

1935

MR-35-3

GEOLOGICAL REPORT ON THE ANDERSON MINE

TIN CUP DISTRICT, FREMONT COUNTY

THE GEOLOGICAL SURVEY OF WYOMING  
S. H. Knight, State Geologist  
University of Wyoming  
Laramie

GEOLOGICAL REPORT ON THE ANDERSON MINE,

TIN CUP DISTRICT, FREMONT COUNTY.

Location: The location of this mining claim, as given by Mrs. Anderson, is SE.  $\frac{1}{4}$ , SE.  $\frac{1}{4}$  sec. 15, T. 31 N., R. 93 W. It is in the southern part of Fremont County and about ten miles north of Rongis. The tunnel on the claim is about a mile northeast of Tincup Springs.

The mine is located on the main arch of the Granite Ranges of Central Wyoming, in an area where pre-Cambrian granites, metamorphic rocks and pegmatite dikes are exposed. These rocks project as knobs and ridges above the surrounding flat-lying white volcanic ash and sandstone of the Tertiary White River sediments. The schists, gneisses and pegmatites have a more or less constant strike about N. 80° E. and they have a uniform dip to the south of about 70°. The schists are muscovite, phlogopite, biotite and hornblende schists of varying colors and hardness. The gneisses are altered porphyry, granite gneisses and injection gneisses. The pegmatites consist mainly of very coarse white bull quartz of hypothermal origin. In a few places there are coarsely crystalline masses of orthoclase, albite and microcline often containing muscovite in quantities. There has been considerable secondary deposition of hematite and limonite along seams and cracks in the schists, gneisses and pegmatites. Immediately beneath the surface along the quartz dikes there has been extensive leaching of ferruginous compounds, probably the conversion of iron carbonates and silicates to hematite and limonite. This gives the quartz

a honeycombed appearance and along fracture lines so much limonite has been deposited that the dikes often have a rusty look.

The tunnel on the Anderson claim has been driven eastward along strike, following an irregular white bull quartz stringer and a band of gray mica schist about 18 inches wide. The tunnel is about forty feet long, five feet high and four feet wide. Along the northern side of the tunnel is a vari-colored ferruginous schist containing considerable secondary hematite and limonite. In the center at the end of the tunnel is the gray mica schist and along the south side is the quartz stringer.

Samples were taken at right angles to the dip across these three zones at the end of the tunnel. A groove was cut across the face of each zone, the material was crushed and mixed so that a representative sample for assaying could be obtained. These samples were sent to Charles O. Parker & Co., Denver, Colorado, to be assayed. The white schist zone in the center at the end of the tunnel was labelled sample #1 and it shows 0.02 ounces of gold present per ton of ore, which at the present price would be approximately \$0.70 per ton. Sample #2, taken across the quartz stringer at the south side of the tunnel assayed 0.01 ounces of gold or a value of \$0.35 per ton. Sample #3, taken across the schist zone at the north side of the tunnel shows an assay of 0.02 ounces of gold or a value of \$0.70 per ton. These were not hand-picked samples but constitute representative assays of the ore that would be mined if the vein were worked commercially. It is doubtful if the quantity of gold would increase in depth, due to the character of the deposit. The coarsely crystalline variety of quartz which is typical of this area is characteristic of the hypothermal or basal zone of primary ore deposition. From the character of the rocks in this region it appears that all except the basal part of this