

OGDEN ARSENAL, WAREHOUSE/ASSEMBLY & LOADING LINE BUILDING
(OGDEN ARSENAL, BUILDING 2214)
(OGDEN ARSENAL, MUNITIONS CONSTRUCTIONS SHOP)
(OGDEN ARSENAL, BUILDING 1214)

HAER No. UT-84-BL

6325 Poplar Lane
Layton Vicinity
Davis County
Utah

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UTAH
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPIES OF MEASURED DRAWINGS

Historic American Engineering Record
National Park Service
Department of the Interior
Denver, Colorado 80225-0287

HISTORIC AMERICAN ENGINEERING RECORD

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Location: 6325 Poplar Lane, Hill Air Force Base, Layton Vicinity, Davis County, Utah

UTM: 12-415770-4555750

Date of Construction: 1941

Architect: Unknown

Builder: Unknown

Present Owner: Hill Air Force Base

Present Use: Shop

Significance: Anti-tank ammunition was assembled in Building 2214, which provides particularly vivid images of the processes involved in the manufacture of munitions at Ogden Arsenal during World War II. This building, along with other structures at the base, renders a unique picture of the U.S. Army build-up which occurred on the eve of and during World War II.

History: Building 2214, the Loading & Assembly Line Building, was one of two buildings in the East Loading Plant that were used for the final assembly of 37mm Anti-tank ammunition produced at Ogden Arsenal. Inert ammunition bodies were disassembled and inspected in Building 2213, and then loaded with the tracer, igniter, and bursting charges¹. These partially completed shells were then transferred to Building 2214, where the shells were loaded with smokeless powder and tetryl and then packed for shipment.

¹For a description of these components, see the Individual Building Report for Building 1652, the Tracer & Igniter Pelleting Building.

Due to the highly volatile nature of the chemicals used in 37mm shells, this building was designed to enforce minimal damage to adjacent rooms (and workers & equipment) in the event of an explosion in one room. Each room was separated from the others by concrete fire walls that extend a few feet beyond the roofline, and each room was accessible only from the exterior. An outdoor balcony along the east facade allowed workers to circulate between rooms on the upper floor. An elevator was added on the east side exterior in 1945 to facilitate access to upper level rooms in the central bay. Each room contains an exterior door that is large enough to accommodate forklift trucks and pallets.

Immediately before packing loaded and assembled shells, the completed rounds were gauged 100% for alignment. Due to the heavy weight and awkward shape of the completed shells, women were seldom employed in this capacity. To overcome this difficulty, a 37mm profile and alignment gauge ejecting fixture was designed which made the job relatively simple, and this operation was performed by blind male operators. The fixture consisted of a gooseneck bracket with attached lever. A replaceable fabric composition head was machined to fit in a steel socket on one end of the lever. This fixture was mounted on the gauge in such a manner that it had no bearing upon the gauging operation itself, but its effect was put into use in the ejecting operation. This device increased the speed of this part of the inspection operation and made an awkward task much more manageable.

In Building 2214, completed rounds of 37mm ammunition were placed inside cylindrical fiber containers and a cover attached. The closed containers were submerged in wax for sealing before being placed in shipping containers. The joint left between the cover and the container before the waxing process necessitated the development of a process to tape the cover to the container before waxing. A device was developed which completed a neater and much faster job than could have been done by hand-taping alone. A special machine for dipping the complete rounds in paraffin after they had been sealed in fiber containers was developed in early 1942. This machine processed about 125 rounds per minute and was much superior to the former practice of hand dipping.

Completed and packed rounds of ammunition were shipped by rail to storage igloos in other areas at Ogden Arsenal. The building was originally placed along existing rail lines to facilitate its function as an ammunition shipping point.

In the 1950s, M26 hand grenades were manufactured in Building 2214.

General

Description: Building 2214 (261'-6" x 50'-4") is a two-story gable roofed building located in the original East Loading Plant area. It is composed of a series of individual rooms separated by concrete firewalls and the red hollow tile infill characteristic of the Arsenal style. The fire walls extend up through the roof and maintain a continuous slope parallel to the roof pitch. The overall structure, composed in three segments, contains a two story central section and a one and one half story clerestory-lit space on either side. The concrete shear walls define 13 bays along the length of the building. The central 5 bays have two distinct floors and a balcony along the east facade. The remaining space on each side consists of an open plan lit by clerestory windows with six-pane awning type lights. The northernmost section contains one large storage room, while the south side section contains a two-bay wide area that includes restroom facilities. Each bay on the west facade contains a double loading door flanked by 9-pane awning windows that face the loading dock and railroad tracks. Most of the bays contain large metal rolling doors on the east facade.

The building meets grade on the north facade and is elevated approximately four feet above excavated grade on the south facade. This elevation contains a continuous concrete loading dock that runs parallel to railroad tracks.