

In mid-August 1940 two veins, referred to as "No. 1" and "No. 2", discovered that summer, were being prospected by surface workings. Distances given in the following notes are estimated from pacing, and elevations are from corrected barometer readings.

No. 1 vein had been traced west of south across "P. D. Q. Spur", from a point at 4,400 feet elevation on the eastern side. Cuts, generally closely spaced, followed the vein almost to the summit at about 4,750 feet elevation, 700 feet on the southerly course. For about 600 feet southerly from the summit cuts were spaced at intervals of 120 to 150 feet. Continuing southerly the cuts were widely spaced and some, in deep overburden, did not reach bed-rock. Farther southerly cuts were being made following a vein-filled fracture in a small draw which runs down the very steep slope of the southern end of the spur. The lowest cut was at about 3,975 feet elevation. At that time it could not be said definitely that the vein exposed in the more southerly cuts is the one exposed on the eastern side of the spur. The distance between the first exposure on the eastern side and the lowest cut in the draw was roughly 2,300 feet.

The vein or veins strike about north 20 degrees east and dip 70 to 85 degrees westward. On the eastern side and on the summit the rock is basalt, probably an intrusive related to Mesozoic volcanics. Across the rounded top of the spur the vein, 4 to 8 inches wide, is exposed in a shallow depression. Toward the southern end of the depression a small mass of quartz-diorite is exposed extending southeasterly. Thence southerly the country rock is a fine-grained to andesitic volcanic, but the fracture-walls are usually of quartz-diorite, and it seems probable that the vein-fracture or fractures follow earlier fracturing along which quartz-diorite had been intruded. Much of this slope is heavily drift-covered and rock exposures are infrequent. The lower cuts on this slope indicate vein widths from 12 to 20 inches.

The most encouraging results are reported to have been obtained from a section about 300 feet long on the eastern slope between 4,600 and 4,725 feet elevation, where the vein 6 to 18 inches wide had been exposed in cuts spaced at intervals of 6 to 20 feet. Toward the upper end of this section the writer took a sample across the width of the fracture.

In succession from the hanging-wall it included: rusty streak, 1 inch wide; honey-combed quartz with yellow-green stain, 8 inches wide; and rusty altered wall-rock, 9 inches wide, extending to the foot-wall. The sample from this 18 inch width assayed: Gold, 1.84 oz. per ton; silver, 2.6 oz. per ton.

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In general the vein-fracture is from 4 to 20 inches wide and contains about half vein-mineralization and half altered wall-rock. In the exposures most of the material is oxidized and rusty. Introduced gangue consists of quartz and some carbonate. Pyrite, chalcopyrite, sphalerite, and galena, were seen irregularly distributed; and a greenish yellow stain suggested the alteration of an arsenic or perhaps an antimony-bearing sulphide.

No. 2 Vein

Trending east of south on the eastern side of "P. D. Q. Spur", an escarpment forms the western wall of a draw which opens into a basin. This escarpment may mark a branch of the large fault described in the general part of this report. At about 4,150 feet elevation, just east of the escarpment, No. 2 vein was exposed in a surface-cut. The most northerly exposure of the No. 1 vein was about 1,000 feet northerly from this point. No. 2 vein strikes north 20 to 30 degrees east and dips 60 to 70 degrees north-westward. It had been traced about 325 feet north-easterly across part of the basin, with little change of elevation. Cuts at intervals in this distance incompletely exposed the vein, 8 inches to 2 feet wide. The vein-filling consists of rusty quartz and altered wall-rock with more or less sulphide mineralization. A fair amount of galena was to be seen at some points.

The best exposure was in a stripping from 150 to 170 feet north-easterly from the cut near the escarpment. Here vein-filling consists largely of quartz with sulphide mineralization concentrated in 2 or 3 inches at both walls. A sample taken toward the south-western end of the stripping, across 15 inches, the full width of the vein, assayed: Gold, 0.94 oz. 2 per ton; silver, 4.2 oz. per ton; lead 1.4 per cent. A sample taken 5 feet north-easterly, at the footwall-side, across 3 inches, containing sulphides notably galena, assayed: Gold, 2.32 oz. per ton; silver, 6.2 oz. per ton; lead 8.4 per cent. 3 Selected material containing sulphides and showing a yellow-green stain assayed: Gold, 0.26 oz. per ton; silver, 5.0 oz. per ton; lead 7.6 per cent. A section representing this selected material was studied under the microscope. It was very much altered. Pyrrhotite, pyrite, chalcopyrite, sphalerite, and galena, were recognized; small islands of another mineral in the galena may be grey copper. 4