



Occurrence Details

Occurrence Number: 115G 003

Occurrence Name: Spy

Occurrence Type: Hard-rock

Status: Showing

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General Information

Primary Commodities: cobalt, copper, gold, iridium, nickel, osmium, palladium, platinum, rhenium, rhodium, ruthenium

Aliases: Congdon

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

Location(s): 61°8'8" N - 138°44'51" W

NTS Mapsheet(s): 115G02

Location Comments: Location from AR093371

Hand Samples Available: Yes

Last Reviewed:

Capsule

Work History

Staked as Rawhide, Eagle, etc cl (65197) in Apr-Oct/53 by P. Verslucce, H. Verslucce and C. Gibbons, who optioned the property in Apr/54 to R. Hide. Restaked as Ram cl 1-6 (72751) in Aug/56 by M. McCallion; as Eva cl 1-4 (77040) in Oct/61 by D. Carnegie; and as Spy cl 1-12 (Y66849) in Jul/72 by Nickel Syndicate (Canadian Superior Exploration Ltd, Aquitaine, Home Oil Ltd and Getty Mines Ltd), which carried out geological mapping and geochemical sampling in 1972 and 1973.

Restaked as part of the I cl 1-56 (YA95789) in Aug/86 by Polestar Exploration Inc, and as Tony cl (YB5915) in Jul/87 by Walhalla Exploration Ltd, which carried out prospecting and sampling in 1988. Polestar conducted EM, magnetic and geochemical surveying in 1988 and optioned 50% of its interest in the I claims to Hunter Gold Inc in Jan/89.

R.H.W. Temple staked the Ashley cl (YB37999) on Nines creek 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, lithochemical 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 2340 km from Alaska to southern B.C.. In the area of the occurrence, 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 Permian Skolai Group, which consists of Station Creek Formation tuffs, pyritic black tuffs, mafic volcanics and argillite that are overlain by Hasen Creek Formation tuffs, mafic volcanics, argillite and limestone. The Skolai Group is stratigraphically overlain by Middle(?) Triassic phyllite, Upper Triassic Nikolai formation basalt and Upper Triassic McCarthy Formation Limestone and phyllite. Tertiary volcanic and sedimentary rocks unconformably overlie the sequence.

Two major suites of intrusive rocks are present in the belt. The oldest is Triassic and includes gabbro, peridotite, dunite and clinopyroxenite of the Kluane mafic-ultramafic complex and gabbro sills and dykes of the Maple Creek Gabbro. The sills are estimated to be up to 18 km long and 600 m thick. The Maple Creek gabbro is thought to be coeval with the Kluane mafic-ultramafic complex and to have acted as a feeder to the Nikolai formation. The Cretaceous Kluane Ranges suite 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 the basal marginal gabbro phase of the Spy Sill, a northwest-trending sill within which the original Spy Showing occurs. Sulphide mineralization at the Congdon occurrence (Spy Showing) occurs in siltstone in the footwall of the sill, marginal gabbro and feldspathic peridotite.

The Nickel Syndicate found disseminated chalcopyrite and nickeliferous pyrrhotite at the base of the main peridotite dyke and galena and sphalerite in quartz-carbonate veins up to 30 cm wide which cut the dyke. One vein assayed 1.2% Zn and 0.25% Pb. Minor chalcopyrite and pyrrhotite are reported about 4.8 km to the southeast.

Soil sampling in 1988 outlined four gold and four platinum and palladium anomalies with values up to 920 ppb Au, 158 ppb Pt and 277 ppb Pd over an ultramafic sill.

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 peridotite intrusions. A 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-sedimentary contact but no anomalies suggestive of Ni-Cu-PGE mineralization.

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 siltstone of the Hasen Creek formation. New showings discovered by Santoy combined with previously known showings have extended massive and disseminated Ni, Cu and PGE mineralization at the Spy showing to over 950 m in strike length. Although other areas of the Klu claim block were examined, only the area surrounding the Spy Sill appears to possess any economic potential.

References

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- INCO LIMITED, Dec/97. Assessment Report #093726 by K. Hattie.
- ISRAEL, S. and VAN ZEYL, D., 2004. Preliminary bedrock geology of the Quill Creek area (parts of NTS 115G/5, 6, 12), southwest Yukon (1:50 000 scale). Yukon Geological Survey, Open File 2004-2.

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YUKON EXPLORATION 1987, p. 247.

YUKON EXPLORATION & GEOLOGY 1996, p. 23, 30.

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	Geochemistry	Also silt sampling.
12/31/1997	Geology	
12/31/1997	Ground Geophysics	Also UTEM survey.
12/31/1996	Airborne Geophysics	Also magnetic survey.
12/31/1995	Geochemistry	Also soil, silt and lithogeochemical sampling.
12/31/1995	Geology	
12/31/1988	Geochemistry	Also rock sampling.
12/31/1988	Ground Geophysics	Also VLF-EM survey.
12/31/1988	Other	
12/31/1973	Geochemistry	
12/31/1973	Geology	
12/31/1972	Geochemistry	
12/31/1972	Geology	

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
097265	2018	Prospecting and Trenching Report on the Spy Property	Rock - Geochemistry, Hand - Trenching		
096987	2016	Assessment Report on the 2016 Spy Project	Rock - Geochemistry, Soil - Geochemistry		
096565	2014	Assesment Report on the Spy Property 2014 Exploration Program	Petrographic - Lab Work/Physical Studies, Process/Interpret - Pre-existing Data		
096111	2011	Geological and Geochemical Assessment Report on the Spy Project	Rock - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other		
095204	2008	Prospecting and Geochemical Report on the 2008 Spy Project	Rock - Geochemistry, Prospecting - Other		
094687	2005	An Initial Field Investigation and Data Compilation on the Klu Property	Rock - Geochemistry, Process/Interpret - Pre-existing Data		
094164	2000	Report on Geological and Geochemical Surveys on the Klu Property	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology		
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		
092092	1988	Geological, Geophysical and Geochemical Report on the I, IV and V Mineral Claims	Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Magnetics - Ground Geophysics		
060154	1973	Geological Report	Bedrock Mapping - Geology		