

3. Thistle Creek Area

Introduction

At the end of the field season in September the proposed Thistle Ck. prospecting area, 80 miles south of Dawson City,^① was approximately two thirds covered.

Long known for placer gold, there is a small known showing of replacement galena, and also reported float in the dredgings of Thistle Cr. It is an area of discontinuity in the regional structure.

Prospecting in an unglaciated area such as this is difficult due to the continuous overburden.

Bragg and the writer spent three weeks, Anderson and Mickle 2 weeks, and Davis a few days, here.

Geology

Rock type is uniformly the Yukon Group gneiss. It has a complete range of mafic content from 0 to 100 %. Composition includes muscovite, biotite, hornblende-actinolite, feldspar and quartz, with garnet and pyrite occasionally. Some sections may be called an amphibolite or serpentized rock and these often contain pyrite. There is some remobilization giving quartz rods, boudinage, and injection gneiss structures.

The only limestone occurrence is a one foot bed, unaltered, on a ridge between Phillips and Dollar Creek.

On a ridge near the head of Australia Ck a garnet, chlorite, biotite skarn with a granophyric texture occurs, but no mineralization.

On the E. branch of Neebur Ck. there is a hornblende-garnet hornfels, with some pyrite, magnetite, epidote.

① See "Proposed Prospecting in the Thistle Mt. District"
Aho, 1962

The pegmatite veins are also prevalent throughout the area. It is not certain, but some of them may actually be quartz re~~in~~ mobilization into vein structures. Generally coarse-grained, they usually contain large K-feldspar crystals. Pyrite, biotite, magnetite are often present but not in any discernable trend. Quartz float in the Thistle Ck. dredge tailings near Australia Ck. contain small amounts of medium crystallized galena, but unless they were blasted off bedrock their original position is doubtful. Quartz float specimens on Barker Ck. contain a little chalcopyrite and possible sphalerite, but the adjacent silt samples did not respond. The pegmatities are scattered, do not follow any orientations.

Creek pannings, particularly from Thistle Ck., contain cassiterite, pyrrhotite, magnetite, galena, hematite, pyrite, gold, silver, and flakey gold, usually free, was occasionally associated with quartz. None of these except pyrite and hematite occurred in any great quantity.

Structurally, the area is not uniform. A stereonet plot of poles to foliation indicated little except a lack of NW dips. However, there seems to be a trend:



An AEM Magnetometer (vertical component, plus or minus 50 gammas) owned by Mickle indicated a 500 to 1200 gamma anomaly on Telford Ck. - Brewer Ck. at the 2200 - 2300 foot level. It was apparently caused by magnetite in an orthogneiss.

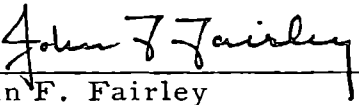
Silt sampling for zinc was mostly done in the field. Since the results from the lab have been returned, the buffer used in the field has come under suspicion. The high background of 90 ppm. should have been detectable, and statistically, some of those field tested should have concentrations around 130 ppm. The two west ridges of Thistle Mt. may be anomalous with creeks showing concentrations of 100 to 130 ppm. zinc. Further lab results for the field tested samples are forthcoming. Background copper concentration is 20-30 ppm., and the few values over this have no particular distribution.

Recommendations

Microscopic examination of the pannings (approx. 25) should be done this winter.

Generally better weather conditions and easy access to this area make it feasible for late season work. Since, geochemically there is a rather high background for zinc, the structure is anomalous regionally, and the originally proposed area has not been completed, the writer feels another two to three weeks work by a prospector and geologist would be worthwhile.

Further reconnaissance examination should first be concentrated in the creek bottoms with float examination, panning, and geochemistry before ridge traverses are made. Sidehill outcrop or float is scanty.



John F. Fairley
November, 1963

cc: Prap.
Mt. Stewart Area THISTLE MTN Gold, Ag Pb (A0-6002) in cks
16002 in ledge

1. Anomalous structure with cross-trend in the schists, especially centered around Thistle Mtn
2. Tertiary intrusive @ Mt Stewart.
3. Major NW faulting, one main fault along central ridge
4. Placer Gold in Thistle, Kirkman, Ballarat, Barker & minor creeks NW of Barker Creek. (minor gold only, in these other creeks) also gold in Scroggie creek which lies SE along general strike of faults.
5. Coarse angular gold in quartz from head of Kirkman (or Thistle?) creek.
6. Dredge (on upper Thistle creek) picked up considerable galena. 160 oz/ton reported by ck $\approx \frac{1}{2}$ mi above camp
7. Gold in Barker Creek may have come from Agate creek.
8. From Thistle Mtn to head of Agate & Kirkman creeks two or three minor, but distinct lineaments extend E-W, transverse to the main fault, and at a small angle to the schists and quartzites. These lineaments are located in the right position to have thrown gold into Agate Cr, head of Thistle Creek, & the busy Gulch (which could give the concentration where the dredge was), and other zones ~~may have~~ very close to these may have given gold to Kirkman and Ballarat creeks just over the divide.
(cont)

These prospecting should be centered around
Thistle Mtn and 3 or 4 mi to the east.

There is a fold in the sheets here and a
change in direction of the main fault and
accompanying NW fold

Access

Down Yukon R. by boat & up (a)
Ballarat Creek 10 to 12 miles.
(Road for 8 miles) or (b) up Thistle
Creek 14 miles (road for 10 miles)

Alternatives

Access from Dawson
plane from Dawson.

3 miles for prelim. prospecting

Metallogenic belt may extend SE. along Selwyn River
Hayes Creek to Big Creek

Gold deposits lie on major structure (Major fault zone)

→ Mt Freegold → Big Cr → Hayes Cr → Thistle Mtn
→ Sixty mile R → Forty mile Dist

1. Mt Freegold is at ^{SE} end where FTZ dies out.

2. Selwyn R. for ?

(Canadian Creek ^W in selwyn system - NW also
like Hanson or El Brown-McVade ?

3. Thistle Mtn where cross-cut in sheets

Where major
disint. FTZ
structure
cuts FTZ

DE