

FIELD EXAMINATIONS

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No. 1. Martin Creek canyon. This area is the lower part of the canyon of Martin Creek, at the southwest edge of the volcanic plateau. It was examined because it lies on the southeasterly projection of the postulated transverse structural zone at the head of Paradise Valley and because it presents a thick section of the Tertiary volcanic rocks. The rocks on the Garvey land farther upstream, in T. 42 N. and T. 43 N., R. 41 E., also were examined, working from a trail off the Hardscrabble Road (No. 10).

The volcanic rocks in this area are dominantly rhyolite, although high rims formed by overlying basalt flows are prominent in places, especially in the upper part of the canyon. A basalt plug or neck also occurs in the lower part of the canyon in the S.E. $\frac{1}{4}$, Sec. 1, T. 42 N., R. 40 E., again suggesting the probable presence of the transverse structural trend. The volcanic rocks are thick in this area, extending from the tops of the high ridges to below present drainage. No rocks other than the volcanic rocks are exposed. No bleaching or other alteration was noted such as might accompany a zone of mineralization. This area appears to be barren.

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No. 2. Bullion area. The site of the early day mining camp of Bullion is on Garvey land in the S.E. $\frac{1}{4}$, Sec. 29, T. 43 N., R. 40 E. Very little is known or available concerning the early operations. Raymond ^{2/} states that the Paradise district was organized

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Raymond, R. W., Report on mineral resources of states and territories west of the Rocky Mountains: Washington, Govt. Printing Office, 1874, pp. 262-263.

during the first part of 1874 or the latter part of 1873. The U.S.G.S.^{3/} reported in 1908 that "the Bullion mine is opened by a 400-foot vertical shaft and an 800-foot tunnel". Nothing now remains in the area but overgrown old dumps and prospect holes and caved tunnel portals.

As indicated by the geologic map, most or all of the Bullion area is underlain by intrusive igneous rock. The rock, as exposed in a series of rough knolls, is a fine- to medium-grained, gray to dark gray granodiorite. Much of it is weathered and softened, but no zones of strong or extensive alteration were noted.

In the east central part of the area there is a zone of shearing and minor bleaching that contains discontinuous quartz veins up to a foot or more thick. The zone, marked by a line of old prospect holes, strikes about N. 70° W. down the northwest slope of a high knoll. Just above the point where the zone goes under cover there is a old deep adit. Much of the rock on the large dump is stained red by iron oxide. Two samples taken from this zone assayed as follows:

Sample No.	Gold oz./ton	Silver oz./ton	Value per ton
G-B-1	0.005	0.39	\$0.92
G-B-2	0.01	0.12	0.65
Gold @ \$43.00/oz.		Silver @ \$1.80 oz.	

Sample G-B-1, chips of vein quartz in bleached igneous rock, from prospect hole up slope from old adit.

Sample G-B-2, chips & fines from dump of old adit, red-stained vein quartz and igneous rock.

Fissure veins of this type are fairly common in the igneous intrusions. Some of them may contain high-grade ore, but they tend

^{3/} Mineral resources of the United States: U. S. Geol. Survey, 1908, p. 490.

to be narrow and erratic both in form and mineral content. It appears that the Bullion area does not warrant any further work.

(135) No. 3. Spring City area. The site of former Spring City is not on Garvey land, but as this part of the Paradise Valley district contains the only major old mines in the area, an examination was made. The old workings are largely in Sec. 22, T. 43 N., R. 40 E. Numerous large dumps marking the sites of old adits and shafts occur along Spring City Canyon and extensively on the east slope of the high steep ridge to the west. The size and number of the dumps indicate very extensive workings in and under this ridge. The canyon also contains the remains of at least two old mills.

As shown on the geologic map, the Spring City area lies at or near a contact between Mesozoic sedimentary rocks on the west and Tertiary intrusive rocks on the east. In the mining area the chief rock is dark sericite schist, which is cut along faults or fault zones by erratic fingers or apophyses of the intrusion, a white quartz porphyry or rhyolite. One such broad fault zone high on the ridge strikes N. 30° W. and dips 50°-60° S.W., and other faults seem to have about the same strike and dip. The ore shoots, containing a variety of sulphide minerals, also occur in these structural zones, in close association with white vein quartz. Thus the ore deposits are spatially, if not genetically related to the contact zone of the rhyolite intrusion.

Across the canyon from the old workings and a short distance upstream there is a body of white, iron-stained quartz porphyry about

100 feet wide, lying between sericite schist on the southwest and a broad band of dark gray, fine-grained basalt or andesite on the northeast. A large old dozer cut gives a good exposure of the rocks. The geology looks favorable for at least submarginal mineralization, except that no vein quartz is present. Three samples of the white rock were taken, but the assays proved negative.

<u>Sample No.</u>	<u>Gold</u> <u>oz./ton</u>	<u>Silver</u> <u>oz./ton</u>	<u>Value</u> <u>per ton</u>
G-SC-1	Trace	0.06	\$0.11
G-SC-2	Trace	0.13	0.23
G-SC-3	Trace	0.06	0.11
Gold @ \$43.00/oz.		Silver @ \$1.80/oz.	

Sample G-SC-1, chips from hard rib just west of basalt contact.

Sample G-SC-2, chips and some fines from softer central zone.

Sample G-SC-3, chips and some fines from hard rib and contact zone just east of sericite schist.

In spite of these negative results at one locality, and in view of the geological and mineralogical associations in the Spring City area, I believe that further scouting and sampling should be done in the area of this Tertiary intrusion, if further work is undertaken in the Garvey area and if land records show the ground to be open.

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No. 4. Lower Spring City Canyon. About a mile and a half

below the site of Spring City near the mouth of the canyon a number of old shallow inclined shafts and short adits are driven on narrow quartz veins in the Mesozoic rocks. There are no igneous rocks in this area. The chief rocks are dark gray to black siliceous schist and coarse-grained mica schist. The quartz is milky white and is tightly frozen to the walls of the irregular fractures in which it

occurs. No sulphide minerals were seen, but some of the quartz is coated with an apple green stain. All of it looks very lean. It is believed to be older than the typical quartz of the main mineralized veins of the area. No further work is warranted in this area.

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No. 5. Buttermilk Summit. A narrow and difficult jeep trail leads from the old Bullion area (No. 2) to Buttermilk Summit, in the northeast part of T. 43 N., R. 40 E., at the crest of the high ridge northeast of Paradise Valley. There are scattered tracts of Garvey land in this area, on which rather extensive scouting was done on foot. The rocks on and around Buttermilk Summit are rhyolitic and andesitic or basaltic volcanic flow rocks. In this area they show no evidence of strong alteration or mineralization.

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No. 6. Tunnel area. In the northeast corner of T. 43 N., R. 39 E., on the high ridge east of the Hinkey Summit road, there are large areas of white quartz in fine-grained gray schist of Mesozoic age. An old tunnel, now caved, and a number of prospect holes have been dug in the quartz areas. In this general area south and east of Hinkey Summit the geologic map shows both older and younger intrusive bodies cutting the Mesozoic rocks, on the line of the postulated transverse structural trend.

This general area was extensively scouted on foot but no evidence of any important mineralization was found. The quartz, while impressive in volume, appears "lean and dry" and is in frozen contact with the schist. It is believed to be an older generation of quartz. There is little or no alteration of the schist, and sulphide minerals

are very sparse or lacking. The rock mapped as a late Tertiary intrusion is a light gray, vesicular porphyry that looks more like a flow rock. It is remarkably uniform and unaltered even close to the contact zone. This area appears to be of no further interest.

No. 7. Hinkey Summit area. Although there is no Garvey land in the immediate area of Hinkey Summit (see map), the rocks along the road were checked as a matter of course. The chief rocks are gray quartz-mica schist of Mesozoic age, overlain by volcanic rocks of Tertiary age, including gray to black platy andesite or basalt and hard volcanic agglomerate. Aside from the usual effects of weathering, there is little or no alteration and no evidence of mineralization at or near Hinkey Summit.

(133) No. 8. Granite Peak area. Granite Peak, one of the high peaks in the Santa Rosa Range, is formed by a relatively small intrusive stock in the southwest part of T. 44 N., R. 39 E. There is Garvey land along the north edge of the stock. This area is reached by a narrow and rough road that extends up Lye Creek from the Martin Creek ranger station and eventually reaches the crest of the range in a broad saddle north of Granite Peak.

The northeast part of the contact zone and surrounding areas were scouted on foot. This is a rough but relatively flat broad bench between Granite Peak on the south and higher volcanic ridges on the north. Much of the area is covered by overburden. The exposed rocks are mainly light gray to pink, medium-grained granodiorite (?) seamed with tightly frozen quartz veinlets. In places there is much