Defense Environmental Restoration Program
For
Formerly Used Defense Sites
Ordnance and Explosives

Archives Search Report
FINDINGS
for the former

Plattsburgh Atlas
Missile Site S-7

Franklin, New York
Project Number C02NY021201

January 1998
DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
FOR
FORMERLY USED DEFENSE SITES

FINDINGS

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR
PLATTSBURGH ATLAS MISSILE SITE S-7
FRANKLIN, NY
PROJECT NUMBER C02NY021201

January 1998

Prepared For

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</table>
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ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR
PLATTSBURGH ATLAS MISSILE SITE S-7
FRANKLIN, NY
PROJECT NUMBER C02NY021201

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1. INTRODUCTION

a. Subject and Purpose

(1) This report presents the findings of an historical records search and site inspection for ordnance and explosives (OE) located at the Plattsburgh Atlas Missile Site S-7 in the Franklin, New York (see plate 1 for general location map). The investigation was performed under the authority of the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS).

(2) This investigation focused on the 12.95 acres identified in the inventory project report (INPR) as well as 279 additional acres surrounding the missile silo.

(3) The purpose of this investigation was to characterize the site for potential OE presence, to include conventional ammunition and chemical warfare material (CWM). This investigation was conducted by experienced ordnance experts through thorough evaluation of historical records, interviews, and on-site visual inspection results.

b. Scope

(1) This report presents the site history, site description, real estate information, and confirmed ordnance presence, based on available records, interviews, site inspections, and analyses. The analyses provide an evaluation of all information to assess current day potential ordnance presence, where ordnance presence has not been confirmed.

(2) For the purpose of this report, OE consists of live ammunition or components, debris derived from live ammunition, CWM, or explosives which have been lost, abandoned, discarded, buried, fired, or thrown from demolition pits or burning pads. These items were either manufactured, purchased, stored, used, and/or disposed of by the War Department/Department of Defense (DoD). Such ammunition components are no longer under accountable record control of any DoD organization or activity.

(3) Expended small arms ammunition (.50 cal or smaller) and ordnance fragments (without energetic material), are not...
considered OE presence. OE further includes "explosive soil" which refers to any mixture in soil, sands, clays, etc., such that the mixture itself is explosive. Generally, 10 per cent of more by weight of explosive in a soil mixture is considered explosive soil.

2. PREVIOUS INVESTIGATIONS

a. Preliminary Assessment

(1) A preliminary assessment (PA) of the Site S-7 was conducted by the New York District (CENAN) in 1995 (see document E-1). Because of the potential for OE presence, CENAN recommended that Huntsville Center (CEHNC) consider the site for further study. Table 2-1 below represents an overview of the PA phase.

<table>
<thead>
<tr>
<th>Project Number</th>
<th>DERP Category</th>
<th>Present Phase</th>
<th>Comments</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>C02NY021201</td>
<td>OE</td>
<td>SI</td>
<td>Ordnance and explosives</td>
<td>Entire site</td>
</tr>
<tr>
<td>N/A</td>
<td>CON/HTW,</td>
<td>N/A</td>
<td>None Recommended</td>
<td>N/A</td>
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<tr>
<td></td>
<td>HTRW, BD/DR</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(2) Because the OE was placed at this site by a private company and not DoD, S-7 was initially considered a third party site (TPS). However, the 26 April 1996 memo from CEMP-RF authorizes an OE project and does not address this issue (see document E-2).

b. Other Investigations

(1) The New York State Police report on the 1979 fatality has been destroyed, and the team was unable to locate any reports that the Plattsburgh Air Force Base (AFB) Legal Office and Explosives and Ordnance Disposal (EOD) unit may have written after the accident.

(2) While it is technically not an investigation, the unit history of the Army’s 55th Ordnance Detachment (EOD) includes a section on their response to the silo incident. It also describes the proposed joint Army/Air Force plan to remove the 20mm from the silo (see document E-5).
3. SITE DESCRIPTION

a. Existing Land Usage

(1) Site S-7 is located in the southeastern corner of Franklin County in a region of upstate New York known as the North Country. This section of Franklin County is a rural area with heavily wooded hills, lakes and streams, some farmland, and few residents. There are a few scattered residences near the site, mostly on the highway. Site S-7, like most of Franklin County, lies within the Adirondack Park, and development is controlled by the Adirondack Park Agency.

(2) All of the acreage qualified in the INPR is still owned by Melinda Hadley. Except for the Alder Brook Well, all the land is on the western side of State Route 3, a major highway between Plattsburgh and Saranac Lake. Both the helipad and the Alder Brook Well are unused, while the missile site surface area is an infrequent storage area for the Hadleys. The grassy zone surrounding the missile site is unused. The entrance to the launch control center is sealed with dirt, and the silo is filled with water. Current land usage is summarized in table 3-1.

<table>
<thead>
<tr>
<th>FORMER AREA USAGE</th>
<th>PRESENT OWNER*</th>
<th>PRESENT USAGE</th>
<th>SIZE/COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Alder Brook Well</td>
<td>Melinda Hadley</td>
<td>Wetlands</td>
<td>3.5 See plate 3 &amp; photo J-1</td>
</tr>
<tr>
<td>B Helipad</td>
<td>Melinda Hadley</td>
<td>Grassland</td>
<td>.75 See plate 3 &amp; photos J-2 and J-3</td>
</tr>
<tr>
<td>C Missile Site (surface)</td>
<td>Melinda Hadley</td>
<td>Forest and storage</td>
<td>8.7 See plate 4, photos J-4 thru J-16, &amp; photo K-8</td>
</tr>
<tr>
<td>D Launch Control Center and Tunnel</td>
<td>Melinda Hadley</td>
<td>Abandoned</td>
<td>N/A See docs F-3 thru F-11 &amp; K-10 thru K-13</td>
</tr>
<tr>
<td>E Missile Silo</td>
<td>Melinda Hadley</td>
<td>Abandoned</td>
<td>N/A See docs F-7 thru F-11 &amp; K-14 thru K-16</td>
</tr>
<tr>
<td>F All Other Land (right of way, security zone)</td>
<td>Various</td>
<td>Forest</td>
<td>279.75 See plate 3 &amp; photos J-18 thru J-20</td>
</tr>
</tbody>
</table>
b. Climatic Data

(1) The region has a cool, humid continental climate, with relatively cool and short summers and long, cold winters. Average annual precipitation is about 37 inches, nearly half of which falls during the May through September period. April is normally the driest month, with an average of about 2½ inches of mostly rain. Though heavy downpours and thunderstorms occur, a slow and gentle rain lasting all day is more common.

(2) During the winter, most of the precipitation falls as snow. In an average year, the site receives about 85 inches of snow. Although the heaviest months are December through March, snow has been recorded as early as October and as late as May. The greatest snowfall in any one month was in December of 1970, when 65 inches fell. The greatest depth of snow on the ground was 40 inches in March of 1971.

(3) The average annual temperature is about 41 degrees Fahrenheit (°), and the average temperature during the growing season is about 60°. July is the warmest month, with an average temperature of about 65°, while the coldest month, February, has an average of about 15°. Extremes run from 96° to minus 31°. Extremely high summer temperatures are rare, but subzero temperatures are common in the winter.

(4) Relative humidity ranges from an average 8 AM low of 72 per cent (%) in May to 87% in winter. Humidity at noon time is about 25% less. Annually, the sun shines on 47% of the amount possible, but during the growing season is shinco 58% of the possible time. Prevailing winds are from the west and are generally mild to strong, though the region occasionally experiences strong gales. Tornadoes are extremely rare (references B-4 and B-5).

(5) Temperature and precipitation averages are provided in table 3-2 on the following page.
### TABLE 3-2
REGIONAL WEATHER AVERAGES 1951-1973

<table>
<thead>
<tr>
<th>Month</th>
<th>Temperature Max</th>
<th>Temperature Min</th>
<th>Temperature Extremes</th>
<th>Precipitation (inches)</th>
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</thead>
<tbody>
<tr>
<td>January</td>
<td>27°</td>
<td>8°</td>
<td>55° -31°</td>
<td>14.1 (snow)</td>
</tr>
<tr>
<td>February</td>
<td>29</td>
<td>10</td>
<td>55 -23</td>
<td>19.5 (snow)</td>
</tr>
<tr>
<td>March</td>
<td>38</td>
<td>21</td>
<td>71 -8</td>
<td>14.8 (snow)</td>
</tr>
<tr>
<td>April</td>
<td>52</td>
<td>33</td>
<td>83 1</td>
<td>5.2 (mix)</td>
</tr>
<tr>
<td>May</td>
<td>66</td>
<td>43</td>
<td>90 20</td>
<td>3.1 (rain)</td>
</tr>
<tr>
<td>June</td>
<td>76</td>
<td>54</td>
<td>94 34</td>
<td>3.4 (rain)</td>
</tr>
<tr>
<td>July</td>
<td>79</td>
<td>58</td>
<td>96 42</td>
<td>3.5 (rain)</td>
</tr>
<tr>
<td>August</td>
<td>77</td>
<td>56</td>
<td>95 39</td>
<td>3.4 (rain)</td>
</tr>
<tr>
<td>September</td>
<td>70</td>
<td>49</td>
<td>95 28</td>
<td>2.7 (rain)</td>
</tr>
<tr>
<td>October</td>
<td>59</td>
<td>40</td>
<td>83 17</td>
<td>3.1 (rain)</td>
</tr>
<tr>
<td>November</td>
<td>43</td>
<td>29</td>
<td>72 -3</td>
<td>8.5 (mix)</td>
</tr>
<tr>
<td>December</td>
<td>30</td>
<td>14</td>
<td>61 -21</td>
<td>20.1 (snow)</td>
</tr>
</tbody>
</table>

### c. Topography

(1) Site S-7 is on level terrain, though there are numerous hills close by. The missile site and helipad are about 1700 feet (') above mean sea level (MSL), and the 1910' MSL Ryan Mountain is ¼ mile to the northwest. The land slopes downward to the east towards route 3 and then Alder Brook, and the Alder Brook well is at about 1340' MSL.

(2) Although the site itself is on a relatively flat area, it lies within the Adirondack Mountain region of upstate New York. In Franklin County, these mountains rise to elevations of 2,000' to 3,000' MSL. They are generally well-rounded, and are separated by numerous broad valleys filled with glacial drift at elevations around 1,500' MSL. Further to the south, the mountains are higher and more rugged, and the highest point in the state is 5,344' MSL on Mount Marcy, located about 40 miles south of S-7 in Essex County (references B-5 and B-8).

### d. Geology and Soils

(1) The Adirondack Mountains are comprised of some of the oldest formations of rock in geological time; the Archezoic and Proterozoic Divisions. All of Franklin County was covered by ice during the Wisconsin stage of the Pleistocene epoch and this glaciation modified the topography. The advancing glaciers scraped off the old residual soil and loose weathered rock and redeposited the materials during both the advancing and retreating stages of the ice front to form the almost universal mantle of glacial drift which comprises the overburden. This glacial till overlies Pre-Cambrian igneous and metamorphic rocks which form the rugged terrain in the region.
At Site S-7, there is about 115' of overburden above the hard and dense gray syenite bedrock. This soil is composed of preconsolidated, dense silts and fine sands with small lenses and seams of coarser sand. At the surface, this consists of brown sandy silt which changes at about 30' to gray sandy silt with traces of clay. This fine silty sand carried sufficient moisture in suspension to provide constant movement and make it extremely unstable during excavation (references B-5, B-8, B-9, and B-107).

e. Hydrology

(1) The only surface water is the stream adjacent to the Alder Brook well site, where the contractor tried (and failed) to dig a well to provide drinking water for the missile site. The United States Air Force (USAF) considered using an intake on the Brook, but this plan was dropped after it became too expensive. The western part of the missile site drains westward into Brandy Brook, which flows into Alder Brook. The eastern portion drains eastward under route 3 directly into Alder Brook. The land around the well site is swampy, and Alder Brook flows northward into the North Branch of the Saranac River, which flows northeast through Plattsburgh into Lake Champlain.

(2) Groundwater caused costly and time-consuming problems during silo construction, making S-7 the last of the 12 sites to be completed. The glacial soil was a fine silty sand carrying moisture in suspension which led to major delays. The contractors installed numerous relief wells, but the sandy silt destroyed the bearings of the deep well pumps. Another solution was to drill fifty perimeter grout holes, but the glacial till was too impervious to accept much grout. The problem was finally solved by drilling additional relief wells and using jet eductor pumps. A 1988 Corps monitoring well at the missile site encountered an unconfined ground water table at varying depths ranging from 23' to 32' below ground level.

(3) The USAF needed a source of drinking water for the silo crew, but the fine silty soil produced only a small flow of water. The AF purchased 3.5 acres of land for a well next to Alder Brook, but the contractor encountered rock at 16' which continued down to 100', reaching solid limestone with no appreciable amount of water. This well next to the Brook was capped and abandoned. The solution was to use well "C", a dewatering well originally drilled for silo excavation. Additional modifications were required, but it was finally considered acceptable for crew drinking water. This well is now connected to the Hadley residence by an 1800' pipe (references B-9, B-103, and B-107).
A June 1965 deactivation report noted that all the Plattsburgh sites had excessive water infiltration, with an average rate of approximately 40-105 gallons per minute. The report added that a sump pump malfunction could result in water rising as much as 9 feet per day (reference B-93).

f. Natural Resources

The New York State Department of Environmental Conservation provided a letter stating there were no occurrences of threatened or endangered species on this site (reference B-6).

g. Historical/Cultural Resources

(1) The New York State Office of Parks, Recreation, and Historic Preservation determined that there are no cultural or historic resources at site S-7 (reference B-7). Although one could conceivably claim that the missile silo played a significant role in the Cold War and should be recognized for this, the ASR team found no information to conclude that anyone has ever done so or plans to.

(2) Site S-7 is among the 3.5 million acres of privately owned land within the 6 million acre Adirondack Park. The Adirondack Park Agency regulates land use and development activities on these lands. Any future work on this site might require a permit from this agency.

4. HISTORICAL ORDNANCE PRESENCE

a. Chronological Site Summary

(1) Although the US Army occupied the Plattsburgh Barracks since 1814, Plattsburgh Air Force Base (AFB), the base with which S-7 was associated, was not constructed until 1955. The first aircraft assigned were B-47 bombers and KC-97 tankers of the Strategic Air Command (SAC). These aircraft were replaced by B-52G bombers and KC-135A tankers in 1965. The B-52s were subsequently replaced by FB-111A bombers, and the base later closed in September 1995 under Base Realignment and Closure (BRAC) 93 (reference B-28).

(2) The Atlas Inter-Continental Ballistic Missile (ICBM) had been under development since the early 1950s, but the Soviet Sputnik launch in October of 1957 provided a major incentive to accelerate this work. The first successful Atlas launch was in December of 1957. The Atlas and the Titan I were the first generation of ICBMs and were liquid fueled. The three Atlas models fielded as ICBMs were the D, the E, and the F. Most of
the D and E models were stored horizontally and raised to the vertical position for firing. The Atlas F had an inertial guidance system and was stored in a hardened underground silo. Like the Titan I, the Atlas F had to be elevated from the silo to the surface for firing. Each model of missile had a different type of launch site (see document F-1). Table 4-1 is a listing of all Atlas units (SMS - Strategic Missile Squadron) in order of the squadron activation date (references B-17 thru B-20).

<table>
<thead>
<tr>
<th>Squadron</th>
<th>Date Activated</th>
<th>Date Inactivated</th>
<th>Support AF Base</th>
<th>Number/Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>576th SMS</td>
<td>1 Apr 58</td>
<td>22 Mar 65</td>
<td>Vandenberg CA</td>
<td>6 Atlas D</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 Atlas E</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 Atlas F</td>
</tr>
<tr>
<td>564th SMS</td>
<td>1 Jul 58</td>
<td>1 Sep 64</td>
<td>F.E. Warren WY</td>
<td>6 Atlas D</td>
</tr>
<tr>
<td>565th SMS</td>
<td>1 Dec 58</td>
<td>1 Dec 64</td>
<td>F.E. Warren WY</td>
<td>9 Atlas D</td>
</tr>
<tr>
<td>566th SMS*</td>
<td>15 Aug 59</td>
<td>15 Dec 64</td>
<td>Offutt NE</td>
<td>9 Atlas D</td>
</tr>
<tr>
<td>567th SMS</td>
<td>1 Apr 60</td>
<td>25 Jun 65</td>
<td>Fairchild WA</td>
<td>9 Atlas E</td>
</tr>
<tr>
<td>549th SMS**</td>
<td>1 Oct 60</td>
<td>25 Mar 65</td>
<td>F.E. Warren WY</td>
<td>9 Atlas E</td>
</tr>
<tr>
<td>550th SMS</td>
<td>1 Apr 61</td>
<td>25 Jun 65</td>
<td>Schilling KS</td>
<td>12 Atlas F</td>
</tr>
<tr>
<td>551st SMS</td>
<td>1 Apr 61</td>
<td>25 Jun 65</td>
<td>Lincoln NE</td>
<td>12 Atlas F</td>
</tr>
<tr>
<td>577th SMS</td>
<td>1 Jun 61</td>
<td>25 Mar 65</td>
<td>Altus OK</td>
<td>12 Atlas F</td>
</tr>
<tr>
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<td>1 Jul 61</td>
<td>25 Mar 65</td>
<td>Dyess TX</td>
<td>12 Atlas F</td>
</tr>
<tr>
<td>579th SMS</td>
<td>1 Sep 61</td>
<td>25 Mar 65</td>
<td>Walker NM</td>
<td>12 Atlas F</td>
</tr>
<tr>
<td>556th SMS</td>
<td>1 Oct 61</td>
<td>25 Jun 65</td>
<td>Plattsburgh NY</td>
<td>12 Atlas F</td>
</tr>
</tbody>
</table>

*566th SMS renamed 549th SMS 1 Jul 61
**549th SMS renamed 566th SMS 1 Jul 61

(3) The Atlas F was initially called the WS-107A-1 (WS for Weapons System). This was later changed to SM-65F (SM for Strategic Missile). It's final designation was HGM-65F. The H meant silo stored and elevated to the surface for launch. The G indicated the mission was surface target, and the M was for missile (reference B-18).

(4) In 1959, Plattsburgh was selected as the support base for an Atlas F squadron of 12 missiles, whose sites were located away from the AFB (and each other) to ensure that it would take multiple Soviet warheads to destroy them. The Ballistic Systems Division (BSD) originally gave the sites local town names and random numbers, but in March of 1962 SAC changed the numbers to reflect a clockwise pattern around the AFB. SAC also changed some of the names. S-7 was originally known as site 11 Sugarbush, but this was changed to site 7 Riverview (see document L-1).
At all six Atlas F bases around the country, silo construction was complicated by weather, work stoppages, injuries/fatalities, modifications, and more modifications. Construction began with an open cut down to 60' to the level of the launch control center (LCC) floor. Next was the 174' deep silo and a 55' tunnel connecting the silo and LCC. Once the concrete portion of silo was complete, contractors installed a steel “crib,” similar to the steel framework for a 15 story building. This crib had 8 levels, which provided working platforms and support for equipment. This equipment included the propellant storage and loading system, power generating units, various water systems, fuel and lubricating oil storage, air conditioning units, and the personnel and missile elevators (see documents E-3 and F-8 thru F-11).

Excavation at S-7 began on 31 August 1960, and records indicate that it had the most problems of any of the 556th SMS sites, primarily because of the soil conditions. The original completion date of 27 November 1961 slipped to 29 May 1962, when Raymond-Kaiser-Macco Puget Sound (construction contractor) turned the site over to General Dynamics. Three days later, the Air Force site activation task force (SATAF) took custody of site S-7. It was the last 556th SMS site to be accepted. It was turned over to SAC on 9 December 1962 and the 556th SMS was declared operational (reference B-107) (see documents H-1 and H-2).

The 556th SMS reported to the 820th Strategic Aerospace Division at Plattsburgh AFB, which in turn reported to the 8th Air Force at Westover AFB, MA. The 8th AF reported to SAC Headquarters at Offutt AFB, NE. Throughout 1963 and 1964, site S-7 maintained their missile on alert in between maintenance shutdowns. Squadron historical reports do not specifically mention this site, implying nothing out of the ordinary took place (references B-92 thru B-94).

The Atlas ICBMs were liquid fueled with RP-1 (kerosene) and liquid oxygen (LOX), though the LOX was stored outside the missile in silo tanks. Once fueling was complete, the missile was raised to the surface for firing. Adding the LOX was a very hazardous procedure and caused several explosions inside the silos during training exercises, though none of the explosions occurred at any of the 556th SMS sites (references B-16, B-17, & B-33).

On 19 November 1964, Secretary of Defense announced that all remaining first generation ICBMs (Atlas E and F and Titan I) would be retired by June of 1965. This decision was based on the safety hazards of liquid fuel as well as the heavy maintenance requirements. In addition, the Minuteman ICBM (as
well as the Navy’s Polaris) had been fielded in sufficient numbers. The Minuteman was solid fueled and had numerous other advantages over the Atlas and Titan I (references B-15 and B-18).

(10) The dates for actions at each 556th SMS silo are unavailable, but the squadron’s first missile was taken off alert on 12 March 1965. The last missile went off alert on 10 April, and the final missile was shipped to Norton AFB, CA on 13 April. SAC provided specific instructions for the deactivation, which began with removal of the re-entry vehicle (RV) and missile and included disposition of equipment installed inside the silo and LCC (reference B-93, see document E-4).

(11) At one point, probably in May of 1965, the 556th SMS turned the site over to the Plattsburgh AFB civil engineer in caretaker status (see document H-3). The S-7 real estate map indicated that the 12.95 acres of fee property qualified in the INPR were reported excess to the General Services Administration (GSA) on 20 September 1965 and was purchased by Yates County Industries on 2 July 1968 (see document G-1).

(12) Franklin County Real Property Office records indicate that the property was transferred to Louann, Inc, Ithaca NY, on 22 August 1968. It was subsequently sold to the Hadley family on 7 August 1978, and the present owner is Melinda Hadley (references B-83 and B-87). The ammunition disposal operations took place sometime between 1968 and 1978 (see document H-4).

(13) On 30 March 1979, Francis McKenna was salvaging steel beam from inside the silo when his cutting torch set off a 20mm shell, killing him instantly (see document H-5). Soon afterwards, Mr. Hadley attempted to close the silo door, which had been damaged by the ammunition disposal company. He also bulldozed sand in front of the personnel entrance door to prevent trespassers for going into the silo. The silo has been closed and abandoned since 1979, and is now filled with water. The chronological history is summarized in table 4-2 on the following page.
TABLE 4-2
SUMMARY OF CHRONOLOGICAL HISTORY

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 55</td>
<td>Plattsburgh AFB opens</td>
</tr>
<tr>
<td>Jan 60</td>
<td>USAF announces locations of silos</td>
</tr>
<tr>
<td>31 Aug 60</td>
<td>Excavation begins at S-7</td>
</tr>
<tr>
<td>15 Mar 62</td>
<td>Changed from #11 Sugarbush to #7 Riverview</td>
</tr>
<tr>
<td>29 May 62</td>
<td>Construction phase completed</td>
</tr>
<tr>
<td>9 Dec 62</td>
<td>S-7 turned over to SAC</td>
</tr>
<tr>
<td>19 Nov 64</td>
<td>DoD announces Atlas &amp; Titan I retirement</td>
</tr>
<tr>
<td>10 Apr 65</td>
<td>Last 556th missiles off alert</td>
</tr>
<tr>
<td>20 Sep 65</td>
<td>S-7 turned over to GSA</td>
</tr>
<tr>
<td>2 Jul 68</td>
<td>Land bought by Yates County Industries</td>
</tr>
<tr>
<td>Circa 68-78</td>
<td>Ammunition disposal operations</td>
</tr>
<tr>
<td>7 Aug 78</td>
<td>Property sold to Hadleys</td>
</tr>
<tr>
<td>30 Mar 79</td>
<td>Francis McKenna dies in silo</td>
</tr>
<tr>
<td>30 Sep 95</td>
<td>Plattsburgh AFB closed under BRAC 93</td>
</tr>
</tbody>
</table>

b. Ordnance Related Records Review

(1) Introduction

(a) Research efforts began with a thorough review of all reports, historical documents, and reference material gathered during the archival search. During this review, an effort was made to focus on areas of OE presence described in previous reports as well as additional areas that were identified during the research.

(b) The ASR team was able to locate a large amount of historical maps and documents relating to the Air Force operations at site S-7. However, most of the information on activities after site closure came from newspaper articles and personal interviews.
USAF Operations

(2) The 556th SMS had 13 Atlas F missiles and 13 Mk 4 re-entry vehicles (RVs) to support 12 silos. The spares were stored on Plattsburgh AFB, and the RV was attached only after the missile had been put into the silo. The fuel (RP-1) and oxidizer (LOX) tanks were pressurized with helium until the missile was installed in the silo (reference B-92).

(3) Once the missile was in the silo, about 11,500 gallons of RP-1 kerosene fuel were transferred to the missile fuel tanks directly from a surface trailer. Before launch or during a propellant loading exercise (PLX), the helium in the pressurized oxidizer tank was replaced with about 18,600 gallons of liquid oxygen (LOX). For a PLX, the RV was removed and replaced with a dummy RV. Once LOX was added, the missile was raised to the surface. After numerous explosions inside the silos (none at the 556th SMS sites), SAC replaced the LOX with safer liquid nitrogen for a PLX (references B-16, B-17, & B-33).

(4) A Combat Crew consisted of two officers and two enlisted men. The officers were the Combat Crew Commander and his Deputy. The enlisted were the Ballistic Missile Analyst Technician (BMAT) and the Missile Facilities Technician (MFT). The BMAT monitored the missile itself, while the MFT maintained all the support equipment. There were also security personnel on the surface (reference B-73).

(5) USAF security forces of that period were typically armed with the .30 caliber M1 carbine and .38 caliber pistol. The two launch officers also carried the .38, partly for security, but also to shoot the other person if he attempted an unauthorized launch. There is no historical information to indicate that any other weapons were carried at the silos (reference B-17 thru B-23).

(6) The four members of the Combat Crew were the minimum necessary for normal operations. However, to install or remove the missile/RV and troubleshoot the frequent maintenance problems, additional personnel were often in the silo. These included a Liquid Fuel Systems Mechanical Specialist and various other specialists who performed OE tasks. The Missile Engine Technician was responsible for explosive devices for engine starting. The Missile Electrical Repair Technician took care of missile battery explosive components. The Missile Maintenance Technician handled the explosive components for the RV separation and the retro-rockets (reference B-73).

(7) The site was designed to resist all but a direct nuclear hit. Once the missile was installed in the silo, it
remained inside on its launch platform under the two 150,000 lb doors. Each door was 22' x 16'8", 2½' thick, and built to withstand a 100 pounds per square inch (psi) overpressure. Normally, the missile maintenance took place inside the silo. The missile enclosure area was considered hazard class 1, division 2, while the fuel prefab was class 1, division 1. All other areas in the silo and LCC were considered non-hazardous (reference B-74).

(8) Once it was decided to deactivate the Atlas F system, SAC provided a detailed three-phase for removal of missiles and other equipment. The first two steps of phase I were remove the RV and remove the missile (see document E-4). Although not specified in the historical documents, it was likely that all explosive components were removed before the missile left the silo. Plattsburgh AFB turned site S-7 over to GSA on 20 September 1965 (references B-86 and B-93).

Post-USAF

(9) Real estate records indicate that GSA sold the 12.95 acres to the Yates County Industries a/k/a Louann Inc. on 2 July 1968, and this company conducted ammunition disposal operations sometime between 1968 and 1978. Little documentation was found on their work, though a 1974 newspaper article noted the presence of spent bullets on the site (see document H-4).

(10) On 31 March 1979, Francis McKenna was killed while doing salvage work on the 5th level. He had been using an acetylene torch to cut the I-beams when his flame ignited a 20mm projectile. The cartridge case struck his head, killing him instantly (see documents H-5 and H-6).

(11) The fatality brought a considerable amount of attention to the silo, including military EOD teams from both Plattsburgh AFB and Camp Drum. These teams prepared a plan for a joint Army/Air Force operation to remove the ordnance from the silo. However, this mission was canceled when the New York State Attorney General wouldn’t sign the release form (see document E-5).

c. Interviews With Site-Related Personnel

(1) Mr. John Ricci retired from the USAF in 1965 after working as a safety inspector for the 556th SMS. He said all explosive components were removed before the missile was pulled out of the silo, and he was certain none of these components were left behind when the Air Force deactivated the silos (see document I-1).
(2) Mr. William Staples is a retired New York State Trooper and responded the day Mr. McKenna was killed in the silo. He saw "a tremendous amount" of 20mm ammunition, mostly exposed on the work platforms, and said it was dangerous to walk around inside the silo. He noted the rounds had been heavily corroded from the water in the silo. He said a private company had obtained a contract to dispose of old and/or obsolete ammunition. He thought the rounds originated at Plattsburgh AFB but was not certain (see document I-2).

(3) New York State Police Investigator Douglas Muldoon also responded to the accident scene. He recalled seeing a great deal of loose ammunition on the work platforms. These rounds had different color tips, and he thought some were HE. He had heard that the ammunition disposal company used to burn .50 caliber rounds in an old tank on the surface, but this procedure did not work safely on the 20mm rounds. He had also heard that the company had obtained foreign-made 20mm ammunition for a foreign-made aircraft cannon (see document I-3).

(4) Mr. John Rigsbee was a member of the Plattsburgh AFB EOD unit and entered the silo after the accident. He said there were 20mm rounds lying all around from top to bottom, but he did not see any smaller caliber rounds. The story he heard was that the ammo disposal company had gotten the 20mm as a Foreign Military Sales (FMS) return from a country in South America. He estimated that he saw "a couple thousand" rounds in the silo but added there was water on the bottom (see document I-4).

(5) 1SG Ed Fagan belonged to Fort Drum's 55th EOD Detachment and also went to the site after the accident. He stayed on the surface and observed Soviet-manufactured small arms rounds there. Other team members noted there were 20mm rounds "everywhere" inside the silo, and unknown items in the 20' of water on the bottom. He added that Army and AF EOD units drew up a plan to clean out the silo, but this was canceled when state officials declined to sign a release form (see document I-5).

(6) Mr. Leigh Hadley is a former co-owner of the silo and is the former husband of Melinda Hadley, the current owner. After they bought the land in 1979, he removed some live .30 and .50 caliber rounds from the surface near the silo. He never saw 20mm rounds or cartridge cases on the surface. He said the company burned small arms in an old tank near where he later buried some old boxes and other non-explosive scrap. Mr. Hadley and his sons have been all over the site, including the well and the helipad, and only saw evidence of ammo disposal operations near the silo itself. After the accident, he went in the silo and observed 20mm rounds from level 2 on down. He did not see any ammo in the LCC or the tunnel. He added that the ammo
disposal company had damaged the silo door, so when he closed the door it didn’t seal properly (see document I-6).

(7) Mrs. Melinda Hadley owns 105 acres of the silo and most of the surrounding land. She said her ex-husband has more technical knowledge about the site. She has no plans to open up the silo, noting that draining over 2 million gallons of water might undermine nearby Route 3. She asked that the Corps of Engineers help close the door securely and then leave the site alone (see document I-7).

5. SITE ELIGIBILITY

a. Confirmed Formerly Used Defense Site

(1) Former usage of the site S-7 by the Department of Defense was previously confirmed as summarized in section 3. Historical documents, newspaper articles, personal interviews, and a site visit confirmed previous Air Force usage of S-7 as an Atlas F missile site.

(2) Although this is definitely a FUDS site, the DoD does not have a clear responsibility for the OE. The OE was introduced through improper operations by a private company and not by the DoD. The ammunition observed on the site was of foreign manufacture, but it has not been determined whether or not DoD was involved in transferring the ammo to this contractor. No American-made ammunition has been positively identified on the site, though some could be in the silo.

b. Potential Formerly Used Defense Site

(1) The INPR qualified 12.95 acres as eligible for FUDS (areas A, B, and C). Areas D and E (the underground portion underneath area C) are also eligible for FUDS. All this land was purchased by the Air Force. The INPR did not qualify area F, 279.75 leased acres used for easements, right of way, utility lines, and an outer security zone (see document G-1).

(2) While there are no projects recommended for area F, it was under the control of and some of it was used by DoD and therefore meets the requirements for FUDS eligibility. CENAN should consider amending the FDE to qualify this land.

6. VISUAL SITE INSPECTION

a. General Procedures and Safety

(1) Members of the assessment team visited the site on
1 November 1997. The primary task of the team was to assess OE presence and potential due to former usage as an impact area. Site inspection was limited to non-intrusive methods; i.e. subsurface sampling was not authorized or performed.

(2) Real estate rights-of-entry were not obtained by the team due to the willingness of the owner to allow the team to visit the property. As such, control and jurisdiction of the site remained with the owner during this inspection.

(3) A site safety plan was developed and utilized by the assessment team to assure safety from injury during the site inspection of this facility. Prior to the inspection, a briefing was conducted which stressed that OE should only be handled by military EOD personnel (reference B-2).

(4) Prior to the site visit, a thorough review of all available reports, historical documents, texts, and technical ordnance reference materials gathered during the historical records search portion was made to ensure awareness of potential ordnance types and hazards.

b. Area A: Alder Brook Well

The team was unable to gain access to this area, which is located next to Alder Brook about ½ mile from route 3. The trail starts out in soft and rough soil and quickly becomes swampland. According to the Hadleys, the well was capped in 1962 and the site has not been used for any reason (including the ammo disposal company) since then (see photo J-1 and plate 3).

c. Area B: Helipad

This parcel is south of the access road about 500 feet east of the silo. The helipad itself was built up from soil excavated from the missile silo, and the asphalt surface has vegetation now growing in many places. No OE was observed in this area (see photos J-2 & J-3 and plate 3).

d. Area C: Missile Site (surface)

(1) The site is about 2,000’ feet from route 3 via an asphalt access road. In the center of the area is the missile silo itself, surrounded by a concrete cap and asphalt (see photo J-4 and plate 3). One of the silo doors is partially open, though there is enough material around it to prevent access (see photos J-5 & J-6 and plate 5). The LCC personnel entrance has been covered up with a large amount of earth, preventing access (see photos J-7 & J-10 and plate 5). Just west of the personnel entrance is the escape hatch (see photo J-8).
(2) On the northern side of the silo cap, one of the Hadley boys built a small structure for use as a music practice site away from their residence (see photos J-4 & J-4 and plate 5). The southern side has some scrap pallets of wood piled in two locations (see photo J-13 and plate 5).

(3) To the northeast of the silo is a large grassy depression where Mr. Hadley had buried some ammunition boxes and inert scarp (see photos J-9 and J-10). This is most likely the location of the four water tanks which were removed by the ammo disposal company. Mr. Hadley said this was the general area where the ammo disposal company burned the small arms in an old tank (see photos J-9 & J-10 and plate 5). A ruptured small arms cartridge case, inert slugs, and some stripper clips were found near this depression (see photos J-14 and J-15).

(4) Northwest of the silo is the antenna hatch, from which an antenna would emerge to maintain communications (see photo J-11). In the woods and to the west are foundations of the two Quonset huts which were removed when the site was closed (see photo J-12 and plate 5). The further from the silo, the greater the undergrowth (see photo J-16). The security fence is no longer there.

(5) The small arms residue was primarily close to the silo, though there was an occasional cartridge case in the grass. All of the items were .30 and .50 caliber size, but they had been burned and the team could not positively identify the type or manufacturer. No live rounds of any kinds were seen, nor were any 20mm rounds, cartridge cases, or slugs.

Note: The ASR team was unable to enter sub-surface areas D and E because of the blocked entrance, water in the silo, and confined space entry rules (EM 385-1-1 and CFR 1910.146). The descriptions below are based on technical manuals, photos, and visits to other Atlas F sites by ICBM enthusiasts. The facilities in site S-7 may not have been constructed precisely as shown in the historical photos, and salvage work has removed some of the steel in the silo.

e. Area D: Launch Control Center & Tunnel

(1) Although one could conceivably enter the LCC through the escape hatch (see documents F-3 thru F-5 and photo J-8), the safest and most logical way is through the personnel entrance which on this site is blocked by earth (see photos J-7 and K-9b). This door opens to a flight of stairs (see photo K-10a) which goes down and makes a 90° right turn and then a left to reach a set of entrapment doors (see documents F-3 thru F-5). Another
right turn leads into the vestibule, where there is a heavy blast
door (see photo K-10b). Beyond this blast door are steps leading
down to the both levels of the LCC (see photo K-12a).

(2) The 1st (upper) level of the LCC was primarily for
site support functions, including the kitchen/mess, toilet and
shower, and storage. It also had a ladder leading to the escape
hatch. Pulling on a lever released several tons of sand allowing
the crew to exit via the ladder (see documents F-3 thru F-11 and
photos K-11a & K-11b).

(3) The 2nd (lower) level of the LCC was used for
essential silo operations which included controlling the
entrapment doors, monitoring missile and equipment status,
communications, and most importantly, launching the missile (see
documents F-3 thru F-11 and photos K-12a & K-12b). Mr. Hadley
thought that this lower level is probably filled with water.

(4) A 55' tunnel connects the LCC with the silo, and
there is another heavy blast door where the LCC meets the tunnel
(see documents F-5 thru F-11 and photos K-13a & K-13b). Mr.
Hadley thought that this tunnel is probably filled with water.

f. Area E: Missile Silo

(1) The tunnel leads to level 2 of the missile silo.
Each of the levels is similar in appearance, with grating
surrounding three sides of the rectangular missile storage area
(see documents F-9 thru F-11 and photos K-14 thru K-16).
Different types of equipment were stored on each level, and there
is a spiral staircase from level 1 all the way to the base of the
silo (level 8). It is likely that most of this equipment was
removed when the Air Force deactivated the site.

(2) Mr. Hadley said that he saw 20mm rounds from level 2
on down back in 1979, and he thought that by now water would be
up to level 2 (see document I-6 and photos K-15 & K-16). The EOD
report stated that there were rounds on the staircase, on the
work levels, and even on the I-beams of the silo crib (see
document E-5). Mr. Hadley had previously removed one of the
rounds from the silo (see photo J-20).

(3) At the time of the accident, water was up to level 7
(8 is the lowest level). Apparently no one has seen the lower
two levels of the silo since the site was deactivated in 1965,
and there is no way of knowing what items are on levels 7 and 8.
It is certain that additional 20mm rounds are there. The bottom
of the silo may also contain scrap metal and other silo
components (see document F-11).
g. Area F: All Other Land

This area is comprised of two access roads and the land surrounding the silo. It is mostly forest land with a few houses (including the Hadley residence) on route 3. There was no OE observed from this area (see photos J-18 & J-19 and plate 3).

7. EVALUATION OF ORDNANCE HAZARDS

a. General Procedures

(1) Each area was evaluated to determine confirmed, potential, or uncontaminated ordnance areas. Confirmed ordnance and explosives (OE) presence is based on verifiable historical record evidence or direct witness of OE items (with explosive components and/or inert debris/fragments) since site closure. Additional field data is not needed to identify a confirmed site.

(2) Verifiable historical record evidence is based on OE items actually seen on site since site closure and authenticated by: historical records (Archive Records, Preliminary Assessment Reports, Site Investigation Reports), local fire departments and law enforcement agencies/bomb squads, military Explosive Ordnance Disposal (EOD) Units, newspaper articles, photographs, or maps.

(3) Direct witness of ordnance items consists of the site inspection team(s) and other credible witnesses as determined by the ASR Research Team Leader (landowners, workers on-site, military personnel who served there, etc.) verifying that they have seen OE presence on the surface or subsurface since site closure.

(4) Potential ordnance and explosives (OE) presence is based on a lack of confirmed ordnance OE presence. Potential OE presence is inferred from records, present-day features, non verifiable direct witness, or indirect witness. Additional field data is needed to confirm potential OE sites.

(5) Inference from historical records is based on no OE items actually seen on site since site closure, and would include documentation (records, aerial photographs, maps) indicating possible OE presence derived from common practice in production, storage, use, or disposal at that time and from records indicating known OE usage.

(6) Inference from present-day site features would be the indication of possible OE presence from such obvious features as target circles, depressions, mounds/backstops, OB/OD areas/pits, etc. Indirect witness would be people who have
stated that they have heard of OE presence on-site (hearsay evidence).

(7) Uncontaminated ordnance subsites are based on a lack of confirmed or potential ordnance. There is no reasonable evidence, either direct or inferred, to suggest present day ordnance presence. Additional field data is not needed to assess uncontaminated ordnance subsites.

b. Area A: Alder Brook Well

This area is considered **uncontaminated** based on an interview with the former owner who stated that he had never seen any items there and added that the ammo disposal company never went to the area (see document I-6).

c. Area B: Helipad

This area is considered **uncontaminated** based upon statement from the property owners (see documents I-6 and I-7) and the negative observations of the ASR team (see photos J-2 and J-3). This area is several hundred feet from the site where the ammo disposal company worked and there is no evidence of OE ever being in area B.

d. Area C: Missile Site (Surface)

This area is considered **confirmed** based on the previous owner's finding live .30 and .50 caliber rounds after the ammo disposal company ceased operations (see document I-6). EOD personnel have also observed foreign small arms on the surface (see document I-5). In addition, the ASR team observed ruptured cartridge cases and solid slugs, further evidence of the contractor's activities (see photos J-14 and J-15).

e. Area D: Launch Control Center and Tunnel

The ASR team did not enter this underground area. This area is **potential** because it connects to the missile silo (see area E below) by a tunnel (see photos K-13a & K-13b). While the former owner did not recall seeing any OE in the area (see document I-6), the possibility cannot be ruled out.

f. Area E: Missile Silo

This area is **confirmed** based on interviews with the owners, EOD personnel, and police officers (see documents I-2 thru I-7). In addition, the owner provided photos showing the 20mm in the silo (see photos K-15 and K-16). The ammo disposal
company apparently dumped or placed thousands of 20mm rounds into the silo.

g. Area F: All Other Land

This area is considered uncontaminated. The owner stated that the ammo disposal company did all their work in area C, and there is no reason to suspect OE in this area (see document I-6 and I-7). Area F is all the land surrounding areas A, B and C as well as access roads (see plate 3). No OE was observed by the ASR team (see photos J-17 thru J-19).

8. SITE ORDNANCE TECHNICAL DATA

a. End Item Technical Data

(1) The ASR team observed a small amount of .30 and .50 caliber ruptured cartridge cases and inert slugs on the surface, and the live 20mm in the silo was verified by police, EOD, and photographs. Some of the ammo was foreign made, according to an EOD technician. Although none of this ammo has been positively identified as American made, table 8-1 on the following page lists similar rounds from the US stockpile. And even though there is no evidence that any Air Force OE was left behind when the site closed, Atlas components and security forces small arms are listed for information only. Drawings of some of these can be found in appendix D.
### TABLE 8-1
AMMUNITION USED AND EXPLOSIVE/CHEMICAL FILLER

<table>
<thead>
<tr>
<th>Item</th>
<th>Type/Model</th>
<th>Filler/Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Air Force Items</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reentry Vehicle</td>
<td>Mk 4</td>
<td>W38 warhead, yield of 3-4 MT</td>
</tr>
<tr>
<td>Squibs and detonators</td>
<td>Unknown</td>
<td>Typically PETN</td>
</tr>
<tr>
<td>.30 cal Carbine</td>
<td>Ball, M1</td>
<td>Lead antimony with gilding metal jacket, 13 grains WC 820 propellant</td>
</tr>
<tr>
<td>.38 special</td>
<td>Ball</td>
<td>Lead, 5 grains smokeless powder propellant</td>
</tr>
<tr>
<td><strong>Post-USAF Ammo Disposal Company Items</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.30 cal</td>
<td>Ball, M2</td>
<td>Lead antimony with gilding metal jacket, 50 grains IMR 4895 propellant</td>
</tr>
<tr>
<td>.50 cal</td>
<td>M2 ball</td>
<td>Soft steel core with antimony lead point filler, 235 grains WC 860 propellant</td>
</tr>
<tr>
<td>20mm HEI</td>
<td>MK I</td>
<td>175 grains tetryl, 66 grains incendiary composition, 500 grains IMR powder</td>
</tr>
<tr>
<td>20mm Incendiary</td>
<td>M 96</td>
<td>.02 lbs incendiary mix, 480 grains IMR powder</td>
</tr>
</tbody>
</table>

**b. Chemical Data of Ordnance Fillers**

Table 8-2 on the following page lists chemical data of some of the ordnance fillers noted in table 8-1.
### TABLE 8-2
CHEMICAL DATA OF ORDNANCE FILLERS

<table>
<thead>
<tr>
<th>Filler</th>
<th>Synonym(s)</th>
<th>Chemical Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explosive D</strong></td>
<td>Ammonium Picrate,</td>
<td>C₆H₂(NO₂)₃ONH₄</td>
</tr>
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9. OTHER ENVIRONMENTAL HAZARDS

a. Hazardous, Toxic, and Radiological Waste

(1) A report accompanying the INPR indicated that testing showed high levels of lead in the silo water (see document E-6). It is possible, though unlikely, that this is the result of the ammunition disposal company's burning of small arms in a tank on the surface. The fire would rupture the cartridge case and burn the propellant and primer, leaving a ruptured cartridge case and inert slugs. Some of these slugs were made of lead. Other than dumping the live 20mm rounds, disposal activities inside the silo are unknown.

(2) It is also possible that the silo doors may have contributed to the high levels of lead. The author recalls reading that the doors had a lead coating to protect the missile from a nearby nuclear blast. However, this could not be confirmed through technical documents.

(3) All of the Atlas F silos had a 15,000 gallon diesel fuel underground storage tank (UST). This was commonly located on the side of the silo opposite the personnel entrance (see documents F-2 and K-3). During the INPR site visit, Mr. Hadley had indicated that the diesel tank had been removed by the ammo disposal company. When shown document F-2, however, he realized that the removed tanks were probably the four water tanks and not the diesel fuel tank. The approximate site of this tank is shown on plates 4 and 5, and photo J-13 shows this general location. It would appear that the diesel tank has not been removed. However, the ASR team was unable to location specific drawings for site S-7, and the presence or location of the diesel tank cannot be positively ascertained.

(4) A magazine article specifically stated that all of the 50 ton, 1,500 kilowatt generators were removed from the Plattsburgh silos and sent to Viet Nam to provide electric power for airfields. However, this article did not mention the diesel storage tanks (reference B-51).

b. Building Demolition/Debris Removal

The owner expressed her desire for the Corps of Engineers to securely close the one silo door that is still partially open. If the Corps accepts this responsibility, consideration should be also given to sealing the personnel entrance (now blocked with earth) and the escape hatch to prevent any future access to the silo.
ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR
PLATTSBURGH ATLAS MISSILE SITE S-7
FRANKLIN, NY
PROJECT NUMBER C02NY021201

APPENDIX A

REFERENCE SOURCES
# Reference Sources

The following organizations and personnel are acknowledged for their support.

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<td>Debbie Albert</td>
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<td>Ruth Pierpont</td>
<td>(518) 237-8643</td>
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<td>PO Box 189</td>
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<td>NYS Police</td>
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<td>Mike Burgess</td>
<td>(518) 564-5206</td>
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<td>Marjorie Mahler</td>
<td>(518) 483-2750</td>
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<td>Jane Rupp</td>
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<td>Jeanette Tabor</td>
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<td>Plattsburgh Library</td>
<td>Staff</td>
<td>(518) 563-0921</td>
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<td>Council on America’s Military Past</td>
<td>LTC John Lynch</td>
<td>(800) 396-4693</td>
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<tr>
<td>518 Why Worry Lane</td>
<td>Phoenix, AZ 85021</td>
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<td>American Association of Former Missileers</td>
<td>Charlie Simpson</td>
<td>(970) 453-0500</td>
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<tr>
<td>PO Box 5693</td>
<td>Breckenridge CO 80424</td>
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<td>Titan Missile Museum</td>
<td>David Stumpf</td>
<td>(602) 625-7736</td>
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<td>Duval Mine Road</td>
<td>Green Valley, AZ</td>
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<td>556th SMS Association</td>
<td>Bruce Raleigh</td>
<td>(313) 671-5530</td>
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<td>8273 Burning Bush Road</td>
<td>Grosse Ile, MI 48138</td>
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<td><strong>INDIVIDUALS</strong></td>
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<tr>
<td>Silo enthusiast</td>
<td>Lee Guidry</td>
<td>(619) 222-9778</td>
<td>Diagrams, photos, and reports</td>
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<td>955 Moana Drive</td>
<td>San Diego CA 92106</td>
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<tr>
<td>Cold War researcher</td>
<td>Michael Binder</td>
<td>(212) 343-4546</td>
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<tr>
<td>7317 Wild Valley Drive</td>
<td>Dallas TX 75231</td>
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<tr>
<td>Property owner</td>
<td>Mrs. Melinda Hadley</td>
<td>(518) 891-4302</td>
<td>Photos, site escort, newspaper articles, and interview (I-7)</td>
</tr>
<tr>
<td>Former property owner</td>
<td>Leigh Hadley</td>
<td>(518) 891-6626</td>
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<td>Former EOD technician</td>
<td>John Rigsbee</td>
<td>(518) 493-3286</td>
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<td>John Ricci</td>
<td>(518) 563-3845</td>
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<td>Albert Skarsden</td>
<td>(518) 561-8827</td>
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<td>Robert Munn</td>
<td>(518) 563-5321</td>
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<td>Robert Patinka</td>
<td>(518) 561-6819</td>
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<td>Mike Kennedy</td>
<td>(518) 561-0732</td>
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<td>Rodger Phillips</td>
<td>(805) 937-3847</td>
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Appendix B

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PART B: NEGATIVE FINDINGS
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SECTION I

BIBLIOGRAPHY


B-10. Anderton, David A. Strategic Air Command, Scribner's, NY, 1975.


B-47 "General Dynamics Astronautics Set To Turn Over Missile Sites", Plattsburgh Press-Republican, 18 December 1962.


B-49. Southworth, Roy. "We Hope It Won't Be Fired: General Cooper", Plattsburgh Press-Republican, 20 December 1962.


B-73. Typical Atlas Questions and Answers, 22 March 1961 (a study guide for crew members), provided by Michael Binder (D-5).


B-75. General Dynamics Atlas F photo (circa 1964) provided by Michael Binder (K-5).

B-76. Various photos of an abandoned 556th SMS silo (not S-7) circa 1975 provided by Brian Anderson, Plattsburgh Base Conversion Agency.

B-77. RPIE Inventory File, Site 7, circa 1966, provided by Brian Anderson, Plattsburgh Base Conversion Agency.

B-78. Various April 1979 S-7 silo photos provided by Mrs. Melinda Hadley (K-8, K-14, and K-16).

B-79. Various 556th SMS site photos from the authors private collection, circa 1986 and 1987 (K-7 and K-9).

B-81. Technical order (TO) 21-SM65F, Atlas F silo diagrams, circa 1963, provided by Lee Guidry (F-2, F-5, F-6, F-9, F-10, and F-11).


B-83. May 1972 aerial photo provided by Franklin County Planning Office, Malone NY.

B-84. June 1983 aerial photo provided by New York State Office of Real Property Services, Saranac Lake NY (K-17).

Note: Documents B-85 thru B-87 were obtained at the USACE, New York District.


"Authorizes OE project at site."

B-86. Map, North Atlantic Division USACE, Real Estate, Plattsburgh AFB Missile Site S-7, 28 February 1962 revised to 25 June 1973 (G-1).


Note: Documents B-88 thru B-93 were obtained at the US Air Force Historical Records Agency (AFHRA)m Maxwell AFB AL.

B-88. Historical Report, 820th Strategic Aerospace Division (SAC), 1-31 December 1962.

B-89. Historical Report, 820th Strategic Aerospace Division (SAC), 1-30 April 1963.


B-94. Final Environmental Impact Statement, Disposal and Reuse of Plattsburgh AFB, November 1995, from OCLC.


Note: Documents B-96 thru B-105 were obtained at the Washington National Records Center.


B-100. Memorandum for Record, REGMC-CM, 5 July 1961, subject: Plattsburgh Missile Base Project, Background and Summary, RG 77.


B-102. Disposition Form, K. Hallock to Area Engineer, 30 June 1961, subject Site #11 - Recommended Initial and Periodic Cell Surveys, RG 77.
B-103. Memorandum, WES Vickburg to Area Engineer, 30 June 1961, subject: Suggested Procedure for Deepening Existing Wells at Site #11 and Installing New Well Screens and Pumps, RG 77.


B-110. Excerpts from 55th Ord Det (EOD) historical report detailing planning for UXO recovery work at silo S-7 (E-5).

B-111. Various as built drawings for Dyess AFB (TX) 578th SMS Atlas F silos, dated 1960 thru 1962, provided by CESWF.


B-115. OP 4335, Small Arms and Special Warfare Ammunition, Department of the Navy, Washington, 15 February 1977.

B-117. TM 9-1900, Ammunition General, War Department, Washington, June 1945.

B-118. TM 9-1900, Ammunition General, Department of the Army, Washington, June 1956.


B-121. TM 43-0001-27, Army Ammunition Data Sheets for Small Caliber Ammunition, Department of the Army, Washington, June 1981 w/change 3 dated 3 September 1984 (D1, D-2, D-3, and D-4).


SECTION II

NATIONAL CAPTIAL REGION ARCHIVES FINDINGS

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PLATTSBURGH ATLAS MISSILE SITE S-7, NY

Also Researched Under Plattsburgh Air Force Base, NY; Town of Franklin, NY; County of Franklin, NY; Plattsburgh Atlas Missile Complex, NY; and Plattsburgh Air Force Base Auxiliary Sites, NY.

NARA - ARCHIVES II - TEXTUAL BRANCH
COLLEGE PARK, MD

RG 429 (Records of Organizations in the Executive Office of the President)

Entry 12: Records of the Federal Property Council: Central Real Property Surveys
Box 89

NARA - ARCHIVES II - STILL PICTURES BRANCH
COLLEGE PARK, MD

RG 342B

Boxes 298 - 299

SMITHSONIAN NATIONAL AIR AND SPACE MUSEUM
WASHINGTON, DC

Videodisk Collection

3B - 20378 - 20391
14 Aerial Photographs, Plattsburgh Atlas Missile Site S-7
US ARMY CORPS OF ENGINEERS - OFFICE OF HISTORY
ALEXANDRIA, VA

Military Files

XVIII - 18 - 3
U.S. Army Corps of Engineers Ballistic Missile Construction Office
[CEBMCO]: Historical Summary, Plattsburgh Area Office, Atlas F
Construction Directorate, 1 August 1960 - 31 October 1962, Plattsburgh
Atlas Missile Site S-7, NY

Real Estate Records

Realty Control File Summary
Plattsburgh Air Force Base, Air Force Facility S-7, 6 September 1973

WASHINGTON NATIONAL RECORDS CENTER
SUITLAND, MD

RG 77 (Records of the Office of the Chief of Engineers)

Accession 77-64A-2125
Box 18
Correspondence Relative to Missile Facility Construction, Plattsburgh
Atlas Missile Site S-7, December 1960

Accession 77-64A-2125
Box 18
Inspection Report, Atlas Missile Construction, Plattsburgh Area,
Plattsburgh Atlas Missile Site S-7, 22 - 24 September 1960

Accession 77-64A-2125
Box 18
Memoranda and Table Relative to Real Estate Acquisition, Plattsburgh
Atlas Missile Site S-7, 23 February - 27 May 1960

Accession 77-64A-2125
Box 18
Memorandum relative to Design and Construction Completion Schedules,
Plattsburgh Air Force Base Missile Facilities, Plattsburgh Atlas Missile
Site S-7, 18 May 1960
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Accession 77-64A-2125
Box 18

Accession 77-65A-3184
Box 17
Two Construction Photographs, Plattsburgh Atlas Missile Site S-7, 10 February - 13 March 1961

Accession 77-66A-3184
Box 16
Correspondence Relative to Construction Status, Plattsburgh Missile Base, Plattsburgh Atlas Missile Site S-7, 1961

Accession 77-66A-3184
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PLATTSBURGH ATLAS MISSILE SITE S-7, NY

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WASHINGTON, DC

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Geographic Catalogs
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Stereographic Catalog
Subject Catalogs
Videodisk Collection

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WASHINGTON, DC

RG 49 (Records of the Bureau of Land Management)
   Entry: Land Entry Papers

RG 153 (Records of the Office of the Judge Advocate General)
   Entry: Reservations File, 1800 - 1950
NARA - ARCHIVES II - TEXTUAL BRANCH
COLLEGE PARK, MD

RG 16 (Records of the Department of Agriculture)
   Entry 17: General Correspondence of the Office of the Secretary of Agriculture,
   1906 - 1975

RG 48 (Records of the Department of the Interior)
   Entry 749B: Central Classified Files, 1937 - 1953

RG 92 (Records of the Office of the Quartermaster General)
   Entry 1892F: Classified Geographic File, 1939 - 1952

RG 107 (Records of the Office of the Secretary of War)
   Entry 213: Office, Assistant Secretary of War for Air Robert A Lovett, Decimal
   File, 1941 - 1949

RG 111 (Records of the Chief Signal Officer)
   Entry 7: Unclassified Central Decimal Files, 1941 - 1957

RG 159 (Records of the Office of the Inspector General)
   Entry 26: General Correspondence

RG 165 (Records of War Department General and Special Staffs)
   Entry 258: Installations Branch, Reports and Correspondence Relating to
   Construction, Utilization, and Disposal of Army Installations, 1944 - 1947

RG 218 (Records of the US Joint Chiefs of Staff)
   Entry: Series 1942 - 1959 (Geographic File)

RG 269 (General Records of the General Services Administration)
   Entry 62: Real Property Disposal Case Files Transferred from the Farm Credit
   Administration, 1945 - 1953

RG 291 (Records of the Federal Property Resource Service)
   Entry 5: Real Property Disposal Case Files, 1949 - 1962

RG 338 (Records of US Army Commands, 1942 -)
   Entry: Camps, Posts, and Stations

RG 341 (Records of Headquarters, US Air Force)
   Entry 336: Plans, Central Decimal File, 1942 - 1954
   Entry 494: Correspondence Regarding Air Force Real Estate Facilities, 1948 -
   1954
RG 342 (Records of US Air Force Commands)
  Entry: “Sarah Clarke” Decimal Correspondence File

RG 429 (Records of Organizations in the Executive Office of the President)
  Entry 17: Records of the Property Review Board: Records Relative to Property
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NARA - ARCHIVES II - CARTOGRAPHIC BRANCH
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US ARMY CORPS OF ENGINEERS - OFFICE OF HISTORY
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Image Collection
Map Collection

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SUITLAND, MD

Accession 77 - 66A - 3183
Accession 77 - 69A - 2583
Accession 77 - 70A - 1102
Accession 77 - 70A - 1116
PLATTSBURGH ATLAS S-7

NARA, NORTHEAST REGION (FRC)
BAYONNE, NJ

RG 77, Records of the Office of the Chief of Engineers
   Accession #68A3904
   Box #117
   Report of Subsurface Investigation, Plattsburgh Missile Facility, Key Map
SECTION III
REGIONAL NATIONAL ARCHIVES FINDINGS
PART B
NEGATIVE FINDINGS
PLATTSBURGH ATLAS S-7

NARA, NORhteast Region
New York, NY

RG 30, Records of the Bureau of Public Roads
   All Entries
   Nothing Found

RG 77, Records of the Office of the Chief of Engineers
   All Entries
   Nothing Found

RG 92, Records of the Office of the Quartermaster General
   All Entries
   Nothing Found

RG 103, Records of the Farm Credit Administration
   All Entries
   Nothing Found

RG 121, Records of the Public Buildings Service
   All Entries
   Nothing Found

RG 219, Records of the Office of Defense Transportation
   All Entries
   Nothing Found

RG 269, Records of the General Services Administration
   Accession #62A-0035
   Box#'s 9 and 11
   Nothing of Value to this ASR Found

RG 270, Records of the War Assets Administration
   All Entries
   Nothing Found
NARA, NORTHEAST REGION (FRC)
BAYONNE, NJ

RG 269, Records of the General Services Administration
   All Entries
   Nothing Found

NARA, NATIONAL PERSONNEL RECORDS CENTER
ST. LOUIS, MO

RG 342, Records of U.S. Air Force Commands, Activities, and Organizations
   Accession #61A5152
   Box #06-14-23-8-1
   Nothing of Value to this ASR Found
APPENDIX C

GLOSSARY
APPENDIX C

Glossary

AFB  Air Force Base
AP   Armor piercing
BD/DR Building Demolition/Debris Removal
BMAT Ballistic Missile Analysis Technician
BRAC Base Realignment and Closure
BSD  Ballistic Systems Division
CEBMCO Corps of Engineers Ballistic Missile Construction Office
CEHNC U.S. Army Corps of Engineers, Engineering and Support Center, Huntsville
CEMVR U.S. Army Engineer, Rock Island District
CERCLA Comprehensive Environmental Response, Compensation and Liability Act
CESPL U.S. Army Engineer, Los Angeles District
CWM  Chemical Warfare Material
DA   Department of Army
DAC  Defense Ammunition Center, Savanna IL
DERP Defense Environmental Restoration Program
DoD  Department of Defense
EE/CA Engineering Evaluation/Cost Analysis
EOD  Explosive Ordnance Disposal
EPA  Environmental Protection Agency
FMS  Foreign Military Sales
FS   Feasibility Study
FUDS Formerly Used Defense Sites
GSA  General Services Administration
HE   High Explosive
HEI  High Explosive Incendiary
HE-T High Explosive Tracer
HRC  Historical Resource Collection
HTRW Hazardous, Toxic and Radiological Waste
HTW  Hazardous and Toxic Waste
ICBM Inter Continental Ballistic Missile
IRP  Installation Restoration Program
LCC  Launch Control Center
M    Model Number
MFT  Missile Facilities Technician
Mk   Mark Number
MM or mm Millimeter
MT   Megaton
NARA  National Archives and Records Administration
OE   Ordnance and Explosives
PA   Preliminary Assessment
PRP  Potentially Responsible Party
RA   Remedial Action
RAC  Risk Assessment Code
RD   Remedial Design
RD/RA Remedial Design/Remedial Action
RG   Record Group
RI   Remedial Investigation
RI/FS Remedial Investigation/Feasibility Study
RPIE Real Property Installed Equipment
RV   Re-Entry Vehicle
SAC  Strategic Air Command
SARA Superfund Amendments and Reauthorization Act
SATAF Site Activation Task Force
SDTAF Site Deactivation Task Force
SI   Site Investigation or Site Inspection
SMS  Strategic Missile Squadron
SOP  Standing Operating Procedures
TM   Technical Manual
TO   Technical Order
USA  U.S. Army
USACE U.S. Army Corps of Engineers
USAF U. S. Air Force
USATCES U.S. Army Technical Center for Explosives Safety
UXO  Unexploded Ordnance
Table of Contents

D-1. Typical US .30 caliber/7.62 mm projectiles (B-121).

D-2. Typical US .50 caliber rounds (B-121).

D-3. Typical US 20mm rounds (B-113 and B-121).

D-4. Site security force small arms (B-121).

D-5. Atlas D missile (B-73).
CARTRIDGE, 7.62-MM, BALL, M59

Type Classification:
Std - OTCM 36841

Use:

Description:
BALL Cartridge. The cartridge is identified by a plain bullet tip.

Purpose:
The cartridge is intended for use against personnel and unarmored targets.

Tabulated Data:

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DODAC</td>
<td>1305-A143</td>
</tr>
<tr>
<td>Weight</td>
<td>393 grain</td>
</tr>
<tr>
<td>Length</td>
<td>2.80 inch</td>
</tr>
<tr>
<td>Tracer</td>
<td>NA</td>
</tr>
<tr>
<td>Primer</td>
<td>NA</td>
</tr>
<tr>
<td>Fuze</td>
<td>NA</td>
</tr>
<tr>
<td>Explosive:</td>
<td>NA</td>
</tr>
<tr>
<td>Type</td>
<td>NA</td>
</tr>
<tr>
<td>Weight</td>
<td>NA</td>
</tr>
<tr>
<td>Incendiary:</td>
<td>NA</td>
</tr>
<tr>
<td>Type</td>
<td>NA</td>
</tr>
<tr>
<td>Weight</td>
<td>NA</td>
</tr>
<tr>
<td>Propellant:</td>
<td>NA</td>
</tr>
<tr>
<td>Type</td>
<td>WC 846</td>
</tr>
<tr>
<td>Weight</td>
<td>46 grain</td>
</tr>
</tbody>
</table>

Projectile:
Weight -------------------------- 150.5 grain

Performance:
Chamber pressure ---------------- 50,000 psi
Velocity ------------------------ 2750 fps,
                                 78 ft from muzzle

Shipping and Storage Data:
Quantity-distance class/SCG -- 1.4S
Storage code --------------------- Class V
DOT shipping class -------------- C
DOT designation ---------------- SMALL ARMS AMMUNITION
Drawing number ----------------- 7553702

References:
TM 9-1005-223-10
TM 9-1005-223-12P
TM 9-1005-224-10
TM 9-1005-233-10
TM 9-1005-257-12
TM 9-1005-262-14
TM 9-1005-296-12
TM 9-1005-313-10
TM 9-1300-206
SB 700-20

11-3
CARTRIDGE, CALIBER .30, BALL, M2

3.34 IN. (84.8-MM)

1.12 IN. (28.4-MM)

1.11 IN. (28.2-MM)

**Type Classification:**

OBS - MSR 11756003

**Use:**


**Description:**

BALL Cartridge. The cartridge is identified by a plain bullet tip.

**Purpose:**

The cartridge is intended for use against personnel or unarmored targets.

**Tabulated Data:**

- **Propellant:**
  - Type: IMR 4895
  - Weight: 50 grain

- **Performance:**
  - Chamber pressure: 50,000 psi
  - Velocity: 2740 fps, 78 ft from muzzle

**Shipping and Storage Data:**

- Quantity-distance class/SCG: 1.4S
- Storage code: Class V
- DOT shipping class: C
- DOT designation: SMALL ARMS AMMUNITION
- Drawing number: 6137544

**References:**

- TM 9-1005-210-12
- TM 9-1005-212-10
- TM 9-1005-222-12
- TM 9-1300-206
- SB 700-20

5-7
CARTRIDGE, CALIBER .50, BALL, M2

Part Number: ARDB0-0106

Type Classification:
Std - OTCM 36841

Use:
Machine Guns, Caliber .50, M2 and M85.

Description:
BALL Cartridge. The cartridge is identified by a plain bullet.

Purpose:
The cartridge is intended for use against personnel or unarmored targets.

Tabulated Data:
- DODAC: 1305-A552
- Weight: 1813 grain
- Length: 5.45 inch
- Tracer: NA
- Primer: Percussion
- Fuze: NA
- Explosive:
  - Type: NA
  - Weight: NA

Incendiary:
- Type: NA
- Weight: NA

Propellant:
- Type: WC 860
- Weight: 235 grain

Performance:
- Chamber pressure: 55,000 psi
- Velocity: 2810 fps
- Range: 78 ft from muzzle

Shipping and Storage Data:
- Quantity-distance class/SCG: 1.4C
- Storage Code: Class V
- DOT shipping class: C
- DOT designation: SMALL ARMS AMMUNITION
- Drawing number: 5577960

References:
- TM 9-1005-213-10
- TM 9-1005-231-10
- TM 9-1300-206
- SB 700-20
CARTRIDGE, CALIBER .50, TRACER, M17

Type Classification:

CON - MSR 11756003

Use:

Machine Guns, Caliber .50, M2 and M85.

Description:

TRACER Cartridge. This cartridge is identified by a brown bullet tip.

Purpose:

This cartridge tracer is intended to permit visible observation of the bullets in-flight path or trajectory to the point of impact.

Tabulated Data:

DODAC --------------- 1305-A571
Weight --------------- 1732 grain
Length --------------- 5.45 inch
Tracer --------------- R-256
Primer --------------- Percussion
Fuze --------------- NA
Explosive:
Type --------------- NA
Weight --------------- NA
Incendiary:
Type --------------- NA
Weight --------------- NA

Propellant:

Type --------------- IMR 5010
Weight --------------- 225 grain

Performance:

Chamber pressure ------------ 54,000 psi
Velocity ------------ 2860 fps, 78 ft from muzzle

Shipping and Storage Data:

Quantity-distance class/SCG -- 1.4C
Storage code ------------ Class V
DOT shipping class ------------ C
DOT designation ------------ SMALL ARMS AMMUNITION
Drawing number -------------- 7672165

References:

TM 9-1005-213-10
TM 9-1005-231-10
TM 9-1300-206
SB 700-20

9-21

D-2
Type Classification:
Std AMCTC 6391.

Use:
This cartridge is designed for use with the M139 gun.

Description:
High explosive - Incendiary w/tracer cartridge M599 has a point detonating self destroying fuze M594. The projectile is a hollow body filled with 120 grams of HEI mixture with a tracer tablet at the base and the point detonating self destructing fuze screwed onto the nose.

The body of the projectile is painted yellow with black markings, the "T's" encircling the ogive (signifying tracer) are painted red.

Purpose:
When fired, the weapon firing pin initiates the primer which ignites the propelling charge. Gases produced by the burning propellant propel the projectile. The projectile shall function with high order detonation upon impact or if projectile does not impact on intended target within four to seven seconds, a self-destruct mechanism will cause high order detonation of the projectile.

Tabulated Data:
DODAC ----------------- 1905-A787
Type ------------------ HEI-T
Weight (approx) -------- 317 grams

Change 1 14-37
CARTRIDGE, 20MM, HEI, M56A3/M56A4

Type Classification:
M56A3 - Std LCC-B, MSR 03816015.
M56A4 - Std LCC-A, MSR 03816015.

Use:
Gun, 20mm, M39, M61, M168, and M195.

Description:
HIGH EXPLOSIVE with INCENDIARY composition cartridge. The projectile is thin-walled steel. A base plate is attached to the projectile to prevent ignition of the incendiary mixture by the propellant gases. A point-detonating fuze is screwed into the nose of the projectile.

Purpose:
This cartridge is for use against ground targets, including lightly armored vehicles, functioning with both explosive and incendiary effect. The projectile consists of an HEI charge and is assembled with the M505A3 fuze. The M505A3 fuze is a point-detonating, single-action fuze intended to function on impact with the target.

Difference between Models:
The models differ in the method of loading the projectiles. The M56A3 has the HE mix and the incendiary mix combined in one pellet. The M56A4 has the incendiary pellet inserted into the projectile, then the HE mix pellet is added. This improves fire start capability.

Tabulated Data:

<table>
<thead>
<tr>
<th>DODAC</th>
<th>1305-A890</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>3965 grain</td>
</tr>
<tr>
<td>Length</td>
<td>6.615 in.</td>
</tr>
<tr>
<td>Tracer</td>
<td>N/A</td>
</tr>
<tr>
<td>Primer</td>
<td>Electric</td>
</tr>
<tr>
<td>Fuze</td>
<td>Point-Detonating M505A3</td>
</tr>
</tbody>
</table>

Explosive:
Type | H761 |
Weight | 165 grain |

Incendiary:
Type | I 136 |
Weight | 20 grain |

Propellant:
Type | WC 870 or 872 |
Weight | MBR (585 or 605 grains) |
SHOT, Armor-Piercing, 20 mm, M75—Standard
Projectile, Ball (Practice), 20 mm—Standard

Rounds for Guns, M1, AN-M2, and British Hispano-Suiza /A/

The armor-piercing, shot, M75, and ball projectile (practice) are standard ammunition and are turned out of steel bar stock instead of being forged or cast. The propelling charges used with these cartridges are made from IMR powder of single-perforated grains with a 0.021 inch web.

SHOT, Armor-Piercing, 20 mm, M75—Standard—The complete round weighs 0.64 pound and measures 7.19 inches in length and consists of the M21A1 cartridge case, a 480 grain IMR powder propelling charge, and the armor-piercing shot, M75. The steel cartridge case, M21A1B1, is substitute standard for the brass cartridge case, M21A1.

The M36A1 percussion primer weighs 0.003 pound and the cartridge case into which it is inserted weighs 0.205 pound. The M75 shot has no fuze or bursting charge, but contains a tracer composition which is ignited by the propelling charge and burns for 4 seconds. The body of this shot weighs 0.303 pound and is of monobloc construction.

PROJECTILE, BALL (PRACTICE), 20 mm,—Standard—This ball projectile has the same percussion primer, M36A1, and the same cartridge case, M21A1, as the A. P. Shot, M75. The steel cartridge case, M21A1B1, is substitute standard. Weight of the complete round is 0.556 pound. The ball projectile weighs 0.276 pound and is propelled by 507 grains of IMR powder. The projectile is hollow and is sealed at the base by a closing disk.

### Characteristics

<table>
<thead>
<tr>
<th>Caliber</th>
<th>20 mm</th>
<th>Proj. Ball (Prac.)</th>
<th>Shot, A.P., M75</th>
<th>Proj. Ball (Prac.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>British Hispano-Suiza /A/</td>
<td>20 mm</td>
<td>British Hispano-Suiza /A/</td>
<td>20 mm</td>
</tr>
<tr>
<td>Proj. Weight</td>
<td>0.363 lb.</td>
<td>M36A1</td>
<td>M36A1</td>
<td>M36A1</td>
</tr>
<tr>
<td>Cartridge Case</td>
<td>M21A1</td>
<td>IMR powder, 507 grs.</td>
<td>IMR powder, 507 grs.</td>
<td>IMR powder, 507 grs.</td>
</tr>
<tr>
<td>Complete Round Weight</td>
<td>0.64 lb.</td>
<td>0.55 lb.</td>
<td>0.55 lb.</td>
<td>0.55 lb.</td>
</tr>
<tr>
<td>Muzzle Velocity</td>
<td>2,550 fps</td>
<td>2,850 fps</td>
<td>2,850 fps</td>
<td>2,850 fps</td>
</tr>
</tbody>
</table>

*The steel cartridge case, M21A1B1, is substitute standard.
SHELL, HIGH-EXPLOSIVE INCENDIARY, 20 MM, MK. I—STANDARD

ROUND FOR GUNS M1, AN-M2, AND BRITISH HISPANO-SUIZA /A/

The complete round weighs 0.566 pound and consists of a cartridge case, M21A1, weighing 0.205 pound, and measuring 4.34 inches in length; a percussion primer, M36A1, weighing 0.003 pound, a propelling charge of Improved Military Rifle Powder weighing 0.072 pound, and the loaded and fused shell. The cartridge case is crimped to the fused and loaded projectile. A substitute standard for the cartridge case, M21A1, is the steel cartridge case, M21A1B1.

The projectile is of the high-explosive incendiary type. As fired, it weighs 0.286 pound and measures 3.23 inches in length by 0.784 inch in diameter. The bursting charge weighs 174.25 grains; 107.75 grains are tetryl and the remaining 66.5 grains are incendiary composition. The alternate bursting charge consists of 100.3 grains of composition A and 66.5 grains of incendiary composition.

The propelling charge is an IMR powder formula of single-perforation grains with a web of 0.021 inch.

The standard muzzle velocity with this propelling charge is 2,800 feet per second.

A cover is fixed to the base of the shell by a continuous resistance weld, and serves as a seal to prevent gas or flas from the propelling charge from entering the shell and prematurely detonating the bursting charge. This may happen as the shell is not forged or cast, but is turned from steel bar stock which may have fissures in its center.

CHARACTERISTICS

<table>
<thead>
<tr>
<th>Caliber</th>
<th>20 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model of Gun</td>
<td>1</td>
</tr>
<tr>
<td>Proj. Weight</td>
<td>0.286 lb</td>
</tr>
<tr>
<td>Proj. Charge and Weight</td>
<td>174.25 gr</td>
</tr>
<tr>
<td>Fuze</td>
<td>Percussion, D.A., No. 253, Mk. III /A/</td>
</tr>
<tr>
<td>Primer</td>
<td>M36A1</td>
</tr>
<tr>
<td>Cartridge Case</td>
<td>M21A1</td>
</tr>
<tr>
<td>Propelling Charge and Weight</td>
<td>IMR powder, 0.072 lb</td>
</tr>
<tr>
<td>Complete Round Weight</td>
<td>0.566 lb</td>
</tr>
<tr>
<td>Muzzle Velocity</td>
<td>2,800 f/s</td>
</tr>
<tr>
<td>Maximum Range</td>
<td>5,100 yards</td>
</tr>
<tr>
<td>Chamber Capacity</td>
<td>5.22 cm. Ins.</td>
</tr>
<tr>
<td>Rated Max. Pressure p.s.i.</td>
<td>48,000</td>
</tr>
</tbody>
</table>

*107.75 grains of tetryl, 66.5 grains of incendiary composition. (Alternate loading: 100.3 grains of Composition A and 66.5 grains of incendiary composition.)

The steel cartridge case, M21A1B1, is substitute standard.

M1, AN-M2 and British Hispano-Suiza /A/.
CARTRIDGE, CALIBER .30, CARBINE, BALL, M1

Type Classification:

OBS - MSR 11756003

Use:

For Caliber .30, Carbine, M1, M2 or M3.

Description:

BALL Cartridge. The cartridge is identifiable by the lack of bullet tip color code painting.

Purpose:

This cartridge is intended for use against personnel and unarmored targets.

Tabulated Data:

- DODAC: 1305-A181
- Weight: 196 grain
- Length: 1.68 inch
- Tracer: NA
- Primer: Percussion
- Fuze: NA
- Explosive: NA
- Weight: NA

Incendiary:

- Type: NA
- Weight: NA

Propellant:

- Type: WC 820
- Weight: 13 grain

 Projectile:

- Weight: 111.0 grain

Performance:

- Chamber pressure: 40,000 psi
- Velocity: 1900 fps, 53 ft from muzzle

Shipping and Storage Data:

- Quantity-distance class/SCG: 1.4S
- Storage code: Class V
- DOT shipping class: C
- DOT designation: SMALL ARMS AMMUNITION
- Drawing number: 6200954

References:

- TM 9-1005-210-12
- TM 9-1300-206
- SB 700-20
CARTRIDGE, CALIBER .38, BALL

Type Classification:

OBS - MSR 11756003

Use:

For .38 Caliber weapons.

Description:

BALL Cartridge with unjacketed lead bullet.

Purpose:

This cartridge is for CONUS-guard or security use in caliber .38 weapons.

Tabulated Data:

DODAC 1305-A408

Weight 196 grain

Length 1.18 inch

Tracer NA

Primer Percussion

Fuse NA

Explosive:

Type NA

Weight NA

Incendiary:

Type NA

Weight NA

Propellant:

Type Smokeless powder

Weight MBR

Performance:

Chamber pressure 13,000 psi

Velocity 725 fps, 15 ft from muzzle

Shipping and Storage Data:

Quantity-distance class/SCC 1.4S

Storage code Class V

DOT shipping class C

DOT designation SMALL ARMS

AMMUNITION

Drawing number 10524005

References:

TM 9-1005-206-14P/1

TM 9-1005-206-14P/3

TM 9-1300-206

SB 700-20

Change 3 7-3
APPENDIX E

REPORTS/STUDIES
APPENDIX E

REPORTS/STUDIES

Table of Contents

E-1. INPR (B-3).

E-2. 26 Apr 96 CEMP memo authorizing OE project (B-85).


E-4. Milestones for silo disposal (B-91).

E-5. EOD history describing proposed removal work (B-110).

E-6. Extracts from July 1988 Law Environmental HTRW study (B-3).
MEMORANDUM FOR Commander, HQUSACE, ATTN: CEMP-RF,
20 Massachusetts Avenue NW, Washington, DC
20314-1000

SUBJECT: DERP-FUDS Inventory Project Report (INPR) Requiring an
Ordnance and Explosives (OE) Engineering Evaluation and Cost
Analysis (EE/CA)

1. The enclosed INPR has been submitted for further investiga-
tion or action by the Huntsville Engineering and Support Center.
We have reviewed the INPR and recommend a phased EE/CA
be scheduled for the following site:

<table>
<thead>
<tr>
<th>DIVISION</th>
<th>PROJECT NO.</th>
<th>RAC</th>
<th>SITE NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAD</td>
<td>C02NY021201</td>
<td>3</td>
<td>Plattsburgh Atlas Missile Site S-7 (encl)</td>
</tr>
</tbody>
</table>

2. A completed DD1391 cost estimate and risk assessment code
score is included with the enclosure. The POC is Ms. Carrie
Douglas at 205-895-1465 or Mr. Bill McPherson at 205-895-1595.

FOR THE DIRECTOR, ORDNANCE
AND EXPLOSIVES TEAM:

[Signature]

KARL E. BLANKINSHIP, P.E.
Group Leader, Design
Management Group

Encl

CF:
Commander, U.S. Army Engineer Division, North Atlantic,
ATTN: CENAD-PL-F, 90 Church Street, New York, NY 10007-2979
Commander, U.S. Army Engineer District, New York,
ATTN: CENAN-PL-EA, Jacob K. Javits Federal Building, New York,
NY 10278-0090
MEMORANDUM FOR

COMMANDER, HQUSACE, ATTN: CEMP-R, WASHINGTON, DC 20314-1000
COMMANDER, HUNTSVILLE DIVISION, ATTN: CEHND-OE-PM, POB 1600,
HUNTSVILLE, AL 35807-4301

SUBJECT: DERP-FUDS Inventory Project Report (INPR) for Site No. C02NY0212,
Plattsburgh Atlas Missile Site S-7, Town of Franklin, Franklin County, State of New York

1. I am forwarding the INPR for the subject site for appropriate action. The site is
eligible for DERP-FUDS.

2. I recommend that CEHND review the subject report for a determination of further
action on the potential TPS/OEW project.

Encl as

MILTON HUNTER
Brigadier General (P), USA
Commanding
CENAN-PL-EA (200-1a)

MEMORANDUM FOR COMMANDER, NORTH ATLANTIC DIVISION
ATTN: CENAD-PL-F

SUBJECT: DERP-FUDS Inventory Project Report (INPR) for site
No. C02NY0212, Plattsburgh Atlas Missile Site S-7, Town of
Franklin, Franklin County, State of New York

1. This INPR reports on the DERP-FUDS preliminary assessment
of former Plattsburgh Atlas Missile Site S-7, Franklin, New
York. A site visit was conducted on 11 May 1994. The site
survey summary sheet, and site map are in Encl 1.

2. We determined that former Plattsburgh Atlas Missile Site
S-7 installation was utilized by the Air Force as an
Intercontinental Ballistic Missile site. Findings and
Determination of Eligibility are in Encl 2.

3. We also determined that there is possible evidence of
safety hazard at the site created by the third party which
is eligible for cleanup under DERP-FUDS. The category of
hazard at the site is TPS/OEW. The project summary sheet,
Risk Assessment Procedure for OEW and Final Confirmation
Study (extract), dated July 1988, by Law Environmental,
Incorporated (Conclusion findings and data) are in Encl 3, 4
and 5 respectively.

4. I recommend that you:
   a. Approve and sign the Findings and Determination of
      Eligibility;
   b. Forward a copy of this INPR to CEHND for the PA file,
      and for execution of TPS/OEW project.

GARY THOMAS
COL, EN
Commanding

5 Encls.
SITE SURVEY SUMMARY SHEET (Revised)
FOR
DEEP-PUDS SITE NO. C02NY0212
PLATTSBURGH ATLAS MISSILE SITE S-7
FRANKLIN, NEW YORK
27 March 1995

SITE NAME: Plattsburgh Atlas Missile Site S-7

LOCATION: Franklin, New York

SITE HISTORY: Plattsburgh Atlas Missile Site S-7 contains 12.95 acres fee and 7.61 acres easements of land taken by the Government as per Declarations of Taking dated 29 June 1960 and 20 July 1964. Atlas S-7 was one of the twelve sites scattered about the area known as the Plattsburgh Atlas Missile Complex, and which were designated as auxiliary sites of the Plattsburgh Air Force Base. The site was equipped with one subsurface concrete and steel missile silo 187' deep, 70' diameter with 12' thick walls, one subsurface concrete Launch Control Center, two 20' x 40' corrugated steel "Quonset Huts", and two metal pumphouses buildings. The construction was a national defense effort to store, maintain, and to potentially launch an Intercontinental Ballistic Missile (ICBM). On 20 September 1965, the Atlas Missile Site was deactivated and custody was assumed by General Services Administration (GSA). On 2 July 1968, GSA conveyed the site to the Yates County Industries. In 28 August 1968, Yates County Industries conveyed the site to LOUANN, Incorporated. In 7 August 1978, LOUANN sold the site to Leigh and Marjorie Hadley. In 2 April 1982, Leigh and Marjorie conveyed the site to Melinda Hadley and the current owner of record.

SITE VISIT: A site visit was conducted on 11 May 1994. Mr. Constancio J. Labeste and Mr. Honesto Castaneda of CENAN-PL-EA visited the site in Franklin, New York. Our point of contact was Mrs. Melinda Hadley, property owner [(518) 891-4302]. We were accompanied by Mrs. Hadley the site owner, to investigate the site. During our visit we determined that the two former steel metal building "Quonset Huts", two pumphouses, underground storage tank and hydraulic tank were already removed. The silo was filled with water and doors were partially open, but the control entrance door was closed. Several rounds of ammunition left by the previous owner, LOUANN, Incorporated still remained inside the silo. The interior metal structure of the missile silo is still owned by the McKenna Salvage Company, who salvaged scrap metal and parts from the silo interior. In March 1981, an ordnance explosion resulted in the death of Mr. Robert McKenna, who was doing salvage work inside the silo. The LOUANN, Incorporated and the Hadley's were sued and settled by compensating the McKenna's family.
Based on Atlas Missile Site S-7 confirmation study conducted by the Law Environmental Inc. dated April 1988, additional investigation is required to determine the source and extent of the elevated lead concentration. The elevated lead level may be associated with either the previous salvage operations and the unexploded ordinance inside the silo. It is possible that LOUANN, Incorporated ordnance salvage operations and Mckenna Salvaged Company metal salvage operations, contributed into the silo lead water contamination. At the present time the current owner has no activities at the site, except for security. The safety hazard was created by the remains of several rounds of ordnance inside the silo left by the previous owner Louann, Incorporated, which is considered to be a third party responsibility under the guideline policy. Therefore, a TPS/OEW project will be pursued.

CATEGORY OF HAZARD: TPS/OEW.

PROJECT DESCRIPTION: There is one project on this site.

a. TPS/OEW will consist of removal/disposal of several unexploded ordnance underwater inside the silo left by the previous owner, LOUANN, Incorporated, which is considered to be a third party responsibility under the guideline policy.


PA POC: Mr. Constancio J. Labeste, (212) 264-6070/71 is the New York District POC.
SITE MAP OF FORMER PLattsburgh Atlas MISSILE SITE S-7
FRANKLIN, NEW YORK
SITE NO. CO2N40212

REVISED: 7/27/95
E-1
DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
FORMERLY USED DEFENSE SITES PROGRAM
FINDINGS AND DETERMINATION OF ELIGIBILITY

PLATTSBURG ATLAS MISSILE SITE S-7
FRANKLIN, NEW YORK

Site No. C02NY0212

FINDINGS OF FACT

1. Plattsburg Atlas Missile Site S-7, hereafter referred to as Atlas Missile Site S-7, is located in the Town of Franklin, County of Franklin, State of New York. As per Declaration of Taking dated 17 March 1961, the Government did obtain 12.20 acres fee and 7.61 acres easements. As per deed dated 20 July 1964, the Government did obtain an additional 0.75 acre fee (for total of 12.95 acres fee and 7.61 acres easement).

2. The Department of the Air Force utilized this installation as an Intercontinental Ballistic Missile site. Facilities at this installation included: two (2) 20’x 40’x 100’ corrugated steel "Quonset" huts, a 70' wide concrete, steel missile silo 187’ deep with 12’ thick walls and pumphouses.

3. On 20 September 1965, Atlas Missile Site S-7 was declared excess by the Department of the Air Force and the 12.95 acres fee and 7.61 acres easement were transferred to the General Services Administration (GSA). As per quitclaim deed dated 2 July 1968, Atlas Missile Site S-7 was conveyed to Yates County Industries, Incorporated. This deed did not contain any restrictive recapture or restoration clauses. However, there is a clause in the quitclaim deed which states that all doors and entrances to the missile silo were closed and sealed by the Government. By deed dated 28 August 1968, Yates County Industries conveyed Atlas Missile Site S-7 to LOUANN Incorporated. As per deed dated 7 August 1978, the site was sold by LOUANN, Incorporated, to Leigh and Majorie Hadley. On 2 April 1982, Leigh and Majorie conveyed title to Melinda Hadley. As per Assessor’s Office, the Town of Franklin, Melinda Hadley is still the owner of record.
DETFENSE ENVIRONMENTAL RESTORATION PROGRAM
FOR FORMERLY USED DEFENSE SITES
FINDINGS AND DETERMINATION OF ELIGIBILITY
PLATTSBURG ATLAS MISSILE SITE S-7
FRANKLIN, NEW YORK
SITE No. C02NY0212

DETERMINATION

Based on the foregoing findings of fact, the site has been determined to be formerly used by the DOD. Therefore, it is eligible for the Defense Environmental Restoration Program for Formerly Used Defense Sites established under 10 USC 2701 et seq.

Recommended for Signature:

17 Ju 95
Date

THOMAS A. YORK
COL, EN
Commanding

Approval:

14 Sep 95
Date

MILTON HUNTER
Brigadier General(P) USA
Commanding
PROJECT SUMMARY SHEET (Revised)
FOR
DERP-FUDS TPS/OEW PROJECT No. C02NY021201
PLATTSBURGH ATLAS MISSILE SITE 8-7
FRANKLIN, NEW YORK
SITE No. C02NY0212
27 March 1995

PROJECT DESCRIPTION: Presence of approximately 20,000 rounds of 20mm shells remain inside the silo under water, left by the previous owner LOUANN, Incorporated. This ordnance shall be removed and disposed by the third party responsibility as stipulated under the DERP-FUDS guideline policy.

PROJECT ELIGIBILITY: The presence of this unexploded ordnance left by LOUANN, Incorporated, presents a public safety hazard. The death of Mr. Robert McKenna, owner of the metal salvaging company, occurred in March 1981, while doing salvage work inside the silo. Therefore, this site will be eligible for cleanup under the DERP-FUDS program, Third Party Site / Ordnance Explosive Waste (TPS/OEW) liability.

POLICY CONSIDERATIONS: None

PROPOSED ACTIVITIES: This potential project should be referred to CEHND for their determination of further action regarding third party liability under the DERP-FUDS guideline policy.

POC: Mr. Constancio J. Labeste, [(212) 264-6070/71] is the New York POC.
MEMORANDUM FOR COMMANDER, NORTH ATLANTIC DIVISION,  
ATTN: CENAD-PP-PM (Celia Orgel)

SUBJECT: Defense Environmental Restoration Program for Formerly  
Used Defense Sites ( DERP-FUDS) - Plattsburgh Atlas Missile Site  
S-7, Town of Franklin, Franklin County, New York C02NY0212

1. References:
   a. CEHNC-OE-PM memorandum, 27 Mar 96, Subject: DERP-FUDS  
      Inventory Project Report (INPR) Requiring an Ordnance and  
   b. Environmental Cleanup and Protection Management Plan for  
      Military Programs, Directorate of Military Programs, Division of  
      Environmental Restoration, Washington, D.C., 17 Jan 96.

2. This memorandum authorizes an Ordnance and Explosive Waste  
   (OEW) project, Project Number C02NY021201, at the subject site.  
   All work will be executed in accordance with above reference 1b.

3. CEMP-RF point of contact for this action is Mr. J. R. Gibson,  
   (202) 761-4709.

FOR THE DIRECTOR OF MILITARY PROGRAMS:

[Signature]
CARY JONES  
Chief, Environmental Restoration  
Division  
Directorate of Military Programs

CF:  
CENAN-PL-EA (Constancio J. Labeste)  
CEHNC-OE-PM (Carrie Douglas, Bill McPherson)
PART III

TECHNICAL DESCRIPTION OF ATLAS F OPERATIONAL FACILITIES
Adapted and Abridged from
Bechtel Corporation Technical Description of Facilities, Undated.

The two basic structures at a site are the launching silo and the launch control center. The launch control center and silo are 100 feet center to center distance. (See Figure 1 for operational site plan and Figures 2 and 3 for views of silo launcher and launch control center). The launching silo is a reinforced concrete cylinder with its top flush with the ground surface. It has a 52 foot inside diameter and is 174 feet from ground surface to the top of the base slab. The doors at the top open to allow raising and firing of the missile. The roof and upper walls are 9 feet thick for resistance to atomic attack. The overhead door is constructed of reinforced concrete 2 foot 6 inches thick and has two leaves each of which is hinged at its outer edges. The door is operated by a single hydraulic cylinder. The 2 ½ foot door thickness provides necessary nuclear radiation protection for silo equipment. The doors are provided with rubber seals which provide protection from the over-pressure generated by explosion.

The lower walls of the silo are 2 foot 6 inches thick. Two types of foundation may be used. The first is a reinforced concrete dome 3 foot 6 inches thick, designed to resist the forces of ground water around the silo. The second type is a flat reinforced concrete slab 6 foot thick with drainage material under the slab. This second type will drain groundwater into a pump from which it is pumped to a safe disposal area at the surface. The choice of which type of foundation to use is based on an economic study of all factors involved at each site.

The silo crib is constructed of structural steel. It is suspended within the silo shell by four pairs of coil springs which attenuate the ground shock from a weapon explosion. The acceleration limit of this crib is 0.4 g vertical and 0.1 g horizontal. The springs are locked in an extended position immediately prior to raising the missile. The crib is equipped with three hydraulic positioning cylinders located at the top which place the rib exactly under the door before the missile is raised. The steel frame work of the crib is 150 feet high and is octagonal in plan. It has a large truss between the fourth and fifth levels which distributes the load from the four support points of the springs to the columns. Three open spaces extend from the top to the bottom of the crib. These spaces contain the facility elevator, launch platform and missile and the launch platform counterweight. (See Figure 4 for the equipment located at each level of the crib).

The major components of the crib are as follows:
1. The launch platform - a structural steel framework which supports
the missile and contains certain items of equipment directly
associated with the missile. The platform is raised and lowered
by a drive system equipped with electric motors, gear reducers,
cable drums, steel cables and counterweights. The counterweight
is sized to minimize power requirements during missile raising.

2. Thermal insulation paneling - for isolation of the missile area
and for maintenance of constant temperature. The RP-1 fuel is
stored within the missile constituting a hazardous area.

3. Multi-level work platforms - hinged and operated by hydraulic
cylinders which fold out of the way when the missile is being
raised.

The missile is equipped with an all internal guidance system. During ready
periods in the silo, gyroscopes which provide the reference plane during flight,
are kept from drifting by an optical alignment system. The main component of
this system is a collimator mounted on the silo wall which shines a light beam
to the missile thereby providing a reference beam for the missile guidance
system. Bench marks on the silo wall and an auxiliary theodolite at ground
surface are used to check the collimator for proper alignment. A sight tube
connects the collimator and the theodolite at ground surface.

The silo shell is penetrated at two points by an air intake and an air ex-
hust port. Incoming and outgoing air are conducted to and from the ground
surface by reinforced concrete shafts on the outside of the silo. The interior
of the silo is protected from overpressure by vent closures mounted on the silo
shell. A weapon explosion actuates a sensing device by either light or radio
waves generated. The sensing device relays a signal to the air cylinders at the
vent closures causing the cylinders to close the vents before arrival of over-
pressure. Total closing time takes 0.20 second. Timing devices keep the
vents closed for a set period of time and then allow them to reopen after the
overpressure wave has passed.

The overhead doors are operated by hydraulic cylinders. Nitrogen gas is
pumped to a high pressure and stored in accumulators. The gas is used to pres-
surize hydraulic fluid which, in turn, drives the hydraulic cylinders. This
system also actuates the work platform cylinders and the cylinders used to lock
the launch platform in its raised and lowered positions.

The silo is connected to the launch control center by a tunnel. The tunnel
has flexible connections at its ends to provide for differential settlement be-
tween the launch control center and the silo. The tunnel is equipped with two
interlocked blast doors at its silo end to protect occupants of the launch control
center from overpressure when the silo is open. The tunnel also carries all
interconnecting utilities between the silo and the launch control center.

The main entrance to the facility is at the launch control center. The entrance is protected from overpressure by two interlocked blast doors at the top of the shaft adjacent to the launch control center. The stairway portion of the entrance is not designed to resist a weapon explosion; however, the bends provide nuclear radiation protection for the occupants of the launch control center. An emergency escape hatch is provided in the roof of the launch control center so that occupants can leave if the entrance stairway is destroyed. The escape hatch is blast proof.

The launch control center is also a reinforced concrete cylinder. Its top is approximately 6 foot 6 inches below ground surface. It has a ten foot inside diameter and is 27 feet from ceiling to floor. Dimensions and configuration of the launch control center are shown in Figures 5 and 6. The floors in the launch control center are suspended from four shock hangers. Shock attenuation is provided by air spring cylinders. The acceleration transmitted to the floors is limited to 0.4 g vertical and 0.1 g horizontal. All of the operations necessary to load, raise, and fire the missile can be controlled from the launch control center. This control is concentrated in two consoles - one for facility equipment and one for ground support equipment.

The function of OSTF-2 is to test the operation of equipment in the complex. As such, it has devices installed which are able to raise the silo crib and drop it to simulate ground shock conditions. Normal day to day operation of the OSTF is on commercial power. However, it is equipped with one diesel operator to be used during simulation exercises. In the layout of the OSTF site the interconnecting tunnel is eliminated due to increased hazard of missile explosion in the silo. Also, the OSTF has two auxiliary buildings - an instrumentation building for housing instruments necessary to monitor the extensive testing program, and a utilities building.

The propellant loading system serves to transfer and store the propellants and auxiliary fluids from the supply source to the missile. The propellant loading system starts at grade level with the fill lines and vents and terminates at the elevator disconnect assemblies. The propellant consists of liquid oxygen and RP-1 fuel. Auxiliary fluids are liquid nitrogen, gaseous nitrogen, gaseous helium, and compressed air. The propellant loading system has the following design features:

1. Fuel is stored in the missile.
2. Liquid oxygen is loaded rapidly from hard storage in the silo.
3. Pressure is used to transfer cryogenic fluids and gases.
4. The missile is filled with RP-1 directly from surface trailers.
5. High cleanliness
6. High reliability
In order to achieve the above design features the propellant loading system is supplied to subassemblies which can be fabricated under controlled conditions not obtainable in field fabrication. Materials of construction are stainless steel for cryogenic lines stainless steel and copper for cleanliness, and structural steel and plate for non-critical areas. Prefab and subassembly items are listed as follows:

1. Liquid oxygen fill prefab
2. Liquid oxygen control prefab
3. Liquid nitrogen prefab
4. Pressurization prefab
5. Instrument air prefab
6. Fuel prefab
7. Vessels for storing auxiliary liquids
8. Helium heat exchanger
9. Inter-connecting piping, valves, and fittings.

In installation the liquid oxygen fill, liquid oxygen control, liquid nitrogen, pressurization and instrument air prefabs are located in the crib structure on the seventh level. The fuel prefab is located at the bottom of the missile enclosure between the seventh and eighth level. There is inter-connecting piping between prefabs, between crib and silo wall and for surface connections.

The mechanical systems are composed of the following:

1. Heating, ventilating and air conditioning for heat removal and environmental control (See Figure 7)
2. Outside air system for cleaning and cooling of engine generator rooms and silo.
3. Air conditioning systems for the launch platform, control cabinets and the launch control center.
4. Chilled water system for air-conditioning and pod cooling.
5. Cooling water system - refrigeration condensers, diesel jacket water, cooling tower and emergency supply.
6. Heating system - recirculated air. Diesel exhaust boilers to provide hot water to launch control center and thrust section heater.
7. Exhaust system - for general use and to purge gases and fuel.
8. Water supply system - for utilities, drinking and storage.
9. Fire protection consisting of a fog system and hose stations.
10. Compressed air system for use in blast closures, launch control center suspension and diesel starting.

The electrical work for each silo site includes a diesel power plant, power distribution feeders, motor controls, lighting, communication raceways, grounding
and alarm systems for the launching silo, launch control center and site facilities. (See Figures 8 and 9).

The power plant consists of two diesel generators, located on the fifth and sixth levels of the launching silo. Each generator is rated at 500 KW 480 volt, three phase, 60 cycles at 0.8 p.f. Each is capable of supplying the complete load requirements for the silo and launch control center. The second unit serves as a 100% standby source. Synchronization and control of the generators is possible both locally and at the power remote control panel located in the launch control center.

The 480 volt generator and feeder switch gear located on the fifth level of the silo contains the following:

1. Two electrically operated, drawout type, air-circuit breakers for generator feeders.
2. One electrically operated air circuit breaker for the non-essential motor control center feeder. This breaker provides disconnection of non-essential loads during launch platform rise, thereby considerably reducing the generating capacity required. The breaker will be controlled by Convair's logic units, also at the 480 volt switch gear and at the power remote control panel.
3. Three manually operated circuit breakers serve the launch control center, launch platform and essential motor control center feeders.
4. Electrically operated air circuit breakers utilize 48V d.c. tripping and 120V a.c. closing.

The station battery is rated at 48 V d.c. and provides power to trip the switch gear breakers and operate the diesel engine controls.

Power feeders to the essential non-essential and launch platform motor control centers in the silo and the motor control center in the launch control center are interlock armored cables in trays.

The motor control centers contain all controllers for 480V facility and ground support electrical equipment except for the 50HP water chillers which have their controllers integral with the equipment.

The essential motor control center feeds the following silo equipment:

1. Control cabinet air conditioning and the dehumidifying unit.
2. One air conditioning water chiller and pump.
3. Thrust section heater coil and fan, 120/208Volt critical power for launch control equipment.
4. Battery charger supplying power to the facilities 48V d.c. distribution panel and batteries.
5. Ground support equipment consisting of 28 Volt d.c. power supply, 400 cycle motor generator set, hydraulic pumping unit and missile pod coolings.

The non-essential motor control center feeds the following silo equipments, the launch platform and the main silo supply and exhaust fan, standby air conditioning chiller, air conditioning water pumps, cooling tower, silo sump pumps, vacuum pumps, air compressors, defueling pump, facility elevator, silo lighting transformer and receptacles for checkout trailers and propellant trailers.

The motor control center in the launch control center supplies power to the ventilation system, lighting, sewage pumps, and water wells.

The missile platform motor control center contains controllers for the missile lifting system.

The grounding system for the silo and the launch control center consists of a network of vertical 4/0 ground cables at the perimeter of the silo with ground rods laid horizontally. The cables are connected to the crib structure. The steel crib structure is a basic element of the ground system and all equipment, piping, and electrical raceways are bonded to this structure. The ground systems at the silo and the launch-control center are similar and interconnected.

The facilities interface cabinet, (see Figure 10) combines all facilities, propellant loading system and launch platform interface signals with the Convair missile logic system at one panel on the third level adjacent to the logic units. The panel contains the shake-proof terminals and matching receptacles to enable Convair to plug in their own connections.

Lighting in all areas of the silo is supplied from general purpose incandescent fixtures except the missile enclosure which has vapor tight fixtures. Flourescent flighting is used in the launch control buildings.

Emergency lighting is supplied from self-contained units consisting of storage battery and charger.

The fire alarm system consists of detectors, manual stations, alarm bells, and a fire alarm panel in the launch control center. Detection of fire at any station causes all alarms to sound.

Communication raceways are provided for the communications systems in the launch control center and the silo. Outlets are provided for installation of telephones and public address speakers.

Vent closure devices in the supply and exhaust air systems for both silo and launch control centers for blast protection are controlled from a blast
sensing device.

Hazard classifications in the silo are Class 1, Division 2, for the missile enclosure area; and Class 1, Division 1, at the fuel prefab. All other areas in the silo and launch control building are non-hazardous.

Gas detection systems for RP-1 fuel, liquid oxygen, and diesel fuel vapor are located in the silo and are interconnected to their various ventilating and purge systems.

Television for area surveillance is provided with the camera located on a pole adjacent to the entrance to the launch control center. The camera is soft, therefore, is not for post-blast use. Another camera is located at the gate for personnel identification. Monitors for these cameras are located in the control room of the launch control center.

The water supply is controlled automatically to keep the storage tanks full.

Security gate is controlled electrically from launch control center.

The facility remote control panel contains a trouble section, a ready section and a control section. The trouble section contains annunciators for the diesels, control cabinet air conditioning and hazard detectors. The ready section monitors the air intakes and exhausts, doors, power, and fog system. The control section operates the diesels, non-essential M.C.C., area warning system, security lighting, blast door test and missile area fans.
# Three-Phase Concept

## Tasks Required to Effect Disposal of Installations

### Milestones

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Transport, store missile</td>
</tr>
<tr>
<td>2.</td>
<td>Provide ISR, unit tech-direct</td>
</tr>
<tr>
<td>3.</td>
<td>Provide primary tech EOD for URM</td>
</tr>
<tr>
<td>4.</td>
<td>Monitor unit tasks</td>
</tr>
<tr>
<td>5.</td>
<td>Provide stand-down FTS</td>
</tr>
<tr>
<td>6.</td>
<td>Provide destruction procedures</td>
</tr>
<tr>
<td>7.</td>
<td>Prepare brochures</td>
</tr>
<tr>
<td>8.</td>
<td>Screen equipment</td>
</tr>
<tr>
<td>9.</td>
<td>Develop DCO save list</td>
</tr>
<tr>
<td>10.</td>
<td>Provide disposal action-spaces</td>
</tr>
<tr>
<td>11.</td>
<td>Direct removal of save items</td>
</tr>
</tbody>
</table>

### Tasks: Phase I

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Facilities closed out</td>
</tr>
<tr>
<td>2.</td>
<td>Equipment moved</td>
</tr>
<tr>
<td>3.</td>
<td>Utilize phased-out (if possible)</td>
</tr>
<tr>
<td>4.</td>
<td>ACS inspector is reinstated if transferred to custody</td>
</tr>
<tr>
<td>5.</td>
<td>USAF issues disposal directive</td>
</tr>
<tr>
<td>6.</td>
<td>Facility prepared to receive OSA of property affected</td>
</tr>
</tbody>
</table>

### Tasks: Phase II

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>GSA retrieving</td>
</tr>
<tr>
<td>2.</td>
<td>GSA accepts FCO disposal (US/70 period begins)</td>
</tr>
<tr>
<td>3.</td>
<td>GSA governor accepts 10 to the property</td>
</tr>
<tr>
<td>4.</td>
<td>SAC continues care and custody</td>
</tr>
<tr>
<td>5.</td>
<td>Piescital disposal by GSA begins</td>
</tr>
</tbody>
</table>

### Tasks: Phase III

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>GSA notifies copies of engineers</td>
</tr>
<tr>
<td>2.</td>
<td>GSA notifies the unit to take over base</td>
</tr>
<tr>
<td>3.</td>
<td>Support base assumes final disposal responsibilities</td>
</tr>
</tbody>
</table>

### Tasks: Phase IV

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>When notification is received of the final disposal of all property, SAC directs the installation from the inventory</td>
</tr>
</tbody>
</table>

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**E-4**
NOT EVERY CALL FOR EOD ASSISTANCE RESULTS IN A COMPLETED INCIDENT.

ON 27 APRIL 1979 MEMBERS OF THE 55TH ORD DET (EOD), FT DRUM, NEW YORK MET WITH AIR FORCE EOD PERSONNEL FROM PLATSBURG AFB, N.Y. TO INSPECT THE SITE OF AN OLD AIR FORCE MISSILE SILO THAT HAD BEEN LITTERED WITH 20mm HE PROJECTILES, AND TO MAKE PLANS FOR A JOINT ARMY - AIR FORCE CLEAN-UP OPERATION. THE MISSILE SILO WAS FOUND TO BE IN A BADLY DETERIORATED STATE. GUARD RAILS WERE MISSING, PIECES OF GRATING WERE GONE FROM SEVERAL OF THE 11 LANDINGS LEAVING GAPS IN THE FLOORING, THERE WERE PIECES OF GRATING AND PIPES STREWED AROUND AND THE STAIR CASES WERE IN POOR REPAIR ALL OF WHICH CREATED A HAZARDOUS ENVIRONMENT. WATER WAS SEEPING INTO THE SILO AND WHILE EFFORTS TO PUMP THE SILO DRY HAD BEEN GOING ON SINCE JANUARY, THE BOTTOM TWO LEVELS WERE STILL UNDER WATER. THE SILO IS 172 FEET DEEP AND THE MISSILE STATION IS APPROXIMATELY 50 FEET IN DIAMETER. LIGHTING ON THE LOWER LEVELS WAS NON-EXISTENT AND LIGHT FILTERING IN FROM THE OPENING AT THE TOP WAS INADEQUATE. THE 20mm ROUNDS WERE OBSERVED THROUGHOUT THE SILO. NOT ONLY WERE THERE ROUNDS FOUND ON STAIR CASES AND LANDINGS, BUT ON STRUCTURAL MEMBERS (I BEAMS) WHICH SURROUNDED THE MISSILE STATION. THERE WAS NO WAY TO GAIN ACCESS TO THE ROUNDS ON THE "I" BEAMS OTHER THAN CLIMBING DOWN THE SIDES OF THE SILO-A VERY HAZARDOUS SITUATION.

INITIAL PLANNING ON THE 27TH OF APRIL CALLED FOR CLOSE COORDINATION BETWEEN THE ARMY AND AIR FORCE EOD TEAMS AS WELL AS PLANS TO REQUEST ENGINEER SUPPORT FOR LIGHTING, DILGE PUMPS AND SCAFFOLDING, SAFETY SUPPORT FOR PERSONNEL HARNESSES, AND OTHER SAFETY EQUIPMENT. PLANS ALSO INCLUDED HAVING MEDICAL PERSONNEL ON SITE, TRANSPORTING RECOVERED AMMUNITION TO PLATSBURG AIR FORCE BASE FOR TEMPORARY STORAGE PENDING FINAL DISPOSAL AT FT DRUM, AND HOUSING AND RATIONS TO BE PROVIDED BY THE AIR FORCE AT PLATSBURG.

BY 15 MAY 1979 PLANS WERE WELL UNDER WAY WHEN IT WAS LEARNED THAT THE MISSION WAS CANCELLED/POSTPONED FOR AN INDEFINITE PERIOD BECAUSE THE NEW YORK STATE ATTORNEY GENERAL REFUSED TO SIGN DD FORM 1926 (RELEASE AGREEMENT).

E-5
5.0 INTERPRETATION OF TEST RESULTS

5.1 EVALUATION OF SITE CHARACTERISTICS

ATLAS Site S-7 is located in the Adirondack region of northern New York State. The area consists of broad mountains and rounded hilltops with numerous rivers and small lakes. Glacial till overlies Precambrian igneous and metamorphic rocks which form the rugged terrain in this region. Ground water is often encountered in both the surficial glacial till deposits and secondary openings in the crystalline bedrock.

During installation of the ground-water quality monitoring wells at Site S-7 only glacial till deposits were encountered. Soils consisted mainly of silty, fine to medium sands, sandy silts, and occasional cobbles and boulders. Results of grain-size analyses and hydraulic conductivity tests are representative of these deposits. Hydraulic conductivity values calculated for the site range from $1.7 \times 10^{-3}$ to $9.2 \times 10^{-4}$ cm/sec among all the test results. This value represents the silty fine to medium sands screened by the monitoring wells.

An unconfined ground water table was encountered at varying depths ranging from approximately 23 to 32 feet below ground surface. The highest water level elevation occurred in well MW-702 located north of the silo sump discharge while the lowest water level elevation occurred in well MW-703. Ground-water flow determined from the planar gradient constructed from the water table elevations in each of the three monitoring wells appears to be to the southeast. Figure 5-1 illustrates the water table surface at Site S-7.

Topographically the site is situated on a relatively flat area. Surface drainage in the eastern portion of the site drains east towards Alder Brook, while surface drainage in the western
portion of the site drains west toward a marshy area (see Figure 5-1). The marshy area drains west into Brandy Brook which flows south into Alder Brook.

5.2 EVALUATION OF TEST RESULTS

The analytical results for this study are summarized in Tables 4-2, 4-3, and 4-5 of this report. Tables 5-1, 5-2, and 5-3 list the maximum ground water, silo water and soil concentrations for the parameters detected at Site S-7. For comparison, the two tables containing silo and ground water results also list the regulatory criteria established by the Safe Drinking Water Act and Ambient Water Quality Criteria, where applicable. The table containing the soil results list typical background levels (Bowen, 1966) for naturally occurring metals in soils.

5.2.1 Ground Water

Analytical results of ground water samples collected from the monitoring wells (MW-701, MW-702 and MW-703) at ATLAS Site S-7 show that no purgeable halocarbons, purgeable aromatics, or base/neutral extractables constituents were detected above laboratory detection limits. Well MW-701, which was the only well analyzed for PCB’s, indicated no PCB’s present in the sample. Two metals, total barium and total lead were detected in all the monitoring wells but the levels were below the Maximum Contaminant Levels (MCLs) of 1.0 mg/l and 0.5 mg/l, respectively, established by the Safe Drinking Water Act, 1986.

Although no other constituents were detected during chemical analysis, an obvious chemical odor was noted in the field during the drilling of monitoring well MW-702. Organic vapor readings taken with a photoionization detector showed levels of no greater than 0.5 ppm at the open borehole. However, after allowing the soil sample collected at 10 to 12 feet in boring MW-702 to remain in the glass sample jar 10 minutes the organic vapor analyses reading was 46 ppm. This well was located adjacent to the silo
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Maximum Concentration (mg/l)</th>
<th>Sample Location</th>
<th>MCL (1) (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metals (Total)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barium</td>
<td>0.128</td>
<td>MA-705</td>
<td>1.00</td>
</tr>
<tr>
<td>Lead</td>
<td>0.014</td>
<td>MA-702</td>
<td>0.05</td>
</tr>
</tbody>
</table>

NOTES:

### Table 5-2

**Summary of Silo Water Contaminant Concentrations and Current Standards**  
**Atlas Site 5-7**  
Franklin, New York

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Maximum Silo Water Concentration (mg/l)</th>
<th>NCL <em>(1)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base Neutral Extractables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Di-n-nonyl phthalate</td>
<td>0.021</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Metals (Total)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barium</td>
<td>0.052</td>
<td>1.00</td>
</tr>
<tr>
<td>Lead</td>
<td>0.084</td>
<td>0.05</td>
</tr>
</tbody>
</table>

**Notes:**

*(1) Maximum Contaminant Level, 50 FR 46/P3, 1985.*  
NA = No Federal Standard has been established for this constituent.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Maximum Concentration (mg/kg)</th>
<th>Sample Location No.</th>
<th>Typical Concentrations of Soil(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Neutral Extractables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Di-n-octyl phthalate</td>
<td>0.46</td>
<td>S-0</td>
<td>NA</td>
</tr>
<tr>
<td>Di-n-butyl phthalate</td>
<td>0.72</td>
<td>S-3</td>
<td>NA</td>
</tr>
<tr>
<td>Fluorene</td>
<td>0.35 (2)</td>
<td>S-0</td>
<td>NA</td>
</tr>
<tr>
<td>Asparagine</td>
<td>0.33</td>
<td>S-0</td>
<td>NA</td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>0.33</td>
<td>S-4, S-0</td>
<td>NA</td>
</tr>
<tr>
<td>Anthracene</td>
<td>0.33</td>
<td>S-4, S-0</td>
<td>NA</td>
</tr>
<tr>
<td>Fluoranthene</td>
<td>0.33</td>
<td>S-4, S-0</td>
<td>NA</td>
</tr>
<tr>
<td>Pyrene</td>
<td>0.33</td>
<td>S-4, S-0</td>
<td>NA</td>
</tr>
<tr>
<td>Chrysene</td>
<td>0.33</td>
<td>S-4, S-0</td>
<td>NA</td>
</tr>
<tr>
<td>PCB's</td>
<td>0.68</td>
<td>S-3</td>
<td>0</td>
</tr>
<tr>
<td>Metals (Total)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arsenic</td>
<td>2.82</td>
<td>S-6</td>
<td>6 (1-40)</td>
</tr>
<tr>
<td>Barium</td>
<td>21.6</td>
<td>S-6</td>
<td>500 (100-3000)</td>
</tr>
<tr>
<td>Chromium</td>
<td>5.41</td>
<td>S-6</td>
<td>100 (5-3000)</td>
</tr>
<tr>
<td>Lead</td>
<td>282.1</td>
<td>S-4</td>
<td>10 (2-200)</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.27</td>
<td>S-0</td>
<td>0.05 (0.01-0.5)</td>
</tr>
</tbody>
</table>

NOTES:
(1) Average concentrations and range of concentrations, (Bowen, 1965).
(2) <= Detected but below measurable detection limit.
NA = No typical soil concentration has been established for this constituent in soil.
sump discharge where contaminated fluids may have been discharged. The occurrence of an obvious chemical odor and the elevated organic vapor reading at 10.0 to 12.0 feet may indicate the presence of contamination.

5.2.2 Silo Water

Chemical analyses of the water samples taken from the silo indicate no purgeable halocarbons or purgeable aromatics above the laboratory detection limits. One base/neutral compound, di-n-octyl phthalate was detected above the laboratory detection level in the silo water and the rinsate samples. However, the duplicate silo sample and the method blank indicated no di-n-octyl phthalate above the laboratory detection level. The presence of this compound at such low levels in the silo water and the rinsate samples are therefore suspect and may be due to improper cleaning of the teflon bailer.

Total metals analyses indicate two metals present in the silo water sample, barium and lead. A total barium concentration of 0.032 ppm detected in both the silo water sample and sample duplicate is below the MCL of 1.0 ppm. The total lead concentration detected in the sample of 0.084 ppm is slightly above the MCL of 0.05 ppm. However, the duplicate silo sample analyzed detected a concentration of only 0.046 ppm which is just below the MCL for total lead. Comparison of the total lead concentrations detected in the monitoring well samples and total lead concentrations in the silo water sample suggest that the silo may be a source for the elevated lead concentration. The elevated lead level may be associated with either the previous salvage operations, the unexploded ordnance in the silo or metals/waste in the silo.

5.2.3 Soil

Analytical results of soil samples collected at Site S-7 indicate no purgeable organics contained in the samples above detection
limits.

Analysis of soil samples S-4 and the duplicate (S-D) taken at S-4 location detected five and seven base/neutral com- respectively, which were present but below the meas detection limits. The presence of these compounds is indicative of contamination caused by the nearby silo discharge.

PCBs (Aroclor 1260) was detected in soil sample S-3 at concentration. This data suggests that there was a spil transformer oil at this location and that PCB compounds locally released. The lateral and vertical extent of PCB the soil has not been defined.

Metal analyses of the soil samples collected show concentra- of barium, chromium and lead above laboratory detection limit of each of the soil samples collected. Arsenic was detected at the detection limit in soil sample S-6 and mercury was dete- above the detection limit in the duplicate (S-D location). concentrations of barium, chromium and arsenic in soil sample are well below the average background levels listed on Table: The concentration of mercury in the duplicate sample is slight higher than the average background value but is within the range of background concentrations. Lead concentrations in soil sam- S-1, S-2, S-3, S-5 and S-6 are also well below the aver background levels given. However, the lead levels in samples and the duplicate are elevated in comparison with the other samples. These concentrations also exceed the average range background values for lead. The high concentrations of lead- the samples S-4 and duplicate may be attributed to the proximity to the silo sump discharge. This observation consistent with the elevated total lead levels in the silo wat samples.
5.3 EVALUATION SUMMARY

Evaluation of the test results indicate the following conclusions from the site investigation performed at ATLAS Site S-7:

- Concentrations of purgeable aromatics, purgeable halocarbons, or base/neutral compounds were not detected above the laboratory detection limit in water samples collected from the three ground-water monitoring wells. Concentrations of total metals (barium and lead) detected in the monitoring well samples were below applicable standards (MCLs).

- One base/neutral compound, di-n-octyl phthalate, was detected above laboratory detection limits in the water sample collected from missile silo (see Section 4.5). The lead concentration detected in the silo water sample is slightly above the MCL of 0.05 mg/l. The total barium concentration detected in silo water sample, however, is well below the MCL of 1.0 mg/l.

- Analyses of the soil samples indicated metals concentrations comparable to average background levels except for the level of lead in soil samples collected near the silo sump discharge (S-4 and the duplicate). The levels of lead in these two samples are not within the background range of values and they are significantly higher than lead concentrations reported at the remaining soil sampling locations across the site.

- Analysis of soil sample S-3 does indicate PCB contamination present at the suspected transformer spill area. A regulatory standard for PCB's in soil has not been established. However, this concentration is within the levels given in Federal Register 52, 10688, April 2, 1987. The vertical and horizontal extent of PCB contamination at this location has not been defined.
Several other base/neutral compounds were detected in soil samples S-4 and the duplicate but below the laboratory detection limits. Their presence at the silo sump discharge location, although not quantifiable, indicates the possibility of low level contamination.
6.0 PRELIMINARY CONCLUSIONS AND RECOMMENDATION

The following preliminary conclusions and recommendation is based on the evaluation and conclusions from data collected at ATLAS Site S-7:

- Ground water does not appear to be contaminated by either the purgeable aromatics and halocarbons, base/neutral compound or total metals analyzed.

- The silo water appears to contain no purgeable aromatic or purgeable halocarbon contamination. However, one base neutral compound, di-n-octyl phthalate and a slightly elevated total lead concentration suggest low level contamination in the silo water.

- The surficial soil samples also appear uncontaminated for the parameters tested except for the soils sample collected around the silo sump discharge and the suspected transformer spill area. Analytical results for these samples from the silo discharge reported elevated lead concentrations and several base/neutral compounds both above and below the laboratory detection limits. The sample from the transformer spill area contained a low concentration of PCB's. These results indicate potential contamination at the silo sump discharge area and the spill area which may or may not have originated from the missile silo during active use.

Based on the above conclusions we recommend ATLAS Site S-7 in Franklin, New York be referred to the Missouri River Division (MRD) for additional investigation.
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F-2. Site plan for 556th SMS site 2 (not S-7) (B-81).

F-3. Side view of typical LCC (B-74).

F-4. Typical LCC (B-74).

F-5. Typical LCC (B-81).

F-6. Typical LCC (B-81).

F-7. Silo and LCC w/dimensions (B-74).

F-8. Silo side view (B-74).

F-9. LCC and silo (B-81).

F-10. Silo w/m missile (B-81).

F-11. Silo, LCC, and sectional elevations (B-81).
cated and the re-bar for the silo wall was welded to the outside. After the hole was dug, this liner was lowered into it; aggregate was placed; and then the mortar was pumped in. A relatively simple concrete structure in the upper part of the silo provides space for equipment and a working area. Backfilling is placed to the top of the launcher.

Control centers for Minuteman are also simpler to

<table>
<thead>
<tr>
<th></th>
<th>Titan I</th>
<th>Titan II</th>
<th>Minuteman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter (m)</td>
<td>300,000</td>
<td>430,000</td>
<td>3-5</td>
</tr>
<tr>
<td>Height (m)</td>
<td>7½-10</td>
<td>over 100</td>
<td>55</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>97</td>
<td>300,000</td>
<td>65,000</td>
</tr>
<tr>
<td>Fuel Type</td>
<td>Liquid (cryogenic)</td>
<td>Liquid (non-cryogenic)</td>
<td>Solid</td>
</tr>
</tbody>
</table>

All have speeds of at least 15,000 mph, with a range of more than 6,300 statute miles.

Evolution of ICBM Launchers

The Military Engineer, No. 362
Figure 1-1. Site 2 Plan, 556th SMS, Plattsburgh Air Force Base (Sheet 3)
LAUNCH CONTROL CENTER - OPERATIONAL SITE

ESCAPE HATCH

1ST LEVEL

10' 0" 30' 0" 6' 6"

2' 3"

SUSPENDED FLOOR

2ND LEVEL

13' 0"

FIN. GRADE

STAIRWAY TO GRADE

TO LAUNCH SILO

F-3
LAUNCH CONTROL CENTER — OPERATIONAL SITE

2ND LEVEL
1. COMMUNICATION EQUIPMENT
2. LAUNCH CONTROL ROOM
3. OFFICE
4. BATTERY ROOM
5. STAIRWELL
6. STAIRWAY TO GRADE

1ST LEVEL
7. READY ROOM & STORAGE
8. JANITOR'S CLOSET
9. TOILET
10. KITCHEN & MESS
11. HALL
12. H.V. & A.C. ROOM
13. MEDICAL SUPPLIES

STAIRWAY TO GRADE
Figure 1-2. Access and Walkways, Silo and Launch Control Center (Sheet 5)

Changed 15 August 1963
Figure 1-2. Access and Walkways, Silo and Launch Control Center (Sheet 6)
1. ADJACENCY STATE
2. SILO DOORS (CLOSED)
3. WORK PLATFORM 1B
4. RIGHT HOUSING
5. (STRETCH MECHANISM)
   a. GSTF-2, 576D AND 576E ONLY
   b. WORK PLATFORM 2B
   c. WORK PLATFORM 2B
   d. WORK PLATFORM 4B
   e. PRESSURE SYSTEM
   f. CONTROL DCU 46/E
   g. WORK PLATFORM 4D
   h. BALCONY
   i. KEY SWITCH LEVEL 5A
   j. ALL-INERTIAL POD HANDLING
   k. SLING AND MONORAIL
   l. WORK PLATFORM 2D
   m. WORK PLATFORM 2D
   n. KEY SWITCH LEVEL 5
   o. LOCAL CONTROL HYDRAULIC PANEL
   p. KEY SWITCH, LEVEL 2
   q. LEFT HOUSING
      (STRETCH MECHANISM)
   r. WORK PLATFORM 1D
   s. WORK PLATFORM 1A
   t. WORK PLATFORM 2AR
   u. WORK PLATFORM 2R
   v. STRETCH MECHANISM
   w. HYDRAULIC PUMP

F-10
ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR
PLATTSBURGH ATLAS MISSILE SITE S-7
FRANKLIN, NY
PROJECT NUMBER C02NY021201

APPENDIX G

REAL ESTATE DOCUMENTS
G-1. Corps of Engineers map showing original ownership and leases (B-86).
APPENDIX H

NEWSPAPERS/JOURNALS
APPENDIX H

NEWSPAPERS/JOURNALS

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H-1. December 1961 article on silo construction (B-44).

H-2. December 1962 article declaring all sites operational (B-48).

H-3. June 1965 article about 556th SMS deactivation (B-50).


H-5. March 1979 article on fatal accident at S-7 (B-53).

H-6. December 1986 article on site S-7 (B-60).


H-9. October 1997 article about a renovated Plattsburgh silo for sale (B-112).
First Area Atlas Missile Site to Be Operational In

Sugar Bush Excavation Completed

By ROY SOUTHWORTH

Plattsburgh's 12 Atlas missile sites will become operational one after another, beginning with the first in about a year.

This came out Wednesday at a news conference sponsored by the Site Activation Task Force (SATAF) at the Plattsburgh Air Force Base.

Col. Calvin W. File Jr., SATAF commander, was host to news media representatives from Plattsburgh and Burlington.

The missile sites are now at varying stages of completion, File said.

The slowest starter—the one at Sugar Bush—is now completely excavated, he said.

Work there had been slowed because excavators ran into quicksand.

SATAF has taken title to the first—Site 2 at Alburg, Vt.—and expects to accept the second—Site 1 at Swanton, Vt.—"in the very near future," File said.

UNDERGROUND ATLAS — Silo emplacement of Atlas intercontinental ballistic missile at Plattsburgh complex will resemble this artist's conception of hardened Atlas squadrons. Maintenance, checkout and fueling operations are carried out underground in the silo containing the missile. Countdown of the big missile is conducted in the underground Launch Control Center shown to the left of the silo.
It was to mark the acceptance of the Alburg site that the conference was held.

Acceptance of the first site means that it has moved from Phase 1, construction, into Phase 2, installation and checkout.

When Phase 2 is completed, SATAF will turn the sites over one by one to the Strategic Air Command, Fite said.

Phase 1 is being completed by Raymond International, a joint venture by four principal companies.

The prime contractor for Phase 2 is General Dynamics-Astronautics, the company that builds and installs the missile.

Fite said when the underground sites are ready, the Air Force will fly the missiles to Plattsburgh in converted C-133 transport planes.

"The missile itself, without fuel or warhead, weighs only about 10,000 pounds," he said.

"With a little remodeling of the C-133 we have found it can be squeezed in," he said.

"When it is fueled up and loaded, the Atlas weighs about 260,000 pounds," he said.

The missile's skin is made of stainless steel thinner than a dime. It is kept rigid in flight—at speeds between 15,000 and 16,000 miles an hour—by the internal pressure of helium or nitrogen gas. It has no internal struts.

The missile sites will be assigned to a missile squadron now being formed at the Plattsburgh base. Its complement will be about 600 military personnel, Fite said.

The Atlas that the Plattsburgh underground silos will house will be Series F with inertial guidance systems.

The Atlas D, used in orbiting the chimpanzee Enos on Nov. 29, is guided by ground control systems more suitable for scientific space experiments.

Phase 1 of missile site construction has consisted in excavating a silo 174 feet deep and 52 feet in diameter at each site.

Each site's control center is contained in a subterranean cylindrical unit connected to the silo by a tunnel.

Besides the excavation, the Phase 1 contractors have concreted the entire underground installation and suspended steel cribbing to hold the missile.

Altogether, Phases 1 and 2 are employing about 35 separate companies. They have employed between 1,800 and 2,200 workers.

As Phase 1 gives way to Phase 2, the employment level will probably remain about the same, Fite said.

Each site, he said, contains its own power units—two diesel generators each—and its own water storage.

"These sites are self-contained," he said. "They could remain so for a long time."

The conference concluded with a tour of the Alburg site.
Missile Sites Now Operational

BY ROY SOUTHWORTH

The Plattsburgh area's 12 Atlas missile sites, now operational, will be turned over to the Strategic Air Command at 11:15 this morning.

This was revealed in a briefing for newsmen at the Officers Club at the Plattsburgh Air Force Base Tuesday afternoon.

It means that the entire $120-million project—the only missile installation east of the Mississippi—has been completed 19 days ahead of schedule.

Ground was broken for the first site at Champlain on June 17, 1960. The project was to have been completed Dec. 28, 1961.

In announcing the completion of the project Tuesday, Brig. Gen. Winton R. Close, commander of the 520 Strategic Aerospace Division, outlined the nation's policies regarding the use of the missiles.

In essence, he said that the Plattsburgh area's 12 Atlas F missiles will never be fired save in the event of actual nuclear attack on the United States.

Col. Calvin W. Fite Jr., commander of the State Activation Task Force (SATAF) which was in charge of the project, said the construction phase—digging the 194-foot-deep silos and concreting them, together with the launch control centers—was completed last Feb. 1.

Slightly overlapping the construction phase, Fite said at the briefing, came the installation and checkout phase which was completed last Sunday.

General Dynamics Astronautics, which manufactures the Atlas missile series, was the prime contractor during the install-

H-2
The end of the final phase came after SATEF and 56th Strategic Missile Squadron personnel had checked out each missile at its launch site. The final checkout took 11 to 16 days, Fite said.

The 11:15 a.m. turnover ceremony today will mark acceptance by the Strategic Air Command of the sites and missiles.

It will be conducted at one of the 12 missile sites. Two are in Vermont, the rest in Clinton, Essex and Franklin Counties in New York.

After that, the missile complexes will be in charge of Col. Richard Beck, commander of the missile squadron.

In discussing the role the Atlas plays in the defense of the United States and the Free World, Close made these remarks:

"The missiles will never be fired save in event of a "valid" nuclear attack."

A warning of such an attack would come from Air Defense Command's BMEMS (Ballistic Missile Early Warning System) radar screens.

It would be transmitted to Strategic Air Command headquarters in Omaha, Neb., and SAC bombers would be aloft all over the world in 15 minutes.

They would be sent to certain geographic areas under "positive control"—that is, with the pilots instructed not to venture over enemy territory until they were ordered to do so.

"During this time, it's still not known whether we have a valid attack," Close said.

"But instantaneously, every SAC base in the world is alerted by a single telephone, on suspicion.

"While the planes are on "positive control," the missiles can't be launched.

"That decision must be made by the President—because the missiles can't be recalled once they're fired." Close said.

"This being so, the missiles must be held back until there is a valid attack.

"That is why the launch sites must be hardened (in heavily reinforced underground sites)—so they could 'ride out' any valid incoming missile attack," he said.

Close also discussed some implications of the national policy.

"Our policy is deterrence—but if the enemy makes a mistake, we must have the strength to win the war.

"The enemy always has the initiative," he said.

"Later, speaking of the bombers on "positive control," he added:

Suppose word to proceed didn't reach some of the pilots because of defective radios. That is the price we have to pay to make sure we're not bombing the Russians without meaning to do so."

In the hypothetical instance he elicited—a "valid" attack on the United States—the missiles would be launched, at the time the bombers were instructed to proceed into the enemy's territory. Close said.

The general said the fact that the Plattsburgh area's missile project was completed 19 days ahead of schedule was largely due to the supervision of Fite, the SATEF commander.

"Coming in ahead of schedule is unique in the missile business," Close said.
Missile Squadron, 820th
To Leave Air Base Today

The 556th Strategic Missile Squadron and the 820th Strategic Aerospace Division are being inactivated at Plattsburgh Air Force Base today.

The squadron has been the only intercontinental ballistic missile outfit east of the Mississippi River.

The division has been stationed at Plattsburgh for the past nine years.

Inactivation of the 556th squadron, part of a phase-out of U.S. first-generation missiles—the Atlas series and the Titan I models—which was announced by Defense Secretary Robert S. McNamara last Nov. 19.

Col. J. C. Mitchell, commander, will soon be assuming duties of commander of the 351st Missile Maintenance Squadron, Whiteman Air Force Base, Mo.

Announcement that Plattsburgh would be the supporting installation for 12 Atlas F sites was made in January, 1960, following soil tests.

In the spring of 1960, land was purchased for the sites and contractors began excavation under the supervision of the U.S. Army Corps of Engineers and the Site Activation Task Force.

The 12 missile sites were located at Champlain, Mooers Forks, Chazy Lake, Ellenburg, Clayburg, Au Sable Forks, Willboro, Boquet, Sugar Bush, and Harrigan Corners in New York and at Alburg and Swanton, Vt.

The 556th squadron was activated in October, 1961, under the command of Col. Richard W. Beck.

In a formal ceremony commemorating the Strategic Air Command acceptance of the sites and the completion of the construction program, the sites were officially turned over Dec. 22, 1962.


The missile squadron was under jurisdiction of the 820th division from its activation in 1961 until Sept. 15, 1964, when it was placed within the newly formed 300th Strategic Aerospace Wing.


Inactivation of the 820th Aerospace Division places its units under jurisdiction of Eighth Air Force's 817th Air Division at Pease Air Force Base, N.H.

The changeover is in line with a Strategic Air Command organizational alignment.

Altogether, the 111th Strategic Aerospace Division at Altus Air Force Base, Okla., is being inactivated.

Altus now comes under the 819th Strategic Aerospace Division, Dyess Air Force Base, Tex., which today jurisdiction over the 819th Division changes simultaneously from the Fifteenth Air Force to the Second Air Force.

The Plattsburgh site was originally the 428th Division of Strategic Air Command.
Missile Squadron, 820th

(Continued from Page 1)


In July, 1960, it was announced that the division would gain an Atlas missile squadron with 12 sites ringing the base.

Col. Alvan C. Gillem II was the next commander of the division, assuming the position on April 1, 1961.

On the same day, the division gained another wing when the 4108th Air Refueling Wing equipped with KC-97 tankers, was activated.

Gillem was promoted to brigadier general May 1, 1961, and was followed as commander by Colonel Winton R. Close in September of the same year.

One month later, Oct. 1, 1961, the 556th Strategic Missile Squadron was placed under division jurisdiction.

In July, 1962, the division, under the command of the recently-promoted Brig. Gen. Close, was redesignated the 820th Strategic Aerospace Division because of the missile capability it had gained.

Another unit redesignation occurred Jan. 1, 1963 when the 4106th Air Refueling Wing was retitled the 497th Air Refueling Wing.

Col. Richard R. Stewart, who had previously commanded the 19th Bombardment Wing at Homestead Air Force Base, succeeded Close as division commander Nov. 1, 1963.

On Sept. 15, 1964, the 380th Bomb Wing was expanded and redesignated the 380th Strategic Aerospace Wing. On the same date the 497th Air Refueling Wing was inactivated.
Bill McLaughlin
Missile site peril

A youngster could be killed walking 20 feet from a parked car at the abandoned U.S. Air Force missile sight on Rt. 3 at Sugar bush just 20 miles from Saranac Lake.

Death could come even quicker for a curious child who wanted to lean down and peer into the deep well of concrete, iron and water covered by a cap which doesn't really do the job it was intended to do. The man made crater is still accessible to the daring.

It is an intriguing playground in some ways. This once important defense bastion written off as obsolete a short time after it was completed is basically a million dollar hole in the ground.

Spent bullets can be picked up by the hundreds, dials and pieces of intricate and sophisticated equipment are popping up in the tall weeds. Passages lead down murky tunnels into the stygian darkness with only an occasional section covered with barbed wire to prevent one from exploring the depths.

A tourist with a family should drive up this road and park at the curious ruin, a small child could quickly dash across an open space and plunge 30 feet down a smaller square well, open on two sides and containing a reservoir with little junk at the bottom. What is the responsibility of the government for this area? Does it have a contract to make the acreage safe even for stray cows or has the land and junk reverted back to the public domain?

When it was being built it was one of the marvels of the military world, the Sugarbush Missile silo was one of several which ringed the Plattsburgh Air Force Base in northern New York and Vermont. As various types of missiles were phased out and new and more awesome weapons and warheads contrived, the deep cylindrical caverns built to specifications for handling Atlas or Nike type rocketry were suddenly declared obsolete.

A chapter of hilarity followed when the missile sites were put up for sale by the government. Nobody seemed to want them at any price even though millions of dollars had been spent in their construction. It appeared that the government would be fortunate to salvage even a few thousand dollars from each.

The fate of other missile launching sites in the region could not be fully ascertained. The Sugarbush saga was an open book however and it was and is, wide open to anyone's inspection.

To compound its dangerous aspects, the blacktop area surrounding the concrete cap is beginning to deteriorate. As rains undermine the weakened surface it constitutes an double hazard.

In much better condition as regards safety standards, the missile site at Harkness, south of AuSable Forks is apparently checked on occasion or at least given a cursory inspection by
Missile silo salvager killed by exploding 20 mm shell

By CHARLES DECKER
SUGARBUSH

A Willabro man was killed Friday when a shell exploded in his face while he was salvaging steel from the abandoned Atlas missile site here.

Francis A. McKenna, 53, was using an acetylene torch to cut a steel I-beam some 70 feet down along the shaft of the 172-foot deep underground silo when the accident occurred, authorities report. They theorize that the heat from the torch caused the military-type shell to explode, with the fragments from the casing striking McKenna and causing fatal head wounds.

McKenna's two sons, Michael, 27, and Mark, 22, along with 18-year-old Rick Foley, all of Willabro, were working above ground at the old missile site when the accident occurred.

"We heard an explosion from down in the hole," Michael said. When they went over to the opening and looked down, they saw their father hanging by his safety belt alongside the shaft, bleeding from the head.

Franklin County Coroner Ronald Keough, summoned to the scene after the Saranac Lake Rescue Squad had arrived, declared McKenna dead at 4 p.m., about two hours after the accident.

His body was taken to the Saranac Lake General Hospital, where Dr. David Johnson officially pronounced him dead. An autopsy was performed Saturday morning by Dr. Robert A. Calhoun.

Keough initially reported the cause of death as "massive brain damage due to a penetrating wound from a large shell casing." In his official report, the coroner wrote the victim's death was attributable to the "discharge of a military shell, causing the casing to penetrate the brain."

The shell which caused McKenna's death was tentatively identified as a 20mm anti-aircraft machine-gun shell by military personnel from Plattsburgh Air Force Base (PAFB) called to the scene by State Police.

State Police BCI Investigator Edwin Dyer conducted an investigation into the death and by Sunday was satisfied it had been accidental in nature.

Dyer said his investigation is closed and would only be reopened on orders from the county district attorney. He said the case is now a civil matter since his work ruled out the possibility of criminal homicide.

"I think of the basic issue as one of military negligence," County Coroner Keough said. He, along with McKenna's sons and investigators working on the case, indicated that there are "thousands" more shells lying throughout the silo's inner structure, most of which is underwater.

Sources say there is speculation that the shells were brought to the abandoned missile site for disposal several years ago, but apparently were not all detonated and destroyed before being discarded.

Leigh Hadley, who owns the property where the silo is located and who sold the salvage rights to McKenna, said he has found small-caliber shells scattered on the ground all around the site. "But," he said, "I've never found any near the size of the one they say killed Mr. McKenna."

Residents of Sugarbush, who have visited and are familiar with the silo said the entire area was littered with shell casings at one time. Many have been taken by souvenir collectors, they said.

"A man came up and exploded a bunch of them, but that was a long time ago," one neighbor said.

(Continued on Page 3)
Man killed at base site

(Continued from Page 1)

Hadley said when he first
checked out the property, he
found several cases used to
store shells lying around. The
wooden outer housing of the
combustion-wood-metals
cases were burned. Hadley
said, indicating they were
taken there to be destroyed.

It is not known at this time
who was responsible for
taking the shells to the site for
disposal. Nor has it been
determined when the ammuni-
tion was taken there.

The underground silo is one
of the 15 within 50 miles of
Plattsburgh Air Force Base
which were built in 1961-62
to house Atlas "F" missiles.

The missiles were consid-
ered first-generation ICBM's
(inter-continental ballistic
missiles) and were part of the
Strategic Air Command
defense program. Platts-
burgh AFB is the Strategic
Air Command base for the
Northeastern United States.

The Atlas missiles were
fully operational from 1958-
65, although military per-
sonnel declined to say
whether or not they were
equipped with nuclear
warheads. In 1965, the Atlas
missile program was
discontinued in favor of the
more sophisticated ICBM's.

Lt. Col. Thomas Noonan,
PAFB Information officer,
said the missiles were
removed in 1965 "because
they were no longer required
in the SAC inventory."

Noonan said the empty tubes
then became government
military surplus and were
offered for sale through the
General Services
Administration. He said this
was normal procedure.

He said the Plattsburgh Air
Force people have no idea
how the live shells got on the
site. He added the military
does not know who would
have put the ammunition
there to dispose of it.

According to Hadley, Air
Base officials visited the site
on Saturday, the day after the
accident, and offered to clean
out the silo. However, Keough
has the site sealed off and
does not want to keep it that
way at least until Tuesday, he said.

There is also some question of
who actually owns the silo
at this time. The informal
contract signed between
Hadley and McKenna gave
McKenna salvage rights to
the silo and its contents.

Hadley purchased the
approximately 10-acre site on
which the silo is located in the
summer of 1978 from Maury
Wallace, of 10ac. Hadley
said his title search indicated
that Wallace purchased the
property in 1968 from the
General Services
Administration.

McKenna's son, Michael,
said his father began their
salvage operation at the site
approximately six weeks ago.
Their first task was to pump
out some of the water, which
had filled the structure nearly
to its top, to enable them to
got at the steel in the lower
levels.

His father was working on
the fifth floor down where he
was killed. There are seven
levels of control rooms facing
the site's 84-foot diameter
shaft.

"The shell was hidden," the
younger McKenna said. "If
he'd seen it, he'd of swept it
off."

"We didn't think the ammuni-
tion in there was live," he
continued. "I mean, who
the hell would dump live
ammunition down in there?"

Commenting on the ac-
cident, Michael McKenna
said, "I'm going to do
everything I can to protect
Mr. Hadley. He's a nice man.
We have no bones with him."

"But..." he said,
"somebody's going to pay."

McKenna's death marked
the second accidental fatality
at the Sugarbush site.
During construction of the
site in the early Sixties, a
worker was killed when part
of the concrete pouring ap-
paratus collapsed causing
him to be buried in wet
cement. Two other men were
saved by co-workers.
At one silo, death, trespass and a spectacular view

By Jack Downs
Staff Writer

SUGAR BUSH — For Leigh Hadley, the Sugar Bush Atlas missile silo has been more trouble than it's worth.

Hadley bought the abandoned missile base with hopes of building a house there. A former Air Force helicopter pad on the site affords tremendous views of the Adirondacks, and the 11-acre lot adjoins Hadley's current Route 3 home.

But in 1979 Hadley sold the contents of the silo to Francis "Skip" McKenna. McKenna, who planned to sell scrap metal and machinery from the site, pumped the silo dry of 140 feet of ground water that had accumulated there.

On March 30, as he was leaning over a steel beam he wanted to remove from the structure, McKenna's cutting torch set off the explosive tip of a 20mm shell.

The steel shell casing shot back and hit McKenna between the eyes, embedding in his brain. He died instantly.

A former owner of the silo had apparently dumped 200,000 rounds of surplus 20mm shells in the hole. McKenna's fatal error left Hadley in civil litigation for years, facing a $20 million suit.

Although the civil suit has since been settled out of court, Hadley's troubles have not ended. He calls the silo an "attractive nuisance," explaining that people come from far and near to violate his posted signs and trespass on the site.

A broken hinge on one large silo door has left the huge concrete slab warped open about four feet.

Welding steel grates over the opening did not work. Local youths broke through the grating, tied a rope to the door and shinnied down to swim in the water 35 feet below.

When Hadley bulldozed large piles of gravel around the silo door and a stairway leading to the silo's launch control center, trespassers tried to dig through the fill by hand.

Since then, Hadley has had several people arrested for trespassing on the old missile site.

"I wouldn't mind if people asked to come and see it. But I can't take the chance that someone else could get hurt here," he said.
Old Missile Silos: Challenge for Buyers

PLATTSBURGH, N.Y. — A 1966 telephone directory rests on a shelf. A bar of soap sits on the edge of a bathroom sink. Dust clings to the console in the subterranean vault where a five-member Air Force crew stood 24-hour watch at the controls of an Atlas missile. Beneath the fifth of 20 years, the words "Commit Start" remain legible on a metal lid covering the lock that activated the firing panel.

Once at the forefront of weapons technology, the long-abandoned silo on a remote site near Jay Mountain in the Adirondacks is the property of Michael McKenna of Willsboro. Mr. McKenna bought it for its scrap metal. But falling salvage prices have made it useless even to him, he said. So he has listed it for sale with a real-estate agency in Keeseville as a development parcel. The asking price is $120,000.

The silo is part of the legacy of a quickly abandoned military project, one of 72 former Atlas sites whose owners struggle to find uses for antiquated marvels of weapons technology. The silos have proven troublesome.

Silos for the Atlas, one of the earliest intercontinental ballistic missiles, were built in clusters around Air Force bases in Kansas, New Mexico, Oklahoma, Nebraska and New York in the early 60s. Although the Air Force spent $1.6 billion on the system, according to Terry Isaacs, a history professor at South Plains College in Levelland, Tex., the program was dropped after five years in favor of the more advanced Titan II missiles. The Atlas sites were sold as surplus property.

"The sad part was they were considered obsolete by the time they were put in," Mr. Isaacs said.

The Town of Dannemora bought a silo complex so it could use two Quonset huts to store highway equipment. A salvage crew had left one of the two 90-ton doors of the silo open, and for nearly 20 years the town has been trying to close the stuck door.

Highway workers rammed it with trucks years ago, but it did not budge. The town's insurance carrier, warning of liability risks posed by a 170-foot-deep hole nearly filled with water, recently advised officials.

Continued on Page B2

Part of the launching platform raised between the open doors of an old Atlas missile silo near Lewis, N.Y.
Buyers of Former ICBM Silos Find Risks and Opportunities

Continued From Page B1

to intensify their efforts. The town requested help from the Army Corps of Engineers, but was refused because the site no longer is Federal property.

Dannemora has turned to Wayne N. Tolbert, a retired construction executive who lives in the Adirondacks. Mr. Tolbert, describing a block-and-tackle system of chains and cables, said he thought he would be able to show town workers how to close that door just as he closed Atlas silos in Nebraska and New York two decades ago.

Citizens who own silos, some of whom have the former ICBM sites covered under their homeowners' policies, share similar fears of accidents. In 1979, a man died while salvaging a silo near Sugar Bush. His family sued for $5 million, charging wrongful death. The suit was settled out of court, against the owner and former owner of the property.

Improperly Handled Sale

Black Brook has a different problem. In 1975, the town acquired a 23-acre silo site for $1 from the Government, hoping that wells dug by the Air Force could be the beginning of a municipal water supply, according to the Town Supervisor, Roger D. Nelson.

The plan proved too costly, and the property was nearly forgotten until 1982, when Mr. Nelson and others proposed turning the site into an industrial park. But then the town found that it did not have clear title to the site, because the Federal sale seven years before had not been channeled through the proper agency, the General Services Administration.

Town leaders, regarding the problem as a minor snag, transferred what rights they retained over the land back to the Federal Government, so the parcel could be properly resold for $1 to the town.

To the surprise of Black Brook, the land carried an $11,500 price when it was offered again, because new Federal regulations prohibited giving away surplus property. The town continues to negotiate for the sale.

"We have been working on this for two years now," Mr. Nelson said.

A handful of the sites have been adapted for new uses. A silo near Willsboro was bought by Leader Sport Products, a subsidiary of a Montreal concern that renovated the above-ground structures into a factory for swimmers and skiers' goggles. The workers eat their lunches at picnic tables that sit near the closed silo doors.

In Ellenburg, the town built a skating rink at an Atlas site. Across Lake Champlain, an above-ground building near Swanton, Vt., was renovated into a machine shop.

A few ranchers in New Mexico have purchased silos because they could water their stock from the wells that supplied the crew in the underground bunkers, Professor Issacs said. But for the most part the sites remain abandoned, whether nestled in the Adirondacks or buried beneath the desert in the Southwest.

"They are just holes in the ground," Professor Issacs said.
Our Silent Silos by R.D. White

October 1962: President John F. Kennedy orders the Soviets to remove their medium range missiles from Cuba after U.S. intelligence detects their deployment. A blockade of the island ensues and the world is brought to the brink of nuclear war in the worst superpower confrontation to date.

In the Adirondacks, Air Force technicians of the 556th Strategic Missile Squadron hurry to make the last few missile sites operational. The Atlas InterContinental Ballistic Missile (ICBM) was America's newest strategic weapon capable of delivering a nuclear warhead to a target 6,000 miles away. The missiles, housed in 12 sites around their Plattsburgh Air Force Base headquarters, were the only underground silos ever built east of the Mississippi River. Fortunately, the Russians removed their rockets and everyone breathed easier.

The $300 million dollar construction and operation of the 12 North Country sites, ten in New York State and two in Vermont, made it one of the largest projects undertaken in the region, employing some 770 workers, exceeded only by the building of the St. Lawrence Seaway. Seven of the New York sites were within the Adirondack Park; Au Sable Forks, Chazy Lake, Clayburg, Harrigan Corners, Lewis, Sugarbush and Williboro.

Construction began in July of 1960. Each site consisted of a hardened concrete silo 174 feet deep and 52 feet wide, with an access tunnel to a rounded, two-story control center. Two massive, lead-filled doors covered the top of the silo and the internal metal framework within the concrete shell. Both the silo and the control center were mounted on giant springs to absorb the shock of anything but a direct hit by an atomic bomb. More than 8,000 cubic yards of concrete were poured into each location.

Richard C. Beaulieu of Massena, the construction foreman who sank the footings and poured the forms for six...
of these sites, recalled some of the problems encountered in the construction. At the Au Sable Forks site, the concrete for the control center was poured at 30-below zero and came out in lumps. Next spring when the forms were removed, it was full of "ratholes," so the concrete was blown up and everything had to be repoured.

The Atlas F rocket, at the time the most powerful and longest range of the Atlas series, was originally designed for space launches. The Atlas put astronaut John H. Glenn Jr., into orbit around the earth. Some 81 feet long, the missile ranged in width from 10 to 16 feet at its base. The skin was made from a special stainless steel and was about as thick as a dime. The internal cylindrical tank structure had to be kept pressurized with inert liquid nitrogen, even during transport, or the rocket would collapse under its own weight.

The missiles were flown to Plattsburgh, where they were transferred to special 80-foot trailers. Al Bousquet, a New York State Trooper based in Malone, remembers escorting several of the missile trailers, "We usually had two cars for escort duty. The ride was a slow process; three or four hours to go from Plattsburgh to Chazy Lake, a distance of about 20 miles. The missile was so large it took up the whole roadway. Traffic had to pass on the shoulder or we had to re-route it entirely.

Inter-site communications systems, containing 208 miles of cable, were installed by New York Telephone to link the remote silos with their central command post in Plattsburgh known as the "Black Hangar." A liquid oxygen plant manned by 25 airmen was built to the northwest of the flight line at Plattsburgh Air Force Base. The oxygen and nitrogen for the missiles was stored in giant 28,000 gallon vacuum tanks at hundreds of degrees below zero. A fleet of trucks transported the liquids to the sites, to replenish the supply that, no matter how tightly sealed, was constantly dissipating into the atmosphere.

Missile crews began arriving in the North Country in the spring of 1962 after special training at Sheppard Air Force Base in Texas, and Vandenberg Air Force Base in California. The first Atlas arrived in April, 1962 and by December 10th, 1962 the silos were all operational. The Squadron strength stood at 146 officers, 471 enlisted men, and one civilian. Approximately 50 percent of the squadron strength was devoted to maintenance.

By the fall of 1964, Defense Secretary Robert S. McNamara began a phase-out of the first generation missiles, like the liquid-fueled Atlas and Titan I. The Titan II and Minuteman used more storare solid fuels, which did not evaporate constantly, and were much less expensive to maintain. Rather than convert much of the outdated hardware in the silos for use with the newer missiles, a command decision was made to deactivate the Plattsburgh silos, leaving our ground-based missile force entirely in the western United States. On April 14th, 1965 the last Atlas was trucked back to California for use in the Air Force's own space program. The 556th Strategic Missile Squadron was deactivated on June 25th, 1965. The silos had been operational for about 30 months.

The Air Force took very little away with them, turning the silos over to the General Services Administration for disposal. A few were turned over to salvage companies who ripped out whatever they could of value. With the sump-pumps shut off, the silos began to fill with ground water, and today all but one are completely filled. Several were taken over by town highway departments, who used the two Quonset huts located at each site for garages and maintenance work.

Two of the sites, near Willaboro and Lewis, were acquired in 1966 by SUNY Plattsburgh for research. Dr. Donald F. Ryan, a physicist, conducted subatomic particle research at the Lewis site until the late 1960's, when the school could no longer maintain either site, and seeping ground water and deterioration ended the program.

R. D. White is a writer and photographer living in Adams, N.Y.
Blast Off! Now for Cold War Living

By Felicia Paik
Staff Reporter of The Wall Street Journal.

THE COLD WAR is over, and in New York's Adirondack State Park, a dozen relics of the era—empty Atlas-F underground missile silos—have been abandoned, too.

For $350,000, one of those missile silos can become your home-sweet-home.

Eight years ago, private investor Gregory Gibbons purchased one of the silos, which drops 178 feet into the earth, and the surrounding 110 acres near Lake Champlain's defunct Plattsburgh Air Force Base, for just $50,000. Since then, he has invested $60,000 more converting the silo's former launch control center into retro-chic living quarters where he stayed while building a traditional, above-ground house adjacent to it.

"It was a wreck when I bought it, but I wanted to salvage something and do the G.I.-Joe thing," Mr. Gibbons says. "Now, I'm hoping to sell it to someone who wants security—because nobody is getting in here no matter what—or to someone who wants a historic site."

Mr. Gibbons' uncommon abode is getting slightly less uncommon. Across the country, people are converting old railroad cars, airplanes, caves, and grain silos into habitable, if weird, living areas. Indeed, a handful of other people live in converted missile silos.

In the late 1950s and early 1960s, the U.S. government installed more than 190 Atlas missiles at military bases around the country; these included a dozen near the Plattsburgh base, according to Raymond Puffer, a historian at Edwards Air Force Base in California's Mojave Desert. Built to withstand direct nuclear hits, the weapons were the nation's first intercontinental ballistic missiles. The missiles near Plattsburgh were never fired and were deactivated by June 1965 because they were already obsolete.

Fast-forward to 1989, when Mr. Gibbons purchased his parcel of land from a local woman who didn't have the wherewithal to make a silo habitable. His first task: to drain the three million gallons of water that had collected in the 35,000-square-foot structure. Then, he cleared out all of the steel pipes and other wreckage. Some of the original fire extinguishers, radio boxes and control panels remain, as does the large shed that camouflages the entrance.

After the cleanup was done, Mr. Gibbons installed new floors, and a septic and a water-well system in the former launch control center at the top of the silo. The 2,400-square-foot, two-floor area was also wired with electricity and phone lines. But there's no heat, which may be a drawback for those who like their temperature above a constant 58-degrees.

It is soundproof, secure, and ready for Armageddon. The ceiling of the launch bay is 13 feet underground. Claustrophobics take note: To get there, you descend two flights of stairs, walk along a 30-foot concrete corridor, pass through two bank-vault-like doors and then go down another 10 steps.

Mr. Gibbons says he found the original receipts for his Atlas-F, which showed the missile silo and launch control center originally cost $12 million and $722,000, respectively, to build. Now, he believes, the best use of the space would be as the basement to a new house. He estimates it would cost between $15,000 and $20,000 to build and to paint interior walls; right now, the inside resembles an industrial loft. Separately, he's also selling the nearby home he built over the past few years, a rustic, three-bedroom, wooden lodge with mountain views, for $230,000.

The $350,000 price tag for the missile silo includes 20 acres and the use of a 2,000-foot private airplane runway that has both Federal Aviation Administration and Department of Transportation approval; it's two-hour flying time to New York City.

"You basically have a skyscraper under ground, and I imagine there's someone in the world who will want it," Mr. Gibbons says. "It's such an incredible novelty."
APPENDIX I

INTERVIEWS
APPENDIX I

INTERVIEWS

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I-4. FONECON with Mr. John Rigsbee.
I-5. FONECON with 1SG Edward Fagan.
I-6. Interview with Mr. Leigh Hadley.
I-7. Interview with Mrs. Melinda Hadley.
CONVERSATION RECORD

TIME 7:00 PM  DATE 29 October 1997

TYPE

☐ VISIT ☐ CONFERENCE ☐ TELEPHONE
☐ TELEPHONE INCOMING ☑ OUTGOING

NAME OF PERSON CONTACTED John Ricci

ORGANIZATION

Former 556th SMS Member

TELEPHONE NO.

(518) 563-3845

SUBJECT Atlas Silo S-7

SUMMARY:

Mr. Ricci said that he worked in the 556th SMS Safety Office until he retired from the Air Force in 1965. He described his job as "sort of like an OSHA inspector".

He said that for normal day-to-day operations, the missile was filled with fuel (RP-1) and liquid nitrogen (LN) kept the pressure in the liquid oxygen (LOX) tank. When preparing for a launch, the LN was replaced with LOX. He added that the LOX would boil and vent with a smoke-like plume leaving the nose of the missile.

Mr. Ricci said that the procedure for removing the missiles (a "pull-out") was the same whether it was for routine maintenance or deactivating the silos: The re-entry vehicle (RV) was taken off and transported separately, all squibs and explosive components were removed, RP-1 and LN were taken out, and the missile was put on a trailer for the trip back to Plattsburgh AFB. He was absolutely certain that the Air Force did not leave any explosive components behind when they deactivated the silos. He added that all 13 missiles (one for each silo plus a spare) were trucked to California.

MFR: The author spoke with several other 556th veterans, none of whom were as knowledgeable as Mr. Ricci. Each one described Mr. Ricci as the local expert on missile procedures.

ACTION REQUIRED

None

NAME OF PERSON DOCUMENTING CONVERSATION Ronald Plante

ORGANIZATION CEMVR-ED-DO

TELEPHONE NUMBER (309) 794-6006

SIGNATURE

TITLE QASAS

DATE Nov 7, 1997
CONVERSATION RECORD

TIME 8:00 PM  DATE 23 Oct 1997

TYPE

□ VISIT  □ CONFERENCE  □ TELEPHONE  INCOMING  X OUTGOING

NAME OF PERSON CONTACTED

William Staples

ORGANIZATION

Retired NY State Trooper

TELEPHONE NO.

(518) 891-5072

SUBJECT Atlas Silo S-7

SUMMARY:

Mr. Staples remembered responding to a call of an industrial accident at the missile silo about 15 years ago. When he arrived, two workers had already brought out Mr. McKenna’s body through the open silo doors. He said that the victim had been cutting scarp metal with a welding torch when the torch ignited a 20mm projectile. The projectile went the other direction, and the cartridge case embedded itself into the victim’s head.

He went into the silo and observed a “tremendous amount” of 20mm ammunition, mostly exposed on the silo work platforms. He added that the ammo had been heavily corroded from the water in the silo. Mr. Staples said it was dangerous to walk around inside. Although he had served in the Army, he could not recall if the ammo was HE, incendiary, or practice rounds. In his opinion, the rounds had been placed there by hand and not dumped down the silo doors. He could not provide a precise number, but said it could have been 20,000 rounds.

The story Mr. Staples heard is that a private Canadian company called CIL had obtained a contract to demilitarize old and/or obsolete ammunition. He thought that the ammunition was from Plattsburg AFB but he was not certain.

ACTION REQUIRED

None

NAME OF PERSON DOCUMENTING CONVERSATION

Ronald Plante

ORGANIZATION

CEMVR-ED-DO

TELEPHONE NUMBER

(309) 794-6006

SIGNATURE

Ronald Plante

TITLE

QASAS

DATE

24 Oct 1997
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<td>Investigator Douglas Muldoon</td>
<td>NY State Police</td>
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| SUBJECT | Atlas Silo S-7 |

SUMMARY:

Investigator Muldoon recalled the accident as well as some stories about the missile silo. He said that Mr. McKenna had been removing steel beams with a long wand on his torch. The flame ignited a round, and the cartridge case killed him.

He had heard that the demil company had acquired foreign-made 20mm ammunition, possibly Swedish, for a foreign-made aircraft cannon. He also heard that the demil company used to burn .50 caliber rounds in an oil tank on the surface, but that procedure did not work well with the 20mm rounds. He heard they opened the silo doors w/a bulldozer, and the crew experimented with detonating 20mm rounds inside the silo.

Mr. Muldoon recalled seeing a great deal of loose ammunition on the silo work platforms. He saw different color tips and concluded there were various types of ammunition. Because he had heard stories about the men detonating rounds inside the silo, he figured that HE rounds were present.

He offered to research old files and look for old photos or anything related to the ammunition, but later determined that the files had been sent to Albany and destroyed.

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<td>John Rigsbee</td>
<td>Former USAF EOD Technician</td>
<td>(518) 493-3286</td>
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| SUBJECT | Atlas Silo S-7 |

SUMMARY:

Mr. Rigsbee is a retired USAF EOD technician, and in 1979 he was assigned to the 380th MMS at Plattsburgh AFB. He recalled that a NY State Trooper brought an xray to the EOD shop, and they identified a 20mm cartridge case in the victim's head.

After consulting w/the Base JAG and higher hqs, Mr Rigsbee and one other airman went to the silo a day or two after the accident. He remembered that the silo doors were open, and he climbed down a ladder directly into the silo.

He observed 20mm rounds lying all around from top to bottom; on the steps, on work platforms, and on I-beams. He said they were old percussion-primed models packed in single cardboard tubes. He thought the items had been dumped down the silo doors. Mr. Rigsbee said there were probably “a couple thousand”.

He definitely saw yellow HE rounds and may have seen HEI. He said that the victim’s cutting torch set of the HE, and the cardboard tube served as a barrel to propel the cartridge case into the man’s skull. He did not see .50 caliber rounds inside the silo, and did not recall seeing any rounds on the surface.

Mr. Rigsbee said he was instructed not to do a clearance, as the JAG had determined that it was not military-owned ammunition. He remembered hearing that an ammo demil company had obtained the 20mm rounds as a Foreign Military Sales (FMS) or Grant-Aid return from South America. He thought the company was formed only to demil this particular ammo, and they also burned ammo on the surface. Mr Rigsbee also heard they dumped ammo into the silo when they ceased operations.

He added that his unit and the JAG had written reports on the incident, but he did not know where these reports could be located.

ACTION REQUIRED
None

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<td>CEMVR-ED-DO</td>
<td>(309) 794-6006</td>
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TIME
10:00 AM

DATE
25 November 1997

TYPE
[ ] VISIT   [ ] CONFERENCE   [X] TELEPHONE

NAME OF PERSON CONTACTED
First Sergeant Ed Fagan

ORGANIZATION
725th Ord Co (EOD)

TELEPHONE NO.
(315) 772-3163

SUBJECT
Atlas Silo S-7

SUMMARY:

1SG Fagan was a member of the 55th Ord Det (EOD) at Fort Drum in 1979 and went to the silo in late April after the fatality. He did not enter the silo, but did see Soviet manufactured small arms on the surface. Other members of his team went into the silo and saw 20mm rounds everywhere. There was about 20 feet of water left on the bottom, and they assumed there was 20mm under the water also. The story 1SG Fagan had heard was that the private ammo disposal company simply dumped the 20mm rounds into the silo. He had also heard this ammo came from South America.

He faxed a copy of their after action report as well as two messages from Plattsburgh AFB. The Army and Air Force EOD teams developed a plan to clean up the ordinance inside the silo, but this was canceled in mid-May after New York State officials would not sign the DD Form 1926 release agreement. To his knowledge, nothing has been done to clean up the site.

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING CONVERSATION
Ronald Plante

ORGANIZATION
CEMVR-ED-DO

TELEPHONE NUMBER
(309) 794-6006

SIGNATURE
[Signature]

TITLE
QASAS

DATE
Nov 25, 1997
CONVERSATION RECORD

NAME OF PERSON CONTACTED: Leigh Hadley
ORGANIZATION: Former Property Owner
TELEPHONE NO.: (518) 891-4302

SUBJECT: Atlas Silo S-7

SUMMARY:
Mr. Hadley said that he had observed some .30 and .50 caliber rounds on the surface after the ammo disposal company closed, and he cleaned up all live rounds and most of the cartridge cases. He never saw any 20mm rounds or even cartridge cases on the surface. He said the company burned the rounds in a drum or old tank near where he later buried some non-explosive scrap. He never saw any rounds or brass on the grass surrounding the silo pavement, and he did not see any evidence of ordnance left behind by the Air Force.

He went into the silo after the accident, and found 20mm rounds from the 2nd level on downward. He thought it had been thrown in from above and not carried in. Mr. Hadley never saw any rounds in the launch control center. He had heard the 20mm rounds were Swiss made, and were not profitable as scrap because of their steel casings.

Mr. Hadley said he and his sons have been all over the site, including the helipad and the well across Route 3, but they have only seen ammo around the silo. He said the ammo disposal company bought all the property simply because it was part of a 13 acre package.

He added that his ex-wife still gets water from the well at the silo, and said the well near Alder Brook has been capped. He showed where he built up a sand pile to prevent people from entering the LCC. He said that one could gain access to the silo through the LCC, though water is now up to the bottom level of the LCC (level two of the silo). He said pumping out 2.5 million gallons would be a massive task.

Mr. Hadley noted that Francis McKenna had made some payment for the salvage rights to the silo contents, but never finished paying him.

He and his son Allan joined Melinda in showing us the silo and helipad. Mr. Hadley said that the trail down to the Alder Brook well was swampy and pretty much impassable. He added that the ammo disposal company never went down there either.

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING CONVERSATION: Ronald Plante
ORGANIZATION: CEMVR-ED-DO
TELEPHONE NUMBER: (309) 794-6006

SIGNATURE: [Signature]
TITLE: QASAS
DATE: Nov 7, 1997
CONVERSATION RECORD

TIME
10:00 AM

DATE
1 November 1997

TYPE
X VISIT

CONFERENCE

TELEPHONE

TELEPHONE NO.

INCOMING
(518) 891-4302

OUTGOING

NAME OF PERSON CONTACTED
Melinda Hadley

ORGANIZATION
Property Owner

TELEPHONE NO.

SUBJECT
Atlas Silo S-7

SUMMARY:

Mrs. Hadley said that she was a child during the Cuban Missile Crisis, and remembered lots of activity at the site. Her great-aunt, Anna Reese, was the original owner of the house and surrounding land, but the Air Force paid her to live elsewhere while the silo was operational. Mrs. Hadley currently owns 105 acres around the silo plus a 3½ acre parcel next to Alder Brook where the AF tried to drill a well.

She said that the Air Force left the site in good condition with the doors closed, though the two Quonset huts were removed. The ammo disposal company bought the silo property around 1968 and owned it for about 10 years. During that time they burned small arms ammo on the surface next to the silo and damaged one of the silo doors. She was not aware of their burning or disposing ammo anywhere else. Nor was she aware of any ordnance the Air Force left behind.

Mrs. Hadley said her and her husband Leigh bought the land in 1978 w/o any idea there was 20mm was in the flooded silo. They had seen some .30 and .50 caliber rounds on the surface (which Leigh cleaned up), but no 20mm rounds. They sold the silo scrap metal salvage rights to Francis McKenna in late 1978, and he and his sons began pumping out the water. Mr. McKenna was cutting steel in March of 1979 when he was killed. There was a lawsuit which was settled out of court.

Since divorcing her husband, Mrs. Hadley is now the landowner. She would prefer that the Corps assist in securing the silo doors and then leave the site alone. She said that Leigh had cut the hydraulic lines when he closed the door, and pointed out that draining all the water might undermine nearby Route 3. She provided copies of old site photographs and accompanied the team on the site visit. Leigh Hadley came along as well (see separate interview) and gave more of the technical information on the site.

ACTION REQUIRED
None

NAME OF PERSON DOCUMENTING CONVERSATION
Ronald Plante

ORGANIZATION
CEMVR-ED-DO

TELEPHONE NUMBER
(309) 794-6006

SIGNATURE

TITLE
QASAS

DATE
Nov 7, 1997
APPENDIX J

PRESENT SITE PHOTOGRAPHS
APPENDIX J

PRESENT SITE PHOTOGRAPHS

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J-1. Area A: Entrance to trail leading to Alder Creek Well.


J-3. Area B: View from the helipad looking west.

J-4. Area C: Partially open silo door and new building.

J-5. Area C: Partially open silo door.

J-6. Area C: Partially open silo door.

J-7. Area C: LCC personnel entrance and air exhaust.

J-8. Area C: LCC escape hatch and air intake.

J-9. Area C: Site where Mr. Hadley buried empty ammo boxes.

J-10. Area C: Burial site and LCC personnel entrance.

J-11. Area C: Antenna hatch.


J-16. Area C: Southern edge of area C.

J-17. Area F: Site access road at route 3.


J-20. Area F: Unfuzed 20mm projectile Mr. Hadley found in the silo.
J-1. Area A: Entrance to trail leading to Alder Creek well.


J-3. Area B: View from helipad looking west.

J-4. Area C: Partially open silo doors and new building.
J-9. Area C: Site where Mr. Hadley buried empty ammo boxes.

J-10. Area C: Burial site and personnel entrance.

J-11. Area C: Antenna hatch.

J-13. Area C: Old pallets at edge of silo cap.


J-16. Area C: Southern edge of area C.
J-17. Area F: Site access road at Route 3.


J-20. Area F: Unfused 20mm projectile found by Mr. Hadley in the silo.
APPENDIX K

HISTORICAL PHOTOGRAPHS
Appendix K

Historical Photographs

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Note: These photos were taken at various Atlas sites around Plattsburgh (556th SMS) and Walker AFB NM (579th SMS) and are labeled by site number when known. Sites are numbered with the post-1962 system. Only photos K-8 and K-14 thru 17 were taken at 556th SMS site S-7. Except for photo K-4, which shows an Atlas E, all photos are of Atlas F missiles and/or sites.

K-1. Aerial of unknown 556th SMS silo, circa 1961 (B-107).

K-2. 556th SMS site 6 near Au Sable NY, circa 1961 (B-107).

K-3. 556th site 2 near Alburg VT, circa 1961 (B-107).


K-5. Fueled Atlas F being raised to the surface at unknown site, circa 1964 (B-75).


K-7a. 556th SMS site 4 near Willsboro NY w/silo doors closed, December 1986 (B-79).

K-7b. 556th SMS site 5 near Lewis NY w/doors open and launch platform raised, December 1986 (B-79).

K-8. 556th SMS site S-7 with one door open, April 1979 (B-78).

K-9a. 556th SMS site 3 near Swanton VT open silo and crib, December 1986 (B-79).

K-9b. 556th SMS site 5 near Lewis NY, personnel entrance, December 1986 (B-79).
K-10a. 579th SMS site 11 Roswell NM, personnel stairs, 1996 (B-80)

K-10b. 579th SMS site 3 Elkins NM, blast doors on personnel stairs, 1996 (B-80).

K-11a. 579th SMS site 5 Roswell NM, LCC upper level, 1996 (B-80).

K-11b. 579th SMS site 4 Roswell NM, LCC upper level, showing escape hatch, 1996 (B-80).

K-12a. 579th SMS site 3 Elkins NM, showing stairs from inside LCC lower level, 1996 (B-80).

K-12b. 579th SMS site 11 Roswell NM, showing LCC lower level and launch console, 1996 (B-80).

K-13a. 579th SMS site 3 Elkins NM, from tunnel toward LCC showing blast door, 1996 (B-80).

K-13b. 579th SMS site 11 Roswell NM, from tunnel toward silo, 1996 (B-80).

K-14. Site S-7 looking down from level 1 or 2, April 1979 (B-78).

K-15. Site S-7, loose 20mm on unknown level, April 1979 (B-78).

K-16. Site S-7, loose and boxed 20mm on level 6, April 1979 (B-78).

K-17. Aerial of site S-7 and vicinity, June 1983 (B-84).
556th SMS site 6 near Au Sable NY, circa 1961
Atlas E at unknown base maintenance shop, circa 1963 (center sustainer engine nozzle removed)
Fueled Atlas F rising to the surface w/LOX boiling off and venting, unknown site, circa 1964
Atlas F in launch position, unknown site, circa 1964
556th SMS site 4 (Willsboro NY) w/doors closed, December 1986

556th SMS site 7 (Lewis NY) with doors open and launch platform raised, December 1986
556th SMS site S-7 with one door open, April 1979
556th SMS site 3 (Swanton VT) open silo and crib, December 1986

556th SMS site 5 (Lewis NY) LCC personnel entrance, December 1986
579th SMS site 11 (Roswell NM) personnel stairs, 1996

579th SMS site 3 (Elkins NM) blast doors from personnel stairs, 1996
579<sup>th</sup> SMS site 5 (Roswell NM) LCC upper level, 1996

579<sup>th</sup> SMS site 4 (Roswell NM) escape hatch on ceiling of LCC upper level, 1996
K-12a

579th SMS site 3 (Elkins NM) stairs from inside LCC lower level, 1996

K-12b

579th SMS site 11 (Roswell NM) launch console in LCC lower level, 1996
579th SMS site 3 (Elkins NM) from tunnel looking toward LCC, 1996

579th SMS site 11 (Roswell NM) from tunnel looking toward silo, 1996
556th SMS site 7 looking down from level 1 or 2, April 1979
556th SMS site 7, loose 20mm rounds on unknown level, April 1979
556th SMS site S-7, loose and boxed 20mm rounds on 6th level, April 1979
Aerial photo of 556th SMS site S-7 and vicinity, June 1983
APPENDIX L

REFERENCE MAPS/DRAWINGS
APPENDIX L

REFERENCE MAPS/DRAWINGS

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L-1. Maps w/BSD and SAC site names/numbers (B-23 & B-90).
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ARCHIVES SEARCH REPORT CORRESPONDENCE

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ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR
PLATTSBURGH ATLAS MISSILE SITE S-7
FRANKLIN, NY
PROJECT NUMBER C02NY021201

REPORT PLATES