

Occurrence Details

Occurrence Number: 105H 035 Occurrence Name: Justin (Main) Occurrence Type: Hard-rock

Status: Prospect

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General Information

Secondary Commodities: arsenic, bismuth, copper, gold, lead, molybdenum, silver, tungsten, zinc

Aliases: Rain, Sun

Deposit Type(s): Skarn Au

Location(s): 61°39'57.96" N - -128°6'19.91" W

NTS Mapsheet(s): 105H09

Location Comments: The location of this occurrence was taken from figures on Aben's website.

Hand Samples Available: Yes Last Reviewed: May 7, 2019

Capsule

Work History

Staked as Rain cl 1-6 (88754) in Jul/64 by Norquest Joint Venture (Anaconda Mines Ltd, Asbestos Corporation Ltd, Bralorne Pioneer Mines Ltd, Granby Mines Ltd, New Jersey Zinc Exploration Company and Utah Mines Ltd), which carried out geological mapping and magnetometer surveying in 1965.

Restaked as BJ cl 1-6 (Y84189) in Jun/75 by B. Corrigan and as Sun cl 1-8 (YA54675) in May/80 by Vancliffe Resources Corporation which subsequently sold the property to Conquest Exploration Ltd. Vancliffe retained a 10% interest in the claims. Waterloo Energy Corporation staked Lightning cl 1-4 (YA66904) contiguously to the south and Lightning cl 5-6 (YA66908) 2 km to the south in Aug/81.

In 1987 Vista Resource Company Ltd optioned the property from Conquest and staked Sun cl 9-10 (YB835) in Aug/87 and in 1988, together with Conquest and Vancliffe, carried out geological mapping, magnetometer surveying and drilled 4 diamond drill holes (389 m). Noranda Exploration Ltd staked Ptar cl 1-18, 23, 25, 27 (YB14584) in Aug/88 to surround the Sun claims to the north. E.G. Sykes restaked the Sun cl 9-10 as Sun cl 9-10 (YB33646) in Oct/90.

Restaked as Justin cl 1-4 (YB59913) by B. Kreft in Jun/95. Hemlo Gold Mines Inc examined the property in Jul/95 and carried out rock geochemical sampling. In Oct/95 Hemlo optioned the claims and staked Justin cl 5-25 (YB70809).

In 1996 Hemlo Gold Mines carried out geological mapping, prospecting, grid and contour soil geochemical sampling on the Justin claims. During this program Hemlo carried out regional exploration activities outside of the Justin claim block which resulted in the company staking Sprogge cl 1-10 (YB85182) in Jun/96, 9 km to the northwest. In Jul/96 Hemlo merged with Battle Mountain Canada Ltd and staked Sprogge cl 11-54 (YB85338) and cl 55-74 (YB85781).

In Aug/97 Battle Mountain Canada optioned the Sprogge (MINFILE 105H 103) and Justin claims to Viceroy Exploration (Canada) Ltd. In Sep/97 Viceroy Exploration carried out a combined exploration program on both claim groups. Geological mapping, prospecting, soil geochemical sampling and hand trenching was carried out on the Justin claims. In Oct/97 Viceroy staked Snow cl 26-101 (YB90799) and Sprogge cl 75-158 (YB90875) on the north, west and south sides of the Justin claims forming a single contiguous block of claims covering 15 km of prospective stratigraphy, then collectively known as the Sprogge Project.

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 the project. Later in 1999, NovaGold carried out an 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 diamond drill holes (762m) on the adjacent Sprogge claims. According to Assessment Report #094225, "as much of the 1998 drill core that could be located on the Justin property (claims) was transported back to Whitehorse for storage and to be relogged and sampled". No record can be found regarding the present location of the core or the results of the resampling program.

In Apr/2001 NovaGold dropped its option on the Justin property and returned the claims to B. Kreft.

In Mar/2002 Eagle Plains Resources Ltd optioned the Justin claims from Kreft in return for cash payments and certain work commitments. In Mar/2005, the company purchased 100% interest, in the property, subject to a 1% net smelter royalty (Eagle Plains –Consolidated Financial Statements – Dec. 31, 2005. pg. 14).

In Apr/2008 Eagle Plains staked SP cl 1-50 (YC73232) north, west and south of the Justin claims. In Aug/2008 the company carried out a small rock sampling program to confirm previous results.

In Jun/2010 Eagle Plains flew an airborne electromagnetic and magnetic survey over the Justin property. In Aug/2010 the company carried out geological mapping, rock, silt and soil sampling, dug soil orientation pits and prospected areas of the property which had not yet been explored. The company also staked SP cl 51-55 (YD65452) on the north and west sides of the claim block.

In Feb/2011 Eagle Plains optioned the Justin property to Aben Resources Ltd. and between August and Sep/2011 Aben Resources drilled 10 diamond drill holes (2,020m) to test known areas of mineralization. Concurrent with the drill program the company carried out limited geological mapping, rock and soil sampling around the newly defined POW zone (MINFILE 105H 104). The company also followed up some of the anomalies defined by the airborne geophysical survey.

In Oct/2011 Aben Resources staked SP cl 57-70 (YD87920) and SP cl 71-84 (YD87903) on the north end of the claim block. In Nov/2011 the company staked SP cl 89-207 (YF33001) on the south end of the claim block.

In Mar/2012 Aben optioned the adjoining VF gold project (MINFILE 105H 034) from Bearing Resources Ltd. In 2012 Aben collared 9 diamond drill holes (1,994 m) on the POW zone. The

company also completed ground magnetic surveys, detailed geological mapping, prospecting and rock, soil and silt sampling programs on both the Justin and VF properties.

No work was reported by Aben for 2013. In 2014, Aben completed trenching, drillcore resampling and limited silt and soil sampling focusing on the POW and Big Swifty zones. No work was completed on the property over 2015 and 2016. In 2017, Aben completed trenching, silt and soil sampling focusing on the Lost Ace and Confluence zones. In 2018, they continued trenching, silt and soil sampling again focusing on the Lost Ace zone.

Capsule Geology

The actual occurrence lies approximately 11 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. Eagle Plains Resources/Aben Resources have broken the Hyland Group rocks into three subunits, which based on previous work are tentatively assign to the Neoproterozoic Yusezyu Formation. To the north, 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. 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.

The Norquest Joint Venture originally discovered copper mineralization consisting of sparsely disseminated chalcopyrite accompanied by fine-grained pyrrhotite in several irregular pods of pyroxene skarn. This discovery area (occurrence location) was later named the Main zone. Grab samples assayed up to 0.46% copper and 0.34 g/t gold. Approximately 1.25 km downstream (to the east) the joint venture located a 15.3 cm-wide calcite vein in the creek bed cutting grey slate, greywacke and argillite. The vein was weakly mineralized with galena and pyrite. A grab sample of the vein returned 3.11% lead, 16.5 g/t gold and 178.3 g/t silver. Except for the numerous pyrrhotite rich skarn pods which returned locally strong magnetic relief the magnetic survey results were flat.

Conquest Exploration's 1983 prospectus report generally confirmed the Norquest Joint Venture's earlier results. Additional prospecting and sampling uncovered several more mineralized calcite veins which returned up to 1.3 g/t gold, 4.5 g/t silver, 0.11% tungsten, 0.013% nickel and 0.14% copper.

Vista Resource Company's exploration program was focused on examining and testing the known skarn mineralization and the numerous mineralized quartz, quartz-calcite and silicified intrusive dykes located throughout the Sun claim block. Diamond drill holes 1 & 2 (157.57m) tested the skarn mineralization while holes 3 & 4 (231.04m) tested for silicified breccia and the stratigraphy underlying the skarn mineralization. The skarn zone returned copper values ranging from 0.08% to 0.48% and gold values ranging from 5 to 920 ppb. These values are similar to previous results obtained from surface showings. The skarn zone also returned anomalous vales for arsenic (up to 0.29%), bismuth up to (0.27%) and weakly anomalous amounts of lead (up to 134 ppm), silver (up to 2.8 ppm) and tungsten (up to 171 ppm).

The two drill holes which tested the silicified felsic dykes and underlying quartz veins returned intersections of 1.44m grading 1.78 g/t gold and 0.91 m grading 0.65 g/t gold. Surface sampling results include a 7 to 10m quartz vein containing galena, sphalerite and pyrite located near the confluence of the southern and northern branches of Sun Creek which assayed 22.7 g/t gold. Other assay results include a quartz veined felsic dyke that cut across the drilled skarn zone which returned 1.86 g/t gold. By the conclusion of the 1980's the occurrence area was interpreted to host skarn and epithermal mineralization.

Exploration in the mid to late-1990's by Hemlo Gold Mines, Battle Mountain Canada, Viceroy Exploration and Novagold Resources saw exploration efforts concentrated towards identifying structurally controlled intrusive related epigenetic gold mineralization. Prospecting followed by soil, silt and rock sampling and geological mapping identified several targets on both the Justin and neighbouring Sprogge claims.

Soil sampling, trenching and rock sampling carried out in 1996 and 1997 defined the Kangas zone (MINFILE 105H 105), a north-south extending zone of skarn, located approximately 1 km north of the Main zone. In addition, Battle Mountain Canada's 1997 assessment report marked the first time the Confluence zone (MINFILE 105H 106) was officially recognized.

The 1998 and 1999 exploration programs basically confirmed earlier results and better defined the three mineralized zones (Main, Confluence and Kangas) located on the Justin property. A diamond drilling program was proposed in 2000 to test the three targets, however the late signing of the option agreement between NovaGold and Kennecott Canada delayed the start of drilling until September and as a result was restricted to lower elevations thus only four drill holes were completed on the neighbouring Sprogge claims before the field season ended. Following completion of the 2000 field season Kennecott Canada dropped its option on the claims and in Apr/2001 NovaGold dropped its option and returned the claims B. Kreft (the property owner).

The Justin property lay dormant until 2008 when Eagle Plains Resources carried out a small prospecting and rock sampling program to confirm earlier results. Seven grab and float rock samples collected from the Main and Confluence zones returned values similar to earlier results. The 2008 assessment report marks the first time the Main and Confluence zones are shown on maps to occur within the SP claims.

In 2010, Eagle Plains flew an airborne geophysical program attempting to locate any buried intrusions and major structural features that might be controlling and influencing mineralization on the property. The survey successfully identified several major features thought to play a major role in controlling mineralization on the property. Many areas of magnetic highs identified in the survey correlate with known hornfels zones and some areas of magnetic lows were equated with buried intrusions.

Follow-up exploration of the geophysical results led the company to discover the POW zone (MINFILE 105H 104), described as both a cal-silicate skarn system as well as chalcedonic and quartz veining with arsenopyrite and pyrrhotite. The POW zone is located approximately 2.5km northwest of the Main zone. Rock sampling carried out on the Main, Confluence and Kangas zones confirmed earlier results.

Aben Resources 2011 exploration program was geared towards drill testing the Main, Confluence, Kangas and POW mineralized zones (refer to related MINFILES for drill details on each zone). Three diamond drill holes (520.2 m) were drilled from one location to test the Main zone. The holes returned anomalous gold and copper values from calc-silicate skarn located adjacent to porphyry dykes. While drilling on the Main, Confluence and Kangas zones Aben Resources carried out follow-up geological mapping and prospecting around the recently discovered POW zone.

Aben Resources spent the winter of 2011-2012 compiling and evaluating all known data for the Justin property. In 2012, Aben collared 9 diamond drill holes (1,994 m) on the POW zone, completed ground magnetic surveys, detailed geological mapping, prospecting and rock, soil and silt sampling. All work from 2012 to 2018 focused outside of the Main zone, primarily on POW, Lost Ace and Confluence zones.

Work History

Date	Work Type	Comment
12/31/1999	Geochemistry	
12/31/1999	Geology	Reconnaissance scale.

12/31/1998	Geochemistry	Chip sampling over known areas of mineralization.
12/31/1998	Geology	
12/31/1997	Geology	
12/31/1997	Geochemistry	
12/31/1997	Trenching	Three trenches on Justin group - 2 in Main zone and 1 in the Confluence zone.
12/31/1996	Geology	
12/31/1996	Geochemistry	Grid and contour sampling.
12/31/1995	Geochemistry	Kreft carried out confirmation sampling.
12/31/1988	Drilling	Number of holes drilled: 4 Amount of work done: 389 METRES
12/31/1988	Geology	
12/31/1988	Ground Geophysics	
12/31/1965	Geology	
12/31/1965	Ground Geophysics	
12/13/2012	Geochemistry	Carried out to fill in gaps in coverage.
12/13/2012	Geology	Carried out to fill in gaps in coverage.
12/13/2012	Geochemistry	Carried out to fill in gaps in coverage.
12/13/2012	Ground Geophysics	Carried out to fill in gaps in coverage.
12/13/2011	Geochemistry	Centered around POW zone.
12/13/2011	Drilling	Ten drill hole (2,020 m) collared with 3 holes in the Main (Justin) zone.
12/13/2011	Geology	Centered around POW zone.
12/13/2011	Geochemistry	Centered around POW zone.
12/13/2010	Geochemistry	
12/13/2010	Geology	
12/13/2010	Geochemistry	Also dug soil pits.
12/13/2010	Geochemistry	
12/13/2010	Airborne Geophysics	Magnetic and electromagnetic surveys.
12/13/2008	Geochemistry	Eagle Plains collected 7 samples to confirm earlier results.
12/13/2000	Other	Transferred 1988 drill core to Whitehorse, unsure where it ended up.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
096714	2014	2014 Assessment Report for the Justin Property	Historical Drill Core - Geochemistry, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Hand - Trenching, Mechanical - Trenching		
096319	2012	2012 Diamond Drilling, Geological, Geophysics and Geochemical Report for the Justin Property and VF Property	Diamond - Drilling, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Magnetics - Ground Geophysics, Metallurgical Tests - Lab Work/Physical Studies	9	1994
095316	2010	Geological, Geochemical and Geophysical Report for the SPROGGE (Justin) Property	Electromagnetic - Airborne Geophysics, Reverse Circulation - Airborne Geophysics, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Regional Bedrock Mapping - Geology		
095153	2008	Geological and Geochemical Report for the SPROGGE (Justin) Property	Rock - Geochemistry		
<u>094225</u>	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		
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		
<u>093576</u>	1996	Report on 1996 Exploration Program	Rock - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Prospecting - Other		
093495	1995	Sun Prospect Prospecting, Rock Sampling	Rock - Geochemistry, Prospecting - Other		
<u>092148</u>	1987	Geological and Diamond Drilling Report on the Sun Property	Diamond - Drilling, Detailed Bedrock Mapping - Geology, Magnetics - Ground Geophysics, Prospecting - Other	4	389

<u>062165</u>	1980	Report on the Sun 1-8 Mineral Claim Group	Rock - Geochemistry
<u>017575</u>	1965	Geological and Geophysical Investigation of the Rain Claim Group	Detailed Bedrock Mapping - Geology, Magnetics - Ground Geophysics, Line Cutting - Other

Related References

Number	Title	Page(s)	Reference Type	Document Type
YEG1988 89	Yukon Exploration 1988	97-99	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
YEG2005 08	Gold mineralization in the upper Hyland River area: a non-magmatic origin	109-125	Yukon Geological Survey	Annual Report Paper
YEG1981	Yukon Exploration and Geology 1981	145	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
YEG1997	Yukon Exploration and Geology 1997	26	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
<u>YEG1998</u>	Yukon Exploration and Geology 1998	28	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
ARMC0081 42	Heavy mineral sampling map - NTS 105H-9 - MacMillan project - Anmac		Property File Collection	Geochemical Map
<u>YEG1999</u>	Yukon Exploration and Geology 1999	12-14	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
<u>YEG2010</u> <u>OV</u>	Yukon Exploration and Geology Overview 2010	25, 61	Yukon Geological Survey	Annual Report
<u>YEG2012</u> <u>OV</u>	Yukon Exploration and Geology Overview 2012		Yukon Geological Survey	Annual Report
YEG2017_ OV3	Yukon Mineral Exploration Program 2017 Update		Yukon Geological Survey	Annual Report Paper
YEG2018 OV3	Yukon Mineral Exploration Program 2018 update		Yukon Geological Survey	Annual Report Paper
<u>YEG2014</u> <u>OV4</u>	Yukon Mineral Exploration Program: 2014-2015 Update		Yukon Geological Survey	Annual Report Paper
YEG1987	Yukon Exploration 1987	172	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
<u>YEG2011</u> <u>OV</u>	Yukon Exploration and Geology Overview 2011	35-36, 64, 72	Yukon Geological Survey	Annual Report