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Item 15

NW-39-2  
(Ag, Pb, Zn,  
Cu, W, Mo,  
diat.)

AREA: → PINE GROVE (part of Wilson District)  
(silver, lead, zinc, copper, tungsten, diatomite)

T. 9, 10 N., R. 24, 25 E.  
Lyon County, Nevada  
U.S.G.S. Desert Creek Peak, Pine Grove Hills,  
Wellington, and Yerington, Counties, California-  
Nevada quadrangles 1:62,500.

#### GENERAL BACKGROUND

The Pine Grove area encompasses the west flank of the Pine Grove Hills from about 3 miles southeast of Smith to just north of Dalzell Canyon. The area lies largely within the Toiyabe National Forest with just the northern end extending into the Walker Planning Unit.

Minor amounts of lead, zinc and tungsten have been produced from three mines, the Jackrabbit, Smith Valley, and Cowboy. Other minerals occurring in the area include silver, copper, molybdenum and diatomite.

#### GEOLOGY AND TECHNICAL DATA

Moore (1969) states that the west flank of the Pine Grove Hills consists of a sequence of Tertiary sedimentary rocks greater than 3000 feet thick. These sediments are composed of channeled stream deposits, sandstones, siltstones, and conglomerates with interbedded tuffaceous lake shales, mudstones and clay. South from Wilson Canyon the sediments become finer-grained with lake clays and diatomite becoming more abundant. Quartz monzonite and granodiorite plutonic rocks underlie the Tertiary sediments and form the core of the Pine Grove Hills. Included in the plutonic rocks in isolated occurrences are remnant bodies of Triassic-Jurassic metasediments and meta-volcanic rocks.

Mineralization occurs within and adjacent to the meta-sedimentary inclusions in the granitic plutons and in this area generally consists of contact metamorphic deposits in limestones and limy metasedimentary rocks.



The Jackrabbit mine located in Section 23 (?), T. 10 N., R. 24 E., explored a strong gossan outcrop trending north to northeast. A 300 foot adit driven in limestone and shale encountered sulfide ore and also considerable faulting. Assay of samples of the sulfide ore taken in 1949 indicated values of 0.4% copper, 9.8% lead, 8.3% zinc, and 3.0% silver (Stoddard and Carpenter, 1950). The mine has produced a small unrecorded amount of ore.

The Cowboy Tungsten mine is located outside the Walker Planning Unit in the Toiyabe National Forest in projected Section 22 in unsurveyed T. 9 N., R. 25 E. The mine is developed in a band of marble 25 to 75 feet wide which is intruded from the west and south by quartz monzonite. Scheelite-containing tactite occurs in small lenticular masses in a contact-metamorphic zone on both sides of the marble band. In places, the tactite extends the width of the marble band near dikes or faults. The scheelite in the tactite is fine-grained and may contain appreciable molybdenum as suggested by its pale yellow fluorescence. The  $WO_3$  content of the scheelite is variable but averages 0.4 to 0.6 percent in minable bodies (Klepper, 1955).

#### CURRENT ACTIVITY

No significant mining or exploration activities have recently been reported from the Pine Grove area. Many mining claims are present in the area but only one outside of the National Forest is considered active.

#### ACCESS

Several unimproved roads leading from Route 22 and from a light duty road leading south out of Smith afford access to the Pine Grove area. Access to the higher elevations in the National Forest north and west of the Cowboy Tungsten mine is somewhat more restricted.



### PRODUCTION STATISTICS

Production for the Pine Grove area is generally unknown but thought to be small. No figures are known for the Jackrabbit and Smith Valley mines. The Cowboy Tungsten mine which is unpatented reportedly produced 10 tons of shippable ore in 1941 and 112 tons averaging 0.79 percent  $WO_3$  (88 units) in 1943 (Moore, 1969, p. 28-29). Some lead ore containing recoverable lead and silver was produced in 1963.

### POTENTIAL FOR DEVELOPMENT

The geology of mines and prospects in the Pine Grove area implies mineralization is generally in small, irregular, scattered deposits. There is no present indication of large ore bodies.

Future activities may then be expected to consist of small surface and underground mining operations utilizing less than 10 men per mine.

No large scale exploration programs are expected in the near future. Exploration conducted by individual prospectors utilizing minimal equipment will continue.

The geology of the area is favorable for the discovery of other base metal minerals using modern exploration techniques.

### MANAGEMENT OPPORTUNITIES

Management of the Pine Grove area affords the opportunities to:

1. Protect the area from exclusion from the general mining laws to allow for location and possible discovery of tungsten and other base metals.
2. Identify through modern exploration techniques any discovered mineral deposits.

Any appreciable source of tungsten has the potential to be a valuable deposit either in the near or distant future. Since tungsten is such a vital ingredient in steel manufacturing and the need for steel is steadily increasing, a generally favorable market appears available for tungsten ore for the foreseeable future.

COMPANIES AND CLAIMANTS ACTIVE IN THE AREA

Inga Sexsmith  
48-W Glenarm Street - Pasadena, California  
Claims Breita Lode Claim Group  
(2 lode claims)

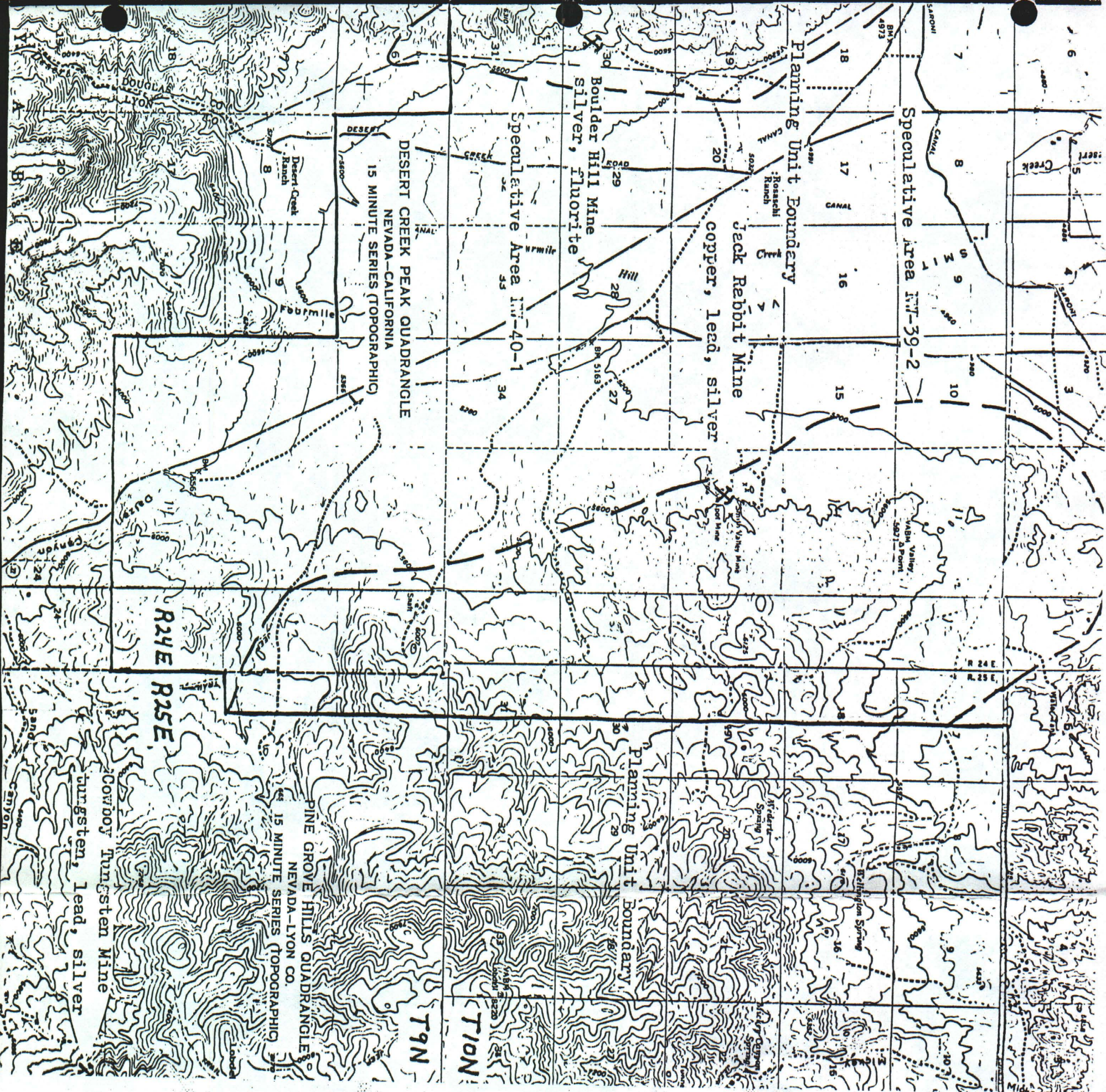
SELECTED REFERENCES

Klepper, M.R., 1955, The Cowboy Tungsten property, Pine Grove Hills, Lyon County, Nevada: U.S. Geol. Survey open file report.

Moore, J.G., 1969, Geology and mineral deposits of Lyon, Douglas, and Ormsby Counties, Nevada: Nevada Bur. Mines Bull. 75.

Stoddard, C. and Carpenter, J.A., 1950, Mineral resources of Storey and Lyon Counties, Nevada: Nevada Univ. Bull. v. 44, no. 1, Geol. and Min. Ser. no. 49.







Taken from :

.42 Minerals

Inventory and Analysis  
of the  
Walker Planning Unit

Carson City District  
Nevada and California

by

J. R. Gilbert  
1976

see Lyon County - general  
file, Item 13 for general  
pre face remarks.