



Province of British Columbia

GEOLOGICAL SURVEY BRANCH

Ministry of Energy, Mines and Petroleum Resources

MEMORANDUM

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To: Project Geologists, Managers

Date: Dec. 21, 1994

From: Dani Alldrick, Kim Bellefontaine, Dave Lefebure

880509

Re: Highlights from MDRU VMS Update - Dec. 9, 1994 at UBC

Food for thought: The three GSB participants decided to write down the 6-8 "high points" of information that had the most significance and impact for them out of all the data presented at this day-long meeting. Here are the 21 highlights. Note that each geologist selected different "most important" points.

- MDRU is subdividing VMS deposits into two groups: mafic volcanic/sediment hosted and felsic volcanic hosted. First group includes Windy Craggy, Anyox and Granduc and is preferred to "Cyprus-Type" and "Besshi-Type" because there are always sediments in the sequence. Second group includes some deposits that are not "Kuroko-Type" such as Kutcho Creek.
- Granduc 223 Ma (U-Pb), Anyox are Triassic-age VMS deposits.
- Trondjemite body located in the centre of the Anyox pendant has yielded a 364 Ma zircon date (!) This pendant **MUST** be mapped - it holds 160 Ma of uncorrelated stratigraphy -- and hosts a major VMS camp -- What else does it host???
- Granby Point Quartz veins (and similar veins throughout the Anyox camp) are Tertiary, high temperature veins (>300°C)
- Kutcho Creek is constrained to 249 Ma by U-Pb dates - so lies on the Permo-Triassic boundary. Not Triassic as previously thought.
- The "primitiveness" of the Kutcho Creek deposit is intriguing. Pb isotopes suggest formation in an oceanic environment. However, large amounts of felsic volcanics are anomalous for this type of tectonic setting. So, OIB?
- The geochemistry of the Kutcho formation volcanics show they are tholeiitic, sodic, and have very low concentrations of incompatible elements. Geochemistry supports an oceanic environment but rock types are typical of island arcs. This raises interesting questions about the relationships between rocks of the King Salmon allochthon and Cache Creek terrane.
- Almost all volcanic rocks and associated intrusives at Kutcho Creek are tholeiitic with low values of incompatible elements (Nb, Y, Zn) which are not consistent with a calc-alkaline Kuroko-deposit setting.
- Tulsequah is hosted by proximal felsic volcanics while Big Bull is at roughly the same stratigraphic horizon in distal bedded felsic volcanics with manganese exhalative

Granduc.

Anyox

Kutcho CK.

(à la Tulsequah chert / Myra Falls !)

Analogies ?
- Elsworth?

Tulsequah Chert

on the water treatment system and site reclamation as the mine is closed and staff reduced to eight.

There were four simultaneous Edu-Mine tours in the province timed for a province-wide professional day, others were in southern BC, Vancouver Island and the lower mainland. The trips were organized by geologist Rob Wilson of Natural Resources Canada and were sponsored jointly by MEMPR, GAC Cordilleran Section and MABC.

*Anyox
Industrial
Minerals*

*Tru-Grit Abrasives operation at Anyox was visited on Oct. 28 with Doug Flynn (OH&S). Slag from the copper smelter is screened, washed and shipped by barge to be used as a light weight additive in concrete (Ocean Concrete in Vancouver takes 75% of the product), asphalt shingles (US customer) and sand blasting abrasive (testing shows it has low biological impact in streams). Raw slag is mainly sand-sized because hot slag was fragmented in water and flushed from from the smelter as a slurry. Current production rate is 130,000 tonnes per year.

*Toured three Prince Rupert rock quarries with Doug Flynn on Oct 30. Prince Rupert is devoid of sand/gravel deposits, necessitating quarrying bedrock for the local construction industry. The quarries are of exploration interest because they are developed in a volcano-sedimentary belt of the endangered Alexander terrane that hosts geologically rare massive sulphide prospects at Ecstall and on Dunira Island. Encroachment by BC Parks elsewhere in Alexander terrane has killed the Cordillera's most prized VMS project. Rocks in the Prince Rupert quarries are garnet-biotite metasedimentary schists, with disseminated pyrite. No volcanic rocks were seen.

EXPLORATION AND MINESITE ACTIVITY

*New bonanza grade silver showings have been discovered 50 km southwest of Smithers by prospector Dave Heino working on a grubstake from J.T. Thomas.

*Kenrich Mining announced start of surface exploration on the Corey property but reclamation bonding has not been posted. In August the field program was curtailed after just one day due to financing difficulty.

*Sable Resources Ltd completed an October drill program at Shasta in the Toodogone camp.

*Aquerre Mineral Development Ltd reports geochemically anomalous gold (and Zn, As, Ag) in drilling on the Ashwood property.

*Atna Resources reports "0.1-0.7% Cu across widths from 30-100 meters" in the Thirteen Creek zone at Ecstall. Drilling has been postponed to 1995 by Atna.

*Revitalization of the Taurus property continues with discovery of a new stratabound? gold zone associated with disseminated pyrite in altered volcanics. A drill intercept of 0.163 opt Au over 85 ft came beneath a trench assay of 0.429 opt over 4 ft. Other holes are sub 0.1 opt over tens of feet, likely sub-economic.

*Second drill program on the JD property returned intercepts of 0.32 and 0.37 opt Au over 20 ft.

*MM drilling, near Red Mountain is planned for November.

UG-Smithers Oct. '94