2018 YMEP Final Report:

The Focused Regional Raw Geef Project

61.156753°, - 134.068479°
Whitehorse Mining District

Author and Grant Recipient: Ryan Bachynski

Table of Contents

Introduction

Work on the Raw Geef project occurred in fall of 2018 (see Illustration 1). Prospecting and sampling in 2017 lead to the identification of two main targets that were decided to be worthy of follow-up. One was a strongly gossanous sedimentary unit with local stockwork fracturing. The second was intrusion-hosted quartz veining with strong rust bleeds highlighting veining locations. While exploring for the intrusion-hosted veins in 2018, a third target was discovered that appeared to be mudstone-hosted quartz veining with abundant (up to 20%) pyrite, often in pods.

A total of 18 grab or composite rock samples were taken.

See attached Sample Locations map for a visual representation of sample locations of 2017 and 2018 in relation to the claim group.

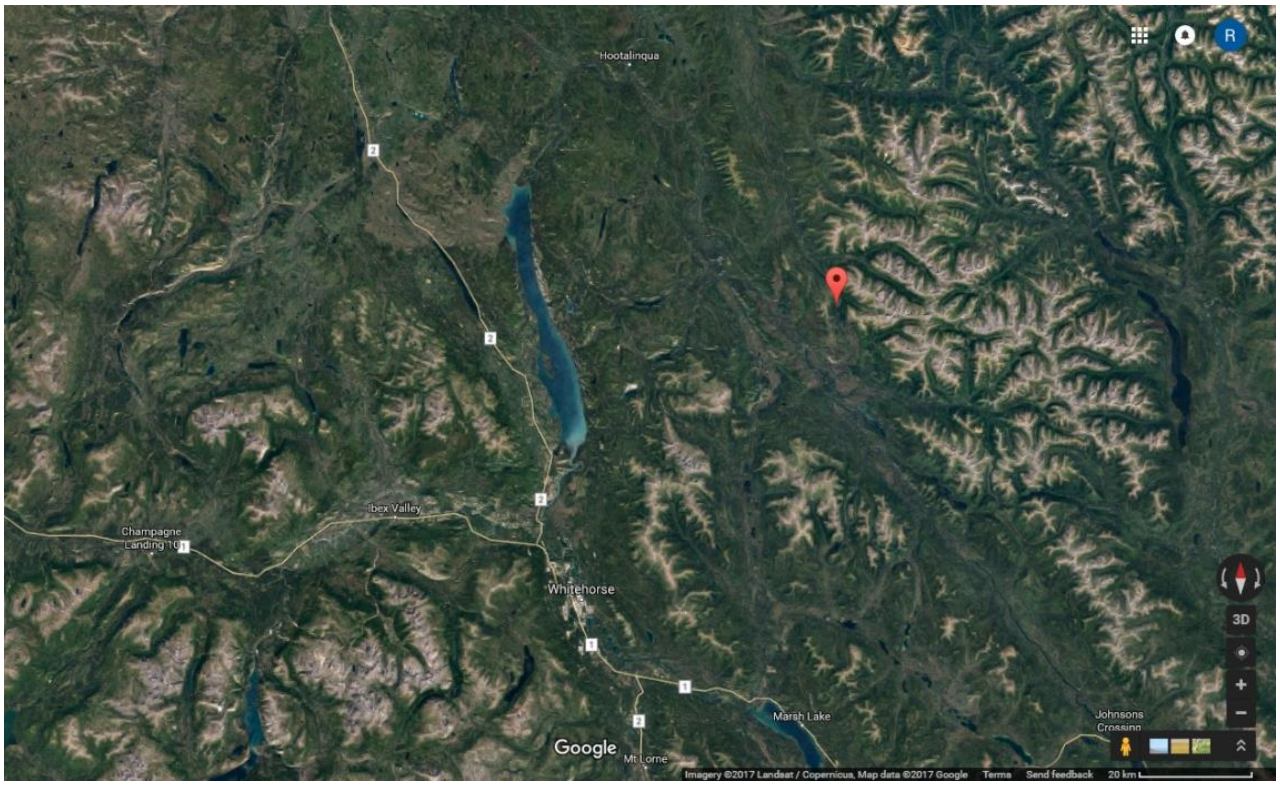

Illustration 1: Project area relative to Whitehorse

Prospecting and Geological/Sample Stations

The area staked under the Raw Geef claims (Raw Geef 1-66; see attached *Claim Location and Numbers* map) was indicated to have recently been staked by Golden Predator and evidence in the field was found of other historical staking of unknown extent. Despite being previously staked, searches with the government in their database did not reveal any information in the map sheet of this project (105 E 01) that was directly related to the area of this project. The only geological information known prior to working was a fairly vague geological map (Illustration 2).

A surface evaluation of the project area revealed geology with discrepancies with prior research in regards to unit boundaries. However, unit descriptions analyzed during pre-field research were generally adequate and represented what was observed in the field.

The claim block contains a massive medium-grained intrusive-dominated east end of the project area that was typically tonalitic to granodioritic and occasionally granitic with uncommon and cm-scale diabase units. West of the intrusives are meta-sedimentary rocks that are finely layered and typically pelitic with psammopelitic portions. Within these units, a handful of massive intrusions were observed, one being the intrusion-hosted veining target.

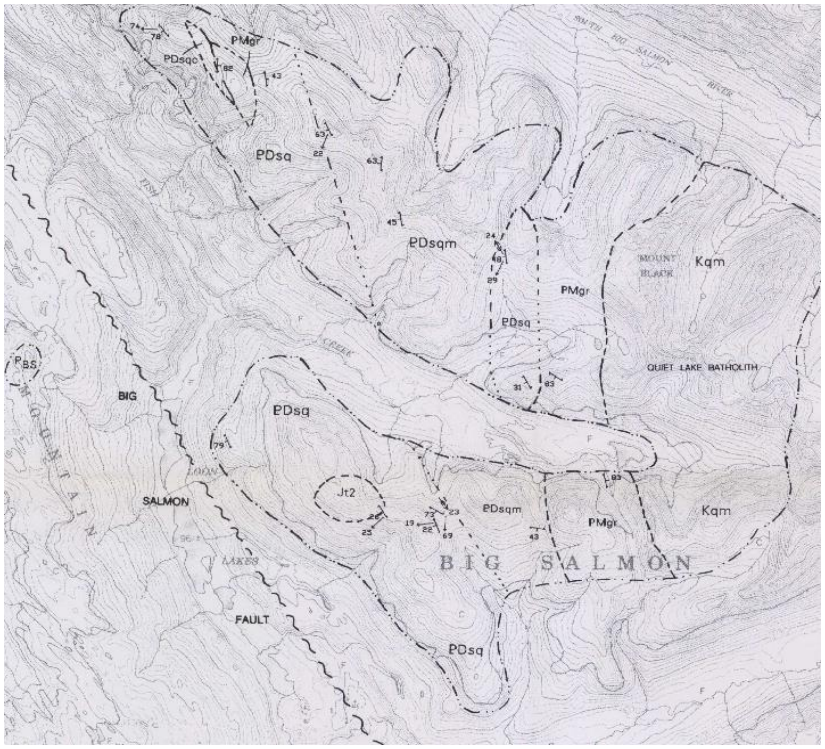

Illustration 2: Preliminary geological map of the area found on the Yukon Government's database

Near the centre of the map along the easternmost stream in the project area, is a small intrusive unit that is depicted to be flanked by meta-sedimentary rocks. While travelling down a fairly treacherous river-gorge attempting to get stream samples, “rust bleeds” (Illustration 3 & 4) were observed quite frequently within the aforementioned intrusive unit. Further investigations lead to an obvious association of rust bleeds with mineralized quartz veining. Fresh samples revealed molybdenite and pyrite that occurred both disseminated and in bands (along fractures? – Illustration 5 & 6).

Illustration 3: Rust bleeds depicted by yellow arrows. Field assistant for scale

Illustration 4: Close up photo of rust bleed coming off of a discontinuous quartz vein. Yellow to white botryoidal gossan was observed to be quite prominent on some rust bleeds.

Illustration 5: Ankerite and potassic (?) alteration adjacent to intrusion-hosted veining

Illustration 6: Molybdenite and pyrite within intrusion-hosted quartz veining

Sampling of intrusion related veining revealed fairly consistent Mo, Bi, Ag, and Pb values. Their respective highest values are 2280ppm Mo, 1745ppm Bi, 35.1ppm Ag, and 1625ppm Pb. Additionally, sample RG18-13 contained 0.047ppm Au– although this is a very small amount, it might hint that other zonations within this intrusion-related veining system may be the source of Au anomalies in stream sediments as shown in the government geochemical datasets. The intrusive host of these veins was traced several hundred meters down stream and veining density varied. The intrusion's extent remains open-ended in the downstream direction.

In the north-central portion of the project area, satellite images showed a red hue in the area and field observations identified a scree slope with extremely abundant gossanous flakes covering a hillside with an estimated area of at least 2km^2 (Illustration 7). No sulphides were observed in the gossanous chips and assay results (RG17-G-13) only showed slightly elevated base metal values. Just over 500m to the southeast a 4-5m thick strongly gossanous unit that appeared to be traceable for at least several hundred meters is exposed on the west side of a steep, north-south trending valley (Illustration 8 & 9). This area was the second primary target for the 2018 field season.

This unit is flanked by more weakly gossanous units on either side. The gossanous units are strongly folded and appear to be traceable across to the east side of the valley, albeit significantly higher in elevation and difficult to reach. The unit has a mudstone protolith and contains varying extents of cm-scale quartz veining. Sample results do not appear to show any significant anomalies.

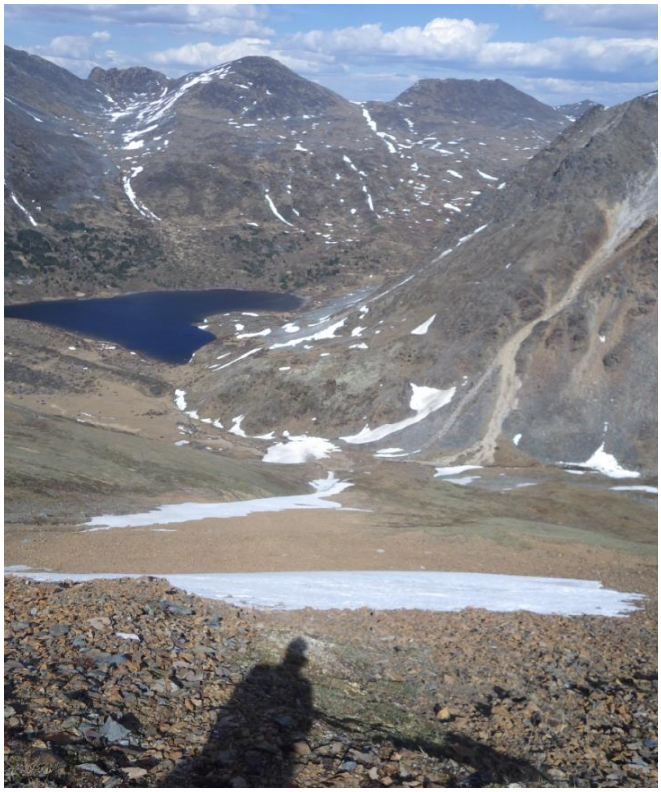

Illustration 7: View looking north with abundant gossanous chips on the mountain-side.

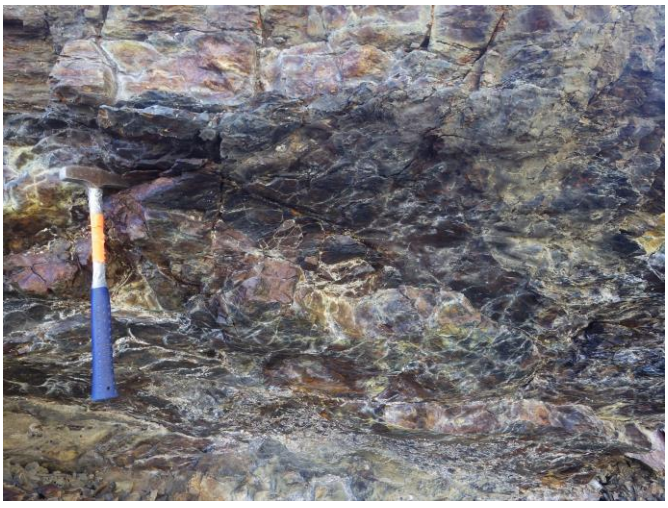

Illustration 8: Close up of strongly gossanous layer.

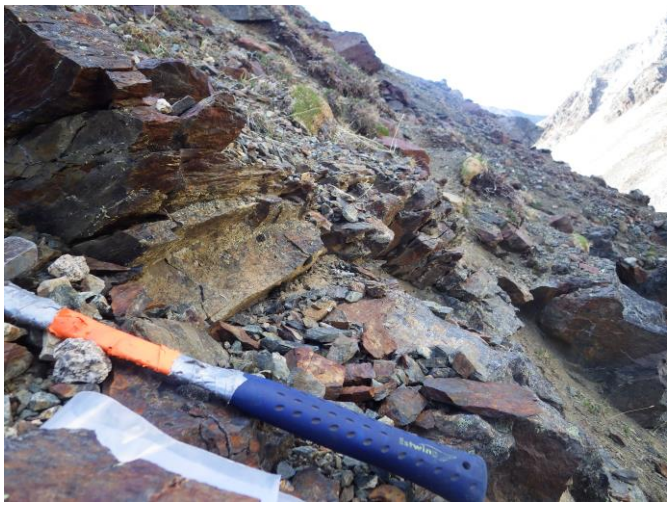

Illustration 9: View looking north attempting to depict the lateral continuity of the gossanous units.

Due to the difficult of obtaining a relatively fresh sample with conventional rock-hammer/chisel methods, a Hilti drill was commissioned to drill a grid into the unit of interest and Dexpan expanding grout was used to emphasize any pre-existing fractures with hopes that larger and deeper samples could be obtained (Illustrations 10 through 12). Initially, a peacock-like sheen was interpreted to be related to chalcopyrite but further evaluation concluded it to be the result of a more ‘oil rainbow’-like phenomena.

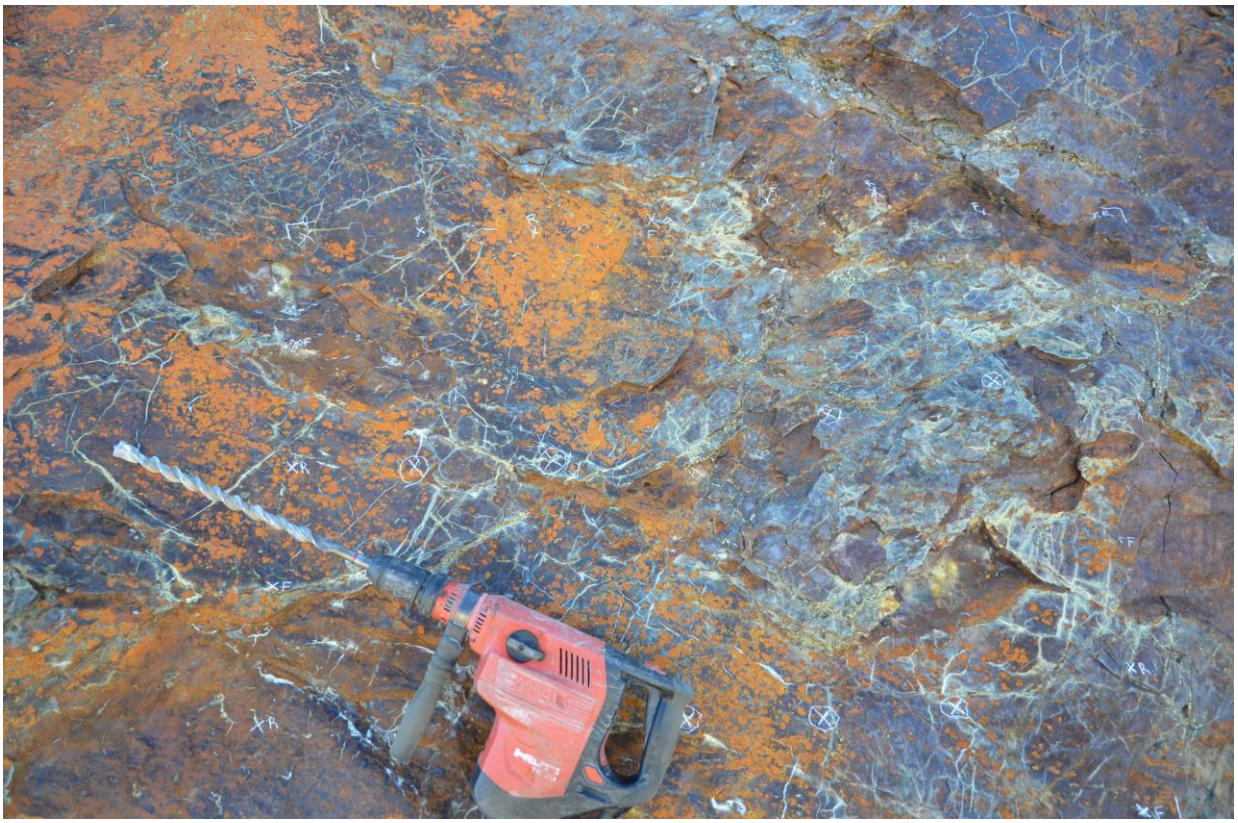

Illustration 10: Drilling grid marked in white China marker

Illustration 11: Field assistant drilling grid.

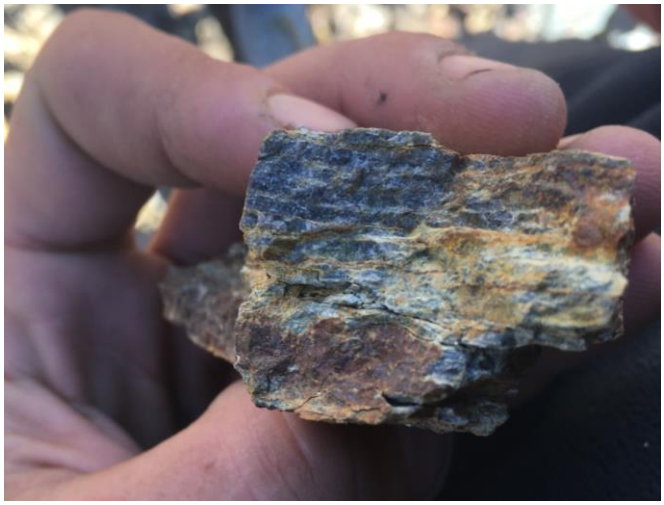

Illustration 12: Typical rusty mudstone with varying extends of quartz mineralization

The third, newly discovered target is just upstream from the intrusion-hosted veining. It was likely just barely missed in the 2017 season due to slightly different routing during navigating back up the stream-gorge. The unit is characterized by a dark, muddy colour but with a siliceous texture, pyrite-filled pods (up to 3x3cm), and quartz veining that often depicts several generations of vein events (Illustrations 13 & 14). A few fragments of the unit were noticed along the stream bed near the intrusion-related veining and traced back up to their *in situ* source (Illustration 15). Sample results do not appear to show any anomalies.

Illustration 13: Pyrite-filled pods within siliceous, dark rock

Illustration 14: Abundant fine grained pyrite within quartz vein with several generations of veining apparent

Illustration 15: The outcrop source of pyritic, quartz-veining, siliceous mudstone fragments found near the intrusion-hosted veining a few hundred meters downstream

Future Work Recommendations

It is recommended to abandon exploration of the gossanous units and to focus on the intrusion-hosted veining. It is the only unit hinting at notable mineralization that also could be used to vector in on other zonations with potentially more valuable contents (Au). Additionally, the extent of the intrusive host of these veins is poorly confined and open in the west, east, and south directions, leaving room for further expansion of the area of interest. It should be noted, however, that overburden will limit delineation of this unit to the east and west (the stream runs south and should be able to provide further insights) and that geophysical and/or geochemical methods may be needed to provide better resolution of the intrusive host's footprint.