

interior and south of Fraser Lake-Vanderhoof.

Results from the URP geochemical program have identified a number of Late Mesozoic granitic plutons with anomalous uranium values in southeastern and northwestern British Columbia. These may represent potential source rocks for basal-type deposits or may contain primary deposits within or adjacent to them. The distribution of some of these relative to Late Tertiary volcanic rocks is shown on Figure 5 and these include the Surprise Lake batholith near Adlin, and the Fry Creek, Harts, and Neskupen batholiths and Juganah and Hartsfield Creek stocks in southeast British Columbia. URP data have shown anomalous uranium values in stream sediments and waters from drainages underlain by Eocene volcanic sequences along the west side of Okanagan Lake.

Molybdenum

Molybdenum production in British Columbia in 1977 was 34-million pounds, or about 20% of free world production, second only to the United States. The Province's prominent position in molybdenum production was attained in 1965 with the start-up of the Endako and Boss Mountain mines. Molybdenite is the principal commodity at present price levels at Brenda, and by-product molybdenite is recovered at four porphyry copper mines — Bethlehem, Lornex, Gibraltar, and Island Copper. Climax Molybdenum of British Columbia Limited have announced a 1982 production date for the Lorne British Columbia Molybdenum mine on Lime Creek near Alice Arm. The deposit will produce 10 million pounds of molybdenum per year over a 25-year life.

At the end of 1974, molybdenum reserves of producing mines and significant undeveloped molybdenum-bearing deposits was estimated to be 1340-million tonnes of contained Mo, making British Columbia one of the world's truly great molybdenum metallogenic provinces.

A great number of significant molybdenite deposits and prospects are known throughout the Province (Fig 6) and, while the greatest known concentration is in the Intermontane Belt, they are distributed throughout all tectonic belts with the exception of the Eastern Margin Belt. The majority of deposits are stockwork and are associated with composite quartz monzonite stocks of Late Cretaceous-early Tertiary age which intrude older layered rocks or acidic batholiths, as at Adnan and Boss Mountain. 92A-2W

Molybdenite mineralization at Endako and Brenda is related to late stage intrusive phases of the Franciscan Lake and Hannah batholiths, both of Late Jurassic age.

Significant molybdenum deposits have

been identified in the Omineca Belt and, like the majority of those in the Intermontane Belt, are related to small stocks of Late Cretaceous and Early Tertiary age. These include the clustering of deposits near Cassiar where the Mount Haskins and Mount Reed deposits are associated with small Eocene quartz monzonite stocks, while the Storie and Cassiar Moly deposits are hosted by acidic intrusive phases of a Late Cretaceous stock on the eastern margin of the older Cassiar batholith.

At Trout Lake in southeast British Columbia (Fig 6), molybdenum mineralization is related to a buried Late Cretaceous quartz monzonite stock which intrudes a highly deformed Lower Paleozoic sedimentary sequence. Drilling of this significant discovery by Newmont and Esso Minerals is continuing to further define a reported 900-foot intersection of 0.40% MoS₅. An underground exploration program is under consideration for 1979.

The significance of molybdenite mineralization in the Coast Crystalline Belt was recognized by the discovery of the US Borax Quartz Hill deposit east of Ketchikan in southeast Alaska. Molybdenite mineralization in quartz vein stockworks is associated with a multiple phase Oligocene intrusion which cuts older plutonic and metamorphic rocks. Similar young intrusions host molybdenite mineralization at the Sald and Gem properties in southwest British Columbia. The Moly Taku prospect, east of the International Boundary in northwest British Columbia (Fig 6) and being explored by Omni Resources, may be of a similar type.

The great clustering of molybdenum deposits in the Alice Arm-Terrace area (Fig 6) includes the Lime Creek and other stockwork deposits marginal to the Coast Plutonic Complex as well as a number of occurrences within Coast granitic rocks. A significant feature of these deposits is their coincidence with the distribution of Quaternary basalt flows.

The discovery of significant molybde-

nite deposits in the Coast and Omineca Belts effectively renders two-thirds of British Columbia attractive for molybdenum exploration, particularly in areas that have heretofore received only limited attention.

SYNTHESIS

Exploration for a variety of mineral commodities increased throughout the Province in 1978. "Glamour" commodities were molybdenum, uranium, tungsten, and tin, and molybdenum exploration is expected to continue at a good pace while the levels of activity for uranium, tungsten, and tin will depend on the success of exploration ventures currently underway. Lead-zinc exploration is expected to increase, particularly in northeast British Columbia, and at present price levels increased effort will be directed to the search for gold and silver. Coal exploration should show a noticeable increase in response to work requirements on new licence areas. Finally, strengthening world copper markets will further encourage exploration for massive sulphide deposits and may in turn predicate a return to significant porphyry exploration.

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2H/10E-1557

93K-3E

Endako - 93 K/3E; 93K-6; 00452
 Mc. Haskin - 104 P/6W; 104P-38; 04492
 Storie - 104 P/5N; 04491
 Cassiar - 104 P/1W; 104P-35; 04489
 Trout Lake - 82K/2E; 82K/1W-3, 4, 87
 Sald - 92J/1W; 92J/W-5; 02419
 Gem - 92J/1E
 Moly Taku - 104 K/6W



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Bethlehem - 92 I/7W; 04817
 Lornex - 92 I/6E; 03771
 Gibraltar - 93 B/10; 00541

Island Copper - 92 L/11W; 5984
 Adnan { Ruby Creek } - 104 N/11W; 104N-51; 1619
 Boss Mt. - 93A/2W; 93A-1; 00477

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