Underground

RUN DATE: 06/04/96 RUN TIME: 12:12:13

MINFILE / po MASTER REPORT
GEOLOGICAL SURVEY BRANCH - MINERAL RESOURCES DIVISION
MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES PAGE: REPORT: RGEN0100

NATIONAL MINERAL INVENTORY: 092J15 Au3

MINING DIVISION: Lillooet

UTM ZONE: 10 NORTHING: 5624910 EASTING: 512632

MINFILE NUMBER: 092JNE001

NAME(S): BRALORNE, BRALORNE MINE, LORNE (L.588), KING, WOOD CHUCK (L.579), CROWN, WEDGE, QUEEN

STATUS: Past Producer

NTS MAP: 092J15W LATITUDE: 50 46 40 LONGITUDE: 122 49 15 ELEVATION: 960 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: The main portal on the Telephone claim (Lot 670).

COMMODITIES: Gold Tungsten

Lead

Zinc

Talc

Copper

MINERALS

SIGNIFICANT: Gold

Chalcopyrite ASSOCIATED: Quartz

Pyrite Pyrrhotite Calcite Albite

Epigenetic

Silver

Arsenopyrite Tetrahedrite Mariposite

Sphalerite

Galena

Scheelite

ALTERATION: Siderite

ALTERATION TYPE: Carbonate MINERALIZATION AGE: Woknown

Albitic

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Mesothermal

TYPE: Gold-quartz veins

SHAPE: Tabular

HOST ROCK

DOMINANT HOST ROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

Upper Triassic

Cadwallader

**FORMATION** Pioneer

IGNEOUS/METAMORPHIC/OTHER Bralorne Igneous Complex

Permian

LITHOLOGY: Diorite

Gabbro Greenstone Sodic Granite Serpentinite Albitite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Bridge River METAMORPHIC TYPE: Contact

Regional

PHYSIOGRAPHIC AREA: Pacific Ranges

Cadwallader

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: UNDERGROUND

CATEGORY: Combined

432500 Tonnes

YEAR: 1995

COMMODITY

GRADE

10.6300 Grams per tonne COMMENTS: Proven and probable reserves above the 800 level and readily

available for extraction.
REFERENCE: Information Circular 1995-9, page 17.

ORE ZONE: UNDERGROUND WORKINGS

QUANTITY:

CATEGORY: Combined 673000 Tonnes QUANTITY:

YEAR: 1995

COMMODITY

GRADE

8.2300 Grams per tonne Gold COMMENTS: Proven and possible reserves between the 1000 and 2600 levels,

accessible by dewatering the shaft. REFERENCE: Information Circular 1995-9, page 17.

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PAGE: REPORT: RGEN0100

INVENTORY

ORE ZONE: VEIN

CATEGORY: Combined

YEAR: 1995

QUANTITY: COMMODITY 570000 Tonnes GRADE

8.2200 Grams per tonne

COMMENTS: Detailed exploration programs, in recent years, have outlined proven, probable and possible reserves for the formerly producing

Bralorne 51 vein area. REFERENCE: Information Circular 1995-9, page 17.

CAPSULE GEOLOGY

The area is underlain by Mississippian-Jurassic Bridge River Complex (Group) and Upper Triassic Cadwallader Group sediments and volcanics which are transected by a major north trending, steeply southwest dipping fault known as the Cadwallader Break. The fault is a deep-seated crustal structure related to the Fraser fault system to the south. The fault is intruded by small granitic to ultramafic stocks and dykes. Diorite to gabbro of the Permian Bralorne Igneous Complex, in which most of the quartz veins are hosted, intrudes the Cadwallader Break as an elongate body. Diorite also intrudes Pioneer Formation (Cadwallader Group) greenstones although at times the contact appears gradational. The diorite and greenstone are in turn "intruded" by sodic granite which may be an apophysis of the Early Tertiary Bendor pluton, the main body of which lies 10 kilometres. east. The sodic granite also appears gradational with the diorite and exhibits a migmatitic texture, which has led to the conclusion that it may be a late differentiation of the same magma that formed the diorite. The sodic granite occupies the northwest half of the intrusive belt and narrows out north and south.

A 60-metre wide belt of serpentinite (Bralorne Igneous Complex) borders the diorite on the southeast at the contact with the Noel Formation (Cadwallader Group). Finally, the intrusive belt is intruded by albitite dykes which often follow the chilled margin of the sodic granite, and where associated with quartz veins, the dykes are altered to platy quartz-sericite schist. The principal host rock is the diorite, and an abnormal richness in gold was noted when veins neared the serpentinite; it has been suggested that the serpentinite acted as a dam to mineralized solutions. The veins also followed the albitite dykes and vein structures extend into other rock types (greenstones and sodic granite).

The lens hosting quartz veins is five kilometres long by 2 kilometres wide and has a complex interlacing fault system. The main producing veins generally strike east and dip varying degrees to the north, in reverse fault zones extending from the Fergusson fault (northeast dipping) to the Cadwallader fault (southwest dipping) This zone between the faults grows wider with depth, and veins are persistent, having been mined to nearly a 2 kilometre depth. Diagonal "crossover" veins host many secondary veins which are commonly brecciated.

The Bralorne mine is divided into 3 main sections, the Crown, Empire and King. The principal veins in the Crown and Empire Empire and King. The principal veins in the Crown and Empire sections are known as the 51 and 77 veins, their faulted extensions, the 55 and 53 veins respectively, and crossover veins 59, 73, 75 and 79. The main veins in the King section are the North, Shaft, King, Alhambra and C veins. For descriptive purposes, the 51 (and 55) and 77 (and 53) veins are treated separately, under the names of the original mines, before amalgamation into Bralorne Mines. These are the Ida May mine (Empire and Blackbird) for the 51 vein - see 092JNE002, and the Coronation mine (Little Joe and Countless) for the 77 vein - see 092JNE007. The most prolific vein was the 77.

Generally, the veins average 1.5 metres in width and range up to

Generally, the veins average 1.5 metres in width and range up to 6 metres. They are often tabular, well-ribboned or partly ribboned, and partly massive or brecciated. All types have hosted ore, although the best values came from ribboned veins. The gangue minerals are quartz, calcite, mariposite, talc and scheelite. The principal sulphides are pyrite, arsenopyrite and sphalerite, which along with pative gold calena, chalcongrite, pyribatite and along with native gold, galena, chalcopyrite, pyrrhotite and tetrahedrite occupy less than one per cent of the veins. Carbonate alteration (siderite) is widespread with albite occurring along vein shears.

The Bralorne mine was accessible by 4 main shafts and worked on 44 levels.

Bralorne-Pioneer Gold Mines Ltd., in a joint venture with International Avino Mines Ltd., plans to re-open the historic Bralorne mine encompassing the combined Bralorne, Pioneer (092JNE004) and Loco (092JNE164) properties, following issuance of a Mine Development Certificate in March 1995. Initial underground mining

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CAPSULE GEOLOGY

will be from the formerly producing Bralorne 51 vein area where detailed exploration programs, in recent years, have outlined proven, probable and possible reserves of 570,000 tonnes grading 8.22 grams per tonne gold. Proven and probable reserves above the 800 level and readily available for extraction total 432,500 tonnes grading 10.63 grams per tonne gold. There are also reserves of 673,000 tonnes grading 8.23 grams per tonne gold, proven and possible, between the 1000 and 2600 levels, accessible by dewatering the shaft. The nearby lossible reserves grading 17.1 grams per tonne gold. Mining and milling operations are forecast to start at about 225 tonnes per day, increasing to 400 tonnes per day at a later date. Mill tune up was scheduled for November 1995 and production at 250 tonnes per day.

Scheduled for lossible in the property and the mill building has been rehabilitated (Information Circular 1995-9, page 17).

The Peter vein

Insert: The Pe

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