1. SITE I.D. NO

HAER INVENTORY

Historic American Engineering Record
Department of the Interior, Washington, D.C. 20240

2. INDUSTRIAL CLASSIFICATION: Bridges, Trestles, and Aqueducts
ARCH: steel — 7596

3. PRIORITY: 1

5. DATE: 1929

4. DANGER OF DEMOLITION? (SPECIFY THREAT) ☐ YES ☒ NO ☐ UNKNOWN

6. GOVT SOURCE OF THREAT: OWNER ADMIN

7. OWNER/ADMIN: Simpson Logging Company

8. NAME(S) OF STRUCTURE: Vance Creek Bridge

9. OWNER'S ADDRESS: North 3rd and West
Shelton, Washington 98584

10. STATE COUNTY: WA 045 — COUNTY NAME: Mason — CITY/VICINITY: Shelton — CONG. DIST.: 03

STATE COUNTY — COUNTY NAME — CITY/VICINITY — CONG. DIST.

11. SITE ADDRESS (STREET & NO.): approximately 19 miles northwest of Shelton

12. EXISTING SURVEYS: ☐ NR ☐ NHL ☐ HABS ☐ HAER—I ☐ HAER ☐ NPS ☐ CL6
☐ CONF ☐ STATE ☐ COUNTY ☐ LOCAL ☐ OTHER

13. SPECIAL FEATURES (DESCRIBE BELOW)
☐ INTERIOR INTACT ☐ EXTERIOR INTACT ☐ ENVIRONS INTACT

14. UTM ZONE: 10 — EASTING: 475870 — NORTHING: 5242220 — SIGN
SCALE: ☐ 1:24 ☒ 1:62.5 ☐ OTHER — QUAD NAME: Mt. Tebo, Washington

UTM ZONE — EASTING — NORTHING — SIGN
SCALE: ☐ 1:24 ☐ 1:62.5 ☐ OTHER — QUAD NAME:

15. CONDITION: 70 ☐ EXCELLENT 71 ☐ GOOD 72 ☐ FAIR 73 ☐ DETERIORATED 74 ☐ RUINS 75 ☐ UNEXPOSED 76 ☐ ALTERED 82 ☐ DESTROYED 85 ☐ DEMOLISHED

16. INVENTORIED BY: Lisa Soderberg — AFFILIATION: HAER/Washington State Bridge Inventory — DATE: August 1980

17. DESCRIPTION AND BACKGROUND HISTORY, INCLUDING CONSTRUCTION DATE(S), HISTORICAL DATE(S), PHYSICAL DIMENSIONS, MATERIALS, EXTANT EQUIPMENT, AND IMPORTANT BUILDERS, ENGINEERS, ETC.

The Vance Creek Bridge was the first of two large arches to be constructed by the Simpson Logging Company on Forest Service land in 1928-29. These bridges carried a single railroad track across formidable chasms opening up expansive tracts of previously inaccessible timber on the Olympic Peninsula.

The 827 foot track over Vance Creek appears threadlike as it stretches across the deep gorge. The track is supported by a 422 foot steel arch which has a rise of approximately 360 feet at its center. On either side of the arch is a short plate girder approach span and a 127 foot Warren deck steel truss.

Because of the depth of the gulch, it was not possible to use falsework to erect the arch. The contractors, the American Bridge Company, a subsidiary of the U.S. Steel Products Company, erected the arch by means of a pair of cableways and tiebacks which also served to anchor the bridge as the arch was cantilevered. After the girder and truss approach spans were in position, cable tie-backs were set in place at both ends of the bridge. The tie-backs (CONT OVER)

18. ORIGINAL USE: logging railroad — PRESENT USE: logging railroad — ADAPTIVE USE:

19. REFERENCES—HISTORICAL REFERENCES, PERSONAL CONTACTS, AND/OR OTHER

Kramer Adams, Logging Railroads of the West, (Seattle, 1961), p. 54.
"Steel Arch Adjusted to Closure by 21-part Tackle Tie-backs," Engineering News, 11 July 1929.
Bob Wyss, "The Way of Bridges in Mason County," Daily Olympian, 21 May 1972.

(CONT OVER)

20. URBAN AREA 50,000 POP. OR MORE? ☐ YES ☒ NO

21. NPS REGION: NW

22. PUBLIC ACCESSIBILITY: ☒ YES, LIMITED ☐ YES, UNLIMITED ☐ NO ☐ UNKNOWN

23. EDITOR INDEXER

24. LOCATED IN AN HISTORIC DISTRICT? ☐ YES ☒ NO NAME — DISTRICT I.D. NO

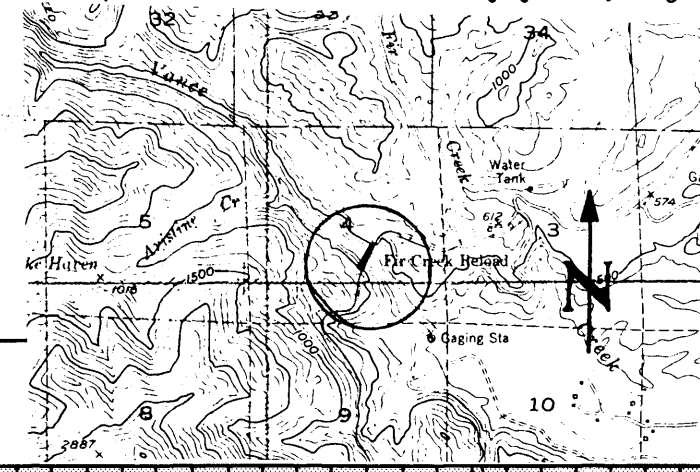
Description (continued)

consisted of a 2½ inch cable which ran from the abutment to a 5 foot sheave at the top of the first panel of the arched section. A contemporary Engineering News article described the intricate tackle system: "Passing through the sheave, the cable returned to within about 40 feet of the abutment, where it was attached to an adjusting device used to make final closure. This device consisted of a set of falls made up of two ten-sheave wire rope blocks and 21 parts of 7/8 inch wire rope. The lead line of this set of falls was attached to the anchorage through a long runout turnbuckle, with pin plates and pins so that it could be adjusted without disengaging the positive connection at the anchorage."

After the tie-backs were set in place, four panels of the arch were erected by a locomotive crane. However the remainder of the cantilever was set in place by means of the cableways, because it was feared that the crane would overstress the tie-backs. Both halves of the arch were erected by use of the cableways and a system of tie-backs. After the final adjustments were made with the set of falls, the two halves were securely closed, creating a two-hinged arch.

When the Vance Creek Bridge was completed, it was purported to be the fifth highest railroad bridge in the world. Despite the skepticism that is inherent in any superlative acclaim, the Vance Creek Bridge is without question a structure of enormous proportions. It was built during a time when high costs were bringing an end to the era of logging railroads. By the 1930's, the West's most accessible timber had been logged, and the initial investment of construction and equipment costs for even the shortest railroad lines was becoming prohibitive. It was only the largest corporations, such as the Simpson Logging Company, that would find that the unit cost of hauling logs by rail was cheaper than that by truck.

The awesome permanence of the steel structure over Vance Creek belies its seemingly anachronistic function, and reflects a changing era in the use of logging railroads. During the late 19th and early 20th centuries, the logging railroad bridges were usually timber structures. Although the mainline of the logging railroads were in service for a number of years, the structures on the spur lines, which often included extremely long and high timber trestles, were temporary, and were abandoned or reused at different locations as soon as the specific area was logged. However, as construction costs increased, enormous structures like the Vance Creek Bridge were only economically feasible if they could be used over a long period of time. As a case in point, after a period of more than fifty years, logs continue to be hauled over the Vance Creek Bridge.



REFERENCES (CONTINUED)

ABSTRACT

HAER NO | LC | TECH REPORT | HIST REPORT | CONTEMP PHOTO | HIST PHOTO | CONTEMP DRWG | HIST DRWG | COLOR PLATE | PHOTOGRAM | SW | FILM

25. Photos and Sketch Map of Location