

B.C. Gold Deposits

The British Columbia Ministry of Energy and Mines MINFILE database lists nearly 1000 individual lode and 95 placer deposits in the province. Total lode gold (1890-2002) and placer gold (1858-2002) production amounts to 29.3 million ounces and 5.5 million ounces, respectively. The top 25 producers including the **Bridge River**, **Rossland**, **Hedley**, **Premier**, **Greenwood** and **Cariboo-Barkerville** camps and the **Eskay Creek**, **Island Copper**, **Snip** and **Kemess South** mines, which have each produced in excess of one million ounces, account for 90% of total production.

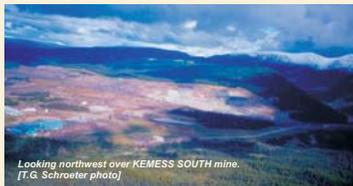
Total in-ground gold resources currently stand at 78.8 million ounces. Resources listed from 264 deposits, categorized as a percentage by deposit type, are: 71% porphyries; 20% veins; 7.7% massive sulphides and 1.4% skarns. Twenty-one deposits each contain in excess of 1 million ounces of gold.

Porphyries

The exploration and development of porphyry deposits during the 1960s and 1970s had a profound effect on the mining community in British Columbia. Subsequent exploration for these polymetallic Cu-Mo-Au-Ag deposits has built up an impressive database for B.C.. Currently, gold resources are 56 M oz from 13 alkalic and 27 calcalkalic porphyries. Significant examples include: **Prosperity**, **Kemess North**, **Mt. Milligan**, **Galore Creek**, **Schaft Creek**, **Red-Chris**, **Afton**, **Kerr** and **Sulphurets Gold**. New discoveries of intrusion-related gold include **Kena** and **Thorn**.

KEMESS SOUTH

- Owned and operated by Northgate Exploration Ltd. Employment: 452 workers.
- A gold-copper porphyry deposit, located 300 km northwest of MacKenzie
- Mill throughput = 50 000 tonnes per day.
- 2002 Production: 8 780 kg (282 300 oz.) of Au and 33 097 tonnes (72.9 million lbs) of Cu, @ operating cost ~ US\$ 203/oz Au (net of Cu credits)
- Mining reserves (Jan. 1, 2003) are 109.4 million tonnes @ 0.234% Cu and 0.712 g/t Au [2.5 M oz Au; 564 M lbs Cu]



Looking northwest over KEMESS SOUTH mine. [T.G. Schroeter photo]

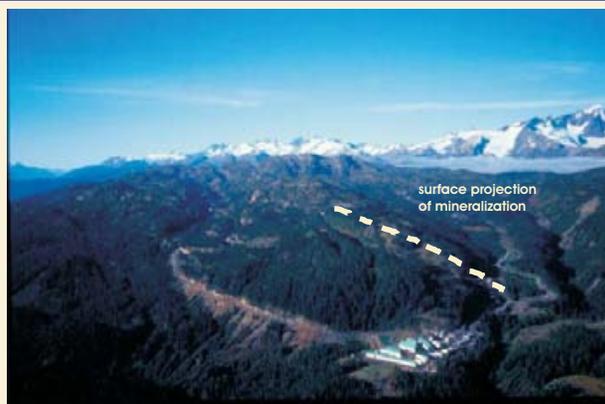


Looking southerly over KEMESS NORTH property [Photo courtesy of Northgate]

KEMESS NORTH Exploration Project

- Inferred Resource (Mar '03): 442 MT @ 0.23% Cu and 0.4 g/t Au, incl. 185 MT @ 0.275% Cu and 0.511 g/t Au [-6.6 M oz Au; 2.4 B lbs Cu]
- 5.5 km N of Kemess South mine; similar geological setting

(June, 2003)



Looking west over **ESKAY CREEK** mine. [Photo by T.G. Schroeter]

ESKAY CREEK

- Owned / operated by Barrick Gold Corp. Employment: 254, incl. 103 contractors
- A "world class" subaqueous mass-sulphide hot-spring deposit, 310 km NW of Smithers
- One of the world's highest valued Au and Ag mines
- World's 5th largest Ag producer; accounts for 41% of Canada's Ag production
- Produces approximately 640 tonnes per day of which 55% is direct shipping ore (>60g/t Au Equiv.) and 45% goes through a mill flotation circuit (<25g/t Au Equiv.)
- 2002 Production: 11 157 kg (358,718 oz.) Au and 552 487 kg (17.8 M oz.) Ag, @ total operating cash cost of US \$51/oz. Au, net of Ag co-product
- Mining reserves (Jan. 1, 2003) include 495 907 tonnes @ 51.8 g/t Au and 2604 g/t Ag direct shipping ore, and 805 343 tonnes @ 23.38 g/t Au and 918 g/t Ag milling ore. [Total Mineral Inventory = 7.3 M oz Au Equiv.]
- Significant late 2002 drill intersection in FW rhyolite (22 zone): 64.1 g/t Au equivalent over 4.7m (part of 80.1m zone @ 6.2 g/t Au Equiv.)
- Mine life: mid-2008

(June, 2003)

Veins

Historically, mesothermal and epithermal veins have been the biggest source of gold production in the province. Some 428 mesothermal mines have yielded 13.3 M oz, including 4.16 M and 2.78 M oz from the **Bridge River** and **Rossland** camps respectively, and 19 epithermal vein deposits have yielded 2.9 M oz (incl. >2 M oz from the **Premier** camp). The **Snip** intrusion-related, shear-hosted vein deposit, which yielded 1.07 M oz Au between (1991-1999), is an excellent target type for future discoveries. The **Equity Silver** 'transitional' Cu-Ag-Au deposit, which produced over 500 000 ounces of gold as a by-product, is a good target type. Many Tertiary epithermal deposits appear to be associated with extensional tectonism, i.e. Basin and Range-style. The Nechako Plateau region of central BC hosts several such deposits. The **Golden Bear** Carlin-type, heap-leach mine operated as a very successful seasonal operation between 1997 to 2002.

Skarns/Mantos

Over 350 skarns are known in BC; >125 are enriched in precious metals. The largest producer was **Hedley** (Nickel Plate) at 2.5 M oz.

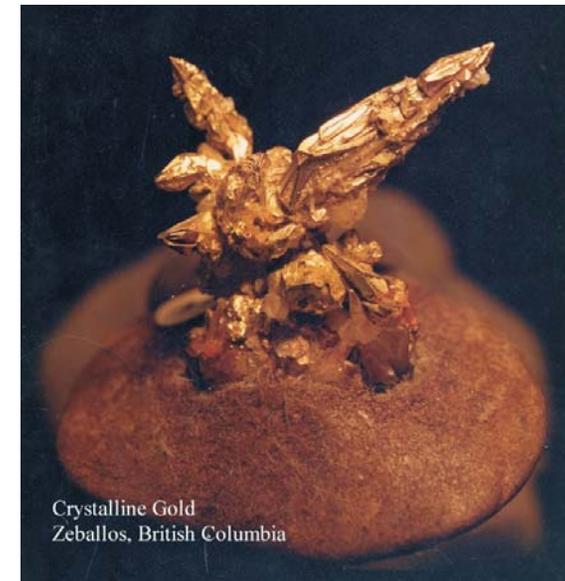
For more Information:

<http://www.em.gov.bc.ca/Mining/Geolsurv> (BC Geological Survey webpage) Telephone: (604) 660-2812

B.C. Ministry of Energy and Mines' Publications:

- Open File 2003-5 Gold Production and Resources in BC
- Open File 2000-2 Gold Production and Resources in BC

Gold in British Columbia



Crystalline Gold
Zeballos, British Columbia

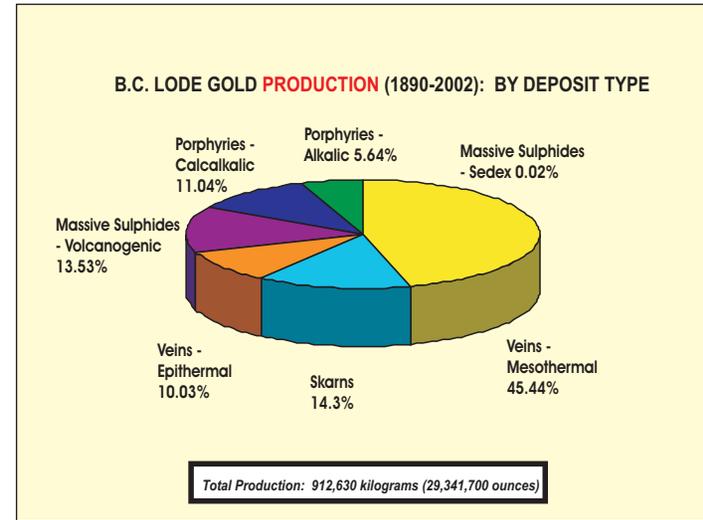
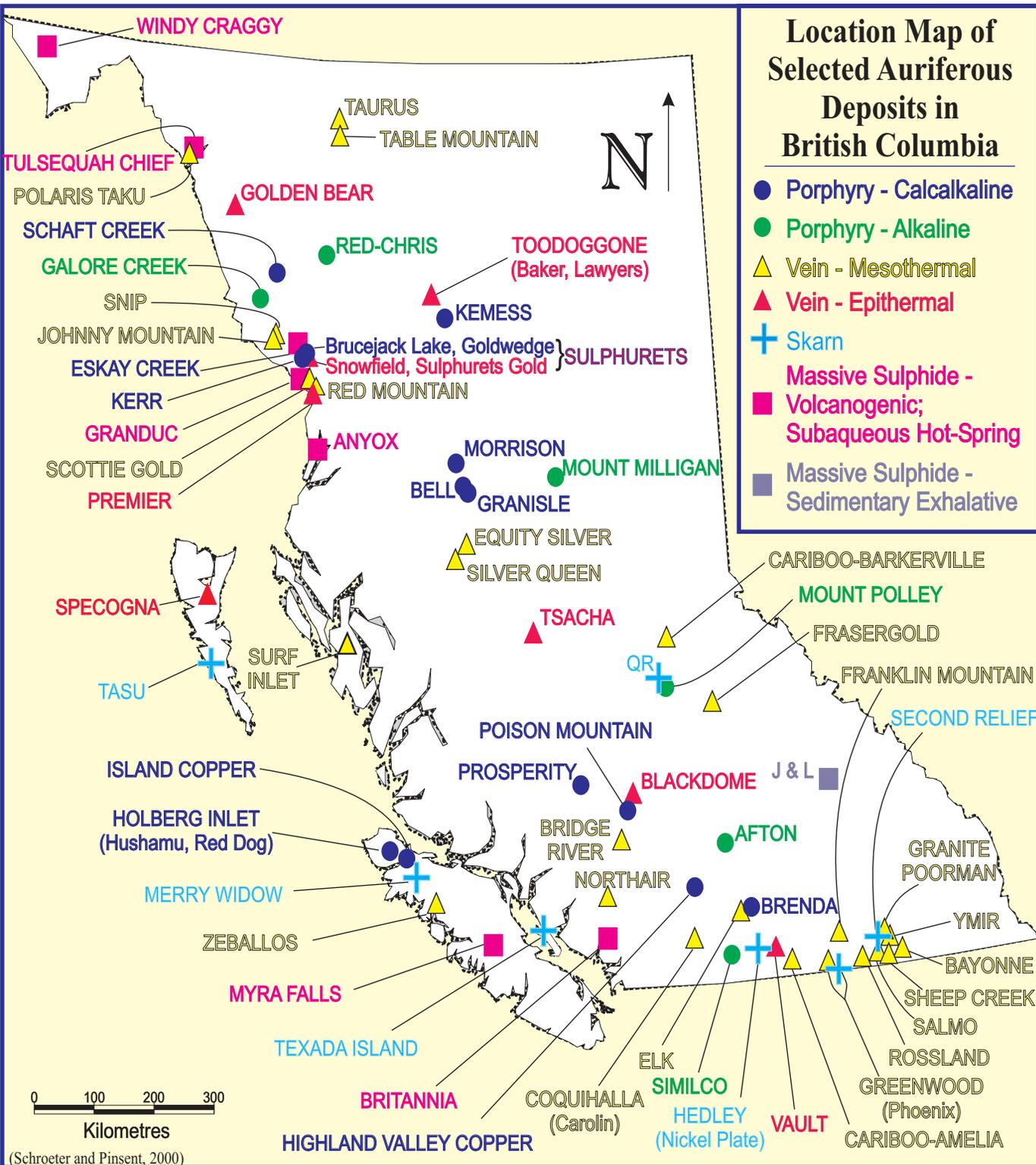


Atlin (McKee Ck.)



BRITISH
COLUMBIA

Ministry of Energy and Mines
Resource Development Division
Geological Survey Branch



B.C. LODE GOLD PRODUCERS (1890-2002): Top 25 by Rank

DEPOSIT NAME/ CAMP NAME (# deposits in camp)	GOLD PRODUCTION (grams)	SILVER PRODUCTION (grams)	GOLD RESOURCES (grams)	TOTAL GOLD (grams)
BRIDGERIVER CAMP (5)	129,390,995	29,613,140	13,924,423	143,315,418
ROSSLAND CAMP (44)	86,530,000	110,240,000	15,638,903	102,168,903
HEDLEY CAMP (7)	76,735,496	18,802,842	211,172	76,946,688
ESKAY CREEK	72,528,860	3,355,581,000	44,465,101	116,993,961
PREMIER CAMP (90)	64,888,246	1,337,373,655	6,812,800	71,701,046
GREENWOOD CAMP (53)	39,977,644	310,232,328	4,885,031	44,862,675
CARIBOO- BARKERVILLE CAMP (3)	38,321,509	4,650,641	16,902,000	55,223,505
ISLAND COPPER	35,267,550	294,105,533		35,267,550
SNIP	33,316,834	12,893,090	0	33,316,834
KEMESS (2)	33,065,818	37,811,000	253,864,320	286,930,138
MYRA FALLS CAMP (3)	25,333,884	834,971,100	10,675,000	36,008,884
SHEEP CREEK CAMP (12)	23,101,859	9,102,786	779,037	23,880,726
SIMILCO CAMP (3)	22,841,418	294,238,155	19,963,070	42,804,488
AFTON CAMP (10)	17,121,080	90,462,058	42,352,239	59,473,319
EQUITY SILVER	15,801,709	2,219,480,555		15,801,709
BRITANNIA	15,350,561	180,845,883		15,350,561
BELL	12,885,964	38,319,730	59,200,000	72,085,964
SURF INLET	12,095,368	6,258,235	1,653,450	13,748,818
MOUNT POLLEY	11,530,067	7,905,000	10,753,333	22,283,400
GOLDEN BEAR	10,562,757	2,191,107	0	10,562,757
ZEBALLOS CAMP (18)	9,154,249	3,882,835	4,964,152	14,118,401
TABLE MTN. CAMP (2)	9,094,592	2,987,237	876,099	9,970,691
HIGHLAND VALLEY COPPER CAMP (3)	8,827,016	1,427,217,800	8,874,000	17,701,016
YMIR CAMP (12)	8,298,227	42,968,544	9,003,504	17,301,731
BLACKDOME	7,484,211	26,065,176	1,588,736	9,072,947
TOTAL	819,505,914	10,698,199,430	527,386,370	1,346,892,130

(Schroeter, 2003)