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Item 54

Drilled reserves at Gold Quarry are estimated at 144 million tons of ore averaging 0.049 opt gold (7 million oz gold), mineable by open pit methods. Milling commenced in late 1985 and 210,000 ounces were scheduled for production from the deposit in 1986. (Rota, 1987).

At the MAGGIE CREEK Mine, west of Gold Quarry, ore is hosted in thin-bedded limestone and siltstone of the upper plate transitional assemblage (Vinini Fm.(?)) along the southwest edge of the Carlin window. The deposit is characterized by extreme structural preparation, with structurally induced permeability along N 40 E faults and fault intersections being the prime control of gold mineralization. Decarbonation of limestone and strong argillic alteration are the main alteration effects; silicification is less intense than at Gold Quarry, but is still an important feature. The ore is enriched in arsenic, antimony, mercury and thallium.

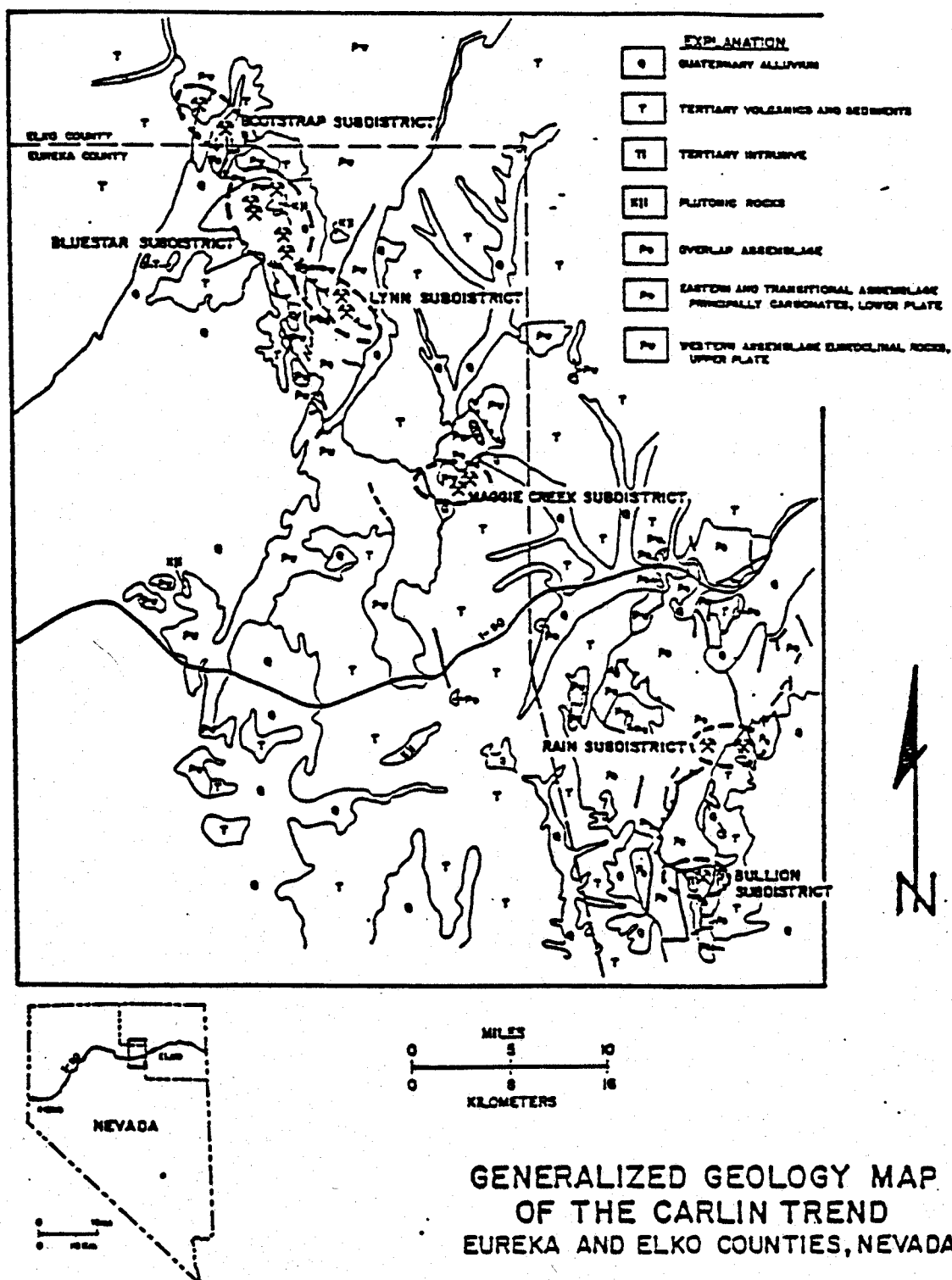
Originally defined reserves were estimated at 4.5 million tons grading .089 opt gold in the main pit and .31 million tons grading .105 opt gold in the west pit. The mine was operated from 1979 until 1986 when pit-wall failures slid about 600,000 tons of waste over the remaining reserves (McFarlane, 1987). The Maggie Creek pit will eventually merge with the expanding Gold Quarry pit.

277.9 Elko County line.

279.4 EXIT 279 WEST CARLIN. We are now crossing the axis of the CARLIN TREND, one of the most prolific gold-producing belts in the world, containing over 20 million ounces of gold in at least 14 deposits (Knutsen, 1987). The Carlin Trend extends from the Rain mine on the southeast for 38 miles in a N 35 W direction to the Dee mine on the northwest, and includes, from SE to NW, the Gold Quarry/Maggie Creek, Carlin, Bluestar, Genesis, Goldstrike/Post and Bootstrap mines as well as a number of prospects and developing deposits including Gnome, Pete, Bullion-Monarch, Northstar, Bobcat, Lantern and Capstone. The Carlin gold belt lies within the broader Lynn-Railroad belt defined by Roberts (1960) based on the northwest alignment of mining districts and erosional windows of lower plate carbonate rocks below the Roberts Mountains thrust. Roberts (1986) attributes the windows to erosion of high fractured domal uplifts developed over intrusive bodies which were emplaced along major northwest-trending fracture zones. Knutsen, et al (1987) divided the Carlin Trend into 6 geological subdistricts, each characterized by differences in host lithology, structural controls, alteration assemblage, or style of mineralization (fig. 23). The 6 subdistricts, from SE to NW are Bullion (Railroad), Rain, Maggie Creek, Lynn, Bluestar-Goldstrike and Bootstrap.

Tomorrow we will visit mines within the Bluestar-Goldstrike and Bootstrap subdistricts. The Bluestar-Goldstrike subdistrict is distinguished from the Lynn (Carlin Mine) district by the spatial distribution of deposits around the Jurassic-Cretaceous Goldstrike granodiorite stock and the occurrence of deposits in both upper-plate and lower-plate rocks. At the BLUESTAR mine low-grade (.015-.059 opt gold) leaching or occurs in both upper plate and lower plate units associated with clay seams and argillization developed along faults, fractures and bedding planes. Higher-grade (.060 opt gold) milling ore is hosted in pervasively argillized and/or weakly silicified silty limestone of lower-plate Popovich facies equivalents. Ore distribution structurally controlled by the Roberts Mountains thrust and numerous anastomosing high-angle faults (Zimmerman, 1987). The GENESIS mine contains proven, mineable reserves of 12.68 million tons grading .091 opt gold. Gold mineralization occurs in highly fractured to brecciated, argillized Devonian-Silurian limestones beneath the Roberts Mountains thrust. The ore body is localized in the footwalls of the N 10 W

Figure 23. After Knutsen, (in press)



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GOLD DEPOSITS OF NORTH CENTRAL NEVADA

Marigold

Cove

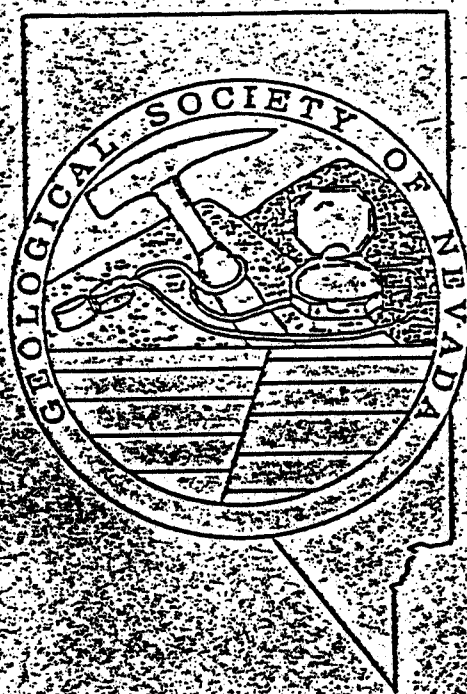
McCoy

Rain

~~Suprise~~

Surprise

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