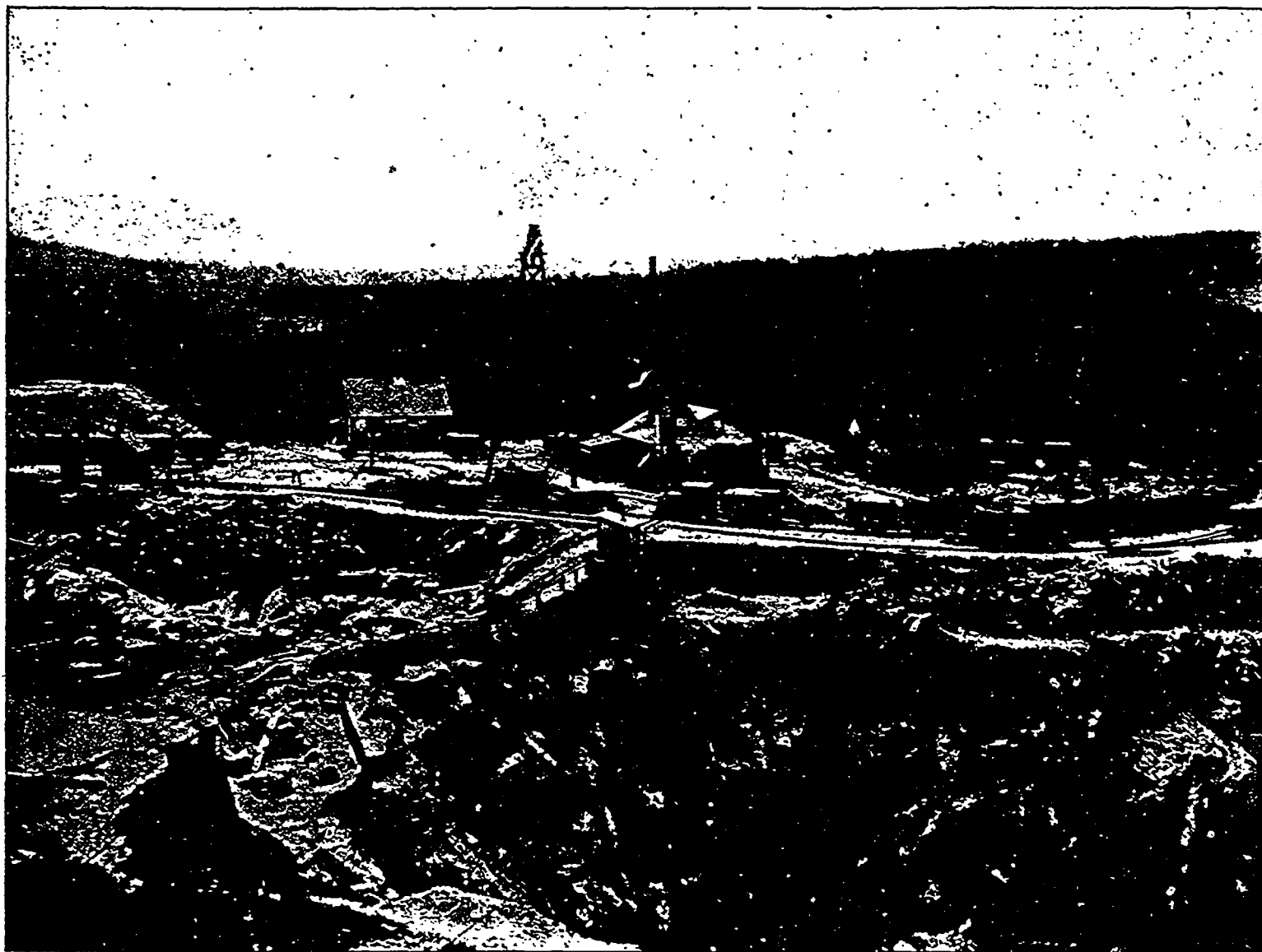


In this connection it may be mentioned that nearly all pegmatite dikes in the Laurentian formation of Canada contain rare minerals in a more or less degree, and it appears as if here offers itself an extensive field for study and research work. Mr. Obalski in a paper read before the Canadian Mining Institute at the Toronto meeting in March, 1904, pointed out that he had found a mineral which he identified as cleveite and which, on further investigation, showed to contain 70.71 per cent. uranium oxide, while its radio activity was pronounced to be very strong. Prof. Rutherford, of McGill University, made an analysis of this sample and discovered that it contained one-tenth of a milligram of radium. This makes it

been analyzed by the United States Geological Survey and contained the following:

Oxide of uranium.. . . .	37.7 per cent.
Oxide of yttrium.. . . .	2.57 per cent.
Oxide of cerium and thorium.. . .	6.81 per cent.

Whether this mineral contains radium has not been determined yet, but as the composition is similar to that found in Charlevoix and since the uranium earths are recognized as bearing generally radium, there is a strong possibility that such might be the case.



ANOTHER VIEW OF THE QUARRIES. (See page 126.)

comparable with the best pitchblende so far tested for the production of radium. The pegmatite dike from which this mineral was taken is about 18 miles back from Murray Bay in the County of Charlevoix on the north shore of the St. Lawrence River.

The Villeneuve mine, at one time famous for its production of an excellent quality of white transparent mica, and situated in the north of Buckingham in the County of Ottawa is another example for the occurrence of rare minerals. The mica occurs here in a dike of pegmatite composed largely of clean white feldspar and quartz, in a width of about 150 feet, cutting nearly along the strike of a reddish and grey quartzose gneiss formation. A sample of uranite taken from this mine has

The distribution of pegmatite dikes in Canada is very large and if investigations in the direction as above indicated were made, there is no question that many a deposit now lying dormant, may be found to contain these rarer minerals in quantities to warrant their exploitation. The largest pegmatite dikes so far discovered are those in the Saguenay district, which is situated at the lower St. Lawrence River below Quebec. Besides these there are a number of pegmatite veins in the north of Ottawa, in the vicinity of Mattawa, at several places in Ontario and also in British Columbia.

On the left side of the Saguenay River a number of coarse pegmatite dikes occur, cutting a dioritic gneiss. This region is not surveyed or explored, but since 1891 constant discover-