GEOLOGIC REPORT ON THE SUNDAY MINE AND ASSOCIATED CLAIMS

WITH ASSAY SHEET.

Ouray County

By

R.F.MAHONEY

Report furnished by August Risch

Copy of the original

Ouray, Colorado.
June 1, 1934.

Mr. J. T. Shimmin,
San Juan Metals Corporation,
Telluride, Colorado.

Dear Sir:

In compliance with your request, Mr. Charles Tonry and myself made an examination of the Sunday Mine and associated claims on May 31, 1934. These notes are independent of Mr. Tonry's report, and are concerned chiefly with the geologic features of the property.

The Sunday Mine is situated on the south fork of Dexter Creek in Ouray County, Colorado. It is reached by about four miles of fair trail from the Bachelor Mine, which is reached by four miles of auto road from Ouray. A wagon road could be constructed to within a half to three-quarters of a mile of the tunnel portal without much difficulty as an old logging road exists along Dexter Creek to the within estimated distance of the portal. The tunnel portal is about seven hundred feet below timber line, and so is at an estimated elevation of ten thousand feet. The topography in general, is the same as found elsewhere, in this district at that elevation, deep canyons are separated by steep divides whose slopes are often 35°, the angle of repose for loose material of the nature found in this vicinity.

The country rock is the andesite breccia, called the San Juan which is also the country rock at the Revenue Mine. This is in contrast to the older mines farther down the creek which were in the sedimentary formation. The andesite is apparently a favorable rock to the formation of ore bodies as many large mines are found in it in Ouray.

The major fracture system of the region has a northeast strike, bearing from north thirty east to north sixty east. The vein on the Sunday and adjoining claims follows this general strike and approximates north forty degrees east. In some places the vein stands nearly vertical, but numerous rolls or decreases in dip occur. In the least steep portions the dip is about 70° from the horizontal.

The fissure which the Sunday vein fills is really a zone, and not simply a single break. This is seen very clearly on both sides of the south fork of Dexter Creek. In this vicinity the zone of fissuring is from twenty to thirty feet in width. The material filling the fissure is of three distinct varieties, and consists of dike, vein, and mineralized country rock. The dike material is a porphyry belonginng to the rhyolite-andesite family, and carries fine grained iron pyrites. Much of the dike material is badly weathered and so has a rotten appearance. The vein matter itself is of several varieties of extremely hard, brittle silica. At the center of the fissure is found a blue black chert which is vuggy in places. These vugs have been filled with a yellow clay like material, probably derived from the weathering of the dike. The presence of the chert is important geologically in that it indicates that the fissure was opened and permitted the free passage of mineral bearing solutions. Such free passage usually allows the easy deposition of minerals throughout the fissure zone.

There is a white quartz present in which also vug holes are found. Numerous crystals of quartz have formed in the open spaces and on free surfaces, a fact which again indicates the comparative ease of passage of the mineral bearing solutions. The white quartz also carries fine iron pyrites. Another variety of quartz present is the grayish to bluish black variety which is known to carry gold values in this region. It greatly resembles the blue quartz of the mother lode of California. Again, fine iron pyrites are present. The third type of quartz is a cloudy white variety. No free gold was seen in any of the vein material. There is a possibility that some of the tellurides of gold are present. In one or two instances chalcopyrite is seen, but the amount of copper present is certainly less than one percent. None of the common silver minerals were seen. A heavy sulfide streak about one inch wide was seen in one place. Otherwise, the pyrite is fine grained and scattered thrucut the vein matter. The country rock in the fissure zone has been silicified, and carries pyrite.

The fissure zone attain its greatest width at the point where it crosses the south fork of Dexter Creek. This zone has a length of about four hundred feet, and narrows both to the northeast and southwest. In its narrow portion the vein averages about four feet in width, judging by the outcrops and the part exposed in the tunnel. At the breast of the drift, the vein has a width of four feet, and shows quartz of good appearance across this width. Along the back of the drift the vein is broken at several points and dike material takes the place of the quartz. The crosscut into the vein cuts the fissure at a point where it is 37 feet wide, but along the drift to the northeast the zone narrows rapidly to a width of four feet which it maintains for the length of the drift. The walls of the fissure zone are clearly defined, and while in places a wall apparently is found it usually is broken further on in the drift. Looking northeast across Dexter Creek to the next ridge, one can see the outcrop of the vein, and it appears to have again widened out.

In general, the vein is strong and continuous, and it carries for at least a mile in either direction from the tunnel portal. Whether or not it is mineralized thrucut this length was not determined. Several days would be required in order to follow out the vein and determine its character along the strike. The drift along the vein for 155 feet shows a possible ore body, and additional work to prove up the vein is warranted in my opinion. There is not more than 100 feet of ground above the present breast, but because of the steepness of the surface slopes, over one half foot in depth is gained for every foot advanced horizontally. However, the highest point on the vein where it crosses the ridge is not over 500 feet above the level of the present drift. The vertical distance to the creek crossing is about 250 feet.

A parallel vein occurs about 400 feet east of the Sunday vein, and I understand that the same parties have located it. I am also informed that open ground exists on the Sunday Mine vein beyond the end lines of the Sunday group of claims. It would seem advisable to file location notices on these at once. A large dike outcrops north of Dexter Creek, and it should cross the Sunday vein about 2000 feet from the north end line of the last claim in this group. This crossing should be investigated for possible effects upon the Sunday vein.

AMERICAN SMELTING AND REFINING CO.
Arkansas Valley Plant

Leadville, Colo. April 23, 1934

Bought of J. R. Senza. (670) Lot No. (Smelter 3489 (Mine 1

Address _____ Class Crude Shipping Point Ouray Colo.

Quotations of 4/8-14/34 Silver 64125 Lead _____ Copper _____

Assays	Gold Oz per ton	Silver Oz. per ton	Lead %	Copper %	Insol %	Iron %	Zinc %	Sulphide %
A.S. & RCo.	0.48	8.9	0.0	0.0	96.0	3.8	0.0	3.1
Mine	0.50	0.0			90.0	4.4		
Met.	------							
Umpire Settlement Assay	0.495	8.95	0.0	0.0	90.0	4.1	0.0	3.1

Car initial	Number	Weight	Frozen Wgt.	Payments per ton	Deduction per ton
RG	66125	29460	29480	Gold....@ 9.00 Silver 95% Less 1 oz. 5.10 Gross Value of Metals 14.50	Base charge 8.500

Min Frgt. I. 40,000

Weight of lot 29460

Less Moisture 1.0 % Less Total Deductions 9.50 Total Deductions 8.500

Dry Weight 29165 @ $6.00 per ton 87.50

Received 4/10/34 Freight advanced. @ 4.00 80.00
This lot contains 151 ounces of silver. B.K.White 5.00
Beach & Co. 2.50

Correct AO

Checked JR

Net Proceeds _____ $ _____
Provisional Advance Settlement.

The geologic conditions are extremely favorable here, and I believe that further investigation should be made. The vein should be followed out along the strike and its relation to the district as a whole determined. Additional sampling should be done.

Summarizing the principal features, we find that the vein is of considerable length, that it occupies a zone of strong fissuring, that there are parallel veins close by, that the vein filling is of favorable character, that the veinstands at a favorable angle for mining, and that the ore would be easy to mill because of its clean character.

Respectfully yours,

(Signed) R. F. Mahoney.