



Occurrence Details

Occurrence Number: 1050 009
Occurrence Name: Emerald
Occurrence Type: Hard-rock
Status: Showing
Date printed: 8/6/2025 8:13:30 AM

General Information

Secondary Commodities: bismuth, copper, gold, molybdenum, silver, tungsten
Deposit Type(s): Porphyry-related Au
Location(s): 63°35'58" N - -131°20'2" W
NTS Mapsheet(s): 105011
Location Comments: 1 Kilometres
Hand Samples Available: No
Last Reviewed:

Capsule

Work History

The initial discovery was made by J.O. Wheeler of the Geological Survey of Canada in 1952. AGIP Canada Ltd staked Ice cl 1-20 (YA41024) 3 km to the west in Sept/79. The following year, the company carried out an extensive geological mapping and regional geochemical program on and off the claim block. Favorable silt samples results in areas adjacent to the claims, lead AGIP to stake Ice cl 21-143 (YA42443), which encompass the showing and Fire cl 1,3, 9-28 (YA42060). In 1981, AGIP carried out hand trenching, geological mapping, and rock and soil sampling on their claims and staked Sun cl 1-139 (YA62957) to the east. The eastern end of the Sun claims encompasses Minfile Occurrence #1050 030. The property was optioned briefly in 1983 by Cominco, which performed a limited program of mapping and geochem sampling and an airborne EM/mag (DIGHEM) survey. AGIP changed its name to AGIP Resources Ltd in 1988.

Golden Rum Resources Ltd staked Qtz cl 1-4 (YB2381) 4 km to the south in Jul/88. B. Kreft staked a single John cl (YB28491) 5 km to the southeast in Sep/92.

In Apr/95, B. Lueck essentially restaked the AGIP property as My cl 1-154 (YB44205). Lueck also staked Her cl 1-4 (YB44181) 12 km to the south and His cl 1-4 (YB44185) 8 km to the southwest at the same time. In the summer of 1995 APC Ventures Ltd carried out an intensive geochemical sampling program on the My claims and reconnaissance sampling on the His and Her claims. In 1996 Yukon Gold Corporation drilled 2 diamond drill holes on the Tom Zone (length unknown), neither of which were filed for assessment credit. In Jun/97 the My, His and Her claims were optioned to Cyprus Canada Ltd which carried out a reconnaissance sampling.

In Aug/94 R. Tyson staked Sceptre cl 1-3 (YB43172) 4 km to the southeast. The claims were transferred the same month to Tyson's Fine Minerals Inc. In Aug/96 a 3 man crew spent 10 days collecting quartz crystals and other mineral specimens from miarolitic cavities located within 100 metres of the pluton's contact zone.

Capsule Geology

The showing is located at the northwest end of the Emerald Lake Pluton. Smit (1984) described the pluton as a saturated, metaluminous, alkaline to calcalkaline, epizonal syenite to granite of Upper Cretaceous age, (92 Ma) which passively intrudes Cambrian to Devonian sedimentary rocks of the Selwyn Basin. Smit described 3 phases within the pluton. The Main phase consists of pink to white orthoclase megacrysts with large hornblende crystals and finer grained plagioclase, orthoclase and some quartz. The Biotite phase is finer grained than the Main phase and contains fine to medium grained biotite but little hornblende. The Blue Trachytic phase consists of a bluish grey colored rock that is generally more mafic than the other phases and contains roughly aligned to trachytic orthoclase megacrysts and finer grained mafics, orthoclase, plagioclase and sometimes quartz.

The Main phase makes up 75% of the pluton, the Biotite phase occurs in the central-south portion and the Blue Trachytic phase occurs in the west end and the Horn Peak outlier.

Contacts between the phases are gradational. Between the Main and Blue Trachytic the transition is a few to several metres wide. The border between the Main and Biotite phases is even more gradational and the Biotite and Blue Trachytic phases are never in contact. The Main phase was observed intruding the Blue Trachytic phase, but no intrusive relationships were observed between the Main and Biotite phases.

The contact between the intrusion and sedimentary rocks is generally quite sharp, but in rare instances gradational over a few centimetres. The contact region displays a well developed hornfelsic contact metamorphic aureole extending for several km away from the margins of the intrusions. There is some injection of dykes into country rock but most only go a few meters outside the mapped pluton boundary. The intrusion remains coarse grained right to its outer contacts and even the dykes are coarse grained. Aplitic, rarely pegmatitic, dykes intrude all phases of the pluton. Uncommon dykes include, in the west, a few composed almost entirely of orthoclase and one which contains aligned orthoclase crystals in a more mafic matrix. In the southwest corner, the Blue Trachytic phase has been cut by white weathering, orthoclase megacrystic granite dykes of similar appearance to the Main phase.

Vugs were observed throughout the pluton. They can be up to several meters across but are usually just a few centimeters across and ubiquitous. They are most common in the western half of the pluton and contain quartz, tourmaline, orthoclase, biotite and sometimes sulphide mineralization. Quartz crystals larger than 0.5 m long have been found.

Mineralization appears to be a late event which involved highly differentiated post magmatic fluids moving through and leaving precipitates in fractures and open joints. Veins with quartz, orthoclase, tourmaline and biotite gangue contain bismuth, copper, gold, molybdenum and tungsten mineralization. The veins are generally less than a centimeter wide, occur in all phases of the pluton but are locally concentrated. The veins do not noticeably alter the surrounding wall rock.

The GSC showing consists of scheelite in carbonate and quartz veins and as disseminations in a trachytoid syenite phase at the northwest end of the Emerald Lake Intrusion and in adjacent hornfelsed sedimentary rocks.

The original Ice claims were staked by AGIP to cover a small radioactive zone located approximately 3 km to the southeast. Regional silt sampling identified gold geochemical anomalies along the southwest and southeast sides of the claim block. Follow-up work led to the discovery numerous mineralized showings consisting of swarms of quartz veins containing pyrrhotite, chalcopyrite, pyrite, arsenopyrite, molybdenite and tourmaline. Gold values are associated with bismuthinite and arsenopyrite along joints and fractures in the syenite and adjacent hornfelsed sedimentary rocks. Mineralized specimens return assays up to 253.0 g/t Au and 157.7 g/t Ag. Although the initial results warranted a continued exploration program, a change in corporate direction (i.e. company focused on oil and gas and uranium exploration) caused AGIP to allow their claims to lapse.

APC Venture Ltd's exploration program was focused at locating and sampling mineralized showing previously located by AGIP and prospecting for new mineralized showings. APC identified 4 separate areas of mineralization, of which two, the Meadow and Tom zones occur in the vicinity of the Grizz occurrence (Minfile Occurrence #1050 030).

1) The Mt. Soleil zone appears to be an extension of the original GSC showing. The zone which was first identified by AGIP geologists consists of fractured hosted and replacement mineralization consisting of quartz and sulfides in a stockwork zone which outcrops for an exposed strike length of approximately 600 meters. Due to the ruggedness of the area APC sampled this area using professional climbers. A 8.5 m chip sample from the zone returned 2.2 g/t Au while grab samples returned up to 7.75 g/t Au.

2) The Glacier zone is centered around a set of ridges located about halfway between the showing and the north end of Emerald Lake. The zone is situated along the margin between the Emerald Lake Pluton and the intruded sedimentary rocks and is partially obscured by glaciers. Part of the zone is located on Tyson's Sceptre claims. Three types of mineralization was observed. Miarolitic cavities, varying from a few cm to more than 2 m in diameter typically contain abundant quartz crystals and tourmaline plus arsenopyrite. Scheelite, beryl, native bismuth, native gold, bismuthinite, pyrite, marcasite, molybdenite, sphalerite, galena, tetrahedrite, tennantite and chalcopyrite were identified in a detailed mineralogical study of miarolites conducted by AGIP.

A conjugate set of veins and fractures that are usually mineralized with quartz, tourmaline and frequently molybdenite, arsenopyrite and pyrite or pyrrhotite are found peripheral to the miarolites along the pluton margin. This fracture system strikes east-west and ranges from moderately north-dipping (200-500) near the margin of the pluton along the central ridge and

the south ridge, to more steeply dipping (700-900) at the structurally lower levels toward the center of the pluton. This fracture system appears related to the miarolites, as these mineralized fractures emanate from the miarolites, specifically some smaller (<1m diameter) miarolites that appear to flatten parallel to the plane of the fractures.

A set of mineralized fractures that usually strike north-south and dip steeply to the east crosscut the above mentioned veins in some places. Mineralization in these fractures usually consists of fine-grained, disseminated arsenopyrite and pyrrhotite with a rusty alteration envelope along fracture margins ranging from less than 1 cm to several cm in width and composed of unidentified minerals, probably mostly phyllosilicates. Several chip samples collected from areas dominated by this fracture system along the South Ridge yielded Au concentrations between 55 and 676 ppb but samples containing higher concentrations of Au were correlated with the earlier mentioned fractures in these areas.

Significant results from the Glacier zone include 1.6 g/t Au over 85m (AGIP), 1.51 g/t Au over 90 m (APC) and 2.01 g/t over 36 m (APC). These and other results indicate that there is potential for a large low grade gold deposit in this zone.

Cyprus Canada collected 8 rock samples from altered and hornfelsed sedimentary rocks located near the contact zone with the pluton. The best result returned 103 ppb.

Tyson's field crew collected quartz crystals and other minerals from 8 different miarolitic cavities. Due to the difficulty of evaluating the quality of the samples in the field several hundred pounds of quartz crystals were collected and shipped to a mineral laboratory for evaluation. The pieces were cleaned and trimmed and then finished into a variety of spheres, eggs and free-form pieces. The crystals were judged to be of equal or better quality than the Brazilian smoky quartz commonly available. The author concluded that due to the remoteness of the property and the difficulty in evaluating crystals in the field it is unlikely the claims could stand on their own as an economic venture.

The His and Her claims cover Upper Cretaceous small granitic plugs. The His claims intrude Silurian Steel Formation rocks consisting of rusty green to buff argillites, minor black shales and cherts and a prominent bed of bright-orange weathering dolostone. The Her claims intrude Cambrian to Ordovician argillites, cherts, black graptolitic shales, conglomerates and volcanlastic and volcanic rocks. Chip sampling of both intrusive bodies by Yukon Gold returned several samples anomalous for gold. In 1997 Cyprus Canada collected 12 chip, grab and silt samples from the Her claim block. Four samples assayed from 158 to 390 ppb Au. No work was carried out on the His claims.

References

AGIP CANADA LTD, Jan/81. Assessment Report #090693 by D.G. Bailey and G. Wells.

AGIP CANADA LTD, Aug/81. Assessment Report #090857 by R.C. Robertson and R.A. Doherty.

AGIP CANADA LTD, Sep/81. Assessment Report #090866 by R.C. Robertson, R.A. Doherty & T. Garagan.

AGIP CANADA LTD, Jun/82. Assessment Report #091057 by T. Garagan and R. Robertson.

AGIP CANADA LTD, Sep/81. Assessment Report #091058 by T. Garagan and R. Robertson.

AGIP CANADA LTD, Feb/83. Assessment Report #091429 by T. Garagan.

APC VENTURES LTD, Mar/96. Assessment Report #093484 by J.J. Irwin.

ALLIANCE PACIFIC GOLD CORP, 6 Aug/97. News Release.

CECILE, M.P. 1998. Geology and structure cross-section, Arrowhead Lake, Yukon Territory; Geological Survey of Canada Map 1943A, scale 1:50 000.

CYPRUS CANADA INC, Apr/98. Assessment Report #093827 by X. Jong and D Broughton.

GEOLOGICAL SURVEY OF CANADA Paper 53-7, p. 40-41.

GEORGE CROSS NEWSLETTER, 11 Aug/97.

SMIT, H., 1984. Petrology, chemistry, age, and isotope study of the high potassium Emerald Lake Pluton, Eastern Yukon Territory. Unpublished B.Sc. Thesis, University of British Columbia.

TYSONS FINE MINERALS INC, Sep/97. Assessment Report #093723 by J. Gorham.

YUKON EXPLORATION AND GEOLOGY 1981, p. 174; 1982, p. 163-164; 1983, p. 216; 1995, p. 14, 16. 1996, p.25, 30.

YUKON GEOLOGY AND EXPLORATION 1979-80, p. 215.

YUKON GOLD CORPORATION, Jun/96. Assessment Report #093499 by B. Lueck.

Work History		
Date	Work Type	Comment
12/31/1997	Geochemistry	Cyprus Canada undertook reconnaissance scale program on My, His and Her claims.
12/31/1996	Geochemistry	Tyson's collected quartz crystals on Sceptre claims.
12/31/1995	Geochemistry	
12/31/1983	Geochemistry	Also soil sampling.
12/31/1983	Geology	
12/31/1983	Airborne Geophysics	Also magnetic survey.
12/31/1981	Geochemistry	Also soil sampling.
12/31/1981	Geology	
12/31/1981	Trenching	
12/31/1980	Ground Geophysics	Conducted on samples.
12/31/1980	Geochemistry	
12/31/1980	Geology	

12/31/1980	Geochemistry	
12/31/1980	Other	

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
096026	2011	Assessment Report, 2011 Surface Geochemical Exploration Program	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry		
093827	1997	1997 Geological Assessment Report on Emerald Lake Claims	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry		
091076	1982	The Geology of the Old Cabin Claims	Detailed Bedrock Mapping - Geology, Process/Interpret - Pre-existing Data		
090866	1981	Assessment Report on Geological Mapping, Geochemical Sampling and Trenching, Ice Claims	Orthophoto - Airphotography, Rock - Geochemistry, Silt - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other, Handblast - Trenching		
091057	1981	Supplementary Assessment Report for Ice Claims 1-143	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Line Cutting - Other, Handblast - Trenching		
019809	1968	Hess Area Project Proposed Property Follow-Up 1968 Field Season	Research/Summarize - Pre-existing Data		
019033	1968	Atlas Explorations Limited Project Report 1968 Hess River Area	Silt - Geochemistry, Soil - Geochemistry, Regional Bedrock Mapping - Geology		
018947	1967	Hess River Project Report	Rock - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology		
019032	1967	Hess River Project Report	Data Compilation - Pre-existing Data		

Related References

Number	Title	Page(s)	Reference Type	Document Type
ARMC008209	Topographic map showing Cu, Pb, and Zn geochemical values - Arrowhead Pass area		Property File Collection	Geochemical Map
ARMC008013	Geochemical sample map - Old Cabin Creek area		Property File Collection	Geochemical Map
ARMC008023	Geology of claim map - Old Cabin Creek area		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC015553	Sheet map of 1050/11 with geochemical sample locations and results marked		Property File Collection	Geochemical Map
ARMC015562	Geochemical map with location and results - Emerald Lake		Property File Collection	Geochemical Map
ARMC015559	Frequency distribution Cu-Pb-Zn soils - Emerald Lake area		Property File Collection	Geochemical Map
ARMC018192	Field sheet of 1050 with notations		Property File Collection	Geoscience Map (General)
ARMC018193	Field sheet of 1050 Niddery Lake with geology notations		Property File Collection	Geoscience Map (General)