

**GOLD CHARACTERISTICS** Gold recovered in the terrace deposits varies from flat to coarse, with some nuggets and has a fineness of 867.

#### BURWASH, A TRIBUTARY OF KLUANE

115G/06

2016: 61°22'05"N, 139°20'12"W

#### Aurem Alliance Ltd., 2006-2017

Water License: PM10-007 (Active 07/2020)

Water License: PM13-030 (Active 07/2023)

Active Producer (2015-2017)

Operation no. 205

**LOCATION** Burwash Creek, 1.2 km upstream from the mouth of Tatamagouche Creek.

**WORK HISTORY AND MINING CUTS** Aurem Alliance holds two water licenses; no activity occurred under PM13-030 on lower Burwash Creek, and mining focused upstream of Tatamagouche Creek under PM10-007. Throughout 2015 to 2017, a crew of three to four people focused on a discontinuous right limit terrace. In 2016, Aurem Alliance investigated their prospecting lease in the headwaters of Burwash Creek using a rubber tired backhoe.

**EQUIPMENT AND WATER TREATMENT** Equipment present on site from 2015 to 2017 included an Hitachi 700 excavator, a Caterpillar 365B excavator, a Caterpillar 345 excavator, a Caterpillar 980 wheel loader, a Caterpillar 988 wheel loader as backup, Caterpillar D7E and D9L excavators, a John Deere 310G loader backhoe and a rock truck. A Derocker was used to process material and classify it to minus 2". The wash plant could process up to 100 yd<sup>3</sup> (76 m<sup>3</sup>)/hr. An 8" pump provided water to the wash plant. Sluice runs were 1.5 by 9.1 m (5 x 30 ft) long and consisted of boil boxes, hydraulic riffles, and expanded metal, all lined with unbacked miner's moss. Water is acquired from Burwash Creek and effluent is settled in a series of four settling ponds prior to discharge back into Burwash Creek.

**SURFICIAL GEOLOGY AND STRATIGRAPHY** Aurem Alliance Ltd. mines a discontinuous right limit terrace, where the characteristics of the pay channel include coarse clasts on bedrock and a dark brown muddy gravel matrix. The right limit terrace comprises three units. Unit 1 is a coarse sandy matrix cobble-boulder gravel ranging from 1.5 to 3.0 m (4.9-9.8 ft) thick and overlies an undulating bedrock surface. Unit 2, 2.0 m (6.6 ft) thick, is interbedded medium to coarse sand and pebble-gravel,



Equipment stationed on the right limit terrace that Aurem Alliance Ltd. mined through 2015 to 2017.



## KLUANE PLACER AREA

with organic beds 5 to 10 cm thick. The uppermost unit, unit 3, is up to 4 m (13 ft) thick and consists of ice-rich muck with minor sand and woody debris. Sluiced material included 3.0 to 6.1 m (10-20 ft) of gravel and 0.6 to 0.9 m (2-3 ft) of bedrock, including all of unit 1 and most of unit 2 gravel.

A publication pertaining to the surficial geology in the northern Kluane Range is available in the Yukon Exploration and Geology 2017 publication (Kennedy, 2018).

**BEDROCK GEOLOGY** Bedrock is highly fractured chert.

**GOLD CHARACTERISTICS** Gold greatly varies in size and shape from flat to coarse, with some nuggets. Fineness is 867.

deposit consisting of finely laminated, slightly oxidized fine sandy silt. Unit 3, from 1.1 to 2.1 m (3.6 to 6.9 ft), consists of interbedded medium to fine sand between 8 and 22 cm thick, with dense, fine sand beds shallowly dipping downstream. A highly oxidized and weathered band of pebbles is present at the upper contact. Unit 4, from 2.1 to 4.1 m (6.9 to 13.4 ft), comprises cobble-pebble gravel with 40% silty-coarse sand matrix, some open work structure, and beds dipping moderately downstream. Unit 5, from 4.1 to 6.1 m (13.4 to 20.0 ft), resembles Unit 2 and consists of fine-grained laminated sandy silt, but coarsens upwards with discontinuous beds of granule-pebble gravel and a sharp, planar bottom contact. Unit 6, from 6.1 to 6.8 m (20.0 to 22.3 ft), is a fining-upward, poorly-sorted pebble to cobble gravel with 50% coarse sand matrix and discontinuous beds of fine to medium sand. Unit 7, from 6.8 to 7.4 m (22.3 to 24.3 ft), is a fine-grained laminated layer similar to Units 2 and 5. Unit 8, at the top of the cut from 7.4 to 9.8 m (24.3 to 32.2 ft), consists of poorly-sorted sandy gravel with rare boulders. The lowermost gravels were targeted as pay on the left limit, and 1.8 to 2.4 m (6 to 8 ft) of gravel and 0.9 m (3 ft) of bedrock were sluiced.

**BEDROCK GEOLOGY** Bedrock is tuff, breccia, argillite, agglomerate, basalt, andesite, argillite, and/or sandstone (Dodds and Campbell, 1992).

**GOLD CHARACTERISTICS** Gold is flat but nuggety. The largest nugget recovered is 8.5 oz. Fineness is 860.

#### BURWASH, A TRIBUTARY OF KLUANE

115G/06

2013: 61°22'06"N, 139°20'04"W

#### Aurem Alliance Ltd., 2006-2014

Water License: PM10-007 (Active 2020)

Water License: PM13-030 (Active 2018)

Active Producer (2010-2014)

Operation no. 219

**LOCATION** Burwash Creek, 1.2 km upstream from the mouth of Tatamagouche Creek.

**WORK HISTORY AND MINING CUTS** Aurem Alliance holds two water licenses, PM13-030 on lower Burwash Creek, and PM10-007 upstream of Tatamagouche Creek confluence. No activity occurred under PM13-030 from 2010 to 2014, while all activity was focused upstream under PM10-007. From 2010 to 2013, sluicing and stripping occurred on the right limit. In 2014, five miners operated a daily ten to twelve hour shift, mining a 165 m (540 ft) long bench cut on the right limit.

**EQUIPMENT AND WATER TREATMENT** Equipment present on site in 2014 included a Hitachi 700 excavator, a Caterpillar 365B excavator, a Caterpillar 345 excavator, a Caterpillar 980 wheel loader, a Caterpillar 988 wheel loader as backup, a Caterpillar D7E and D9L excavator, a John Deere 310G loader backhoe, and a rock truck. The wash plant consisted of a Derocker that classified to 2" minus and processed a maximum of 100 loose cubic yards (76 m<sup>3</sup>) of material per hour. Sluice runs were 5 ft by 30 ft long and included boil boxes, hydraulic riffles, and expanded metal, all lined with unbacked miner's moss. Water is acquired from Burwash Creek and effluent is settled in a series of four settling ponds prior to discharge back into Burwash Creek.

**SURFICIAL GEOLOGY AND STRATIGRAPHY** The 2014 right limit bench cut exposed three units. Unit 1, located at the base of the section, is pay gravel which varied in thickness from 1.5 to 3 m (4.9 to 9.8 ft) due to an undulating bedrock contact. The gravel is slightly imbricated towards the east (downstream) and consists of 25% boulders, 40% cobbles, and 35% pebbles, with a minimal matrix comprising coarse sand. Unit 2 consisted of 2.0 m (6.6 ft) of frozen interbedded medium to coarse sand and pebble-gravel, with organic beds 5 to 10 cm thick. Unit 3 caps the section and comprises up to 4 m (13 ft) of silty, ice-rich muck with approximately 25% visible ice in sheets and veins, and minor fine sand and woody debris. Sluiced material included 3.0 to 6.1 m (10 to 20 ft) of gravel and 0.6 to 0.9 m (2 to 3 ft) of bedrock.

**BEDROCK GEOLOGY** Bedrock is highly fractured chert.

**GOLD CHARACTERISTICS** Gold greatly varies in size and shape from flat to coarse, with some nuggets. Fineness is 867.



*Aurem Alliance's 2014 mining activity on the right limit of upper Burwash Creek.*