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Item 16

REESE RIVER DISTRICT

The Reese River (Austin, Amador, Yankee Blade) mining district is located north and south of Austin, in the central part of the north-northwest trending Toiyabe Range. Access to the district is along good paved and dirt roads north and south from U.S. Highway 50, which bisects the district. The Reese River district is adjoined on the southeast by the Birch Creek district, on the southwest by the Big Creek district, and on the northwest by the Skookum district. The district originally measured 75 miles long and 20 miles wide, but was eventually reduced to an area eight miles long and one mile wide (Vandenberg, 1938; Stager, 1977).

The Reese River mining district was formally organized in July 1862, following William Talcott's discovery of silver ore in Pony Canyon in May of that year (Hill, 1910, Vanderberg, 1938). A rush ensued and the town of Austin was established. By late 1863, Lander County had been separated from Humboldt and Churchill Counties and the seat moved from Jacobsville to Austin. The Manhattan Silver Mining Company consolidated most of the mines by 1865 and became the major producer in the district. By the time it shut down its mill in 1887, the company produced more than $19 million from 100,000 tons of silver ore. After 1887 only minor leasing operations with sporadic activity continued in the district until recently when the increase in gold and silver prices made mining ventures economically feasible. The greatest production in the district came from about a half a mile square area on Lander Hill. There are no accurate production records available prior to 1903, however, estimates place the production value of the district at approximately $26 million (Stager, 1977). After 1903 there has been less than $500,000 produced in the district. The principle ore produced was silver with minor amounts of gold, copper, lead, antimony and zinc. Turquoise was discovered in 1930 about 10 miles northeast of Austin but produced less than $50,000 (Stager, 1977). There has been recent surface and subsurface exploration

J. Tingley + P. Smith (1982) Mineral Inventory of Eureka-Shoeshone Resource Area: NBMG ~~82-10~~ 83-3
See also 83-4 for geochemical results.

throughout the district, though not as extensive as in other areas of the Eureka-Shoshone Project area.

The district is located around a Jurassic quartz monzonite/granodiorite pluton dated at 156±6 million years (Krueger and Schilling, 1971). The pluton intrudes siliceous sediments of the Ordovician Valmy Formation that have been displaced from the west to the east by the Roberts Thrust Fault. The pluton has been cut with numerous north trending lamphophyric and aplite dikes which have been altered to sericite and chlorite. Small patches of Tertiary volcanics locally cover the sedimentary and granitic rocks with ash fall tuffs and vesicular andesitic flows. Silver mineralization in the Austin mines occurs in a network of narrow, parallel, northwest striking, northeast dipping quartz veins which fill joints, fractures and fissures in the intrusive and surrounding sediments. The quartz veins range from inches to over five feet and can be followed underground for thousands of feet. The ore minerals include chlorides, bromides, and antimony-arsenic compounds of silver, which occur with pyrite, chalcopyrite, arsenopyrite, marcasite, galena, sphalerite, wurtzite and tetrahedrite. All the sulfides, except pyrite and sphalerite, are argentiferous. Gangue minerals include iron stained quartz with manganese oxides on the surface and rhodochrosite at depth (Lincoln, 1923).

Due to the increase in gold and silver prices in recent years, the current owners of mines are milling the older dumps for residual silver. At the Watt Shaft, north of Austin, silver was being recovered from the dumps at six ounces per ton. Even though the district is principally a silver producer, recent activity concerning the other minerals has increased, but none of these ventures have recorded any production.

In the northern part of the district is a 3/4 square mile zeolite deposit that has been heavily trenched and dozed. The surface workings are limonite stained in tuffaceous lake sediments that have abundant glass shards and remnant

flow patterns. The sediments are cut with quartz veinlets, dip steeply southwest, and are overlain with lithified alluvium. The site shows anomalous radioactivity but no recognizable uranium or thorium minerals were observed (Garside, 1973).

Immediately north of the Toiyabe National Forest boundary on the Grass Valley Road (Nevada High 20), and for about six miles north to Cottonwood Springs, the east facing slope of the Toiyabe Range has had extensive surface and subsurface exploration mainly for turquoise. Turquoise fills fissures, fractures, and coats bedding planes of the thinly bedded metasediments of the Ordovician Valmy Formation. Minor pyrite is disseminated throughout the formation. Above the workings the hills are capped with andesite flows.

At Cottonwood Springs, several companies held claims during the early 1970's covering small outcrops of jasperoid which occur in eastern facies carbonate rocks. These areas were sampled and drilled for gold, apparently with no success, as there is no activity in the area at this time.

East of the turquoise deposits in Grass Valley is a sinter deposit in the Miocene Bates Mountain Tuff that has been extensively trenched. The deposit is vuggy opaline/chalcedony with disseminated cinnabar.

Further east on the north tip of part of the Simpson Park Range southeast of Grass Valley Ranch, is a small skarn deposit formed where a plug of Cenozoic quartz monzonite intruded into and interfingered with the Paleozoic carbonates (Silberman and McKee, 1971). There is a minor showing of scheelite/powellite in the garnet/epidote tactite and sulfides are disseminated in the hornsfelsic zone.

The Apex Mine (Rundberg, Early Day), which is located southwest of Austin, lies on the sericitized and kaolinized contact between Cambrian quartzite and black shales and the Jurassic quartz monzonite of the Austin Pluton. The siliceous rocks are folded into a northwest trending, southeast plunging syncline between two quartz monzonite stocks. North trending Basin and Range faults cut both the sediments and the intrusive. Uraninite and coffinite are found both in

the sediments adjacent to rhyolite dikes and the brecciated contact zone between the sediments and intrusive. According to Nye (1958), during the Tertiary, hypogene uranium minerals were deposited at depth. During erosion and oxidation, uranium was leached and redeposited as autunite and torbernite. North trending normal faults have downdropped the ore body to the west. The eastern limit of the ore body is where the rhyolite dikes enter the quartz monzonite. The vertical range is unknown. Since 1954 several tons of ore have been produced, valued at more than $100,000 (Stager, 1977). There are at least 8100 feet of underground workings.

The Rundberg area has been extensively explored for additional uranium reserves. Drilling was done in the early 1960's and again in the late 1970's, but these programs were apparently not successful in developing minable resources. No activity was noted at the time of this examination.

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