

in less than an hour and a half we were again under weigh travelling up the course of the creek, which has some picturesque falls and cascades, caused by the inclined strata of red shale and sandstone. After two or three miles we began a steep ascent, and were soon on ground entirely covered with snow, in which the tracks of the Kootanics who had gone before us were visible. We passed along the edge of a very steep hill, and it was as much as the horses or ourselves could do in some places to keep footing. We now descended, crossed a thickly wooded gully, and then commenced the ascent to the water-shed through thick wood. The snow increased in depth as we ascended until on arriving at the crest, it was two feet on the level, and in places heaped up to double that depth. It was cold work trudging through the snow in thin leather mocassins without socks; and, to make matters worse, it was blowing and snowing all the time. I, however, on arriving at the water-shed, with the assistance of the Indian "James," whom I always found most willing, unpacked the horse with the instrument boxes, and obtained a reading of the barometer, which gave an altitude of 6,030 feet. We ascended *along* the ridge about 100 feet more, and then by a zig-zag track commenced a steep descent. It was not, however, very bad, and we soon arrived at a small mountain torrent flowing eastward, thus regaining the waters of the Atlantic after an absence of sixteen days. The trail continued mostly through woods down the valley due east. The rocks on the tops of the mountains on either side were often of very curious shapes, and the strata in places much contorted; there were also some magnificent cliffs, and the cascades of snow water falling down the narrow gullies added motion to the grandeur of the scene. The snow gradually decreased as we descended. On arriving at the spot where the valley joined another I found the Indians camped on a patch of prairie, where I was glad enough to let my horse free, as we had travelled this day from six to six, with a halt of only $1\frac{1}{2}$ hours.

The horses had the first half of the following day to rest, and I took the opportunity of testing my aneroid barometer by the boiling water apparatus, making the ordinary observations, and taking a sketch of a very peculiar peak just above our camp. After two hours' travelling on level ground along Red-stone Creek we emerged on the Saskatchewan Plains, just six geographical miles north of the 49" parallel, and camped at Waterton Lakes, two miles east of the mouth of the pass.

The position of the Waterton Lakes, as will be seen on the plan, is just where the offset range before spoken of strikes out to the eastward from the main chain, having the Chief's Mountain at its extremity. The uppermost and largest of these lakes lies in a gorge in the mountains, and is crossed by the boundary line. The scenery here is grand and picturesque, and I took care to make a sketch from the narrows between the upper or southernmost and second lake.

I was here fortunate enough to discover a stunted species of pine which M. Bourgeau, the botanist of the expedition, had not obtained. I gave him the specimen of this, as well as of some ferns and other plants which I had collected.

I was much struck by the comparative greenness of the prairies on this side, after the burned-up appearance of the Tobacco Plains, which we had left but a few days.

I remained camped at this pleasant spot two whole days for the sake of the horses, and in order to examine more carefully the nature of the country. Game was abundant, including grisly bears, and we obtained both fresh meat and fish. The trout and pike in the lakes were of large size.

The Chief's Mountain was not visible from the camp, but I obtained a good view of it from a knoll on the prairie about four miles distant, which with my previous bearings enabled me to lay it down, and curious enough, the boundary line passes just over this peculiar shaped mountain, which stands out in the plain like a landmark. I also made a sketch of it.

It will be seen that some of the waters of the Saskatchewan take their rise from the offset range at the boundary line, and from information gained from the Indians, I believe there is a tributary of the south branch, which rises to the southward of the Chief's Mountain, this may be the Bull-pound River of Arrowsmith; if so, this offset range has nothing to do with dividing the waters of the Missouri and Saskatchewan, and some of the waters of the latter must come from American ground.

We experienced a gale of wind from the south-west on the night of the 7th, which on the following morning ceased very suddenly, and an opposing wind from the north brought rain and snow, which gave another coating of white to the mountains. This corner of the mountains appeared to be a very windy spot, and when it was not blowing much on the plain, a strong breeze came from the south down the gorge in which is the Upper Waterton Lake.

On the 10th of September I turned my face towards Fort Edmonton, the previously appointed winter quarters of the expedition, which lay more than three hundred miles to the north, and as will be seen on the plan, passed several creeks, and over a country mostly prairie. I remained at the Forks of Belly River on Sunday the 12th. From this place I visited a camp of forty-five tents of Blackfoot Indians, accompanied by one of my men and "James," the Cree Indian. I was received with the usual hospitality, and having expressed a desire to change a horse or two, I had no trouble the following morning in exchanging one and buying another for ammunition, tobacco, blankets, old coat, &c. This tribe has the credit of being dangerous, but from what I have seen of them, I consider them far better behaved than their more civilized neighbours, the Crees. I made it a rule never to hide from Indians, and, although I had but a small party, to go to them as soon as I knew of their proximity. I also always told them for what reason the British Government had sent the expedition to the country; and I never failed to receive manifestations of goodwill, neither was there one attempt made to steal my horses, a practice only too prevalent among the Indians of these plains.

I need not describe my northward journey; suffice it to say that I kept to the east of my former track, along the base of the mountains, except when I turned in for the purpose of raising the cache. I rested at Bow River on Sunday the 19th, travelled over prairie till crossing Red Deer River, the