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Current Activity and Resource Potential of:

(1) Monitor—Toquima Area
(2) Railroad Valley Area
(3) White Mountains Area
(4) Snake Range
(5) Emigrant Trail (in Washoe & Humboldt Counties)

This information should be considered preliminary. It has not been checked for completeness or accuracy.

by Joseph V. Tingley

MONITOR-TOQUIMA AREA

Nye, Lander, Eureka Counties Include the Monitor and Toquima Ranges and Monitor Valley

Districts Included Within the Area:

1. Belmont District, silver, gold, tungsten.
   Discovered in 1865, production may have been as much as $15,000,000, although official recorded production is $3,793,103.
2. Barcelona District, gold, silver, molybdenum, mercury.
   Discovered about 1870, credited with $200,000 production.
3. Danville District, silver, gold.
   District discovered in 1866, total recorded production $31,212.
4. Longstreeet District, gold, silver.
   Discovered in 1903, no production records.
5. Jefferson Canyon, silver, gold, tungsten.
   District discovered in 1866, production figures range from $473,295 to $1,000,000.
6. Manhattan, gold (lode and placer), silver, antimony, arsenic.
   District discovered in 1905. Total recorded production through 1949, $10,362,289.
7. Northumberland, silver, gold, barite.
   Silver discovered in 1866, gold in 1936, barite in 1967. Gold production between 1939-1942 was $1,146,475. Total barite production through 1978 is estimated at 1,210,000 tons. In 1978 alone, about $6,000,000 of barite was shipped from the district.
8. Round Mountain, gold (lode and placer), silver, tungsten.
   Gold discovered in 1905, tungsten in 1907. Gold production $12,000,000.
9. Spencer Hot Springs, tungsten, copper, geothermal.
   Tungsten discovered in 1942.

Current Activity Within Area:

At Round Mountain, Smoky Valley Mining Co. is mining approximately 7000 tons of gold ore per day in an operation employing 140 people. Published reserves are 12,000,000 tons of ore averaging 0.062 ounces gold per ton. Using the present gold price ($240/ounce), this orebody has a value of $178,560,000. Three companies are mining barite in the Northumberland barite district. Some 71 people are employed in these operations, and an estimated 240,000 tons of barite were mined in 1978. This material was valued at $6,000,000 f.o.b. railroad. At the Northumberland gold property, Cyprus Mining Co. has been conducting exploration drilling and leach testing. Plans are to begin a leach operation this summer on low-grade ores they have developed in the old district.

At Manhattan, Houston Oil and Minerals has announced plans to build a gold mill to treat ore from their Manhattan properties. Smaller operations are also in progress in the old Barcelona and Belmont districts.

Noranda Exploration, a large Canadian mining firm, staked 2600 uranium claims over the Northumberland caldera last Fall, and extensive exploration is planned in this area this year. The area staked covers a large portion of the west side of the northern Toquima Range.

Resource Potential:

The Toquima Range portion of this area displays extensive, varied mineral occurrences, many of which could develop into important mineral producing operations.

The formation which contains the Northumberland barite occurrences extends throughout a large portion of the northern Toquima Range. Other commercial barite orebodies could be found anywhere this formation exists.

Other gold deposits similar to those at Northumberland and Manhattan could be found in the area between those two occurrences, or north and south of them in areas where the geologic setting is similar.

The Linka Tungsten property near Spencer Hot Springs could develop into one of the states major tungsten mines, and the scattered tungsten occurrences near Round Mountain could indicate the presence of larger, undiscovered deposits of tungsten in that area.

Recent geologic mapping and sampling done by the U. S. Geological Survey near Round Mountain has resulted in outlining several areas in the Round Mountain quadrangle which may have porphyry copper and/or molybdenum potential. These areas, as yet, remain untested.

Mapping by U.S.G.S. geologists identified the presence of the Northumberland caldera, and has indicated that another caldera complex may exist around Manhattan, and that there may be yet another centered near Round Mountain.

Calderas are known to be important in localizing metallic mineralization, and the mineral potential associated with the caldera structures in the Toquima Range is just now beginning to be realized.

There may also be geothermal potential in Monitor Valley as well as in the area around Spencer Hot Springs.

Resource Potential:

The Hot Creek-Pancake Range portion of the area includes portions of the large, Central Nevada caldera complex, site of repeated volcanic-hydrothermal activity. Areas geologically similar to this (McDermitt Caldera, Humboldt Co., Goldfield and Silver Peak Calderas, Esmeralda County, Northumberland Caldera, Nye Co.) have contained concentrations of valuable minerals and exploration will no doubt be directed to the Hot Creek-Pancake area in the near future.

Potential includes deep porphyry molybdenum deposits, precious metals and uranium.

Fluorspar deposits of the Quinn Canyon district may provide an important source of this commodity in the future, especially if our foreign supplies are reduced or eliminated.

The southern Hot Creek Range has potential for barite production, and there may be good disseminated gold exploration targets in both the Hot Creek and Quinn Canyon Ranges. There are several small tungsten occurrences in the northern Grant Range which may indicate potential for discovery of larger deposits of that metal in the area.

At Butterfield Marsh, southwest of Currant, a large deposit of sodium carbonate has been indicated by drilling, At the present time, this material cannot be economically recovered, but changes in supply and/or market conditions could transform this occurrence into an important reserve.

The oil potential of Railroad Valley remains large, and is largely undefined. As it is Nevada's only oil producing area, it's importance cannot be over emphasized.

There is geothermal potential in both Hot Creek and Railroad Valley.

RAILROAD VALLEY AREA

Nye and Lincoln Counties, Include the Grant-Quinn Canyon Ranges, Railroad Valley, Pancake Range, Hot Creek Valley, the Hot Creek Range, and Part of the Reville Range

Districts Included Within the Area:

1. Arrowhead District, silver, gold
2. Clifford District, silver, gold.
   Discovered in 1906, credited with over $500,000 production.
3. Morey District, silver, gold, lead, antimony
   Discovered in 1865, credited with $475,117 production.
4. Silverton District, silver
5. Troy District, silver, gold
   Discovered in 1867.
6. Tybo District, silver, gold, lead, copper, antimony, manganese, mercury.
   Discovered in 1865, production of $9,789,281 through 1948.
7. Willow Creek, gold, silver, fluorspar.
   Gold discovered in 1911, fluorspar in 1934.
8. Eagle Springs Oil Field, first production 1954.
9. Trap Spring Oil Field, first production 1976.
10. Currant Oil Field, first production 1979(?).
11. Butterfield Marsh, sodium carbonate, discovered in 1912.

Current Activity:

The oil fields in Railroad Valley contain Nevada's only producing oil wells. Production comes mainly from the Trapp Spring and Eagle Springs fields, with a total of 13 producing wells. A new field at Currant is being developed, however, and one well there is credited with production this year. In December 1978, production from Railroad Valley totaled 110,107 barrels, a large portion of which is refined in Tonopah. Sierra Pacific Power Company purchases 30,000 to 50,000 barrels of residual material from the Tonopah refinery each month for use at their Ft. Churchill power plant. Although this represents only 25% to 40% of the total fuel requirement at Ft. Churchill, it is significant when viewed in the light of a Nevada resource being utilized in Nevada to produce electric power for local consumption.

At Tybo, Silver King Mining Company controls the Tybo Mine, and has been conducting exploration for several years. In the Hot Creek-Keystone portion of the district, Gold Creek Corp. has been exploring and apparently has plans to commence a mining - heap leaching operation this year.

At Moray, the minerals division of a major U. S. oil company has recently staked a large block of mining claims and will probably commence a large-scale exploration program (possibly for porphyry molybdenum) this year.

In the Hot Creek Range northwest of Warm Springs, several properties have been staked and explored for disseminated (Carlin-type) gold in the past two years.

WHITE MOUNTAINS AREA

Esmeralda and Mineral Counties Include Boundry Peak, the White Mountains, Most of Fish Lake Valley and the Western Part of Silver Peak Range

Districts Included Within the Area:

1. Dyer District, silver, lead.
   District discovered in 1863.
2. Buena Vista District, silver, lead, gold, copper, mercury, tungsten, fluorspar.
3. Fish Lake Valley District, mercury.
4. Good Hope District, silver.

Current Activities in the Area:

There has been some exploration for tungsten, fluorspar, and precious metals in the last few years, but the extent of the various programs is not known.

Resource Potential:

The Fish Lake Valley district was an important mercury producer, and the B&B Mine only ceased production when mercury prices fell a few years ago. Production of mercury at this and other nearby properties would no doubt resume work if a better mercury price developed.

The Buena Vista District contains good potential for precious metals and tungsten, and the fluorspar occurrences in the northwest part of the district are felt to have good potential.

SNAKE RANGE

White Pine County Includes Mt. Wheeler and the Southern Snake Range, Mt. Moriah and the Northern Snake Range as well as most of Spring Valley to to the West

Districts Included Within the Area:

1. Mt. Moriah Area, lead, zinc, copper, silver, garnet, building stone, tungsten.
2. Blackhorse District, gold, silver, tungsten.
   District discovered in 1905, credited with $108,104 production.
3. Sacramento District, tungsten, gold, silver.
   Discovered in 1869, credited with $79,065 production.
4. Osceola District, gold (lode and placer), tungsten.
   Gold discovered in 1872, tungsten in 1916, credited with $3,342,610 production.
5. Tungsten (Hub) District, tungsten, silver.
   Silver discovered in 1869, tungsten in 1889, credited with $704,000 production.
6. Mt. Washington District, copper lead, antimony, tungsten, beryllium.
   Base metals discovered in 1869, tungsten found in 1952, and presence of beryllium detected in 1959.
7. Shoshone, tungsten, silver.
   Silver discovered in 1869, tungsten in 1915. Production of $3,661,031, mainly in tungsten.
8. Snake, silver, tungsten.
   Silver discovered in 1869, tungsten in 1913.

Current Activity in the Area:

Three small companies were working in the Osceola gold district in 1976, and tungsten was being mined from a placer occurrence in Lexington Canyon. The Mt. Wheeler beryllium tungsten-fluorspar property in the Mt. Washington district and the Minerva tungsten property in the Shoshone district continue to draw the attention of exploration companies, but no activity is known of at either property at this time.

Resource Potential:

The Mt. Wheeler Mine, in the Mt. Washington district, contains the largest known deposit of beryllium in the State. The deposit is not currently economic, but conditions could change and the deposit could become an important source of beryllium in the future. This deposit also contains significant tungsten mineralization.

Tungsten deposits occur in many of the mining districts within the Snake Range, and there is excellent potential for the development of tungsten reserves in the area.

The rare mineral assemblage present at the Mr. Wheeler Mine and in the surrounding area (tungsten, beryllium, fluorspar) may indicate that there may be untested porphyry molybdenum potential in the district.

The Sacramento district could offer potential for the development of a low-grade gold property.

EMMIGRANT TRAIL

Washoe and Humboldt Counties Include Portions of the Black Rock Range, the Black Rock Desert, Calico Mountains, and a Large Portion of the High Volcanic Plateau West of Vya, South of Massacre Lake

Districts Included Within the Area:

1. Donnelly, gold, silver
   Discovered in 1910, credited with $90,000 production.
2. Double Hot Springs, important geothermal area.
3. Other areas, are occurrences of uranium, fluorspar, perlite, diatomaceous earth.

Current Activities Within the Area:

Uranium exploration is at a rather high level in all the volcanic-covered areas of northern Washoe and western Humboldt Counties. No specific programs are know of in this specific area, but the area is no doubt receiving considerable attention.

Resource Potential:

The importance of calderas, rhyolite domes, and ring fracture zones in relation to mineral deposits has only recently been recognized. Recognition of the McDermitt caldera in northern Humboldt County and its importance in relation to mercury and uranium occurrences there has caused a search for similar features elsewhere.

The potential for discovery of uranium mineralization associated with caldera-dome complexes is very good within the "Emmigrant Trail" area. There is also the possibility of developing lithium and molybdenum resources associated with these same volcanic structures.

U. S. Geological Survey geologists, while engaged in a mineral resource evaluation of the Sheldon Antelope Range, have defined an area favorable for the development of base metal deposits. This area is on the southern border of the Antelope Range and would extend south into the Emmigrant Trail area. Although indicated as favorable, the area remains untested.

Double Hot Springs is one of the prime geothermal areas within the State. Several wells have been drilled there, and there is good potential for the development of a geothermal resource in that area.