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should be in Delamar District closer geographically & geologically

(51) 68 Item 17

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December 14, 1977

TO: John Schilling

FROM: Richard Jones

SUBJECT: Indian Springs "porphyry" tungsten deposit - Montello, Nevada

Miscellaneous Comments

1) Scheelite is only ore mineral. As I recall there is a very minor amount of wolframite but it's very erratic in distribution.

2) Host rock for the scheelite is dominantly a quartzite, white to light, pale green in color. It lies in contact with a quartz monzonite that is iron stained, medium grained and crumbly in outcrop. Oxidation in the quartz monzonite extends, where drilled, 200 ft below the surface. Along the contact with the quartzite and extending into the quartzite and also into the quartz monzonite are zones best described as greisens. They are vein like in character and are composed of sericite, quartz, pyrite, in places, minor tourmaline, beryl? in one or two places, and scheelite. In some drill holes very minor specks of molybdenum could be seen. Greisen veins were also developed within the quartz monzonite. What their character is I don't know as the surface outcrop area has been trenched and filled so many times that nothing can be seen. Ore grade material extended into, but not far, the quartz monzonite. Overlying the quartzite is a hard (silicified??), dense, black to gray to white limestone. It contains no ore and hardly any mineralization. One has the impression that it acted as an impenetrable capping causing ore solutions to deposit in the shattered quartzite lying beneath. Minor aplite dikes? were encountered in some of the drill holes. As I recall they were not mineralized.

3) Drilling was done on 100 ft centers -- in some places 50 ft or even 25 ft. Majority of holes were 200 ft in depth which was the downward extent of the oxidized zone. All ore reserves were figured to this depth. Ore occurrs below this depth (some holes were drilled to 400-600 ft) but Carbide felt that they could do nothing with the unoxidized pyrite, which in most ore holes amounted to several percent (1-4%?). Cut off grade for ore reserve calculations was placed at 0.15% WO_3 and ore reserves using this grade were around 5 to 10 million tons??. Using 0.12-0.13% WO_3 as a cut off grade ore reserves almost doubled. Recovery was calculated at 60-65%.