



Occurrence Details

Occurrence Number: 1150 166
Occurrence Name: Arc Deposit
Occurrence Type: Hard-rock
Status: Deposit
Date printed: 6/14/2025 6:12:48 PM

General Information

Primary Commodities: gold
Secondary Commodities: silver
Aliases: White Gold, White Gold - Arc
Deposit Type(s): Orogenic Au
Location(s): 63°9'41" N - -139°27'51" W
NTS Mapsheet(s): 115003
Location Comments: .5 Kilometres
Hand Samples Available: No
Last Reviewed:

Capsule

Work History

In Jan/2003 S. Ryan staked White cl 1-12 (YC23532) 6.5 km to the northwest. Ryan added White cl 13-46 (YC27120) in Jun/2003 and White cl 47-106 (YC25657) in Dec/2003.

In Jan/2004 S. Ryan optioned the White claims to Madalena Ventures Inc, which performed geological mapping, limited rock sampling and soil sampled the central portion of the claim block. In 2005 Madalena carried out ground magnetic surveys and extended soil sampling to the east and west sides of the claim block. In Jun/2006 Madalena transferred its interest in the White claims to 638523 B.C. Ltd (Newco) a wholly-owned subsidiary of the company in order to concentrate on their oil and gas properties. The White claims option was dropped at the end of 2006 and the claims were returned to S. Ryan.

This occurrence was staked within White cl 107-118 (YC60626) in Mar/2007 by S. Ryan. In May/2007 Ryan staked White cl 119-199 (YC60719) around the outer boundary of the existing White claims. On May 16, 2007 Underworld Resources Ltd optioned the entire White claim block from S. Ryan. Underworld carried out soil sampling, geological mapping, trenching, rock sampling and IP ground surveys on the claim block.

In Jul/2008 White cl 200-303 (YC75721) were added on the northern boundary of the claim block and in Oct/2008 White cl 304-376 (YC84213) were added to Underworlds holdings. In 2008 the company drilled 27 diamond drill holes (3431 m) on the larger White Gold property. Seven holes (1046.5 m) were collared on the Arc zone.

In 2009 Underworld carried out a three phase diamond drill program consisting of 25,670 m in 94 holes with 19 holes (3953.5 m) being collared on the Arc zone. The company also continued metallurgical test work on core samples from the Golden Saddle and Arc zones and significant grid and ridge contour soil sampling programs over the property.

In Jan/2010 Underworld Resources released an Initial Resource Estimate for the newly designated Arc and neighbouring Golden Saddle (Minfile Occurrence 1150 166) deposits. In Mar/2010 Kinross Gold Corp announced a proposed acquisition of all shares of Underworld Resources with the aim of acquiring control of the White Gold deposit and Underworld's various exploration properties located in the Dawson region of the Yukon. In Apr/2010 Kinross announced its successful acquisition of 87% of the issued and outstanding common shares of Underworld Resources. Kinross immediately took steps to acquire the remaining shares of the company and on June 30, 2010 took Underworld Resources private resulting in Underworld Resources becoming a wholly-owned subsidiary of Kinross.

As a privately held company Underworld is not required to release exploration results. According to Yukon Exploration and Geology 2010, Kinross spent \$14,000,000 exploring on both the White Gold and JP Ross properties (Minfile Occurrence 1150 160) located approximately 28 km to the northeast. Property-wide geological mapping, airborne geophysical surveys, soil sampling survey and over 25,000 m of diamond drilling was completed on the two properties.

Capsule Geology

The geology of the Stewart River Area was remapped by J. Ryan and S. Gordey (2004) of the Geological Survey of Canada beginning in 2000 as a component of the Ancient Pacific Margin NATMAP Project. The NATMAP Project is an interagency project initiated by the Geological Survey of Canada, Yukon Geology Program (now Yukon Geological Survey) and British Columbia Geological Survey Branch to understand the composition, relationships and metallogenic of poorly understood pericratonic terranes lying between the ancestral North American margin and those known with more certainty to be tectonically accreted. The Stewart River component focuses on the Yukon-Tanana terrane, comprising complexly deformed mostly (?) Paleozoic meta-igneous and metasedimentary rocks. In 2005 S. Gordey and J. Ryan released a geological compilation map for the Stewart River area. The map units generally remained the same as the 2004 geology map but age dates were changed to reflect new dates obtained through geochronology data.

J. Ryan reported that the Stewart River area is underlain by twice-transposed, amphibolite-facies gneiss and schist of mostly (?) Paleozoic age. These are intruded by younger plutonic rocks (Jurassic, Cretaceous and Eocene) and overlain by upper Cretaceous volcanic rocks. Metasiliclastic rocks are widespread and dominated by psammite and quartzite, with lesser pelite and rare conglomerate. Preliminary detrital zircon geochronology and geochronology for plutonic rocks constrain the siliclastic rocks to the Middle Paleozoic. Amphibolite interdigitates with and stratigraphically overlies the siliclastic rocks. Marble horizons ((?) reefs) occurs within the amphibolite and siliclastic rocks. Orthogneissic rocks with diorite, tonalite and granodiorite protoliths intrude both the siliclastic and amphibole assemblages; it is interpreted as a subvolcanic intrusive complex.

Geological mapping by J. Ryan and S. Gordey shows the area surrounding the occurrence is dominated by an intensely folded package of felsic psammities with lesser quartzite, conglomerate and rare marble horizons, interdigitated with amphiboles of probable volcanoclastic protolith. A felsic orthogneiss has been thrust to the east. This package has been thrust over a weakly deformed garnet-biotite gneissic unit. This contact defines the tectonostratigraphic boundary between the underlying, weakly deformed garnet-biotite gneissic unit and the overlying, intensely deformed assemblage. The deformed assemblage (and most likely the undeformed unit) is cross-cut by quartz monzonite dikes, up to two metres thick with a minimum of three generations of emplacement (observed from cross-cutting relationships) Large quartz diorite dikes, displaying no deformation, have also been mapped to the north and the south. A cap of mafic-ultramafic rock has been thrust on top of the stratigraphic pile.

The occurrence area is underlain by Devonian to Mississippian psammite and schist. S. Ryan, Madalena Ventures and Underworld Resources systematically soil sampled the White claims, expanding the sampling as the claim block grew. To date the sampling outlined a large gold, arsenic and antimony soil anomaly measuring 8.0 by 3 km across the length of the claim block. The anomaly consists of numerous discrete gold anomalies with a threshold of 50 ppb gold. One of the anomalies, the Arc Gold zone located 1 km southeast of the Golden Saddle zone is associated with this occurrence. The Arc Gold zone is characterized by gold values exceeding 80 ppb over a distance of two kilometers and is a separate target from the Golden Saddle zone. Other than soil sampling and reconnaissance geological mapping, little detailed work was carried out in this area of the property. The decision to drill test this area was based on soil

sampling results.

The Arc Gold zone was diamond drilled as part of a larger program centred on the Golden Saddle (Minfile Occurrence 1150 165) zone located 1 km to the northeast. Hole 14 is considered the discovery hole and returned 1.18 g/t gold over 28.5 m from a down hole depth of 6 m. A second hole, Hole 17 collared 600 m from hole 14 returned 1.47 g/t gold over 29 m from a down hole depth of 100 m. The Arc Gold zone is separate from the Golden Saddle zone and is thought to be dipping northeast. The Arc zone mineralization is characterized by breccias with a matrix of sulphides including pyrite and arsenopyrite.

The 2009 drill program on the Arc zone was completed on 100 m centres. Drill holes WD09-57, 58, 65 and 67 have extended the zone to the west-southwest of hole 17. Notable results include hole WD09-58 which returned 34.50 m grading 1.04 g/t gold, 10.5 m grading 1.17 g/t gold and 24 m grading 0.76 g/t gold. Other notable holes include hole WD09-37 which returned 31.5 m grading 1.32 g/t gold, hole WD09-39 which returned 14.5 m grading 1.51 g/t gold and hole WD09-67 which returned 33.5 m grading 0.78 g/t gold and 17.5 m grading 1.39 g/t gold. The 2009 drilling were used to compute a initial mineral resource estimate for the Arc zone.

Seventy-two hour bottle-roll cyanidation tests carried out on composite core samples from the Arc zone achieved gold recoveries ranging from 28% to 37%, however, floatation tests boosted gold recoveries to 86% compared to gold recoveries of up to 98% for the Golden Saddle zone. Cyanidation at the Arc zone is impacted by the presence of graphite which is not present at the Golden Saddle zone and by variations in host rock lithologies.

On January 19, 2010 Underworld Resources released an Initial Resource Estimate for the newly designated Arc deposit. The mineral resource was prepared by SRK Consulting (Canada) Inc which calculated that the Arc open pit deposit hosts an inferred mineral resource of 4,369,000 tonnes grading 1.21 g/t gold (employing a 0.5 g/t gold cut-off). A larger combined underground-open pit mineral resource exists at the neighboring Golden Saddle deposit (see Minfile Occurrence 1150 165 for details). Since its take-over of Underworld Resources, Kinross Gold has not publically released any detailed results from the White Gold project.

As of February 2014, the 2010 resource published by Underworld is still listed on Kinross' website.

Work History

Date	Work Type	Comment
3/3/2010	Studies	SRK Consulting, Resource estimate for the whole White Gold Property, for Underworld Resources.
12/31/2009	Drilling	19 holes, 3953.5 m
12/31/2009	Lab Work/Physical Studies	Carried out on core samples collected from Arc zone. Used to help calculate potential recoveries and mineral resource estimate.
12/31/2009	Geochemistry	Grid based and ridge contour sampling.
12/31/2008	Drilling	7 holes, 1046.5 m
12/31/2007	Geology	
12/31/2007	Geochemistry	Occurrence area was not part of original White claim block thus not sampled until 2007.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
097276	2018	2018 Geochemical, Geophysical, Geological and Drilling Assessment Report	Orthophoto - Airphotography, Diamond - Drilling, Reverse Circulation - Drilling, Rock - Geochemistry, IP - Ground Geophysics, Resistivity - Ground Geophysics	60	18647.05
097246	2017	Geochemical, Geophysical, Geological, and Drilling Assessment Report: White Gold Project	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Orthophoto - Airphotography, Diamond - Drilling, Reverse Circulation - Drilling, Rock - Geochemistry, Soil - Geochemistry	35	5272.19
096215	2011	White Gold, 2011 Surface Exploration Report	Rock - Geochemistry, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Soil - Geochemistry, Regional Bedrock Mapping - Geology, Regional Bedrock Mapping - Geology, Prospecting - Other, Prospecting - Other, Backhoe - Trenching, Backhoe - Trenching		
096216	2011	White Gold, 2011 Drilling Report	Diamond - Drilling, Diamond - Drilling, Drill Core - Geochemistry, Drill Core - Geochemistry	36	7504.96
096207	2010	High resolution Airborne Geophysical Report on the White and the Black Fox Group	Electromagnetic - Airborne Geophysics, Gamma-Ray Spectrometry - Airborne Geophysics		
096206	2010	Geological and Geochemical Report on the White Groups and Black Fox	Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other, Backhoe - Trenching		
095338	2009	Report on the 2009 Diamond Drill, Geological and Geochemical Work Program on the White Gold, Black Fox, Yellow, JP Ross and Maisy Properties	All Weather Road - Development, Surface, Diamond - Drilling, Drill Core - Geochemistry, Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Detailed Bedrock Mapping - Geology, Metallurgical Tests - Lab Work/Physical Studies, Prospecting - Other, Environmental Assessment/Impact - Studies, Resource Estimate - Studies, Backhoe - Trenching	94	25891.67
095090	2008	Drilling - Geochemical - Geological Report on the BLACK FOX CATH CATHY CCC WHITE and WS Claims	Diamond - Drilling, Drill Core - Geochemistry, Rock - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Regional Bedrock Mapping - Geology, Backhoe - Trenching, Hand - Trenching	27	3433
095034	2007	Geochemical Geological Report White Claims	Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, IP - Ground Geophysics, Prospecting - Other, Backhoe -		

