5360 0001

307 Item 1

WILLOW CREEK DISTRICT

LOCATION

The Willow Creek mining district is located in the central part of the East Range and includes lode and placer gold mines in and near Willow and Spaulding Canyons. Willow Canyon drains northwest from an area of gold veins near its head, and Spaulding Canyon drains to the southeast from approximately the same area. The Spaulding Canyon area has been considered as part of the Sierra district, but Johnson (1977, p. 103) includes it in the Willow Creek district because of its geographic association and geologic similarity. The Star Point Mine, near the mouth of Klondike Canyon south of the main part of the district, is also included in the Willow Creek district.

HISTORY

The history of the placer mining activity in the district is summarized by Johnson (1973, p. 83-84; 1977, p. 103-104). The early mining history of the district is not well known. The area was probably explored in the 1860's, at the time the Sierra district to the north was active. Production from the Willow Creek district has frequently been listed by the U.S. Bureau of Mines with that of the Sierra and Imlay districts.

The district production is estimated at 4000 oz of gold, primarily from placer deposits along Willow Creek (Johnson, 1973, p. 84). Much of the placer mining activity took place between 1938 and 1964. The main mining areas were placers near the Wadley Mine and near Thacker Camp. The deposits were worked during the period 1938-64 with small earthmoving equipment; the gravels were moved to a central washing plant for treatment. Dragline operations were carried out in 1959-60. The Spaulding Canyon placers were worked during the early 1930's by hand methods, and in 1940 by bulldozers and carryalls (Johnson, 1977, p. 103). In 1984 active placer operations were located in C S/2 S34,T32N,R36E; NE/4 NE/4 S11,T31N,R36E; and SE/4 S11,T31N,R36E. The property in NE/4 NE/4 S11 is being worked with small earthmoving equipment and a small washing plant by Carl Segerstrom. The SE/4 S11 property has recently been worked by Ro-Mac of Salt Lake City, Utah. Earthmoving equipment and a washing plant were on the site in 1984. The S34 property was also actively being worked with heavy equipment in 1984. Placers in Spaulding Canyon were not actively worked in 1984, but equipment, personnel, and a new building were on the site.

There is no information available concerning the history of the lode mining done in the vicinity of the Wadley Mine, and at the head of Spaulding Canyon or at the Star Point Mine. Presumably, lode mining at the Wadley Mine was done at approximately the same time as the nearby placer mining. In 1984 precious-metal exploration drilling was rumored in the vicinity of the Willow Creek fault, a post-Triassic thrust in the northern Willow Creek and southern Sierra districts.

NBMG 85-3

GEOLOGIC SETTING

The rock units in the district consist of greenstone, quartzite, chert, and argillite of the Ordovician Valmy Formation and late Paleozoic Havallah sequence, as well as clastic and carbonate units of Triassic age. The Triassic rocks are intruded by Jurassic granodiorite. The Ordovician rocks are thrust over Pennsylvanian and Permian rocks and these, in turn, are thrust over the Triassic rocks.

ORE DEPOSITS

The gold lode deposits in the vicinity of the Wadley Mine are reported to be narrow (0.6-2.5 cm) veins in Triassic slate and phyllitic slate which are intruded by diabase dikes (Johnson, 1977, p. 104). A small amount of iron-stained vein quartz was observed on some dumps in the area. At the Star Point Mine in the southern part of the district azurite, malachite, and limonite occur as fracture coatings in sheared and brecciated quartzite and argillite of the Valmy Formation. Some vein quartz is associated with the oxide copper mineralization. The prospected fault zones trend east-west and dip north at 35°-40°. These faults may be thrust faults within the Valmy.

The placer deposits of the district occur near bedrock in channel-fill gravels along stream courses. These deposits may be overlain by 5-10 m of barren alluvium. The auriferous gravels are believed to be derived from nearby lode deposits; they are apparently the remnants of gravel deposited during an early erosion cycle (Johnson, 1977, p. 104).

Marble deposits are reported from the west wall of Willow Creek Canyon. The marble consists of several hundred feet of white, medium-to-coarse-grained marble which formed by metamorphism of limestone after intrusion of the Jurassic granodiorite exposed on Lee Peak (Johnson, 1977, p. 104).

SELECTED REFERENCES

Ferguson, H. G., Muller, S. W., and Roberts, R. J. (1951) Geologic Map of the Winnemucca quadrangle, Nevada: U.S. Geological Survey Map GQ-11.

Johnson, M. G. (1973) Placer gold deposits of Nevada: U.S. Geological Survey Bulletin 1356.

Johnson, M. G. (1977) Geology and mineral deposits of Pershing County, Nevada: Nevada Bureau of Mines and Geology Bulletin 89.

Vanderburg, W. O. (1936) Placer mining in Nevada: Nevada Bureau of Mines and Geology Bulletin 27.