

NORTHERN PACIFIC RAILWAY COMPANY

STATE OF MONTANA
VALUATION SECTION NO. 3.
LIVINGSTON TO HELENA.

PRE-INVENTORY INFORMATION.
GENERAL OUTLINE AND HISTORY OF THE WORK.

This is a main line section extending from Livingston to Helena. Double track is in operation from Livingston to Bozeman and on date of Valuation a double tracked line was being built between Bozeman and Logan.

Was built as part of the original main line of the Northern Pacific Railroad Company in the years 1881, 1882 and 1883.

This section comprises part of the construction division called the "Rocky Mountain Division", which extended from the west bank of the Yellowstone River crossing at Livingston to Station 8200 (Elliston), about two miles west of Frenchwoman's Ranch on the Little Blackfoot.

From the beginning of the Rocky Mountain Division at Livingston to Station 1812 west of Helena, excepting therefrom the Bozeman tunnel and approaches between about Station 803 and 875 and that part of the line between Esford (Station 5060) and Helena (Station 6738) the general work of grading, driving tunnels and clearing and grubbing was done by H. Clark and Company under their contract of July 1st, 1882, copy of which and of the final estimate incurred under same are filed with the inventory.

The work of driving the Bozeman Tunnel was done by James Muir under his contract of January 17th, 1882. This contract also covered the excavation of the tunnel approaches under which Muir completed the west approach and partially excavated the east; in this east approach an unusual amount of wet and sliding clay was encountered, the contractor excavated the first 200 feet without difficulty, but was unable to make any progress on the balance. Quoting from report of J.T. Dodge of November 15th, 1882: "The first two hundred feet of the cut being dry, was excavated without difficulty. In the next 200 feet, springs were encountered and heavy slides occurred amounting to three or four thousand yards. This material, tough and adhesive and saturated with water, was extremely difficult of removal. Shovels had to be dipped in water to make it slide off. Water had to be put in the cars to make it slide and when once started on a slide it was not disposed to stop but went on from 50 to 100 feet beyond the limits of the embankments". It was decided in July that if the Contractor would surrender his contract, the Railway Company would try with its own forces, the experiment of sluicing out the cut; accordingly a ditch three miles long was dug to reach a creek two miles west of the summit, and the balance material in the cut was sluiced out, the cut being completed September 24th. Copy of the final estimate voucher returned under this contract and of the contract itself are filed

with the inventory. The machinery used in driving the Bozeman Tunnel was furnished by the Railway Company; consisted of complete air compressor outfit, drills, etc., and was hauled in by teams from Silver Bow, Montana. (C.E. Old Vault File 15-17). Considerable difficulty was experienced in driving this tunnel and it could not be completed prior to the advent of the track, ~~and~~ it was necessary to build a temporary "overhead" line over the top of the tunnel; this line was built by H. Clark and Company. The work seems to have been done by force account and although a copy of the voucher passed in payment has not been found, very complete notes and profiles are submitted with the inventory. This overhead line is regarded as an essential step in the construction of the tunnel.

Between Stations 5060 and 6738 the general work of grading was done by Washington Dunn under his contract of August 13th, 1881. Copy of the final estimate incurred under this contract is filed with the inventory, although copy of the contract has not yet been found.

The tracklaying and surfacing on the Rocky Mountain Division was done by Winston Brothers under the terms of their accepted proposal of December 30th, 1882, copy of which is filed with the inventory; a copy of the ninth estimate returned under the above mentioned proposal is filed with the inventory as the final estimate has not yet been found.

It was necessary in order to avoid delay to the tracklaying work to build a temporary line around a cut called "Jones Cut", about nine or ten miles west of Livingston; quoting from Annual Report of Chief Engineer for the year ending June 30th, 1883, "At a point about nine miles from Livingston is a deep cut of slippery earth and shaken up stone, that caused much delay. It was found necessary to build a temporary line around it. The cut was not completed until June 1883.

In the years 1906, 1907 and 1908 the second main track was added between Livingston and Muir, an extensive line change was made at the same time. The general work of grading, building culverts and driving tunnels was done by Cook, Deeks and Hinds Company under their contract of June 26th, 1906. Some grading was also done by O.H. Bonnell under his contract of June 9th, 1906.

In the years 1907 and 1908 the second main track was added between the west end of Bozeman Tunnel and Bozeman; the general work of grading and building culverts was done by Edwards and Burke under their contract of May 21st, 1907.

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The general work of tracklaying and ballasting on the second main track work between Livingston and Bozeman was done by Porter Brothers and Welch under their contract of August 15th, 1907. Considerable work on this track was also done by the Railway Company with its own forces.

This line leaves the Yellowstone River at Livingston and ascending the east slope of the Bridger Mountain Range, crosses the divide between the Yellowstone and Gallatin Rivers through the Bozeman tunnel, thence following down the Gallatin Valley to Trident; from Trident to Helena the valley of the Missouri River is followed.

A great deal of work has been done on this line since the completion of the original construction period by the Railway Company with both its own forces and by contract. Cuts and fills have been widened, additional ballast has been placed, fencing done, further bank protection work has been provided, temporary bridges and culverts have been replaced in permanent materials, some 7780 lineal feet of temporary bridges have been filled and other similar work.

Copies of all the final estimate vouchers which have been found covering roadway work are submitted with the inventory together with lists of extra work bills (which have been found) incurred under same on account of grading and fencing; these lists of extra work bills do not pretend to be a complete statement of all the extra cost or in any sense a partial statement of original cost, but merely enumerate some of the items of extra cost found readily available.

The ballast is composed of gravel with some cinders, the gravel coming from pits, the location of which are shown on print attached to the inventory, and the cinders from points noted.

A list of items in abandoned roadbed is included in the inventory and itemized separately.

The subsidence of the roadbed will be developed at time of Government inventory.