
SOUTH THOMPSON.

I next proceeded to "Duck's," along the road on the south bank of river. The valley differs somewhat from the valley below Kamloops. There is a well-defined bench of varying width on both sides of the river, and above this is a second bench or terrace, at a uniform level of about 120 feet above the river. This second bench is wanting in the valley below Kamloops, and also in the North River, as far as I have seen it. Above this second bench rises the undulating country, with an extensive water-shed from the higher range which shuts in the valley.

STREAMS.

The only streams entering the South River from the south are, first, Campbell's Creek, about twelve miles from Kamloops, and, next, Duck's Creek, about seventeen miles from the same place, and Chases, at the extreme easterly end of the valley. The other streams are insignificant, and cannot be relied on for irrigation purposes, except in years of exceptional rain or snowfall. Considerable pains and expense have been gone to by the various farmers to flume and bring them into use for irrigation purposes, with but indifferent success. This arises from the fact that on the south bank the terraces are cut up and have a quicker slope, rendering irrigation more difficult. From my observations I have no doubt that water will be struck by boring on the lower benches, and in some places on the higher terraces, and in no case would the boring exceed 300 feet.

NORTH BANK.

On the north bank there are some fine flats of land, with but an indifferent supply of water. In fact, the only creeks where water is at all sure are the creek at Pemberton's and one at Graham's. Above this I did not go on this side, as the land is nearly all Indian Reserve. The water-shed is very extensive, and out of all proportion to the quantity of water in the creeks. A great quantity of water disappears into the loose rock above the second bench, and at the foot of the main range. This water must find its way into the valley under the clay.

In some places small springs occur in a band of quicksand. Sometimes this band is not more than a few inches thick, and was never noted more than a foot in thickness. When there is no water on the surface these springs will continue to run, showing that they are supplied by water from below, and from a great distance.

GRAND PRAIRIE.

On leaving Duck's, on the South Thompson, I proceeded to Grand Prairie and made a careful examination of this most interesting part of the country.

Grand Prairie is evidently the filled up or drained bed of a lake, and has an elevation of 2,000 feet. Irrigation is here necessary. On the lowering of the waters, which have at some period stood at a level of some hundreds of feet above the present prairie level, the mouth of the valley has become blocked by the fans thrown out by the creek which enters from the east on Ingran's ranch, and by an opposing creek, which is now nearly dry, but, judging by the fan thrown out by it, it must have been of considerable volume. This blocking of the valley has formed the extensive flat known as Grand Prairie. The Salmon River, which has its rise in Salmon Lake, to the south-west of the valley, runs through the prairie, and is used extensively for irrigation during the period of high water. During the winter months the river bed is dry, and when the rise of the river takes place the first water used for irrigation is so cold as to seriously check the growth of cereals, and when water is wanted for root crops the river has fallen.

The reason of this I found, on examination, to be caused by the fact that the subsoil of the prairie is composed of washed gravel, covered by a rich sandy loam, varying in thickness from a few inches to many feet. This covering of soil thins out towards the edge of the prairie, where the gravel succeeds it. The water of the river sinks into the gravel and flows underground until it reaches the low ground at the north-east corner of the prairie, where it is found issuing from the gravel in a swampy hollow, and forming Salmon River.

At the time of my visit, the quantity of water in the river south-west from the prairie and that issuing from the north-east portion into Salmon River, near the road crossing, was much the same, while the river bed across the prairie was entirely dry.