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DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

GEOLOGICAL SURVEY

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IRON DEPOSITS OF THE MT. ANDREW-MAMIE AREA SOUTHEASTERN ALASKA

The Geological Survey has completed preliminary estimates of the iron reserves of the Mt. Andrew-Mamie area, southeastern Alaska, Director W. E. Wrather has informed Secretary of the Interior Harold L. Ickes. The estimates are based on Geological Survey field examinations 1942 and 1944 and on trenching and diamond-drilling tests conducted in 1943 and 1944 by the Bureau of Mines.

The Mt. Andrew-Mamie area lies near the center of the Kasaan Peninsula, on the east coast of Prince of Wales Island, about 30 miles northwest of the town of Ketchikan. Most of the iron ore is near the old Mt. Andrew mine, and it was this area that was most actively explored by the Bureau of Mines.

The ore deposits consist of magnetite that has replaced favorable layers of a folded sequence of greenstone volcanic rocks. The ore layers are contorted lenses that thicken and thin within short distances and are separated by layers of barren rock. Some of the magnetite layers are as much as 500 feet long and 75 feet thick. Magnetite is the principal ore mineral in the deposits, and minor amounts of chalcopyrite and some gold and silver are also present.

Six trenches were excavated across the main or "compound" ore body. Seventeen diamond-drill holes, aggregating about 3,200 feet, were put down by the Bureau of Mines. The drill holes indicate that the main ore body extends about 240 feet below the surface at its deepest point. It crops out over an area about 600 feet long and 500 feet wide. Numerous smaller bodies crop out in the area. One buried ore body was discovered by magnetic prospecting and explored by two drill holes. Its limits have not yet been found, but there are indications that it may be of moderate size.

The greatest tonnage of high-grade ore in the area is in the main ore body near the Mt. Andrew mine. The following table indicates the estimated tonnages of various ore bodies in the Mt. Andrew-Mamie area.

The tonnage estimates for the ore bodies that were recently explored have been revised slightly from earlier estimates. The figures for the ore bodies in the Mt. Andrew-Mamie area are based on the work done in 1942. In view of the extensive drilling and trenching that has been done at the Mt. Andrew mine the tonnage estimates are believed fairly well substantiated.

Samples collected by the Bureau of Mines from the trenches and the diamond-drill cores indicate that the ore averages slightly more than 50 percent of iron and about 0.30 percent of copper, thereby confirming estimates of grade made from fewer data in 1942. Gold and silver values are low. The ore contains about 1 percent of sulfur; the percentage of other detrimental elements is very small.

A limited number of copies of the Geological Survey report of the results of the 1942 examination are available to persons specifically interested, and may be obtained upon application to the Director, Geological Survey, Washington 25, D. C. A more comprehensive report, incorporating the results of the recent exploratory work, is being prepared.

	Indicated ore (long tons)	Inferred ore (long tons)
Mamie mine:		
Main layer	225,000	147,000
Other small bodies	15,000	15,000
Mt. Andrew mine:		
Compound ore body including western tongue	1,715,000	500,000
Other ore bodies including those in east and west part of main tunnel	243,000	62,000
"Buried" ore body	-------	125,000
East Mt. Andrew group:		
Rico	4,500	9,000
North Star	9,000	
Glory-Good Luck	9,000	9,000
Good Luck-Mayflower	10,000	35,000
Commonwealth	4,500	9,000
Stevenstown mine	44,900	------
Total	2,279,900	911,000
Total indicated and inferred		3,190,900