Location/Identification

MINFILE Number: 104J 001
National Mineral Inventory Number: 104J13 Ni1
Name(s): **OPAL LAKE**
TEDIDEECH LAKE, KING NICKEL, BEAVER, NICKEL CITY, POND, CAMP, TEDECHEECH LAKE

Status: Prospect
Mining Division: Atlin
Electoral District: Bulkley Valley-Stikine
Regions: British Columbia
Resource District: Skeena Stikine Forest District
BCGS Map: 104J071
NTS Map: 104J13W
UTM Zone: 09 (NAD 83)
Latitude: 58 46 46 N
Northing: 6518926
Longitude: 131 49 13 W
Easting: 336964
Elevation: 1044 metres
Location Accuracy: Within 500M
Comments: Nickel City zone, located 500 metres west of "Opal Lake" about 9 kilometres east of the Nahlin River, approximately 100 kilometres north of the community of Telegraph Creek (Assessment Report 19928).

Mineral Occurrence

Commodities: Nickel, Gold

Minerals
Significant: Pyrite, Marcasite, Arsenopyrite, Millerite
Associated: Chalcedony, Quartz, Opal, Ankerite, Carbonate, Fuchsite
Alteration: Chalcedony, Quartz, Opal, Ankerite, Carbonate, Fuchsite, Magnetite
Alteration Type: Serpentin'zn, Quartz-Carb., Carbonate

Deposit
Character: Breccia, Vein, Stockwork, Shear
Classification: Hydrothermal, Epigenetic
Type: I01: Au-quartz veins

Host Rock

Dominant Host Rock: Plutonic

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Carboniferous	Cache Creek Complex	Nakina	------
Upper Paleozoic	Cache Creek Complex	Horsefeed	------
Upper Paleozoic	------	------	Cache Creek Complex

Isotopic Age	Dating Method	Material Dated
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Lithology: Listwanite, Serpentinite, Peridotite, Andesitic Meta Basalt, Limestone, Dolomitic Limestone, Chert, Cherty Argillite

Geological Setting

Tectonic Belt: Intermontane
Physiographic Area: Taku Plateau
Terrane: Cache Creek

Inventory

No inventory data

Capsule Geology

The Opal Lake occurrence is located 500 metres west of "Opal Lake", about 9 kilometres east of the Nahlin River, approximately 100 kilometres north of the community of Telegraph Creek.

The Opal Lake property covers a portion of a northwest trending regional structure known as the Nahlin fault, which cuts through Carboniferous-Jurassic Cache Creek Complex strata. Rock types on the property comprise upper Mississippian-Permian Horsefeed Formation limestone and dolomitic limestone; Mississippian-Triassic Kedahda Formation chert and cherty argillite; Mississippian-Pennsylvanian Nakina Formation andesitic, fine-grained metabasalt; and upper Mississippian-Permian serpentinized peridotite and serpentinite.

Along the Nahlin fault, nickel mineralization (millerite) and low gold concentrations (up to 0.5 gram per tonne) are associated with a significant zone of listwanitic-ankeritic alteration. The listwanite is a brilliant bright green and white rock of alternating layers of quartz-carbonate and fuchsite-carbonate. Seams and disseminations of magnetite also occur. The ankerite is buff to rust-brown, medium to fine grained with occasional faint foliation fabric.

Three zones have been identified on the property: Nickel City, Camp and Pond. At the Nickel City zone, 500 metres west of "Opal Lake", millerite, pyrite and minor fine black sulphides (marcasite? or arsenopyrite?) reheal multi-episodic opaline quartz-chalcedony- ankerite breccias in a structurally disrupted zone of the Nahlin fault. The breccias are characterized by matrix supported, fine grained, highly altered clasts, which themselves are brecciated. Millerite and pyrite are confined to the vuggy, black chalcedonic quartz matrix of the breccias. The breccias and veins generally strike 040 to 050 degrees and dip steeply to the west. The highest gold values (up to 0.5 gram per tonne) were obtained from a zone of small opaline and black chalcedonic quartz veins cutting ankerite alteration in serpentinite.

The Camp zone is located on the east end of "Opal Lake", where there are several exposures of bright green and buff fuchsite-bearing listwanite. The listwanites are generally moderately foliated and host anastomosing magnetite seams which roughly parallel foliation. Quartz and dolomite veinlets and stockwork crosscut the listwanite foliation. Elevated gold and arsenic values tend to be associated with these veins.

The Pond zone is southwest of Tedideech Lake where an outcrop on the north shore of a small pond exposes weakly foliated fuchsite-bearing listwanite. No mineralization was observed in the listwanite or in late-stage quartz veinlets crosscutting foliation.

The discovery was made by prospector S. Muldal late in 1954. The following year he returned, further prospected the area, and staked a few claims on the main showings. In 1956, Muldal and his party returned to stake 56 claims for Canadian Explorers Ltd. in the Lagoon Silver, Web, Opal, Nor, Jim, and Windfall groups, extending northwesterly from Opal Lake for about 8.8 kilometres. Later in the year, numerous other properties were staked along the fault zone, extending from southeast of Tedideech Lake northwesterly across the Nahlin River, a distance of some 48 kilometres.

Work by Canadian Explorers Limited during 1956-57 consisted of about 305 metres of opencutting and 393 metres of diamond drilling. Moneta Porcupine Mines, Limited, in association with Cominex Corporation Limited, located 24 claims east of and adjoining the Canadian Explorers ground. Some diamond drilling was done by the company before the claims were dropped in 1957. During the same year (1957), Consolidated Northland Mines Ltd. explored the Tedideech Lake area on claims which adjoined the Canadian Explorers Limited property for similar nickel mineralization. The Hank 57 and Ted 10 claims are located in this area. Dimethyloxene field tests for nickel and geological mapping were carried out by Consolidated Northland, but no significant nickel mineralization was discovered.

The British Yukon Exploration Company Limited staked claims towards both the southeast and northwest extremities of the fault zone. Newkirk Mining Corporation Limited staked 64 claims on the southwest extension of the fault zone. Conwest Exploration Company Limited staked a strip of ground adjoining the above mentioned properties on the southwest. Silver Standard Mines Limited staked the King Nickel group of 44 claims on strike to the northwest of Canadian Explorers ground. Assessment work was reported and the claims were abandoned in 1958 after exploration work by other companies on adjoining properties proved disappointing.

During 1988, Ed Asp carried out a trenching program on the north and east shores of Opal Lake, and near a small pond southwest of Tedideech Lake. This trenching exposed fresh surfaces of a fuchsitic carbonate, which was identified as listwanitic alteration during the 1989 exploration program carried out for Equity Silver Mines Ltd. The 1989 work by Equity Silver consisted of establishing a 16.5 kilometre cut grid and conducting a ground magnetometer and VLF-EM survey, soil sampling (532 samples), and geological mapping (100 rock samples).

Bibliography

EMPR PF (Sketch map of workings (1957); 104J General File - Claim maps 73M, 73 M-2, Dec. 1970)
EMPR AR 1957-5
EMPR ASS RPT *19928
EMPR OF 1996-11
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GSC BULL 504
GSC MAP 9-1957; 21-1962; 15-1968; 1418A; 1712A; 1713A
GSC SUM RPT 1925, Part A, pp. 33A-99A
GSC P 74-47
EMR MP CORPFILE (Canadian Explorers Limited; Moneta Porcupine Mines, Limited; Silver Standard Mines Ltd.)
CANMET IR 3186 (1957)
W MINER Oct.1956, pp. 132-135
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EMPR PFD 860550, 19853, 19854, 860551, 820612, 600033, 600036, 600037, 826054, 826055, 861312, 861314, 861315, 861437, 861439

Date Coded:	1985/07/24	**Coded By:**	BC Geological Survey (BCGS)	**Field Check:**	N
Date Revised:	2013/06/24	**Revised By:**	George Owsiacki (GO)	**Field Check:**	N