

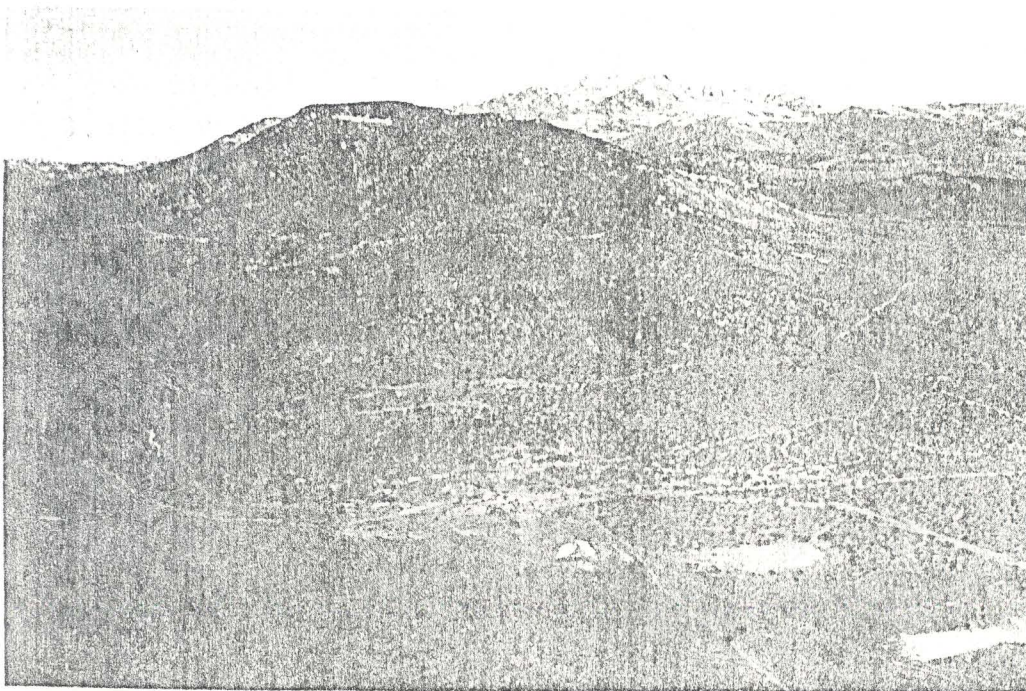
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In the northern portion of the study area north and east of the Antelope Peak Caldera, many more mining districts produced base metals as a principal commodity. Of these districts, Mount Hope, Eureka, White Pine, and Cherry Creek have recorded production exceeding one million dollars, and the Robinson District just east of the study area produced over one billion dollars, primarily in copper.

Current exploration for base-metal porphyry deposits is ongoing in several districts in the northern portion of the study area. Exxon Minerals is evaluating possible molybdenum porphyry deposits in the Roberts District and southeast of the White Pine District (T15N, R59E), and they are drilling a moly porphyry discovery at Mount Hope (Photograph 16). Initial results at Mount Hope indicate a molybdenum ore body of 450 to 950 million tons with grades of 0.13 percent to 0.32 percent  $\text{MoS}_2$  lying between 50 and 3000 feet (15 and 910 m) deep. Additional drilling is scheduled for 1981 (Exxon Minerals Company, written communication, 1981).

Exxon is also planning to drill a deep test hole on a geophysical anomaly in the Butte Valley that is believed to be caused by a deep-seated intrusive. This geophysical anomaly and the geology of the area surrounding Butte Valley give this area a good base-metal potential in the area of the Exxon claim block as seen in Drawing 12.

Other companies actively prospecting for molybdenum deposits include Phillips Petroleum's Mineral Exploration group drilling



VIEW NW — MT. HOPE DISTRICT WITH MT. HOPE MINE AND  
MILL (LOWER CENTER). EXXON MINERALS PORPHYRY  
MOLYBDENUM PROSPECT INCLUDES ALL OF MT. HOPE  
AND THE LOW TIMBERED HILL IN THE CENTER RIGHT  
BACKGROUND.

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PHOTOGRAPH 16

adjacent to the Monte Cristo Stock in the White Pine District and Union Carbide Corp. in the same area. Active exploration for porphyry, as well as vein and replacement base-metal deposits, is taking place in virtually every range and mining district in the northern part of the study area.

#### 5.3.2.2 Review of Potential

Base-metal potential can be divided into porphyry potential (molybdenum and copper) and vein-lode-replacement-type potential deposits of composite mineralization (lead-zinc-copper and precious metals). Tungsten can and does occur in both types of deposits in the study area.

Porphyry potential is high in the Lone Mountain-Weepah, Royston, San Antone, Barcelona, Roberts, Mount Hope, and White Pine districts and good in the Exxon exploration area of Butte Valley. Shawe (1977) also suggests undiscovered porphyry potential in the western Toquima Range between the Manhattan and Round Mountain districts. The regional aeromagnetic map (Drawing 9) suggests some areas of possible buried intrusives (i.e., central Monitor Valley, Pancake Range) that have not been explored for porphyry mineralization but show striking similarity to anomalies associated with known intrusives.

All of the districts in the northern portion of the study area are currently being explored and reevaluated. Those districts in the Base Metals Metallogenic Province are the most likely to have significant new production of base metals. Those areas with high base metal-potential include the Eureka, White Pine,