

MINNOVA INC.

DATE: February 28, 1991
TO: Gary Wells
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FROM: John Bradford
SUBJECT: **Vavenby Compilation**

Geology

The complex geology of the Vavenby area can be broken down into three main elements for the purposes of exploration. First, favourable stratigraphy for VMS deposits (EBA and EBF, of Devonian age) extends in a broad belt south of the Thompson River east from the lower Fennell contact almost to Vavenby. The EBF/EBP contact (equivalent to the Rea hangingwall) lies just west of Avery Creek and is certainly worth a reconnaissance field exam. None of the properties in this belt are at a very advanced stage of exploration, although Foghorn has received a lot of attention and a large amount of data exists in assessment. The main problem for exploration in this belt is the Rexspar deposit, which would make development of any mines a political issue.

Second, south of the VMS belt and north of the Baldy batholith is an area intruded by Devonian orthogneiss, which is associated with low-grade Cu mineralization I interpret as deformed porphyry - style mineralization. The Reg Christie Creek area is also prospective for this type of mineralization.

Third, a linear belt of sedex(?)/replacement/vein mineralization occurs in rocks mapped as EBQ north of the Thompson River, centred on Mt. McClennan. Origin of these showings is debatable at this stage; the Mt McLennan ones may be equivalent to the Adams Plateau showings. Potential of this type of mineralization seems very limited to me.

Structurally, fold and thrust style Jurassic deformation is overprinted by north trending Tertiary block faults.

Showings

A. VMS (including possible VMS stringer systems)

1. Foghorn (Chingrin, Lydia, West zone)

Claims - Foghorn 1-5, 7, Lydia
Owner - Goldspring Res.

Randy Hogg

Host - EBF, lower Fennell

- 150x400 m zone with deformed quartz veins with Gn, Sp, Py (Foghorn, Chingrin); stratabound semi-massive Py, Cp, Po (Lydia); brecciated chert with Gn, Sp (West zone, in lower Fennell).

- High grading of veins in the Foghorn camp produced 73 tonnes of 1210 g/t Ag, 7.8% Pb in 1916-7.

Work Done - 1972: DDH (Noranda) on Lydia, best intersection 0.3% Cu/9 m.

1980-1: 20 DDH (Craigmont), best intersection JC-2 (0.27% Cu, 3.06% Pb, 58 g/t Ag/3.3 m)

1983-4: 5 DDH (Esso).

1984, 1988: 10 DDH on West zone; best intersection 9.3 % Pb, 1.5% Zn, 2.74 opt Ag/2.7 m.

- extensive soils, geophysics, including Dighem.

References - AR 1597, 1624, 1924, 3820, 4876, 7404 (Barrier Reef), 7757, 7758, 7813 (Craigmont), 17328, 18320 (Fox)

2. Water (CW, Silver Dollar)

Claims - Water 2, 4-9

Owner - Newmont

Host - EBA, EBF, lower Fennell

- silicified zone (+ possible exhalite) in sericite (locally with kyanite, andalusite) schist with widespread disseminated Py, Cp, traced for 1.5 km; Gn, Sp, Tt in quartz veins.

Work Done - pits, adits (Cominco, 1926), mapping, 727 soils (Cominco), mag, EM, PEM, 10 DDH (Craigmont, BP). No intersections of note.

References - AR 6862 (Craigmont), 7575 (Cominco), 13559, 14485 (Newmont), 17188 (BP).

3. Tia

Claims - Tia 1, 2, 11, 12, 14

Owner - Nu Crown Res.

Host - EBF

- Disseminated Sp, Gn in silicified zone (+ exhalite?) up to 12 m thick in sericitized EBF with argillite lenses.

Work Done - 1985: 4 DDH (best intersection 1.47% Zn, 0.25% Pb/1.2 m); 1987: 9 DDH (best intersection 0.37% Zn, 0.20% Pb/1.2 m).

References - AR 13682, 14206, 15236.

4. Rexspar

Claims - Crown grants

Owner -

Host - EBft

- Supposedly syngenetic/deuteric replacement origin; hosted in trachytic lithic tuffs, breccias and intrusives; reserves of 1.114 Mt of 0.077% U_3O_8 ; also 1.442 Mt of 23.5% fluorite in Fluorite Zone; banded Py-fluorite-mica texturally similar to VMS.

B. Porphyry

I think Harper Creek is a deformed porphyry deposit: it is epigenetic (according to Belik, the zones clearly crosscut stratigraphy), has stringer, fracture - hosted and disseminated mineralization, and the sulphides have a magmatic sulphur isotope signature. All deposits in this category are associated with Devonian orthogneiss.

5. Harper Creek

Claims - multitude

Owner - USX (Quebec Cartier) under option to Aurun Mines ? (in receivership, 1989).

Host - EBA ?, Dev. orthogneiss

- 84 Mt of 0.4% Cu, with minor Mo and low PM's. I think that Host rocks are mainly chlorite schist (EBA?). Trenching south of the deposit in 1986 exposed massive pyrrhotite-pyrite-magnetite-chalcopryrite (a la the Fennell zone on Griz) over 300 m, with grades of 0.1-0.9% Cu over 1-3 m widths. This is probably skarn - type mineralization.

Work Done - extensive diamond drilling in late 60's and early 70's by Quebec Cartier, Noranda. Economic evaluation including pit designs (stripping ratio calculated 1.68:1), metallurgical tests.

References - on file.

6. VM

Claims - none

Host - EBA ?, Dev. orthogneiss

- Disseminated Py, Cp in quartz porphyry sericite schist and gneiss.

Work Done - 750 soils, mapping (Cominco)

References - A.R. 2988, 3195, 3525, 6878, 11475.

7. Mila (Vav, Reg)

Claims - Mila 1-4, Chris 1-6, Tosh 1-2
Owner - Goldbank Ventures
Host - EBA

- Disseminated to semi-massive Cp, Py, Po, Mt in meta-andesite and altered phyllite over 150x1000 m area.

Work Done - 431 soils, 100 rocks, mag, EM

References - AR 5909, 6383, 6933, 7119, 13557, 14505

C. Sedex/replacement?

8. Mt. McClennan (Sunrise, Naomi, Snow, Red Top)

Claims - Noble 1-7
Owner - Placer Dome
Host - EBQ ?/EBGs ?

- Stratabound semi-massive to massive Py, Gn, Sp, Po in quartzite, marble, calcsilicate, quartz sericite schist.

- 125 m strike length, 0.3-1.2 m thickness (Sunrise); 0.5 m thickness (Snow).

- Mt skarn below limestone unit at Snow.

- Pb isotope signature same as Adams Plateau showings; host rocks may be equivalent unless these are epigenetic.

Work Done - pits, trenches, EM, mag, 5 DDH (Snow).

References - AR 4361, 5813, 6174, 6603, 6931.

D. Vein

9. Sonja (BC, Brenda)

Claims - Sonja (forfeited)
Owner -
Host - EBA/K granite

- Quartz veins with Py, Gn, Sp, Cp associated with K granite plug. K Pb signature.

Work Done - adits (1913?), trenching.

10. Bearsden, Morrison, Tinkirk, Vavenby

Claims - Noble 1-7, Big Chief, Olympia

Owner - Placer Dome (Noble claims)

Host - EBG, EBS

- Quartz veins with Py, Gn; semi-massive sulphide lenses in sericite schist.

- same Pb signature as Mt. McLennan.

Work Done - EM, 89 soils, mag

References - AR 5813, 6174, 6603, 6931, 12080, 13463, 14728, 15817

