Occurrence Details

Occurrence Number: 115O 176
Occurrence Name: Touleary
Occurrence Type: Hard-rock
Status: Prospect
Date printed: 8/6/2025 2:16:25 AM

General Information

Secondary Commodities: arsenic, copper, gold, silver, zinc
Deposit Type(s): Volcanogenic Sulphide - type not determined
Location(s): 63°0'24.51" N - -139°8'11.85" W
NTS Mapsheet(s): 115O03
Location Comments: Location marks collar of drill hole TL-11-05.
Hand Samples Available: No
Last Reviewed: Apr 25, 2016

Capsule

WORK HISTORY

The creeks surrounding this occurrence have seen significant placer mining since at least 1945.

Staked within Near cl 1-30 (YB31463) in Jul/90 by Sparkling Minerals Inc, however no exploration work was carried out in the vicinity of the occurrence.

Restaked as TL cl 1-109 (YC76097) in Sept/2008 by ATAC Resources Ltd. The company added TL cl 110-183 (YC93602) to the northeast in Apr/2009. In Jun/2009 ATAC Resources optioned a 50% interest in the TL claims and neighboring Green Gulch, Dan Man and Shamrock claims to Arcus Development Group Inc. The company collectively called the four claim groups the Dawson Gold Project. During the 2009 exploration season Arcus Development carried out reconnaissance geological mapping, rock sampling and auger soil sampling programs on the TL claims.

During the summer of 2010, Arcus Development completed 4 excavator trenches (562 m) to test a gold soil anomaly (Anomaly A) identified in 2009. Two addition trenches (358 m) were dug but did not reach bedrock due to the presence of permafrost. In Aug/2010 the company expanded the claim block by staking TL cl 184-580 (YD30405) and cl 581-632 (YD31571) to the east, west and south.

In Mar/2011 Arcus Development flew a helicopter-borne magnetometer survey over the Dawson Gold project including the TL claims. In Jun/2011 the company carried out detailed auger in-fill soil sampling over previously identified soil geochemical and newly defined geophysical anomalies located on the Main and Northeast grids. At the same time the company commenced ridge crest and spur soil sampling over the West and South grids which covered areas staked in 2010 and are associated with Minfile Occurrence #115J 060.

Later in the exploration season Arcus Development collared 5 diamond drill holes (935 m) to test the down-dip continuity of a mineralized interval exposed in a 2010 excavator trench. The mineralized exposure coincided with a linear magnetic low identified by the helicopter-borne magnetic survey flown earlier in the year.

In late fall 2011 Arcus Development completed a closed spaced airborne Vertical Time Domain Electromagnetic (VTEM) survey over the TL claim block.

During the winter of 2011-12, Arcus Development carried out petrographic, zircon and scanning electron microscope studies on drill core recovered from the 2011 drilling program.

In Mar/2012 Arcus Development fully exercised its property option with ATAC Resources and acquired a 50% interest in the Dawson Gold Project.

Between Late August and early September 2012 the company carried out follow-up soil sampling over the southern half of the south grid located approximately 300 m south and east of Minfile Occurrence #115J 060. The company dug 48 hand pits to investigate various soil anomalies located within the sampled area. In 2013 the company dug a further 133 hand pits to try and further delineate soil anomalies detected in 2012.

GEOLOGY

The occurrence area is located southwest of Thistle Mountain, between the north and south branches of the headwaters of Kirkman Creek, west central Yukon. The area was most recently mapped during regional geological mapping by the Geological Survey of Canada in the early 2000's, first published by Ryan and Gordey (2001a) and compiled with surrounding map sheets by Gordey and Ryan (2005). Arcus Development has only carried out limited geological mapping on their claim block and the regional mapping of Ryan and Gordey (2001a) remains the best geological map for the property.

The area is underlain by a series of thrust slices comprised of Devonian to Mississippian metabasite and metafelsite assigned to the Finlayson assemblage of the Yukon-Tanana terrane (Gordey and Ryan, 2001b). Some rocks especially those located at the southern end of the claim block (near the Yukon River) may be younger and belong to the Permian age, Klondike Schist assemblage (J. Ryan, pers. comm., 2012). The metavolcanic rocks are intruded by Permian age K-feldspar rich granitic orthogneiss.

The host rocks to mineralization are described by Sack and Lewis (2013) as fine to coarse-grained schist with a grain size typically ranging from 0.5 mm to 5 mm; a few crystals can be larger than 1 cm. Layering, where present, is thin to thick (1 cm to 50 cm) and likely represents both primary features (bedding) and metamorphic features. The rocks are commonly pale to dark green and are dominated by chlorite ± muscovite; garnet porphyroblasts up to 1 cm are common in places. The rock textures are heavily modified by hydrothermal alteration and subsequent regional metamorphism and deformation. Most primary textures have been destroyed; however, these rocks are interpreted to have a volcanic and volcaniclastic origin. Based on rock textures and mineralogy the succession is divided into two series: 1) an upper massive to weakly stratified, pale green felsic volcanic series, and 2) a lower, thinly to thickly layered dark green mafic volcanic series (Sack and Lewis, 2013).

Hydrothermal alteration is characterized by an intense quartz + pyrite ± sericite assemblage below mineralization that gradually transitions to chlorite ± sericite above and below mineralization (Sack and Lewis, 2013). Rocks hosting the mineralization coincide with the linear magnetic low feature identified in the 2011 airborne magnetometer survey. Sulphide mineralization within the volcaniclastic horizons is dominantly pyrite and occurs as moderate to heavily disseminated concentrations and rarer semi-massive to massive bands. Copper mineralization is present as chalcopyrite and rarer covellite. Much of the mineralization is coarsely recrystallized and remains roughly parallel to foliation but evidence of primary finely laminated textures has largely been destroyed. The nature of mineralization, alteration, and the host volcanic rocks are consistent with Touleary having a volcanogenic massive sulphide genetic origin (Sack and Lewis, 2013).

Auger soil sampling carried out in 2009 outlined a 1600 m by 150 m north-easterly elongate soil anomaly (A), which typically returned gold values of between 20 and 50 ppb gold with a peak value of 304 ppb gold. There is no apparent correlation between arsenic or antimony and gold in the area. Prospecting carried out in 2009 located an angular piece of limonitic quartz vein float in a road cut located 300 m east of the soil anomaly. It returned an assay of 2.80 g/t gold. Fragments of banded limonite taken from a second road cut located approximately 1 600 m southwest of the first showing, returned an assay of 1.59 g/t gold.

Arcus Development also detected two arsenic soil anomalies in 2009. The first, Anomaly B is located approximately 1.5 km northeast of the occurrence location and features strong arsenic values within a 400 m by 200 m wide area. The second anomaly, Anomaly C lies approximately 1.25 km southwest of the occurrence and consists of weak to moderate arsenic values within a 1 000 m by 400 m area. Neither anomaly received any follow-up work as both returned only background values for gold.

In 2010 Arcus Development dug six trenches across the northeast end of the soil anomaly. Trenches 1 and 2 (358 m combined length) didn't reach bedrock due to deep permafrost; trenches 3 to 6 (combined length of 562 m) did reach bedrock. The best results were obtained from trench 4 (204 m trench length), where a 34 m chip sample returned a weighted average grade of 0.82 g/t gold and 14.3 g/t silver. The other three sampled trenches did not return any significant assay values.

The 2011 airborne magnetometer survey outlined a 5 km long linear magnetic low. Although this feature is structurally offset at a number of locations it is coincident with the long axis of the 1200 m long main gold-copper soil anomaly. In Jun/2011 the company carried out detailed auger in-fill soil sampling over previously identified soil geochemical and newly defined geophysical anomalies.

The 2011 diamond drill program targeted a 300 by 100 m area within a 1 200 m long zone of coincident geophysical and intermittent gold in-soil geochemical anomaly. All five hole intersected volcanogenic massive sulphide (VMS) mineralization. The best result was obtained from drill hole TL-11-05 which returned 2.25 m grading 7.18 % copper, 116 g/t silver, 3.55 g/t gold and 4.30 % zinc. **The occurrence location marks the collar of drill hole TL-11-05.**

The closed spaced airborne Vertical Time Domain Electromagnetic (VTEM) survey flown over the TL claim block outlined a conductive zone coincident to the original gold soil anomaly including the area tested by diamond drilling.

The 2012 and 2013 soil sampling and hand pitting programs were carried out in the southern portion of the claim block, in the immediate area of Minfile Occurrence #115J 060.

Work History

Date	Work Type	Comment
8/1/2009	Geochemistry	Reconnaissance scale.
8/1/2009	Geology	Reconnaissance scale.
8/1/2009	Geochemistry	Auger soil sampling.
7/1/2010	Trenching	Completed 4 trenches to bedrock, 2 trenches did not reach bedrock.
6/1/2011	Drilling	Five holes (935 m). Tested coincident linear magnetic low coincident with gold soil anomaly.
6/1/2011	Geochemistry	Ridge crest and spur samplling over newly staked areas, detailed sampling over main soil anomaly. Used auger to collect samples.
3/1/2011	Airborne Geophysics	Magnetometer survey.
12/13/2011	Airborne Geophysics	Flown in fall 2011.
12/13/2011	Lab Work/Physical Studies	Also zircon and scanning electron microscope studies of drill core.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
096106	2011	Geochemical Sampling, Geophysical Surveying, Trench Reclamation and Diamond Drilling at the Dan Man Property	Magnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Reclamation - Development, Surface, Reclamation - Development, Surface, Diamond - Drilling, Diamond - Drilling, Drill Core - Geochemistry, Drill Core - Geochemistry, Rock - Geochemistry, Rock - Geochemistry, Soil - Geochemistry, Soil - Geochemistry, Prospecting - Other, Prospecting - Other	20	3303.60
096230	2011	Geochemical Sampling, Geophysical Surveys, Petrographic Studies and Diamond Drilling at the Touleary Property	Electromagnetic - Airborne Geophysics, Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Diamond - Drilling, Diamond - Drilling, Drill Core - Geochemistry, Drill Core - Geochemistry, Soil - Geochemistry, Soil - Geochemistry, Petrographic - Lab Work/Physical Studies, Petrographic - Lab Work/Physical Studies, Prospecting - Other, Prospecting - Other	10	1871.80
095550	2010	Assessment Report Describing Excavator Trenching at the Touleary Property	Rock - Geochemistry, Rock - Geochemistry, Backhoe - Trenching, Backhoe - Trenching, Backhoe - Trenching		
096207	2010	High resolution Airborne Geophysical Report on the White and the Black Fox Group	Electromagnetic - Airborne Geophysics, Gamma-Ray Spectrometry - Airborne Geophysics		
095150	2009	Assessment Report Descibing Geochemical Sampling and Prospecting at the Touleary Property	Rock - Geochemistry, Soil - Geochemistry, Prospecting - Other		

Related References

Number	Title	Page(s)	Reference Type	Document Type

YEG2012_08	Field-portable x-ray fluorescence spectrometer use in volcanogenic massive sulphide exploration with examples from the Touleary occurrence (MINFILE Occurrence 115O 176) in west-central Yukon	p. 115-131.	Yukon Geological Survey	Annual Report Paper
YEG2009_OV	Yukon Exploration and Geology Overview 2009	p. 27, 55.	Yukon Geological Survey	Annual Report
YEG2010_OV	Yukon Exploration and Geology Overview 2010	p. 28, 61.	Yukon Geological Survey	Annual Report
YEG2011_OV	Yukon Exploration and Geology Overview 2011	p. 53-54, 68.	Yukon Geological Survey	Annual Report
YEG2013_OV	Yukon Exploration and Geology Overview 2013	p. 39, 44.	Yukon Geological Survey	Annual Report