Occurrence Details

Occurrence Number: 115J 062
Occurrence Name: Sugar
Occurrence Type: Hard-rock
Status: Prospect
Date printed: 8/6/2025 2:18:30 AM

General Information

Secondary Commodities: antimony, arsenic, gold, zinc
Aliases: Canopus, Coffee
Deposit Type(s): Orogenic Au, Vein Au-Quartz
Location(s): 62°47'56.23" N - -138°58'13.31" W
NTS Mapsheet(s): 115J15
Location Comments: Location marks approximate center point of 2012 drill holes SGD 1-4, best intersections obtained to date.
Hand Samples Available: No
Last Reviewed: Sep 27, 2016

Capsule

WORK HISTORY

*In Oct/2011, the occurrence was moved 3.8 km to the southeast and renamed the Sugar occurrence.

In Jan/70 Quintana Development Ltd staked Canopus cl 1-34 (Y48474) and cl 39-48 (Y48508) 2.75 km to the north. In the summer of 1970, the company carried out prospecting and grid soil sampling programs.

Staked within Coffee cl 1430-1714 (YD42501), in Feb/2010 by Kaminak Gold Corp. The claims are part of the company's large Coffee property which they optioned from S. Ryan in May/2009. In 2010 the company carried out ridge and spur soil sampling in and around the occurrence location.

In 2011 Kaminak Gold carried out ridge and spur soil sampling over the area surrounding the occurrence. On the actual Sugar occurrence (this occurrence) the company carried out detailed follow-up grid soil sampling followed by excavator trenching of detected anomalies. The area was also covered by a property wide helicopter-borne magnetic and radiometric geophysical survey and detailed aerial orthophoto survey.

On February 1, 2012 Kaminak Gold released an Independent Technical Report for the Coffee Gold project. The report authored by SRK Consulting (Canada) Inc reviewed exploration work completed to the end of 2011 and recommended steps the company needed to undertake in 2012 to fulfill the requirements for an initial mineral resource estimate. Although the report mainly covered work carried out on the Coffee Main (Minfile Occurrence #115J 110) and Coffee West (Minfile Occurrence #115J 11) occurrences located approximately 21 km to the northwest, the report did record the results of soil sampling and trenching carried out on the Sugar occurrence (this occurrence).

In 2012 as part of a larger property wide exploration program, Kaminak Gold collared 12 diamond drill holes (3 511.1 m) on the Sugar occurrence. The holes tested 5 separate gold-in soil anomalies located within the occurrence area. The company also carried out detailed, grid based soil sampling east of the occurrence.

On Dec 13, 2012 Kaminak Gold released a maiden Mineral Resource Estimate for the Coffee project. The estimate covered mineralized gold zones/deposits identified at the Coffee Main and Coffee West occurrence located to the northwest although a summary of work completed to date on Sugar occurrence was included in the report.

On May 17, 2013 Kaminak Gold signed an Exploration Cooperation Agreement relating to the Coffee Gold project with Tr'ondek Hwech'in First Nation within whose Traditional Territory the property is located. The agreement sets out a framework in which the company and the First Nation agree to work together in a spirit of partnership to build a positive and mutually beneficial working relationship with respect to the exploration activities that are being undertaken on the Coffee Gold project.

Kaminak Gold spent the 2013 exploration season exploring targets located in and around the Coffee Main and Coffee West occurrences located approximately 21 km to the northwest. The bulk of the drilling budget was used to increase the known resources at the Supremo, Latte, Double-Double and Kona deposits and test the Arabica and Sumatra gold-in-soil anomalies (Minfile Occurrence #115J 110). The company also continued carrying out numerous metallurgical and laboratory tests related to ore processing and recovery. No appreciable work was carried on or around the Sugar occurrence.

On January 28, 2014 Kaminak Gold released an updated mineral resource estimate for the Coffee Gold project. The updated resource estimate incorporated the results of drilling conduct in 2013 at the Supremo, Latte, Double-Double and Kona deposits located to the northwest. No new information was released regarding the Sugar occurrence. The latest resource estimates and metallurgical results were used to prepare a preliminary economic assessment for the Coffee Gold project.

In the spring of 2014 Kaminak Gold conducted a high-resolution, horizontal-gradient magnetic survey over the entire Coffee Gold project. During the 2014 exploration season the company carried out infill soil sampling to increase resolution over exploration targets and over the potential sites of the heap leach pad and waste dump. The company also dug 63 trenches to collect exploration and metallurgical samples and continued metallurgical, hydrogeological, heritage and environmental studies need for a preliminary economic assessment and future feasibility study. Diamond and reverse circulation drilling was focused continuing exploration and holes mainly drilled for the on-going feasibility study. No appreciable work was carried out on or around the Sugar occurrence.

On June 10, 2014 Kaminak Gold announced the results of a Preliminary Economic Assessment (PEA) for the Coffee Gold project. The PEA envisions an owner-operated, approximately 11-year open-pit mine targeting 53 million tonnes of primarily oxide facies material at an average diluted grade of 1.23 g/t gold. The report covered the 4 known deposits and provided a preliminary mine plan and economic forecast of the Coffee Gold project.

On June 18, 2014 Kaminak Gold announced that the company had entered into an Exploration Communication and Cooperation Agreement with the White River First Nation for the company's Coffee Gold project. The First Nation asserts aboriginal rights and title to the area encompassing the project and the agreement outlines a process that ensures that the First Nation is meaningfully involved in the exploration and advancement of the Coffee Gold project.

On July 28, 2014 Kaminak Gold announced that its Board of Directors had approved commencement of a feasibility study for the Coffee Gold project. Feasibility activities were initiated in the third quarter of 2014 and included infill drilling, additional metallurgical test-work, continued environmental baseline activities and a condemnation program.

During 2015 Kaminak Gold continued metallurgical and permitting studies needed to for their feasibility study. An important part of the metallurgical work included investigating various ore crush sizes and simplifying the heap leach and tailings process. On the exploration front the company continued drilling with the aim of defining resources for inclusion in the final feasibility study as well as a continual evaluation of top priority targets in the vicinity of the main resource.

On September 16, 2015 Kaminak Gold announced its selection of a potential access road into the project site. Construction of the road would reduce exploration costs and provide 24 hour access to the property.

Kaminak Gold released an updated mineral resource estimate on September 23, 2015. The new estimate includes the results of a 70 000 m infill drilling campaign conducted on the four main Coffee deposits: Supremo, Latte, Double-Double and Kona and was intended to upgrade the primary oxide gold resource contained in the conventional pit shells defined in the June 2014 Preliminary Economic Assessment.

On January 6, 2016 Kaminak Gold released the results of a Feasibility Study prepared in accordance with National Instrument 43-101 standards for the Coffee Gold project. The study indicates that the project represents a robust, rapid pay-back, high margin, ten year open pit mining and heap leach project that is economic in the current gold price environment. As such Kaminak Gold decided to move the project forward into mine permitting to support mine construction and operation. The feasibility study outlined a new 214 km gravel access road originating near Dawson City. The feasibility study also recommended that once the mine was constructed the company should continue exploring the Sugar occurrence and other mineralized zones on the property.

On May 12, 2016 Kaminak Gold announced that they had entered into a definitive agreement with Goldcorp Inc by which Goldcorp agreed to acquire by way of a plan of arrangement all of the issued and outstanding shares of Kaminak Gold in an all-share transaction. The total consideration offered for the Kaminak shares is approximately C$520 million dollars. Kaminak Gold's Board of Directors unanimously recommended the deal and announced that they would vote all of the shares they own or control in favor of the arrangement. On July 12, 2016 the plan of arrangement was approved by the shareholders of Kaminak Gold and on July 19, 2016 the agreement was finalized by the Supreme Court of British Columbia and the TSV Venture Exchange.

Kaminak Gold's 2016 exploration program is focused on testing resource expansion potential proximal to the proposed mine site as well as further investigating priority gold-in-soil anomalies (like the Sugar Occurrence) identified from previous regional exploration programs.

GEOLOGY

The area was reconnaissance mapped by D. Templeman-Kluit in 1974. M. Colpron of the Yukon Geological Survey released a Tectonic Assemblage map which included this portion of the Yukon-

Tanana Terrane in 2006. In 2013 Ryan, et al. of the Geological Survey of Canada released adjoining 1:100 000 scale geology maps for Stevenson Ridge (northeast and northwest portions. These maps were the result of ongoing geological mapping programs jointly conducted by the Yukon Geological Survey and the Geological Survey of Canada.
At present, the Coffee project covers in excess of 15 000 acres (3 000+ claims) and stretches across topographic map sheet 115J 14 and portions of map sheets 115J 13 and 15. It is located on the south side of the Yukon River and stretches roughly from Britannia Creek on the east to Independence Creek on the west. The property is underlain by a package of metamorphosed Paleozoic rocks of the Yukon-Tanana Terrane that was intruded by a large granitic body in the Late Cretaceous. The Paleozoic rock package consists of a mafic schistose to gneissic panel which overlies the Sulphur Creek orthogneiss. Both packages form the southwestern limb of a northwest-trending antiformal fold with limbs dipping shallowly to the northeast and southwest.
The schistose and gneissic mafic rock package compromises a thick panel of biotite (+ feldspar + quartz + muscovite +/- carbonate) schist with rare lenses of amphibolite which overlies a panel of amphibolite and metagabbro with arc-derived geochemical signatures. Within the schistose panel, slices of 20 m thick serpentinized ultramafic are in tectonic contact with the surrounding rocks. This rock sequence overlies the augen orthogneiss. These rocks are in contact to the southwest with the 98.2 +/- Ma Coffee Creek granite. Both the Paleozoic metamorphic rocks and Cretaceous granite are cut by intermediate to felsic dykes of andesitic to dacitic composition.
Rocks at the Coffee project were deformed by a series of three Yukon Tanana Terrane tectonic events. The oldest event is extension which occurred in the Cretaceous and created brittle fractures and dextral normal faults which host the main gold mineralization. The collision between the Yukon Tanana Terrane and Laurentia occurred in the Jurassic and created east-west shears and thrust faults and introduced slices of ultramafic rocks in tectonic contact with the surrounding rocks. This event produced quartz veining and sericite alteration. The youngest event is the Klondike orogeny which occurred in pre- to late-Permian and produced metamorphic gneissosity and schistosity.
Mineralization at the Coffee project is both structurally and lithologically controlled; hosted in steeply dipping faults and fracture systems which cut all lithologies on the property. Mineralization is controlled by the west-northwest to northwest striking dextral strike-slip Coffee Creek fault system, which is interpreted as a splay off the regional-scale Big Creek fault to the southeast. All gold zones are oxidized from surface; with the oxidation persisting locally down to 300 m below surface (see Minfile Occurrences #115J 110 & 110 (Coffee Main and Coffee West) for detailed descriptions of known gold mineralization discovered to date).
A search of assessment and other exploration records failed to uncover any information regarding Quintana Development's exploration work.

The Sugar occurrence represents a cluster of structurally controlled, diamond drill tested, mineralized gold zones located approximately 21 km south east of the main Coffee Gold project deposits. The occurrence area was studied by S. Bartlett et al., (2016) during the summer of 2015 as part of a BSc Honours project undertaken at the Mineral Deposit Research Unit (MDRU) of the University of British Columbia.
Based on geological mapping performed by Bartlett, the occurrence is underlain primarily by the Coffee Creek phase of the Whitehorse plutonic suite (112 – 100 million years old, unit mKqW). Two distinct, mappable subunits were identified; a K ((potassium) – feldspar phyric hornblende biotite syenogranite and minor monzogranite to quartz monzonite (unit mKqW1); and a compositionally and texturally heterogeneous unit dominated by biotite hornblende quartz monzodiorite, containing minor quartz syenite (mKqW2). Large mappable bodies of Klondike Schist (PK) occur as rafts or roof pendants approximately 4 km to the northwest and volumetrically minor biotite hornblende diorite to quartz diorite (mKdW) forms a separate mappable body approximately 1 km northwest of the occurrence. All units are cut by dikes of biotite hornblende plagioclase phyric diorite (mKaW), informally called "andesite" to differentiate it from the massive diorite unit (mKdW).
The main plutonic units are cut by an array of northwest to north-striking faults with apparent dextral displacement. The timing of fault displacement relative to emplacement of the diorite and andesite units is unknown. Subvertical, hydrothermally altered fault-fracture networks occur parallel to, or coincident with the west to northwest-striking andesite dikes and their margins. The zones of deformation range from 10s to 100s of m wide, and are characterized by numerous individual brittle shears, fractures, veins and tectonic breccias. Three such structural corridors are recognized, and two of these are coincident with gold-in-soil anomalies.
Gold mineralization and both pervasive and fracture-controlled hydrothermal alteration are developed in the west to northwest-trending structural corridors. Pre, syn and post-mineralization veining and alteration are most intensely developed in granitoids, but also cross-cut andesite dikes. Gold mineralization correlates strongly with arsenic in drill core assays and soil geochemistry over several orders of magnitude. Antimony is variably enriched in zones of anomalous gold, although the relationship is not strong. Zinc is also weakly anomalous in gold-mineralized zones, measuring enrichments up to several 100s of ppm compared to background levels below 100 ppm.
Gold mineralization is associated with disseminated sulphides in zones of silica flooding and with variably sheared veins of quartz-carbonate- arsenopyrite +/- pyrite +/- freibergite +/- stibnite +/- sphalerite. Mineralization at the Sugar occurrence appears broadly contemporaneous with that observed at the main deposits located to the northwest and are probably genetically related hydrothermal systems on the basis of their similar structural control, gold-arsenic-antimony association and common spatial and paragenetic relationships to andesite dikes. It is speculated that the Sugar occurrence may represent a more deeply exhumed equivalent to the Coffee gold deposits in which deeper-seated, higher-temperature alteration types and vein-controlled mineralization are exposed at the present-day erosional surface.
The ridge and spur soil sampling program carried out in 2010 outlined a consistent 8 km by 4 km elevated gold-in-soil anomaly peaking at 248 ppb gold. The anomaly was described as being located in the headwaters of Excelsior Creek. Follow-up grid soil sampling carried out in 2011 reduced the size of the gold-in soil anomaly to 4 km long by 1.8 km wide, broken into two broadly east-west trending zones identified as Sugar North and Sugar South. Sugar North measures approximately 1 km east-west by 500 m north-south and consists of a soil anomaly possessing consistent > 50 + ppb gold-in- soil values. Twenty-seven samples returned values higher than 100 ppb gold with the highest sample returning a value of 522 ppb gold.
The Sugar South gold-in-soil anomaly comprises an eastern and western zone, separated by a north-facing slope covered by permafrost that interrupts the anomaly. The eastern zone measures approximately 900 m east-west by 350 m north-south and covers an area where 23 samples returned values of > 100 ppb gold with a peak value of 1 142 ppb gold (1.142 g/t gold). The western zone measures approximately 1 200 m east-west by 600 m north-south and covers an area where 19 samples returned values of > 100 ppb gold with a peak value of 1 450 ppb (1.450 g/t gold). Geophysical data suggests an east-west trending structural zone marked by magnetite destruction at both Sugar North and South. In addition the survey outlined several possible structural trends in orientations similar to those observed at the Coffee deposits located to the northwest.
Kaminak Resources tested 5 distinct soil anomalies located within the Sugar North and South trends with 12 diamond drill holes. Gold mineralization was detected in all drill holes with the best result being recorded in drill hole SGD-1 which returned 2.3 g/t gold over 8 m from between 30 to 38 m depth. Other notable intersections include drill hole SGD-2 which returned 1.34 g/t gold over 19.2 m from between 179.8 to 199 m depth and drill hole SGD-10 which returned 0.96 g/t gold over 3.24 m from between 183 and 186.24 m depth. The remaining drill holes all returned lower grade gold mineralization from narrower intersections.
The drill program showed that higher grade gold mineralization occurs within breccias with coincident pyrite + arsenopyrite +/- stibnite +/- pyrrhotite mineralization and quartz + carbonate + arsenopyrite +/- stibnite veins. Lower grade gold mineralization is associated with sericite +/- silica alteration halos adjacent to the breccia and vein structures and is coincident with disseminated arsenopyrite + pyrite +/- pyrrhotite.
Following the release of the maiden mineral resource estimate in Dec/2012, Kaminak Gold concentrated their exploration efforts on increasing mineral resources/reserves within their four main deposits (i.e. Supremo, Latte, Double-Double and Kona). Given its distance from the main exploration area and the mediocre drilling results, further exploration work on the Sugar occurrence has been suspended until the company has the time and resources to commit to further exploration.

As of January 6, 2016 the Coffee Gold project hosts a Probable mineral reserve of 46 400 000 tonnes grading 1.45 g/t gold. Construction of an access road into the project would help reduce exploration costs associated with exploring the Sugar and other gold mineralized zones located throughout the property.
The occurrence location marks the approximate center point of diamond drill holes SGD 1-4 where in 2012 Kaminak Gold obtained its best drill results for the Sugar gold mineralized zone.

Work History

Date	Work Type	Comment
12/31/2011	Geochemistry	Grid based over anomaly, ridge and spur sampling over surrounding area.
12/31/2010	Geochemistry	Ridge and spur sampling.
12/31/1970	Geochemistry	Grid based.
12/31/1970	Other	
12/13/2016	Studies	Report recommended company carry out further work on Sugar occurrence and other targets once mine is up and running.
12/13/2012	Drilling	12 holes (3,511.1 m), tested 5 separate soil anomalies.
12/13/2011	Airphotography	Over Sugar occurrence.
12/13/2011	Trenching	Tested soil anomalies.
12/13/2011	Airborne Geophysics	Also radiometric survey.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
095505	2011	Assessment Report Describing Geochemical, Geophysical and Survey Work on the Coffee Claims	Gamma-Ray Spectrometry - Airborne Geophysics, Magnetic - Airborne Geophysics, Orthophoto - Airphotography, Diamond - Drilling, Reverse Circulation - Drilling, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Hydraulic - Trenching	247	48001
095302	2010	Coffee Property-2010 Assessment Report	Diamond - Drilling, Drill Core - Geochemistry, Rock - Geochemistry, Soil - Geochemistry, Magnetics - Ground Geophysics, Petrographic - Lab Work/Physical Studies, Backhoe - Trenching	76	16104
095057	2008	Summary Report of the 2008 Aster Image Program on the Canadian Creek Property	Infrared - Remote Sensing		
061127	1970	Geophysical Report on Aeromagnetic Survey	Magnetic - Airborne Geophysics		
019767	1970	Geophysical Report on Airborne Magnetic and Airborne Radiometric Surveys	Gamma-Ray Spectrometry - Airborne Geophysics, Magnetic - Airborne Geophysics		

Related References

Number	Title	Page(s)	Reference Type	Document Type
2006-1	Tectonic assemblage map of Yukon-Tanana and related terranes in Yukon and northern British Columbia (1:1 000 000 scale)		Yukon Geological Survey	Open File (Geological - Bedrock)
YEG2010_15	Geology of new gold discoveries in the Coffee Creek area, White Gold District, west-central Yukon.	p. 233-247.	Yukon Geological Survey	Annual Report Paper
ARMC012527	Field sheet - 115-J-14 - Coffee Creek with geochemical plot		Property File Collection	Geochemical Map
ARMC012526	Field sheet - 115-J-14 - Coffee Creek with geochemical sample sites		Property File Collection	Geochemical Map
ARMC012530	Field sheet - 115-J-14 - Coffee Creek with geology marked		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC012528	Field sheet - 115-J-14 - Coffee Creek with geophysical anomaly locations and geochem. locations plotted		Property File Collection	Geochemical Map
ARMC012529	Field sheet - 115-J-14 - Coffee Creek with home granite marked		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC012542	Field sheet - 115-J-15 - Excelsior Creek showing 1/2 mile geochem.		Property File Collection	Geochemical Map
ARMC012541	Field sheet - 115-J-15 - Excelsior Creek showing geochem. plotted		Property File Collection	Geochemical Map
ARMC012531	Field sheet 115-J-14 - Coffee Creek with minerals marked		Property File Collection	Geoscience Map (Geological - Bedrock)
YEG2014_03	Advances in the mineralization styles and petrogenesis of the Coffee gold deposit, Yukon	p. 29-43.	Yukon Geological Survey	Annual Report Paper
YEG2015_01	Field investigations of the Sugar gold prospect, Dawson Range, Yukon (NTS 115J/14 and 115J/15)	p. 1-16.	Yukon Geological Survey	Annual Report Paper
YEG2010_OV	Yukon Exploration and Geology Overview 2010	p. 27, 58, 64.	Yukon Geological Survey	Annual Report
YEG2011_OV	Yukon Exploration and Geology Overview 2011	p. 44-45, 63, 72.	Yukon Geological Survey	Annual Report
YEG2012_OV	Yukon Exploration and Geology Overview 2012	p. 45-47, 61, 65.	Yukon Geological Survey	Annual Report
YEG2013_OV	Yukon Exploration and Geology Overview 2013	p. 32-33, 41, 47.	Yukon Geological Survey	Annual Report
YEG2014_OV	Yukon Exploration and Geology Overview 2014	p. 20, 39, 42.	Yukon Geological Survey	Annual Report
YEG2015_OV2	Yukon Hard Rock Mining, Development and Exploration Overview 2015	p. 29-30, 42, 46.	Yukon Geological Survey	Annual Report Paper