



Occurrence Details

Occurrence Number: 1150 164
Occurrence Name: Matgan
Occurrence Type: Hard-rock
Status: Prospect
Date printed: 6/14/2025 6:08:42 PM

General Information

Secondary Commodities: gold, palladium, platinum
Deposit Type(s): Ultramafic Mafic Alaskan-type Pt+/-Os+/-Rh+/-Ir
Location(s): 63°41'43" N - -139°1'23" W
NTS Mapsheet(s): 115011
Location Comments: .5 Kilometres
Hand Samples Available: No
Last Reviewed:

Capsule

Work History

Staked as Dun cl 1-24 (YC20619) in March, 2001 by 19651 Yukon Inc., which staked Farm cl 1-6 (YC20613) to the north at the same time. The company carried out basic geological mapping, geochemical sampling, prospecting and magnetic and VLF geophysical surveys in the first half of 2002. In the latter half of the year the company dug trenches, carried out additional magnetic and VLF geophysical surveys, and drilled 6 auger drill holes (58.5 m).

In 2005, Klondike Star Mineral Corp. performed soil surveys across the property.

Capsule Geology

The occurrence is located at the northwest end of the Yukon portion of the Yukon Tanana terrane, on the south side of the Indian River. The area in general escaped glaciation, thus the occurrence is underlain by thick fluvial silt, sand and gravel deposits. The area located immediately south of the occurrence was remapped in 2001 by Ryan and Gordey (2002, 2003) as part of the ancient Pacific Margin NATMAP Project initiated by the Geological Survey of Canada, Yukon Geological Survey and British Columbia Geological Survey Branch. Mortensen (1996) mapped the area north of the Indian River, Lowey (1983) mapped the occurrence and surrounding area, and Bostock (1942) mapped the entire Ogilvie map sheet (1150 and 115N).

Employing Bostock and Lowey's early work and extrapolating Ryan and Gordey's work, it is likely that the occurrence area is underlain by Devonian to Mississippian siliclastic metasedimentary rocks. The metasedimentary rocks are likely interstratified with amphibolite rocks that represent volcanic piles built up on the siliclastic foundation. Orthogneiss rocks, derived from tonalite and diorite sheets, likely intrude the volcanic piles represented by the amphibolite rocks. Evidence of this can be observed about 1 km southwest of the occurrence where Ryan and Gordey mapped grey gneiss. The sequence may or may not include felsic to intermediate orthogneiss, composed of pink to orange, weathered granite to granodiorite sheets and veinlets that crosscut the diorite and tonalite sheets with which they were transported.

Cretaceous clastic and volcanic rocks probably unconformably overlie the previously described sequence (Bostock, Lowey, Ryan and Gordey). The lower part is a succession of interbedded sandstone, shale, conglomerate and minor coral which is correlated with the Tantalus Formation. This is in turn overlain by voluminous basalt and andesite flows assigned to the lower Carmacks Group. Large tracts of both units flank Haystack Mountains, located due west of the occurrence. The conglomerates are known to carry gold and several occurrences in the area have been explored for their paleoplacer gold potential.

The occurrence marks the location of a small ultramafic intrusion. Both Bostock and Lowey noted its presence on their respective maps. Prospecting identified an outcrop containing green, dark brown weathering dunite. Morgan et al., felt that the intrusion might represent a potential Alaska Type ultramafic platinum group element (PGE) deposit. A regional airborne magnetic survey (Shives, 2001), jointly funded by the Geological Survey of Canada and the Yukon Geology Program, identified a magnetic high over the intrusion.

Rock sampling in early 2002 returned values of up to 0.12 g/t palladium, 1,669 ppm nickel, 987 ppm chromium, 972 ppm manganese, and 12 wt% magnesium. The ground magnetic/gradient survey identified numerous magnetic and gradient anomalies within the larger airborne magnetic survey. The two highest magnetic anomalies were hand trenched and sampled. One trench, located in the south central end of the intrusion, returned 24 ppb platinum and 13 ppb palladium over 1 metre.

The six auger drill holes were collared across Bishop Creek in the middle of the intrusion and in the most deeply eroded section of the dunite body. None of the holes intersected anomalous platinum group elements (PGE), but a composite sample comprised of longtom concentrates from 3 holes returned 204 ppb gold.

Soil sampling in 2005 returned up to 50.5 ppb Au, platinum and palladium were not mentioned in the results.

Work History

Date	Work Type	Comment
12/31/2002	Geochemistry	
12/31/2002	Geology	
12/31/2002	Drilling	Six holes, 58.5 m.
12/31/2002	Ground Geophysics	Also VLF-EM survey.
12/31/2002	Trenching	

12/31/2001	Other	Preliminary prospecting carried out at time of staking.
12/13/2005	Geochemistry	

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
096221	2011	2011 Surface Work on the Bishop-Montana Property	Soil - Geochemistry, Soil - Geochemistry		
096006	2010	2010 Drilling on the Bishop Property	Diamond - Drilling, Diamond - Drilling, Drill Core - Geochemistry, Drill Core - Geochemistry	10	1384
094701	2005	Geological Mapping, Rock and Soil Geochemistry, Trenching and Magnetometer Survey on the Indian River Project	Drill Cuttings - Geochemistry, Rock - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Magnetics - Ground Geophysics, Heavy Mineral Concentrate - Lab Work/Physical Studies, Prospecting - Other, Backhoe - Trenching		
094397	2002	Assessment Report Geophysical and Geochemical Report DUN and FARM Claims	Rock - Geochemistry, Detailed Bedrock Mapping - Geology, EM - Ground Geophysics, Magnetics - Ground Geophysics, Line Cutting - Other, Prospecting - Other, Handblast - Trenching		
094422	2002	Geophysical and Geochemical Assessment Report DUN and FARM Claims	Auger - Drilling, Drill Cuttings - Geochemistry, Rock - Geochemistry, EM - Ground Geophysics, Magnetics - Ground Geophysics, Heavy Mineral Concentrate - Lab Work/Physical Studies, Line Cutting - Other, Handblast - Trenching	6	58.52
120354	1984	Placer Gold Potential of Central Indian River, Klondike Placer Goldfields	Resource Estimate - Studies		
090105	1976	Report on Airborne Magnetometer Survey on the McKinnon and Montana Creek Claims	Magnetic - Airborne Geophysics		

Related References

Number	Title	Page(s)	Reference Type	Document Type
2001-10	Multisensor airborne geophysical survey, Stewart River area, parts of 115N, 115O, 116B.		Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Open File (Geophysical)
YEG1983-pg69	Auriferous conglomerates at McKinnon Creek, west-central Yukon (115O/11): Paleoplacer or epithermal mineralization?		Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report Paper