Location/Identification

MINFILE Number: 082ESW055
National Mineral Inventory Number: 082E3 Ni1
Name(s): **OLD NICK**
OLD NICK GROUP, OLD NICK 1-4, NICKEL, UR CLAIM GROUP, MISSION 1, NICKEL RIDGE

Status: Developed Prospect
Mining Division: Greenwood, Osoyoos
Electoral District: Boundary-Similkameen
Regions: British Columbia
Resource District: Selkirk Natural Resource District
BCGS Map: 082E005
NTS Map: 082E03E
UTM Zone: 11 (NAD 83)
Latitude: 49 02 30 N
Northing: 5434220
Longitude: 119 06 14 W
Easting: 346249
Elevation: 873 metres
Location Accuracy: Within 500M
Comments: Approximate centre of workings (Assessment Report 1243).

Mineral Occurrence

Commodities: Nickel, Cobalt, Copper, Gold, Molybdenum, Chromium

Minerals
Significant: Pentlandite, Pyrrhotite, Chalcopyrite, Pyrite, Mackinawite, Valleriite, Chromite, Molybdenite
Significant Comments: Mackinawite in small amounts and valleriite in trace amounts.
Associated: Quartz, Calcite, Dolomite, Asbestos, Mica, Olivine, Amphibole, Tremolite
Associated Comments: Chrome mica (chromium-bearing phengite).
Alteration: Biotite, Chlorite, Tourmaline, Sericite, Talc, Serpentine, Goethite, Ilmenite
Alteration Comments: Hematite also present.
Alteration Type: Serpentin'zn, Biotite, Chloritic
Mineralization Age: Unknown

Deposit
Character: Disseminated, Stratabound
Classification: Magmatic
Type: M02: Tholeiitic intrusion-hosted Ni-Cu, M03: Podiform chromite
Shape: Irregular
Dimension: 792x122x0 metres **Strike/Dip:** 070/30S
Comments: Approximate dimensions and orientation; mineralization is not well delineated.

Host Rock

Dominant Host Rock: Metaplutonic

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Upper Paleozoic	Anarchist	Undefined Formation	------
Unknown	------	------	Ultramafic Intrusions

Isotopic Age	Dating Method	Material Dated
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Lithology: Serpentinized Dunite, Serpentinized Dunitic Dike, Serpentinite, Meta Sediment/Sedimentary, Greenstone, Quartzite, Biotite Quartzite, Biotite Schist
Comments: The Anarchist Group is of Carboniferous to Permian age.

Geological Setting

Tectonic Belt: Omineca
Physiographic Area: Okanagan Highland
Terrane: Quesnel

Metamorphic Type: Regional
Relationship: Syn-mineralization, Post-mineralization
Grade: Greenschist

Inventory

Ore Zone: 1
Year: 2000
Category: Indicated
Report On: Y
Quantity: 20,400,000 tonnes
NI 43-101: Y

Commodity	Grade
Nickel	0.186 per cent

Comments:
Reference: http://www.meritminingcorp.com/index.htm

Ore Zone: TOTAL
Year: 1996
Category: Indicated
Report On: Y
Quantity: 30,000,000 tonnes
NI 43-101: N

Commodity	Grade
Cobalt	0.0150 per cent
Nickel	0.2200 per cent

Comments: Drill indicated resource.
Reference: George Cross News Letter No.31, February 13, 1996.

Ore Zone: DRILLHOLE
Year: 1968
Category: Assay/analysis
Report On: N
NI 43-101: N

Sample Type: Drill Core

Commodity	Grade
Nickel	0.2000 per cent

Comments: Average/typical nickel (pentlandite) mineralization in quartzite.
Reference: Assessment Report 1243.

Ore Zone: TOTAL
Year: 1967
Category: Unclassified
Report On: Y
Quantity: 90,710,000 tonnes
NI 43-101: N

Commodity	Grade
Nickel	0.2200 per cent

Comments: A mineral inventory identified circa 1967.
Reference: Schroeter, T., 1994; CANMET IR 71-34 (see EMR MRI 80/7).

Capsule Geology

The Old Nick nickel prospect is located 4 kilometres east- northeast of Bridesville, between Baker (Rock) Creek and the old Great Northern Railway grade. The prospect has been prospected for nickel and precious metals with exploration including trenching, shallow shafts and diamond drilling.

Exploration of the Old Nick showings has been ongoing for many years. The claims were originally staked in 1955 and prospected for several years. The claims were allowed to lapse and the ground was restaked in 1966 as the Old Nick Group (120 claims) by Utica Mines Ltd. Later that year Copper Mines Limited was granted a one-half interest option. Aggressive programs of diamond drilling (35 percussion holes totalling 1267 metres and 5 diamond-drill holes totalling 887 metres), trenching, mapping, geochemical and geophysical surveys were executed by Utica Mines Ltd. In March 1967, Copica Mines Ltd. was formed to hold the property and in May the name was changed to Nickel Ridge Mines Ltd. In 1968, Newmont Mining Corp. of Canada Ltd. carried out further property exploration. The property was acquired by Arctic Gold and Silver Mines Limited in 1969. The British Columbia Research Council conducted bacterial leach tests on sample material. The Old Nick and UR groups were held by Northern Deep Level Mines Ltd. in 1972, with geochemical and magnetometer surveys conducted. Ownership was transferred to Ayerok Petroleum Ltd. in 1979. In 1980 and 1982, airborne and ground magnetometer and electromagnetic surveys, and geochemical soil surveys were conducted. British Challenger Mining Corporation held and operated the property as the Mission 1 claim from 1984 to 1985. Geochemical solid and rock sampling were carried out. Inconclusive results were obtained from geophysical surveys conducted by Nickling Resources Inc. in 1986. More recently (1996), the prospect have been staked as the Nickel and the Mission I claims on ground covering the Old Nick occurrence by Gold City Mining Corporation, Sway Resources Inc., Orion International Mineral Corp. and Phoenix Gold Resources Ltd. An aggressive exploration and development program has included geochemical, geophysical and radiometric surveys as well as extensive prospecting and initial bench scale agitated leach tests.

The showings occur in rocks of the Permian to Carboniferous Anarchist Group. Seven east-northeast trending map units within the Anarchist Group have been identified. They are described as follows. The first unit is a fine to medium-grained biotite schist with quartzite layers forming up to 15 per cent of the rock. Quartzite layers are either 2 to 30 centimetres or 3 to 4 metres thick. The mineral assemblage of the biotite schist includes biotite, quartz, plagioclase with minor hornblende, tourmaline and sphene. The second is a metasediment unit with minor layers of epidote and zoisite. The whole unit is estimated to be 122 metres thick. The metasediment is composed of predominantly massive tremolite with remnant pyroxene and includes minor amounts of sericite, chlorite and chrome mica (chromium-bearing phengite) and 1 to 2 per cent disseminated pyrite, locally occurring in zones of up to 20 per cent. This unit contains most of the nickel mineralization. The third is a quartzite-schist unit similar to the first unit, however, here the quartzite forms 60 per cent of the rock. The fourth unit is a massive greenstone that is probably metavolcanic rock. The fifth unit is a banded quartzite that contains thin layers of biotite and chlorite. Finally, there are two associated, altered ultramafic units. They are both composed of antigorite with accessory talc, anthophyllite and tremolite. The protolith of these units has been identified as dunite. The rock is massive and contains some disseminated pyrite, pyrrhotite and pentlandite. The serpentinite has been subdivided into sills or dikes based on crosscutting relationships. The dikes follow northwest trending interconnected fracture/fault zones that cross stratigraphy and the property. The serpentinite occurs as zones 0.10 to 10.00 metres thick. These serpentinites may actually be thin fault slices of ultramafic material, due to their structural control as described below. This would be more consistent with the regional occurrence of serpentinite in the area.

The layered rocks are folded into a subhorizontal antiform with the axial plane trending east-northeast and dipping about 30 degrees south. Minor folds are open with a 1/3 to 1/2 metre wavelength and superimposed centimetre-scale crenules indicating upright tops. Subvertical faults transect the property. The major set strikes west-northwest, controlling the serpentinite emplacement. A second, minor set strikes northeast and offsets the earlier major faults and serpentinite.

Nickel mineralization is associated with pyrrhotite and pentlandite, found as widely spread disseminations within the serpentinite units and the major metasediment unit. Microscopic grains of pentlandite have been identified as intergrowths with pyrrhotite and pyrite. There is no correlation between pyrite and nickel mineralization. Diamond-drill hole core assay results show a range of 0.01 to 0.15 per cent nickel content in the serpentinite. Assay results from the metasediment unit range from 0.07 to 0.26 per cent nickel. The nickel mineralization is fairly uniform throughout the area examined, having an average range of 0.15 to 0.20 per cent. The mineralized area examined is approximately 800 by 120 metres, following the metasediment unit and a further 670 metres east along strike of a serpentinized dunite dike. The dike is up to 76 metres wide. Metallurgical testing of the metasediment in 1968 yielded nickel recoveries of 56 per cent. At that time, Newmont Exploration Ltd. decided the property was uneconomic and dropped its option. One rock chip sample taken by British Challenger Mining Corporation in 1984-85 assayed 3.08 grams per tonne gold (National Mineral Inventory 082E3 Ni1).

Early development work outlined a potential low-grade nickel mineral reserve. A mineral inventory of approximately 90,710,000 tonnes grading 0.22 per cent nickel has been identified (Property File - Schroeter T. (June, 1994): Monthly Report and CANMET IR 71-34). In 1996, an updated estimate of 30,000,000 drill indicated tonnes grading 0.22 per cent nickel and 0.015 per cent cobalt was reported by Gold City Mining Corporation, Orion International Mineral Corp. and Phoenix Gold Resources Ltd. (George Cross News Letter No. 31 - February 13, 1996). There is further potential for additional reserves downdip and along strike of the existing reserves.

The results of initial bench scale agitation metallurgical leach tests on three samples from the Old Nick prospect are given in the following table (George Cross News Letter No. 212 - November 3, 1995).

SAMPLE#	NICKEL %	COBALT %	PARTICLE SIZE (%-75 MESH)	RETENTION (HOURS)	NICKEL (%EXT)	COBALT (%EXT)
ON-1	0.15	0.02	75	25	81	80
ON-2	0.16	0.01	91	48	92	60
ON-3	0.22	0.01	81	48	87	76

Notes: ON-1/2 = quartzite, ON-3 = dunite; EXT = extraction

From 1995 to 1998, Applied Mine Technologies Ltd. (AMT) completed 6 diamond drill holes into the deposit. Part of the resultant core was used for their bench scale tests and column leach testing of the Old Nick mineralization.

In 1998, AM Technologies Ltd. optioned the property from Consolidated Gold City Mining Corp. and plan bio heap leach tests.

In 2000 to 2001, Gold City Industries Ltd. undertook a small trenching program to verify and extend the known mineralization. In 2000 Gold City Industries Ltd. had an independent consultant complete a mineral resource estimate of 20.4 million tonnes (Indicated) grading 0.186 per cent nickel, based on the CIM Mineral Resource Definitions and National Instrument 43-101 and Companion Policy 43-101CP (http://www.meritminingcorp.com/index.htm). Cobalt grade was not part of the resouce estimate. Sampling subsequent to the resource estimate indicates a cobalt grade of between 0.01 per cent and 0.015 per cent.

In 2004, Jantri Resources Inc carried out a 2275 metre diamond-drilling program in 16 holes on the Old Nick property. The drilling on this nickel-cobalt property was successful in providing better definition to, and extending the known mineralization along strike as well as identifying new mineralized areas. Jantri subsequently changed its name to Merit Mining Corp

Bibliography

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Date Coded:	1985/07/24	**Coded By:**	BC Geological Survey (BCGS)	**Field Check:**	N
Date Revised:	2025/03/31	**Revised By:**	Kerri Shaw (KLS)	**Field Check:**	N