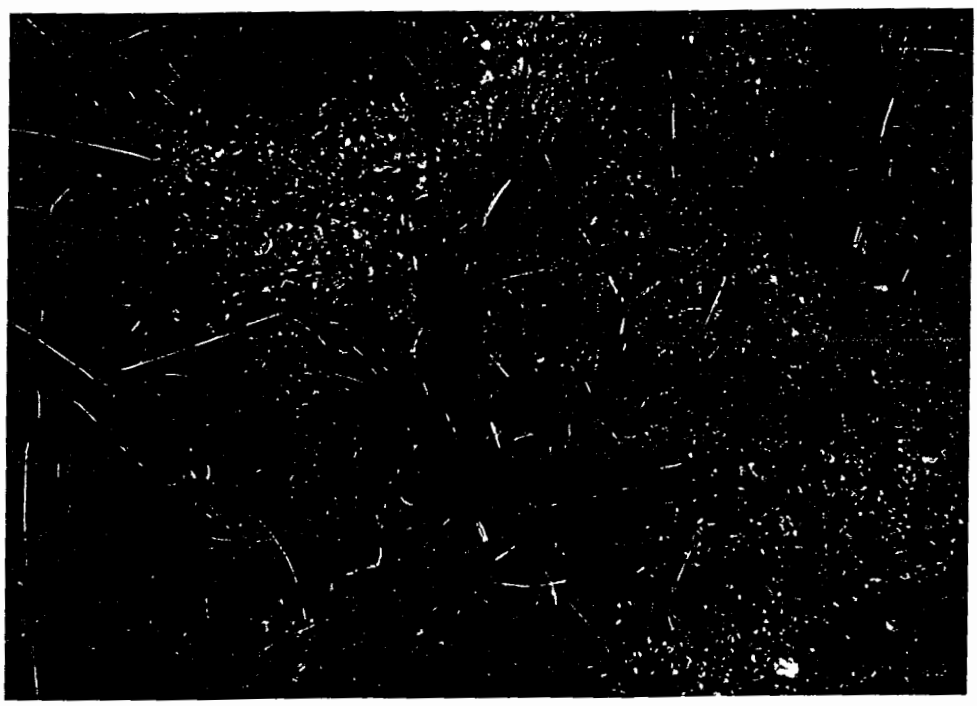


PHOTO # 11
SPENT FLARES FOUND ON ACCESS ROAD TO EOD AREA # 1

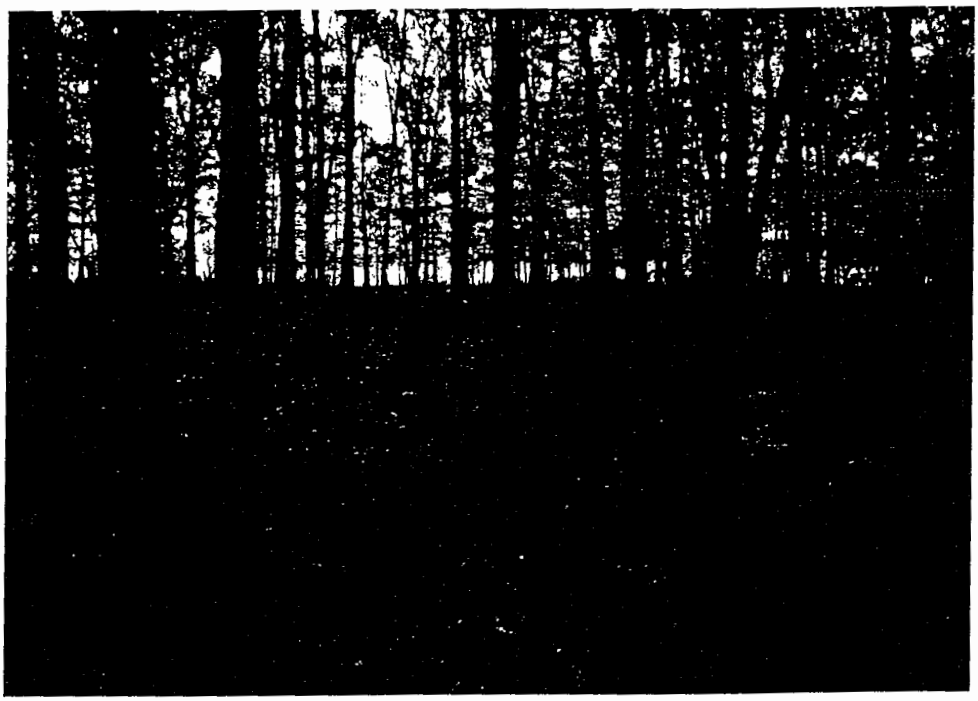


PHOTO # 12
GENERAL VIEW OF DEMO RANGE

PHOTO # 13
75MM ROUND FOUND IN DEMO RANGE

PHOTO # 14
75MM ROUND FOUND IN DEMO RANGE

PHOTO # 15
GENERAL VIEW OF FUNCTION TEST AREA

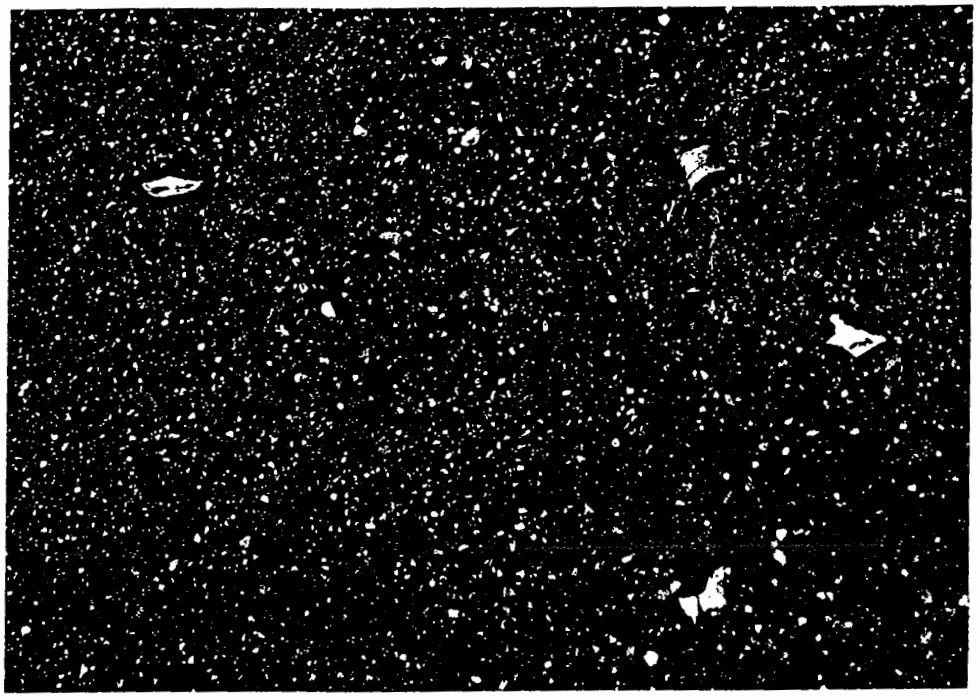


PHOTO # 16
40MM GRENADE DEBRIS ON ROAD NEAR FUNCTION TEST AREA

PHOTO # 17
40MM GRENADE DEBRIS ON ROAD NEAR FUNCTION TEST AREA

PHOTO # 18
PIT NEAR FUNCTION TEST AREA

PHOTO # 19
OTHER PIT NEAR FUNCTION TEST AREA

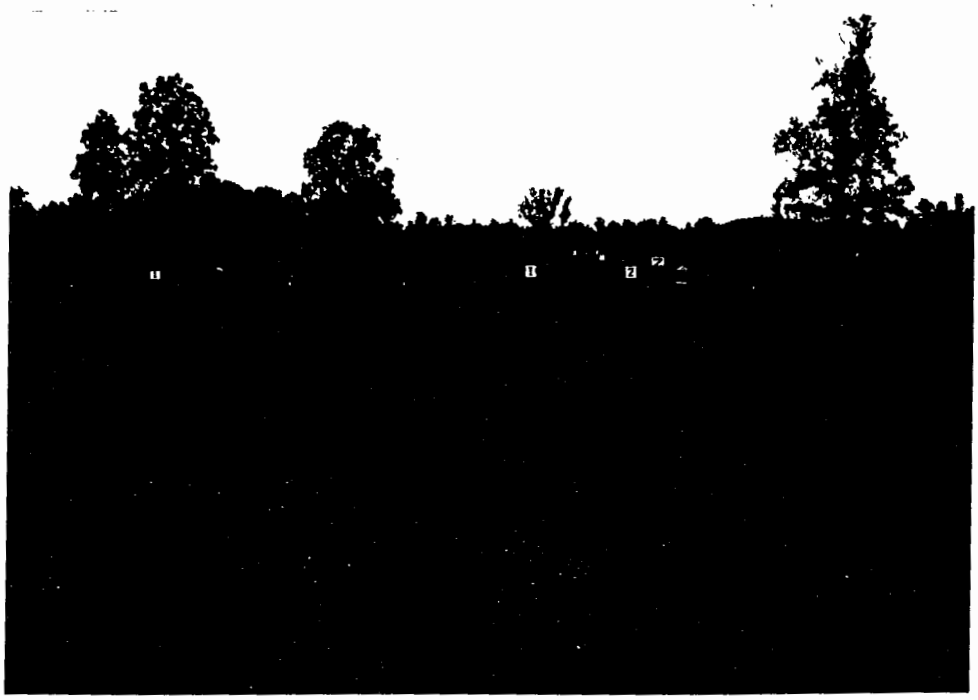


PHOTO # 20
GENERAL VIEW OF GRENADE RANGE

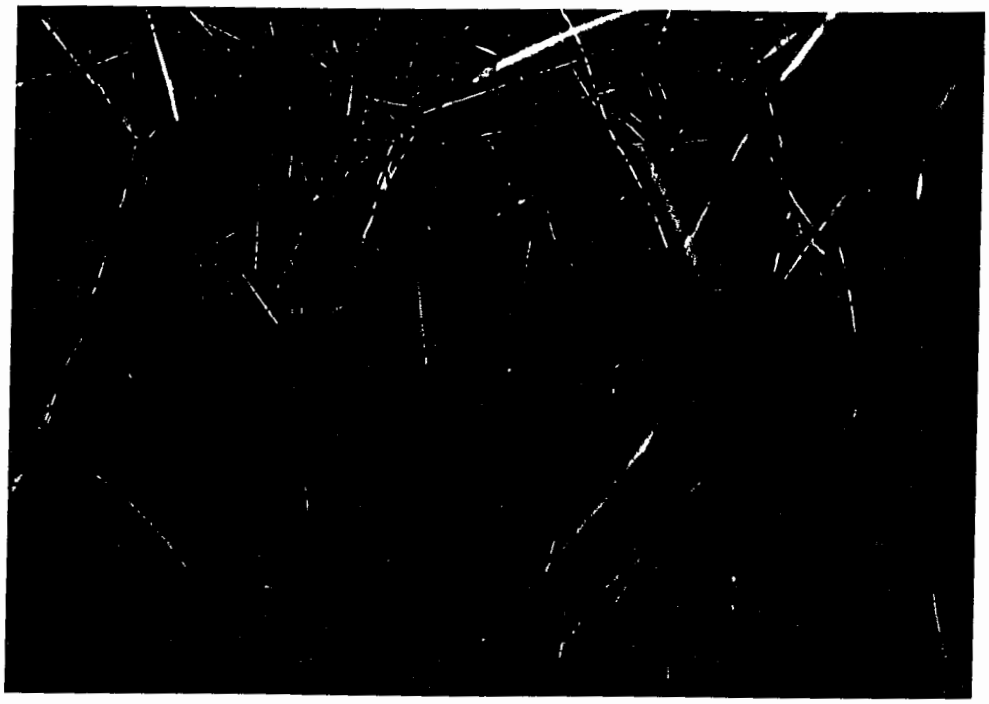


PHOTO # 21
TYPICAL PRACTICE GRENADES FOUND ON GRENADE RANGE

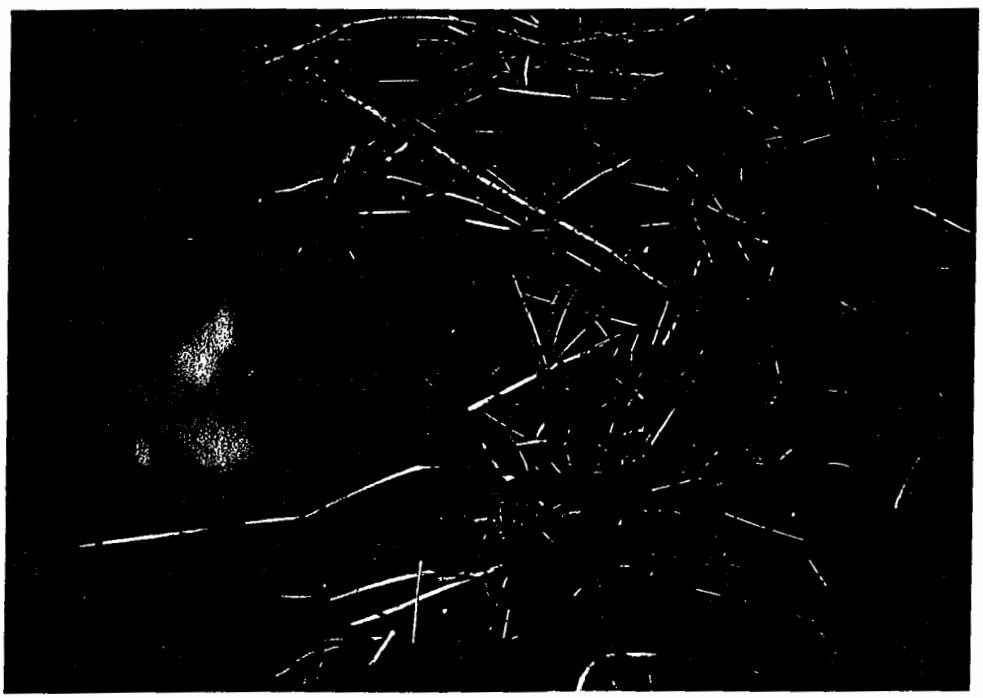


PHOTO # 22
TYPICAL PRACTICE GRENADES FOUND ON GRENADE RANGE

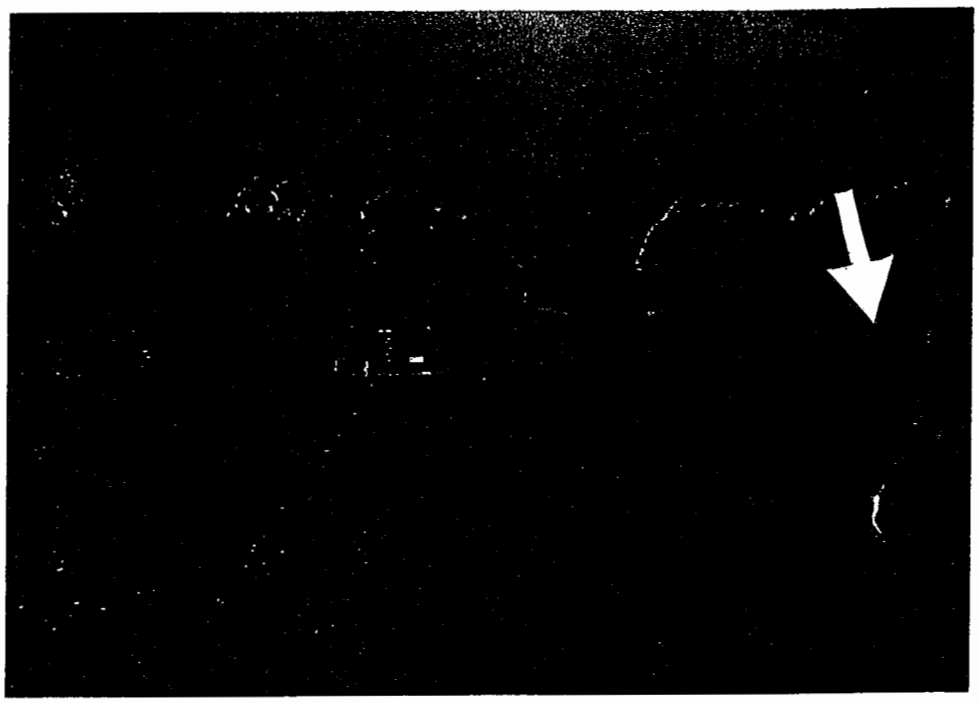


PHOTO # 23
TYPICAL VIEW OF IGLOO AREA
(ARROW POINTS TO MAGNETOMETER HITS)

PHOTO # 24
3.5" ROCKET RANGE VIEW TOWARD THE BERM
(ARROW POINTS TO BERM)

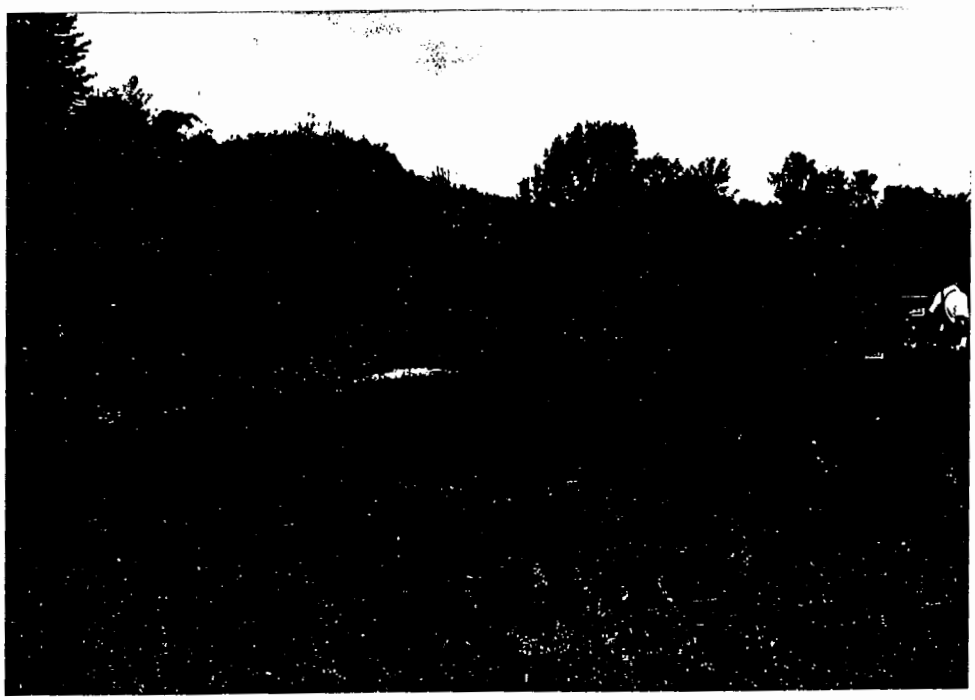


PHOTO # 25
3.5" ROCKET RANGE BERM

PHOTO # 26
GENERAL VIEW OF EOD AREA # 3

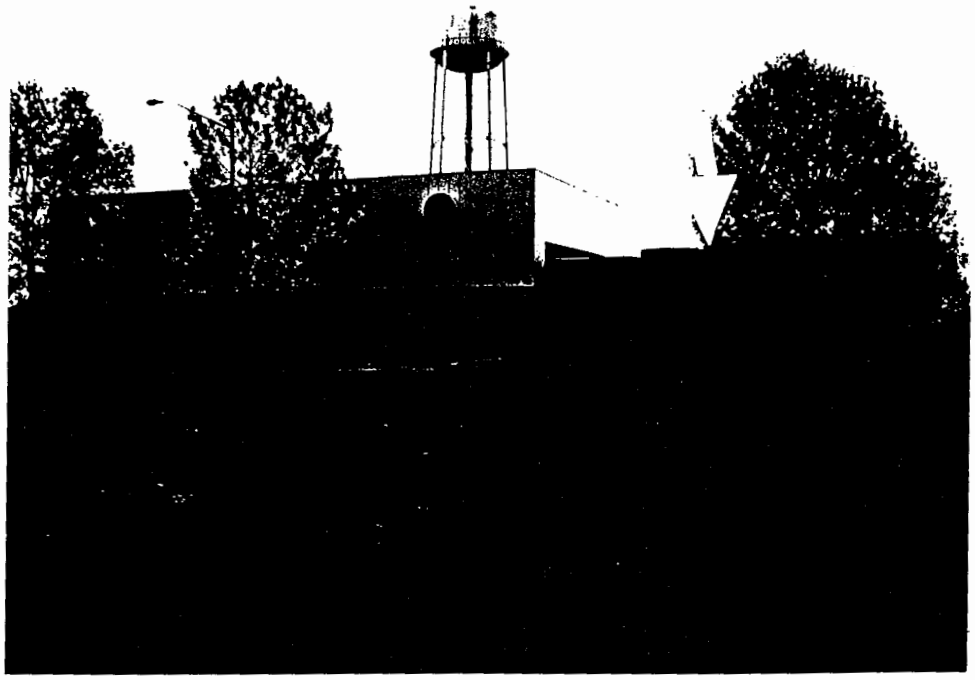


PHOTO # 27
INDOOR RIFLE RANGE INSIDE SPECIAL WEAPONS AREA (BLDG. # 744) (ARROW POINTS TO RIFLE RANGE)

PHOTO # 28
SMALL ARMS RANGE NEAR AIRFIELD

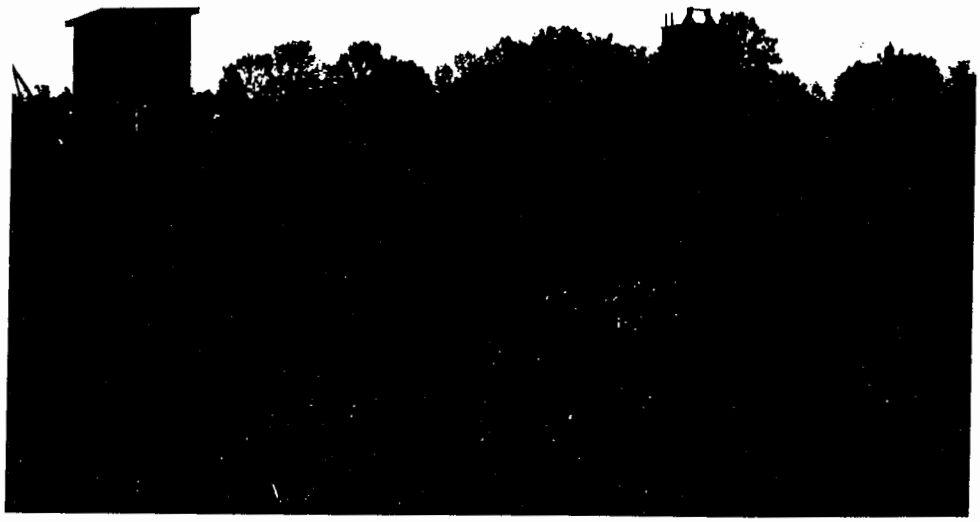


PHOTO # 29
SKEET RANGE

PHOTO # 30
BERM AT .45 CALIBER RANGE

PHOTO # 31
TOWER AND SHACK AT SMALL ARMS RANGE NEAR THE LAKE HOUSING AREA

PHOTO # 32
TYPICAL STORAGE PAD

PHOTO # 33
TYPICAL LANDING ZONE

PHOTO # 34
TYPICAL STORAGE SHED

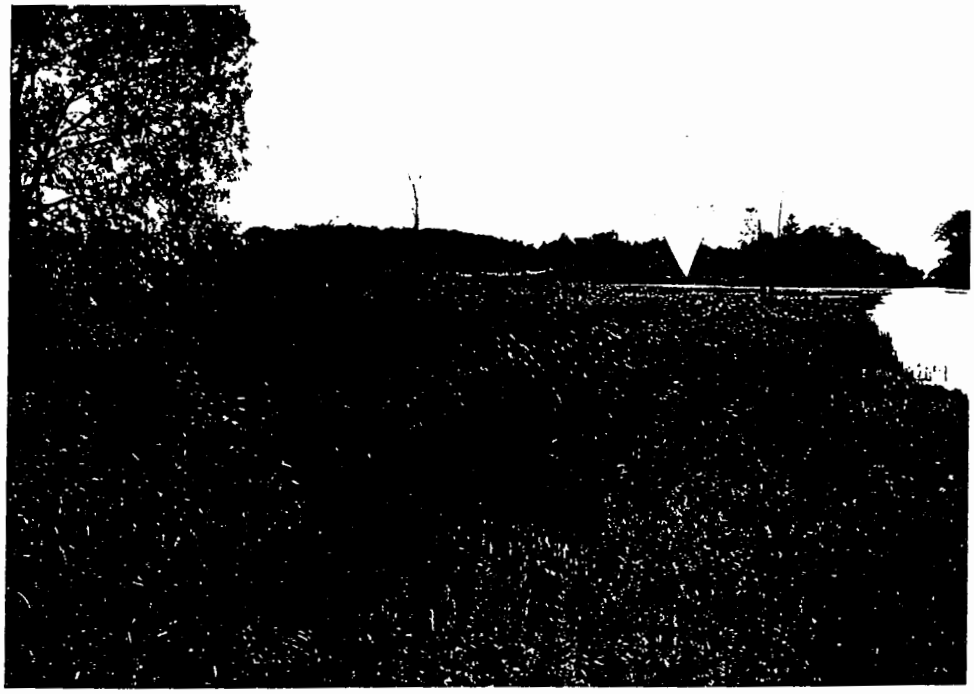


PHOTO # 35
EOD AREA # 2
(ARROW POINTS TO GENERAL LOCATION)

PHOTO # 36
SPENT FUZES AT PLATFORM # 2130

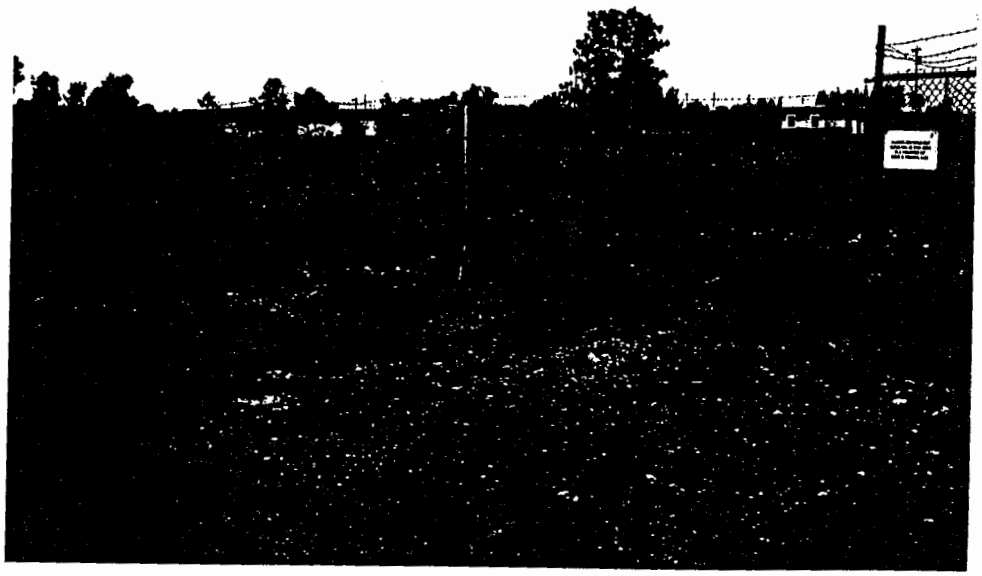


PHOTO # 37
PROPELLANT CHARGE BURN AREA

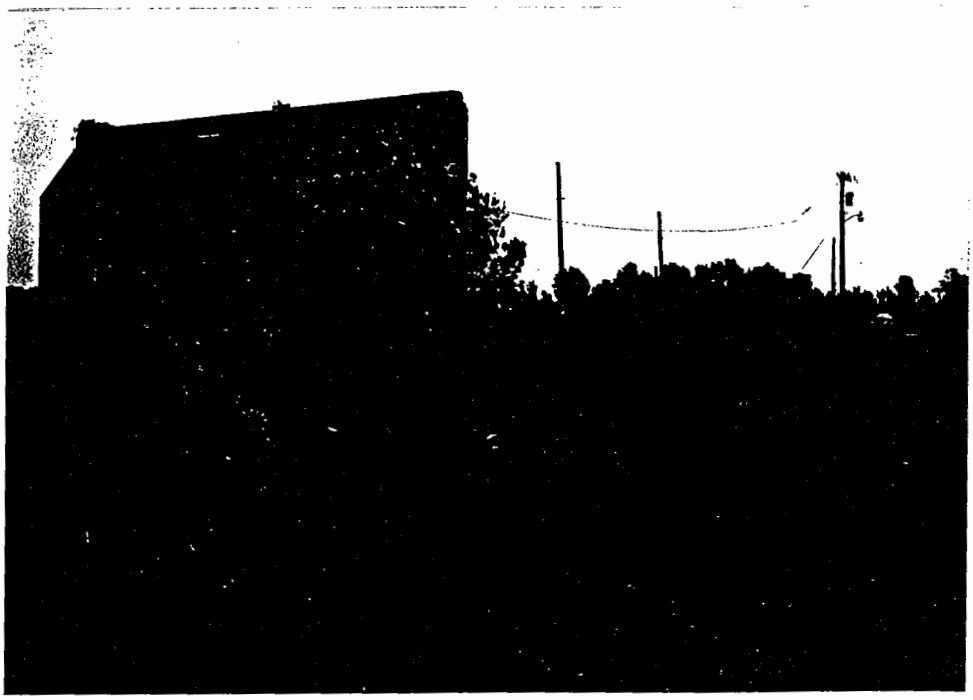


PHOTO # 38
AMMUNITION DISASSEMBLY PLANT

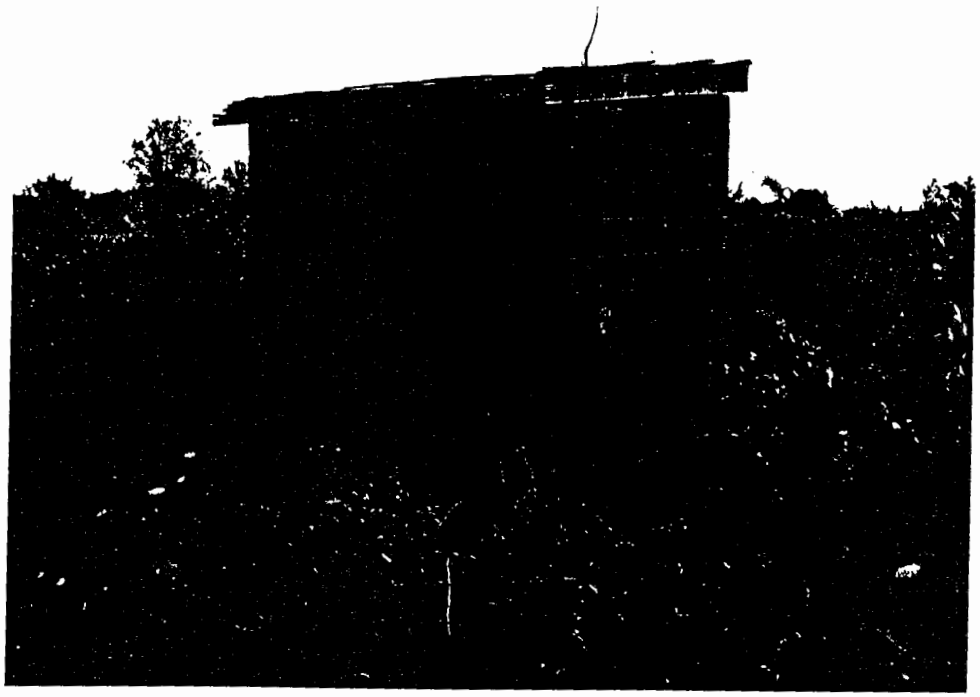


PHOTO # 39
DETONATOR DESTRUCTION FURNACE

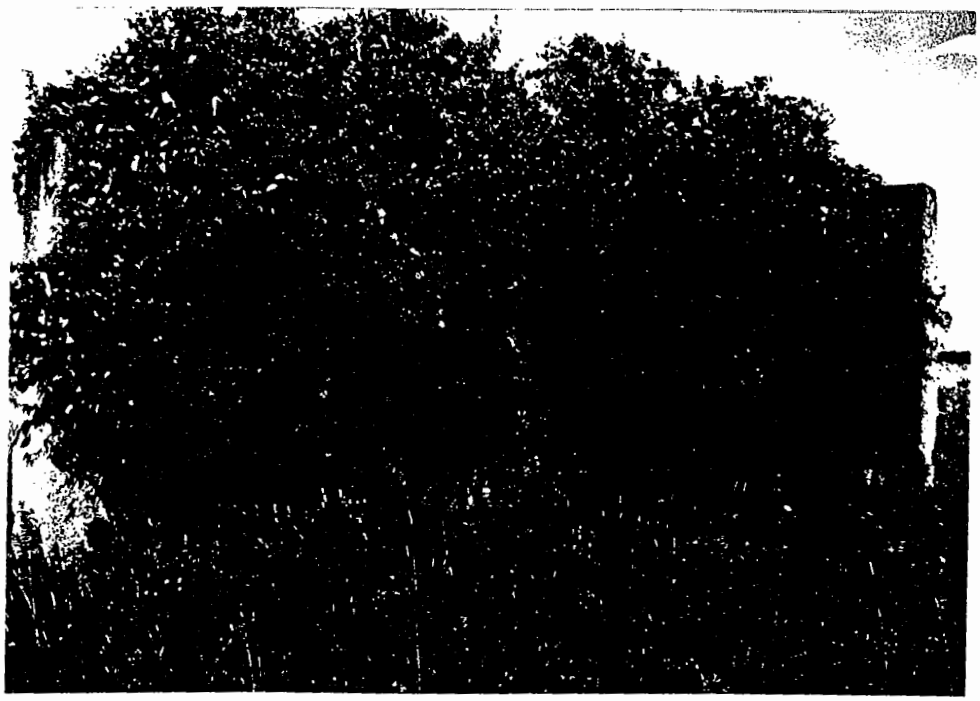


PHOTO # 40
EXPLOSIVE SCRAP FURNACE

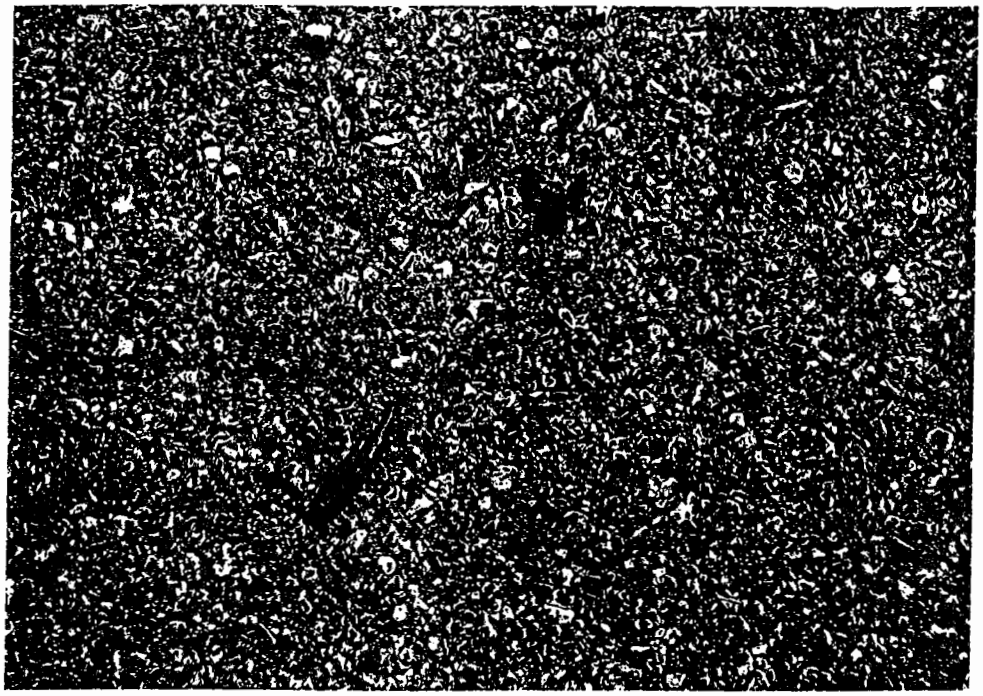


PHOTO # 41
TYPICAL SPENT SMALL ARMS AMMUNITION FOUND NEAR BUILDINGS AND AT THE SKEET RANGE

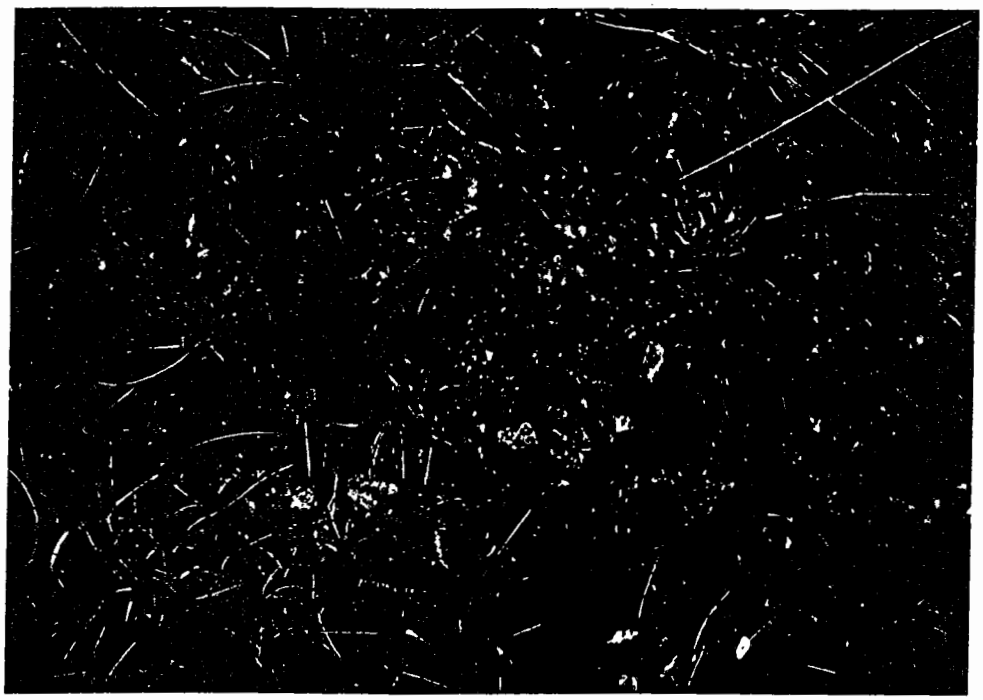


PHOTO # 42
TYPICAL SPENT SMALL ARMS AMMUNITION FOUND NEAR BUILDINGS AND AT THE SKEET RANGE

APPENDIX J

HISTORICAL PHOTOGRAPHS

(NOT USED)

APPENDIX K

HISTORICAL MAPS / DRAWINGS

(NOT USED)

HISTORICAL DRAWINGS ARE LOCATED IN A SEPARATE VOLUME OF THIS REPORT

APPENDIX L

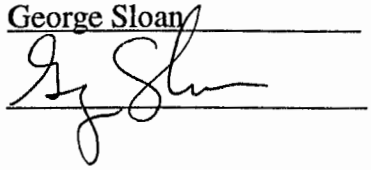
SITE SPECIFIC SAFETY AND HEALTH PLAN / SITE INSPECTION REPORT

SITE SAFETY AND HEALTH PLAN (SSHP)
for
Seneca Army Depot Activity
Seneca County
35 miles North of Ithaca, New York

The purpose of this site visit is to reconnoiter, document, and photograph areas on Seneca Army Depot Activity, 35 miles north of Ithaca, New York suspected to be contaminated with unexploded ordnance and/or toxic chemical munitions.

SSHP	PREPARED BY:	Hank Counts
	OFFICE	USACE, CELMS-ED-P
	ADDRESS	1222 Spruce St. St. Louis, Mo
	PHONE	(314) 331-8762
	DATE PREPARED	7-09-98

SSHP REVIEWED/APPROVED BY: George Sloan



NOTE: This SSHP is to be used only for non-intrusive site visits and must be approved by safety prior to the start of the field visit. All team members must read, and comply with the SSHP, and attend the safety briefings. The Site Safety and Health Officer (SSHO) shall ensure the Safety Briefing Checklist and the SSHP acceptance form (Appendix C) is filled out prior to the start of the site visit.

A. SITE DESCRIPTION AND PREVIOUS INVESTIGATIONS

1. Site Description

a. Size: Approximately 11,000 acres

b. Present Usage
(check all that apply)

[X]	Military	[ ]	Recreational	[ ]	Other (specify)
[ ]	Residential	[ ]	Commercial	[X]	grazing
[X]	Natural Area	[X]	Industrial	[ ]	_____
[X]	Agricultural	[ ]	Landfill	[ ]	_____
[ ]	Secured	[ ]	Active	[ ]	Unknown
[X]	Unsecured	[ ]	Inactive		

2. Past Uses: The land was used for receiving, storing and shipping conventional ammunition (including ammo demilitarization) and provides general supply, including hazardous materials 1941 thru the present.

3. Surrounding Population (check all that apply)

[X]	Rural	[X]	Residential	[ ]	Other (specify)
[ ]	Urban	[ ]	Industrial		_____
[ ]	Commercial				_____

4. Previous Sampling/Investigation Results

a. Ordnance/Explosives (OE) Encountered: Information obtained through archival research indicates the following ordnance and explosives may be present on this site.

- All types of ordnance from conventional munitions to nuclear munitions.

b. Samples (Air, Water, Soil, Vegetation)

[X] No samples are available.
[ ] Samples available

Chemical	Concentration	Media	Location

B. DESCRIPTION OF ON-SITE ACTIVITIES

(check all that apply)

[X]	Walk-through	[X]	Drive-through	[ ]	Other (specify)
[X]	On-Road	[X]	Off road	[ ]	_____
[X]	On Path	[X]	Off path	[ ]	_____

C. SITE PERSONNEL AND RESPONSIBILITIES

1. Responsibilities

a. Project Manager: The Corps of Engineers Project Manager (PM) is overall responsible for the site visit. He will assign a Team Leader, (most situation will be the PM). The PM will ensure that the SSHP is completed. Coordinates and executes the site visit.

b. Site Safety and Health Officer: Individual designated to conduct safety, enforce the SSHP, conduct safety briefings, and ensure that the team leader can safely fulfill his objectives. The SSHO will maintain the safety gear, and monitor on-site operations. The SSHO is responsible for identifying, marking, and reporting any unexploded ordnance and explosives.

2. Team Members

Name	Position	Address	Phone
Ted Moore	PM/Team Leader	USACE, St. Louis, Mo	(314) 331-8849
Hank Counts	SSHO, UXO Spec	USACE, St. Louis, Mo	(314) 331-8762
Jim Luebbert	Historian	USACE, St. Louis, Mo	(314) 331-8840

D. OVERALL HAZARD EVALUATION:

[ ] High [ ] Moderate [X] Low [ ] Unknown

This assessment was developed using the Site Investigation Hazard Analysis and Risk Assessment Code Matrix.

E. GENERAL PRECAUTIONS: Prior to the on-site visit, all team members are required to read this SSHP and sign the form acknowledging that they have read and will comply with it. In addition, the SSHO shall hold a brief tailgate meeting in which site specific topics regarding the days activities will be discussed. If unanticipated hazardous conditions arise, team members are to stop work, leave the immediate area and notify the SSHO. The buddy system will be enforced at all times.

F. STANDARD OPERATION SAFETY PROCEDURES, ENGINEERING CONTROLS AND WORK PRACTICES

1. Site Rules/Prohibitions: At any sign of unanticipated hazardous conditions, stop tasks, leave the immediate area and notify the SSHO. Smoking, eating and drinking allowed in designated areas only.

2. **Material Handling Procedures:** Do not handle.

3. **Drum Handling Procedures:** Do not handle.

4. **Confined Space Entry:** A area identified as a Permit Required Confined space will not be entered. All confined spaces shall be considered permit required confined spaces until the pre-entry procedures demonstrate otherwise. Confined spaces may be entered without a written permit or attendant provided the space is determined not to be a permit required confined space as specified in 29 CFR 1910.146.

5. **Electrical Protection:** Overhead power lines, downed electrical wires and buried cables pose a danger of shock and electrocution. In addition, buildings may contain exposed wiring that may hold a potential load. Workers should avoid contact with any and all exposed wire and cables

6. **Spill Containment:** N/A

7. **Excavation Safety:** Do not enter trenches/excavations.

8. **Illumination:** Site visits will be conducted during daylight hours only.

9. **Sanitation:** Use existing sanitary facilities.

10. **Buddy System:** Individuals will maintain constant contact with other personnel at all times. No one will work alone at any time during the site visit.

11. **Engineering Controls:** N/A

12. **Insects:** Wearing light colored clothing and tucking in the pant legs can reduce contact. In severely infested area it may be necessary to tape all openings. Apply repellents to both clothing and bare skin. Diethyltoluamide (DEET) is an active ingredient in many repellents, which are effective against ticks and other insects. Repellents containing DEET can be applied on exposed areas of skin and clothing. However, repellents containing permethrin should be used on only clothing. For more information on insect bites, refer to Appendix B.

13. **Poisonous Vegetation:** Recognition and avoidance is the best protection. Cover all exposed skin. If it is known or suspected that an individual has been exposed, wash the effected area with soapy water.

14. **Inclement Weather:** When there are warnings or indications of impending severe weather (heavy rains, strong winds, etc.), weather conditions shall be monitored and appropriate precautions taken to protect personnel and property from the effects of the severe weather.

15. Hot Weather: In hot environments, cool drinking water shall be made available and workers shall be encouraged to frequently drink small amounts, e.g., one cup every 15 - 20 minutes: the water shall be kept reasonably cool. In those situations where heat stress may impact worker safety and health, work regimens shall be established. Environmental monitoring of the Wet Bulb Globe Temperature Index shall be conducted and work loads and work regimens categorized as specified in the American Conference of Governmental Industrial Hygienist (ACGIH) publication "Threshold Limit Values and Biological Exposure Indices". For more information on Heat Stress refer to Appendix A of this SSHP.

16. Cold Weather: Cold injury (frost bite and hypothermia) and impaired ability to work are dangers at low temperatures and when the wind-chill factor is low. To guard against them: wear appropriate clothing; have warm shelter readily available; carefully schedule work and rest periods, and monitor workers' physical conditions.

17. Off-Road Driving: Ensure all emergency equipment is available with the vehicle i.e. tire changing equipment. Drivers shall familiarize themselves with the procedures for engaging four-wheel drive systems before the need for added traction arises. Vehicles will not be driven into an environment that is unknown, such as deep water, or an unstable surface. Vehicles will not be driven into a suspected ordnance impact area.

18. Ordnance:

a. General Information

(1) The cardinal principle to be observed involving explosives, ammunition, severe fire hazards or toxic materials is to limit the exposure to a minimum number of personnel, for the minimum amount of time, to a minimum amount of hazardous material consistent with a safe and efficient operation.

(2) The age or condition of an ordnance item does not decrease the effectiveness. Ordnance that has been exposed to the elements for extended periods of time become more sensitive to shock, movement, and friction, because the stability agent in the explosives may be degraded.

(3) When chemical agents may be present, further precautions are necessary. If the munitions item has green markings leave the area immediately, since it may contain a chemical filler.

(4) Consider ordnance that has been exposed to fire as extremely hazardous. Chemical and physical changes may have occurred to the contents which render it more sensitive than it was in its original state.

b. On-Site Instructions

(1) DO NOT TOUCH or MOVE any ordnance items regardless of the markings or apparent condition.

(2) DO NOT conduct a site visit during an electrical storm or an approaching electrical storm. If a storm approaches during the site visit leave the site immediately and seek shelter.

(3) DO NOT use a radio or cellular phone in the vicinity of a suspect ordnance item.

(4) DO NOT walk across an area where the ground cannot be seen.

(5) DO NOT drive a vehicle into a suspected OE area; use clearly marked lanes.

(6) DO NOT carry matches, cigarettes, lighters or other flame producing devices into a OE site.

(7) DO NOT rely on color code for positive identification of ordnance items or their contents.

(8) Approach ordnance items from the side; avoid approaching from the front or rear.

(9) Always assume ordnance items contain a live charge until it can be determined otherwise.

(10) Dead vegetation and animals may indicate potential chemical contamination. If a suspect area is encountered, personnel should leave the immediate area and evaluate the situation before continuing the site visit.

c. Specific Action Upon Locating Ordnance

(1) DO NOT touch, move or jar any ordnance item, regardless of its apparent condition.

(2) DO NOT be misled by markings on the ordnance item stating "practice", "dummy", or "inert". Practice munitions may contain an explosive charge used for spotting the point of impact. The item may also be mismarked.

(3) DO NOT roll the item over or scrape the item to read the markings.

(4) The location of any ordnance items found during site investigations should be clearly marked so it can be easily located and avoided.

(5) Reporting will be conducted in accordance with CELMS-PM-M, Standard Operating procedure for Reporting Ordnance and Unexploded Ordnance (UXO), dated 19 January 1995.

19. Other: (specify)

_____

_____

G. SITE CONTROL AND COMMUNICATIONS

1. Site Map: Refer to Appendix A

2. Site Work Zones: N/A

3. Buddy System: Individuals will maintain constant contact with other personnel at all times. No one will work alone at any time during the site visit.

4. Communications

a. On-Site: Verbal communications will be used among team members.

b. Off-Site: Communications shall be established on every site. Communications may be established by using an cellular phone or by public or private phone which may be readily accessible. (specify below)

[X] Cellular phone 314-606-4955
[ ] Public/private phone (location_____
[ ] Other _____

c. Emergency Signals: In the case of small groups, a verbal signal for emergencies will suffice. An emergency signal for large groups (i.e. air horn, whistle) should be incorporated at the discretion of the SSHO.

[X] Verbal
[ ] Nonverbal (specify)_____

H. EMERGENCY RESPONSE: Team members are to be alert to the dangers associated with the site at all times. If an unanticipated hazardous condition arises, stop work, evacuate the immediate area and notify the SSHO. A First Aid Kit and emergency eye wash (if applicable) will be located in the SSHO's field vehicle. If qualified persons (i.e. fire department, medical facility or physician) are not accessible within five minutes of the site at least two team members shall be qualified to administer first aid and CPR.

1. Emergency/Important Telephone Numbers

Security Office @ Seneca: ..... (607) 869-1228 **EMER 911**

Hospital: ..... (315) 539-9204

Poison Control Center, NJ ..... (800) 962-1253

63d Ord BN (EOD) ..... (609) 562-5940
725th Ord Co (EOD) ..... (315) 772-5408

Huntsville Safety Office: ..... (205) 895-1582/1579
Huntsville's 24 hour number: ..... (205) 895-1598/82/96 (duty hrs)
On-site cellular phone ..... (314) 606-4955
St Louis Corps of Engineers ..... (314) 331-8036

2. Hospital/Medical Facility Information

Name: Taylor Brown Health Center
Address: 369 East Main Street
Waterloo, NY 13165
Phone: (315) 539-9204

Distance to hospital 15 miles

Route to Hospital refer to the site map

I. MONITORING EQUIPMENT AND PROCEDURES

1. Exposure Monitoring: For non-intrusive on-site activities such as site visits, air monitoring is typically not required. However, if the site situation dictates the need for monitoring, complete the following information on a separate page and attach the page to the SSHP.

a. Monitoring Equipment To Be Utilized: N/A

b. Equipment Calibration Results: N/A

c. Action Levels: N/A

2. Heat/ Cold Stress Monitoring

a. Heat Stress monitoring criteria published in Chapter 8 of the NIOSH/OSHA/USCG/EPA "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities"shall be followed.

b. Cold Stress monitoring shall be conducted in accordance with the most current published American Conference of Governmental Industrial Hygienists (ACGIH) cold stress standard..

J. PERSONAL PROTECTIVE EQUIPMENT: Typically, for non-intrusive site visits, Level D is required. If a higher level of protection is to be used initially or as contingency, a brief discussion will be attached. At a minimum personnel shall wear clothing suitable for the weather and work condition. The minimum for field work shall be short sleeve shirt, long trousers, and leather or other protective work shoes or boots. If a higher level of protection is to be used initially or as contingency, a brief discussion will be attached.

1. Footwear: Footwear providing protection against puncture shall meet the applicable requirements as stated in EM 385-1-1, paragraph 05.A.07. All activities which personnel are potentially exposed to foot hazards will be identified and documented in a hazard analysis.

2. Hand Protection: Persons involved in activities which subject the hands to injury (e.g., cuts, abrasions, punctures, burns) shall use leather gloves.

3. Head Protection: Hardhats shall be worn when personnel are subject to potential head injury. The identification and analysis of head hazards will be documented in a hazard analysis.

4. Eye Protection: Personnel will wear eye protection when activities present potential injuries to the eyes. All eye protection equipment shall meet the requirements as stated in EM 385-1-1, paragraph 05.B.

K. DECONTAMINATION PROCEDURES: Decontamination procedures are not anticipated for this site investigation. Team members are cautioned not to walk, kneel or sit on any surface with potential leaks, spills or contamination.

L. TRAINING: All site personnel shall have completed the training required by EM 385-1-1 and 29 CFR 1910.120 (e). The U.S. Army Corps of Engineer (USACE) Project Manager shall ensure, and the SSHO shall verify, that all on-site personnel have completed appropriate training. Additionally, the SSHO shall inform personnel before entering, of any potential site-specific hazards and procedures.

M. MEDICAL SURVEILLANCE PROGRAM: The USACE Project Manager shall ensure, and the SSHO shall verify, that all on-site personnel are on the Medical Surveillance Program meeting the requirements of 29 CFR 1910.120, and ANZI Z-88.2, as appropriate, depending on the PPE and site specific tasks.

Provide the following information on Training and Medical

NAME	HAZWOPER DATE	PROVIDER	MEDICAL DATE
Ted Moore	10-1-97	Corps of Engineers	4-98
Hank Counts	12-30-97	Corps of Engineers	9-97
Jim Luebbert	10-1-97	Corps of Engineers	6-98

N. LOGS, REPORTS AND RECORD KEEPING: Site logs are maintained by the Project Manager and SSHO. This is to include historical data, personnel authorized to visit the site, all records, standard operating procedures, air monitoring logs and the SSHP.

O. GENERAL: The number of personnel visiting the site shall be a limited to a minimum of two, maximum of eight. The more personnel on-site, the greater potential for an accident. The SSHO may modify this SSHP if site conditions warrant it and without risking the safety and health of the team members. This modification will be coordinated with the team members. The SSHO shall notify Corps of Engineers Safety Office in Huntsville, AL. of the change as the situation allows.

APPENDIX A

HEAT- RELATED INJURIES

Once the signals of a heat-related illness begin to appear, the victim's condition can quickly get worse. A heat related illness can result in death. If you see any of the signals of sudden illness, and the victim has been exposed to extremes of heat, suspect a heat-related illness.

People at risk for heat-related illness include those who work or exercise outdoors, elderly people, young children, and people with health problems. Also at risk are those who have had a heat-related illness in the past, those with medical conditions that cause poor blood circulation, and those who take medications to get rid of water from the body (diuretics).

People usually try to get out of extreme heat before they begin to feel ill. However, some people do not or can not. Those that work outdoors often keep working even after they begin to feel ill. Many times, they might not even recognize that they are in danger of becoming ill.

Heat cramps, heat exhaustion, and heat stroke are conditions caused by overexposure to heat. You can help prevent heat-stress emergencies by recognizing and properly treating symptoms. Below is a quick reference guide to heat-related emergencies:

HEAT CRAMPS: Heat cramps are the least severe, and often are the first signals that the body is having trouble with the heat. *Symptoms* include: Muscle twitching; painful spasms in the legs, arms or abdomen.

WHAT TO DO:
- Have the individual rest in a cool place.
- Give cool water or a commercial sports drink.
- lightly stretch the muscle and gently massage the area.

HEAT EXHAUSTION: Heat exhaustion is a more severe condition than heat cramps. *Symptoms* include: cool, moist, pale, or flushed skin, headache, nausea, dizziness, weakness, and exhaustion.

HEAT STROKE: Heat stroke is the least common but most severe heat emergency. It most often occurs when people ignore the signals of heat exhaustion. Heat stroke develops when the body systems are overwhelmed by heat and begin to stop functioning. **Heat stroke is a serious medical emergency.** *Symptoms* include: red, hot, dry skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing.

WHAT TO DO: When you recognize a heat-related illness in its early stages, you can usually reverse it.

- Get the victim out of the heat.

- Loosen any tight clothing and apply cool, wet cloths, such as towels or sheets.

- If the victim is conscious, give cool water to drink. Do not let the conscious victim drink too quickly. Give about 1 glass (4 ounces) of water every 15 minutes.

- Let the victim rest in a comfortable position, and watch carefully for changes in his or her condition. The victim should not resume normal activities the same day.

- Refusing water, vomiting, and changes in consciousness mean that the victim's condition is getting worse. Call for an ambulance immediately if you have not already done so.

- If the victim vomits, stop giving fluids and position them on their side.

- Watch for signals of breathing problems.

- Keep the victim lying down and continue to cool the body any way you can. If you have ice packs or cold packs, place them on each of the victim's wrists and ankles, on the groin, in each armpit, and on the neck to cool the large blood vessels.

APPENDIX B

BITES AND STINGS

Scorpions, Bees and Spiders

Bee stings are painful, but rarely fatal. Some people, however have a severe allergic reaction to an insect sting. This allergic reaction may result in a breathing emergency. If someone is stung by an insect, remove the stinger. Scrape it away with from the skin with your fingernail or plastic card, such as a credit card, or use tweezers. If you use the tweezers, grasp the stinger, not the venom sac. Wash the site with soap and water. Cover it to keep it clean. Apply a cold pack to the area to reduce the pain and swelling. Watch the victim for signals of an allergic reaction.

Scorpions live in dry regions of the southwestern United States and Mexico. They live under rocks, logs, and the bark of certain trees and are most active at night. Only a few species of scorpions have a sting that can cause death.

Spiders; there are also only two spiders in the United States whose bite can make you seriously sick or be fatal. These are the black widow spider and the brown recluse. The black widow is black with a reddish hourglass shape on the underside of its body. The brown recluse is light brown with a darker brown, violin-shaped marking on the top of its body. Both spiders prefer dark, out of the way places. Often, the victim will not know that he or she has been bitten until he or she starts to feel ill or notices a bite mark or swelling.

Symptoms include nausea and vomiting, difficulty breathing or swallowing, sweating and salivating much more than normal, severe pain in the sting or bite area, a mark indicating a possible bite or sting, and swelling of the area.

First Aid: If someone has been stung by a scorpion or bitten by a spider he or she thinks is a black widow or brown recluse, wash the wound, apply a cold pack to the site, and get medical help immediately.

Lyme Disease

Lyme Disease is an illness that people get from the bite of an infected tick. Lyme disease is affecting a growing number of people in the United States. Everyone should take precautions against it. Not all ticks carry lyme disease. Lyme disease is spread mainly by a type of tick that commonly attaches itself to field mice and deer. It is sometimes called a deer tick. This tick is found around beaches and in wooded and grassy areas. like all ticks, it attaches itself to any warm-blooded animal that brushes by. Deer ticks are very tiny and difficult to see. They are much smaller than the common dog tick or wood tick.

They can be as small as a poppy seed or the head of a pin. Adult deer ticks are only as large as a grape seed.

Symptoms: The first signal of infection may appear a few days or a few weeks after a tick bite. Typically, a rash starts as a small red area at the site of the bite. It may spread up to 7 inches across. In fair-skinned people the center is lighter in color and the outer edges are red and raised. This sometimes gives the rash a bull's-eye appearance. In dark skinned people the area may look black and blue, like a bruise.

Other symptoms include fever, headache, weakness, and joint and muscle pain similar to the pain of "flu". These symptoms might develop slowly and might not occur at the same time as a rash. In fact you can have lyme disease without developing a rash.

First Aid: If you find a tick, remove it by pulling steadily and firmly. Grasp the tick with fine-tipped tweezers, as close to the skin as possible, and pull slowly. If you do not have tweezers, use glove, plastic wrap, or a piece of paper to protect you finger. If you use your bare fingers, wash your hands immediately. Do not try to burn a tick or use other home remedies, like coating the tick with Vaseline or nail polish or picking it with a pin. Once the tick is removed, wash the area with soap and water. If available, apply antiseptic or antibiotic ointment. If you can not remove the tick or parts of the tick stay in your skin, obtain medical care. If a rash or flu like symptoms develop, seek medical attention.

APPENDIX C

SSHP ACCEPTANCE FORM

ABBREVIATED SITE SAFETY AND HEALTH PLAN

FOR

Seneca Army Depot Activity

35 miles north of Ithaca, New York

I have read and agree to abide by the contents of the Site Safety and Health Plan.

NAME	OFFICE	SIGNATURE	DATE
Ted Moore	CEMVS-ED-P	Ted Moore	21 Jul 98
Hank Counts	CEMVS-ED-P	Hank Counts	21 Jul 98
Jim Luebbert	CEMVS-ED-P	Jim Luebbert	21 Jul 98
Tom Grasek	SEDA-IMD	Tom Grasek	21 Jul 98

SITE SURVEY SAFETY BRIEFING

(Check subjects discussed)

Date_____

GENERAL INFORMATION

_____ Purpose of Visit

_____ Identify Key Site Personnel

SITE SPECIFIC INFORMATION

_____ Site Description/Past Use

_____ Results of Previous studies

_____ Potential Site Hazards

_____ OE Safety Procedures

_____ Site SOP

_____ Site Control and Communications

_____ Emergency Response

( ) Location of First aid Kit

( ) Emergency Phone Numbers

( ) Map to Facility

_____ PPE

_____ Weather Precautions

( ) Cold/Heat

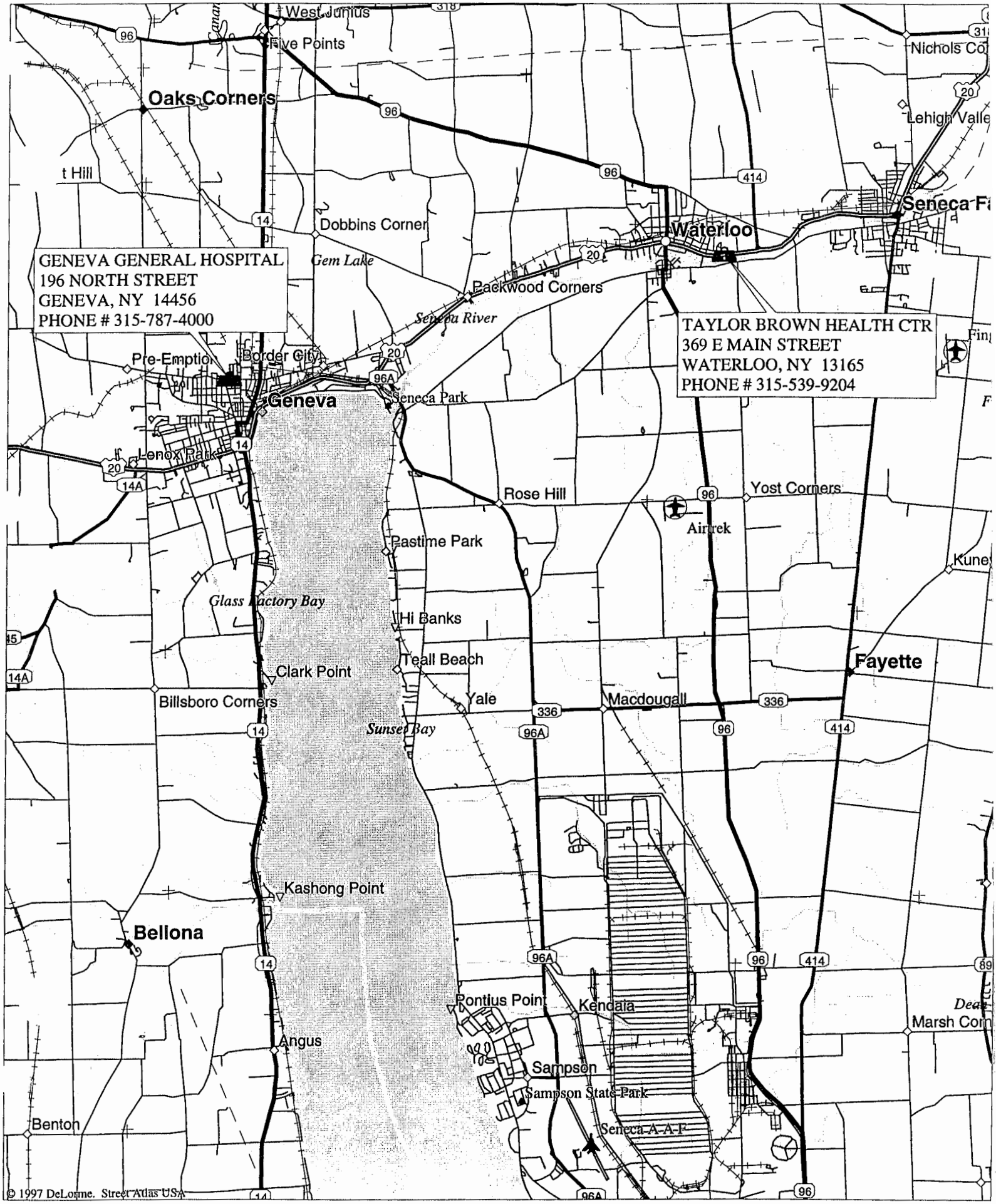
( ) Severe Weather

Safety Briefing Attendance

All team members and any accompanying personnel will be briefed and sign this form:

NAME (Print)	ORGANIZATION	SIGNATURE
Ted Moore	USACE-STL, Project Manager	
Hank Counts	USACE-STL, Safety Specialist	
Jim Luebbert	USACE-STL, Historian	
Tom GRASEK	SEDA-IMO	

EMERGENCY HEALTH FACILITIES



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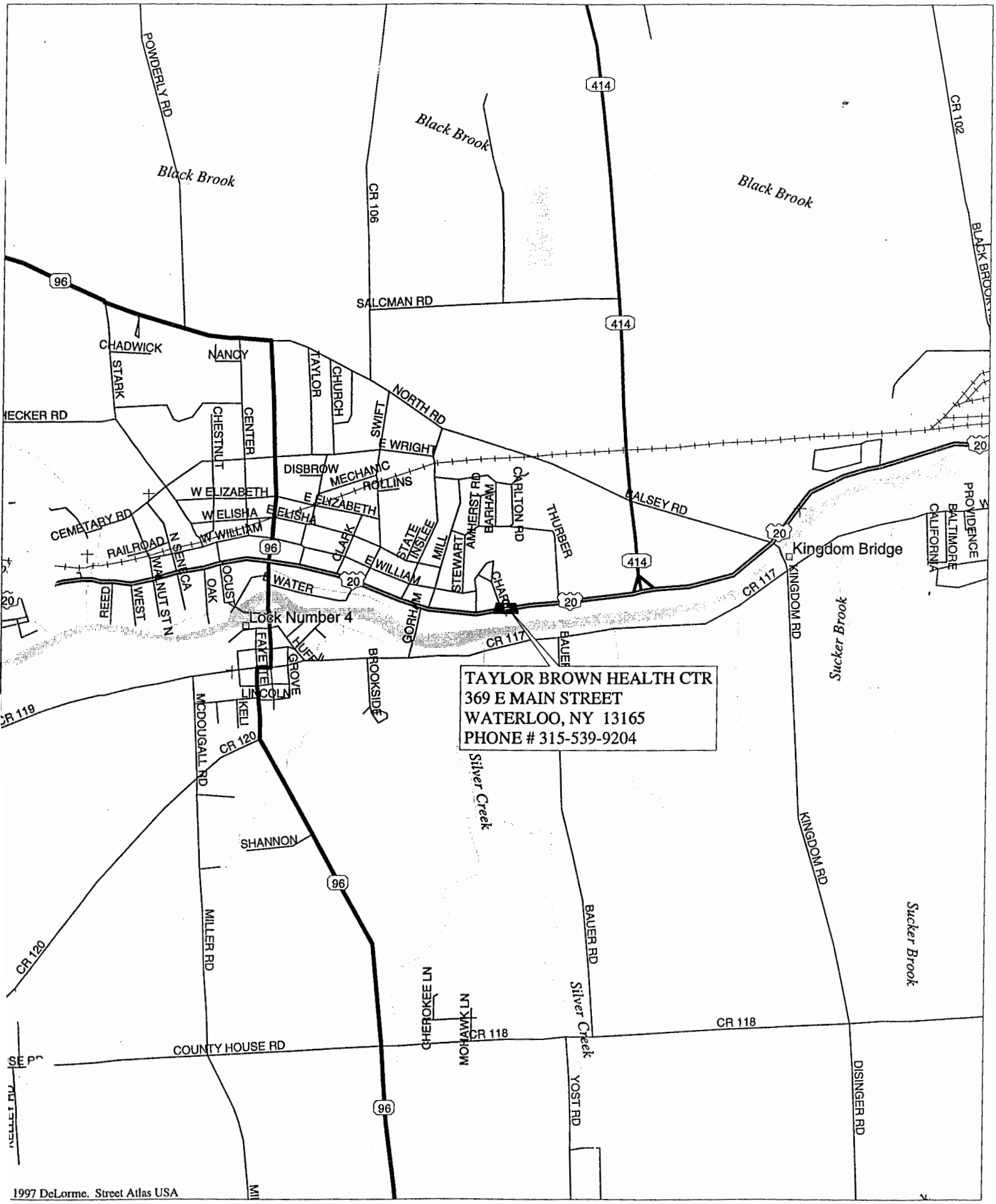

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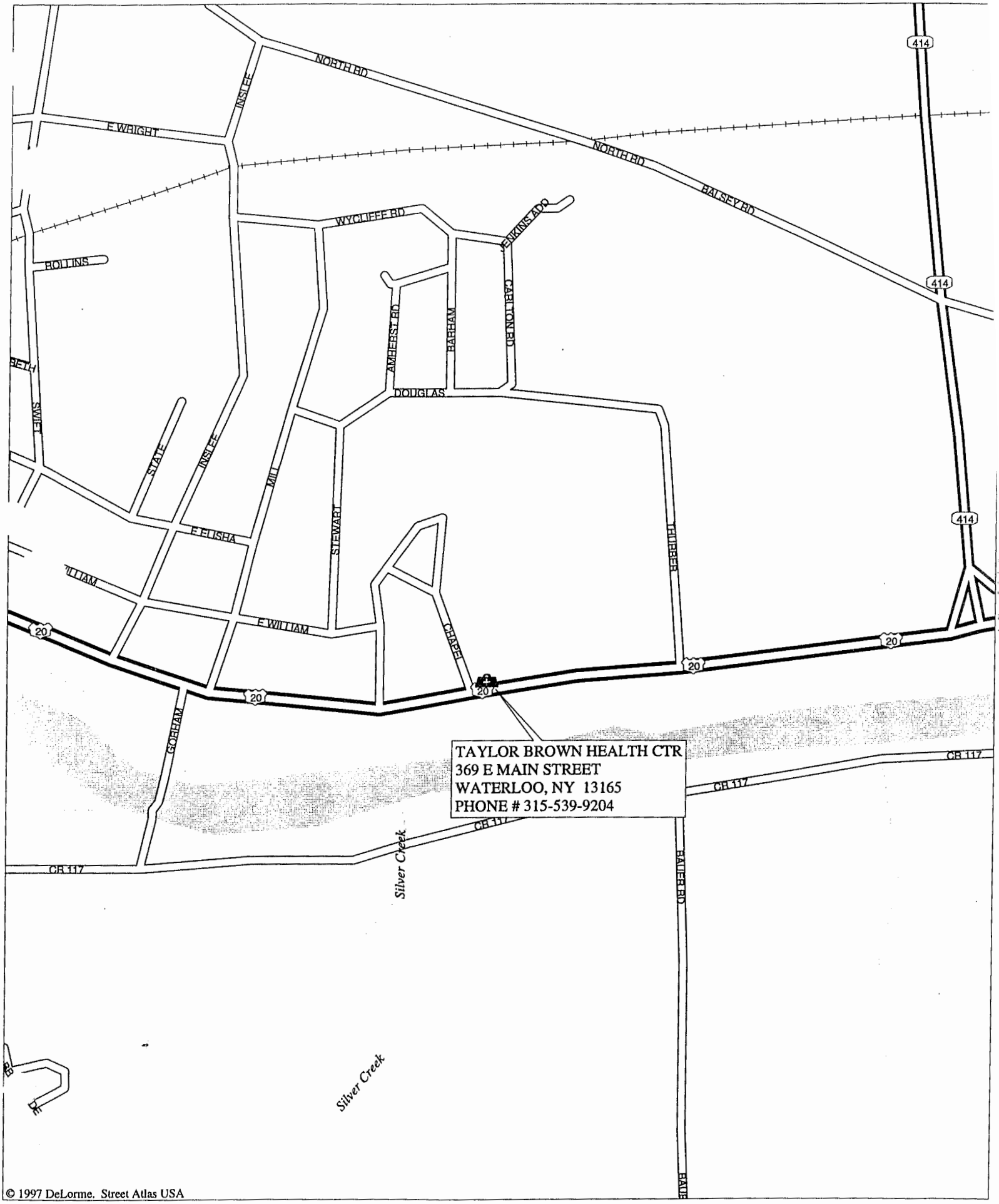

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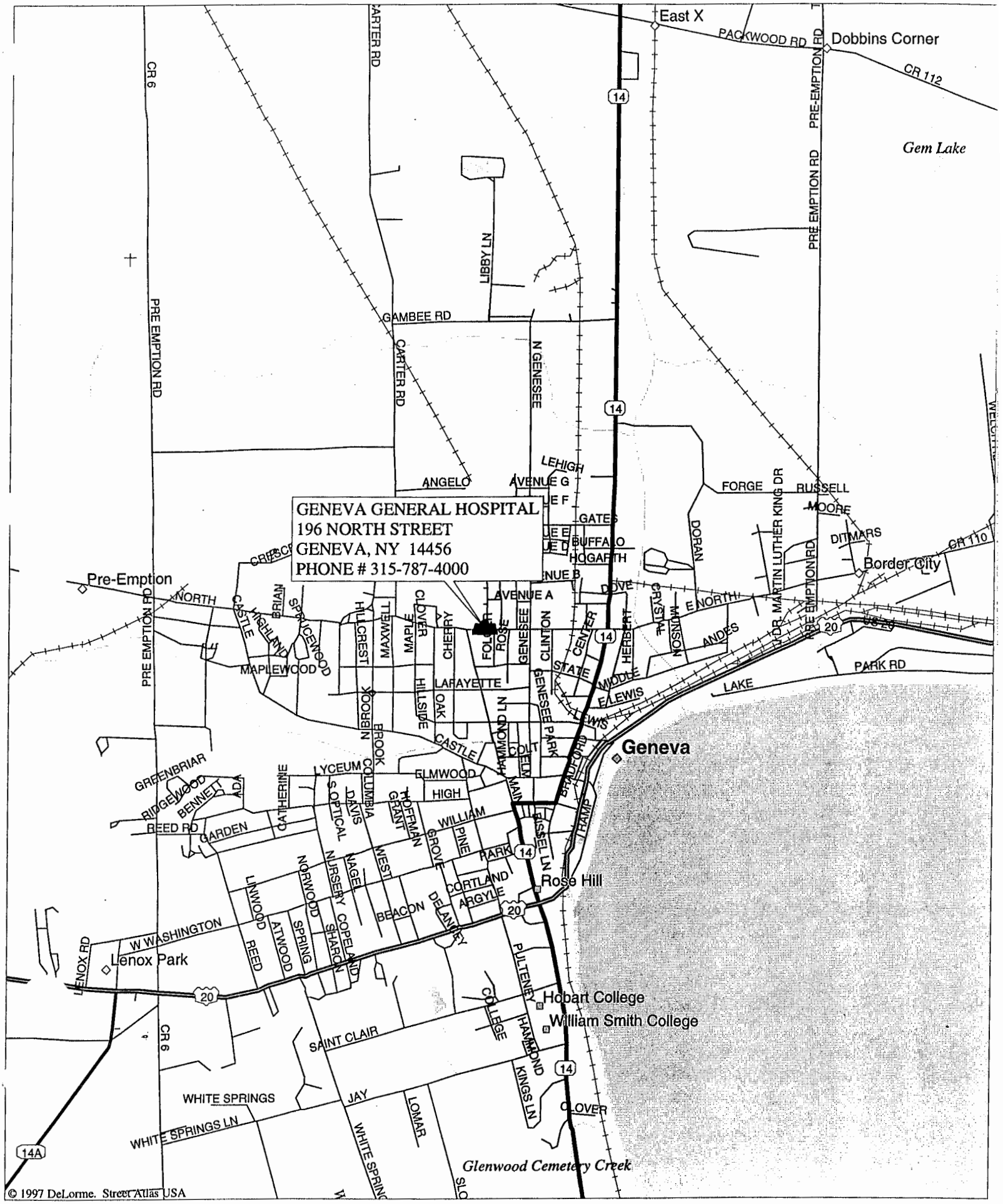

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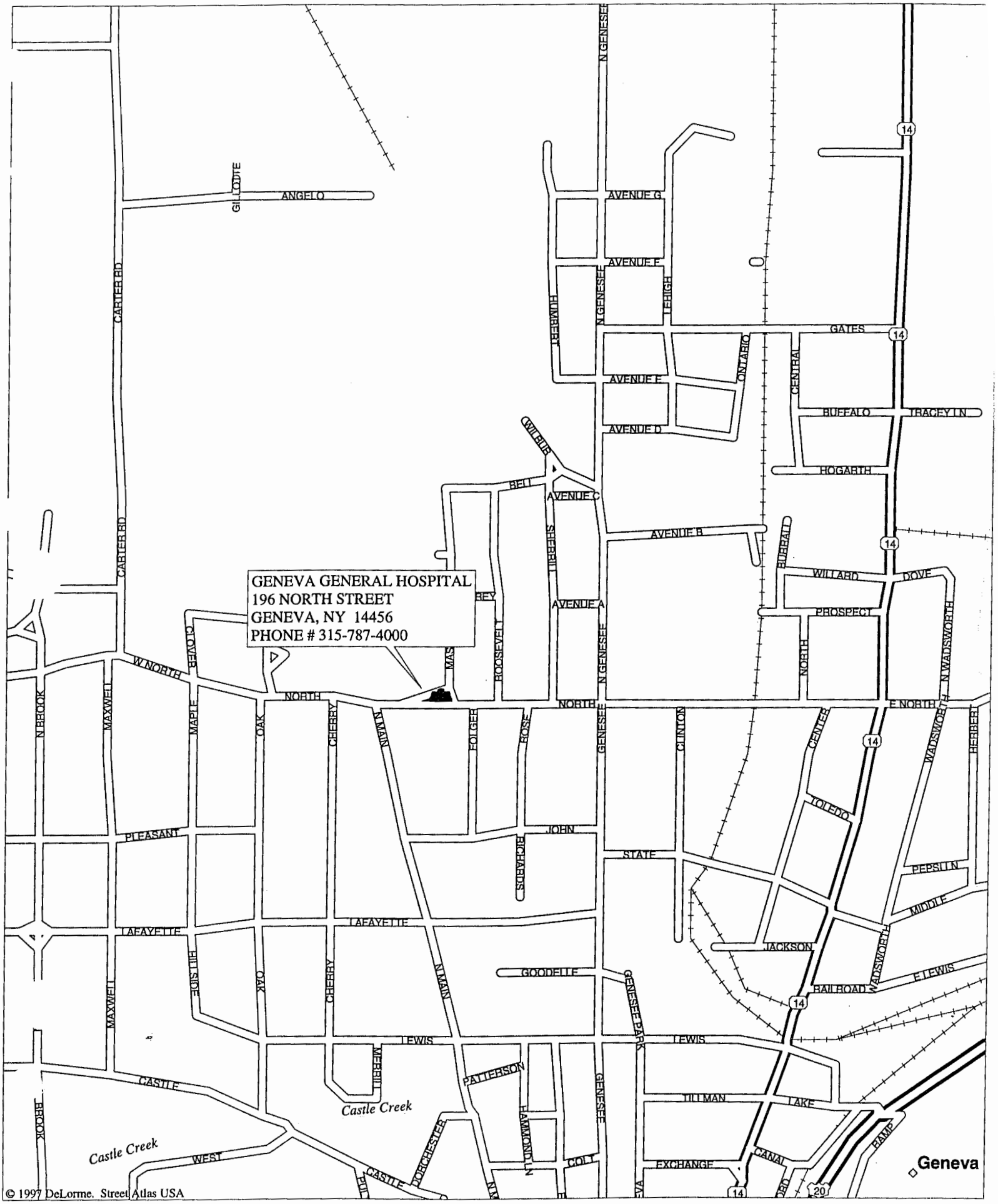


MEMORANDUM FOR: Mike Dace

SUBJECT: Seneca Army Depot - Site Visit

Corps of Engineers Participants:

Ted Moore	Project Manager
Hank Counts	UXO Specialist and Safety Officer
Jim Luebbert	Historian

SEAD Participant:

Tom Grasek (Part time)

Tuesday thru Thursday, 21 thru 23 July 1998

There are more than 500 ordnance related structures on the Depot. Our inspection strategy was to assume that the interiors of all buildings would have to be properly cleared prior to disposal. In addition, ammunition is still being stored and disposed of. Our strategy was to inspect the areas surrounding buildings, but not the interior. An added note, assuming the interior of each building could be inspected in 15 minutes (including travel time and unlocking), it would have taken at least 4 weeks just to inspect building interiors.

The areas inspected are shown on Plates 3 and 15.

3.5" Rocket Range. We inspected the firing point, berm, and the areas in between. We did not find evidence of 3.5" rockets. We found spent small arms ammunition at the berm.

Bundle Ammunition Buildings. We found a blank 5.56mm round. These buildings appear to have been abandoned many years ago.

Surveillance Laboratory. We did not find ordnance in this area.

Original Popping Plant. There is spent small arms ammunition of every size and condition on the ground surrounding this building. This popping plant appears to have been abandoned many years ago.

Current Popping Plant. There is spent small arms ammunition of every size and condition on the ground surrounding this building.

Ordnance Repair Shops. We marked these on our map prior to knowing they are vehicle maintenance shops.

Small Arms Storage Building. We did not find ordnance in this area.

Warehouses. We selected a path that would sample the area between two rows of warehouses. We found spent 7.62mm ammunition near warehouses 327, 328, and 329.

Berm (Item 27 on Plate 3). There is no berm.

Fuze Storage Building. The building (shack) is still present. We did not find ordnance in this area.

Liquid Propellant Storage Area. We did not inspect this area during this visit. We visited this area during the kickoff trip and briefly walked the area. We did not find ordnance in this area.

Function Test Range. There are four pipes in the ground in this area that appear to have been used for tests. There is also a large berm next to the test area. We found four strands of what appears to be shot wires that lead to a box on a utility pole. We did not find ordnance near the pipes, but we found the remains of two 40mm grenades and 5.56mm blank ammunition on the road near the test area.

There is also an area on the right side of the road to the Function Test Range where there is a pit about 15' long X 5' wide X 3" deep that appears to have been used as a burn area. There was also an ammunition box in the hole. There is another pit that is now filled in with water and vegetation. We did not find ordnance in this area.

Ammunition Workshops (Item 16 on Plate 3). We found blank 5.56mm and 7.62mm ammunition and 7.62mm links in this area. We also got several 10+ hits on the Schoenstedt in the grassy areas near the buildings.

.45 Cal. Range. The range does not appear on drawings, but the drawings do show a range shack. The target berm is still present, but there is no evidence of the range shack. There are .38 cal and .45 cal projectiles in the berm. We did not find any other ordnance.

Suspect Rail Car Spur (Item 26 on Plate 3). We did not find evidence of a berm or ordnance.

Berm (Item 27 on Plate 3). There is no evidence of a berm or ordnance.

Suspect Rail Car Spur (Item 26, SW portion of site, Plate 3). The berm is still present. We did not find ordnance in this area.

Ammunition Workshops (Item 17 on Plate 3). We found blank 5.56mm and 7.62mm ammunition and a smoke grenade spoon in this area.

Rifle Range near the airfield. The rifle range clearly has been used for many years. There is a leadership reaction course, what appears to be a close combat range, and a gas chamber near the rifle range. We did not find ordnance in this area.

Skeet Range near the airfield. The range structures are still in place. We did not find ordnance related to the skeet range, but we found blank 5.56mm ammunition in the parking area near the range.

Landfill near the Burn Pits. We have verification the burn pits were used for trash. We did not inspect this area.

Burn Pit Area. We inspected this area and did not find ordnance. There were originally just burn pits in this area. An incinerator has been added.

Abandoned Powder Burn Pit. There are a hydrant and drain remaining in this area, but no evidence of powder burning activities.

Rifle Range near the Lake Housing Area (see Plate 1). We found a tower and a small shack, but there is no target berm or evidence of ordnance in the area.

Magazine Area. We did not find ordnance in this area.

Suspect Truck Barricade. We did not find evidence of a barricade or ordnance.

Demo Range (Item 3 on Plate 3). It is near the EOD Area #1. We found a 75mm round in this area that had been split open using a shape charge.

EOD Area #1 (Item 2 on Plate 3). There is a berm where we found the remains of flares and small arms ammunition. There is a second area just across the road from the berm where there are shot holes and the remains of flares. We also found the remains of flares along the road that runs past the EOD area.

Grenade Range. This is a very well constructed range with numerous targets. We found the remains of several 40mm practice grenades. We did not find evidence of use of HE grenades.

Ammunition Disassembly Plant. There is a building, two berms, and a concrete shield. There are also small storage containers that were used by EOD. We did not find ordnance in this area.

Burn Pad Area. We inspected the burn pads and the areas outside and between the burn pads. We found the remains of small arms ammunition, fuzes, 3.5" rockets, igniter tubes, and trash. These items were found in and between the burn pads. In an area southwest of the two large burn pads, we found a 155mm projectile that had been split in half, base plates, and large solid metal projectiles. It is uncertain if these items had been buried at one time or if they are kickouts from the demolition pits.

There are shot wires at Burn Pad A. We got several 10+ hits in the open area between Burn Pads A and C.

Detonator Destruction Furnace. We did not find ordnance near this structure.

Demolition Pit Area. We did not go near the demolition pits but did walk the area in front of the pits on our way to the Explosive Scrap Furnace. There are large amounts of kickout material surrounding the demolition pits.

Explosive Scrap Furnace. We did not find ordnance in this area.

Indoor Rifle Range in the Special Weapons Area (Building 744). We did not find ordnance in this area.

Igloos. We inspected the area in front of, and across the road from, two rows of igloos in the D igloo area. We got several 10+ hits along the ditch.

Loading/Unloading Platforms. We inspected the areas surrounding six loading platforms. We found the remains of spent fuzes and spent small arms ammunition near platform 2130.

Storage Sheds (X Sites). We did not find ordnance in these areas.

Open Storage Pads. We inspected a sampling of storage pads. We found a large amount of packing material on many of the pads, but we did not find ordnance.

Landing Zones. We inspected three landing zones. We did not find ordnance in these areas.

Areas from information obtained during interviews:

We inspected the area where Mr. Battaglia reported propellant drums. We found one drum that was marked "10 - .30 cal carbines".

We inspected the area where Mr. Critchfield reported EOD burned prop charges. There was no evidence of burning activities. There is a sign on the nearby fence indicating the area is now used for fill.

We inspected an area near the 3.5" rocket range that Randy Battaglia indicated was an EOD area. There is a low berm (3-4' high) and the area within the berm is a circle about 150' in diameter. We did not find evidence of EOD activities.

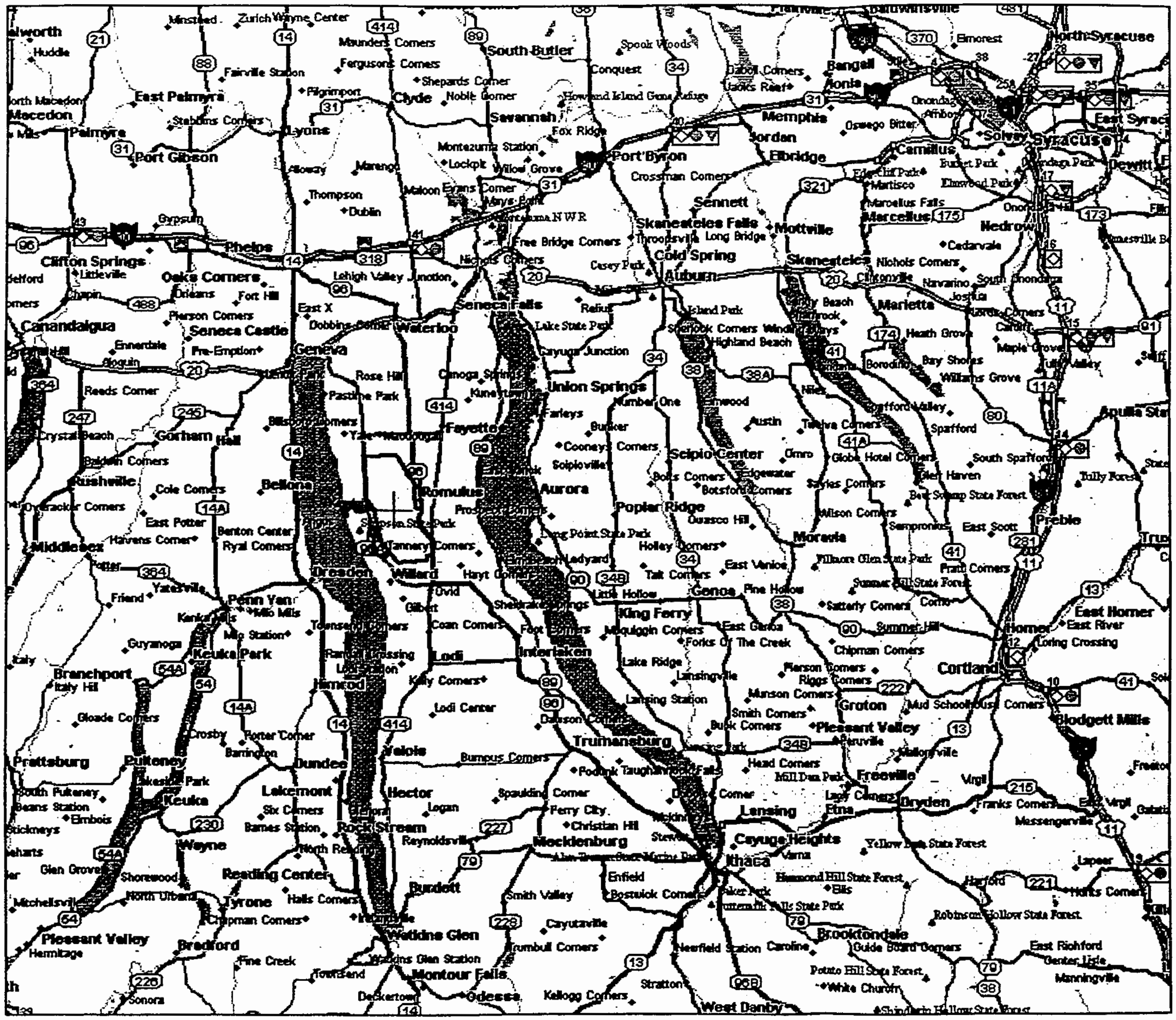
APPENDIX M

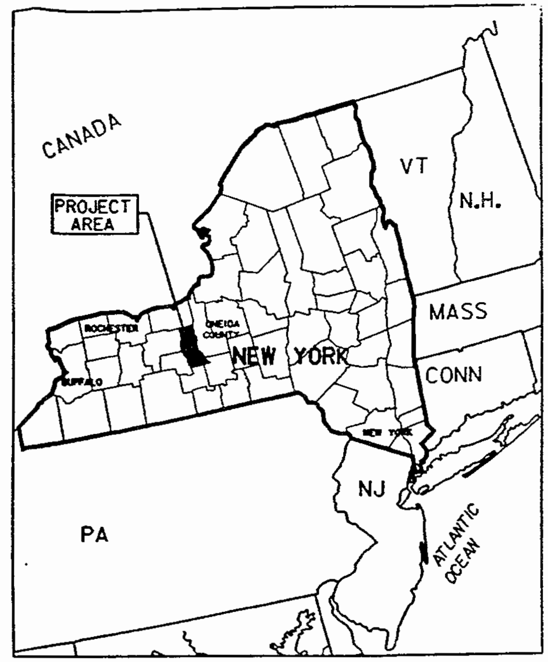
REPORT DISTRIBUTION LIST

FINAL DISTRIBUTION

Addressee	No. Copies
Commander, U.S. Army Engineering Support Center Huntsville, ATTN: CEHNC-ED-SY P.O. Box 1600 Huntsville, AL 35807-4301	2
Commander, Seneca Army Depot Activity ATTN: SIOSE-IE (Mr. Stephen Absolom) 5786 State Route 96 Romulus, NY 14541-5001	2
Project Manager Chemical Demilitarization, Non-Stockpile ATTN: SFAE-CD-N, Bldg E4585 Aberdeen Proving Ground, MD 21010-5401	1
Commander, U.S. Army Chemical & Biological Defense Command ATTN: AMSCB-CIH, Bldg E5183 Aberdeen Proving Ground, MD 21010-5423	1
U.S. Army Technical Center for Explosives Safety ATTN: SIOAC-ESM Savanna, IL 61074-9639	1

REPORT PLATES





LEGEND

SITE LOCATION

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APPROXIMATE SCALE IN FEET

N

U.S. ARMY CORPS OF ENGINEER

ST. LOUIS DISTRICT

SENECA ARMY DEPOT

ROMULUS, NEW YORK

SENECA COUNTY

VICINITY MAP

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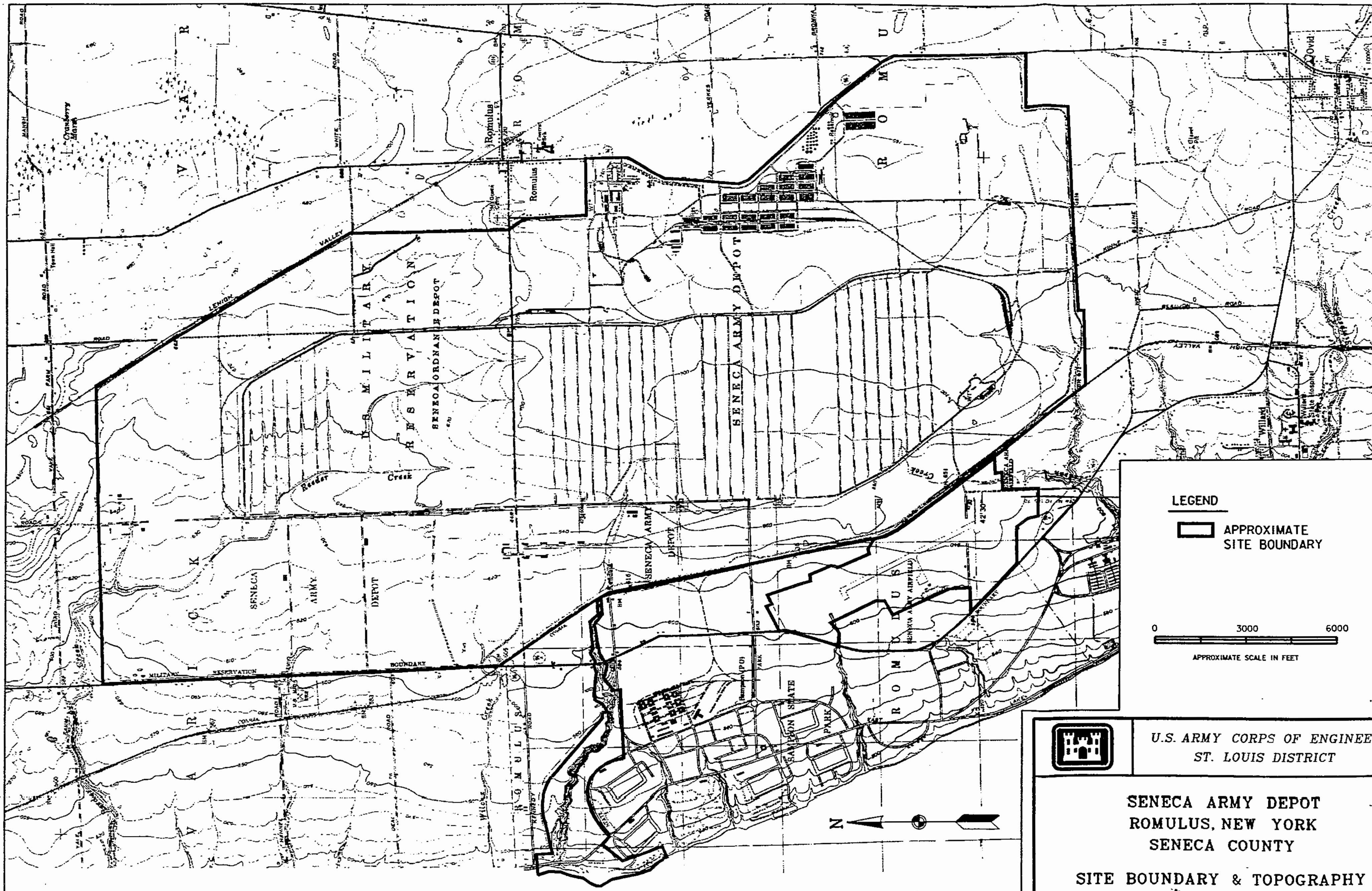

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

SITE BOUNDARY & TOPOGRAPHY

PROJ. DATE: SEPTEMBER, 1998	DATE OF QUAD: 1978	PLATE NO. 2
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KEY TO FEATURES:

FEATURE NUMBER	FEATURE DESCRIPTION
1.	BURN PA[illegible] AND DEMOLITION GROUNDS
2.	EOD AREA #1
3.	DEMO RANGE
4.	FUNCTION TEST AREA AND NEARBY PITS
5.	INDIAN CREEK BURIAL AREA
6.	POPPING PLANTS
7.	GRENADE RANGE
8.	IGLOOS
9.	3.5" ROCKET RANGE
10.	LIQUID PROPELLANT STORAGE AREA
11.	EOD AREA #3
12.	BUNDLE AMMUNITION BUILDINGS
13.	WAREHOUSE BLDG #328
14.	SMALL ARMS STORAGE
15.	SURVEILLANCE LAB
16.	AMMUNITION WORKSHOPS #1
17.	AMMUNITION WORKSHOPS #2
18.	MAGAZINES
19.	LAKE HOUSING SMALL ARMS RANGE

(CONTINUED ON PLATE 3A)

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APPROXIMATE SCALE IN FEET

N

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY
ORDNANCE ACTIVITIES

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KEY TO FEATURES (CONTINUED FROM PLATE 3):

FEATURE NUMBER	FEATURE DESCRIPTION
	(CONTINUED FROM PLATE 3)
20.	SKEET RANGE
21.	SMALL ARMS RANGE
22.	.45 CAL RANGE
23.	INDOOR RIFLE RANGE (BLDG 744)
24.	OPEN AIR STORAGE PADS
25.	LANDING ZONES
26.	SUSPECT RAIL CAR AND TRUCK AREAS
27.	BERMS
28.	EOD AREA #2
29.	DRUMS (REPORTED BY R. BATTAGLIA)
30.	LOADING PLATFORM #2130
31.	PROPELLANT CHARGE BURN AREA
32.	AMMUNITION DISASSEMBLY PLANT
33.	DETONATOR DESTRUCTION FURNACE
34.	EXPLOSIVE SCRAP FURNACE
35.	BERM (REPORTED BY R. BATTAGLIA)
36.	ABANDONED POWDER BURN AREA
37.	STORAGE SHED
38.	ROW OF IGLOOS USED FOR MANHATTAN PROJECT STORAGE
39.	SPECIAL WEAPONS AREA
40.	SPECIAL WEAPONS AREA BOUNDARY
41.	R&D AREA/FUSE STORAGE

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

ORDNANCE ACTIVITIES

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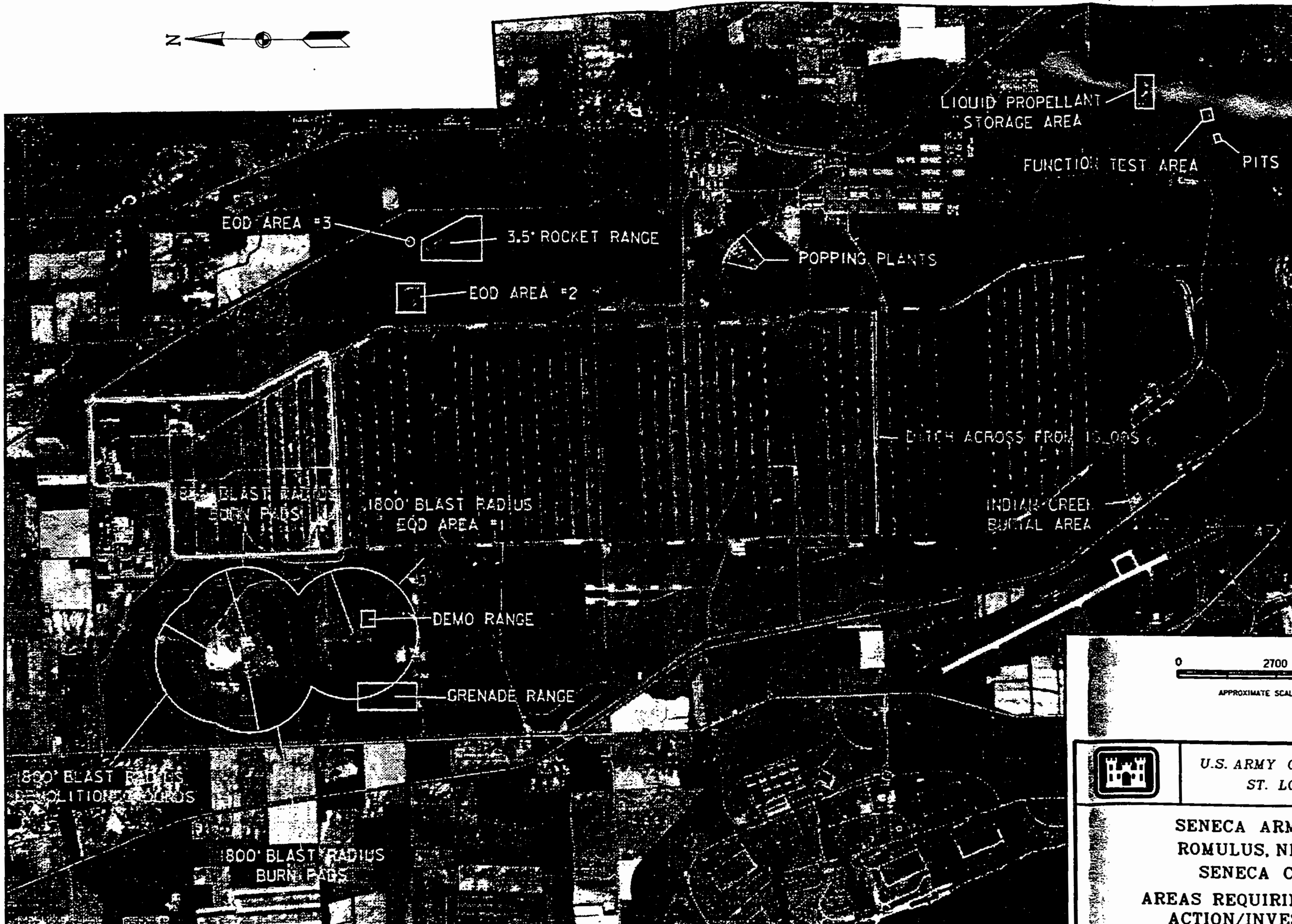

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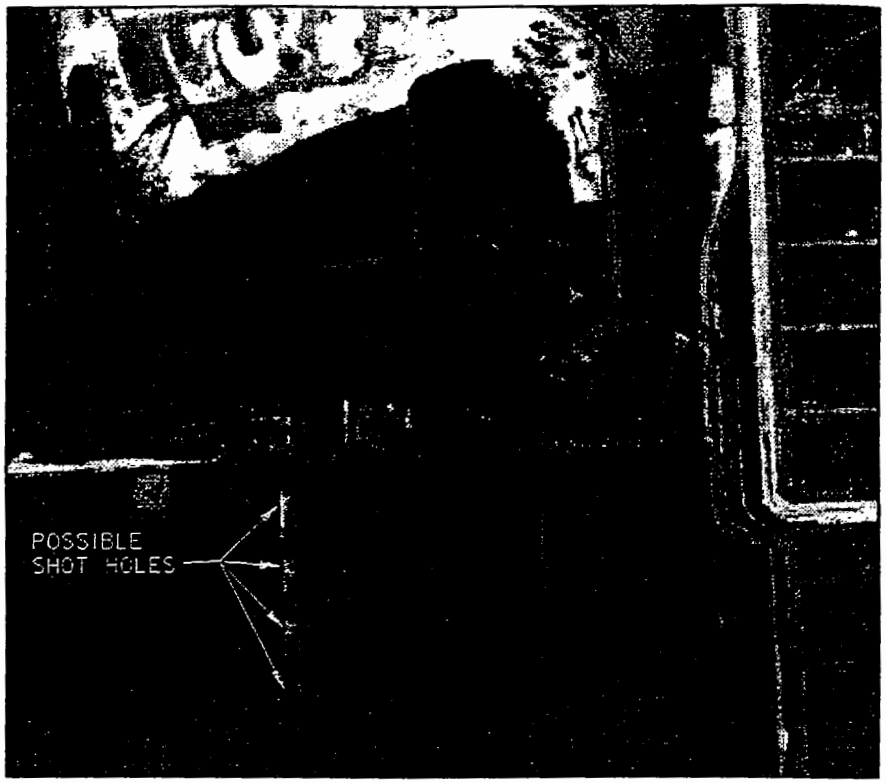
APPROXIMATE SCALE IN FEET

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

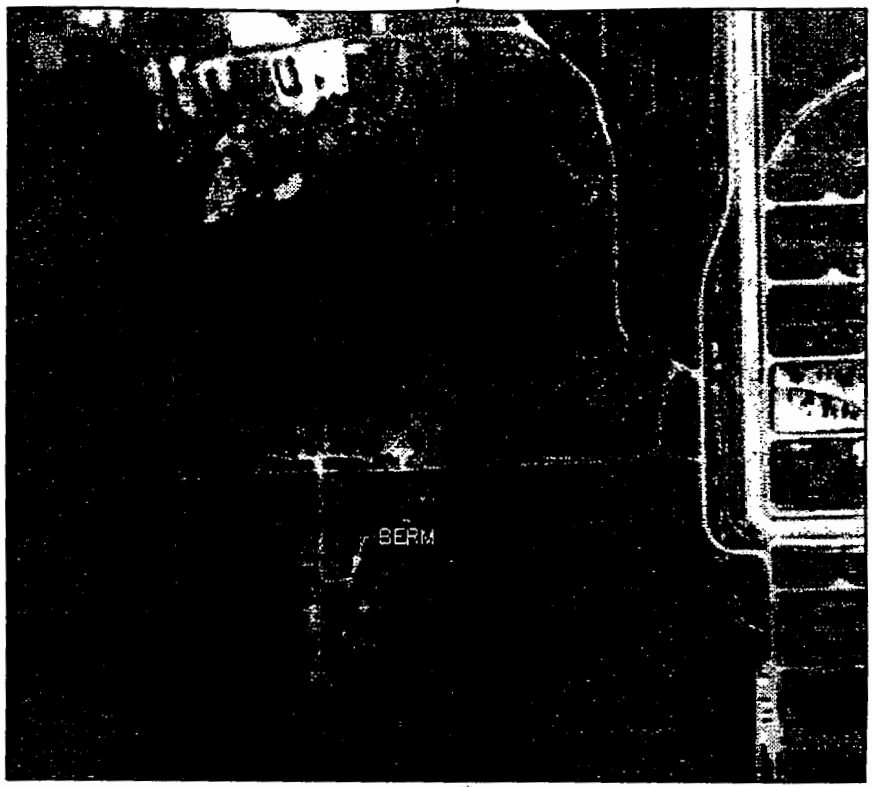
SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

AREAS REQUIRING FURTHER ACTION/INVESTIGATION

PLATE NO. 4



1963 PHOTO



1991 PHOTO

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APPROXIMATE SCALE IN FEET

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NOTE: PHOTO ON LEFT IS GEOREFERENCED

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ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

EOD AREA #1

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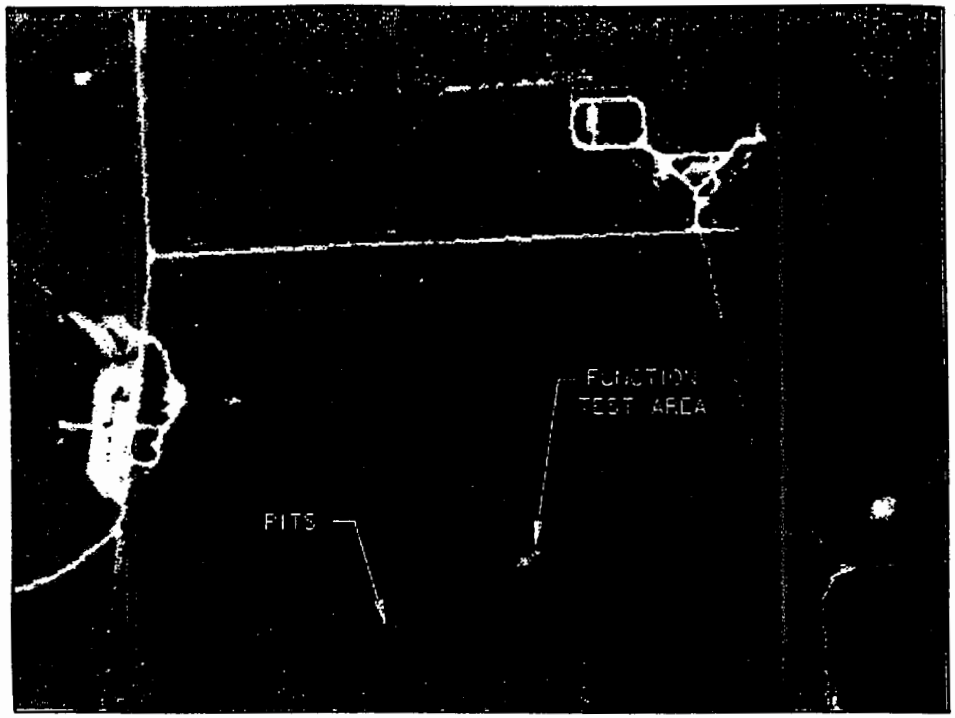
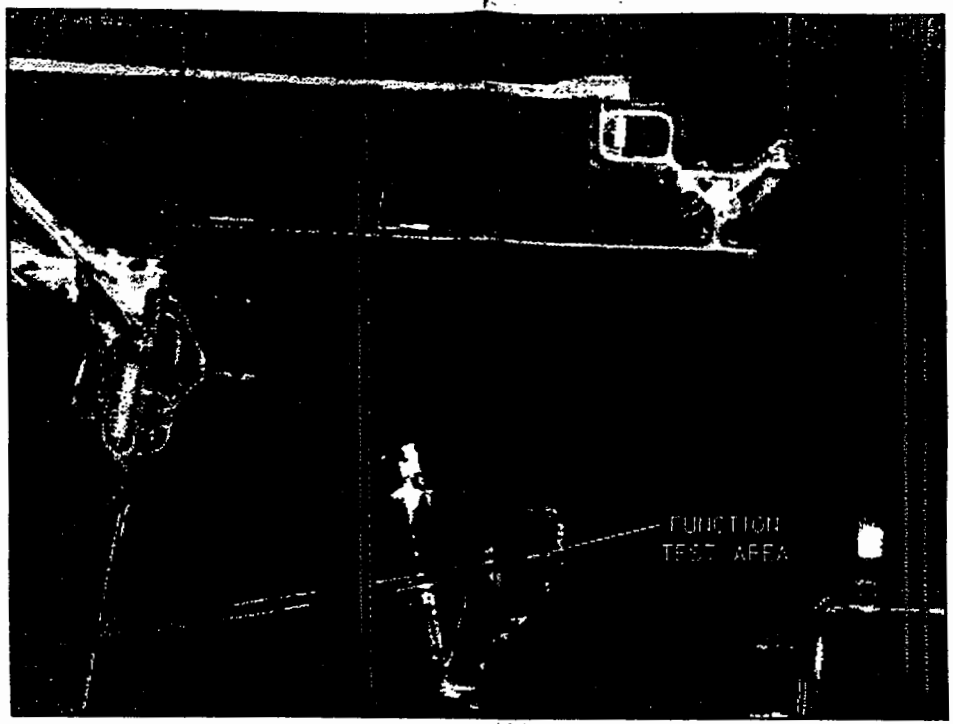


1991 PHOTO



1963 PHOTO

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APPROXIMATE SCALE IN FEET

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NOTE: PHOTO ON LEFT IS GEOREFERENCED

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ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

FUNCTION TEST AREA

PROJ. DATE: SEPTEMBER 1998 | DATE OF PHOTO: 1991 & 1963 | PLATE NO. 7

1954 PHOTO

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APPROXIMATE SCALE IN FEET

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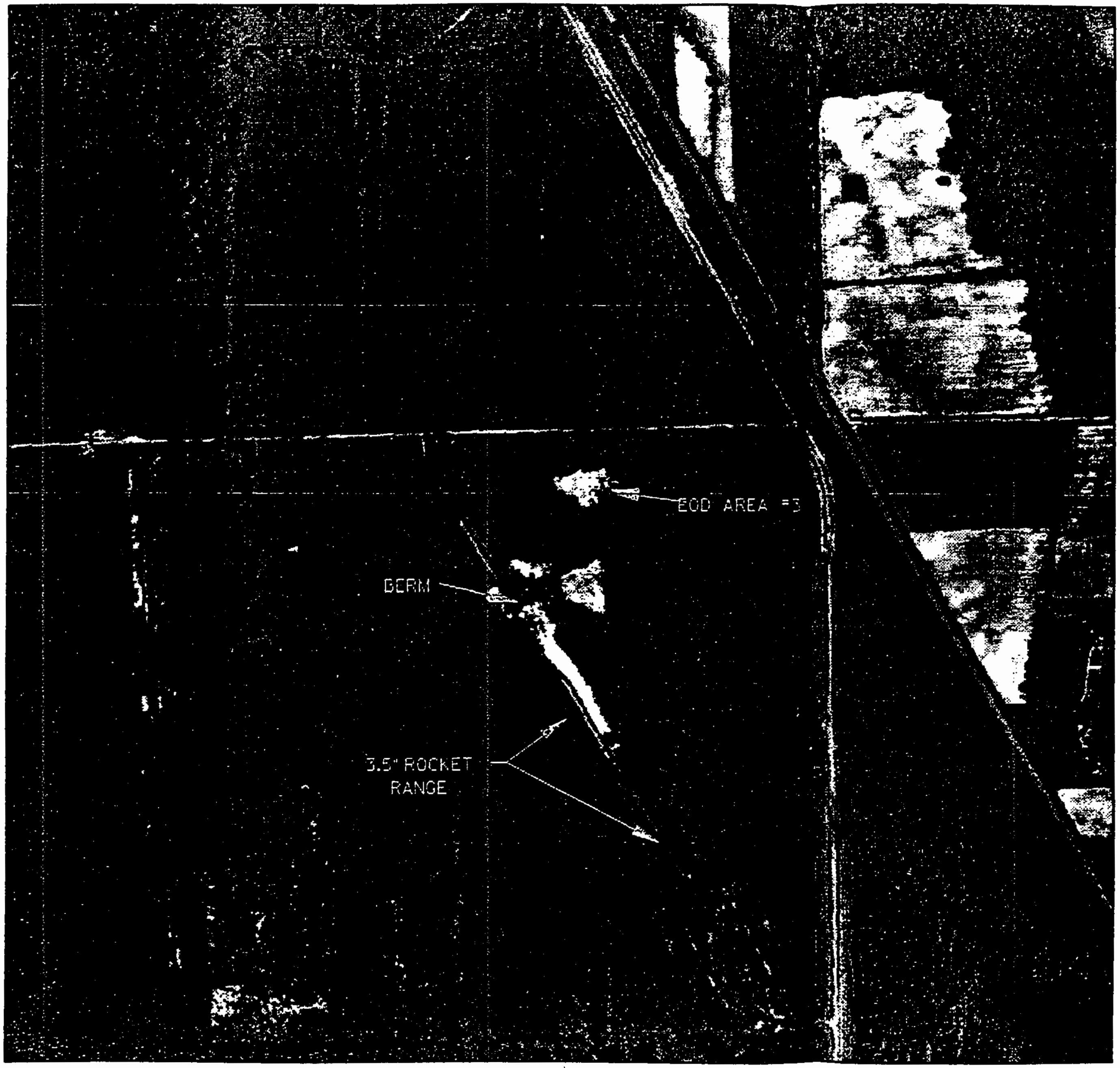
U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

BURIAL AREA-INDIAN CREEK

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTO: 1954	PLATE NO. 8
14-SEP-1998 13:02		



1954 PHOTO

0 400 800
APPROXIMATE SCALE IN FEET

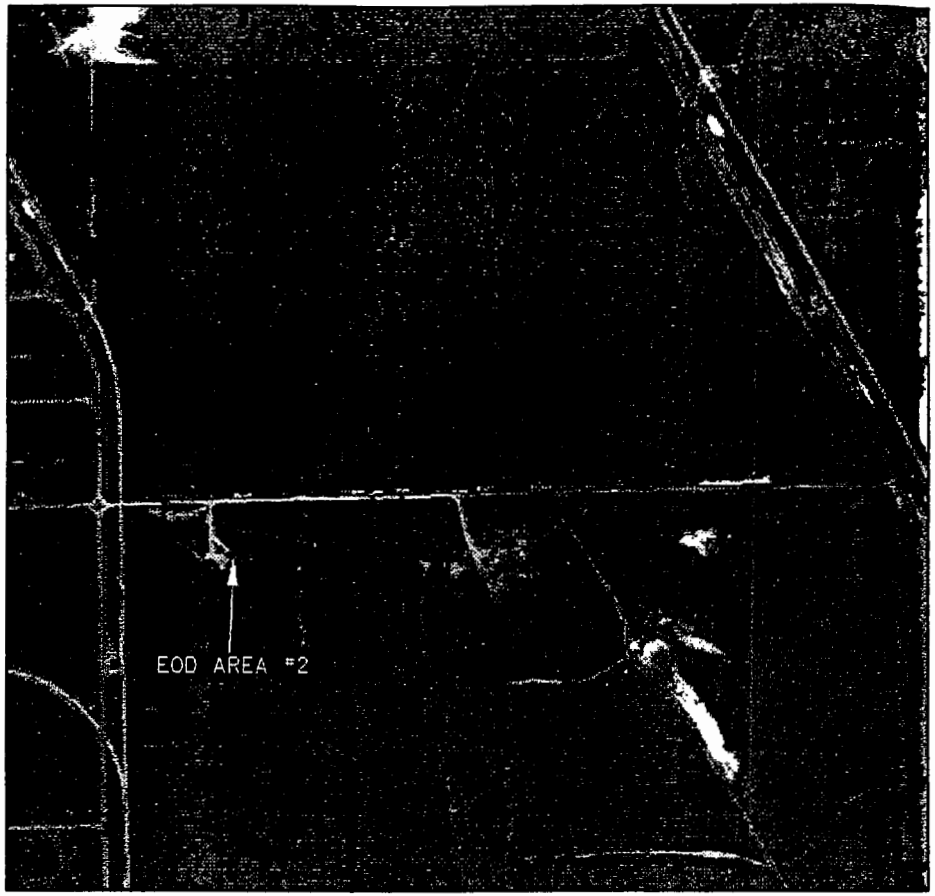
N

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

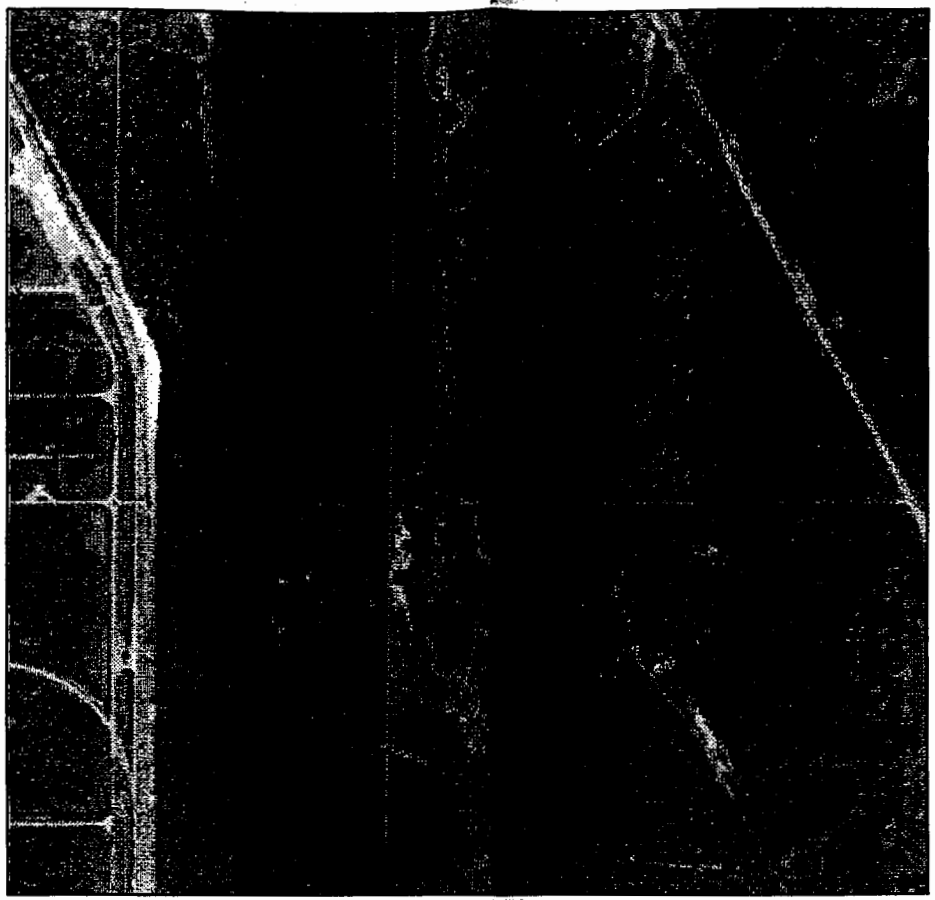
SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY

EOD AREA #3 & 3.5" ROCKET RANGE

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTO: 1954	PLATE NO. 9
14-SEP-1998 15:31		



1963 PHOTO



1991 PHOTO

0 550 1100

APPROXIMATE SCALE IN FEET

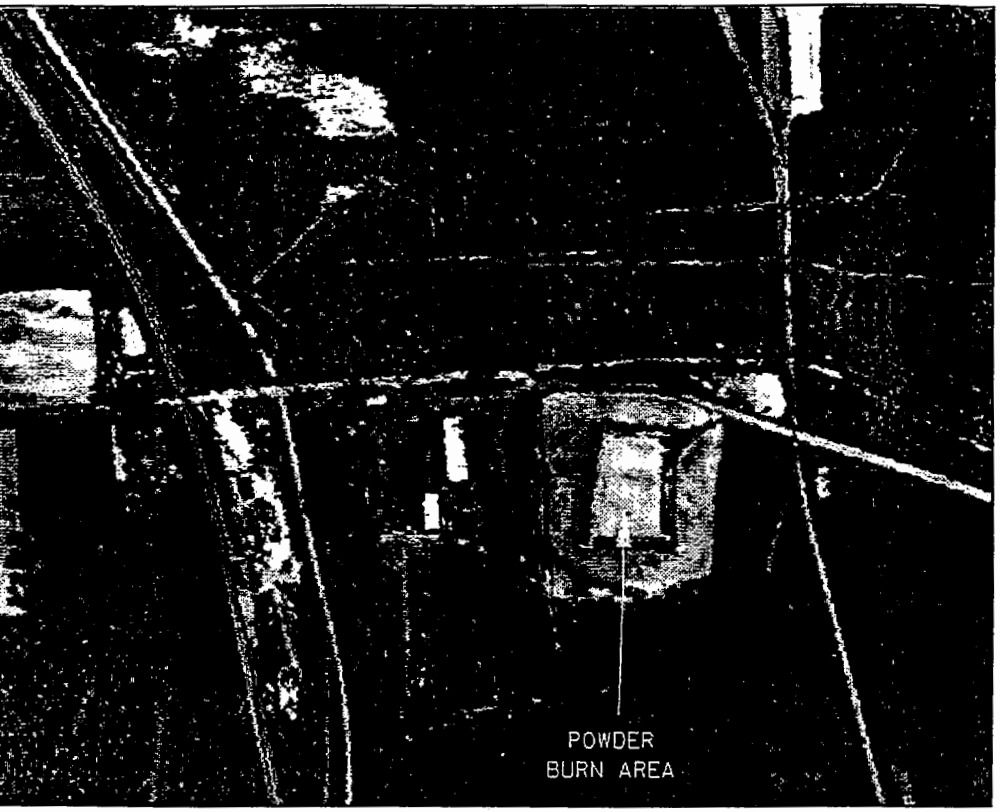
N

NOTE: PHOTO ON LEFT IS GEOREFERENCED

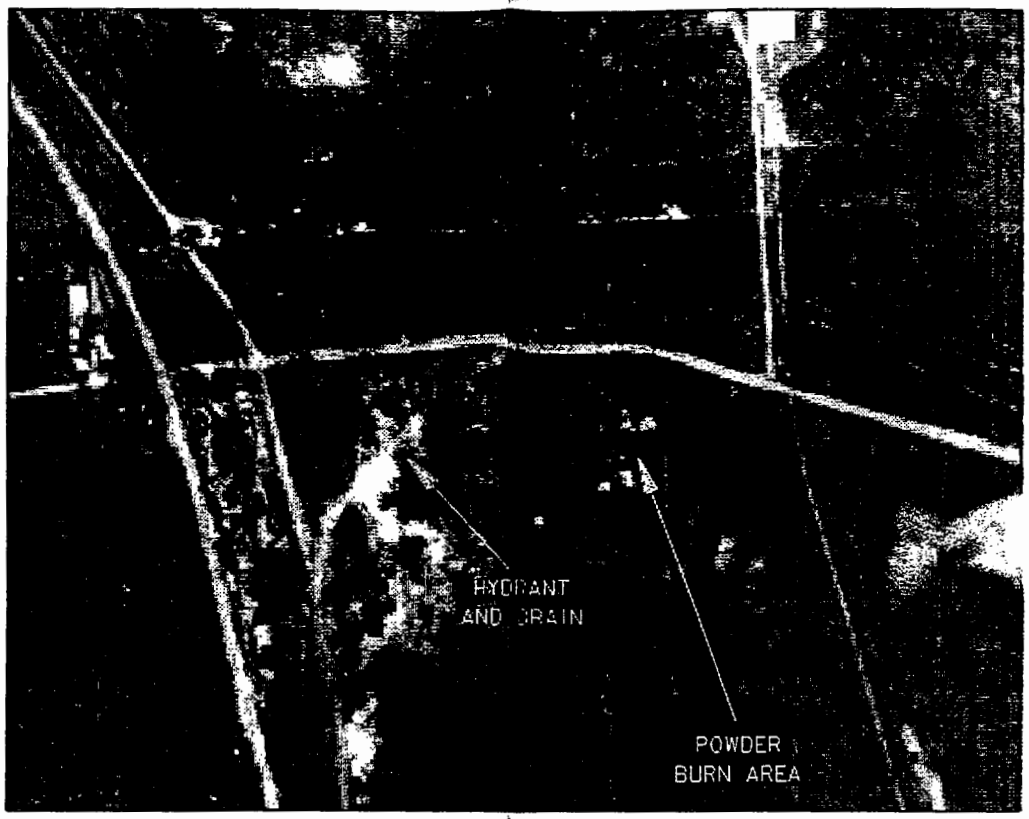
U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY
EOD AREA #2

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTOS: 1963 & 1991	PLATE NO. 10
14-SEP-1998 13:39	tnoes58\newyork\seneca\photos\plate10.dgn	



1954 PHOTO



1978 PHOTO

0 375 750

APPROXIMATE SCALE IN FEET

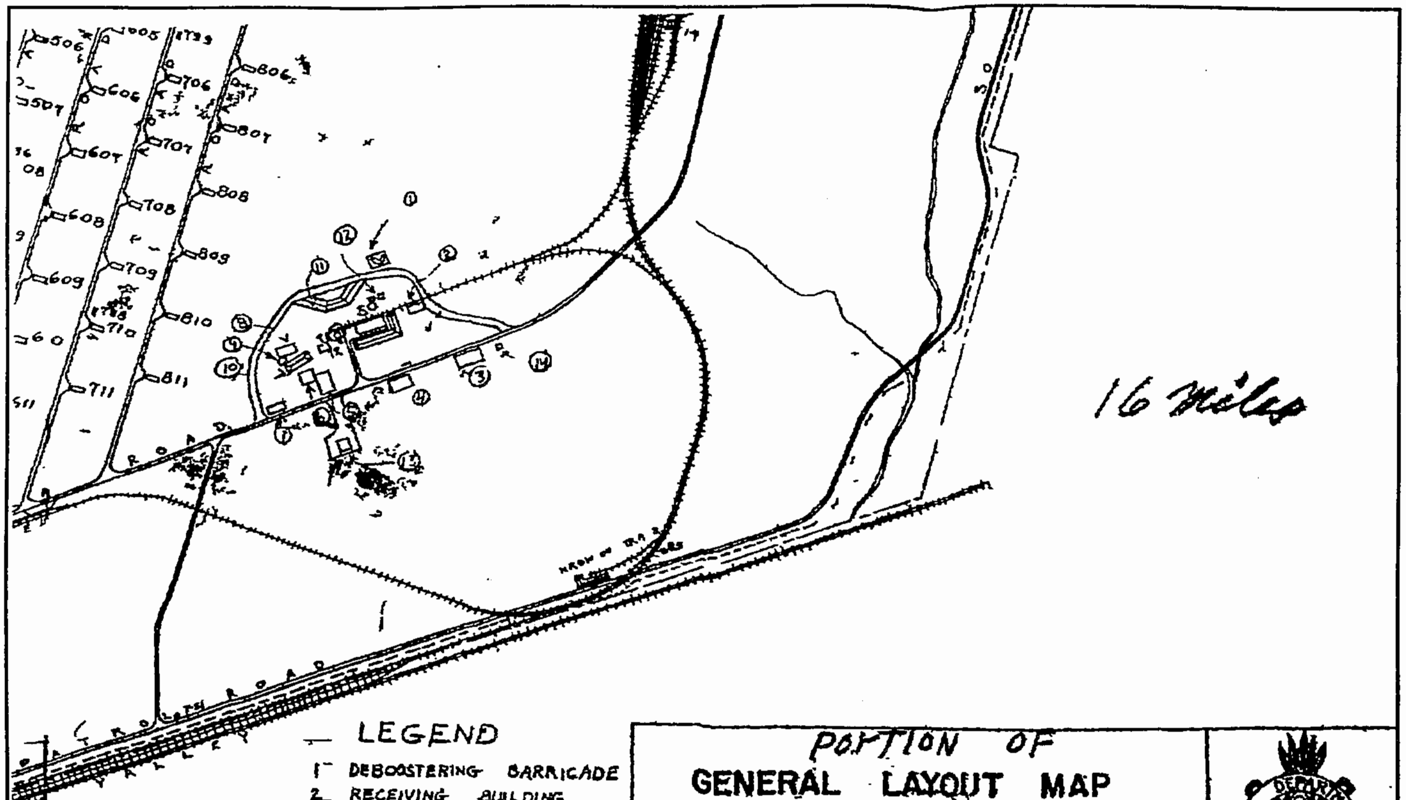
N

NOTE: PHOTO ON LEFT IS GEOREFERENCED

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY
ABANDONED POWDER BURN AREA

PROJ. DATE: SEPTEMBER 1998	DATE OF PHOTOS: 1954 & 1978	PLATE NO. 11
14-DEC-1998 08:11	h:\new98\ny\oldseneca\photos\plate11.dgn	



LEGEND

1. DEBOOSTERING BARRICADE
2. RECEIVING BUILDING
3. CLEAN & PAINT BLDG
4. DEBANDING & DEPRIME
5. WASHOUT UNIT
6. FLAKER UNIT
7. CHANGE HOUSE
8. BOILER HOUSE
9. 500 000 GAL. WATER TANK
10. EARTH BARRICADE
11. EARTH BARRICADE
12. VACUUM UNIT
13. TNT STORAGE
14. PAINT STORAGE

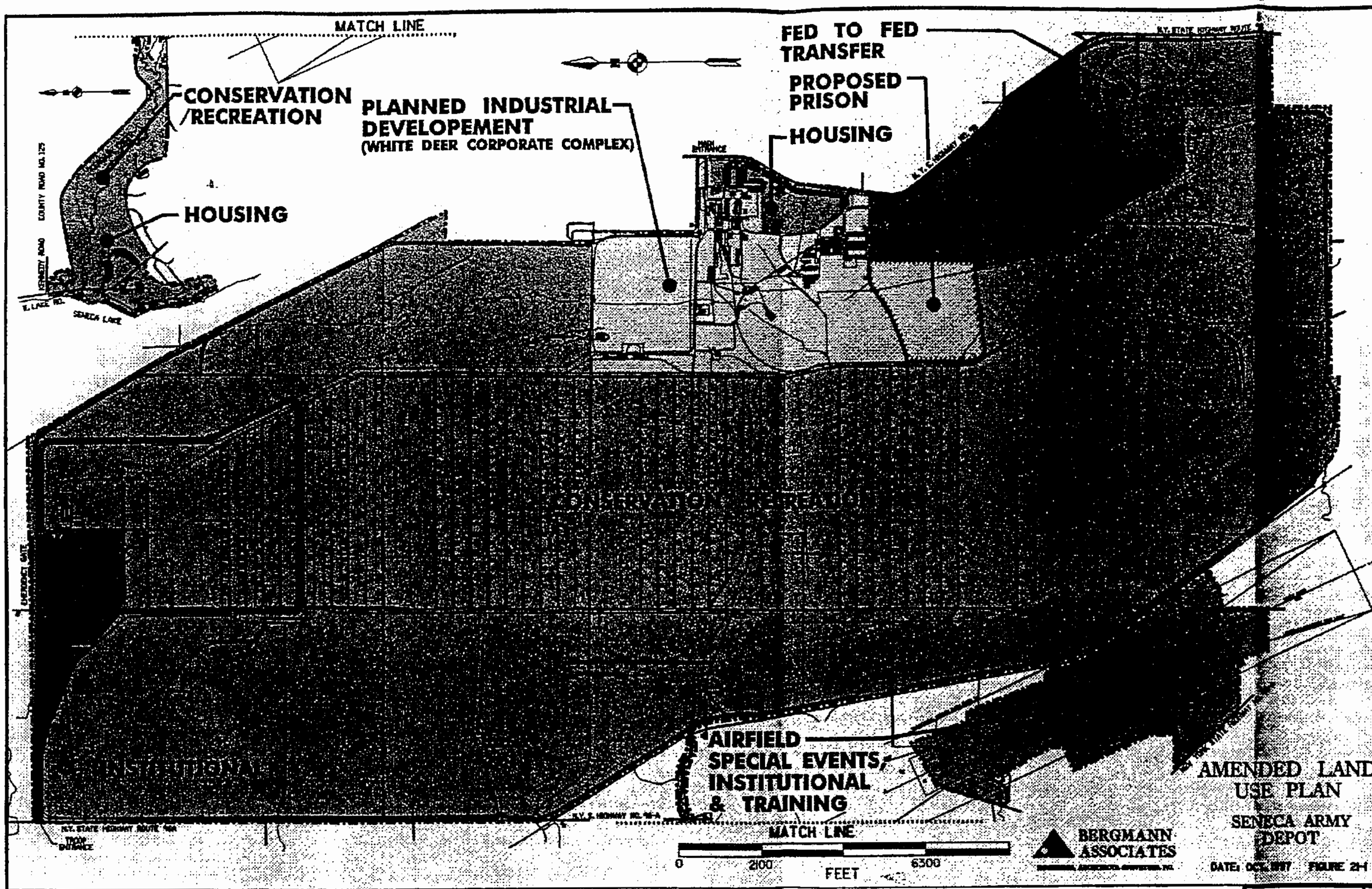
PORTION OF
GENERAL LAYOUT MAP
SENECA ORDNANCE DEPOT

ENG. SECTION UTILITIES DIVISION	DATE 8/5/46
SUBMITTED Harold R. [signature] ENGINEER	TRACED BY F H Seifert / CHECKED BY F H Seifert
EXAMINED Harold R. [signature] POST ENG	APPROVED [signature] COL ORD DEPT COM
SCALE 1" = 800' / DRAWING MISC 73	FILE SEN. O. D

U.S. ARMY CORPS OF ENGINEER
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY
AMMUNITION WORKSHOP #1

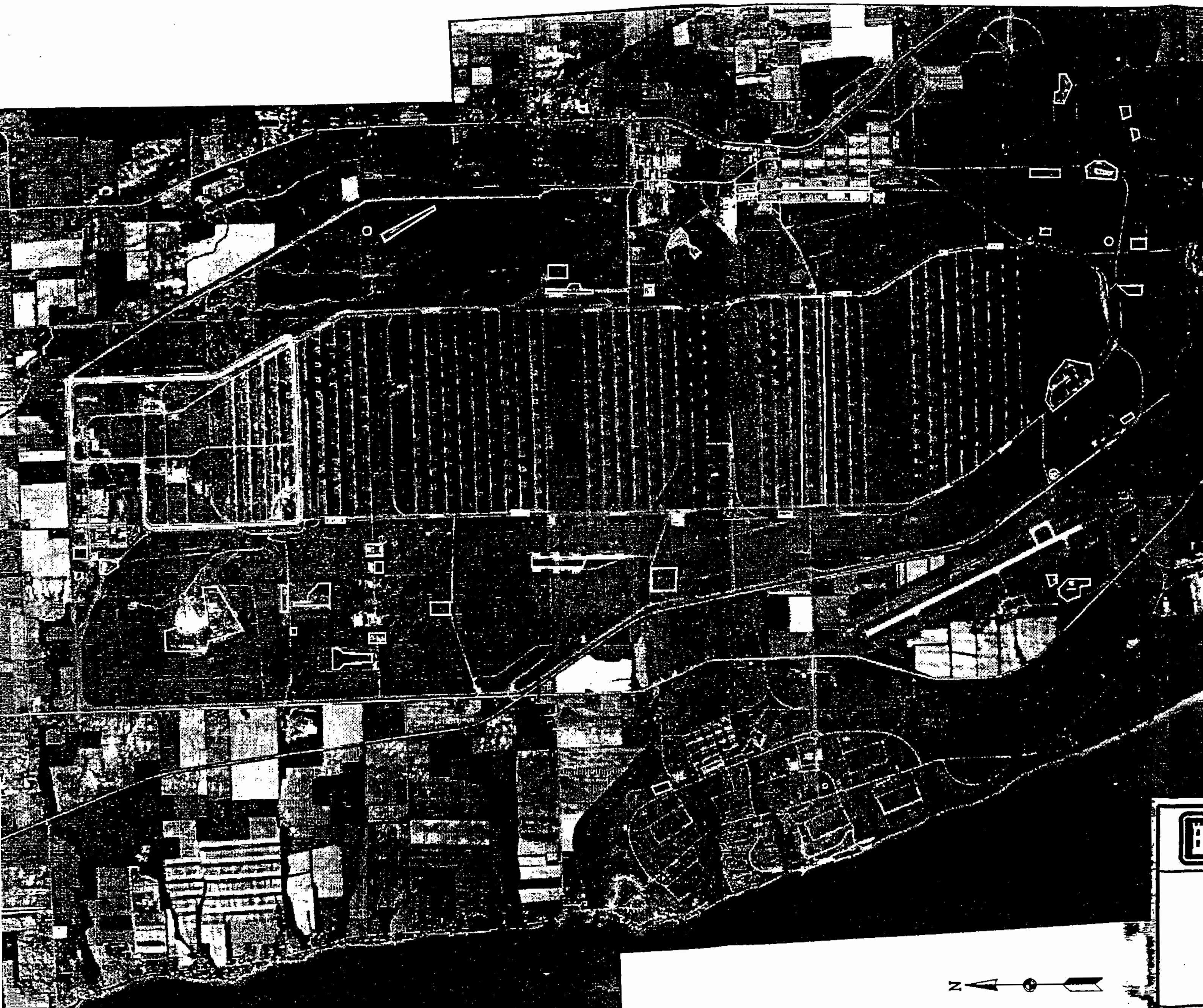
PROJ. DATE: SEPTEMBER, 1996	DATE OF MAP: 1946	PLATE NO. 12
14-DEC-1996 08:44	[file path]	



U.S. ARMY CORPS OF ENGINEER
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY
FUTURE USE

PROJ. DATE: SEPTEMBER, 1998	DATE OF MAP: 1997	PLATE NO. 13
14-DEC-1998 08:29		



NOTE: AREAS ENCLOSED BY YELLOW LINES INDICATE AREAS INSPECTED.

0 3000 6000

APPROXIMATE SCALE IN FEET

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

SENECA ARMY DEPOT
ROMULUS, NEW YORK
SENECA COUNTY
AREAS INSPECTED

PROJ. DATE: SEPTEMBER, 1998	DATE OF PHOTO: 1991	PLATE NO. 14
14-DEC-1998 08:38	1:\coe98b\newyork\cs\seneca\photos\plate14.dgn	