Prop. Submission 94-C-2

1979 REVIEW OF SUZIE MINING EXPLORATION DATA

810524

BEVELEY PROPERTY

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VERBAL SUMMARIES:

Bragg: Pb/Zn healed dolomitic breccia (Ingenika), related to igneous activity, all of property - possibility of 10×10^6 tons @ 2 - 2½ with 1 - 2 oz./ton Ag over numerous small pits. Drilling recovery and $ZnSO_4/CO_3$ are problems.

DeQuadros: Possible Mississippi Valley-type deposit, $4 - 5 \times 10^6$ tons in "Donna" area; very erratic; geological work not too critical; two mineralized horizons.

DATA:

Lefebure, David V. (1974) The Beveley Property, A Lead-Silver Prospect in North Central B.C.; B.Sc. Thesis, Queens University, Kingston, Ontario, 47 p., C. J. Hodgson, supervisor.

SUMMARY:

Beveley (85 km from Germansen Landing, 175 mi. by road north of Fort St. James) in Omineca (094/C/2W,3E). See Min.Dep. for back-up data. 4 x 4 access in August; 4,700 foot elevation; heavy forest, poor outcrops; 20,000 feet of trenching. Discovered in 1946 by Alex. Leggatt (Cominco). Property worked 1949 - 1951, 8,000 feet of trenching, 12 short diamond drill holes. B.C. Mines Branch visited in 1952. Cominco stopped exploration in 1951, dropped in 1962.

Leggatt formed E. D. Vinnedge & Assoc. in 1966, optioned the property to Donna Mines 1967 - 1969; thence dropped (??) and acquired by Suzie.

GEOLOGY: (General)

Omineca Mountains west of Trench. Upper Proterozoic - Lower Paleozoic Tenakihi clastics (amph. facies) ≡ basement under Ingenika CO_3S and clastics. Both groups intruded by Cambro-Mississippian granodiorite stocks. Possibly pre-int. metamorphism. Caribooan in mid to late Paleozoic. Volcanics and clastics (post Cambro-Mississippian) unconformably overlie Ingenika, possibly ≡ Cache Creek (Pennsylvanian-Permian) which outcrops south of Beveley. Trembleur ultramafic intrusions in mid-Permian - middle Triassic + small feldspar porphyry (Trembleur or Omineca) pre Lower Jurassic - Columbian event in middle Triassic. Takla (upper Triassic → Jurassic) unconformity on top. Intrusion of Hogem. See Roots (1954) Aiken Lake, GSC Mem. 274, 246 p.; and Douglas (1970) Econ. Geol. Can.

PROPERTY GEOLOGY:

Principal Ingenika package units: shale, white dolomite, schist (Tenakihi??), ferro-dolomite, grey dolomite, grey limestone. N.B. 1978 mapping by Craig Leitch, employee of Keith Fahrni, Consultant to Suzie, suggests following units (structural? bottom → top):

1 = schist, micaceous quartzite, Tenakihi Group;
2 = phyllite, quartzite;
3 = limestone, dolomitic limestone, dolomitic breccia, includes grey and white limestone and dolomite of LeFebure;
4 = argillite;
5 = siliceous dolomite, siliceous dolomitic breccia.

(Units 2 - 5 are Ingenika (Hadrynian or Cambro-Devonian??))

Structure on property = NNW plunging, NW vergent antiform (western limb overturned, eastern limb shallow to east). Heavy faulting. Some breccia with faults.

Mineralization associated with dolomitized limestone and late $CaCO_3$ stringers. Sulfides include PbS, ZnS, acanthite, malachite, schapbachite, pyrite, tetrahedrite. PbS dominant. ZnS not normally seen, may occur with acanthite and schapbachite in PbS. Acanthite = AgS; Schapbachite (matildite) = $AgBiS_2$. $BaSO_4$ and anglesite identified and directly associated with sulfides. $BaSO_4$ = primary, anglesite = secondary.

Three forms of mineralization:

i) vein,

ii) massive,

iii) disseminated (uncommon).

"Vein" includes boxwork and matrix breccia and is most common. Dolomitic, sulfide-bearing breccias believed tectonic. Mineralized showings on crests and limbs of minor folds. Grungy paragenetic sequence worked out:
Dolomite → barite → geothite → PbS/ZnS/pyrite → acanthite/schapbachite (some overlap).

Textures → dolomitization first step inc. porosity (ΔV React.):

$$Mg^{+2} + 2\ CaCO_3 = CaMg\ (CO_3)_2 + Ca^{+}$$

Then rest of paragenetic sequence. Generally sulfides deposited in centre of veins. Ag sulfides <u>always</u> in PbS (exsolution?).

CONCLUSIONS:

Beveley ≡ Mississippi Valley Pb/Zn. This very, very shakey - no field work to demonstrate.

No statement on origin of host breccias. Only suggestion is Columbian folding (antiform) with faults as fluid conduits with possible magmatic source in feldspar porphyrys one-quarter mile west of Beveley. Fluids may also be from shales into Ingenika, i.e. he has no idea -- neither does anyone else.

COMMENT:

DeQuadros likes Mississippi Valley idea but based only on prejudice. Bragg is a hydrothermalist. LeFebure is an undergraduate trying to complete a thesis. Samples in Suzie office do not look like a Mississippi Valley deposit -- at least an undeformed one. Crux of situation is: IS THIS A DEFORMED (COLUMBIAN??, CARIBOOAN??) MISSISSIPPI VALLEY TYPE OR NOT??? Pb>> Zn doesn't sound like Mississippi Valley, but??? No one who has worked on the property (Leitch) is available - map not even colored. Get feeling consultants, principals and students know little about the rocks.

ECONOMIC POTENTIAL

LeFebure - Cominco, 1 - 100x 10^6 lbs. of Pb, < 6% combined Pb/Zn - 3:1; not optimistic.

DeQuadros - 4 - 5 x 10^6 tons, 2% in Donna area.

Bragg - 10 x 10^6 tons - 2-2½%, 1-2 oz. whole property.

Cominco (Aug. 1951) - 1.5 - 3 x 10^6 tons, 3.2 Pb, 0.4 Zn, 1.2 oz. Ag.
No further work after 1951. Cominco not confident about significance of trench sampling as two to three times higher than diamond drill hole results. Question of recovery versus sampling bias and secondary oxide values.

Leitch - 1 - 3 x 10^6 tons in old Donna showings (max!!).

CRAIG LEITCH 15TH AUGUST 1978 PROGRESS REPORT:

Beveley mineralization "controlled along a major fracture system", i.e. Beveley fault package. Get general feeling Leitch considers deposit epigenetic but not Mississippi Valley type. See Gabrielse GSC Paper 75-33 re: metamorphism. N.B. Alray did work for Donna 1967-1969 (JGS??).

WORK TO DATE:

1. Ager, Baretta (1978) - Gravity, I.P., EM Survey (all claims) hand and computer.

2. 51 diamond drill holes totalling approximately 10,000 to 11,000 feet. (10 Winkie Beveley; 2 Winkie Carie; rest NQ/HQ).
   9 Crown Grants.

3. B.Sc. thesis, LeFebure 1974.
4. Cominco drilling and trenching results.
5. Several reports by Fahrni/Leitch.
6. Two reports by Smitheringale.

DSJ/ck
May 1979