(20,9,11-6)

PE-119-19

132°25'
55°38'

PRELIMINARY REPORT OF IRON CAP OR MAHONEY PROSPECT,
TOLSTOI BAY, PRINCE OF WALES ISLAND, ALASKA
September 29, 1941 ex 119-52
By
J. C. ROEHM

Location:

The Iron Cap or Mahoney iron prospect is located inland from the east shore of Tolstoi Bay on the northwest slope of Tolstoi Mountain, one and one half miles from the beach. The showings are reached via trail from the beach in a small cove two miles southwest of Tolstoi Point. At an elevation of 1,000 feet on the trail the remains of a cabin are in evidence, and the showings are 400 feet south of this point at an elevation of 1100 feet.

Owners:

This prospect was not held on the date of visit. A location notice dated July 11, 1921 for the Tolstoi No. 1 claim, with the locator given as Wm. Roberts, was discovered in the tunnel. There has been no recent work on this prospect.

History:

The property was originally known as the Mahoney group of claims and was discovered and staked by Joe Mahoney. The various prospects extended from near the beach up to the magnetite bodies at 1100 feet elevation. The original group of claims was staked about 1900. It later became known as the Iron Cap group, and in the year 1901 considerable diamond drilling was done on the lower magnetite-chalcopyrite showings. Later the tunnel under the upper magnetite showings was driven. A short shaft was further reported to have been sunk. The property was reported bonded to Harvey Spencer-Clark prior to the war in 1914. Later the property was examined by Bart Thane, who was engaged in the examination of iron deposits on the Pacific Coast. While the former development was carried out in search of copper, Thane was reported to have obtained the results from the drilling and to have obtained the iron content of the diamond drill cores. These records of drill holes were not obtainable. However, it was learned that considerable iron ore, which was too low in copper content to mine, was encountered in the holes. While the property has been staked since that time, there has been no further development.

Geology:

The formations in the vicinity of these magnetite showings consist of greenstones which have been intruded by large syenite dikes. These numerous intrusive dikes are along the contact zone and are apparently related to the granodiorite mass which forms the northern end of Tolstoi Point. The ore bodies are held to be genetically related to

the syenite dikes.* The greenstones are bedded tuffs with interbedded sandstones, conglomerates and limestones. The magnetite-chalcopyrite bearing lenses are contact metamorphic in origin, two of which are on a contact of a syenite dike and greenstone. Contact minerals are much in evidence surrounding the ore. They are in evidence in the ore and along the walls. The shapes of the ore bodies are roughly lenticular and one appears to be flat lying. The ore grades from massive magnetite to disseminations in the wall rock without definite walls. The various gangue minerals are epidote, garnet, calcite, quartz and chlorite.

Showings and Development:

Three ore lenses are exposed on the surface, two of which are on the opposite sides of a 30-foot dike. The largest lens has an exposed length of 50 feet and a 20-foot width. The opposite lens has a width of 12 feet and is faulted on the southeast. The strike is northwest-southeast and the dip is to the southwest. A tunnel 100 feet in length was driven 30 feet below along a small streamlet. The first 40 feet of the tunnel runs due south, thence a slight curve to the southeast. In the last 16 feet magnetite shows in a flat-lying lens striking northwest and dipping southwest. The width of ore ranges from $3\frac{1}{2}$ to 4 feet. Sample No. 874 was taken across $3\frac{1}{2}$ feet of the magnetite at a point a few feet back from the face. This gave results of 50.5% iron and [illegible] % phosphorus. The No. 3 lens lies above the other lenses and 50 feet to the west. This lens is not sufficiently exposed to determine its dimensions. It contains considerable pyrite disseminated through the magnetite. Sample 875 was taken across 8 feet on the No. 2 or center lens on the surface. Results obtained were 52.2% iron and [illegible] % phosphorus.

50.14

52.14

Summary:

The present surface showings and the minor amount of development does not disclose sufficient tonnage for mining as an individual enterprise. However, if the old diamond drill results could be obtained, if magnetometer surveys could be made, and further development conducted, more ore would no doubt be located. The use of magnetometer surveys is recommended in prospecting for this type of ore in this section. Zones of occurrences usually are the general contact zones which, with the associated syenite dikes, extend in a northwest-southeast direction. Transportation from this area is very feasible. Tram lines could be used to the beach and Tolstoi Bay offers adequate protection for harbor facilities for ocean going vessels.

*Wright, F. E. & C. W., "Ketchikan and Wrangell Mining Districts, Alaska," U. S. Geol. Survey Bull. 347, p. 126.