

63 VICTORIA, A. 1900

other in sections 10, 14, 15, and 23, of the same township; the latter will probably embrace something over 100 acres, with fifteen feet of water at the dam.

The survey and contours for both these reservoirs were completed and bench marks planted in the adjacent section mounds.

A cross-section of the dry bed of the creek was made at the proposed site for the dam in the south-east quarter of section 23. The results are here given in schedule form.

CROSS-SECTION OF REDFOX CREEK.

| AT HIGH WATER LEVEL. | | Location of Cross-section. | OBSERVER, J. T. CHILD, C. E. |
|----------------------|---------------------|--|------------------------------|
| No. | Date. | | Computed discharge. |
| 3 | July 20. 1898. | At proposed site for reservoir dam in S. E. $\frac{1}{4}$ section 23, township 17, range 12, west of 2nd meridian. | Cubic feet per second, 50.48 |

Assumed friction factor (n) = .035.

Remarks.—Average slope of channel .13 per 100 = 6.86 feet per mile; character of channel, stiff gumbo in bed; creek at the highest in spring, and unless augmented by rainfall runs dry during summer.

The height of land between the headwaters of Redfox and Moose-mountain creeks was now examined with a view to ascertaining the possibilities of diverting the latter creek into Lake Marguerite, and from thence through another small lake to Deep lake, augmenting thereby the supply of water to the Indian Head district. It was found that such a scheme is within the range of possibility, but the cost of excavating a deep ditch for some miles precludes my recommending the scheme as feasible, more especially as the proposed reservoirs now located, two near Squirrel-hills, and two on Redfox creek, should be deemed ample for the supply of the Indian Head district in the immediate future.

On August the 2nd camp was moved to section 21, township 19, range 10, where at the request of Mr. Dill, M.L.A., a spring was examined; it had a very small flow, measuring only one and a quarter gallons per minute, in a ravine about twenty feet deep, which might be dammed, but owing to the rapid fall would make a very small reservoir.

I here met Mr. Cole, overseer of the statute labour district. He informed me that the great success attendant on boring wells with the new auger, owned by the Northwest Government, really did away with the necessity of reservoirs, more especially as the farmers in the district, with very few exceptions, were not stock owners, and moreover, seeing that the grain fields are not fenced, naturally suppose that any public and open water would be the means of attracting herds of stock, which otherwise are compelled to range where water is more plentiful. Consequently a move was made to within two miles of Grenfell at the site of an old reservoir in section 12, township 17, range 8, the dam of which, built seven years ago, had been washed out.

The site is a good one, situated on the main road between Grenfell and Wolseley, and would be a useful watering place for stock being driven along the highway to market, and elsewhere. A survey, therefore, was made for a new dam and reservoir which could be constructed at a very moderate cost.

Pipestone creek to the south of Grenfell was next visited and a ditch laid out through the height of land dividing Pipestone and Summerberry creeks, also a dam located at the foot of Pipestone lakes, at the road crossing to Mr. Skelliter's place. The dam is designed to raise the water in the lakes two feet, forming them into a reservoir, the drawoff from which will be along the ditch above mentioned, into Summerberry creek; thus supplying the Grenfell district, the rail opposite the station on the Canadian Pacific Railway being 113.9 feet below the present surface level of the Pipestone lakes.