

MARYSVALE BRIDGE
Rio Grande Street Across the Sevier River
Marysvale
Piute County
Utah

HAER No. UT-57

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
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HISTORIC AMERICAN ENGINEERING RECORD
MARYSVALE BRIDGE

I. INTRODUCTION

Location: Spanning the Sevier River at Rio Grand Street, Marysvale, Utah

Quad: Marysvale, Utah

UTM: A 12/4256120/393590
B 12/4256140/393620

Date of Construction: Circa 1909 (modified in 1941-42)

Present Owner: City of Marysvale
Marysvale, Utah

Present Use: Vehicular and pedestrian bridge to be replaced by new bridge, a short distance downstream. The bridge is to be abandoned in situ.

Significance: The Marysvale Bridge is a single span, wood, double intersection Warren pony truss and is one of two known bridges of this type. The bridge was constructed by the Piute County Road Commission under the authority of the State Road Commission.

Historian: Don Southworth, Office of Public Archaeology, July 1989.

II. HISTORY

A. AGRICULTURE, MINERALS AND THE BRIDGE

The town of Marysvale was settled by Mormon pioneers (members of the Church of Jesus Christ of Latter-Day Saints) in 1864. These people were looking for good arable land on which they could grow crops and raise livestock but it was the discovery of minerals in the surrounding mountains that contributed most to the town's growth. While the mineral resources dominated the economic scene, it was both mining and agriculture that were ultimately responsible for the need and construction of the Marysvale bridge.

Initially, mining in the Marysvale area concentrated on prospecting for gold, silver, lead and copper ore found in the nearby mountains. The Deer Trail Mine, discovered in 1878, contained high grade gold and silver ore. In 1910, the expanded Deer Trail Mine was still one of the largest producing and richest mines in the state. [1]

Another mineral resource, alunite, was discovered around the Marysvale region in 1910. Alunite is a source of potash alum or potassium sulphate. These by-products in turn are used in producing glass, medicines, aluminum salts, refractory bricks, alundum (an abrasive), calcium aluminate (plaster), sulphuric acid and sulphur, fertilizers and explosives.

At the time, most potash salts consumed in the United States had been mined in foreign countries. The significance of the Marysvale deposits lay in the size and "remarkable purity" of the veins. [2] It was thought that though the Marysvale deposit was

"not of such magnitude as to afford a source of all the potash salts now consumed in the United States, it may prove to be an important factor in providing an American supply that will perhaps be especially available to local and western markets, particularly in meeting the demand for higher-grade salts." [3]

With the outbreak of World War I in Europe in 1914, the supply of potash from foreign countries was greatly reduced and German imports were completely cut off.

Because of this, the Marysvale deposits became even more important to U.S. chemical industries and farmers as it was "the only alunite, or other ore high enough in alunite to be workable." [4]

One of these deposits lay northeast of Marysvale across the Sevier River. Although the Marysvale bridge was constructed prior to the demand for commercial mining of alunite in the vicinity, it became an important access to those resources in the ensuing years.

B. CONSTRUCTION CHRONOLOGY

The original construction date for the Marysvale Bridge is not known. It appears that the bridge was constructed about the year 1909. This is the first year that the newly organized State Road Commission began to take charge of the state road system and reported their progress in the Utah Public Documents, which is a bound report on the various state agencies. The State Road Commission's first report consisted of entries listed by county. The section on Piute County shows a photograph with a caption that reads, "State Highway Bridge Over Sevier River at Marysvale". The

photograph is of the bridge with a horse and buggy near the west end of the structure. This is the first recorded mention of the bridge and it would appear from the photograph that the bridge is fairly new. Thus, the Marysvale Bridge was constructed in 1909 or prior.

While the bridge remained principally unaltered through the succeeding years, it began to show signs of wear. Shortly after the beginning of World War II, the deposits of alunite in the hills east of the Sevier River became important for the war effort and the bridge became an important access to these deposits.

In 1942, according to Cloys Seegmiller (personal communication, 1988), the Kalunite Co. under the Defense Plant Corporation, opened the White Horse Mine northeast of Marysvale. The alunite was extracted from the earth and carried by truck to the Rock Crusher across the bridge. The ore was then loaded on to Denver and Rio Grande railroad cars for the trip to Salt Lake City for further processing at Kalunite's mill located at 500 West and 3300 South. At the mill the ore was processed into potash and alumina. The potash was used in the manufacturing of ammunition in

the state while the alumina was shipped by rail to the northwest for the construction of airplanes.

As the White Horse Mine began operation it became clear that the wooden bridge across the Sevier River would never support the vehicles and their loads. Cloys Seegmiller was one of the men employed by the Kalunite Co. and put to work reconstructing the bridge. Modifications began with the dismantling of the bridge and re-use of the old timbers as a pattern for reconstruction while the metal components remained intact. Later, in 1988, the bridge was re-decked with new wood.

III. THE BRIDGE

A. DESCRIPTION

The Marysvale Bridge is a single span double intersection Warren pony truss constructed of 12X12 inch wood timbers. This structure has wood pile piers and concrete abutments. The bridge web consists of two panels of double intersection Warren truss diagonal bracings with inclined endposts. The three vertical

support braces are each six feet (6') high and the bridge measures eight feet four inches (8'4") high from the deck to the top of the upper chord. Total length of the bridge is eighty-six feet (86') with the top chord measuring thirty-one feet ten inches (31'10") long.

The bridge rests upon stone and concrete abutments at each end and on two concrete piers as well as two timber post piles. The deck is of four inch (4") thick wood planks that measure twelve inches (12") wide and sixteen feet ten inches (16'10") long on wood stringers. The structure is held in place with five iron cords that attach to the bottom of each incline post and run the full length of the underneath side of the bridge. The vertical members consist of iron rods bolted to the top and bottom cords while the top and bottom cords consist of 12X12 inch timbers held together with metal straps six feet (6') long, three inches (3") wide and held with six (6) bolts. The bridge railing runs the full length of the structure (106') and is constructed of two-by-fours.

B. MODIFICATION

The bridge underwent a major modification in 1942 when it was re-built at the beginning of WW II. This modification was needed to strengthen the structure for the increased weight load. This increase in weight came as the vehicular traffic changed from horse and buggy to ore carrying trucks from the White Horse mine.

The Kalunite crew given the job of rebuilding the bridge first dismantled the structure and used the timbers as a pattern for the "new" bridge. The metal parts which were intact were re-used in the new bridge. While the bridge was under construction a temporary wood stringer bridge was employed to carry traffic across the river. When the new bridge was erected the timber piles from this stringer were left to support the new bridge structure. The pattern for this new bridge was followed closely and red pine was used as the construction material. This bridge has remained as is until the present.

The only other modification to the bridge occurred in 1988. At this time the deck planks were replaced after the old wood deck began to deteriorate. The bridge has undergone minor change as the elements and traffic have effected the structure. The iron rods beneath the bottom cords have become slack and the structure is now dependent upon the wood piles and the concrete piers to support the structure. No other changes are evident.

C. OWNERSHIP AND FUTURE

The bridge is presently owned by the city of Marysvale and plans have been made for abandonment of the bridge in situ because of its structural decay and unsoundness. A new concrete bridge will be constructed across the Sevier River, northwest of the old bridge.

IV. FOOTNOTES

1. Salt Lake Tribune, 7 February 1910, p. 148.
2. The Salt Lake Mining Review, 30 January 1912, p. 13.
3. Ibid., p. 13.
4. Ibid., 15 June 1915, p. 19.

V. BIBLIOGRAPHY

A. BOOKS

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B. PERIODICALS

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Higgins, Will C., "The Attractions of Marysvale, Utah,"
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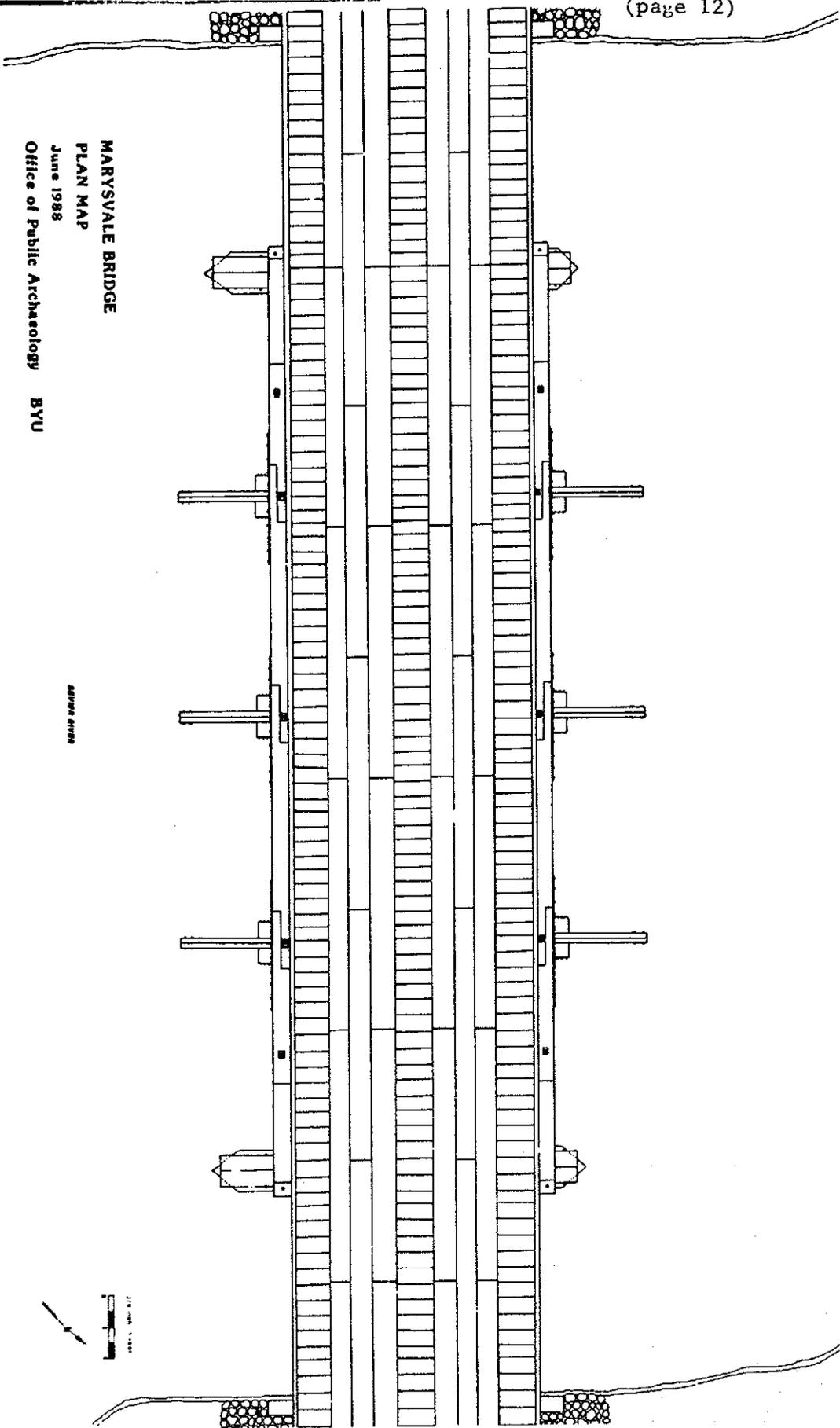
The Salt Lake Mining Review, "Utah Alunite to be
Developed," June 15, 1915.

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The Salt Lake Mining Review, "Potash from Utah
Alunite," June 15, 1915.

C. NEWSPAPERS

The Salt Lake Tribune, 7 February 1910.



MARYSVALE BRIDGE
PLAN MAP
June 1938
Office of Public Archaeology BYU

BRIDGE RIVER



MARYSVALE BRIDGE
West Profile
Elevation Map
June 1988
Office of Public Archaeology BYU

