MR-39-1

REPORT OF THE MOSAIC GOLD CLAIM

by
S. H. Knight
State Geologist

Location: The Mosaic gold claim is located in the Big Goose Mining District in T. 54 N., R. 87 W., 35 miles southwest of Sheridan, Sheridan County, Wyoming. The claim lies at an elevation of approximately 10,000 feet.

Development Work: When visited on August 13, 1939, the development work consisted of an open cut 14 feet long, 6 feet wide and 5 feet deep on the southeast face and 12 feet deep on the northwest face. The greater depth on the northwest face was due to the southeast slope of the surface.

General geology of the region: The claim is situated in the pre-Cambrian complex, which makes up the core of the Bighorn Mountains. The area immediately adjacent to the open cut was covered with talus; consequently the contact relationships between the rocks exposed in the cut and adjacent rocks were obscured. From 50 to 75 feet to the west of the open cut the talus disappears and extensive exposures of coarse-grained granite-gneisses crop out. The gneissic structure in these exposures trend N. 60° to 70° E. The structural alignment is emphasized by numerous quartz veinlets, pegmatitic dikes, thin bands of biotite schist and major joints.

Fifty feet south of the open cut and extending southward for a distance of 150 feet are numerous outcrops of pegmatitic quartz, biotite schist and granite-gneiss. Extensive exposures of granite-gneiss having a north-east structural alignment are exposed 50 feet further south. A four-foot diabase dike cuts the granite gneisses some 400 feet southwest of the open-cut. This dike is off-set in at least two places by cross-faults.

Rocks exposed in the open cut:

The following samples of the rocks exposed in the open cut were collected:

Sample #1--A sample from the northwest face 6 feet below the surface.

Sample #2--An average grab sample of a rusty band 15 inches in width exposed on the northwest end of the southwest face of the cut. The sample was taken near the bottom of the pit.

Sample #3--A representative sample taken near the middle of the 15-inch rusty band mentioned above.

Sample #4--An average grab sample (quartered to 2 pounds) of a 5-foot zone extending across the southwest face of the cut and lying adjacent to the rusty band mentioned above. The sample was taken near the base of the cut.

Sample #5--Average grab sample (quartered to 2 pounds) of a 5-foot zone lying adjacent to and to the southeast of the 5-foot zone mentioned under sample No. 4.

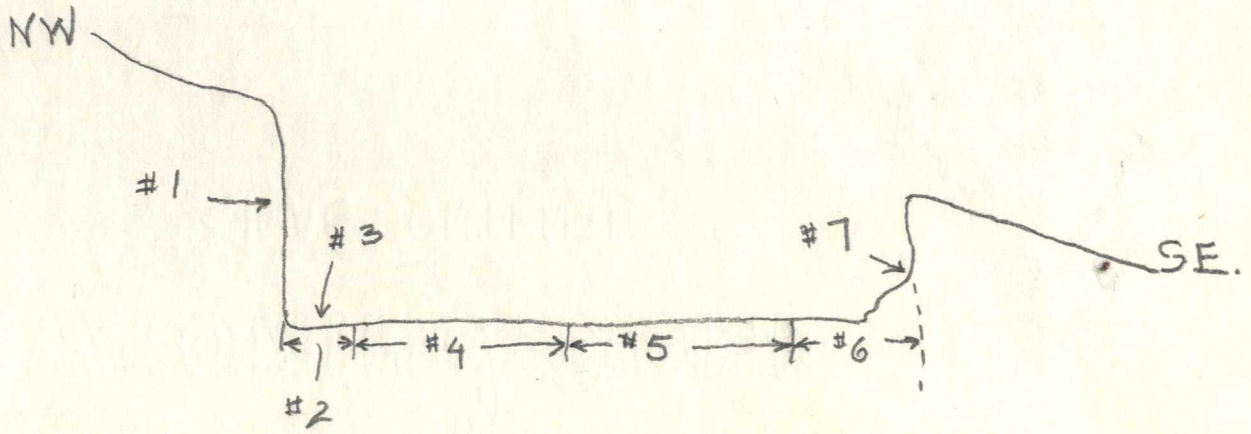
Sample #6--Average grab sample of a 3-foot zone lying adjacent to and to the southeast of the 5-foot zone mentioned in the description of sample No. 5.

Sample #7--A hand sample from the southeast face of the pit taken near the floor of the pit.

Sample #8--Hand sample from near the center of the southeast face of the pit.

Sample #9--Two hand samples from the dump.

The following NW-SE cross-section of the open pit shows the position of the samples taken



The following assays, analyses and petrographical examinations of these samples were made:

Representative selections of Samples No. 4, 5 and 6 were assayed for gold and silver by the Charles O. Parker company of Denver. The returns on these assays were as follows:

	Gold Ounces per ton	Silver Ounces per ton
Sample No. 4	0.04	0.36
" " 5	0.02	0.50
" " 6	0.025	0.40

Representative samples of No. 2 and No. 6 were analyzed for tungsten by the Research Chemistry Division of the University of Wyoming. The results of the analyses are as follows:

Sample No. 2 0.26% Tungsten oxide
Sample No. 6 0.10% " "

Seven thin-sections of representative samples were prepared and studied under the petrographic microscope. These studies revealed that the rock is composed almost entirely of fine- and coarse-grained vein quartz. There are also present small amounts of mica and pyrite. The rock exhibits considerable fracturing. Tiny veinlets of iron oxides (hematite and limonite) and small amounts of what is believed to be wolframite (tungstate of iron and manganese) and possible tungstite (tungsten trioxide) are present in the veinlets. The veinlets are most prominent in thin-sections from samples No. 1, 3, and 6. The tungsten minerals are present in such small amounts as to render specific determinations difficult.

It is believed that the vein quartz is a hydrothermal replacement deposit. The replacement has been carried to such a degree that the original character of replaced material cannot be determined.

CONCLUSION

The assays, analyses and petrographical examinations as given above do not reveal the presence of gold, silver or tungsten in encouraging amounts. The microscopic examinations of seven representative thin-sections failed to reveal the presence of minerals of commercial importance.

Bighorn Co.

Mosaic Gold Claim - T54, R87W (No section lines here)

Carl and Dorothy Craig. A shaft about 25' deep in granite and quartz. The quartz is oxidized on fractures and thru the rock. The granite is stained but does not show quite the oxidation thru the rock.

Assays - according to Mr. Craig - Uranium from a trace to .10; gold from a trace to .20 oz; vanadium pentoxide 1%; 35¢ in Ag was the best assay down to a trace; traces of lead & copper; oxides of every kind of iron. (Some siliceous porphyry)

Scheelite occurs in a gouge zone about 1 to 2' wide but does not fluoresce. Mr. Craig says there is a sulfide zone he has just run into in the bottom of the shaft and this zone carries higher gold values than the rest of the material.

About 300' W is a tunnel which has been dug approximately 100' into granite. Near the end of the tunnel is a gouge zone which may extend from the shaft - and carries scheelite.

(Visited with Mr. Craig)

See S.H. Knight report on property.

1901-09 LAWRENCE STREET

TELEPHONE MAin 1852

CHARLES O. PARKER & CO.

CHEMISTS, ASSAYERS, ENGINEERS

DENVER, COLO.

S. H. Knight
University of Wyoming
Laramie,
Wyoming

Folio 2724

Date Sept. 8, 1939

We hereby Certify, that the samples assayed for you gave the following results:

DESCRIPTION	GOLD OUNCES PER TON	SILVER OUNCES PER TON	COPPER PER CENT (WET)	LEAD PER CENT (WET)	ZINC PER CENT	IRON PER CENT	INSOLUBLE PER CENT	VALUE PER TON
Mozaic #4	0.04	0.36						
5	0.02	0.50						
6	0.025	0.40						

Gold at $35.00 per ounce Copper at _____ per unit

Silver at 70c per ounce Zinc at _____ per unit

Lead at _____ per unit

Charge $ 3.06

CHARLES O. PARKER & CO.
CHEMISTS, ASSAYERS and ENGINEERS

MINERAL: GOLD (MOSAIC CLAIM) COUNTY: SHERIDAN

LOCATION: T. 54 N., R. 87 W.

OWNER: CARL AND DOROTHY CRAIG

DESCRIPTION:

A shaft of about 25' deep in granite and quarz. The quartz is oxidized on fractures and thru the rock. The granite is stained but does not show quite the oxidation thru the rock.

Assays, according to Mr. Craig, ran from a trace to $3.60; gold from a trace to $10.00; vanadium pentoxide 1%; 35¢ in Ag was the best assay down to a trace; traces of lead and copper; oxides of every kind of iron (Some siliceous porphyry).

Scheelite occurs in a gouge zone about 1' - 2' wide but does not fluoresce. Mr. Craig says there is a sulfide zone he has just run into in the bottom of the shaft and this zone carries higher gold values than the rest of the material.

About 300' W is a tunnel which has been dug approximately 100' into granite. Near the end of the tunnel is a gouge zone which may extend from the shaft and carries scheelite.

Visited with Mr. Craig

See S. H. Knight report on property.

Memorandum by Dr. A. F. Hagner
Circa 1943