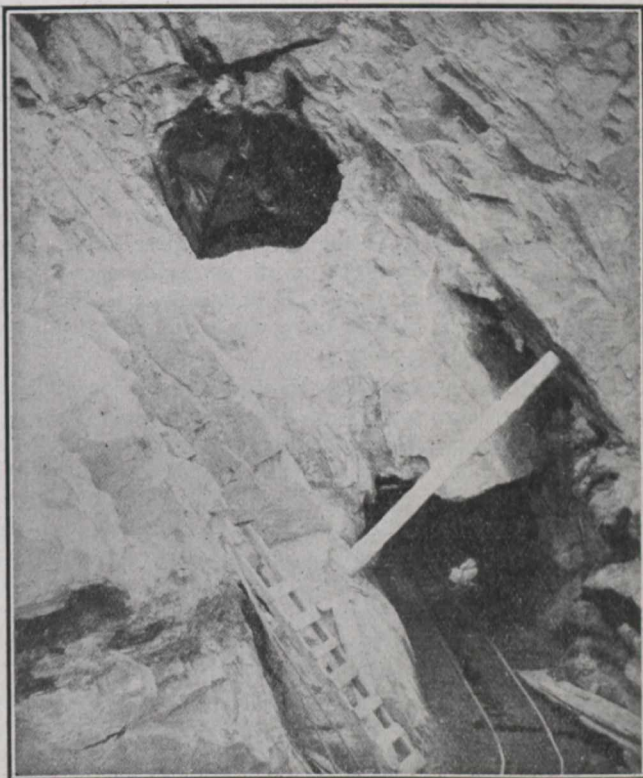


GRAPHITE IN PROVINCE OF QUEBEC.*

The beginnings of the graphite industry in the Province of Quebec dates back a great many years. In the *Geology of Canada*, published in 1863, it is mentioned that a mine had been worked in Grenville previous to that year and that prospecting had been carried on extensively in Lochaber and Buckingham townships. Since then several mines have been opened, and mills erected in various places, but results have not always been satisfactory; some of these have only been operated spasmodically, while others have been abandoned.



Tunnel at the Bell Mines.

The principal cause of failure seems to have been the difficulty of concentrating the graphite, which occurs disseminated in complex rocks.

The industry seems to be now on a more solid basis, and it is likely that the production will henceforth progress steadily.

The prices obtained for the Quebec graphite are satisfactory, and as the deposits are very large, the development depends on the successful means of concentration.

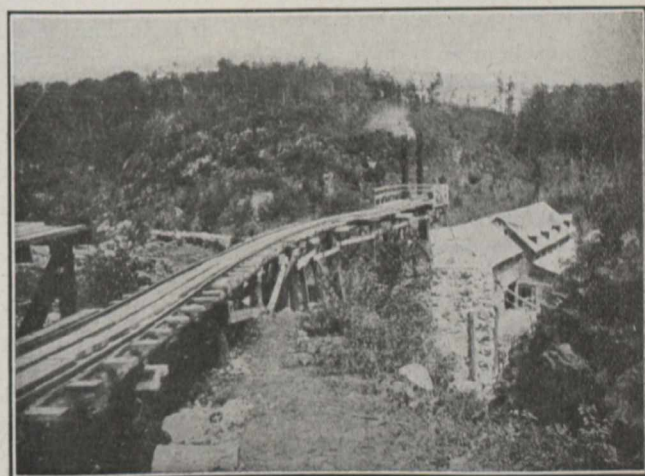
During 1910 only two mines were in actual operation in the Province of Quebec, viz.: the Buckingham Graphite Co., and the Bell Graphite Co., both in the township of Buckingham. Other mines expect to be on the producing list in 1911, and a great deal of prospecting has been carried on.

The Buckingham Graphite Co., which succeeded to the Anglo Canadian Graphite Co., owns lot 28, range VI., Buckingham Tp., and the workings are at present confined to this lot of 200 acres. The mill is erected on the northern part of the lot, near a creek from which the supply of water is derived. The building is 160 feet long by 60 feet wide. The ore is dried in a stone kiln near the mill, which is connected with the mine by a long trestle and tramway. The process of concentration in this mill is dry throughout. The ore is

dumped into the kila, wood being the fuel used, and it is next passed through a Blake crusher, screens and through a second crusher. The concentration is then effected by passing through a series of rolls, screens and bolts. The flake graphite then undergoes polishing in buhrstone mills. The milling plant has a daily capacity of 60 tons of ore yielding between 3 and 4 tons of finished products. Three qualities of graphite are produced, of which the highest quality is flake graphite, containing 96% pure graphite. This mill was in operation during the greater part of the year.

Workings have been opened in several places on this lot, the most extensive of which are in the immediate vicinity of the mill. At this place, in the side of a low hill, a tunnel has been driven towards the south for a distance of 300 feet. Two shafts have been sunk from the surface of the tunnel. The workings are in a hard bluish quartz rock which is much fissured, and which weathers to a rusty color owing to the presence of iron pyrites. The graphite is disseminated through a sillimanite gneiss, in a belt or zone the width of which varies considerably and which reaches ten feet in places. The strike is south and the dip is 60° to the east.

Other workings have been opened a short distance to the south and all are connected by the tramway which runs mainly on a trestle. The latest of these workings consists in a pit measuring 50 feet N. W. and S. E., and 30 feet in the other direction. This excavation was full of water when seen, but steps were being taken to pump it out. On the S. W. side of this pit a vein of disseminated graphite was observed, striking N. E., dipping 80° S. E. and about one foot wide. The hanging wall is a very dark micaceous gneiss, which passes into a hornblende and biotite gneiss. The contact between the graphite zone and the gneisses is very sharp. The foot-wall is said to consist of a bluish quartz rock, similar to the rock through which the tunnel was driven. The pit is said to be 52 feet deep, and from the bottom a drift has been driven 42 feet to the east. At this depth the vein is said to have widened to 15 feet and to have yielded good ore.



Tramway and Mill of Buckingham Graphite Co.

The property is about eight miles from Buckingham, the road between these two points being comparatively good for hauling.

The Bell Graphite Company owns lots 1, 2, 3, range V. and lot 4, range X. of Buckingham Township, but operations are at present restricted to the southern half of lot 2. The mill is erected about the centre of the lot, on the south bank of McNaughton creek from which the supply of water is obtained. The property is situated four miles east of Buckingham.

*Abstracted from Report of Dept. of Mines, Que.