

State Department of Geology and Mineral Industries

1069 State Office Building
Portland 1, Oregon

MEMORANDUM ON CORNELIUS PASS MAGNETITE

Multnomah County, Oregon

Owner: Joseph Woerndle, 10407 S.E. Holgate Boulevard, Portland, Oregon.

Location: Cent. W $\frac{1}{2}$ sec. 31, T. 2 N., R. 1 W., Multnomah County.

Geology: According to Warren, et al (1945) the surrounding area is underlain by the Columbia River lavas.

General: An inspection was made of the locality on September 23, 1954. The magnetite occurs as broken chunks up to 1 foot across although most are less than 6 inches in longest dimension. These pieces of magnetite were uncovered when a logging contractor bulldozed a road along an old railroad grade just east of Cornelius Pass. The material is found only where an old fill for the grade passes over a small gully. A reconnaissance was made through the area above the road but there was no evidence of any "baking" of limonitic material by igneous dikes or plugs. The area is covered by dense vegetation, and fresh outcrops were entirely lacking. Numerous pieces of weathered basalt were noted in the roots of an overturned tree nearby and a weathered outcrop approximately 50 feet east on the same old railroad grade showed nothing but weathered basalt.

A piece of the magnetic material was compared with a sample of magnetic hematite (maghemite) found in some lavas in Columbia County. The hematite was apparently derived originally from a limonitic layer within the basalt flows. A later dikelike intrusion of lava oxidized the limonite converting it to magnetic hematite (fine-grained, massive, slightly magnetic, reddish brown streak). The magnetic material from Cornelius Pass on the other hand is very magnetic, dense to scoriaceous, and has a black streak. This material was shown to R. S. Mason, mining engineer, and H. M. Dole, geologist. Both were of the opinion that the material was slag from some furnace presumably dumped there by the railroad either during or after the grade was constructed.

Report by: R.E.C.

Date: 9-23-54