Occurrence Details

Occurrence Number: 105H 103
Occurrence Name: Sprogge
Occurrence Type: Hard-rock
Status: Prospect
Date printed: 8/6/2025 2:17:26 AM

General Information

Secondary Commodities: antimony, arsenic, bismuth, gold
Aliases: Sugar Bowl, Ridge East, Ridge West, Swagman, Shelia/Kd
Deposit Type(s): Plutonic Related Au, Vein Au-Quartz
Location(s): 61°42'36.97" N - -128°14'21.17" W
NTS Mapsheet(s): 105H09
Location Comments: Location is for Meadows zone, Ridge East (formerly Ridge zone) = 540855 W 6841540 N, Ridge West = 540090 W 6841965 N, Swagman = 541335 W 6841180 N, Shelia/KD = 541225 W 6842050 N
Hand Samples Available: No
Last Reviewed: Jan 14, 2013

Capsule

Work History

Discovered in 1996 during regional exploration by Hemlo Gold Mines Inc which staked Sprogge cl 1-10 (YB85182) in Jun/96 and carried out rock geochemical sampling. Favourable results prompted the company to stake Sprogge cl 11-54 (YB85338) contiguously to the southeast and Sprogge cl 55-74 (YB85781) to the southwest and northwest in Jul/96, before merging with Battle Mountain Canada Ltd which carried out reconnaissance mapping and sampling.

In Aug/97 Battle Mountain entered into an option agreement with Viceroy Exploration (Canada) Ltd on the Sprogge claims and the adjoining Justin claims (Minfile Occurrence #105H 035) located 9 km to the southeast. Viceroy carried out geological mapping, soil geochemical sampling and hand trenching on both claim groups in Sep/97. In Oct/97, the company staked Snow cl 26-101 (YB90799) to surround the Justin claims and Sprogge cl 75-158 (YB90875) between the existing Sprogge claims and the Justin/Snow claims forming a single contiguous block of claims covering 15 km of prospective stratigraphy.

In 1998 Viceroy carried out systematic soil geochemical sampling across 75% of the claim group, detailed mapping and rock chip sampling of known anomalies, and reconnaissance style mapping and sampling over the remainder of the property. In Aug/98 the company staked Sprogge cl 159-202 (YB91350) on the north side of the northwest end of the claim group to secure an access corridor to the nearby Nahanni Range Road.

In Mar/99 NovaGold Resources Inc acquired 100% of Viceroy's interest in this and 21 other grassroots properties in the Yukon in exchange for 3.4 million common shares. Later in 1999, NovaGold carried out a brief evaluation of the claims that included prospecting, geological mapping and geochemical (rock) sampling.

In Sep/2000 NovaGold entered into an agreement with Kennecott Canada Inc to fund exploration expenditures on the property and together they drilled 4 holes (762 m) on this occurrence and tied-in previous mapping and sampling locations.

In Feb/2001 NovaGold sold the surviving Sprogge claims to Newmont Canada Ltd. In May/2005 Newmont optioned a 73% interest in the Sprogge claims to 650399 BC Ltd, a wholly owned subsidiary of Alexco Resource Corporation. In Dec/2010 Newmont Canada and Alexco Resource announced a tentative deal to option a 100% interest in the Sprogge claims to Northern Tiger Resources Inc in return for cash payments and certain work commitments. The deal was finalized in Apr/2011.

In 2011 Northern Tiger flew a an airborne magnetic and radiometric survey over the Sprogge claim block and carried out rock, soil and silt sampling programs over selected portions of the claims. In 2012 Northern Tiger carried out trenching and chip sampling on the Meadows, Ridge East and Ridge West zones.

Capsule Geology

The occurrence area is located in east-central Yukon approximately 175 km north of the Town of Watson Lake. The actual occurrence lies approximately 6 km east of the Nahanni Range Road which services North American Tungsten Corporation Ltd's Cantung tungsten mine which is located approximately 30 km to the north. The area lies within the Selwyn Mountains and is underlain by a sequence of Selwyn Basin stratigraphy composed primarily of shallow marine shelf and off-shelf sedimentary rock derived from the ancient North American Platform.

The occurrence area is underlain by a broad package of west-northwest trending, north-northeast dipping coarse grained clastic sediments, siltstones, pyllitic shale, limestone and calcareous siltstone and shale of the Upper Proterozoic to Lower Cambrian Hyland Group. Various companies have previously assigned the Hyland Group rocks to the Neoproterozoic Yusezyu Formation. Recent mapping by C. Buchanan, a geologist employed by Northern Tiger Resources suggests that the Sprogge claims are underlain by calcareous sedimentary rocks tentatively assigned to the Algae Lake member. The Algae Lake member is comprised of a succession of calcareous phyllite, calcareous arkosic sandstone, thin-bedded calcareous siltstone, ribbon-bedded limestone, thick-bedded non-calcareous quartz pebble conglomerate and locally limestone cobble to boulder breccias that were deposited at the top of the Yusezyu Formation, and separate it from the overlying Narchilla Formation. The Algae member has been mapped elsewhere within the Selwyn Basin by Colpron (2012) and others. Buchanan is the first geologist to record its presence in the Hyland River-Nahanni Road region.

North of the Sprogge claims, a northwest-southeast trending fault separates the Hyland Group rocks from a thin to medium bedded limestone unit assigned to the Cambrian to Ordovician Rabbitkettle Formation. Southeast of the Sprogge claims a thrust fault separates Algae member rocks from younger Narchilla Formation rocks. Two periods of compressional deformation are recorded in the rocks and the package is bounded to the north and south by inferred lateral to oblique-slip faults in the Sprogge and Dayo Creek valleys. Mid-Cretaceous age quartz monzonite and quartz-biotite monzonite dykes and related veining associated with stocks of the Tombstone Plutonic suite have intruded tensional features related to the inferred faulting.

***Previous versions of Yukon Minfile** plotted the occurrence location south of the northern branch of Dayo creek. The correct location of the "Sugar Bowl" area is south of the northern draining double branch of Sprogge Creek (in the vicinity of Sprogge claims # 5 and 6). The error likely occurred during the conversion from NAD 27 to NAD 83 and the digitizing of geological and claim maps. In Jan/2012 the occurrence location was moved to the centre of the Meadows zone which is located on the west side of the Sugar Bowl area.

During a regional exploration program conducted in 1996 Hemlo Gold Mines discovered abundant quartz-arsenopyrite veining within a 2 square km area centred within a north facing cirque, which Hemlo subsequently called the "Sugar Bowl" area. Grab samples collected from the area assayed up to 34 g/t gold. Soil and talus sampling outlined a 2 400 by 1 200 m gold,

bismuth, arsenic and antimony anomaly coincident with iron oxidation, clay alteration, bleaching and stockwork quartz veining. A 1 200 by 600 m core within the anomaly returned average values greater than 200 ppb gold and values as high as 10.3 g/t gold, in soil associated with altered coarse clastic sediments. Exploration work carried out over several seasons outlined numerous mineralized zones.

The Meadows zone (occurrence location) is located on the west side of the "Sugar Bowl" area. The zone is hosted in a 2 m wide, steeply-dipping, southwest-striking brittle fault zone that crosscuts a thin-bedded siltstone unit. The core of the fault zone is comprised of chlorite-muscovite-scorodite altered clay fault gouge. Hand trenching conducted in 1997 and centred on felsenmere containing 15-20% vein material returned values up to 6.9 g/t gold. Follow-up trenching conducted in 1998 on the same zone returned average values of 240 ppb gold. Trenching conducted by Northern Tiger Resources in 2012 on the same zone yielded a composite sample assaying 8.5 g/t gold over 6.8 m, including 40.5 g/t gold over 1 m.

Approximately 250 m east-southeast of the Meadows zone geologists uncovered the Matilda vein. Originally thought to be a separate target, follow-up work in 1998 determined the vein was an extension of the Meadows zone. The vein is approximately 0.3 m wide and resides within a 1.0 m wide alteration zone. Grad samples from the vein returned up to 23.8 g/t gold.

The Ridge East zone (originally called the Ridge zone) is located approximately 850 m southeast of the Meadows zone and is characterized by quartz tension vein arrays formed within steeply-dipping, west-striking brittle-ductile shear zones that cross-cut a thick package of quartz pebble conglomerate. Stockwork quartz veins are developed outside the narrow high-strain shear zones, within the strongly fractured wall rock. Scorodite alteration and visible arsenopyrite is distributed along fractures and within quartz veins. Chip sampling conducted in 1997 returned a value of 1.09 g/t gold over 4 m, however follow-up sampling in 1998 ran 315 ppb gold over 3.5 m. Channel sampling conducted by Northern Tiger in 2012 returned 7.6 g/t gold over 2.5 m and 0.4 g/t gold over 2.9 m.

The Ridge West zone, a separate zone discovered in 1997 but not sampled is located 225 m southwest of the Meadows zone. It is comprised of arsenopyrite and clay alteration hosted by a cataclastic unit within a 15 m wide southwest-striking brittle fault zone. Channel samples were collected by Northern Tiger in 2012 from existing outcrops that cut across the strike of the fault zone. Results of 4.6 g/t gold over 1.0 m and 7.1 g/t gold over 1.8 m (amongst others) revealed the presence of gold mineralization within an associated zone of intense hydrothermal alteration.

Approximately 1.1 km east of the Meadows zone, on the east side of the "Sugar Bowl " area, geologists outlined a north-south trending area measuring approximately 400 by 50 m zone where variably altered and mineralized quartz +/- biotite monzonite dykes cut phyllite, greywacke and quartz pebble conglomerate rocks. This zone known as the Shelia/KD zone consistently returned multi-gram gold values to 15.0 g/t in 1997. Hand trenching carried out in 1998 to test a representative section of strongly altered dyke and metasediments failed to verify earlier results. The best result from 1998 returned1.83 g/t gold over 2 m.

The Swagman zone located approximately 1.4 km southeast of the Meadows zone covers an area of irregular quartz-arsenopyrite veining associated with quartz +/-biotite dyke cutting coarse clastic sediments. Veins are 0.2 to 0.4 m wide and a mineralized zone composed largely of vein material returned 9.55 g/t gold. However, the irregular vein setting of mineralization likely limits the economic potential of this zone. Other areas of mineralization were identified on the claims however samples were only obtained from rubble and talus making a proper assessment difficult.

The 2000 drill program was designed to test for mineralization in the" Sugar Bowl" area. Holes 1 and 2 were designed to test for mineralization on the east side of the bowl area, beneath the high-grade surface gold showings located at the Meadows and Ridge East zones. Topography limited the placement of the holes resulting in the holes being drilled sub-parallel to the stratigraphy. Although the holes intersected several fault zones and limited quartz-arsenopyrite veining neither hole encountered significant mineralization. The best intersection was obtained from the end of hole 1, which returned 705 ppb gold over a 0.3 m interval containing brecciated quartz with a hematitic matrix and clots of pyrite and arsenopyrite. Hole 3 was collared to test a felsic dyke that intruded clastic sediments on the east side of the bowl area. Although the hole intersected altered sediments it did not return any significant assay values. Hole 4 was collared in the centre of the bowl area and was designed to test for mineralization at lower levels below the Meadows and Ridge East zones. It also did not intersect any significant mineralization. Overall the 2000 drilling program encountered considerable hydrothermal alteration including silicification and argillic alteration along with disseminated sulphides. However, analysis for gold and more mobile pathfinder elements including arsenic, antimony and bismuth returned values that were significantly lower than those obtained from surface sampling of the main anomaly

NovaGold Resources concluded at the end of 2000 that quartz-arsenopyrite veining and fracture filling discovered to date is widespread throughout the area, but volumetrically small, with typical mineralized veins ranging from 0.1-0.5 m wide and fractures <1-5 cm wide and returning gold grades of 1 g/t to >10 g/t. Barren veining is also common. In general veins and mineralized fractures are separated by 50-100 m or more of barren rock, with mineralization typically extending <10 cm into surrounding wall rock. The wall rock shows oxidation and weak argillization adjacent to and up to a few tens of meters away from the mineralized veins, with limonite staining typically accompanying the argillization. Neither type of alteration has been found to carry any gold values.

Between the end of 2000 and mid-2009 the Hyland River- Nahanni Road area saw little exploration. In mid-2009, Alex McMillan, a Yukon prospector discovered high-grade gold mineralization on the 3Ace property located on the west side of the Little Hyland River. A staking rush ensued and existing properties (claim blocks) were re-examined. The purchase of the Sprogge claim block in Apr/2011 by Northern Tiger Resources led to a re-examination of the claims. Northern Tiger's 2011 exploration program was carried out in association with its adjoining 3Ace property and was targeted at verifying previous results. Soil sampling identified a new 3 km-trend of alteration and sulphide mineralization and rock sampling verified previous results and identified new targets. Drilling planned for 2012 was cancelled due to downturn in the financial markets. In Nov/2012 Northern Tiger released the results of trenching carried out on the Meadows, Ridge East and Ridge West zones. Assays of up to 8.5 g/t gold over 6.8 m, including 40.5 g/t gold over 1.0 m were reported for the Meadows zone. Results from the Ridge East and Ridge West zones mirrored results obtained by Battle Mountain Canada in 1997.

Work History

Date	Work Type	Comment
12/31/2000	Drilling	Drilled 4 holes, 762 m testing Meadowsand Ridge East zones and middle porphry dyke.
12/31/1999	Geology	Reconniassance Scale.
12/31/1998	Geochemistry	Sampled all known anomalies.
12/31/1998	Geology	
12/31/1998	Geochemistry	Grid based.
12/31/1997	Geology	
12/31/1997	Geochemistry	
12/31/1997	Trenching	
12/31/1996	Geochemistry	Reconnaissance scale.
12/31/1996	Geology	Reconnaissance scale.
12/31/1996	Geochemistry	Reconnaissance scale.
12/13/2012	Trenching	Dug on Meadows, Ridge West and Ridge East zones. Trenches were chip sampled and mapped.

12/13/2011	Geochemistry	Over known anomalies.
12/13/2011	Airborne Geophysics	Also magnetics.
12/13/2011	Geochemistry	Grid based over selected areas.
12/13/2011	Geochemistry	
12/13/1999	Geochemistry	Reconniassance scale.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
096895	2013	Geochemical Report on 2013 Exploration on the 3 Ace Property	Soil - Geochemistry		
095790	2011	2011 Exploration Activity on the 3Ace Property: Drilling, Geochemical, and Geophysical Surveys, Little Hydland River	Gamma-Ray Spectrometry - Airborne Geophysics, Magnetic - Airborne Geophysics, Diamond - Drilling, Drill Core - Geochemistry, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Prospecting - Other	4	8458
094225	2000	2000 Geological and Geochemical Assessment Report on the Sprogge Property	Diamond - Drilling, Drill Core - Geochemistry, Rock - Geochemistry	4	762
094128	1999	1999 Geological and Geochemical Assessment Report on the Sprogge Property	Rock - Geochemistry, Soil - Geochemistry		
093959	1998	1998 Geological and Geochemical Assessment Report on the Sprogge Project	Rock - Geochemistry, Soil - Geochemistry		
093783	1997	1997 Geological, Geochemical and Trenching Report on the Sprogge 1-74 and Justin 1-25 Claims	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Prospecting - Other, Hand - Trenching		
093586	1996	Sprogge Property 1996 Exploration Program	Soil - Geochemistry, Detailed Bedrock Mapping - Geology		

Related References

Number	Title	Page(s)	Reference Type	Document Type
YEG1997	Yukon Exploration and Geology 1997	p. 27.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
YEG1998	Yukon Exploration and Geology 1998	p. 28	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
YEG1999_OV	Yukon Mining & Exploration Overview 1999	p. 12 - 14.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
YEG2000_OV	Yukon Mining & Exploration Overview 2000	p. 21, 26, 27.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
YEG2011_OV	Yukon Exploration and Geology Overview 2011	p. 36, 87.	Yukon Geological Survey	Annual Report
YEG2005_08	Gold mineralization in the upper Hyland River area: a non-magmatic origin	p. 109 - 125.	Yukon Geological Survey	Annual Report Paper
YEG2011_03	Preliminary observations on the geology of the Rackla belt, Mount Ferrell map area (NTS 106C/3), central Yukon	p. 27 - 43.	Yukon Geological Survey	Annual Report Paper

Drill core at YGS core library

Number	Property	Year Drilled	Core Size	Photos	Data
SP-00-01	Sprogge	2000	HW	30	9
SP-00-02	Sprogge	2000	HW	45	9
SP-00-03	Sprogge	2000	HW	20	9
SP-00-04	Sprogge	2000	HW	30	9