

As an indication of Westmin enthusiasm for the underground venture, Premier may spend \$500,000 in exploration in 1994.

• **Huckleberry project of New Canamin Resources Ltd** was visited on March 23-24 with project manager Kelly Illerbrun and exploration geologists Brett Lapeare and Jim Hutter. New Canamin has completed 20,000 feet in a 45-50,000 ft drill program employing two drills. About 12,000 feet was directed to the periphery of the Main zone and resulted in delineation of a southwest extension of the zone along the south fringe of the granodiorite stock. Significance of this 1-2 million tonne addition is that it is near surface and can be accessed early in mining. A hypothesized deep connection between the Main and East zones was not proven up by 3,000 feet of drilling in the current program. Drilling of the eastern limit of the East zone is underway now, and the remaining footage is intended to complete definition of the East zone by June. At that time New Canamin expects to initiate a feasibility study of the Huckleberry project. Preliminary capital cost estimate is \$70 million. New Canamin favours a 40 km road connection to **Kemano** for shipment of Huckleberry concentrate. This would be a major new coast transportation link (only British Columbia's sixth road access to a port!). In light of emotions surrounding Kemano expansion there may be concern by Alcan about the road affording public access to the Kemano power generators.

Copper at Huckleberry occurs preferentially in biotite-magnetite hornfelsed Hazelton volcanic rocks. It appears that the brittle hornfels fractured readily to provide permeability for ore fluids and superimposed phyllic alteration. Mineralized fractures are invariably steep. Very little copper mineralization occurs in granodiorite in the Main zone but in the East zone the granodiorite is a better host for ore. A myriad of flat, post-mineral gypsum fractures characterize both zones. Anhydrite occurs with chalcopyrite and appears to be more common at depth. Significant secondary copper mineralization occurs at the east end of the East zone and will have a detrimental impact on copper recovery. ARD potential of the Main zone is low but will be more of a concern for the East zone because of higher pyrite and lower calcite content.

## LAND USE

\* IAMC strategy meeting on March 4 discussed PAS regional budget, staffing and program delivery in LRMP and non-LRMP districts. Mount Edziza "one-off" study approved to proceed thanks to MLMalott's skillful timing to raise the question at the meeting. March 29 meeting postponed.

\* **Bear Pass IMG and PAS status** was discussed on March 3 with John DeLeen of International Tournigan and Jim Yardley, IAMC chair.

\* Mineral potential assessed in Study Areas and Areas of Interest:

<u>AREA</u>	<u>STATUS</u>	<u>MINERAL POTENTIAL*</u>
Kitlope (93E,D)	PAS	Low, moderate, high*
Porcher & Stevens Islands (103J,G)	PAS	Very high, high, moderate*
Howson (93E,L)	PAS	High
Bardswell Group (103A)	AoI	Low
Sutherland River (93K)	AoI	Moderate, very high*
Fleming Lake (93K)	PAS	Moderate
Dundas Island (103J)	PAS	Very high, high, low*
Jennings Lake (104O)	PAS	High
Campania Island (103H)	PAS	Low

Wardjak  
Mar. 94

Huckleberry

mineralogy?

• Poplar (93L239) vandalized core racks were examined with Tom Schroeter and Bob Lane on Sept 14.

*Huckleberry*  
*Sept '93 (Smithers)*

• Huckleberry (93E037) project was visited on Sept 14-15 with Tom Schroeter and Bob Lane. Geologist Daryl Hanson of New Canamin was our host. At least 44,000 feet of drilling on the East Zone has been completed since January. Drilling is expected to continue until the end of October and will include two fences of exploration holes west of the Main Zone and the granodiorite stock. Systematic drilling on a 200-ft grid has located "edges" to the high grade core (0.6% Cu) of the new East deposit, on all sides except possibly the east end where drilling was in progress. East Zone porphyry copper mineralization is hosted primarily by hornfels, similar to the smaller Main Zone, but current drilling at the far east end has discovered a large new area of biotite granodiorite, possibly a stock rather than a dike. The high grade core of the East deposit measures 450 by 200 meters. Results of the on-going 20,000+ ft drill program have not been released but CONFIDENTIAL indication is a doubling of the previously announced 31,000,000 tonnes of 0.6% Cu. Intersection of east-west and north-south structures may be the key control at Huckleberry. Schroeter pointed out that the Ox Lake porphyry deposit lies on projection 8 km east along the prominent east-west Huckleberry structure.

*Kitimat VMS*

• Kitimat VMS project (103I014, 104, 169, 217, 218, 221) of American Bullion Minerals was visited on Sept 29. George Norman was my host, Brian Hall and Ross Zawada are other geologists on the project. Property includes typical VMS lithologies, including quartz eye rhyolite and strong quartz-sericite alteration but mineralization texture and mineralogy resembles coarse grained skarn, shear veins and disseminations rather than being distinctly syngenetic. Some encouraging grades though, and project is worth pursuing. Current work includes grid geochemistry and ground follow-up of airborne EM-mag survey. Drilling is scheduled for October.

• Telkwa Coal (93L152, 156) exploration program of Manalta Coal was toured with Angelo Ledda of Manalta Coal on Sept 27. Current reserves are in three deposits, Pits 3, 7 and 8. Pit numbers are historic and have no current significance. Reserves are based on coal seams #2 to #11 which are closely spaced. Coal seam #1 is about 100 meters lower in the Cretaceous stratigraphy. There are five components to the \$700,000 1993 program:

- i) Tenas area- 50% of drill footage directed to follow up of this 1992 discovery -reconnaissance drilling on 500 metre grid -target is #1 coal seam, low sulphur and 4-5 meters thick
- ii) Explore east of Pit 7 reserves (150 meter grid drilling)
- iii) Extend limits of Pit 8 reserves south to Telkwa River (150 meter grid drilling)
- iv) Pit 3 infill drilling to resolve complex faulting
- v) Geophysics and condemnation drilling of plant and tailings sites

*TREK*

• Trek (104G029) drill program of Equity Engineering (for Perimeter Ventures) could not be visited but fortunately I was invited to view a significant core intercept in Smithers before it was shipped to Vancouver. The Company is fairly excited with the results of drilling. Six holes (1500 feet) were completed on a pyrrhotite-chalcopyrite-pyrite semi-massive sulphide zone. Good gold values are anticipated.

## **HUCKLEBERRY - (MI 93E037)**

On September 14 and 15 Paul Wojdak, Bob Lane and I visited the Huckleberry Cu-Mo prospect located approx. 40 km east of Kemano. Darryl Hanson, project geologist, was our host. Unfortunately, Kelly Illebrun (Project Manager) and Del Myers (contract) were not on site. At the time of our visit one drill was working on the recently (1993) discovered **East Zone** which is estimated (unpublished) to contain about 60 million tonnes of mineralization grading (consistently) about 0.6% Cu plus some Mo. 90% of the mineralization observed to date is hosted by hornfelsed volcanics the remaining 10% by biotite-feldspar prophyry. It is this zone which would/could make or break the economic viability of the Huckleberry project. The East Zone, located approx. 1000 metres east of the Main Zone, strikes approx. WNW-ESE with dimensions of 450m by 200m and may connect with the Main Zone at depth (preliminary drill info). Host rocks are predominantly hornfelsed mafic crystal tuffs of the Hazelton Group and a hornblende-biotite granodiorite intrusive (stock/dyke/sill). 'Typical' porphyry-type mineralization in both units consists of fracture fillings and quartz  $\pm$  anhydrite vein/breccia fillings of predominantly chalcopyrite with minor molybdenite and trace magnetite in a broad zone of potassic (secondary biotite  $\pm$  kspar) alteration. During the winter and spring months of 1993 infill drilling by New Canamin on the **Main Zone** identified a preliminary mineral reserve of 31 million tonnes grading 0.52% Cu using a 0.4% Cu cutoff. Further infill drilling and reserve calculations have downgraded the 'real' potential to about 6 million tonnes of 0.7% Cu (Wojdak, June '93 and Hanson, Sept. '93). The summer 1993 program includes approx. 20,000 ft. of diamond drilling (could be increased to 30,000 ft.) on the East Zone at 200 ft. centres, Wojdak reports at least 44,000 ft. drilled since Jan. and approx. 6000 ft. on the west side of the Main Zone. Most holes are 750 feet. to 1000 feet. in depth.

Drilling has commenced on the west side of the stock on the Main Zone as a follow-up to IP anomalies generated from the 1993 program (500 line km). Expenditures for 1993 are estimated at about \$1 million but could increase significantly if conditions warranted.

**(TGS COMMENT:** This project suffers from the lack of adequate number of geologists (especially to systematically log core and carry out property mapping/interpretation) and the lack of systematic (eg. Geolog) core logging (for future pit outlines, ore reserve estimates, and acid rock drainage considerations). The discovery of the new East Zone during condemnation drilling illustrates the significance of the exploration potential for 'porphyries' in this whole region south of Houston!)

DG-Smithers June '93

Red Mountain

\*Red Mountain (103P086) exploration is well underway, underground equipment was transported by helicopter and the decline was being collared on June 29-30. Lac has submitted a development prospectus. Road construction is being deferred until more confirmation drilling can be done. Three drills are in use (about 8,000 feet drilled to June 30) and a fourth is to be added soon, so that the road decision might be made by August. The purpose of the road is to access the lower tram station, hence the need to define production rate and mill location so that the tram can be sized accordingly. Much of the "reserves" in AV zone is geologically inferred from a few wide spaced holes. Early drill results of AV zone fill in holes are positive although few assays are in. The AV zone was intersected further southeast than previously known, indicating the zone is open in that direction as well as to the northwest. Lac's understanding of geology and ore controls continues to evolve. Structural consultant Tom Calom (Memorial University) is developing a model.

Premier

\*Premier Mine (104B153) was visited on June 28. Underground mining continues to locate good grade ore and operate profitably. Three long exploration holes were completed to test the Sebakwe ore trend below and north of the Bush showing.

### LAND USE

- \* Prepared a report and rough maps on "Mineral Values in the Lower Stikine River Management area." The area is 15x125 km, parts of 104G/4,5,11,12,14, 104B/12,13.
- \* Public meeting held in Stewart on revised Bear Pass PAS proposal. Poorly advertised and poorly attended.
- \* Participated in PAS agency information meeting.

### EXPLORATION AND MINESITE ACTIVITY

Huckleberry

- \* Huckleberry (93E037)- 500 line km IP survey initiated. New Canamin have established a Smithers office with 3 employees. East Zone is now 31 million tonnes at 0.62% Cu, open to the east and west but limited to less than 200 meters wide by climbing topography of Huckleberry Mountain to the north and an east-west structure to the south. East Zone mineralization has a higher pyrite content than the non-acid generating "Main" zone. Definition drilling has recommenced at 60 meter spacing, exploration drilling will follow. New Canamin does not say much about results of Main Zone drilling but it is apparent the high grade core is only about 6 million tonnes of 0.7% Cu.
- \* Ball Creek (104G042)- 700 meter drill program planned on this Cu-Au porphyry.
- \* Hearne Hill (93M006)- trenching and drilling program planned.
- \* Teepee (104M048) and Pavey (104M002) Option- Noranda exploration program depends on satisfactory reclamation of previous work by property owner. Liability for historic work is a growing concern for exploration.
- \* Tulsequah (104K002)- Redfern is upset that they have been denied re-opening of the old access road.