



Occurrence Details

Occurrence Number: 115G 084
Occurrence Name: Bock
Occurrence Type: Hard-rock
Status: Showing
Date printed: 6/15/2025 11:48:53 AM

General Information

Secondary Commodities: cobalt, copper, gypsum, nickel, palladium, platinum

Aliases: Klu

Deposit Type(s): Ultramafic Mafic Gabbroid Cu-Ni-PGE

Location(s): 61°13'46" N - -138°53'30" W

NTS Mapsheet(s): 115G02

Location Comments: .5 Kilometres

Hand Samples Available: No

Last Reviewed:

Capsule

Work History

Gypsum was reported from three localities by the GSC in 1967. The southernmost occurrence was staked as Bock cl 1-4 and 9-12 (YA78651) in Oct/83 by AGIP Canada Ltd. Restaked as part of I cl 1-56 (YA95789) in Aug/86 by Polestar Exploration Inc, which carried out geological mapping and geochemical sampling in 1987, EM, magnetic and soil geochemical surveying in 1988, and optioned a 50% interest in the property to Hunter Gold Inc in Jan/89. R.H.W. Temple staked the Rose 1-4 (YB37991), Ann 1-4 (YB37995) and Ashley 1-8 (YB37999) cl in Jun/93. In Oct/94 Inco Ltd staked a block of 508 Klu claims on map sheet 115G 02. The staking was not carried out in a consecutively numbered basis but the lowest claim number was Klu 1013 (YB54767). The claim block covered Minfile Occurrences #115G 003, 084, 098 and 099. Inco staked a second block of 18 Klu claims (lowest number Klu 1416 (YB58156)) north of Congdon Creek in Aug/95. In the summer of 1995, Inco carried out geological mapping, lithogeochemical sampling, silt sampling, heavy mineral sampling and soil sampling on the Klu claim block. In 1996 Inco carried out an airborne EM and magnetometer survey over the entire claim block. In 1997 Inco carried out geological mapping, prospecting and ground geophysical surveying to follow up geophysical conductors identified in 1996. In Apr/2000, Santoy Resources Ltd optioned the property from Inco and carried out geological mapping, chip sampling, prospecting, silt and soil sampling later in the year.

Capsule Geology

The occurrence is located in the eastern part of Wrangellia, an accreted terrane extending 2 340 km from Alaska to southern B.C.. In the area of the occurrence the Wrangellia is bounded to the northeast by the Denali Fault System and to the southwest by the Duke River Fault. The oldest Wrangellian rocks in the region are the Pennsylvanian to Lower Permian Skolai Group. The Station Creek Formation occurs at the base of the Skolai Group and consists of tuffs, pyritic black tuffs, mafic volcanics and argillite. These rocks are overlain by the Hasen Creek formation which consists of tuffs, mafic volcanics, argillite and limestone. The Skolai Group is stratigraphically overlain by Pennsylvanian to Triassic mafic meta-volcanics, Upper Triassic Nikolai basalt and Upper Triassic McCarthy Formation Limestone and phyllite. Tertiary volcanics and sediments unconformably overlie the sequence. Quaternary surficial deposits locally cover Paleozoic, Mesozoic and Cretaceous strata. Two major suites of intrusive rocks are present in the belt. The oldest is Late Triassic and includes ultramafic sills, marginal gabbro, and the Maple Creek Gabbro. The sills are estimated to be up to 18 km long and 600 m thick. This suite is thought to be cogenetic with the Nikolai flood basalt. The Cretaceous Kluane Range Intrusions are dioritic to granodioritic in composition and occur throughout northern Wrangellia. Minor Tertiary sills dykes and stocks of felsic to intermediate composition are also present. The claims cover an area of complex geology and thrust faulting in which late Triassic peridotite and gabbro dykes intrude steeply dipping sedimentary rocks of the Permian Hasen Creek Formation. Ni-Cu-PGE mineralization in the region is associated with basal marginal gabbro phase of the Spy Sill. Sulphide mineralization at the Spy Showing (Minfile Occurrence #115G 003) occurs in siltstone in the footwall of the sill, marginal gabbro and feldspathic peridotite. The original Bock occurrence consists of gypsum within Upper Triassic McCarthy Formation limestone. The 1986 claims were staked on small Triassic ultramafic sills that intrude Upper Triassic Nikolai basalt. The ultramafic rocks contain pyrite, pyrrhotite and minor chalcopyrite. Four gold and four platinum-palladium anomalies were outlined with values up to 920 ppb Au, 158 ppb Pt and 277 ppb Pd. Inco found intermittent sulphide showings over a strike of 3.6 km along the base of the 6 km long Spy Sill. These sulphide showings have highly anomalous PGE grades along with significant Ni and Cu. The number and size of peridotite intrusions occurring on the claim block and in the belt suggest they are part of a very large magmatic system. No significant Ni-Cu-PGE showings have been found at intrusions other than the Spy Sill. Grab samples collected by Inco from the gabbro-siltstone contact assayed up to 3.1% Ni, 2.8% Cu, 0.2% Co, 3.1 g/t Pt, 1.4 g/t Pd and 1.0 g/t Au. Silt samples from streams draining the Klu claims returned anomalous values (up to 673 ppm Ni) and appear to outline areas with peridotite intrusions. An heavy mineral sample collected 400 m downstream from the intersection of the Spy Sill and the south branch of Nines Creek returned 700 ppm Pt and > 10 000 Au. The high Au value may not necessarily be related to sulphide mineralization. A small soil sample grid over the peridotite section of the Duke Intrusion located in the northwest corner of the claim block outlined the approximate projection of the peridotite-sediment contact, but no anomalies suggestive of Ni-Cu-PGE mineralization were found. Due to the severe terrain over much of the claim block Inco used 100 m spacing between flight lines. The geophysical survey outlined 3 coincident EM and magnetic conductors on the claim block. In 1997 Inco carried out, follow up ground magnetic and EM geophysical surveys on the three conductors. Two of the conductors were found to relate to black calcareous shale exposures. The third anomaly was interpreted to represent conductive overburden. The bulk of Santoy's exploration work was focused on exploring and evaluating the nickel, copper and platinum group element mineralization known to exist at the basal contact of the Spy Sill and underlying footwall Hansen Creek siltstone, (Minfile Occurrence #115G 003). One day was spent mapping and prospecting in the southern area of the Bocks Brook Intrusion at the headwaters of Nine's creek (approx. 4 km to the southwest). Nothing of economic interest was found and the area was designated as a low-priority target.

References

DODDS, C.J., AND CAMPBELL, R.B., 1992. Overview, legend and mineral deposit tabulations for Geological Survey of Canada Open Files 2188, 2189, 2190 and 2191.

GEOLOGICAL SURVEY OF CANADA Memoir 340, p. 115.

GEORGE CROSS NEWSLETTER 12 Jan/89.

INCO LIMITED, Jan/96. Assessment Report #093371 by C. Bell.

INCO LIMITED, Nov/96. Assessment Report #093560 by P. McGowan.

INCO LIMITED, Dec/97. Assessment Report #093726 by K. Hattie.

RESOLVE VENTURES INC., News Release, 8 Sept/05

SANTOY RESOURCES LTD, Feb/2001. Assessment Report #094164 by L.A. Tulk.

SANTOY RESOURCES LTD, Feb/2002. Web Site: www.bmts.bc.ca/san.

YUKON EXPLORATION 1987, p. 247.

YUKON EXPLORATION & GEOLOGY 1996, p. 23, 30; 1997, p. 24, 36.

YUKON MINING AND EXPLORATION OVERVIEW 1988, p. 32.

Work History

Date	Work Type	Comment
12/31/2000	Geochemistry	Also soil and silt sampling.
12/31/2000	Geology	
12/31/1997	Geology	
12/31/1997	Ground Geophysics	Also UTEM survey.
12/31/1997	Other	
12/31/1996	Airborne Geophysics	Also magnetometer survey. Flown over entire property.
12/31/1994	Other	Inco staked 508 Klu claims covering Minfile occurrences # 115G 003, 084, 098 and 099.
12/31/1988	Ground Geophysics	Also magnetic survey.
12/31/1987	Geology	
12/31/1987	Geochemistry	

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
094687	2005	An Initial Field Investigation and Data Compilation on the Klu Property	Rock - Geochemistry, Process/Interpret - Pre-existing Data		
093560	1996	Report on 1996 Geophysical Survey	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics		
093371	1995	1995 Geological and Geochemical Surveys	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology		