

Wald's

Name: Josephine Creek Nickel Prospects
(Red Barron Group)

Owner: Walter B. Freeman and associates, Box 344 Cave Junction, Or.

Location: Several small patches of lateritic soil are on the slopes west of Josephine Creek in T. 39 S., R. 9 W., secs. 13, 14, 23, 24, 26 and 27. Only three small patches were examined and sampled. They lie a short distance west and southwest of Cutter's cabin on Josephine Creek. The soil patches are between 585 and about 1,036 meters elevation; see photogeologic map. The area is reached via the Tennessee Pass road and is about 7 kilometers from Kerby on U.S. 199. The distance to electrical power is about 6 kilometers. Adequate water is nearby.

Climate, vegetation and land use: Annual precipitation is about 100 cm and most occurs between October and June. Average summer temperature is about 20° C. and winter about 5° C. Vegetation consists of sparse scrub pine and scattered brush. The area has a history of small-scale placer mining with no other established land use.

History and Development: A steep prospect road was put into the area about 15 or 20 years ago and a few shallow dozer cuts were put in by previous claim holders. The present claims were posted in August 1974. Exploration has been limited to the above mentioned cuts, reconnaissance sampling (in part by hand auger) and mapping.

General Geology: The area is in the Josephine ultramafic sheet between Woodcock and Josephine Mountains. The principal rock type is harzburgite which is in part serpentized. Serpentinization is more extensive in areas of shearing and where the ultramafics are intruded by diabase dikes as along Josephine Creek.

Cemented Pleistocene bench gravels occur along both sides of Josephine Creek from near the waters edge to as much as 45 meters above the creek bed. Placer mining activity in these areas has produced modest amounts of gold and a fair abundance of Josephinite, a nugget form of native nickel iron that is apparently derived from the areas of more intense serpentinization adjacent to diabase dikes (Dick, 1975). Small blebs of Josephinite have been detected in the serpentinite by slabbing the rock.

The laterite areas may be erosional remnants of deeper soil formed due to slumping and represent temporarily stabilized landslide debris.

Description of the deposits: The lateritic soil is a typical reddish brown color which grades rapidly into a yellow brown color. A few small patches of iron pellets are found in places at the surface and a minor amount of silica boxwork float was also noted. Mixed rock includes unweathered harzburgite and serpentinite boulders. The estimated amount of rock mixed with the soil varies from 30 to 85 percent and averages about 50 percent.

Of the three areas examined the larger is about $5\frac{1}{2}$ hectares in size. Its western end surrounds the sec. corner of 13, 14, 23 and 24. Its average length is about 320 meters and its width about 172 meters. Maximum depth may be 8 meters with an estimated average depth of 2 meters. About 400 meters south is a patch with about $4\frac{1}{2}$ hectares area. Its dimensions are about 300 meters long by 150 meters wide. The estimated average depth is also 2 meters. The area of nearly 2 hectares about 400 meters on up the ridge west of the sec. corner 13, 14, 23, 24 is probably too small, shallow and rocky to be of interest.

The areas mapped to the southwest in sections 26 and 27 were plotted from viewing color infrared aerial photos. They have not been examined in the field as yet and may well have no potential.

Grade and tonnage estimates: An unweighted average of 4 hand-auger samples from the 3 northern patches gives an approximate average grade for soil and saprolite of 0.84 percent nickel and 0.10⁰⁵ percent Co. On the basis of an average of 50 percent rock mixed with the soil and saprolite a calculated grade for the gross tonnage is 0.54 percent Ni and 0.06 percent Co. (Additional analyses are forthcoming). 1.21% Cr.

The estimated total gross tonnage (metric) in the three northern areas examined based on 10.5 hectares and a factor of 1.9 m.t./m³ is about 400,000 tonnes. Net tonnage of soil and saprolite excluding rock using a factor of 1.6 m.t./m³ is about 170,000 tonnes.

References and comments:

Dick, H.J.B., 1975, Terrestrial nickel iron from the Josephine Peridotite, its geologic occurrence, associations, and origin (preprint, submitted to E.P.S.L.)

Further study is believed warranted on the possible economic value of josephinite in serpentinite found in this area.

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