

## History of Canadian Geology

### Sir William Logan

It is fitting that the name of Sir William Logan, and a brief tribute to his work, should appear in this first issue of *Geoscience Canada* since he is such a commanding figure in the history of the earth sciences in Canada. The graphic presentation by Dr. Gordon Winder at the XXIV International Geological Congress in Montreal in 1972 showed that there are still aspects of his life and work that may not be fully appreciated. A recent examination of some of his field notebooks, in another connection, has confirmed this impression. The time may well have come for a reassessment of his contributions not only to Canadian geology but also to other phases of Canadian life in the middle of the nineteenth century.

His notebooks were faithfully preserved down through the years by the Geological Survey of Canada as one of their priceless possessions. Now that the Public Archives of Canada are able to give such archival material as these notebooks the attention and storage they deserve, the notebooks have been transferred by the Survey to the Public Archives. Here they may be examined by those with special interest in them, carefully preserved in well catalogued filing boxes. They are generally well made, leather-bound field books measuring 9 by 17 cm. They are in a remarkably good state of preservation: only one of those examined has been damaged and that by fire.

As all students of Logan know well, the field notes are enlivened by the most delightful pen and ink sketches of scenes that attracted the young geologist. Although almost all of these were the work of Logan himself, some contained in the Ottawa River notebooks may have been the work of a Mr. McNaughton to whom tribute is paid in the official report for 1845-46. The notes are almost all most neatly written in Indian ink but it can clearly be seen that they were originally entered up in pencil. Diary entries record that the notes were inked in by the camp-fire at night, despite the length of some of the

working days. Logan must have carried with him an "old-fashioned" stick of solid Indian ink, to be rubbed-up with water to form writing ink, a practice which the writer saw in use in the drawing office in which he was trained in the 1920s!

One of the notebooks consisted of a diary of his 1843 journey to Canada from London, England. Surprisingly he left London "at 8½ p.m. on the Liverpool Railway Train with 7 parcels containing" his luggage. This consisted of:

- 1 deal box containing instruments, guns, etc.
- 1 deal box containing (his) travelling laboratory
- 1 Portmanteau containing clothes
- 1 Carpet Bag also containing clothes
- 1 Portfolio writing desk
- 1 Hat Box
- 1 Tin case with drawing paper together with "two Mackintoshes", one Spanish cloak and a fur cap.

It would be interesting to know what that "travelling laboratory" contained but this must be passed by, as must his graphic description of the extremely rough crossing of the Atlantic. He had examined the lower reaches of the Ottawa River prior to his visit to England, one of the notebooks recording observations made on what he says was the Petite Nation River but which seems to have been the South Nation River of today. He had an interesting canoe man with him who clearly knew the upper Ottawa since Logan records quite a few notes summarizing what "Rupert" had told him. It is possible that this was what aroused his interest in the Ottawa. In June 1845 he set off from Montreal on his great journey up the Ottawa which was to take him all the way to the upper end of Lake Temiskaming by canoe.

On his way up the lower reaches of the river, he carefully noted the "strong and sulphurous" springs, shipping samples back to Montreal from many of the springs which were then attracting public attention as possibly having medicinal properties. He notes that some of the springs even had gas burning at their outlets. Amongst the many interesting observations he has on the upper Ottawa are several records of brick

making by the early settlers, one man being reported to have made 30,000 bricks in 1844 and this in the vicinity of Pembroke which was founded in 1828. It was at Bennett's Brook, five miles above the Des Joachims rapids, that his real work began. The river had been surveyed up to this point but not beyond. Logan proceeded to make a detailed topographic survey of the remainder of the Ottawa to the head of Lake Temiskaming, and of the smaller Mattawa River, in addition to recording carefully the geology he saw.

Later travellers paid due tribute to the accuracy of his survey work, the results of which were incorporated by Joseph Bouchette in his early Atlas of Canada. But this was slow work so that it was not until October 15th that, with his two canoes and companions, he returned to the junction of the Mattawa and Ottawa after going up as far as Lake Nipissing. Any normal man would have turned eastwards and returned to Montreal but Logan was no ordinary man. He turned north and carried on his survey and reconnaissance work right up Lake Temiskaming, the head of which he reached on November 8th. Only then did he decide to return, changing his arrangements to a single canoe at Fort Temiskaming where he was kindly aided by the Hudson's Bay Company's Factor.

His geological observations are summarized in his official Report but not this significant entry for August 24th: "On the road from the Fergit Rapid to the foot of the Calumet portage, close to the latter point, there are 6 waterworn holes which show the existence of Currents at a higher level than the present height of the river by 40 ft. . . . They may be the seats of former concretions." One wonders whether Sir William Logan remembered his early observation of the Ottawa River pot-holes which so clearly attracted his attention on that early journey of his in the Ottawa country, in later years when the glacial theory was accepted and explained the origin of such features.

Robert F. Legget  
531 Echo Drive, Ottawa K1S 1N7

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