

River St. John, but the deposits on the eastern side of the river are less compact, and contain more calcareous matter. Furnaces have been erected and are in operation at Woodstock. The ores occur only a few miles from the furnaces, and the Intercolonial Railway will afford facilities for the development of the mines.

P. E. ISLAND.

The reported discovery of an extensive and valuable deposit of Hematite in P. E. Island was found upon examination of the locality by the director himself, to be a mistake.

MAPS

The additional topographical measurements for the maps referred to in the last report as being in preparation were completed, but some further investigations are necessary to complete the geological structure. These maps are—1. One of the Eastern Townships from St. Jerome and Lake of Two Mountains to 10 miles east of St. Thomas, below Quebec, and from the boundary line to 47° 50', 8 miles north of Three Rivers, an area of 26,123 square miles. 2. A map of the Spring Hill and Joggins coal fields, N.S., 273 square miles. 3. A map of the Grand Lake and Clones coal fields, N.B., the whole area of Queen and Sunbury Counties. 4. A map of the Sydney coal field, C. B., 290 square miles.

ONTARIO.

Mr. Henry G. Vennor, F.G.S., continued his investigation in the townships in the rear portion of the County of Lanark and formed a tolerably complete geological map of the whole County from the Rideau on the south to the Madawaska on the north. The general cessation of

APATITE MINING

was a great damper to mining enterprise. It was not from any giving out of the mineral. New discoveries are being made daily. But the operations were too expensively conducted to be profitable. In order to ensure success, the most inexpensive methods of mining should be used, and deepening be avoided, as the deposits of apatite are of a superficial nature.

A number of very important deposits of magnetic iron ore in Lanark, Leeds and Frontenac Counties have been now rendered accessible by the opening of the Kingston & Pembroke R. R. These ores are mostly of excellent quality and are in three distinct belts, the upper one giving about 60 per cent of metallic iron, the second, or underlying belt, 61 to 65 per cent, and the third, underlying belt, is more titaniferous, and characterized by a peculiar coarsely crystalline character. Copper, gold and plumbago were found in many places throughout Lanark County, but it could not be ascertained if the deposits were extensive enough to make them worth mining.

MANITOBA AND NORTH-WEST TERRITORY.

Mr. Robert Bell, C.E., F.G.S., was employed during the season of 1874 in the

country west of Lakes Manitoba and Winnipegosis, and east of the Valley of the Assiniboine, including the Riding, Duck and Porcupine Mountains. Between Prairie Portage and Lake Manitoba, the ground in many places is a series of ridges and hollows, two to six chains apart and three to eight feet high. Good water at the depth of from four to fifteen feet is everywhere found. From Totogon to Westbourne the course of the White Mud River is marked by groves of trees, chiefly elm and oak. From Westbourne to within 18 miles of the Little Saskatchewan, the soil is of a light sandy nature, but the last 15 miles is a hilly region, with a beautiful mixture of openings, covered with bright green grass and wood, interspersed with ponds and small lakes, and free from boulders. Beautiful Plain, on which the government provision depot is situated, is a low wide straight ridge, 24 miles long, running N. N. W. It is composed of sand and gravel, with a smooth surface, supporting a scanty growth of waxy grass, and bordered with trees on either side. About 3 miles to the east, a similar ridge lies parallel to it, and there are other similar ridges east of these farther north. They all resemble great artificial avenues cleared in the woods. From the Little Saskatchewan or Rapid River to Fort Ellice the soil is good, a sandy and gravelly loam, with a coating of black mould. West of the Assiniboine, a barren tract extends for some distance around Fort Ellice. For 20 miles a coarse sand with gravel prevails. A few miles south, the sand is thickly strewn with Laurentian boulders of small size. North from Fort Ellice, the trail to Fort Pelly on the west side of the Assiniboine passes for 50 miles over the sandy tract, after which the soil improves and trees and bushes replace the open prairie. From the mouth of the Shell River, 55 miles from Fort Ellice and 65 to Fort Pelly, the soil is generally of a fair quality. In the Assiniboine Valley at Fort Pelly the soil is good, but the fogs prevent wheat ripening. On the higher ground the soil is poor, both north and south of the valley for some miles. Between Fort Pelly and the Crow Stand, on Little Bogy Creek, a branch of the Assiniboine, 19 miles S. S. E. from the Fort, the soil is of a fair quality, nearly free from boulders. Eleven miles farther to the S. E. is the Big Bogy Creek, another branch of the Assiniboine, flowing through a level country, with a good clayey and gravelly loam soil, and in some parts well-wooded. The country about the Upper Shell River, farther north, is of the same character, well-wooded, except on the river banks facing south and east, and the soil in most places of good quality. Thirty-two miles were explored along Big Bogy Creek, and 21 on Upper Shell River. The table land east of the upper part of the river, was of a marshy character, with numerous shallow ponds, surrounded with reeds and tall grass, and inhabited by numbers of wild ducks. All these streams flow much more nearly parallel to the Assiniboine than is laid down in the maps. From Fort Pelly the trail to Swan Lake crosses Swan River 22 miles N. E. of the fort, and continues for 58 miles on the N. W. side of the river, when it recrosses to the S. E. A few miles N. of Fort Pelly numerous blocks of limestone are found, from which