

VALUATION SECTIONS IDAHO 3 AND 3A

The St. Maries Branch leaves the main line at St. Maries and extends in a general southerly direction about 72 miles to Elk River, Idaho. The portion between St. Maries and Purdue, or about 50 miles, is designated as Valuation Section Idaho 3, and that between Bovill and Elk River, Valuation Section Idaho 3A. Between Purdue and Bovill the tracks of the W. I. & M. Ry. Co. are used, this portion being designated as Valuation Section 3B.

Some reconnaissance work, along the route adopted for construction, was done in connection with the main line, Valuation Section Idaho 1, in 1905-06. Early in 1907 another reconnaissance trip was made in search for a branch line as now built, and in July, three location parties were placed in the field to develop the possibilities. One party started at St. Maries and worked up the St. Maries River to Santa. The second party started at Santa and worked up the river to the summit between the St. Maries River and the east fork of Potlatch Creek. The third party worked down the last named creek to a connection with the W. I. & M. Ry. at Bovill.

The St. Maries River lies in a narrow tortuous valley, at many places narrowing to a box canyon with abrupt rock cliffs. The river bottom is covered with a thick growth of brush and the river is subject to quick rises, often rising during a summer rain so that fording is impossible. Wagon roads were in existence for about 40 miles south of St. Maries and teams were used for hauling supplies to the parties in this district. South of here pack trains handled the camps and supplies.

These parties finished a consecutive preliminary survey with information for a projected location between St. Maries and Bovill, and were called in in December.

Another party was sent out in February, 1908, to stake and revise the projected location. They finished their work in June. Work then temporarily ceased along this route as it had been decided to investigate a possible route between Plummer and Potlatch.

In November, 1908, two engineers made a trip investigating the possibilities along the last named route. They made a report covering either the departure from the main line at Plummer or Sorrento, and on various alternative features covering summits, gradients, etc., and also investigated the traffic possibilities to a considerable extent. Their trip covered about 50 miles and was very thorough.

In December of the same year a party, averaging 18 men, started a preliminary survey south from Sorrento along the route outlined in reconnaissance, with Potlatch as the objective point. They ran a consecutive preliminary between these two points, were in the field eleven weeks, and made 88 miles of survey covering all the important points very thoroughly. The territory traversed was covered with a medium heavy growth of timber, and deep snow was encountered during the entire period of the work. Considerable time was lost due to inclement weather.

A comparison between the projected location along this last mentioned route and the information at hand on the St. Maries to Bovill route indicated the latter as the more desirable, consequently that survey was retraced and construction started between St. Maries and Bovill in April, 1909.

In the meantime surveys had been made between Bovill and Elk River, and in July, 1909, two parties retraced this survey and made revisions at the Ruby and Elk Creek summits. Construction was begun between Bovill and Elk River in July.

Summarizing the survey work, 270 miles of reconnaissance, 266 miles of preliminary and 224 miles of location survey, were made to produce the 71.7 miles of adopted and constructed line, or 3.7 miles of preliminary and 3.1 miles of location survey to one mile of adopted line. Parties were in the field for a period of 23 months.

The line as constructed follows the St. Maries River quite closely for about 40 miles, in which distance four crossings of the river are made on timber Howe truss spans of various lengths. There is necessarily a large amount of sharp curvature used in following the meanderings of the river. The gradient is practically level until mile 10 is reached where an ascent is commenced on a maximum 2% gradient to Rover in mile 14. Just north of Rover the river makes an abrupt turn and a tunnel was necessary to pass through the high rock cliff. From here to mile 42 the gradients are light and generally rising. Between miles 42 and 49 the line passes over the summit between the St. Maries River and Potlatch Creek with heavy side hill development work and a maximum of 2½ percent gradients on the north slope and 2 percent on the south slope. Between mile 49 and Purdue the gradients are light. Between Bovill and Elk River a succession of rolling gradients occur, as the line passes over three summits with a maximum of 2½ percent gradients. At Neva a tunnel is used to pass from the Ruby Creek to the Shattuck Creek drainage.

Contract for the clearing, grading, bridge and culvert work was let to H. C. Henry, who in turn sublet it to several other contractors. The existing county road was used for the transportation of equipment and supplies on the first 42 miles south of St. Maries, a commissary being established at St. Maries. Between the 42 mile point and Elk River suitable wagon roads were not available, consequently it was necessary to construct a main road for the entire distance, with branches to the various camps. This was done at a heavy expense. A commissary was established at Bovill for this portion.

Clearing and grubbing were required over practically the entire line. All merchantable timber was skidded in such manner

that it could be readily loaded by work train and disposed of later.

The big fills on the St. Maries wye were made with material obtained from the big cut in the St. Maries yards. A steam shovel with dinky trains was used for this work. The grading between St. Maries and Sherwin was largely done by station men, although teams with wheeled scrapers were used on some of the work between Santa and Clarkia.

A steam shovel outfit was used for the heavy work on miles 48 and 49. This shovel was shipped to Purdue on the W. I. & M. Ry. and brought from there over the newly constructed grade to the point of operation. A steam shovel was also used on the heavy work just south of Bovill. The remainder of the grading to Elk River was done by station men. Taken as a whole the grading on the entire line was mediumly heavy, averaging about 27,000 cubic yards per mile between St. Maries and Bovill and about 34,000 between Bovill and Elk River. Classified material predominates.

The tunnels at Rover and Neva are both standard solid rock sections lined with timber. Overbreak occurred in both. The lining in the tunnel at Rover was hauled from St. Maries, a special branch from the main road and a temporary bridge over the river being required for delivering to the tunnel site. The lining in the Neva tunnel is partially hewn timber, which was obtained close by. The sawed timber was hauled from Bovill.

The bridges on the first 40 miles are principally pile trestles with the exception of the timber Howe truss spans at the river crossings. For the southern portion the more important bridges are frame structures on mud block and pile foundations.

The timber for this work on the first 40 miles was hauled from St. Maries by team, with the exception of the piling, which was obtained from the closest possible standing timber. The Howe truss spans were erected by the Railway Company's forces. The other work was done by contract. The timber for the bridges on the south end was hauled from Bovill.

The culverts are principally built of hewn logs obtained on the right of way.

Track laying commenced at St. Maries in October, 1909, and was extended to the first St. Maries River crossing in mile 9 that month. It was held up here during the construction of the bridge. The falsework for the other river crossings was built strong enough to sustain traffic, and track reached the fourth crossings in mile 34 in February, 1910. The falsework here had been taken out by the high water, consequently work was held up until May when the falsework was replaced and track laying continued to the connection with the W. I. & M. Ry., at Purdue. The work between St. Maries and Purdue was done with a track laying machine but under adverse weather conditions, as the snowfall was heavy and continuous. The difficulties of keeping a newly laid track clear of snow are obvious. Track was laid between Bovill and Elk River in June, 1910.

Seventy-five pound relay and sixty-five pound new rail was used. The former on the first 39 miles south from St. Maries

the latter from the 39 mile point to Elk River.

Ballast for the line north of Purdue was obtained from Sherwin pit. Stripping at this pit was done by force account before track was laid.

Ballast for the line south of Bovill was purchased from the W. I. & M. Ry. f.o.b., cars at Bovill. Ballasting was done in 1910.

Water supply for track laying was taken from the various streams along the line. Permanent tanks have since been established where needed.

Right of way fence with necessary crossing facilities has been built where needed since the track was laid. Material for the buildings was delivered by train and construction carried on by the Company forces. One story frame depots with agent's living rooms were built at Fernwood and Elk River. At Bovill the W. I. & M. depot is used. A fuel oil supply station was built at Bovill.

Shelter sheds were placed at the less important side tracks and section crew facilities built at places convenient for the work. A small engine terminal, consisting of a 5 stall roundhouse, sand house, fuel oil supply and storage, etc., was built at St. Maries to care for the branch line engines.

Telegraph material was distributed by work train soon after track laying was finished and was erected by the Railway Company forces. Telephones were installed in booths at blind sidings as well as in the depots.

The branch is operated as a part of the Idaho Division. Standard equipment is used, the traffic being heavy. Flangers and snow plows are used to keep the track clear during the winter season.

SPECIAL FEATURES

Serious slides have occurred in many places some of which were removed by the contractor's forces during the construction but many by the Railway Company forces after the track was laid.

Subsidence has been excessive on embankments in the river valleys.

Small forest fires occurred during the construction, originating from camps and other customary causes, for which the Railway Company paid damages to the timber owners. Damages were also paid for timber destroyed by blasting.

The material in the vicinity of Sherwin is disintegrated granite which at the time of the excavation was solid rock, but through the action of the elements it now has the appearance of sand. This material was taken out on a one to one slope on account of this disintegration.

Permanent road changes were necessary in many places on

account of the conflict with railway grading. These changes were at the expense of the Railway Company.