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WRITTEN
BY

AH

Geology Report

SWAN

Claims

in

August?

September?

Project: B.C. Gold.

Location: Swan Claims, South

Geologists: Jean Pautler

Burnaby Island, Q.C.I.

Audrey Heagy

Dates: July 19 to 23, 1980

Camp Name: Bravo

Rock Samples: 84770 to 84773, 58492 to 58494

Soil Samples: A-80-348 to 353, A-80-401 to 421,

S+00N to S+400N, LCP to LCP+1050, LCP+2000 to

LCP+2500

Thin Sections: 12 rocks.

✓ Not all
Locations Known

Introduction: Geological mapping at a scale of 1:10,000 was carried out on the SWAN claim group on south Burnaby Island. Soil samples were taken at 50m intervals along the central N-S claim line. Additional soils were collected along the central E-W claim line and elsewhere on the claims. A number of rock samples were sent for litho geochemistry and a suite of twelve rocks were collected for thin section and petrographic description without locations put on map for some.

The weather during the period was overcast and rainy. The claims are readily accessible by foot from the campsite on Swan Bay, in the southwest corner of the claims. The campsite is open and water is available from a small stream immediately adjacent to the camp. The beach allows both helicopter and fixed wing accessibility. There were no visitors to the camp.

Three sets of old claim posts were found on the SWAN claims. These include:

1) FINAL post for JIB 60, 61 and INITIAL post for JIB 62, 63 (all on one post), #'s 423414 to 423417; located 300 metres due east of camp (550W, 200S of LCP), placed by E. Wozniak for Mastodon Highland Bell Mines Ltd on April 6, 1963; ^{and running NW} Also a post in the correct position to be the INITIAL post for JIB 60 + 61 was located on the shore (300W of central claim line) but the tags had been removed.

2) The FINAL posts for FIO (or FLO?) # 9, 10; #'s 472109, 472110, dated March 15, 1963 and the INITIAL posts for FIO # 11, 12, # 472119, 472120 dated March 16, 1963; all placed by W.E. Seines ^{Seines} for Merriam International Mines Ltd and running southerly. These tags were on three separate posts all 15 metres east of the 1400N station on the central claim line.

3) FINAL posts # 303055, 303056 located on the south shore at 500W from 1S. No additional information was present but these are possibly the Dennison, 1961 claim posts.

None of the other JIB claim posts known to be on the claims were located. The located JIB posts were in good condition but the claim lines could not be ~~traced~~ followed.

Geology:

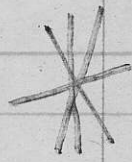
(1968)
A Sutherland Brown describes the regional structure as a mosaic of gently northerly dipping panels cut by steep block faults. The main area of the claims ~~covers~~ ^{consists of} Kunga formation limestones. These are in contact with Longarm lithic greywacke to the northwest and the post-tectonic Burnaby Batholith to the northeast. A wedge of the Karmutsen Fm is shown ^{by Brown} on the western edge of the claim area while Karmutsen, Kunga and Yakoun rocks are all shown ~~occurring~~ ^{peninsula} on the southeast corner of the peninsula. The JIB magnetite deposit is ^{located} in Pelican Cove, just to the east of the claims, and the geological setting, ^{here} as described by Brown, is ~~similar in part~~ ^{basically} to that observed on the SWAN claims.

Karmutsen amygdaloidal basaltic greenstone, typically with chlorite-epidote alteration, is ~~present~~ ^{present} in the northwestern? area of the claim ^{and} is in fault contact with the Kunga rocks to the east. The Karmutsen ^{like} may also occur, in part, as conformable sills within the massive grey marble member of the Kunga. A feldspar porphyry, with fragmental feldspar phenocrysts in an aphanitic dacitic ~~an~~ groundmass, was seen in two outcrops: once within ~~the~~ Karmutsen greenstone (650N, 650E) and once as an isolated outcrop (00, 770N). It

Future geological mapping should concentrate on producing an accurate map of alterations ^{especially of the Kunga Fm} ~~in the~~ ^{in the} ~~carbonates~~ ^{carbonates}.

has been placed in the Karmutsen although its age relationships are not clear.

The massive grey, ~~marble~~ and ^{thinly} well-bedded black, limestone members of the Kunga outcrop along the south shore. They generally dip north to northwesterly but are cut by a ~~few~~ number of steep, north to northeast trending, minor faults which often have associated folding, fracturing and calcite veining. The limestone units also outcrop on the sides and top of the hill. The argillite member was ^{noted} ~~seen~~ only as float in one area on the hill.



Where the black limestone member is seen on the hill it is bleached a light grey to tan colour, and quite siliceous but with layering and Monotis fossils showing excellent preservation. Both



limestone members locally show extensive deformation, silicification, cherty quartz veining and/or skarn alteration where associated with faults and intrusives.

The Longarm Formation outcrops on the peninsula at the north of the claims. It is generally gently northwesterly dipping but locally exhibits folding, penetrative ~~strain~~ shearing, and boudinage. The dominant rock type ~~in situ~~ exposed is a fairly massive, buff to greenish weathering, coarse, lithic greywacke.

Conglomerate ~~and~~ ^{and} fine-grained grey siltstone

interbeds also occur.

In the northeast corner of the claims the coarse-grained quartz ~~mass~~ monzonite of the Burnaby Batholith ~~is~~ is in irregular contact with the Longarm rocks. A complex outcrop on Francis Bay (2100N, 500E) shows what appears to be rounded cobbles of the coarse-grained intrusive in a highly sheared matrix of similar composition, in irregular contact with sheared greywacke with conglomeratic interbeds.

In the south central region of the claim a number of dioritic dykes cut the Kunga limestones. These grade from fine to coarse-grained, are frequently porphyritic, and the mafic minerals are typically altered ^{and exhibit} with green weathering.

In a number of locations andesitic dykes cut the Kunga Formation. Similar andesitic dykes as well as ~~the~~ basaltic dykes ~~cut~~ crosscut the Longarm rocks. Brown ~~found similar~~ describes post-ore basalt and andesite dykes of uncertain affinity in the geology of the J1B deposits.

~~The orientation of the dykes, faults and fractures is~~

There is no consistent pattern to the orientation of the dykes, fractures or faults.

Economics: Several small silicified and skarnified zones occur in the Kungu limestones, especially the massive grey member.

The amount of skarn ^{Feather} alteration is variable, with some zones showing only extensive silicification ^{and brecciation} and cherty veining, while others are highly altered, with or without small amounts of pyrite, pyrochroite, chalcopyrite, malachite, magnetite and/or sphalerite. A brief ~~test~~ search in the area of the single elapsed old claim (south east corner of ^{SWAN} claims) failed to locate any mineralized showings.

The litho geochemical results from the preliminary reconnaissance showed widespread anomalous gold values. The highest value was 100 ~~ppb~~ ^{ppb} gold. Anomalous arsenic values were found in several soil and rock samples and although there ~~was high arsenic~~ ~~rock geochemistry did not show~~ was ~~no~~ ^{NO} correlation of ^{high} arsenic with gold in the rock geochemistry, the high arsenic soils do appear to be spatially associated with the ~~high~~.

anomalous rock samples.

The silicified zones seem to be most closely ~~a~~ related to minor faults associated with the major block faults. Generally, clivitic dykes of the post-tectonic intrusive outcrop nearby.

- ① check fracture pattern on Airphotos
- ② collect references in mm on Jib → describe occurrences
- ③ Introduction note about Poole
 - { note about early sedwing }
 - { note about Ikeda? }
 - note about production (in sessie)

soils

39

39

30

98

DIVISION

26 total

- 12 - 16

114

110