RECONNAISSANCE

of

UPPER COLUMBIA VALLEY

1914

J.R. Gareau.

Reconnaissance
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Dear Sir:-

Pursuant to your instructions to make a reconnaissance survey of the forest in the Columbia Valley from the southern boundary of the Dominion Railway Belt southward, between the Rockies on the east and the Selkirks on the west, I left Victoria on August 8th and went to Cranbrook and Fort Steele to generally fit out, buying a Camp Kit, 2 horses, hiring two others and one man as cook and packer. I started from Fort Steele on the 15th and reached Spillimachine after a five days march and commenced work on the 20th.

On the work done in the Columbia Valley this summer, I beg to submit the following brief report which due to circumstances is necessarily prepared in haste.

**Location and Boundaries of Area.**

As per my instructions, I established my base line from certain iron posts of the Dominion Railway Belt, and carried a rough triangulation survey with the Plane table; I covered an area of some 135 square miles going south to about 4 miles North of Sinclair, to the Rockies in the East, and to the West ascending the Spillimachine River and the Bugaboo Creek as far on the former as where the Railway Belt crosses it and its prolongation on the latter (Railway
Belt Line turns west at 90 degrees between the Spillimachine River and the Bugaboo Creek) and the Selkirkas further South.

In this portion of the valley most of the land suitable for agriculture is in the hands of companies, who parcel it in lots and resell it, or it is taken up by Bona-Fide settlers, but at the present time only a relatively small percent is under cultivation. Exceptions being made of the men employed in the construction of the railway, the population, in the area covered, may total 125 persons. There are practically no towns, but there are two Post Offices, Galena and Brisco, situated seven miles apart. On the eastern side of the Columbia River is Spillimachine Landing, where there is a hotel and it is the only stopping place in that section, to accommodate the travelling public.

As to transportation facilities, there are three boats which make the trip from Golden to Windermere and back; one of them making a weekly trip. There is also under construction a branch of the C.P.R., which when completed will unite Golden to Fort Steele. The work of construction is going on at both ends and it is expected that from Golden they will lay the rails as far as Spillimachine this fall. There is also a good road from Golden to Fort Steele and Cranbrook, forking at Wasa.

Owing to this high class route built by the Government the use of motor cars has been made possible
and this assures a rapid service for the community and travelling public. Regarding markets, Golden appears to be the place where most of the produce is shipped, but the construction of the railroad and other public or large corporations afford a ready market for the settlers.

**Topography and drainage.**

In this part of the valley there is at the middle of it on the Western side of the river a ridge through which the Spillimachine River, the Bugaboo Creek and the Salmon River have kept cutting their channel and which terminates at both ends with a high mountain rising 2500' above the valley,—Jubilee Mountain at the north end which the southern Dominion Railway Belt crosses, and Steamboat Bute to the south. At the middle the ridge has been graded down almost to the level of the land west of it. The Columbia River meanders, it may be generally stated, through a strip of marshy land from \( \frac{1}{2} \) to \( \frac{3}{4} \) mile in width along this ridge. The land suitable for agriculture is mostly found on the east side of the river. Of the portion of the valley lying between the river or rather the line of marshy land and the Rockies which varies from \( \frac{1}{2} \) mile to 2 miles in width, there is along the foot of the mountain a narrow strip of rolling and rocky land with high gradient, formed of mountain debris which I have not considered good for agriculture but that would be of some value for grazing purposes, but from there to the river the land has a gentle slope. On that side of the river there are several creeks
and springs which run almost at right angles to the river and could be utilized, and are in some instances, for irrigation purposes. The most important, starting from the Dominion Belt are: Cedar Creek, Washout Creek, Deadman's Creek, Big Vermillion Creek and Little Vermillion Creek, and of these possibly the Big Vermillion and Little Vermillion Creeks could be utilized for log driving at the time of the floods in the spring.

On the west side of the river between Jubilee Mountain and Steamboat Butte that is, between the Spillimachine and the Salmon Rivers and also west of Steamboat Butte the general character of the land is hilly and rises rapidly as we advance west. A striking topographical feature on the west side of the river is that the land rises abruptly from the border of the marshy area from over one hundred to four hundred feet. This is particularly well illustrated opposite Steamboat Butte. The main streams from the Railroad belt south are Spillimachine River, Bugaboo Creek and Salmon River. These three streams have a high gradient and consequently their current is rapid. I did not gauge these streams as this has been done by the Meteorological Survey of Ottawa, who are making continual observations on them. These three rivers are suitable for log driving and into each of them run creeks of minor importance.
Two suitable lookouts for fire protection would be the south extremity of Jubilee Mountain and Steamboat Bute. The former could be connected with the Government telephone at Spillimacheen Landing with about three miles of wire. At the foot of the mountain there is some cleared land which would make a good station for rangers. There are also places at the foot of Steamboat Bute which would make good stations for rangers; that is where sufficiently good land can be found to grow hay for the horses and to make gardens.

**Climate.**

I have been able to collect but little data on the subject. Mr. Carlisle, a settler, who has much land near Celena and who is making experiments on farming possibilities, has also made some observations on temperature. I have learned that the last frost during the summer 1912 was on June 4th with 60°F., that during the fall of 1911 the leaves had fallen by the 20th of September. Mr. Carlisle also told me that he did not think that peaches could be grown in the valley and that it was better to wait till about the first of June to sow corn. He has sown rye, hay and clover on April 8th, and was very successful.

According to other sources of information there would be some three feet of snow in the winter, and the lowest temperature registered at Brisco during the winter 1911-12
was 32°F. below zero.

Soils.

The soils of this region vary from sandy loam to clay soil. On the eastern side of the river, an analysis would probably determine that the soil contains sufficient clay to be classified as clay loam or clay soil. The surface when dry is of a white yellowish color. At places it is stony (small round stones). This occurs mainly where the land is rolling at the elevated parts.

In canyons of certain creeks the structure of the soil of the valley can well be seen. It shows that it is formed of stratified clay, gravel and stones, that is, strata of fine and coarse material.

On the western side of the river, the soil could either be classified as a sandy loam, or a clay loam. On the whole it is poorer in clay than on the east side. Its origin is different and it should have much closer relations to the underlying rock. It is reddish in color, and very rocky, on most of the area and for this reason is not very suitable for agriculture. It contains more soil humus and is better shaded by the thick young growth of Jack Pine, poplar, Douglas, trees and shrubs. Some alkali soil has been found on the west side of the river opposite Brisco. It is a flat piece of land lying between the foot of the western end of steamboat Bute and the river.
As marshy land there is as above described under "Topography and drainage", a strip through which runs the Columbia River, and which strip varies in width from \( \frac{1}{2} \) to \( \frac{3}{4} \) mile. There are also some small areas of marsh, or "slough", as generally called, back of the ridge, between the two branches of the Salmon River. The land good for agriculture is mainly found on the east side of the Columbia River. There are also some good pieces of land on the west side and along the Spillimachine River, Bugaboo Creek and Salmon River.

**Forest.**

The forest of the area covered, has been burnt at different times. There are only a few points where it seems to have been spared from fire and it is only on very small areas. The original forest was of Douglas with some Spruce. The actual composition of the forest is largely second growth Jack Pine, Poplar and Douglas, and also some merchantable Douglas Trees which have survived the fire, being well protected by its thick bark. Wherever there is green merchantable timber, the stand is largely from 0-5000 feet, -- 5-10,000 feet, in a few places, and it attains 10,000 feet only in one place. (My estimate is based on Doyle Rule).

On the west side of the river--from the Dominion Railway Belt to Spillimachine River, there is a small area on the eastern side of Jubilee Mountain, where the stand is estimated to be from 5-10,000 feet (to the acre) of which
there is 80% Douglas and 20% Spruce. In the section extending from Jubilee Mountain to Steamboat Bute and through which runs the Spillimachine River, Bugaboo Creek and the Salmon River. The forest was burnt and the big timber removed several years ago and the second growth is largely composed of Jack Pine and Poplar. The original was of Douglas and Spruce in small quantity. Only a few merchantable trees have survived the fire or have been left by the loggers, and with the exception of a very small area scattered here and there where the stand is from 5-10,000 per acre or over, the estimate of the merchantable timber is much under 5,000. From the Salmon River southward on the eastern side of Steamboat Bute there is more merchantable timber found. Immediately south of the river, there is a small area (less than a square mile,) where the stand has been estimated over 10,000 feet, although it has been logged off. The stand is a pure one of Spruce. Further south as far as we have worked, the forest has been burnt and the second growth is largely Jack Pine and Poplar. There is only an odd merchantable tree. On the eastern side of the Columbia River there is very little merchantable timber found. There is some along the Dominion Railway Belt and on each side of Cedar Creek, of which for a small area (less than a sq. mile the stand is from 5-10,000 ft. for the balance the stand being under 5,000 ft. from there to the land owned by an orchard company, which stretches from about 3 miles north of Big Vermillion Creek to about Sinclair Creek south, there is no timber.
Most of the land is taken up and is being cleared. On the Company's land just mentioned there is a pure stand of Douglas Fir approaching 5,000 ft. an acre.

(sgd.) J. R. Gareau.

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