from NBMG OFR 83-9
See also 83-10 for geochemical results.

(66)
Item 2

LEE DISTRICT

2740 0002

The Lee district is located on the western slope of the Ruby Mountains about 10 miles southeast of Lee. The main mines in the district are situated at elevations above 8,000' along the steep slopes of Long and Segunda Canyons. For convenience, a uranium prospect located about 4 miles northwest of Lee is also included in the Lee district. The district is bordered on the east by the Ruby Valley district.

Much of the early production from the Lee district, following its discovery in 1869, was derived from the B.B. and American Beauty mines. In latter years, most of the ore came from the Knob Hill mine. In all, about 1,400 tons of ore were produced containing lead, zinc, copper, silver and minor gold (Smith, 1976). There has been no production from the deposits since 1959.

The rocks exposed along Long Canyon are composed of metamorphosed limestones, dolomites and quartzites of Precambrian through upper Cambrian in age. In this part of the range, the sediments are "complexly folded and extensively intruded by various plutons." Wilden and Kistler 1979). A stock exposed along the drainage in the west central part of Long Canyon is composed of granite and quartz monzonite. This small body is one of many isolated exposures of a Jurassic pluton which underlies the northern third of the Ruby Mountains (Wilden and Kistler, 1979). Therefore, the sediments are roof pendants and are commonly highly metamorphosed and pervasively invaded by irregular igneous bodies, dikes and veins emplaced during multiple staged intrusive episodes.

The host rocks of the vein mineralization at the American Beauty mine are coarsely crystalline, foliated white marbles and white mica schists. The sediments are locally intruded by irregular bodies of foliated monzonite, quartz monzonite and pegmatic and aplitic dikes of similar composition. The minesite consists of

several east-trending adits, now caved, which explore massive to ledgy, horizontal to gently east-dipping "beds" of marble. No vein was exposed in place but according to Smith, 1976, the mineralized veins strike northwest and dip southwest. From the dumps we collected vitreous grey and white quartz vein material containing irregular lenses and pods of galena, sphalerite and an unidentified fine-grained sulfide or sulfosalt mineral (sample 465). The quartz and sulfide-rich lenses are crudely banded and some samples show late-stage quartz-pyrite veinlets. Iron oxides and gossany portions in the vein material probably indicate that the upper portion of the deposit was oxidized. No activity of any kind was noted at the minesite. The most recent sign of mining activity in the canyon was at the Knob Hill claims where several large cuts were made in the vicinity of the old underground workings.

Anomalous radioactivity of up to 1,000 cps was measured in grey vitrophyre at the Opal and Opal Annex claims located in section 34, T32W, R56E. A sequence of vitrophyre and devitrified tuff are explored by several north-south trenches which are about 5-10 years old. The host rocks according to Garside, 1973, are part of the late Tertiary Humboldt Formation. Locally, the laminated volcanics contain lenses of brown opaline material. Breccia found on the floor of the trench is cemented by volcanic glass which shows early stage devitrification textures.

Selected References:

Garside, L. J., (1973) Radioactive mineral occurrences in Nevada: NBMG Bull 81, p. 46.

Howard, K. A., et al, (1979) Geologic map of the Ruby Mountains, Nevada: USGS Map I-1136.

Smith, J. F. Jr., and Howard, K.A. (1977) Geologic map of the Lee 15' quadrangle, Elko County, Nevada: USGS Map GQ-1393.

Smith, R. M. (1976) Mineral resources of Elko County, Nevada: USGS OFR 1976-56, p. 102.

Whitehill, H.R. (1873) Biennial report of the state mineralogist of the State of Nevada for the years 1871 and 1872; Nev. Mineralogist, p. 29.

Wilden, R. and Kistler, R. W. (1979) Precambrian and Paleozoic stratigraphy in central Ruby Mountains, Elko County, Nevada: in 1979 Basin and Range Symposium and Great Basin field conference, Rocky Mtn. Assoc. of Geologist, Denver, p. 221.