Figure 8. Geologic Map of Florida Canyon. After Hastings, Burkhart & Richardson,

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Item 42

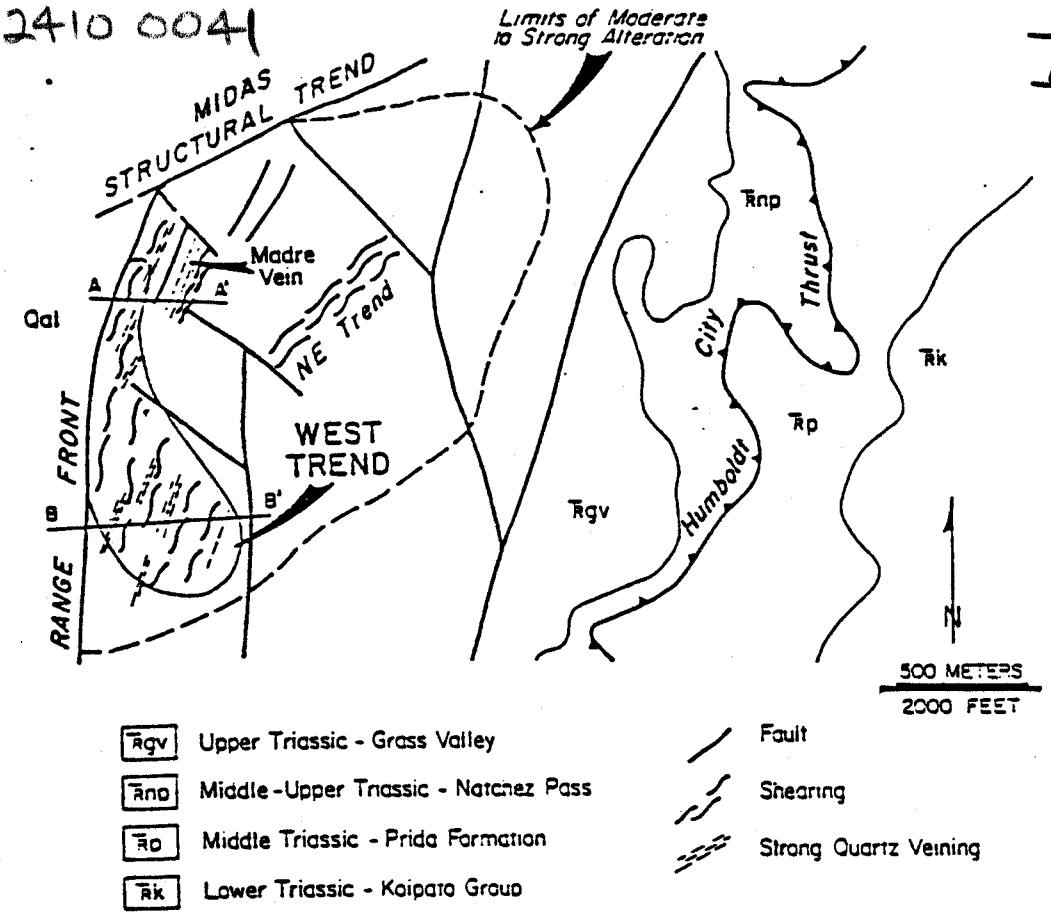
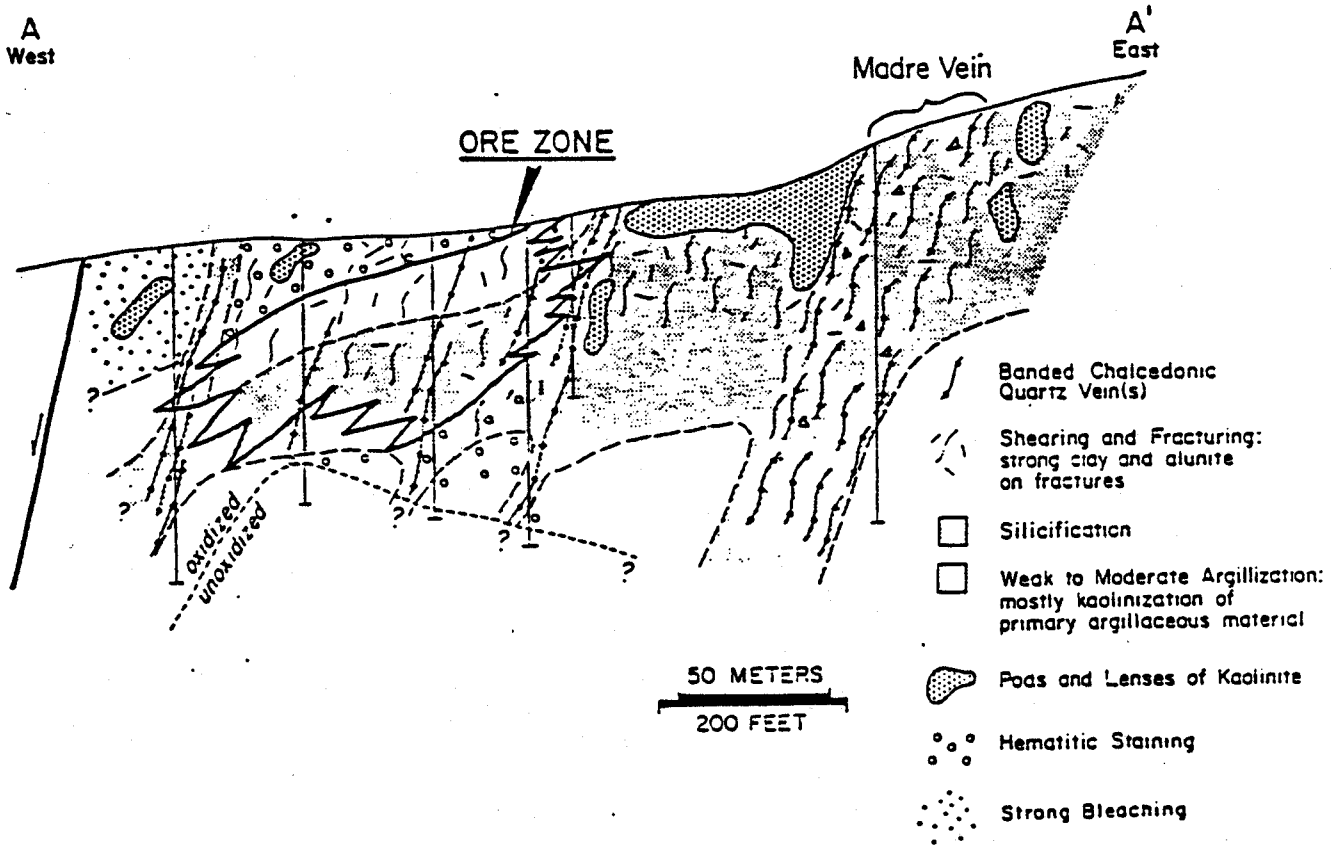


Figure 9. Cross Section, Florida Canyon. After Hastings, Burkhart & Richardson,



Proven and probable mineable reserves are 63 million tons grading 1.55 opt silver, .01 opt gold. The mine produces at the rate of 5 million tpy ore and is expected to produce 4 million oz silver and 43,000 oz gold annually over its 13-year mine life (Pay Dirt 12-86).

About 3 miles south of Rochester, Wharf Resources is exploring the Nevada Packard property where proven and probable reserves of 6 million tons grading 2 opt silver and .01 opt gold have been delineated (George Cross News Letter 6-3-87).

123.0 Due west of here, on the west side of the Trinity Range, U.S. Borax and Santa Fe Pacific Mining Co. are mining the TRINITY Silver project at the mouth of Willow Creek. The deposit contains about 1 million tons of oxide ore grading 5½ opt silver. The mine will be an open pit initially operating at 1,500 tpd ore, eventually increasing to 3,000 tpd ore. About 4.6 million oz silver are expected to be produced from the heap-leach operation over its 2-year minelife (Skillings 8-8-87). Silver recovery is expected to be about 80%.

The Trinity deposit is hosted in Tertiary rhyolite along a northeast-trending structure. Silver occurs as freibergite with lesser amounts of pyragyrite, argentite and native silver occuring along fractures and as disseminations within the rhyolite. Ore body dimensions are 2,500 ft long (NE-SW) by 600 ft wide. The oxide ore extends to a depth of 300 ft below the surface. A resource of 10 million tons of sulfide ore grading 3 opt silver occurs at depth. (J. Stephens, pers. comm.).

123.5 Oreana pegmatite to the right. Mined for scheelite, the pegmatite also contained beryl. Ragged outcrops are the Rocky Canyon stock. The Humboldt River and Rye Patch Reservoir can be seen to the left of the highway.

127.0 At 2:00 the craggy light gray outcrops are Cretaceous grandiorite of the Rocky Canyon stock intruding the Triassic Rochester Rhyolite.

128.0 On the left, exposures of Lake Lahontan sediments incised by the Humboldt River.

129.3 EXIT 129 RYE PATCH. Rye Patch Reservoir on the west has a capacity of approximately 180,000 acre-feet. The water is used almost exclusively to irrigate about 44,000 acres of land in the Lovelock area. Irrigation wastewater and any other Humboldt River flow below the dam ultimately discharge into the Carson Sink.

131 On the left, for the next five miles there are several good views of Rye Patch Reservoir and of Lake Lahontan sediments.

131.5 To the right of the highway at 3:00 dumps and part of the pit of the STANDARD GOLD MINE can be seen. The Standard is perhaps the first deposit of "micron" or "disseminated gold" exploited in Nevada. The deposit was discovered in 1932 and was mined prior to World War II. Production amounted to nearly $1 million in gold. Gold is disseminated in a silicified, iron-stained breccia along a thrust contact (Johnson, 1977). Host rocks here are the Triassic Grass Valley and Natchez Pass Formations.

Drill roads are noticeable along the range front for several miles north and south of the Standard Mine. Gold-anomalous baritic jasperoid developed along a gravity-slide fault between the Natchez Pass Fm and overlying Grass Valley Fm has been the focus of this recent exploration.

137.2 To the right is the FLORIDA CANYON mine. Gold mineralization occurs near the south

end of a large altered and iron stained zone localized at the juncture of regionally extensive northeast oriented structures of the Humboldt Structural Trend (Midas Lineament) and north-south trending Basin and Range normal faults. These deep seated structures served as conduits for ascending gold-bearing hot springs solutions. The bulk of economic mineralization is hosted by veins and stockwork quartz-sulfide veinlets developed within a sequence of argillites, siltstones, and shales of the Upper Triassic Grass Valley Formation (fig. 8, 9). There is no apparent lithologic control. Pre-ore metamorphism of arenaceous and argillaceous deltaic sediments imparted a brittle nature to wall rocks, promoting subsequent shattering and maintenance of open fissures. Solutions invaded along wide north-to-northeast trending fault structures and permeated outward into the fractured wallrock. Alteration products consist of quartz, alunite, kaolinite, adularia, and hematite. Gold, generally associated with quartz, pyrite, and marcasite, occurs in the native state and averages 3 to 5 microns in size.

Pegasus Gold Inc. commenced open-pit mining in September 1986. Initial open-pit mineable reserves were 17.8 million tons grading .025 opt gold at an overall 1.09:1 waste:ore stripping ratio. (Hastings et al, 1987)

Steam from a geothermal well can often be seen just past the front edge of the leach pads. To the left of the highway, near the railroad tracks are some low mounds of tufa, sinter and outcrops of silicified rocks associated with an old hot spring system. Sulfur was mined here in the 1860's.

138.4 EXIT 138 HUMBOLDT HOUSE. Drill pads to the right mark the sites of recent geothermal test drilling. Phillips Petroleum Co. has one production well, one dry hole, six stratigraphic tests, and many shallow temperature-gradient holes at Humboldt House. Additionally, Union Oil Co. has drilled in the area and has one deep test. The exploration results show a thermal anomaly of significant size and geothermal fluids of good quality, suggesting that a geothermal reservoir of commercial quality exists at depth.

140 The prominent craggy hill on the skyline at 9:00 is Majuba Hill, a mid-Tertiary intrusive complex composed of a variety of rhyolite porphyry plugs and dikes and associated intrusive breccias. The Majuba Mine on the south side of the hill produced 23,000 tons of high-grade copper ore (ave. 12% Cu) and 23,000 tons of high-grade tin-copper ore (ave 3% Sn, 4% Cu) during the WWI and WWII periods. Low-grade copper and molybdenum stockworks were drilled by Mine Finders in the early 1970's. MacKenzie and Bookstrom (1976) have related the low-grade copper, low-grade molybdenum, and high-grade copper-tin mineralization to 3 closely related but temporally separate intrusive pulses.

142 At 2:00 the light gray outcrops near the crest of the far ridge line are carbonates of the Triassic Prida Formation.

145.5 EXIT 145 IMLAY.

146.4 The bizarre structure on the right is "Thunder Mountain of Nevada", a monument to "Man, God, Country and Freedom" founded by George High and Altrum Thunder of the "Rolling Thunder Medicine Chief Society." The artwork features BLM devils throughout and is worth a brief visit. Full tours are available for $5.00.

149.7 EXIT 149 MILL CITY/UNIONVILLE. Stamp mills were built here to treat silver ores from the Humboldt Range camps. The paved road to the left leads north to the Eugene Mountains and mining camps of Tungsten.

GEOLOGICAL SOCIETY OF NEVADA

1988 FALL FIELD TRIP GUIDE BOOK

GOLD DEPOSITS OF NORTH CENTRAL NEVADA

Marigold
Cove
McCoy
Rain
~~Suprise~~
Surprise

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