

Occurrence Details

Occurrence Number: 106D 083 Occurrence Name: Kathy Occurrence Type: Hard-rock

Status: Prospect

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General Information

Secondary Commodities: bismuth, gold, lead, silver, tin, tungsten, zinc

Aliases: Forshaw, Nerd, Rau, Rackla

Deposit Type(s): Skarn

Location(s): 64°11'11.73" N - -134°19'37.03" W

NTS Mapsheet(s): 106D01

Location Comments: Coordinates provided by ATAC Resources Ltd

Hand Samples Available: No Last Reviewed: Sep 20, 2013

Capsule

Work History

Exploration History

The earliest reported exploration in the region occurred in 1922, following the discovery of silver mineralization at Keno Hill, prospectors first identified and staked mineralized float occurrences at Carpenter Ridge in the headwaters of the Beaver River, west of the showing. In 1924, reconnaissance work conducted by the Geological Survey of Canada discovered galena-calcite-siderite in float on the southwest end of Carpenter Ridge. A sample of this float returned 8.75 oz. silver and 56.0% lead.

Nearby at Grey Copper Hill, silver-rich tetrahedrite float was discovered in 1923 by an independent prospector. This showing and other nearby prospects were staked later that year. Several investigatory adits were dug into the hillside during follow up exploration but eventually all claim holdings lapsed.

Between 1930 and 1988 Grey Copper Hill was staked several times by independent prospectors and exploration companies, including Cypress Resources Limited, United Keno Hill Mines Limited, Hesca Resources Corporation Ltd., Prism Resources Limited and Bonventures Limited. Sporatic work was reported and eventually all claims ultimately expired.

In 1968, Cominco Limited staked the Beaver claims on thew westweren side of the Rau Property based on results of regional geochemical sampling done the year before. Later that year, L. Elliott staked the nearby Now claims and optioned them to Cominco, which completed mapping and soil sampling in 1968 and 1969 (Johnson, 1969). The claims were later allowed to lapse.

In 1977, Prism Joint Venture (Asamera Oil Corp, Chieftain Development Company Limited, Prism Resources Ltd, Siebens Oil & Gas Limited and E & B Exploration Limited) restaked Cominco's claims as part of a larger block that extended for about 20 km along the north side of the Beaver River. In 1979, Dome Petroleum Ltd replaced Siebens in the joint venture.

Prism conducted most of its activities around the original Beaver claims. Soil sampling and mapping were performed in 1977 (Montgomery and Dewonck, 1978) and additional soil sampling and trenching were done in 1978 (Prism Joint Venture, 1979). In 1979 Prism completed six diamond drill holes totalling 610 m (Dewonck, 1980). This work focused primarily on sedimentary exhalite and Mississippi Valley type lead-zinc mineralization. but resulted in the discovery of a narrow gold-rich vein (the Now Showing).

NDU Resources Ltd. staked claims over the Now Showing in 1987 to cover the lead, zinc and silver soil geochemical anomalies identified by Cominco and Prism. The following year, NDU conducted a geochemical sampling program which focused on the gold vein mineralization at the Now Showing (Cathro, 1989).

In 1977, on what is now known as the Ocelot showing, Prism Resources conducted mapping, soil sampling and electromagnetic surveys. Numerous samples from that program returned high zinc-in-soil values ranging from 2,100 ppm to 12.2%. One sample collected from a large gossan on the Ocelot Showing yielded 3.8 g/t silver, 800 ppm lead and 12.2% zinc (Montgomery and Cavey, 1978), suggesting the metals were leached and remobilized in acidic groundwater before being reprecipitated when the fluids were neutralized. These promising results were not followed up.

In August, 1977 by the Prism Joint Venture 1977 (Asamera Development Corporation Ltd., Chieftain Development Company Ltd., Prism Resources Ltd., Siebens Oil & Gas Ltd. and E & B Explorations Ltd.) staked the Kathy cl 1-8 (YA15878) and carried out a large regional geological mapping and geochemical survey. The group added Nerd cl 1-56 (YA15988) in two strips; one to the east and a second narrow 6.4 km long block to the northwest in September, 1977.

The joint venture explored the Kathy claims with grid soil sampling in 1978. No assessment work appears to have been performed on the Nerd claim blocks. In 1979, Dome Petroleum Ltd. replaced Siebens in the joint venture group which continued regional exploration programs. The claims were later allowed to lapse.

In 1979 and 1980, Prism explored the northern part of the Rau Property and conducted prospecting, soil geochemical sampling and one diamond drill hole. This work led to the discovery of scheelite mineralization at the Blue Lite and Flat Top Showings. Well mineralized tremolite skarn specimens from the Flat Top Showing assayed up to 8.4% WO3, but most material graded below 0.04% (Churchill, 1980). No further work was done at either showing.

ATAC Resources Ltd interest in the area was prompted by an isolated, high gold value (150 ppb) reported by a regional-scale stream sediment geochemical survey, conducted by the Geological Survey of Canada (Hornbrook et al., 1990). This value is in the 99th percentile of gold results from the survey and is supported by a 99th percentile tungsten value (25 ppm). The sample was collected near the Rackla Pluton, east of the Tiger Deposit.

In 2006, ATAC Resources Ltd staked 64 Rau claims to follow up a high gold value (150 ppb) reported by a regional-scale stream sediment geochemical survey, conducted by the Geological Survey of Canada (Hornbrook et al., 1990). During the staking, a number of rock and soil samples were collected, many of which returned anomalous values for tungsten and a few were notably enriched in gold, lead, zinc, silver and copper. Cursory prospecting relocated scheelite-bearing tremolite skarn (Flat Top Showing) and discovered tungsten in diopside-actinolite skarn and highly fractionated intrusive rocks, about 1,500 m to the south.

In 2007 ATAC completed geological mapping, prospecting, grid soil sampling and helicopter-borne variable time-domain electromagnetic (VTEM) surveys on the Rau property (Eaton and Panton, 2008). This work partially delineated a large hydrothermal system centered on the largely buried Rackla Pluton. Following that program, ATAC staked an additional 32 claims.

ATAC and Yankee Hat Minerals Limited signed an option agreement in spring 2008 concerning 40 claims that covered the Rackla Pluton and the tungsten-bearing skarns. During the summer of 2008 Yankee Hat conducted prospecting and a total of 437.38 m of diamond drilling in three holes (Dumala, 2008). Several narrow skarn bands with weak to moderate tungsten mineralization were identified within the carbonate host rocks. The option agreement was terminated in late 2008 following poor results and the claims were returned to ATAC.

The Kathy showing was re-staked within R cl 1-1 295 (YC68334) in July, 2008 by ATAC Resources Ltd. The claims were combined with the neighbouring Rau claims and explored as the larger Rackla Gold Project.

Also in 2008, ATAC conducted geological mapping, prospecting, soil and stream sediment geochemical sampling, 3,423.21 m of diamond drilling in 18 holes and property-wide helicopter-borne magnetic variable time-domain electromagnetic (VTEM) surveys on the claims not covered by the Yankee Hat option agreement. Drilling identified three stacked, gold-bearing horizons in what is now known as the Tiger Deposit (Dumala, 2009). In response to positive results, ATAC added 1,340 claims.

In 2009 ATAC continued to delineate the Tiger Deposit with an additional 58 diamond drill holes totalling 9,578.30 m (Dumala and Lane, 2010). Drilling identified a significant oxide component to the northwest, within the Tiger Deposit. Prospecting in 2009 also identified several new showings containing mineralization similar to that found at the Tiger Deposit. These include the Cub, Lion, Jaguar, Panther, Cougar, Puma, Cheetah and Lynx Showings.

Between 2010 and 2012, ATAC Resources carried out a soil sampling grid and limited prospecting over the occurrence. In 2018, ATAC Resources performed detailed mapping, prospecting and hand trenching. Further prospecting and diamond drilling (5 holes 1,597.24m), RAB drilling (1 hole, 27.43 m) were performed in 2019, as well as ground-based IP and magnetic geophysical surveys.

Regional & Property Geology

The occurrence lies with the Rau Trend between the Dawson and Kathleen Lakes thrusts, which form part of a band of regional-scale thrust faults that imbricate rocks of Mackenzie Platform and Selwyn Basin. The occurrence area lies on the western margin of ancestral North America and is underlain primarily by shallow water carbonate and clastic sediment rocks of the Mid-Proterozoic to Paleozoic Mackenzie Platform and the Neo-Proterozoic to Paleozoic, regionally metamorphosed Selwyn Basin clastic rocks. These rocks formed a fault-bounded sediment package which was thrust northeasterly during Jurassic to Cretaceous times by the Dawson and Kathleen Lakes thrust faults onto predominantly Proterozoic rocks. Following thrust faulting, Late Cretaceous (94-90 million years)

intermediate to felsic plutons of the Tombstone Suite were emplaced (Mortensen et al., 2000). A second compressional orogenic event around 65 million years saw the emplacement of felsic intrusives assigned to the McQuesten Suite.

Other than the immediate area surrounding the Tiger deposit (MINFILE occurrence 106D 098), the occurrence area has not been geologically mapped in detail. ATAC Resources (AR 096936) has mapped 3 main units in the area comprising the Rau Trend:

- 1. Cambrian to Ordovician massive, grey dolostone,
- 2. Ordovician and/or Silurian bedded, grey and buff silty limestone and massive white limestone, and
- 3. Silurian to Devonian thick, bedded dolostone and limestone.

The company has assigned all three units to the Cambrian to Devonian Bouvette Formation. Colpron's 2013 geological map generally supports this interpretation; however it uses slightly different age dates and doesn't include the oldest rocks (Cambrian to Ordovician dolostones) within the Bouvette formation.

Thin volcaniclastic horizons assigned to the Ordovician Marmot Formation are interbedded with the Ordovician and/or Silurian limestones and a narrow sliver of Mid-Proterozoic Fifteen Mile Group dolostone underlies the Bouvette Formation rocks to the southwest. Devonian and Mississippian Earn Group comprised of black shale and chert bounds the Bouvette Formation to the south east and north in the southern half of the Rau Trend property.

Mineralization at the Rau Trend varies and consists mainly of: sediment-hosted replacement-style Au; structurally hosted Ag-Pb-Zn; skarns; Au-bearing quartz veins; and transported gossans/unkown deposit style (AR 096936).

The Kathy occurrence is located on or near a south dipping thrust fault which places Devonian to Mississippian Earn Group shale, to the south, over Cambrian to Devonian Bouvette Formation carbonates to the north.

Mineralization & Results

The occurrence consists of a lead-zinc silt anomaly discovered during Prism's 1977 regional exploration program. The anomaly drains the west side of a clearly visible brick red coloured ferricrete slab with gossan measuring approximately 40 m wide by 30 m long. The gossan is thought to have been formed by fluids traveling along the thrust fault placing Earn Group shale over Bouvette Formation carbonates. Soil geochemistry of the area defines a circular zone of enriched fold, arsenic and bismuth.

Soil sampling completed by the Prism joint venture group overtop the gossan returned highly anomalous (~3.900 ppm) zinc values, but no anomalous silver or lead values. The joint venture did not carry out any geological mapping and based on the geochemical results and more interesting results returned on other exploration properties allowed the claims to lapse over time.

ATAC Resources originally staked the R claims to cover the potential eastern trend of carbonate replacement gold mineralization discovered at the Tiger deposit located to the northwest. In 2009, the company collected 11 reconnaissance soil samples from within and around the gossan which returned anomalous zinc and tungsten values.

Diamond drilling in 2010 and 2011 targeting the source of the gossan did not encounter significant mineralization. The holes intersected dolomitized limestone, narrow skarn bands and quartz feldspar porphyry.

Prospecting by ATAC Resources in 2012 discovered skarn assemblages in carbonate rock cut by narrow bismuthinite-rich veinlets. Select samples of veinlet material yielded up to 13.7 g/t Au with 5,530 ppm Bi and 2,790 ppm Sb. A sample of white tremolite skarn containing sulphide also returned assays of 1.65 ppm Au with 529 ppm As, 100 ppm Bi and 3,940 ppm Sb (AR 096597).

Work History

Date	Work Type	Comment
6/1/2019	Geochemistry	
6/1/2019	Drilling	5 holes, 1,597.24 m
6/1/2019	Geochemistry	
6/1/2019	Geochemistry	
6/1/2019	Drilling	1 hole, 27,43 m.
12/31/1978	Geochemistry	Grid based over gossan.
12/31/1977	Geology	Regional in extent.
12/31/1977	Geochemistry	Regional in extent, also collected soil and rock samples.
12/13/2018	Geochemistry	
12/13/2012	Ground Geophysics	
12/13/2012	Geochemistry	
12/13/2012	Geochemistry	
12/13/2012	Ground Geophysics	As well as VLF-EM.
12/13/2012	Other	
12/13/2011	Drilling	Two diamond drill holes totaling 493.78 m.
12/13/2010	Drilling	Hole SC10-05 = 269.75 m no results released.
12/13/2010	Geochemistry	Grid based over gossan.
12/13/2009	Geochemistry	Reconnaissance survey from around occurrence.
12/13/2008	Airborne Geophysics	Also collected magnetics data, property wide survey.
12/13/2008	Geochemistry	Regional program included occurrence area.

Assessment Reports that overlap occurrence

Number	Year	Title	Worktypes	Drilled	Drilled
096939	2015	Technical Report and Preliminary Economic Assessment for the Tiger Deposit, Rackla Gold Project	VTEM - Airborne Geophysics, ZTEM - Airborne Geophysics, Mill/Concentrator Construction - Development, Surface, Tailings Pond - Development, Surface, Diamond - Drilling, Rock - Geochemistry, Soil - Geochemistry, Gravity Survey - Ground Geophysics, IP - Ground Geophysics, Resistivity - Ground Geophysics, Metallurgical Tests - Lab Work/Physical Studies, Data Compilation - Pre-existing Data, Data Compilation - Pre-existing Data, Environmental Assessment/Impact - Studies, Preliminary Economic Assessment - Studies, Resource Estimate - Studies	150	26846.60
096732	2014	Assessment Report Describing Metallurgical Test Pits, Metallurgical Auger Drilling, Geotechnical Auger Drilling, Geotechnical Study, Environmental Baseline Studies, Heritage Evaluation, and Water Quality and Climate Monitoring Surveys	Auger - Drilling, Water - Geochemistry, Metallurgical Tests - Lab Work/Physical Studies, Environmental Assessment/Impact - Studies, Geotechnical - Studies, Heritage/Archeological - Studies	9	96.77
096607	2012	Assessment Report Describing Metallurgical Testing, Wildlife Monitoring, Heritage Evaluation, and Water Quality and Climate Monitoring Surveys	Water - Geochemistry, Metallurgical Tests - Lab Work/Physical Studies, Environmental Assessment/Impact - Studies, Heritage/Archeological - Studies		
096597	2012	Assessment Report Describing Geochemical Sampling, Auger Sampling, Geological Mapping, Diamond Drilling, and Geophysical Surveys	Air Strip - Development, Surface, Auger - Drilling, Diamond - Drilling, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, EM - Ground Geophysics, Gravity Survey - Ground Geophysics, Magnetics - Ground Geophysics, Prospecting - Other, Hand - Trenching	172	37340.37
095938	2011	Assessment Report Describing Geochemical Sampling, Geological Mapping and Remote Sensing Surveys at the Rackla Gold Property	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, LIDAR - Remote Sensing, Heritage/Archeological - Studies		
096228	2011	Assessment Report Describing Diamond Drilling at the Rau Trend	Diamond - Drilling	10	2113.20
095721	2010	Assessment Report Describing Geophysics, Soil Geochemistry and Diamond Drilling at the Rau Property	Electromagnetic - Airborne Geophysics, Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Diamond - Drilling, Diamond - Drilling, Drill Core - Geochemistry, Soil - Geochemistry, Downhole Survey - Ground Geophysics, Gravity Survey - Ground Geophysics, IP - Ground Geophysics	170	36900.84
095684	2009	Geological Mapping, Prospecting, Soil Geochemistry and Diamond Drilling at the Rau Property	Interpretation - Airphotography, Diamond - Drilling, Drill Core - Geochemistry, Rock - Geochemistry, Soil - Geochemistry, Water - Geochemistry, Regional Surficial Mapping - Geology, IP - Ground Geophysics, Metallurgical Tests - Lab Work/Physical Studies, Petrographic - Lab Work/Physical Studies, Data Compilation - Pre-existing Data, Process/Interpret - Pre-existing Data, Biophysical Mapping - Studies, Environmental Assessment/Impact - Studies, Geotechnical - Studies, Heritage/Archeological - Studies	58	9578.30
<u>095131</u>	2008	Geological Mapping, Prospecting, Soil Geochemistry, Diamond Drilling, and Geophysical Surveys at the Rau Property	Magnetic - Airborne Geophysics, VTEM - Airborne Geophysics, Diamond - Drilling, Silt - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other	18	3423.21
093987	1998	Digital Topography, Landsat, and Colour Air Photo Survey over the Clark Claims]	Orthophoto - Airphotography, Rock - Geochemistry, Landsat - Remote Sensing		
<u>090435</u>	1978	[Geological and Geochemical Assessment on the Kathy Claim Group]	Silt - Geochemistry, Soil - Geochemistry, Prospecting - Other		

Related References								
Number	Title	Page(s)	Reference Type	Document Type				
MIR1978	Mineral Industry Report 1978	14.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Geology	Annual Report				
<u>GM1997-</u> <u>1</u>	Bedrock geology of Mayo map area, central Yukon (NTS 105M)		Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Geoscience Map (Geological - Bedrock)				
<u>2003Heo</u> <u>n</u>	Yukon Regional Geochemical Database - Stream sediment analyses		Yukon Geological Survey	Database				
Z	Geology of the Mayo Map Area, Yukon Territory (NTS 105M)		Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Bulletin				
<u>1990-2</u>	Geology Map of the Tiny Island Lake Map Area (105M/16)		Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Open File (Geological - Bedrock)				
<u>1990-1</u>	Geology of the Mt. Westman Map Area (106D/1)		Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Open File (Geological - Bedrock)				
<u>1990-3</u>	Geology of 106D/8 & 7 (East Half) Map Areas		Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Open File (Geological - Bedrock)				
2013-13	Geological map of the Rackla belt, east-central Yukon (NTS 106C/1-4, 106D/1)		Yukon Geological Survey	Open File (Geological - Bedrock)				
<u>YEG2013</u> <u>OV</u>	Yukon Exploration and Geology Overview 2013		Yukon Geological Survey	Annual Report				