

RED MOUNTAIN

886938

Sept. 4/90 TGS

CONFIDENTIAL

GENERAL/LOCATION/ACCESS LOGISTICS

NTS - 103P/13 / Lat. 55° 57' / Long 129° 42' W

SSE flank of Red Mtn.

MI - 103P (220) → 086

- 15 km EAST of Stewart; Red Mtn. gossan ~ 12km² in size
- ~40 person camp
- ~\$1 million spent in '89 (plus ~ \$m on Willoughby)
- ~\$4 million est. for '90
- use of mountaineering geologists (Incl. Chilean) for sampling
- innovative method of drill set-ups - concrete pilons
- elev. 655m to 2035m
- slopes are mostly steep to precipitous
- Trimlines in Bromley Glacier valley indicate ~ 150m of downwasting
- recent glacial ablation - responsible for discovery of new showings
- access by helicopter (~0.25 hrs from Stewart one-way)

WORK DONE/NEXT PHASE

- ~5000m ddh drilled to date (end Aug/90) - total will be ~ 12 000m
- contemplating u/g on Marc Zone (postponed Sept/90)
- looking at feasibility/logistics of building a road up Bitter Creek valley (tough switchbacks above toe of Bromley Glacier)
- no baseline environmental studies yet! (started Sept./90)
- definite potential for ARD/AMD!
- 2 drills on site - ore defn. (25m centres) & 'exploratory' (3 drills in Sept.)

CLAIMS STATUS

Oro 1-6 incl. (7951-7957)

AR #20.133

Hrothgar (6760)

Release Date: July/90

Hrothgar:

- claim south of expl'n camp down Goldslide Ck.
- old Au,Mo showing (Erin Stock) & McAdam Pt.

Oro 1:

incl. Marc, Brad, & MCEX Zones

Oro 4:

incl. Dickisito showing & Rio Blanco Ck.

Oro 6:

incl. numerous N-S geophys. conductors on east side of Bromley Glacier

Camb 1:

old (Falconbridge) RHS cls. (Au showings)

ANNIVERSARY DATE (AR Filed) - July, 1990 ·· July 1991

- option agreement with Wotan Res. (Dino Crenomese)

Anniversary Dates of Claims: Sept. 16 & 23/90

EXPLORATION HISTORY

1898 - placer gold in Bitter Ck.

1900 - lode gold expl'n in upper reaches of Bitter Ck.

1965 - Discovery of MoS₂ & native gold (N.G.) at McAdam Pt.

(Erin Showing: MI 103P/220). 1 ddh

1967 - Northgate Expl'n.: 5 ddh (4 on Goldslide Ck; 1 on McAdam Pt.)

1976 - Zenore Res: Jack cls.

1977/78 - Zenore Res: resampling of 1967 core & petrographic study

1978/80 - Falconbridge Nickel: recce for por. Cu-Mo

1988/89 - Staking by Wotan Res.

1989 - option by Bond Gold + discovery of Brad & Marc Zones

1990 - large surface drilling program by Bond/Lac on Red Mtn.

PROPERTY GEOLOGY

"Epithermal to transitional gold mineralization associated with qtz. - sulphide stkwk & sulphide replacement zones; host rocks are pyroclastics and/or epiclastics of the Hazelton Gp. as well as fine-grained hornblende porphyry of the Goldslide Intrusion".

- eastern margin of Stikinia Terrane of the Intermontane Tectonic Belt
- host rx. correl. with Lower Jurassic Unuk River Fmn. - "dacitic to andesitic" (Pliensbachian)
- island arc complex
- min. in N-NW trend - closely follows contact of Goldslide Intrusion & host pyroclastics (+ minor interbedded seds.)
- dips steeply to WEST
- contact between hbl. porphyry & highly alt'd host rx. = transitional (i.e. not much heat difference when intrusive came into volcanic pile; no intense 'hornfels' zone) - quite broad, 'replacement-style'.
- west side of Goldslide Intrusion = hbl. por. with qtz stkwk and 'eyes' (cf. east side); also ubiquitous epidote; locally distinct lineation of hbl. Hs., minor N-S grey (andesitic) dikes.
- no diking on Marc & Brad zones (to date)
- local zones of hydrothermal breccia (+ mineralization)
- Note: absence of silica as eyes or veins in Marc Zone
- significance of tourmaline
- Host rx: clastic seds (argillite, siltstone), volcanic breccias, crystal and lithic tuffs, and minor limestones & cherts. Seds. are interbedded with volcs. - correl. with Unuk R. Fmn.
- Betty Ck. Fmn. appears to have been thinned out or eroded in Red Mtn. area
- west of Bromley Glacier - sequence occupies centre of Bromley syncline
- strata strike NW & dip steeply to SW; but can be variable due to up-doming of intrusion
- distinct volcanoclastic unit occurs NE of Marc Zone at edge of Cambria Icefield (AR 20,133, p.15)
- consists of crse. limestone fragments in a fn.gr. dacitic tuff which weathers rusty brown (fn. dissem. py..)
- similar rk. to south on Lost Mtn. = marker?
- Hypabyssal hbl. porphyry intrusion (Goldslide Intrusion diorite to granodiorite occupies cirque of Goldslide Ck. valley).

- Qtz. stockwk. at border with weak to intense silicification, sericitization, & propylitization
- Erin Stock = granodioritic to QM (McAdam Pt. to Lost Mtn.,) & assoc. aplitic dikes intrude argillites, limey seds. & ands. pyroclastics = skarn & hnfils. --> Upper Tertiary age indicated by Grove (1986) - needs confirmation
- Dikes - kspar por. - mainly NE & qtz. eyes, correlated with Texas Ck. (Early Jurassic)?
- andesitic - N-NW trend, cut all other types of dikes; rel. to Oligocene-Miocene lamprophyry dike suite (Portland Canal swarm)

STRUCTURE

N-S zones of min. and/or geophys. conductors = fault zones?

E-W 'later' offsets with ~60m movement

ALTERATION

- tourmaline 'rosettes' & fractures in both Marc and Brad zones - more obvious in hbl. por. (Brad Zone)
- bright, light green alt'n mineral? - clay, sericite, saussurite
- pinkish alt'n mineral (eg. 89-03-162m, Brad Zone) - need x-ray ID (carbonate?, rhodochrosite)
- silicification, sericite \pm chlorite is pervasive in areas of intense altn.
- alunite & jarosite identified on Marc Zone 'Bluff' by Bond study, i.e. lateral to vein vs vertical sense
- weak to intense silicification; sericitization; propylitization
- several km wide zone of pyritization & sericitization surrounds Goldslide Intrusion
- Marc Zone min. hosted by strongly alt'd lithic & crystal tuffs & adj. hbl. por. ('replacement-style')
- micro-stockwork of hairline veinlets of adularia & albite (plus assoc. py)

MINERALIZATION

- densely disseminated & semi-massive pyrite replacement and/or pyrite stringers & veinlets within a dark grey to black matrix (leaching on surface)
 - variable amts. of ZnS, po, py, cpy & tellurides (petrographic)
 - gold min. in both pyroclastics & interbedded seds. and hbl'd por.- min. zone - up to 30 to 40m thick grading ~5g/t with several >1opt
 - Marc Zone: surface traced >500m
drill traced @ 25m spacing (to date); ~200m strike/250m depth width 30 to 40m
elevation ~ 1930 metres
 - infault zone in pyroclastics/seds unit near contact with hbl'd. por. - reflects general curvature of intrusive contact
 - Section 0 + 50 N '10 holes - shows geometry
 - intrusion appears to be western flank of a domal intrusive (circular pattern on air photos, A.R. 20, 133, p. 23)
 - apparent better correl. of Au with quantity of cpy.
 - sulphide content (py-po±cpy) is pervasive (av. ~8%)
- Best drill intersection - reported: MC89-08 - 66m @ 9.88g Au/t (0.29 opt) & 42.29 Ag (1.23 opt)
- Brad Zone: strike length drilled tested ~150m (surface >350m)
 - incl. U.G. depth " ~ 75m elevation ~1700 metres
 - stockwork min. consisting of dissem. py & py stringers with tourmaline & MoS₂
- > spatial as well as temporal association of Early Jurassic calc-alkaline intrusions & volcanic centres & gold min.
- significant red-brown ZnS (sub-economic) - cf. Eskay Ck
- Erin Showing: N to NE trending fractures control MoS & V.G.
- Eg. 27.42 g/t (0.8 opt) Au over 0.91m
- exact location not reaffirmed yet (by Bond)

Lost Mtn. (RHS): incl. southern contact of Erin stock with MoS₂ bearing Qtz. veins (+ skarn) with sig. Au + Ag + ZnS, py, po, PbS, cpy; veins strike NW, dip steep SW (note: same altitude as Marc Zone)

Tellurides: Abundant, sporadically distributed traces of complex Au-Ag-Sb and Bi-tellurides (\pm Pb) (eg. altaite)

Native Gold: occur as veinlets in pyrite, as interstitial pockets assoc. with cherty cement, and, as discrete inclusions in py.

- Au-bearing pyrite-chert phase is clearly superimposed upon and assimilates & replaces the host tuff (incl. replacement 'front').

- complex fragmentation/cementation & hairline cracking of py.

- 2 stages of pyrite: 1) earlier fine-grained (syngenetic)

2) later coarse gr. 'disseminations', cubes

AGE RELATIONSHIPS

Erin Stock: indicated as Tertiary by Grove (1986) (Needs confirmation)

Possible Dating: 1) Erin stock

2) Goldslide hbl'd por

3) Pervasive sericitization (pyroclastics/intrusion)

Fossils (from WILLOUGHBY): byozoans

Update (Nov. '90): - Thin sections made from 6 samples

- McMillan examined & recommended 4

- submitted 2 (for sure) & 2 (tentative)

- Ar-Ar dating at Dalhousie (contract)

- 1) Goldslide Intr. (Jurassic?), & 2) Erin Stock (tertiary?)

GEOPHYSICS

- airborne and ground geophysics (EM, VLF, mag) have worked very well - good structures (N-S) plus possible E-W fault offsets.
- ~5000 line km of airborne @ 200m spacing on E-W line and 100m spacing over Red Mtn.
- several (~40) N-S conductors identified (sub-parallel to stratigraphy) - easy to differentiate those due to graphitic argillite
- horseshoe-shaped dist'n of pattern of conductors marks the contact of the Goldslide Intrusion.

GEOCHEMISTRY

- 'proximal' lithogeochemical alt'n patterns characterized by increase in conc. of sulphophile elements, i.e. Ag, As, Sb, Pb
- > also increase in ~~K~~/Na ratio
- increased Zn values flank mineralized zones

METALLURGY (Mineralogical)

- cherty matrix or cement replaces strongly sericitized lithic tuff, plus massive py.
- VG - range: 10 to 500 microns - occurs as fillings of microfractures within py & the cherty matrix and as discrete inclusions in py.
- tellurides of variable composition - part of paragenesis Au-Ag-Sb and Bi-tellurides (\pm Pb) (eg. altaite)
- potential **fouling** problems.
- V.G. and tellurides - mostly well-separated (cyanidation) (also occasionally intergrown)
- > photographs from Van. Petrographics private rpt.

ASSESSMENT REPORTS

<u>Rpt. No</u>	<u>Year</u>	<u>Comment</u>
1588	1968	MoS ₂
6580	1967	MoS ₂ - Jack
7152	1967 Petrography	Jack (Graham Nixon)
11,422	1983	Willoughby
12,275	1984	Camb (Lost Mtn.)
12,534	1983	Oak
12,718	1984	RHS (Falconbridge)
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19,474	1989	Willoughby (Bond)
20,133	1990	Red Mtn. (Bond)

TS:JB

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Dec. 3/90