

January 4, 1938

Mr. Miles Rice
Pollock, Idaho

Dear Sir:

This letter is in reply to your letter of December eighteenth, addressed to the State Mine Inspector, Salem, Oregon. We have delayed writing to you until we could get a report from the Corporation Commissioner concerning the present status of the Nonpareil Quicksilver Company. The following is the statement of the Corporation Commissioner:

"We have no record in this office of a corporation by the name NONPAREIL QUICKSILVER COMPANY. However, we were served on March 22, 1933, with copies of Summons and Complaint in a suit pending in the Circuit Court for Douglas County in which a corporation by this name was the defendant. The suit was brought by the State Industrial Accident Commission, and the Corporation Commissioner was served under the provisions of Section 25-1101, Oregon Code 1930. It was alleged in the complaint that Nonpareil Quicksilver Company was a corporation organized under the laws of the State of Washington and had been transacting business in Oregon without having filed its declaration to so transact business and without paying the required entrance and license fees."

We are also, for your information, furnishing the statement of the United States Geological Survey prepared in cooperation with the State Mining Board concerning the Nonpareil Mine. The field work was done in 1930. This is the latest statement we have.

"History, Location, and Workings.—The Nonpareil mine was discovered some time prior to 1870, when the New Idria Co. was formed to work the property. The Oregon Cinnabar & Silver Mining Co. was incorporated in 1882, and the property remained in its hands until acquired by the Nonpareil Quicksilver Co., which started work in the fall of 1928. Nothing concerning production prior to 1928 could be learned, although the old workings and the ruined remains of a Scott furnace indicate that considerable ore was mined and treated.

The mine is in secs. 3 and 10, T. 25 S., R. 4 W., on the southeast slope of a long ridge that trends N. 45° E. The old workings (pl. 15) are all at the south end of the ridge, but during 1929 and 1930, eight short adits were driven into the

east slope of the ridge from 1,800 to 3,200 feet northeast of the old mine and at altitudes of 1,000 to 1,200 feet, thereby extending the prospected area to a belt about 3,600 feet long.

The old mine comprises about 2,000 feet of workings and consists of three adit levels which have explored the mineralized area to a depth of about 175 feet.

The deposit occurs in a bed of arkosic sandstone of the Umpqua formation. The sandstone is about 155 feet thick and is overlain and underlain by shale. Within this bed is a tuffaceous variant which was probably originally of andesitic composition but is now too badly altered to permit precise determination. The formation strikes N. 35° E., dips about 41° SE., and contains at several places what appear to be bedding-plane faults.

With the exception of adit 3 north all the adits northeast of the old mine are unaltered tuffaceous sandstone. Adit 3 north, however, passes from shale into altered sandstone and back into shale; the sandstone bed is 60 feet wide and dips 41° SE. The shale that formerly covered the sandstone at the other adits has been removed by erosion, and the sandstone crops out in very steep slopes and crags. Evidence of the usual type of alteration is found in all the adits. Bedding-plane faults also occur.

Rock alteration and mineralization.— The arkosic sandstones have been profoundly altered, and the shales were locally affected. There is no essential difference in the character of the alteration from that shown at Blackbutte and Elkhead, except that relatively more siderite and less calcite and silica may have been introduced. Veins of siderite almost free from silica or calcite cut the rock in all directions. They are especially conspicuous in the upper part of the mine, where oxidation has converted them to the characteristic iron ribs. The relatively smaller amount of silica caused the outcrop to be less resistant and the rubble derived from it to be thinner than at Blackbutte. Crags comparable to those at Blackbutte are found only at the outcrop above the Nonpareil mine.

In the rock penetrated by adit 2 of the Nonpareil mine siderite veinlets have filled a multitude of closely spaced joints. Oxidation has converted the veinlets to a network of iron ribs that stand out prominently from the bleached sandstone groundmass. Commonly where two siderite veins cross, the oxidation products have soaked into the adjacent sandstone, forming large, conspicuous brown smears at the point of intersection. Calcite occurs in definite veins, which are leached and discolored in the oxidized zone; it is locally absent from the ores. In contrast to the altered zone at Blackbutte, veins of silica are exceedingly rare.

In the deeper parts of the mine, below the zone of oxidation, the altered sandstone is a very firm, resistant medium gray rock, tightly cemented by siderite, silica, and locally calcite; it has been called andesite in previous descriptions of the mine. This rock effervesces slowly in acid, showing that the carbonates are finely disseminated throughout. Under the microscope it appears as a mass of alteration products enclosing unmodified fragments of detrital quartz. The original feldspars of the sandstones have been converted to masses of sericite or have been converted to masses of sericite or have been replaced by pseudomorphs of siderite or silica. Minute veinlets of siderite or more rarely of calcite penetrate the rock in all directions and connect with

Mr. Miles Rice
#3.

the larger veinlets.

The bed of tuffaceous material exposed in the mine appears to have originally consisted largely of grains of some ferromagnesian mineral, feldspars, and probably large amounts of glass. It also contains fragments of foraminifers and echinoids. Under the action of the hydrothermal solutions the ferromagnesian minerals and a part of the groundmass have changed to a deep-green chlorite, the feldspars have been largely converted to carbonates and other decomposition products, and the original glassy material has been converted to a turgid semi-isotropic mass of siliceous material crossed by numerous siderite veins.

The ore occurs in beds of tuffaceous sandstone as irregular shoots that pitch toward the southeast. Cinnabar, the ore mineral, may occur disseminated through the sandstone in minute grains, or it may occur in distinct veinlets of megascopic size and in small irregular blebs. The limits of the ore are very irregular in outline and do not follow any definite structure. Furthermore, the ore is not confined to a single bed in the sandstone but is found in any bed showing the alteration described above. The rocks exposed in 1930 in adits ~~1 and 2~~ 2 north showed an unusually heavy impregnation with cinnabar and averaged about 2 percent of quicksilver."

We are expecting to receive almost any day the report of C. N. Schmette upon quicksilver deposits in Oregon. This field work was done in the fall of 1937. We will be glad to place your name on our mailing list for this publications.

Very truly yours,

STATE DEPARTMENT OF GEOLOGY
AND MINERAL INDUSTRIES

AMS:vm

A. M. Swartley
Consulting Mining Engineer

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STATE DEPT. OF GEOLOGY
& MINERAL INDS.

Pollock, Idaho.

Dec. 18, 1937.

State Mine Inspector,

Salem, Oregon.

Dear Sir:

Could you let me know immediately if the "Nonpariel" (quack-silver) mine, in south western Oregon, near Sutherlin, has been operating since 1930? If so, how much has it produced; and has it been operating on a paying basis?

I would also like to know the capacity of the equipment being used? Any further information you may give me, will be greatly appreciated.

Yours truly,
Miles Rice