

3420 0004

(242)  
Item 4NORTHUMBERLAND DISTRICT

The Northumberland district covers that portion of the northern Toquima Range which extends from Northumberland Canyon north to the general vicinity of the Lander-Nye county line. All of the district is within the Toiyabe National Forest. Most of the mineral occurrences are located along East and West Northumberland Canyons, and the Northumberland Gold Mine is at the pass where both canyons meet at the range crest. Barite occurrences are being mined in both canyons, but the major deposits are near the mouth of East Northumberland Canyon. Small copper, gold, and turquoise prospects occur in the area surrounding the Clipper Gap pluton northwest of the central part of the district, and uranium has been reported in altered tuffs in Willow Canyon, north of West Northumberland Canyon. Total production of the district, through 1962, is given as about \$1.2 million (Kleinhampl, in press). Considerable barite has been produced since then, however, and the Cyprus Gold Mine is presently operating and will contribute significantly to production from the district.

Silver was discovered in the district in 1866, and ores from the Monitor and Blue Bell Mines were treated at a 10-stamp mill located at a spring in West Northumberland Canyon (Kral, 1951). Stone ruins mark the site of the old mill in the canyon and more stone foundations can be seen at the site of the original mine camp just east of the summit at Northumberland Pass. The silver mining activity was intermittent, and apparently stopped about 1891. Gold was discovered slightly east of the old silver prospects in 1936, and by 1939 the Northumberland Mining Company was in operation. Gold mining continued until 1942 when operations ceased due to the wartime closure order. Gold exploration resumed in the late 1960's, and in 1981, mining began on low-grade gold ore developed in the area of the old mines. Barite was discovered in the late 1960's, and significant production of this material continues from several deposits.

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



According to Kleinhampl, Paleozoic strata and Mesozoic plutons underlie about two-thirds of the district, and Tertiary volcanic and sedimentary rocks underlie the remainder. The Paleozoic rocks have been cut and moved along thrust faults, and segments of eastern facies carbonate rocks, transition facing carbonates and siliceous rocks, and western facies detrital and volcanic rocks are present in the district.

The largest plutonic body in the district, Clipper Gap pluton, lies north of West Northumberland Canyon. Several small intrusives, ranging from granite to quartz diorite in composition, crop out in the heart of the district. These smaller intrusives are surrounded by a well-developed metamorphic aureole (Kleinhampl, in press).

Oligocene and Miocene welded tuffs and tuffaceous sediments lie discordantly on the older rocks, and megabreccia units are exposed west of Northumberland Pass and north of West Northumberland Canyon. These formation are related to a large collapsed caldera, the Northumberland Caldera, which occupies the north-central part of the Toquima Range.

The early mined silver ores at Northumberland were in veins which were in plutonic rocks. The ores contained ruby silver and cerargyrite with some malachite and azurite (Raymond, 1869). The Northumberland Gold Mines is a disseminated deposit which occurs primarily in silicified, argillaceous and carbonaceous limestone of the Ordovician Pogonip group. Silicified horizons of the Pogonip have been extensively fractured. Economic gold mineralization occurs in microfracture fillings of quartz and barite within the silicified horizons (Goldstein, 1973). The silicified, mineralized zones are generally associated with the margins of a monzonite intrusive (Kral, 1951).

Barite cements silicified breccia in the vicinity of the gold mines, and the earliest-explored barite occurrences were in the gold-silver part of the district. The major barite reserves, however, occur as thick sections of bedded barite near the mouth of East Northumberland Canyon.

Outside of the central Northumberland district in Northumberland Canyon, only limited mining activity has occurred. Small quartz vein occurrences of gold-silver bearing pyrite-chalcopyrite were prospected in the Clipper Gap area, and small turquoise showings were prospected south of Pete's Canyon. At the Rifle prospect, in Willow Canyon, the uranium mineral, coffinite, has been reported from spring deposits.

Present activity in the district is centered at the disseminated gold and barite properties. Cyprus Mines is mining the gold property and is processing the ore at a leach facility located in Smoky Valley.

Barite mining is in progress at locations in both East and West Northumberland Canyons.

Large areas of the Northumberland Caldera are claimed by Noranda Mines, and they have done some drilling for uranium on their claim block. No activity was noted, however, in late 1981.

#### Selected References:

Goldstein, I. J., 1973, Gold mineralization at the Northumberland Gold Mine,

Nye County, Nevada (Abs.) GSA, Cordilleran Section.

Kleinhampl, F. J., and Ziony, J. I., in press, Geology and mineral deposits of northern Nye County, Nevada, NBMG Bull. (in press).

Kral, V. E., 1951, Mineral resources of Nye County, Nevada, NBMG Bull. 50.

Lincoln, F. C., 1923, Mining districts and mineral resources of Nevada, Nevada Newsletter Publishing Co.

McKee, E. H., 1974, in Guidebook to the geology of four Tertiary volcanic centers in central Nevada, NBMG Report 19.

\_\_\_\_\_, 1976, Geology of the northern part of the Toquima Range, Lander, Eureka, and Nye Counties, Nevada, U.S.G.S. P.P. 931.

Morrissey, F. R., 1968, Turquoise deposits of Nevada, NBMG Report 17.



Selected References (continued):

Raymond, R. W., 1869, Mineral resources of the states and territories west of the Rocky Mountains (for 1868).

Shawe, D. R., Poole, F. G., and Brobst, D. A., 1969, Bedded barite in East Northumberland Canyon, Nye County, Nevada, U.S.G.S. Circ. 555.

\_\_\_\_\_, 1969, Newly discovered bedded barite deposits in East Northumberland Canyon, Nye County, Nevada, Econ. Geol., V. 64, no. 3.