

Sumitomo in 1974) is the distribution/recovery of oxide ore vs. sulphide ore. Apparently excellent recoveries of molybdenite are expected. Besides the gold (+silver) credits, tungsten (scheelite, powellite) have been observed (up to 250 ppm). Lamping underground shows local abundant tungsten.

Drilling during the 1989 program is estimated to total ^{1402 metres} (4600 feet) and will explore the Irishman's Creek and Hecate Bay zones, in an attempt to add to the existing mineral inventory. An airborne Dighem helicopter survey will undoubtedly help further define geophysical anomalies.

Future development will hinge on the oxide-sulfide copper recovery scenario, the viability of open pitting in a relatively 'sensitive' area, the gold credits, and the overall (minimum) mineral inventory identified. On the positive side, there would be low acid mine generation potential, and the presence of a good deep water port (Bawdner Bay) and existing land for mine/mill infrastructure.

Kennedy River Gold - International Coast Minerals - (MI-92F-044)

On June 24th we visited very briefly the Kennedy River gold showings. We were toured around by Jerzey Palka, V.P. Exploration. We examined the Shack, Bear and Black Veins which consist essentially of pyrite, chalcopyrite, sphalerite, and pyrrhotite in Tertiary Al banded quartz, veins within Karmutsen basalts. Locally, the veins displayed sigmoidal characteristics. Apparently Wright Engineers and Norecol have been engaged to help with a bulk sampling (pilot milling) project. It appears to me that much more surface drilling and underground work is required.

Mt. Milligan - Continental Gold - (MI-93N-194)

One June 29 & 30th, and July 1st, I visited the Mt. Milligan project located 45km west of Mackenzie. Mt. Milligan is an exciting new bulk tonnage gold-copper deposit! Mark Rebagliati very kindly took time out of his very busy schedule to discuss the project and tour me around site. Other geologists on site included Nadia Caira, Mike Hall, Alistair Findlay, Cam DeLong (UBC M.Sc. candidate) and Eric Titley (out on a break). Since November, 1988, Continental Gold has drilled over 30,480 metres (100,000 feet) and 4 drills are currently at work. Over two million dollars has been spent and another has been raised to carry the program to the pre-feasibility stage (September?)

To date at least seven 'majors' have visited the property to discuss optioning (including Placer Development, Rio Algom, Hemlo Gold (Noranda), FMC, Inco Gold, Teck, and Imperial Metals). Only one, Hemlo Gold, apparently made a monetary offer of \$7/share (8 million out), or \$56 million. The company would like to get more like \$12/share (or \$96 million). It will be very interesting to see which one of the companies listed above ends up with the property.

Mt. Milligan is a good example of an alkalic gold-rich porphyry (à la Afton, Cariboo Bell and porphyries in the Phillipines) of the island arc type. There was, at the time of discovery, no outcrop in the area of the now known mineralized zones. Richard Haslinger, local prospector, discovered a showing of sulphides in ^acarbonate in a creek which has since become known as the Creek Zone which lies southwesterly peripheral to the main body of intrusive. Company geologists have constructed a geological plan map of the 1050 level which shows a 'central' monzonite

body with 'tails' radiating off in a northeasterly and southeasterly direction. This 'central' monzonite body has a diameter of about 450 metres and apparently has a barren core. The margins of the stock (especially the western and southwestern boundaries) are brecciated and may be termed 'hybrid'. The Takla Group(?) host rocks, which strike northwesterly and dip 40° to 70° to the northeast, are distinctly potassium-rich and are being mapped as latite flows and pyroclastics, trachyte flows and pyroclastics, and andesitic flows and pyroclastics. Younger diorite, monzonite, and trachyte dykes with a northwesterly trend cut the above mentioned rocks. All rocks are routinely being stained with sodium cobaltinitrate. A north-south trending low angle reverse fault (Rainbow Fault) cuts the eastern side of the intrusive and actually appears to have a structural control on mineralization, which appears to be restricted to the fault zone and into the hanging wall. A well mineralized monzonite dyke occupies the Rainbow Fault zone locally, especially in the northern sections.

The pervasive early k-spar alteration, also characterized by hydrothermal magnetite (\pm specularite) shows a positive correlation with gold distribution. Mineralization consists of chalcopyrite, bornite, pyrite and magnetite with trace cuprite, tetrahedrite and sphalerite disseminated and in dry fractures (i.e. low silica system). Only minor supergene enrichment exists. Molybdenite has also been observed in trace amounts.

Using a cut off grade of 0.68 grams gold per tonne, and 0.2 per cent copper (over a core interval equal to or greater than 2.0 metres), cross sections have been used to suggest a possible mineral inventory of 150 to 200 million tonnes grading 0.35 per cent copper and 0.86 grams gold per tonne (0.025 ounces gold per tonne). Three ore-bearing zones have been identified: The MBX Zone, West Breccia and 66 Zones which apparently form one contiguous, 'blanket' shaped mineralized body, 1310 metres (4300 feet) long, up to 945 metres (3100 feet wide) and up to 244 metres (800 feet) thick. The MBX Cu-Au Zone appears to grade southwards into the gold rich 66 Zone. The 66 Zone has only one outcrop now exposed by road building in the creek. Apparently the showing assays approximately 0.2 per cent copper and up to 3.09 grams gold per tonne (0.09 ounces gold per tonne).

Both geophysics (IP and mag) and geochemistry (copper, gold) have been useful in exploration.

To the southwest of the main mineralization two vein zones have been identified: The Creek Zone and the Esker Zone. Both contain elevated precious metals (>34 grams gold per tonne) plus base metals in a gangue of predominantly carbonate and rarely silica. These vein systems and others as yet undiscovered (?) still represent good targets and perhaps could be mined later by underground methods from the lower levels of the main open pit.

I examined the following drill holes to get a cursory view of the ore zones: 88-66 (66 Zone), 88-70 (MBX Zone), 88-92 (Transition from MBX to 66 Zone), 89-105 (MBX Zone), 89-138 (MBX monzonite zone), and 89-159 (West Breccia Zone, including possible NE extension of Esker Vein?).

Regionally several more good targets exist, both in outcrop, in soil geochemistry, and in geophysical anomalies. Examples include the Boundary Zone to the southwest, the northslope area where a good quartz stockwork exists in monzonite (old Pechiney PHIL cls.). Further to the north, the peak of Mt. Milligan is cored by gabbro which apparently grades southeastwards into monzonite. The company has suggested a very useful project by the Geological Survey Branch would be a detailed mapping program from Mt. Milligan southwards through the Mt. Milligan ore deposit. I fully agree.

The one potential problem I see with development of this deposit is one of acid mine generation. Locally the pyrite content increases to 15 per cent by volume. Nevertheless, Mt. Milligan has the potential to replace some of B.C.'s traditional large bulk tonnage base-precious metal open pit mines in the near future (i.e. by 1992).

A trip to other prospects in the Mt. Milligan area (including Col, Indata, Tas and Windy) is planned with Andre Panteleyev and Bill McMillan on September 5th.

EXPLORATION ROUNDUP

Funds for 'junior' companies are extremely tight; the 'majors' are well financed and more aggressive than in the past several years. The following is a list of some of the more significant exploration/development/mining projects:

- Windy Craggy (Cu, Au, Ag, Zn) - underground
- Tulsequah Chief (Cu, Zn, Au) - underground
- Polaris-Taku (Au) - underground
- Erickson Gold (Au, Ag) - underground
- Cassiar Asbestos (Mc Dame) (Asbestos) - underground
- Golden Bear (Au) - production by early '90
- Red Dog (Spectrum) (Au) - drilling
- Red Chris (Cu, Au) - drilling
- Rose (Cu, Au) - drilling
- Lawyers (Au, Ag) - produced >5000 ounces gold in May
- Cirque (Pb, Zn, Ag) - underground
- Sulphurets (Au, Ag) - underground
- Doc (Au, Ag) - drilling
- Eskay Creek (Au, Ag) - drilling
- Snip (Au, Ag) - production in 1990?
- Hank (Au, Ag) - drilling
- Ball Creek (Au, Cu) - drilling
- Reg (Mt. Johnny) (Au, Ag, Cu) - production/drilling
- Premier/Big Missouri (Au, Ag) - poured first bar in June
- Dolly Varden (Au, Ag) - drilling
- Willoughby Creek (Cu, Au, Ag) - drilling
- Todd Creek (Au, Ag) - drilling
- Mt. Milligan (Cu, Au) - pre-feasibility
- Indata (Au, Ag, Cu) - drilling
- Dome Mtn. (Au, Ag) - pre-production?