

LEWIS DISTRICT

The Lewis district, also known as the Dean district, includes the portion of the northern Shoshone Range between Lewis and Horse Canyons on the northwest front of the range. The district is about 15 miles south of Battle Mountain, Lander County in T29 and 30N, R45 and 46E. Vandenberg (1939) included the Pittsburg Mine area in the Lewis district, but it is now usually included in the adjoining Hilltop district to the east.

Silver was discovered in Lewis Canyon in 1867, and stamp mills were built near the mouth of Lewis Canyon to treat ores from the Starr Grove and Eagle Mines. A narrow gauge railway, the Battle Mountain and Lewis Railway, was built from the Nevada Central line in Reese River Valley to the mills in 1880 (Stager, 1977). The ruins of these mills and of the railroad grades can still be seen in the lower narrows of Lewis Canyon. The Dean and Betty O'Neal Mines were discovered around 1880, and they contributed to production for several years following 1880. The Betty O'Neal developed as the largest producer in the district, operating between 1880-1882, and 1922-1929.

Extensive exploration has taken place in the district over the years since production ceased, but only minor amounts of metal have been produced since the Betty O'Neal last operated. Estimated total production for the district is about \$4 million (Stager, 1977).

The north end of the Shoshone Range in the area of the Lewis district is underlain principally by siliceous and volcanic assemblage rocks of Ordovician and Silurian age in a complex array of thrust slices. These rocks are intruded locally by Tertiary granitic rocks and overlain in a few places by small patches of Tertiary volcanic rocks. A series of northeast-striking faults, that dip steeply northwest, cut the sedimentary rocks along the northwest side of the range (Stewart and McKee, 1977).

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

According to an interpretation by Wrucke and Silberman (1975) of the geology in the northern Shoshone Range around Mt. Lewis, a circular fault structure southeast of Mt. Lewis outlines a deeply eroded cauldron. This fault bounds Paleozoic and Mesozoic stratified rocks that foundered during volcanic collapse. Within the subsided mass, breccia pipes, plugs, and dikes, together with remnants of tuffs and volcanoclastic deposits record an episode of Oligocene volcanism. The collapse structure, named the Mt. Lewis Cauldron, is one of the oldest Tertiary volcanic centers in Nevada (Wrucke and Silberman, 1975). Three large breccia pipes and plugs, and several smaller breccias, dikes and veinlets occupy the central portion of the described cauldron. Some of these are altered, and may be associated with mineralization within the district.

The silver bearing deposits within the Lewis district, in general, are localized in quartz, calcite, and barite veins along faults and shear zones in thin bedded limestones and shales of the Ordovician Valmy Formation. At the Betty O'Neal Mine, orebodies have been mined from veins along several sets of steep faults. A series of rhyolite porphyry dikes in the mine area may be associated with ore deposition. Average ore mined at the Betty O'Neal was about 25 to 30 ounces of silver per ton. Values were contained in freibergite, stephanite, cerargyrite, with some native silver, galena, chalcopryrite, and sphalerite in veins of quartz, calcite and barite. Stibnite was produced from one area within the mine, but it was mined by a leasor long after the mine ceased silver production, and the exact location of the antimony production is not known.

The Dean Mine (Cumberland) and the prospects in Horse Canyon appear to be located near the plugs and breccia zones described by Wrucke and Silberman (1975), and the prospects in Whiskey Canyon are in an area where veins mined on the adjacent Betty O'Neal property project to an intersection with a thrust fault.

At the time of examination, some exploration drilling was in progress in the district, but no mining activity was noted.

## Selected References:

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