

WAR DEPARTMENT CORPS OF ENGINEERS U.S. ARMY OFFICE OF DIVISION ENGINEER
— NORTH PACIFIC DIVISION, PORTLAND, OREGON — NORTHWEST SILICA
MATERIALS BY EDWIN T. HODGE CONSULTING GEOLOGIST
Snyder-Mackie Silica Deposit

LOCATION

This deposit is located on the east side of the valley of Bummer Creek in the NE $\frac{1}{4}$ Sec. 5, T. 35 S., R. 6 W., in Josephine County. Plate 39. It is roughly 3 miles from Hugo and 4 miles from Merlin by gravelled county road. It is jointly owned by Glen Mackie and C. A. Snyder, Grants Pass, Oregon.

TOPOGRAPHY

The deposit forms a small nose on the west side of a steep ridge, being about 300 feet above the creek, and 0.4 mile by winding dirt road from the Hugo-Merlin road.

GEOLOGY

The quartz crops out in an area about 50 feet across and has been opened by a 50-foot open cut with a maximum depth of 15 feet. A smaller shallow cut 30 feet long extending westward from the main opening was for exploration only.

The deposit is a mass of pegmatitic quartz partly in greenstone and partly in a weathered granitoid rock and is undoubtedly genetically related to the latter. The quartz is cut by feldspar pegmatite dikes up to 18 inches thick, and feldspar crystals are scattered sparsely through the main quartz mass. The quartz is highly shattered and somewhat iron stained in places, though some of it is exceptionally pure.

DEVELOPMENT

A loading platform is placed at the north end of the cut on a level with the floor of the pit. The rock is transported by wheelbarrow.

ECONOMICS

The commercial quartz area is about 25 feet square, or about $\frac{1}{3}$ the area of the pit. Blocks of pure quartz 12 inches on a side may be obtained, but the small size and nature of the deposit may preclude possibility of production of pure silica on a large scale.

PRODUCTION

Present production is limited to about 50 tons a month for use in sand-blasting in Portland. The price paid is reported to be \$5.50 a ton, quarry run, f.o b. Hugo or Merlin.

RED MOUNTAIN QUARTZ VEINS

Several quartz veins ranging up to 6 feet in thickness occur in ultra-basic intrusive rocks on the northwest spur of Walker Mountain, locally known as Red Mountain. The area is included in two standard mining claims, the "Little Wonder" and the "White Wonder", which are owned by Glenn Mackie and J. D. Russ,

of Grants Pass; they are in the NW $\frac{1}{4}$ Sec. 1, T. 35 S., R. 6 W. Plate 39.

The quartz is milky, translucent in thin flakes, and has a frosty appearance. It is apparently very pure. A feature common to all the veins is the development of a zone of fibrous talcose material, probably an altered form of chrysotile, along the contacts of the veins. These talcose veins range from $\frac{1}{4}$ -inch to 6 inches across. The quartz veins are genetically related to aplitic bodies of dioritic rock.

Two quartz veins have been exposed by prospecting. In the main prospect, a 35-foot trench at an elevation of 1,500 feet just north of a prominent west-facing ridge, a 4-foot quartz vein dipping 35° N. is revealed. The vein is cut off by a fault striking N. 20° W., dipping 70° SW.; lateral extent of the vein is unknown, but is probably very limited. A vertical 6-foot vein of glassy quartz, trending N-S, has been prospected on the ridge crest southeast of the main prospect and 100 feet higher. The quartz seems to be very pure, but is believed to be available in small quantities.