

called for increase in production, and prices fell to unnatural low levels, when buyers discovered that the sellers were over-stocked.

Reorganization and saner methods of conducting the business have happily resulted in bringing the industry recently into a much improved condition. A good and steadily increased demand is being found for asbestos.

New uses are being found for the lower grades, which are more difficult to dispose of than the long fibre. To-day the mines are busy and the outlook is bright. It is to be hoped that the lesson has been learned. Naturally the industry should become yearly a larger one. The reserves of mineral are enormous, and the uses are rapidly increasing.

SUDBURY-COBALT-PORCUPINE EXCURSION

Continued from Aug. 15th Issue

The A3 excursion train of the International Geological Congress arrived in Cobalt Sunday evening, July 27th. In the morning a trip was made on foot to visit exposures in the vicinity of Cobalt and Cart lakes. The first stop was made at the Little Silver mine, where one of the first discovered veins has been worked out. The old workings give a very good idea of the structure of the silver deposits, and of the sedimentary rocks, which comprise the Cobalt series. A narrow vertical vein has been removed by mining just enough of the rock to allow the rich ore to be taken out. It was worked before concentrators were available, and only high-grade ore was saved.

The rocks in which the opening was made are, in ascending order, a well laminated mud rock or argillite, a gray quartzite and a massive conglomerate, containing pebbles of numerous types of rock, granites being especially noticeable. The Cobalt series has usually some conglomerate below the argillite, but the exposure in Little Silver cliff does not show the lowest part of the series. A photograph of the exposure was reproduced in the August 1st issue of the Journal. Near the base of the hill there is a fault displacing the vein a few feet to the south.

A short distance from the Little Silver vein, close to the T. and N. O. railway track, exposures were then examined, which show the conglomerate which forms the base of the Cobalt series lying on Keewatin rocks. All such exposures were critically examined by those interested in the origin of the Cobalt conglomerate, and proved productive of much discussion on the probable glacial age in Huronian times.

The Provincial Mine.

The party next visited the Provincial mine, where Dr. Miller told of Ontario's experience in the mining business. At the time when silver was first discovered at Cobalt, a large section, known as the Gillies' limit, lying south of the Nipissing property, was not open to prospectors. The Government had sold to lumbermen the timber on this property, and it was not considered fair to the purchasers to allow prospectors to work there until the timber had been removed. Owing to its location, the northern portion of the timber limit was considered very valuable mining property, and the problem of disposing of it properly became a vexatious problem. The Government decided to prospect on its own account, and in 1906 Dr. Miller, the Provincial Geologist, was given charge of the work. Much of the area was found to be of little value, but finally a very promising vein was discovered. Having assumed the role of prospector, the Government now undertook to do some mining, and the then inspector of mines, Mr. E. T. Corkill, was given charge of the mining operations. Some rich ore was taken out; but the development work showed that the deposit was much leaner at depth, and the mine was

never a large producer. The Government then sold the mine and several adjoining lots by tender, and went out of the mining business.

From the Provincial the party proceeded along the shore of Cart lake. On the rock dumps at the south end of the lake, the conglomerate was found to be not strongly cemented and pebbles were easily freed from the matrix. Numbers of them were examined for possible glacial markings, and a general discussion of the causes of striations on pebbles ensued.

Diabase Contracts.

The party next visited an old adit driven in at the base of Diabase mount at the contact of the diabase sill, with the underlying argillite. Dr. A. C. Lane was especially interested in this exposure, and took several specimens of diabase from measured distances to study from the standpoint of his theory of the grain of rocks.

The party then turned north to Peterson lake, where Dr. Miller pointed out exposures of diabase lying on the older rocks near the west shore of the lake. The several exposures give unmistakable evidence of the sill-like character of the diabase mass.

Exposures on the Nipissing Property.

In the Keewatin rocks, Mr. Knight pointed out law-prophyre dikes, which have a decidedly conglomerate appearance, owing to the enclosure of numerous fragments of lighter coloured rocks.

A large portion of the Nipissing property has been washed clean of debris, and presents numerous excellent exposures of Huronian and Keewatin rocks. Near the pumping station on Cobalt lake, some of the party were shown excellent exposures of ripple marked quartzite overlain in places by thinly laminated argillite, and in other places by argillite containing numerous large boulders, some of which lie almost immediately upon the ripple-marked surface. The most evident explanation here is that the conglomerate has been formed under water in which fine silt and sand were accumulating while icebergs dropped numerous boulders.

Visits to Timiskaming, Crown Reserve and Coniagas Mines.

In the afternoon, the party was divided into three groups, and the Timiskaming, Crown Reserve and Coniagas mines were visited. At the Timiskaming a rich shoot of ore has recently been taken from the diabase, which here underlies the Keewatin rocks. The 650-foot level was visited to allow examination of this vein.

At the Crown Reserve mine some typical high-grade veins were seen, and Mr. Cohen gave some account of the development of this wonderful property, which until recently has paid over \$1,000,000 yearly in dividends. The mine has produced at the end of last year 15,227,143 ounces of silver, and promises to make a further very large production, though the production from the Carson