

0450 0056

(228)
Item 58

Mineralization is micron size gold in brecciated altered dolomitic siltstone (i.e. Carlin style).

The Mineralization occurs in strongly folded and brecciated sections of an overthrust Lower Cambrian Age dolomitic siltstone, probably the Johnnie or Wood Canyon Formation. Below the thrust plane, massive dolomites of Upper Cambrian age (Bonanza King Formation) occur. The thrusting is thought to have occurred during the Upper Palaeozoic Antler Orogeny, with movement of 50 miles estimated.

Later normal and lateral faults displace the thrust sheet by 50 ft. and 200 ft. respectively, and appear to have formed the feeder zones for mineralizing fluids. Ore grade decreases away from normal faults, as does the Au/Ag ratio. However, the absolute Ag value does not change, and appears to be a pre-ore (approximately 0.5 ppm) background figure.

Important features noted:

- a) Host rocks contains primary syngenetic pyrite (0.5%).
 - b) Minor zones of pyrite, stibnite and fluorite occur above the thrust zone, minor galena occurs below the thrust zone (and may be pre-gold mineralization in age).
 - c) The ore zones are altered, with silicification and advanced argillic alteration common. Jarosite and alunite are locally abundant. Some of this alteration may be hypogene, although supergene alteration is also present, as the workings are within 400 ft. of the surface.
 - d) Late movement appears to have occurred on the normal and lateral faults, as these are quite open and carbonate lined.
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- e) The 'underlying' Bonanza King Dolomite shows little evidence of alteration (or brecciation).
 - f) Strongly altered rhyolite, dolomitic siltstone and dolomite, cross cut by fluorite bearing breccias crop out within 1 km north of the mine. This area had been mined for fluorite.
 - g) No quartz veining.

M E M O R A N D U M

March 26, 1982

TO: M. J. Mackenzie
FROM: M. K. Boots
RE: NEVADA FIELD TRIP MARCH 1-5, 1982

Fred Warnaars and Tony Greenish organized this trip. Jean Lawler and Dean Ayres from ~~EPRCO~~ were also present.

Mines visited included Cortez, Gold Acres, Sterling, Round Mountain and Borealis. Brief inspections of Goldfield, Tonopah and Virginia City (Comstock) workings were also made.

Overall, the close association of "hot springs" with "Carlin type" gold deposits is striking, and definitely not coincidental! A very sound case can be made that "Carlin type" mineralization represents the roots or feeder systems of higher level "hot spring" type deposits.

~~CORTEZ: Reserves originally 3.4 MT at 0.29 oz./T Au
Production was 3.4 MT at 0.26 oz/T Au~~

~~Apart from the features described in publications the following was noted.~~

- ~~a) Strong post depositional weathering (oxidation) is present.~~
- ~~b) Not one quartz vein was seen.~~
- ~~c) Silica soaking (jasperoids) were poorly developed, although silicification to a lesser degree was present.~~
- ~~d) Carbonate veining was in open (post ore) fractures.~~