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Geological Survey Branch

GOLD PRODUCTION, RESOURCES AND TOTAL INVENTORIES IN BRITISH COLUMBIA (1858-1998)

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CHAPTER 1 INTRODUCTION

The mineral exploration industry in British Columbia enjoyed a substantial boom during the period 1986 to 1990, with much of the effort directed towards the search for gold deposits. Measured in terms of total expenditures or the number of new mineral claim units recorded, the level of exploration activity in the province experienced an upward trend in the late 1970s, a significant downturn between 1982 and 1985 as a result of the "Great Recession" of 1982-83, and a rapid increase between 1986 and 1990. An all-time record expenditure of $230 million was achieved in 1988 when 87 285 mineral units were staked. Since 1990 the trends for both exploration expenditures and new claims recorded have dropped significantly, except for a minor resurgence in 1996. In 1999 a new low of $25 million were expended and only 16 815 mineral units were staked.

Prior to the recession of 1982-83, the total exploration effort in the province showed a fair balance between the search for base metals, precious metals, and coal; however, since 1983, the main focus has been on gold. Schroeter *et al.* (1989) described the factors which affected this change of emphasis.

With the demise of flow-through share financing at the beginning of the 1990s, junior companies found it increasingly difficult to raise high-risk capital. Also fluctuating metal prices not only affects the availability of financing for the exploration industry but influenced how the fluids were spent. Another significant factor in the 1990s was the globalization of the mineral exploration industry. This began around 1992 and continued to the end of the decade.

The price of gold fluctuated within a relatively narrow range ($US 388 to $US 331 per ounce) between 1991 and 1997. Since then the gold price has dropped and reached an 18-year low of US $252 per ounce in July,1999. The London fix for gold averaged US $294.16/oz and US $278.82/oz for 1998 and 1999, respectively. In real terms, the gold price at the close of 1999 was back to where it was in 1972. This decrease is partly due to a dramatic increase in the supply of newly mined gold, resulting from the numerous discoveries made during the 1980s. However it is also partially attributable to continuing central bank sales of gold and forward sales by producers in the late 1990s. The relatively low current price has caused shares of gold mining companies to fall out of favour in the market place. By 1999 it had become more difficult for junior companies to raise risk capital. In British Columbia, there were only minor financings, with base metal projects favoured over gold.

Statistical information on mining and brief exploration updates are contained in the annual British Columbia Ministry of Energy and Mines publications *British Columbia Mineral Exploration Review* and *Exploration and Mining in British Columbia*. The purpose of this report is to document the abundance and diversity of gold discoveries that resulted from exploration in the province over the last several years, and place the new deposits in context with its earlier history of precious metal production.

The most recent analyses of gold production and resources in British Columbia included data to the end of 1987 and 1990 (Schroeter *et al.,* 1989; Schroeter and Lane, 1991). Since then, there have been many significant changes. During the past decade, twenty gold-producing mines closed. During the same period, sixteen new gold-producing mines opened and another five were re-opened. The Eskay Creek mine, which commenced production in 1995, is the most significant new precious metals producer in British Columbia. The newly opened Kemess South (1998) and Mount Polley (1997) copper mines are significant byproduct gold producers.

INFORMATION SOURCES AND SCOPE OF REPORT

This Open File report updates significant parts of Open File 1989-22 (*Gold Production and Reserves in British Columbia*) and Open File 1991-19 [*A Century of Gold Production and Reserves in British Columbia (1890 to 1990)*] and provides selected references to gold-bearing deposits and appropriate exploration models for the province. It includes production and resource data to the end of 1998, and comments on exploration of selected deposits since the late 1980s.

The current list of significant gold-bearing deposits includes those which have produced gold or have resources totalling greater than **5 kilograms**. It contains 299 deposits or camps (Fig. 1 and Table 1, in pocket); an alphabetical listing is included in Appendix 1, and a diskette with the data is also included with the report. The number of deposits or camps is increased from 214 in the previous revision. Including deposits with production less than 5 kilograms of gold, MINFILE lists total production from 989 individual lode and 93 placer deposits in British Columbia.

Seven deposit categories (*see* Deposit Classification) form the basis of the organization of this report. Each deposit class and sub-class is discussed in terms of its geological characteristics, geological setting and production history. Additional descriptive information is provided for some producers and for other potentially important undeveloped deposits.

Where an area contains more than one producer or a deposit with a resource containing greater than 5 kilograms of gold, it has been designated a "camp". Such

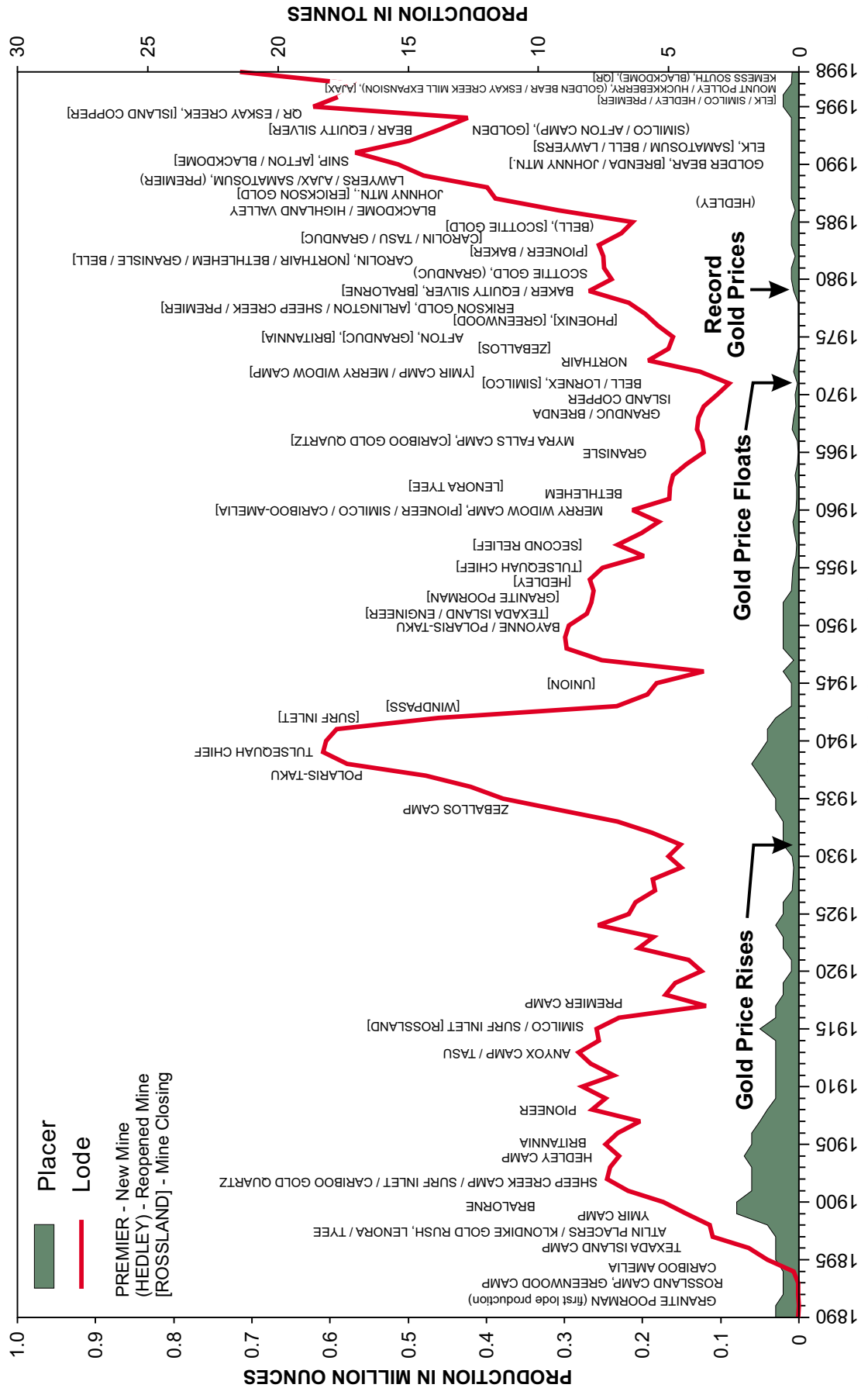


Figure 2. B.C. gold production: 1858 - 1998.

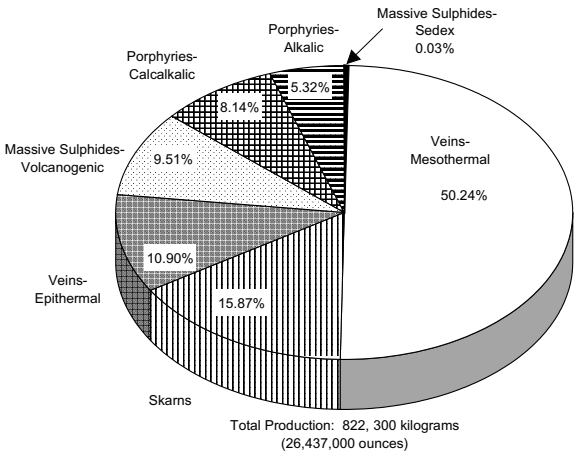


Figure 3. B.C. lode gold production (1890-1998): by deposit type.

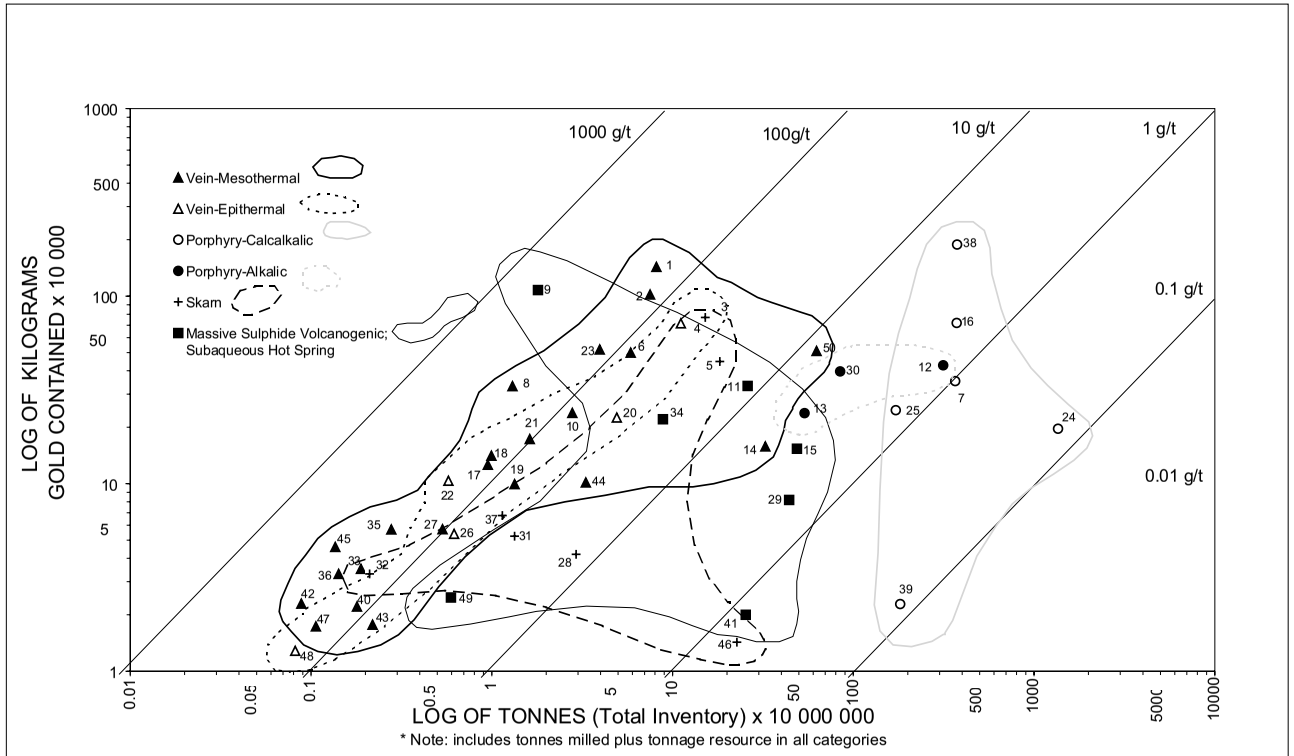
camps are usually named after the largest mine or property in the area (*e.g.* Hedley). The deposits/camps are listed alphabetically in Table 1 and deposits in the camp are listed in order of decreasing gold production. The total number of deposits in a camp is included in parenthesis; this may exceed the number of deposits listed if there are some that have produced less than 5 kilograms of gold. Table 1 provides a synthesis of production, resources and total gold (inventory) for all 299 deposits/camps (Note: total gold = production + resources). Resource (tonnes and grade) estimates in Table 1 were calculated by geologists and others working in the private sector. They are based on their assessment of the three-dimensional geometry of the deposit and of the economic conditions pertaining at the time the calculation was made. These factors may change. Additional exploration may alter the inferred shape of the deposit and different economic conditions may require alteration of the cut-off value used in determining the size of the resource. The figures quoted are not definitive; however they do provide an indication of the size of the resource as it is currently known. In Table 1, resource gold contents (grams) for individual zones or deposits are shown as calculated *in situ*; no recovery factor has been assigned. Other tables in the report provide an aggregate resource gold (grams) total for all the zones within a deposit, or deposits within a camp. In these tables, the gold grade of the deposit or camp may be missing as it has not been averaged. Where appropriate, silver and copper production statistics are also included in Table 1 and other metals produced are shown in parenthesis.

Individual deposits or camps are ranked in order of total lode gold production regardless of deposit type (Table 2). Both placer and lode gold production between 1858 and 1998 are shown in Figure 2. The years that major lode gold mines and placer areas opened, closed and/or reopened are listed in Table 3. Gold production by deposit type is shown in Table 4 and represented graphically in Figure 3. There is a small (6700 kilograms gold) discrepancy between the total lode contents used in making Figures 2 and 3. There appears to be some gold missing from the annual production records. Gold (kilograms) recovered is plotted against tonnage milled in Figure 4, illustrating the grade range of each deposit type.

Production and resource statistics are complete to the end of 1998 and all statistics are reported in metric units. In some cases, Imperial units are also included, using the standard conversions.

Data sources include the Ministry's MINFILE, assessment reports and Property File, submissions to the British Columbia Environmental Assessment Office, company reports and news releases, and the mining press (*e.g.* Canada Stockwatch, The George Cross Newsletter, The Northern Miner, Canadian Institute of Mining, Metallurgy and Petroleum Special Volumes). Personal property files of the senior author and numerous discussions with professional colleagues in both government and industry were additional sources. The senior author has visited most of the deposits or camps listed. The Ministry's web site, http://www.em.gov.bc.ca, contains numerous statistical and technical information pertaining to gold in British Columbia.

The Ministry of Energy and Mines cannot verify resource estimates; they are, therefore, not authoritative. The Ministry makes every effort to ensure accuracy in the information presented; however, it does not accept liability for errors or omissions.



Mine/Camp	Gold Production Rank (Camp Total)	Mine/Camp	Gold Production Rank (Camp Total)	Mine/Camp	Gold Production Rank (Camp Total)	Mine/Camp	Gold Production Rank (Camp Total)
BRIDGE RIVER	(1)	EQUITY SILVER	14	NORTHAIR	27	GRANITE POORMAN	(40)
ROSSLAND	(2)	BRITANNIA	15	MERRY WIDOW	(28)	GRANDUC	41
HEDLEY	(3)	BELL	16	ANYOX	(29)	SALMO	(42)
PREMIER	(4)	SURF INLET	17	MOUNT POLLEY	30	FRANKLIN MOUNTAIN	(43)
GREENWOOD	(5)	ZEBALLOS	(18)	QR	31	COQUIHALLA	(44)
CARIBOO-BARKERVILLE	(6)	TABLE MOUNTAIN	(19)	SECOND RELIEF	(32)	ELK	45
ISLAND COPPER	7	GOLDEN BEAR	20	SCOTTIE GOLD	33	TASU	46
SNIP	8	YMIR	(21)	TULSEQUAH CHIEF	34	BAYONNE	(47)
ESKAY CREEK	9	BLACKDOME	22	JOHNNY MOUNTAIN	(35)	BAKER	48
MYRA FALLS	10	POLARIS TAKU	23	CARIBOO-AMELIA	36	MOUNT SICKER	(49)
SHEEP CREEK	(11)	HIGHLAND VALLEY COPPER	(24)	TEXADA ISLAND	(37)	TAURUS	(50)
SIMILCO	(12)	GRANISLE	25	KEMESS	(38)		
AFTON	(13)	LAWYERS (+ AL + METS)	26	BRENDA	39		

Figure 4. B.C. lode gold major producers: 1890-1998 (kilograms of gold vs tonnes milled).

TABLE 2
B.C. LODE GOLD PRODUCTION 1890- 1998
BY RANK

FILE NO.	DEPOSIT NAME	YEARS (* = producing)	GOLD RANK	**GOLD PRODUCTION (grams)**	SILVER PRODUCTION (grams)	GOLD RESOURCES (grams)	TOTAL GOLD (grams)
30	BRIDGE RIVER CAMP (5)	1899-1983	1	**129,390,995**	29,613,140	13,924,423	143,315,418
212	ROSSLAND CAMP (44)	1896-1995	2	**86,530,000**	110,240,000	15,638,903	102,168,903
111	HEDLEY CAMP (7)	1903-1996	3	**76,735,496**	18,802,842	211,172	76,946,688
195	PREMIER CAMP (9)	1918-1996	4	**64,888,246**	1,337,373,655	6,812,800	71,701,046
105	GREENWOOD CAMP (53)	1893-1989	5	**39,977,644**	310,232,328	4,885,031	44,862,675
38	CARIBOO-BARKERVILLE CAMP (3)	1902-1987	6	**38,321,509**	4,650,641	11,627,649	49,949,158
124	ISLAND COPPER	1971-1995	7	**35,267,550**	294,105,533		35,267,550
239	SNIP	1991-1998*	8	**31,741,068**	12,183,090	1,371,651	33,112,719
74	ESKAY CREEK	1995-1998*	9	**29,577,433**	1,430,186,981	78,239,181	107,816,614
224	SHEEP CREEK CAMP (12)	1899-1988	10	**23,101,859**	9,102,786	779,037	23,880,726
173	MYRA FALLS CAMP (3)	1967-1998*	11	**23,031,051**	782,217,289	10,177,500	33,208,551
236	SIMILCO CAMP (3)	1910-1996	12	**22,841,418**	294,238,155	19,963,070	42,804,488
3	AFTON CAMP (10)	1899-1997	13	**17,121,080**	90,462,058	6,640,239	23,761,319
73	EQUITY SILVER	1980-1994	14	**15,801,709**	2,219,480,555		15,801,709
31	BRITANNIA	1905-1988	15	**15,350,561**	180,845,883		15,350,561
16	BELL	1972-1992	16	**12,885,964**	38,319,730	59,200,000	72,085,964
255	SURF INLET	1902-1943	17	**12,095,368**	6,258,235	1,653,450	13,748,818
299	ZEBALLOS CAMP (18)	1934-1975	18	**9,154,249**	3,882,835	4,694,152	14,118,401
256	TABLE MTN. CAMP (2)	1939,1979-1998*	19	**9,072,882**	2,987,237	876,099	9,948,981
95	GOLDEN BEAR	1990-1998*	20	**8,865,578**	1,716,107	13,682,040	22,547,618
297	YMIR CAMP (12)	1899-1973	21	**8,298,227**	42,968,544	9,003,504	17,306,895
20	BLACKDOME	1986-1991,1998*	22	**7,254,945**	25,723,176	3,101,140	10,356,085
191	POLARIS TAKU	1938-1951	23	**7,203,579**	365,772	44,779,000	52,002,579
112	HIGHLAND VALLEY COPPER CAMP (3)	1963-1998*	24	**7,164,823**	1,162,298,763	12,504,000	19,668,823
102	GRANISLE	1966-1982	25	**6,832,716**	69,752,525	17,850,000	24,682,716
139	LAWYERS	1989-1992	26	**5,401,981**	113,184,127		5,401,981
178	NORTHAIR	1974-1982	27	**5,181,231**	26,308,611	536,365	5,717,596
156	MERRY WIDOW CAMP (2)	1962-1973	28	**3,931,702**	12,219,624	272,154	4,203,856
6	ANYOX CAMP (3)	1914-1936	29	**3,859,352**	215,056,466	4,337,140	8,196,492
168	MOUNT POLLEY	1997-1998*	30	**3,761,583**	341,000	35,941,041	39,702,624
197	QR	1995-1998*	31	**3,628,259**	1,069,148	1,625,600	5,253,859
221	SECOND RELIEF CAMP (4)	1897-1969	32	**3,306,372**	906,524		3,306,372
219	SCOTTIE GOLD	1981-1985	33	**2,984,054**	1,625,145	536,642	3,520,696
272	TULSEQUAH CHIEF	1939-1957	34	**2,931,644**	105,774,242	19,142,200	22,073,814
128A	JOHNNY MTN.	1988-1990	35	**2,815,393**	4,348,814	271,200	3,086,593
37	CARIBOO-AMELIA	1894-1962	36	**2,538,101**	1,008,979	769,201	3,307,302
265	TEXADA ISLAND CAMP	1896-1952	37	**2,399,355**	16,090,015	4,369,129	6,768,484
133	KEMESS SOUTH	1998*	38	**2,393,000**	50,000	186,307,210	188,562,004
27	BRENDA	1970-1990	39	**2,281,868**	148,045,716		2,281,868
103	GRANITE POORMAN CAMP (6)	1890-1963	40	**2,060,763**	1,999,556	151,197	2,211,960

TABLE 2 CONTINUED
B.C. LODE GOLD PRODUCTION 1890- 1998
BY RANK

File No.	DEPOSIT NAME	YEARS (* = producing)	GOLD RANK	**GOLD PRODUCTION (grams)**	SILVER PRODUCTION (grams)	GOLD RESOURCES (grams)	TOTAL GOLD (grams)
101	GRANDUC	1970-1984	41	**2,000,061**	124,048,961		2,000,061
214	SALMO CAMP (7)	1897-1981	42	**1,997,000**	6,662,080	296,045	2,293,045
79	FRANKLIN MTN. CAMP (2)	1913-1946, 1988	43	**1,733,948**	43,319,344	35,200	1,769,148
52	COQUIHALLA CAMP (5)	1916-1984	44	**1,581,523**	135,432	8,565,245	10,146,768
70	ELK	1992-1995	45	**1,518,777**	1,903,000	3,082,290	4,601,067
260	TASU	1914-1984	46	**1,430,140**	52,822,505		1,430,140
13	BAYONNE CAMP (2)	1935-1951, 1984	47	**1,311,970**	3,753,282	422,790	1,734,760
9	BAKER	1981-1997	48	**1,283,973**	23,812,573		1,283,973
171	MT. SICKER CAMP (3)	1898-1964	49	**1,171,528**	24,969,331	1,304,863	2,476,391
261	TAURUS	1960,1981-1988	50	**1,103,537**	93	49,995,729	51,099,266
290	WINDPASS	1916-1944	51	**1,071,684**	53,469	10,979	1,082,663
35	CAMBORNE	1903-1989	52	**965,260**	53,770,514	1,978,456	2,943,716
280	VIDETTE	1933-1940	53	**929,016**	1,448,561	194,037	1,123,053
296	YELLOW KID	1957-1976	54	**887,401**	23,645,219		887,401
89	GIVEOUT	1889-1958	55	**826,922**	639,852	2,162,630	2,989,552
76	FAIRVIEW	1937-1961	56	**758,307**	6,958,768	3,661,662	4,419,963
161	MINTO	1915-1940	57	**714,807**	1,600,684	7,435,863	8,150,670
193	PORCHER ISLAND CAMP (2)	1919-1939	58	**639,914**	225,994	9,476,157	10,116,071
215	SAMATOSUM	1989-1992	59	**639,116**	429,356,776	137,279	776,395
277	VELVET	1901-1964	60	**620,785**	664,359		620,785
62	DUSTY MAC	1969, 1975	61	**606,006**	10,552,750		606,006
223	SHASTA	1989-1991	62	**601,229**	32,932,044	96,000	697,229
72	ENGINEER	1913-1952, 1995	63	**561,659**	278,373	680,000	1,241,659
14	BEAVERDELL	1913-1991	64	**540,000**	1,226,620,000		540,000
58	DIVIDEND-LAKEVIEW	1907-1949	65	**504,396**	87,244		504,396
227	SILVER CUP	1895-1988	66	**464,632**	45,287,921	101,903	293,587
61	DOME MTN.	1991-1992	67	**373,478**	157,607	3,463,443	3,836,921
4	ALPINE GOLD	1915-1948, 1988	68	**356,360**	222,044	2,609,850	2,966,210
26	BRANDYWINE	1970-1978	69	**346,967**	1,231,069	138,844	485,811
116	HORN SILVER	1915-1984	70	**332,992**	127,194,850		332,992
90	GLACIER CREEK CAMP (6)	1911-1937	71	**332,295**	11,423,946	4,860	327,155
181	OROFINO MTN. CAMP (2)	1899-1942	72	**275,169**	74,461		275,169
250	STUMP LK.	1926-1980	73	**260,568**	7,887,898		260,568
100	GRANBY POINT	1916-1938	74	**233,585**	7,910,240		233,585
15	BEDWELL	1941-1975	75	**223,195**	99,407	440,278	663,473
106	HALL CAMP (6)	1896-1973	76	**217,440**	105,529		217,440
117	HOWARD	1937-1970	77	**212,121**	1,613,871		212,121
7	ASHLU	1932-1984	78	**205,126**	235,700	765,730	970,856
254	SUNRO	1962-1978	79	**203,101**	2,262,651	292,410	495,511
227	SILVER CUP	1895-1988	80	**191,684**	45,287,921	101,903	293,587
251	SULLIVAN	1900-1998*	81	**174,863**	9,217,160,166		174,863
188	PHILIPS ARM	1898-1940	82	**172,808**	384,902	473,200	646,008
267	TILLICUM	1981-1993	83	**164,552**	218,908	7,367,935	7,532,487
39	CARIBOO-HUDSON	1938-1939	84	**161,300**	81,677	401,657	562,957

TABLE 2 CONTINUED
B.C. LODE GOLD PRODUCTION 1890- 1998
BY RANK

FILE NO.	DEPOSIT NAME	YEARS (* = producing)	GOLD RANK	**GOLD PRODUCTION (grams)**	SILVER PRODUCTION (grams)	GOLD RESOURCES (grams)	TOTAL GOLD (grams)
99	GOLSKEISH	1917-1929	85	**149,109**	822,053		149,109
88	GIBRALTAR	1972-1998*	86	**143,368**	105,478,052	1,040,795	1,184,163
210	ROCHER DEBOULE	1915-1954	87	**133,676**	2,167,780	189,000	322,676
172	MT. WASHINGTON	1961-1967	88	**130,788**	7,235,180	3,714,512	3,845,300
216	SANDON	1893-1985	89	**128,927**	445,238,725		128,927
33	BULL RIVER	1971-1974	90	**126,123**	6,353,628		126,123
220	SCRANTON	1948-1979	91	**123,343**	4,090,798	166,078	289,421
63	DUTHIE	1923-1989	92	**110,400**	56,029,135	50,235	160,635
266	THISTLE	1938-1942	93	**109,762**	139,280	123,035	232,797
287	WHITEWATER	1892-1980	94	**106,325**	113,518,367		106,325
231	SILVER QUEEN	1972, 1973	95	**98,192**	13,647,903	3,029,500	3,127,692
40	CARMI	1901-1940	96	**93,124**	300,922		93,124
129	KALAMAKA	1935-1944	97	**90,137**	108,052		90,137
209	RIVERSIDE	1927-1950	98	**81,911**	2,975,847		81,911
41	CASINO RED CAP	1951-1965	99	**81,334**	23,949		81,334
247	ST. EUGENE	1899-1929	100	**7,846**	182,690,658		78,846
25	BONAPARTE	1994	101	**77,914**	34,992		77,914
53	CRAIGMONT	1961-1988	102	**77,851**	242,510		77,851
288	WHITE ELEPHANT	1922-1935	103	**63,170**	9,549		63,170
43	CHAPLEAU CAMP (2)	1896-1941	104	**59,095**	434,664	6,726,312	6,785,407
127	JEDWAY CAMP (3)	1906-1920	105	**53,496**	869,702		53,496
184	PAULSON CAMP (6)	1902-1940	106	**53,340**	271,497		53,340
298	YREKA	1902-1967	107	**49,890**	4,537,119	886,112	936,002
5	ALWIN	1916-1982	108	**46,236**	2,719,906	66,309	112,545
77	FANDORA CAMP (2)	1960-1964	109	**45,660**	8,367	2,311,469	2,357,129
93	GOLDSTREAM	1983-1996	110	**42,363**	26,228,450		42,363

TABLE 3
SIGNIFICANT LODE AND PLACER GOLD OPERATIONS IN BRITISH COLUMBIA 1860 - 1998

YEAR	OPEN	(REOPEN)	[CLOSE]
1860	CARIBOO PLACERS		
1865	BIG BEN PLACERS		
1870	OMINECA PLACERS		
1873	CASSIAR PLACERS		
1885	GRANITE CREEK PLACERS		
1890	GRANITE - POORMAN (First lode production)		
1892	RUTH-VERMONT		
1893	ROSSLAND CAMP/GREENWOOD CAMP		
1894	CARIBOO-AMELIA		
1895	HYDRAULICING AT BULLION MINE		
1896	TEXADA ISLAND CAMP		
1897	ARLINGTON		
1898	ATLIN PLACERS/LENORA/TYEE/ KLONDIKE GOLD RUSH		
1899	YMIR CAMP		
1900	BRALORNE/SECOND RELIEF		
1902	SHEEP CREEK CAMP/SURF INLET/ CARIBOO GOLD QUARTZ		
1904	HEDLEY CAMP		
1905	BRITANNIA		
1908	PIONEER		
1913	UNION/ENGINEER		
1914	ANYOX CAMP/TASU		
1916	WINDPASS		
1917	SIMILCO/SURF INLET		[ROSSLAND]
1918	PREMIER CAMP		
1919	PORCHER ISLAND CAMP		
1933	VIDETTE		
1934	ZEBALLOS CAMP		
1935	BAYONNE		
1936			[ANYOX CAMP]
1938	POLARIS TAKU		
1939	TULSEQUAH CHIEF		[PORCHER ISLAND]
1940			[VIDETTE]
1943			[SURF INLET]
1944			[WINDPASS]
1946			[UNION]
1951			[BAYONNE/POLARIS TAKU]
1952			[TEXADA ISLAND/ENGINEER]
1954			[GRANITE POORMAN]
1955			[HEDLEY]
1957			[TULSEQUAH CHIEF]
1959			[SECOND RELIEF]
1962	MERRY WIDOW CAMP		[PIONEER/SIMILCO/CARIBOO-AMELIA]
1963	BETHLEHEM		
1964			[LENORA/TYEE]
1966	GRANISLE		[CARIBOO GOLD QUARTZ]
1967	MYRA FALLS CAMP		

TABLE 3 CONTINUED
SIGNIFICANT LODE AND PLACER GOLD OPERATIONS IN
BRITISH COLUMBIA 1860 - 1998

YEAR	OPEN	(REOPEN)	[CLOSE]
1970	GRANDUC/BRENDA		
1971	ISLAND COPPER		
1972	BELL/LORNEX	(SIMILCO)	
1973			[YMIR/MERRY WIDOW CAMP]
1974	NORTHAIR		
1975			[ZEBALLOS]
1977	AFTON		[BRITANNIA] [GRANDUC]
1978			[PHOENIX (GREENWOOD)]
1979	ERICKSON GOLD		[ARLINGTON/SHEEP CREEK/PREMIER]
1980	BAKER/EQUITY SILVER		[BRALORNE]
1981	SCOTTIE GOLD	(GRANDUC)	
1982	CAROLIN		[NORTHAIR/BETHLEHEM/GRANISLE/BELL]
1983			[PIONEER/BAKER]
1984			[CAROLIN/TASU/GRANDUC]
1985		(BELL)	[SCOTTIE GOLD]
1986	BLACKDOME/HIGHLAND VALLEY		
1987		(HEDLEY)	
1988	JOHNNY MTN.		[ERICKSON GOLD]
1989	LAWYERS/AJAX/SAMATOSUM/ SHASTA	(PREMIER)	
1990	GOLDEN BEAR		[BRENDA/JOHNNY MTN.]
1991	SNIP/SILVER BUTTE/AL/DOME MTN.	(GOLDSTREAM)	[AFTON/BLACKDOME]
1992	ELK		[SAMATOSUM/BELL/LAWYERS/DOME MTN.]
1994	`	(SIMILCO/AJAX)	[GOLDEN BEAR/EQUITY SILVER/SILVER BUTTE]
1995	QR/ESKAY CREEK		[ISLAND COPPER]
1996			[ELK/SIMILCO/HEDLEY/PREMIER/GOLDSTREAM]
	MOUNT POLLEY/HUCKLEBERRY	(GOLDEN BEAR/ESKAY CREEK	[AJAX]
1997		MILL EXPANSION)	
1998	KEMESS SOUTH	(BLACKDOME)	[QR]

TABLE 4
B.C. LODE GOLD PRODUCTION (1890-1998):
BY DEPOSIT TYPE

DEPOSIT TYPE	NUMBER OF DEPOSITS	PRODUCTION (grams)	PERCENTAGE OF TOTAL (%)
Veins - Mesothermal	428	413,113,903	50.24
Skarns	50	130,486,159	15.87
Veins - Epithermal	19	89,595,616	10.90
Massive Sulphides - Volcanogenic	17	78,178,882	9.51
Porphyries - Calcalkalic	12	66,974,839	8.14
Porphyries - Alkalic	10	43,724,081	5.32
Massive Sulphides - Sedex	3	215,140	0.03
TOTALS:	539	822,288,620	100

CHAPTER 2 PROSPECTIVE ENVIRONMENTS FOR GOLD IN BRITISH COLUMBIA

HISTORICAL PERSPECTIVE

Gold was vitally important in the early development of the province. Early prospectors identified detrital gold in the Fraser River and followed it upstream looking for its source. In the mid-1800s, they spread out in the interior of the province and located extensive placer gold deposits in the Cariboo, Omineca, Atlin, and Cassiar districts. Early miners built small communities serviced by pack-trails and opened up the surrounding country. Over time, infrastructure improved and some communities developed into major towns and cities. The importance of placer gold had declined by the end of the 19th Century, but lode gold production had started to increase (Fig. 2; Appendix 2).

Early (late 1800s to early 1900s) hard-rock exploration was mainly for small-tonnage, high-grade gold deposits that could be mined with minimal equipment. Aggregate production came from large numbers of widespread veins. There were technical limitations to the depth and scale of operation of even the largest of deposits and they were mined at a lower production rate than would be considered appropriate today.

Since the Second World War, there has been greater emphasis on the development of large deposits and on increased scales of production. There has, therefore, been a trend toward fewer, more productive, mines and to gold production as a byproduct at a wide range of mining operations.

Gold mining is driven by price cycles. Several mines have opened and closed many times over their productive lives (Schroeter *et al.*, 1987 and 1989) and some that are currently closed may eventually reopen.

DEPOSIT CLASSIFICATION

There has been a considerable amount of work on mineral deposit classification done globally (Cox, 1993; Hodgson, 1993) and provincially (Lefebure *et al.*, 1995) since the first edition of "Gold Production and Reserves in British Columbia" (Schroeter *et al.*, 1989). There have also been several new publications pertaining to the metallogeny of the Canadian Cordillera. Dawson *et al.* (1991) describe the regional geology of the Cordilleran orogen in Canada and discuss implications for exploration of the pre-, syn- and post-accretionary geological histories of its component terranes. McMillan *et al.* (1991) review several of the more important mineral deposit styles in "Ore Deposits, Tectonics and Metallogeny in the Canadian Cordillera".

In the mid-1990s, the Ministry of Energy and Mines undertook a major assessment of mineral potential in British Columbia. It recognized a need for a compendium of descriptions of deposit styles found in the province (Lefebure *et al.*, 1995) to assist in labelling and sorting deposits within its MINFILE database. Since then, it has produced a series of profiles that describe geological characteristics, exploration guides and economic factors pertinent to selected metallic and industrial mineral deposits (Lefebure and Ray, 1995; Lefebure and Höy, 1996).

British Columbia's "Mineral Deposit Profiles Listing (Version 2)" refers to 18 hard-rock deposit profiles that specifically mention gold as a primary commodity in their definition. However, relatively few of them are important in terms of their contribution to aggregate gold production and resources in the province. Many of the styles are related and can be grouped into larger deposit classes. It is important to note that several deposit types that are not specifically defined as gold-bearing in their profile may contain gold as a minor but important constituent recovered as a byproduct. Deposit descriptions referred to in the text are listed in Appendix 3.

In the absence of a single classification appropriate to all situations, and for consistency with previous reports, this study follows the usage of Schroeter *et al.* (1989) and Schroeter and Lane (1991). While acknowledging considerable over-simplification, we have classified the gold-bearing deposits in the province into seven broad deposit types: 1) veins - mesothermal; (2) veins - epithermal; (3) porphyries - alkaline; (4) porphyries - calcalkaline; (5) skarns; (6) massive sulphides - volcanogenic and subaqueous hot spring; and (7) massive sulphides - sedex.

The following simplified deposit-type descriptions are designed to provide a geological context for the production and resource data in the report. For additional information on specific deposit types, and for descriptions of examples within the British Columbia Cordilleran, the reader is referred to the Ministry's "Mineral Deposit Profiles" (Lefebure and Ray, 1995; Lefebure and Höy, 1996). For more information on the individual deposits the reader is referred to the Ministry's MINFILE database, the Ministry's annual "Mineral Exploration Review" reports and to the selected references in the text.

CONCLUSIONS

Annual records show lode (1890 to 1998 inclusive) and placer (1858 to 1998 inclusive) gold production to-

tals of approximately 815 600 kilograms (26 222 000 oz) and 171 600 kilograms (5 517 000 oz) respectively (Appendix 2). However, some production appears to have been missed and the lode total may be nearer 822 300 kilograms (26 437 000 oz) gold (Table 4). Total recorded production from lode and placer sources in the province is approximately 993 890 kilograms (31 955 000 oz) gold. The top 25 lode gold producers account for 738 500 kilograms (23.74 million oz) or 90% of total lode production (Table 5).

Lode deposits are ranked in order of estimated resources, as of January, 1999, regardless of deposit type (Table 7). Total resources and gold inventories (past production plus current resources) are tabulated by deposit type (Tables 8 and 9) and displayed graphically in Figures 5 and 6. Gold production in British Columbia in 1998 totalled approximately 20 400 kilograms (655 900 oz). The top 25 undeveloped gold deposits in 1999 are estimated to contain 1 900 000 kilograms (61.1 million oz) or 78% of total resources (Table 10). Significant deposits or camps are ranked on the basis of total inventory in Table 11. Kilograms of contained gold are plotted against the resource tonnage for major deposits, in the total inventory category, in Figure 7.

Detailed production, resources and total gold inventory statistics for each deposit category are presented in Tables 13 to 27.

These voluminous data can be analyzed in many ways; a few general conclusions are:

- Vein deposits have accounted for 61.1% (502 700 kilograms; 16.16 million oz) of British Columbia's total gold production.
- Skarn deposits, essentially the Hedley and Greenwood camps, account for 15.9% (130 500 kilograms; 4.2 million oz), while byproduct gold from porphyry and massive sulphide deposits accounts for 13.5 % (110 700 kilograms; 3.44 million oz) and 9.5% (78 400 kilograms; 2.52 million oz), respectively.
- Average recovered grades from each deposit type (Figure 4) are:

veins - mesothermal	1 to 30g/t
veins - epithermal	8 to 30g/t
skarns	0.08 to 1g/t
massive sulphide deposits - volcanogenic	0.15 to 5g/t
porphyry deposits - alkalic	0.1 to 0.6 g/t
porphyry deposits - calcalkalic	0.009 to 0.6g/t

- Approximately 69% of the province's current gold resources exist in porphyry deposits; vein deposits account for 20.5% and massive sulphide deposits for 9.3%.
- The largest number of active gold producers in any given year since 1965 was forty-nine in 1967, and the smallest number was nine in 1997.
- Gold production increased sharply between 1986 and 1991 when fifteen new or re-opened mines came on stream (Table 6). It decreased between 1991 and 1994 with the closures of nine mines. It has increased again since 1995 with the opening of the high-grade Eskay Creek mine, and the Mount

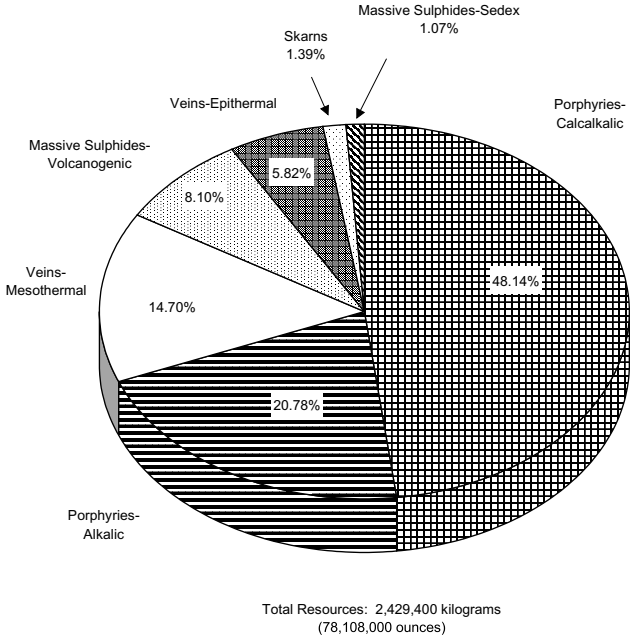


Figure 5. 1999 B.C. lode gold resources: by deposit type.

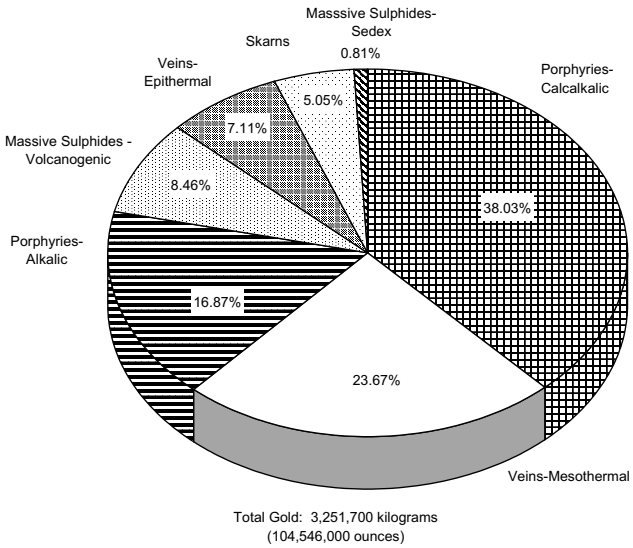
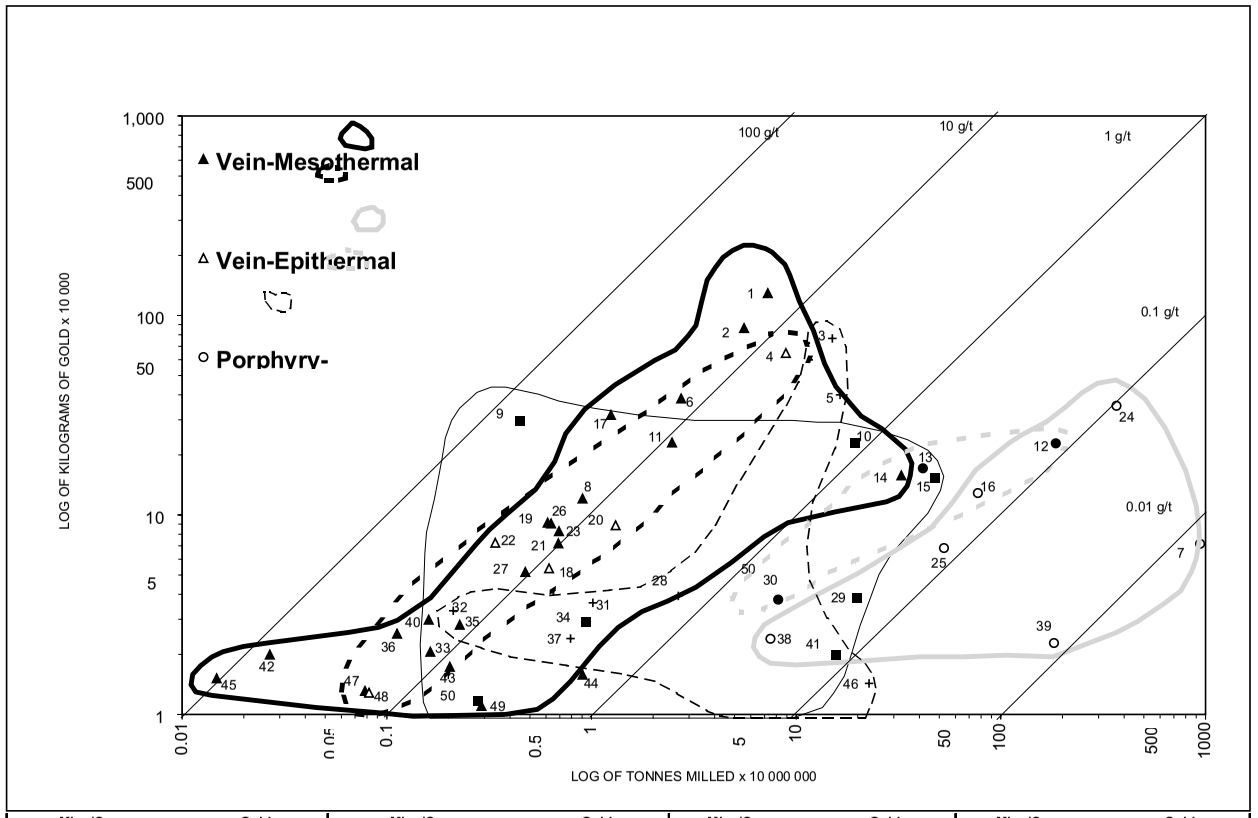


Figure 6. 1999 B.C. total lode gold inventory (current resources and past production).



Mine/Camp	Gold Production Rank (Camp Total)	Mine/Camp	Gold Production Rank (Camp Total)	Mine/Camp	Gold Production Rank (Camp Total)	Mine/Camp	Gold Production Rank (Camp Total)
BRIDGE RIVER	(1)	EQUITY SILVER	14	NORTHAIR	27	GRANITE POORMAN	(40)
ROSSLAND	(2)	BRITANNIA	15	MERRY WIDOW	(28)	GRANDUC	41
HEDLEY	(3)	BELL	16	ANYOX	(29)	SALMO	(42)
PREMIER	(4)	SURF INLET	17	MOUNT POLLEY	30	FRANKLIN MOUNTAIN	(43)
GREENWOOD	(5)	ZEBALLOS	(18)	QR	31	COQUIHALLA	(44)
CARIBOO-BARKERVILLE	(6)	TABLE MOUNTAIN	(19)	SECOND RELIEF	(32)	ELK	45
ISLAND COPPER	7	GOLDEN BEAR	20	SCOTTIE GOLD	33	TASU	46
SNIP	8	YMIR	(21)	TULSEQUAH CHIEF	34	BAYONNE	(47)
ESKAY CREEK	9	BLACKDOME	22	JOHNNY MOUNTAIN	(35)	BAKER	48
MYRA FALLS	10	POLARIS TAKU	23	CARIBOO-AMELIA	36	MOUNT SICKER	(49)
SHEEP CREEK	(11)	HIGHLAND VALLEY COPPER	(24)	TEXADA ISLAND	(37)	TAURUS	(50)
SIMILCO	(12)	GRANISLE	25	KEMESS	(38)		
AFTON	(13)	LAWYERS (+ AL + METS)	26	BRENDA	39		

Figure 7. B.C. Lode gold major deposits total inventory: 1999 (kilograms of contained gold vs tonnage resource).

Polley and Kemess South mines in 1997 and 1998 respectively.

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TABLE 5
B.C. LODE GOLD PRODUCERS (1890-1998): TOP 25 BY RANK

RANK	DEPOSIT NAME	FILE NO.	YEARS (* = producing)	**GOLD PRODUCTION (grams)**	SILVER PRODUCTION (grams)	GOLD RESOURCES (grams)	TOTAL GOLD (grams)
1	BRIDGE RIVER CAMP (5)	30	1899-1983	**129,390,995**	29,613,140	13,924,423	143,315,418
2	ROSSLAND CAMP (44)	212	1896-1995	**86,530,000**	110,240,000	15,638,903	102,168,903
3	HEDLEY CAMP (7)	111	1903-1996	**76,735,496**	18,802,842	211,172	76,946,688
4	PREMIER CAMP (90)	195	1918-1996	**64,888,246**	1,337,373,655	6,812,800	71,701,046
5	GREENWOOD CAMP (53)	105	1893-1989	**39,977,644**	310,232,328	4,885,031	44,862,675
6	CARIBOO-BARKERVILLE CAMP (3)	38	1902-1987	**38,321,509**	4,650,641	11,627,649	49,949,158
7	ISLAND COPPER	124	1971-1995	**35,267,550**	294,105,533		35,267,550
8	SNIP	239	1991-1998*	**31,741,068**	12,183,090	1,371,651	33,112,719
9	ESKAY CREEK	74	1995-1998*	**29,577,433**	1,430,186,981	78,239,181	107,816,614
10	SHEEP CREEK CAMP (12)	224	1899-1988	**23,101,859**	9,102,786	779,037	23,880,726
11	MYRA FALLS CAMP (3)	173	1967-1998*	**23,031,051**	782,217,289	10,177,500	33,208,551
12	SIMILCO CAMP (3)	236	1910-1996	**22,841,418**	294,238,155	19,963,070	42,804,488
13	AFTON CAMP (10)	3	1899-1997	**17,121,080**	90,462,058	6,640,239	23,761,319
14	EQUITY SILVER	73	1980-1994	**15,801,709**	2,219,480,555		15,801,709
15	BRITANNIA	31	1905-1988	**15,350,561**	180,845,883		15,350,561
16	BELL	16	1972-1992	**12,885,964**	38,319,730	59,200,000	72,085,964
17	SURF INLET	255	1902-1943	**12,095,368**	6,258,235	1,653,450	13,748,818
18	ZEBALLOS CAMP (18)	299	1934-1975	**9,154,249**	3,882,835	4,964,152	14,118,401
19	TABLE MTN. CAMP (2)	256	1939,1979-1998*	**9,072,882**	2,987,237	876,099	9,948,981
20	GOLDEN BEAR	95	1990-1998*	**8,865,578**	1,716,107	13,682,040	22,547,618
21	YMIR CAMP (12)	297	1899-1973	**8,298,227**	42,968,544	9,003,504	17,301,731
22	BLACKDOME	20	1986-1991,1998*	**7,254,945**	25,723,176	3,101,140	10,356,085
23	POLARIS TAKU	191	1938-1951	**7,203,579**	365,772	44,779,000	52,002,579
24	HIGHLAND VALLEY COPPER CAMP (3)	112	1963-1998*	**7,164,823**	1,162,298,763	12,504,000	19,668,823
25	GRANISLE	102	1966-1982	**6,832,716**	69,752,525	17,850,000	24,682,716
(3) - Number of deposits with a camp.							
Total of top 25 producers: (91% of total producers)				**738,505,950**	8,478,007,860	337,884,041	1,076,409,841

TABLE 6
DISCOVERY METHODS FOR BC MINES: 1987-1999

TABLE 6
DISCOVERY METHODS FOR BC MINES
1987 - 1999

MINE	DISCOVERY/ (Re-Assessment)	MINE OPENING	METHOD OF DISCOVERY
HEDLEY			
(NICKEL PLATE)	1899 / (1985)	1987	geological modelling
JOHNNY MTN.	1956 / (1984)	1988	prospecting / geology
LAWYERS	1974	1989	prospecting / geology
AJAX	1904 / (1987)	1989	prospecting / geology
SAMATOSUM	1986	1989	prospecting / geology
PREMIER-BIG MISSOURI	1910 / (1986)	1989	geology, drilling
SHASTA	1986	1989	geology / prospecting
GOLDEN BEAR	1981	1990	geology / prospecting / geochem.
SNIP	1965 / (1986)	1991	geology / prospecting
AL	1985	1991	geology / prospecting
SILVER BUTTE	1910 / (1987)	1991	prospecting
GOLDSTREAM	1974 / (1985)	1991	geology, drilling
DOME MTN.	1931 / (1985)	1991	geology, drilling
ELK	1986	1992	geology, drilling
QR	1977	1995	geology / geochem.
ESKAY CREEK	1932 / (1988)	1995	geology /prospecting / drilling
MOUNT POLLEY	1964	1997	prospecting / airborne geophysics
HUCKLEBERRY	1962 / (1993)	1997	regional geochem.
GOLDEN BEAR	1981 / (1994)	1997	geology - heap leach
KEMESS	1983 / (1990)	1998	geology / geochem. / geophysics

TABLE 7
1999 B.C. LODE GOLD RESOURCES: BY RANK

File No.	DEPOSIT NAME	RANK	RESOURCES (tonnes)	GOLD GRADE (g/t)	**RESOURCES GOLD (grams)**	TOTAL GOLD (Prod. & Res.) (grams)
196	PROSPERITY	1	633,000,000	0.466	**294,978,000**	294,978,000
133	KEMESS CAMP (2)	2	367,969,000		**186,307,210**	188,562,004
170	MT. MILLIGAN	3	275,155,770	0.51	**140,329,443**	140,329,443
252	SULPHURETS CAMP (4)	4	39,362,530	2.708	**137,900,245**	137,900,554
217	SCHAFT CREEK	5	971,495,000	0.14	**136,009,300**	136,009,300
83	GALORE CREEK	6	284,000,000		**125,537,000**	284,000,000
74	ESKAY CREEK	7	1,355,965	57.7	**78,239,181**	107,816,614
242	SPECOGNA	8	33,500,000	2.11	**70,685,000**	70,685,905
113	HOLBERG INLET CAMP (2)	9	198,237,000		**69,900,580**	69,900,580
291	WINDY CRAGGY	10	297,440,000	0.2	**59,488,000**	59,488,000
16	BELL	11	296,000,000	0.20	**59,200,000**	72,085,964
202	RED-CHRIS	12	118,900,000	0.47	**55,883,000**	55,883,000
261	TAURUS CAMP (2)	13	62,406,549		**49,995,729**	51,099,266
135	KERR	14	135,000,000	0.34	**45,900,000**	45,900,000
191	POLARIS TAKU	15	3,270,000	13.7	**44,799,000**	52,002,579
190	POISON MTN.	16	298,580,000	0.14	**41,396,000**	41,396,000
167	MORRISON	17	190,000,000	0.21	**39,900,000**	39,900,000
189	PINE	18	70,000,000	0.57	**39,900,000**	39,900,000
32	BRONSON SLOPE	19	79,000,000	0.48	**37,920,000**	37,920,000
50	COPPER CANYON	20	32,400,000	1.17	**37,908,000**	37,908,000
166	MOUNT POLLEY	21	76,470,300	0.47	**35,941,041**	39,702,624
132	KATIE	22	200,000,000	0.17	**34,000,000**	34,000,000
258	TAM	23	7,200,000	4.11	**29,592,000**	29,592,000
125	J & L	24	3,600,000	7.24	**26,064,000**	26,064,000
80	FRASERGOLD	25	12,000,000	1.85	**22,200,000**	22,200,000
236	SIMILCO CAMP	26	128,794,000	0.155	**19,963,070**	42,804,488
272	TULSEQUAH CHIEF	27	7,910,000	2.42	**19,142,200**	22,073,844
205	RED MOUNTAIN	28	1,921,680	9.8	**18,832,464**	18,832,464
102	GRANISLE	29	119,000,000	0.15	**17,850,000**	24,682,716
212	ROSSLAND CAMP (4)	30	1,936,524		**15,638,903**	101,538,114
146	LOUISE LAKE	31	50,000,000	0.310	**15,500,000**	15,500,000
192	POPLAR	32	144,117,000	0.1	**14,411,700**	14,411,700
30	BRIDGE RIVER CAMP (3)	33	876,023		**13,924,423**	143,315,418
95	GOLDEN BEAR	34	3,602,200		**13,682,040**	22,547,618
259	TASEKO CAMP (2)	35			**13,475,210**	13,475,210
112	HIGHLAND VALLEY COPPER CAMP (3)	36	416,800,000	0.03	**12,504,000**	19,668,823
38	CARIBOO-BARKERVILLE CAMP (3)	37	3,120,140		**11,627,649**	49,949,158
45	CHUCHI LAKE	38	50,000,000	0.21	**10,500,000**	10,500,000
193	PORCHER ISLAND	39	1,381,364	6.86	**9,476,157**	10,116,071
297	YMIR CAMP (2)	40	927,589		**9,003,504**	17,306,895
173	MYRA FALLS	41	6,785,000	1.5	**8,626,877**	33,208,551
42	CATFACE	42	124,259,000	0.069	**8,572,871**	8,573,871
52	COQUIHALLA CAMP (5)	43	2,406,335		**8,565,245**	10,146,768
36	CAPOOSE	44	28,301,520	0.3	**8,490,456**	8,490,456
18	BIG ONION	45	94,380,000	0.08	**7,550,400**	7,550,400
85	GEORGIA RIVER	46	272,130	27.7	**7,538,001**	7,548,234
161	MINTO CAMP (4)	47	1,120,463		**7,435,863**	8,150,670
11	BANBURY	48	3,778,500		**7,416,770**	7,446,193
137	KUTCHO CREEK CAMP (3)	49	28,000,000		**7,410,000**	7,410,000
160	MILLIE MACK	50	1,542,070	4.79	**7,386,515**	3,796,344
267	TILLICUM	51	1,198,272		**7,367,935**	7,532,487
109	HARRISON GOLD	52	2,200,000	3.2	**7,040,000**	7,071,590

TABLE 7 CONTINUED
1999 B.C. LODE GOLD RESOURCES: BY RANK

FILE NO.	DEPOSIT NAME	RANK	RESOURCES (tonnes)	GOLD GRADE (g/t)	**RESOURCES GOLD (grams)**	TOTAL GOLD (Prod. & Res.) (grams)
191	PREMIER CAMP (9)	53	2,224,140		**6,812,800**	71,701,046
44	CHAPLEAU CAMP (2)	54	653,040	10.3	**6,726,312**	6,785,407
3	AFTON CAMP (10)	55	12,151,000		**6,640,239**	23,761,319
64	EAGLEHEAD	56	30,000,000	0.2	**6,000,000**	6,000,000
145	LORRAINE	57	31,940,000	0.17	**5,429,800**	5,429,800
243	SPECTRUM CAMP (2)	58	516,320		**4,984,320**	4,984,302
299	ZEBALLOS CAMP (18)	59	386,530		**4,964,152**	14,118,401
105	GREENWOOD CAMP (8)	60	1,924,842		**4,885,031**	44,862,675
149	LUSTDUST	61	1,133,750	4.29	**4,863,788**	4,863,788
115	HUCKLEBERRY	62	80,754,000	0.06	**4,845,240**	4,847,201
295	YELLOW JACKET	63	453,500	10.26	**4,664,474**	4,652,910
265	TEXADA ISLAND CAMP (10)	64	355,230		**4,369,129**	6,768,484
6	ANYOX CAMP (3)	65	24,413,900		**4,337,140**	8,196,492
294	YELLOW GIANT CAMP (4)	66	252,956		**4,303,619**	4,303,619
231	SILVER QUEEN	67			**4,209,500**	4,307,692
271	TSACHA	68	478,600	8.72	**4,173,392**	4,173,392
59	DOC (GRACY)	69	426,337	9.2	**3,922,300**	3,922,300
108	HARPER CREEK	70	96,000,000	0.04	**3,840,000**	3,840,000
172	MT. WASHINGTON	71	550,298	6.75	**3,714,512**	3,845,300
76	FAIRVIEW CAMP (5)	72	868,450		**3,661,662**	4,419,963
134	KENNEDY RIVER CAMP (5)	73	197,920		**3,512,064**	3,521,768
61	DOME MOUNTAIN CAMP (3)	74	220,768		**3,463,443**	3,836,921
174	NANIKA	75	16,458,422	0.2	**3,291,684**	3,291,684
67	ECSTALL	76	6,349,700	0.5	**3,174,850**	3,174,850
20	BLACKDOME	77	238,000	13.03	**3,101,140**	10,356,085
70	ELK	78	121,350	25.4	**3,082,290**	4,601,067
136	KLIYUL	79	2,300,000	1.3	**2,990,000**	2,990,000
128	JOHNNY MTN. CAMP (2)	80	51,216		**2,883,936**	5,699,329
283	VINE (BAR)	81	1,300,000	2.2	**2,860,000**	2,860,000
257	TAKLA RAINBOW	82	199,580	13.7	**2,734,246**	2,734,246
141	LINDQUIST	83	249,425	10.7	**2,668,848**	2,668,848
110	HEARNE HILL	84	14,230,000	0.186	**2,646,780**	2,646,780
4	ALPINE GOLD	85	190,500	13.7	**2,609,850**	2,966,210
270	TRUE FISSURE	86	692,041	3.77	**2,608,995**	2,615,153
150	MACKTUSH	87	137,861	18.52	**2,553,741**	2,553,741
138	LARA	88	528,839	4.73	**2,501,408**	2,501,408
289	WILLA (ALWYN)	89	414,297	6.03	**2,498,211**	2,501,084
77	FANDORA CAMP (2)	90	181,434	12.74	**2,311,469**	2,357,129
285	WATSON BAR	91	282,187	8.13	**2,294,180**	2,294,180
201	REA GOLD	92	376,000	6.10	**2,293,600**	2,293,600
44	CHAPUT	93	507,920	4.5	**2,285,640**	2,286,854
89	GIVEOUT CREEK CAMP (6)	94	240,544		**2,162,630**	2,989,552
276	VAULT	95	152,000	14	**2,128,000**	2,128,000
35	CAMBORNE CAMP (4)	96	206,837		**1,978,456**	2,943,716
97	GOLDEN LION	97	2,054,355	0.96	**1,972,181**	1,972,181
155	MEGABUCKS	98	2,056,000	0.93	**1,912,080**	1,912,080
255	SURF INLET	99	486,750		**1,653,450**	13,748,818
241	SPANISH MOUNTAIN	100	838,160	1.95	**1,634,412**	1,639,358
292	WISCONSIN	101	136,065	11.99	**1,631,419**	1,631,419
197	QR	102	320,000	5.08	**1,625,800**	5,253,859
234	SILVERTIP (Midway)	103	2,570,000	0.63	**1,619,100**	1,619,100

TABLE 7 CONTINUED
1999 B.C. LODE GOLD RESOURCES: BY RANK

FILE NO.	DEPOSIT NAME	RANK	RESOURCES (tonnes)	GOLD GRADE (g/t)	**RESOURCES GOLD (grams)**	TOTAL GOLD (Prod. & Res.) (grams)
207	REX MOUNTAIN	104	186,453	8.57	**1,597,902**	1,597,902
240	SNOWBIRD	105	226,775	6.86	**1,555,677**	1,555,677
57	DEBBIE CAMP (4)	106	300,754		**1,439,614**	1,449,039
166	MORRIS	107	172,000	8.3	**1,427,600**	1,427,600
211	ROCK AND ROLL	108	580,544	2.4	**1,393,306**	1,393,306
239	SNIP	109	59,637	23	**1,371,651**	33,112,719
98	GOLDEN STRANGER	110	498,905	2.74	**1,367,000**	1,367,000
55	DARDANELLE	111	181,440	7.50	**1,360,800**	1,360,800
249	STREBE	112	156,040	8.57	**1,337,263**	1,337,263
171	MT. SICKER CAMP (3)	113	317,485	4.11	**1,304,863**	2,476,391
222	SENECA	114	1,506,239	0.82	**1,235,116**	1,235,645
144	LLOYD-NORDIK	115	2,930,000	0.401	**1,174,930**	1,174,930
268	TODD CREEK	116	207,000	5.48	**1,134,360**	1,134,630
119	HUNTER	117	94,338	12	**1,132,056**	1,132,989
22	BLACK JACK	118	75,000	16	**1,200,000**	1,200,000
204	RED ELEPHANT	119	26,464	40.8	**1,079,731**	1,079,731
123	INEL	120	317,485	3.4	**1,079,449**	1,079,449
88	GIBRALTAR	121	148,685,000	0.007	**1,040,795**	1,184,163
298	YREKA	122	128,422	6.9	**886,112**	936,002
256	TABLE MTN. CAMP (2)	123	700,879	1.25	**876,099**	9,948,981
186	PELLAIRE	124	36,284	22.9	**830,904**	830,904
183	PACKSACK	125	2,700,000	0.30	**810,000**	810,000
224	SHEEP CREEK CAMP (12)	126	321,377		**779,037**	23,880,896
269	TOPLEY RICHFIELD	127	181,420	4.25	**771,035**	771,066
37	CARIBOO-AMELIA (CAMP MCKINNEY)	128	29,930	25.7	**769,201**	3,307,302
7	ASHLU	129	89,350	8.57	**765,730**	970,856
185	PAYDIRT	130	181,420	3.8	**689,396**	689,396
56	DAVID	131	96,000	7.11	**682,560**	682,560
176	NEW MOON	132	688,712	0.99	**681,825**	681,825
72	ENGINEER	133	20,000	34	**680,000**	1,241,659
104	GRANITE SCHEELITE	134	72,568	9.08	**658,917**	658,917
126	JD (Toodoggone)	135	147,889	4.4	**650,712**	650,712
158	METS	136	54,068	11.66	**630,433**	630,433
17	BEND	137	9,900	61.81	**611,919**	611,919
151	MAMIE	138	55,330	10.97	**606,970**	606,970
143	LITTLE GEM	139	27,705	21.74	**602,307**	602,307
122	INDIAN CHIEF	140	1,900,000	0.31	**589,000**	611,500
46	CHU CHUA (CC)	141	1,043,165	0.54	**563,309**	56,309
219	SCOTTIE GOLD	142	28,992	18.51	**536,642**	3,520,696
178	NORTHAIR	143	59,071	9.08	**536,365**	5,717,596
107	HANK	144	226,775	2.3	**521,583**	521,583
140	L.H.	145	59,040	8.57	**505,973**	509,425
188	PHILIPS ARM CAMP (3)	146	43,700		**473,200**	646,008
28	BRETT	147	11,970	39.12	**468,266**	468,266
82	G-SOUTH (THUNDER, AHBAU CREEK)	148	45,355	10.2	**462,621**	462,621
273	VALENTINE MTN.	149	30,660	14.7	**450,702**	450,862
244	SPOKANE (Lawson)	150	77,216	5.83	**450,169**	450,169
15	BEDWELL RIVER CAMP (3)	151	25,284		**440,278**	663,473
226	SHERWOOD CAMP (2)	152	25,247	17.15	**432,986**	436,189
225	SHELL (CROY)	153	72,560	5.9	**428,140**	428,140
13	BAYONNE CAMP (2)	154	28,186	15	**422,790**	1,734,760

TABLE 7 CONTINUED
1999 B.C. LODE GOLD RESOURCES: BY RANK

FILE NO.	DEPOSIT NAME	RANK	RESOURCES (tonnes)	GOLD GRADE (g/t)	**RESOURCES GOLD (grams)**	TOTAL GOLD (Prod. & Res.) (grams)
169	MOUNTAIN BOSS	155	30,000	14.06	**421,800**	421,800
39	CARIBOO-HUDSON	156	32,655	12.3	**401,657**	562,957
84	GEORGE GOLD-COPPER	157	180,000	2.1	**378,000**	378,000
86	GERLE GOLD	158	45,355	7.5	**340,163**	340,163
274	VALPARAISO CAMP (2)	159	37,700	8.75	**329,875**	333,669
230	SILVER POND	160	47,819	6.85	**327,560**	327,560
23	BLACKWATER-DAVIDSON	161	6,000,000	0.05	**300,000**	300,000
214	SALMO CAMP (7)	162	61,676	4.8	**296,045**	2,293,045
254	SUNRO	163	423,782	0.69	**292,410**	495,511
262	TAY	164	132,255	2.15	**284,348**	284,348
156	MERRY WIDOW CAMP (2)	165	272,154	1	**272,154**	4,203,856
60	DOCTORS POINT	166	113,600	2.16	**245,376**	245,376
111	HEDLEY CAMP (7)	167	175,977	1.2	**211,172**	76,946,688
238	SMITH-NASH	168	20,128	10.3	**207,318**	207,318
228	SILVER DAWN	169	242,532	0.82	**198,876**	198,876
264	TEDDY GLACIER	170	44,216	4.46	**197,203**	197,327
280	VIDETTE	171	10,159	19.1	**194,037**	1,123,053
210	ROCHER DEBOULE	172	54,000	3.5	**189,000**	322,676
180	OLALLA CAMP (3)	173	2,177	85.71	**186,591**	191,568
220	SCRANTON CAMP (3)	174	17,935	9.26	**166,078**	289,421
152	MARY MAC	175	22,300	7.43	**165,689**	165,689
69	ELIZABETH	176	3,853	41.1	**158,358**	158,514
103	GRANITE POORMAN CAMP (6)	177	16,328	9.26	**151,197**	2,211,960
131	KALUM LAKE	178	9,434	16.10	**151,887**	152,262
114	HOMESTAKE	179	249,906	0.58	**144,945**	156,204
147	LUCKY JIM	180	12,700	10.97	**139,319**	146,690
26	BRANDYWINE CAMP (2)	181	134,800	1.03	**138,844**	485,811
1	ABBOTT	182	139,628	0.99	**138,322**	138,313
215	SAMATOSUM	183	80,280	1.71	**137,279**	776,397
218	SCOTIA	184	224,000	0.55	**123,200**	123,200
266	THISTLE CAMP (4)	185	18,250		**123,035**	232,797
21	BLACK BULL	186	4,355	26.06	**113,491**	113,520
227	SILVER CUP CAMP (6)	187	37,191	2.74	**101,903**	293,587
223	SHASTA	188	8,000	12	**96,000**	697,229
246	SPOUT LAKE	189	554,000	0.17	**94,180**	94,180
92	GOAT	190	8,800	10.6	**93,280**	98,755
282	VILLALTA	191	22,677	4.11	**93,202**	93,202
182	OX-C	192	196,087	0.47	**92,161**	92,161
48	COLUMBIA-EVENING SUN	193	118,000	0.69	**81,420**	81,451
5	ALWIN	194	390,053	0.17	**66,309**	112,545
87	GIANT COPPER CAMP (2)	195	145,373	0.38	**55,242**	55,958
203	RED CLIFF	196	18,856	2.8	**52,797**	57,875
162	MOLLY HUGHES	197	9,072	5.8	**52,618**	78,408
229	SILVER LAKE	198	30,000	1.71	**51,300**	51,300
63	DUTHIE CAMP	199	19,700	2.55	**50,235**	160,635
71	EMERALD GLACIER	200	40,800	1.13	**46,104**	47,628
279	VICTORIA	201	1,000	42.55	**42,550**	49,891
54	CRONIN	202	117,923	0.34	**40,094**	48,866
79	FRANKLIN MTN. CAMP (2)	203	16,000	2.2	**35,200**	1,762,212
275	VANGUARD COPPER	204	11,800	2.4	**28,320**	28,320
232	SILVER STANDARD	205	9,070	2.85	**25,850**	490,482

TABLE 7 CONTINUED
1999 B.C. LODE GOLD RESOURCES: BY RANK

FILE NO.	DEPOSIT NAME	RANK	RESOURCES (tonnes)	GOLD GRADE (g/t)	**RESOURCES GOLD (grams)**	TOTAL GOLD (Prod. & Res.) (grams)
284	VIRGINIA SILVER	206	20,000	1.19	**23,800**	24,201
34	CALEDONIA	207	68,000	0.34	**23,120**	23,120
19	BIG SLIDE	208	861	16.2	**13,948**	53,852
290	WINDPASS	209	16,146	0.68	**10,979**	1,082,663
233	SILVER TIP	210	11,295	0.77	**8,697**	9,005
81	FRENCH PEAK	211	2,630	2.4	**6,312**	6,436
90	GLACIER CREEK CAMP (6)	212	18,000	0.27	**4,860**	327,155
200	RABBITT	213	1,324	1.6	**2,118**	35,634

TABLE 8
1999 B.C. LODE GOLD RESOURCES: BY DEPOSIT TYPE

DEPOSIT TYPE	**NUMBER OF DEPOSITS**	**GOLD RESOURCES (grams)**	**PERCENTAGE OF TOTAL(%)**
Porphyries - Calcalkalic	30	1,169,573,939	48.14
Porphyries - Alkalic	16	504,810,603	20.78
Veins - Mesothermal	150	356,857,498	14.70
Massive Sulphides - Volcanogenic	21	196,802,343	8.10
Veins - Epithermal	25	141,474,980	5.82
Skarns	23	33,825,136	1.39
Massive Sulphides - Sedex	1	26,064,000	1.07
TOTALS:	266	2,429,408,499	100

TABLE 9
1999 B.C. LODE TOTAL GOLD
(PAST PRODUCTION AND CURRENT PRODUCERS)
BY DEPOSIT TYPE

DEPOSIT TYPE	NUMBER OF DEPOSITS	TOTAL GOLD (grams)	PERCENTAGE OF TOTAL (%)
Porphyries - Calcalkalic	35	1,236,548,778	38.03
Veins - Mesothermal	575	769,971,401	23.67
Porphyries - Alkalic	24	548,534,684	16.87
Massive Sulphides - Volcanogenic	28	274,981,225	8.46
Veins - Epithermal	34	228,079,939	7.11
Skarns	58	164,311,295	5.05
Massive Sulphides - Sedex	4	26,279,140	0.81
TOTALS:	758	3,251,697,119	100

TABLE 10
1999 B.C. LODE GOLD RESOURCES: TOP 25 BY RANK

RANK	DEPOSIT NAME	File No.	RESOURCES (tonnes)	GRADE (g/t)	**RESOURCES (grams)**	TOTAL GOLD (grams)
1	PROSPERITY	196	633,000,000	0.466	**294,978,000**	294,978,000
2	KEMESS CAMP (2)	133	367,969,000		**186,307,210**	188,700,210
3	MT. MILLIGAN	170	275,155,770	0.51	**140,329,443**	140,329,443
4	SULPHURETS CAMP (4)	252	39,362,530	2.708	**137,900,245**	137,900,554
5	SCHAFT CREEK	217	971,495,000	0.14	**136,009,300**	136,009,300
6	GALORE CREEK	83	284,000,000		**125,537,000**	125,537,000
7	ESKAY CREEK	74	1,355,965	57.7	**78,239,181**	107,816,614
8	SPECOGNA	242	33,500,000	2.11	**70,685,000**	70,685,902
9	HOLBERG INLET CAMP (2)	113	198,237,000		**69,900,580**	69,900,580
10	WINDY CRAGGY	291	297,440,000	0.2	**59,488,000**	59,488,000
11	BELL	16	296,000,000	0.2	**59,200,000**	72,085,964
12	RED-CHRIS	202	118,900,000	0.47	**55,883,000**	55,883,000
13	TAURUS CAMP (2)	261	62,406,549		**49,995,729**	51,099,266
14	KERR	135	135,000,000	0.34	**45,900,000**	45,900,000
15	POLARIS TAKU	191	3,270,000	13.7	**44,799,000**	52,002,579
16	POISON MTN.	190	298,580,000	0.14	**41,396,000**	41,396,000
17	MORRISON	167	190,000,000	0.21	**39,900,000**	39,900,000
18	PINE	189	70,000,000	0.57	**39,900,000**	39,900,000
19	BRONSON SLOPE	32	79,000,000	0.48	**37,920,000**	37,920,000
20	COPPER CANYON	50	32,400,000	1.17	**37,908,000**	37,908,000
21	MOUNT POLLEY	166	76,470,300	0.47	**35,941,041**	39,702,624
22	KATIE	132	200,000,000	0.17	**34,000,000**	34,000,000
23	TAM	258	7,200,000	4.11	**29,592,000**	29,592,000
24	J & L	125	3,600,000	7.24	**26,064,000**	26,064,000
25	FRASERGOLD	80	12,000,000	1.85	**22,200,000**	22,200,000
(2) - Number of deposits within a camp						
Total of top 25 resources: (78% of total resources)			4,686,342,114		**1,899,972,729**	1,956,899,036

TABLE 11
1999 B.C. LODE TOTAL GOLD INVENTORY: BY RANK

File No.	DEPOSIT NAME	RANK	PRODUCTION (grams)	RESOURCES GOLD (grams)	**TOTAL GOLD (Prod. & Res.) (grams)**
196	PROSPERITY	1		294,978,000	**294,978,000**
133	KEMESS CAMP (2)	2	2,393,000	186,307,210	**188,700,210**
30	BRIDGE RIVER CAMP (5)	3	129,390,995	13,924,423	**143,315,418**
170	MT. MILLIGAN	4		140,329,443	**140,329,443**
252	SULPHURETS CAMP (4)	5	309	137,900,245	**137,900,554**
217	SCHAFT CREEK	6		136,009,300	**136,009,300**
83	GALORE CREEK CAMP (3)	7		125,537,000	**125,537,000**
74	ESKAY CREEK	8	29,577,433	78,239,181	**107,816,614**
212	ROSSLAND CAMP (44)	9	86,530,000	15,638,903	**102,168,903**
111	HEDLEY CAMP (7)	10	76,735,496	211,172	**76,946,688**
16	BELL	11	12,885,964	59,200,000	**72,085,964**
195	PREMIER CAMP (9)	12	64,888,246	6,812,800	**71,701,046**
242	SPECOGNA	13	902	70,685,000	**70,685,902**
113	HOLBERG INLET CAMP (2)	14		69,900,580	**69,900,580**
291	WINDY CRAGGY	15		59,488,000	**59,488,000**
202	RED-CHRIS	16		55,883,000	**55,883,000**
191	POLARIS TAKU	17	7,203,579	44,799,000	**52,002,579**
261	TAURUS CAMP (2)	18	1,103,537	49,995,729	**51,099,266**
38	CARIBOO-BARKERVILE CAMP (3)	19	38,321,509	11,627,649	**49,949,158**
135	KERR	20		45,900,000	**45,900,000**
115	GREENWOOD CAMP (53)	21	39,977,644	4,885,031	**44,862,675**
236	SIMILCO CAMP (3)	22	22,841,418	19,963,070	**42,804,488**
190	POISON MTN.	23		41,396,000	**41,396,000**
167	MORRISON	24		39,900,000	**39,900,000**
189	PINE	25		39,900,000	**39,900,000**
32	BRONSON SLOPE	26		39,920,000	**39,920,000**
168	MOUNT POLLEY	27	3,761,583	35,941,041	**39,702,624**
50	COPPER CANYON	28		37,908,000	**37,908,000**
124	ISLAND COPPER	29	35,267,550		**35,267,550**
132	KATIE	30		34,000,000	**34,000,000**
173	MYRA FALLS CAMP (3)	31	23,031,051	10,177,500	**33,208,551**
239	SNIP	32	31,741,068	1,371,651	**33,112,719**
258	TAM	33		29,592,000	**29,592,000**
125	J & L	34		26,064,000	**26,064,000**
102	GRANISLE	35	6,832,716	17,850,000	**24,682,716**
224	SHEEP CREEK CAMP (12)	36	23,101,859	779,037	**23,880,726**
3	AFTON CAMP (10)	37	17,121,080	6,640,239	**23,761,319**
95	GOLDEN BEAR	38	8,865,578	13,682,040	**22,547,618**
80	FRASERGOLD	39		22,200,000	**22,200,000**
272	TULSEQUAH CHIEF	40	2,931,644	19,142,200	**22,073,844**

TABLE 11 CONTINUED
1999 B.C. LODE TOTAL GOLD INVENTORY: BY RANK

File No.	DEPOSIT NAME	RANK	PRODUCTION (grams)	RESOURCES GOLD (grams)	**TOTAL GOLD (Prod. & Res.) (grams)**
196	PROSPERITY	1		294,978,000	**294,978,000**
133	KEMESS CAMP (2)	2	2,393,000	186,307,210	**188,700,210**
30	BRIDGE RIVER CAMP (5)	3	129,390,995	13,924,423	**143,315,418**
170	MT. MILLIGAN	4		140,329,443	**140,329,443**
252	SULPHURETS CAMP (4)	5	309	137,900,245	**137,900,554**
217	SCHAFT CREEK	6		136,009,300	**136,009,300**
83	GALORE CREEK CAMP (3)	7		125,537,000	**125,537,000**
74	ESKAY CREEK	8	29,577,433	78,239,181	**107,816,614**
212	ROSSLAND CAMP (44)	9	86,530,000	15,638,903	**102,168,903**
111	HEDLEY CAMP (7)	10	76,735,496	211,172	**76,946,688**
16	BELL	11	12,885,964	59,200,000	**72,085,964**
195	PREMIER CAMP (9)	12	64,888,246	6,812,800	**71,701,046**
242	SPECOGNA	13	902	70,685,000	**70,685,902**
113	HOLBERG INLET CAMP (2)	14		69,900,580	**69,900,580**
291	WINDY CRAGGY	15		59,488,000	**59,488,000**
202	RED-CHRIS	16		55,883,000	**55,883,000**
191	POLARIS TAKU	17	7,203,579	44,799,000	**52,002,579**
261	TAURUS CAMP (2)	18	1,103,537	49,995,729	**51,099,266**
38	CARIBOO-BARKERVILE CAMP (3)	19	38,321,509	11,627,649	**49,949,158**
135	KERR	20		45,900,000	**45,900,000**
115	GREENWOOD CAMP (53)	21	39,977,644	4,885,031	**44,862,675**
236	SIMILCO CAMP (3)	22	22,841,418	19,963,070	**42,804,488**
190	POISON MTN.	23		41,396,000	**41,396,000**
167	MORRISON	24		39,900,000	**39,900,000**
189	PINE	25		39,900,000	**39,900,000**
32	BRONSON SLOPE	26		39,920,000	**39,920,000**
168	MOUNT POLLEY	27	3,761,583	35,941,041	**39,702,624**
50	COPPER CANYON	28		37,908,000	**37,908,000**
124	ISLAND COPPER	29	35,267,550		**35,267,550**
132	KATIE	30		34,000,000	**34,000,000**
173	MYRA FALLS CAMP (3)	31	23,031,051	10,177,500	**33,208,551**
239	SNIP	32	31,741,068	1,371,651	**33,112,719**
258	TAM	33		29,592,000	**29,592,000**
125	J & L	34		26,064,000	**26,064,000**
102	GRANISLE	35	6,832,716	17,850,000	**24,682,716**
224	SHEEP CREEK CAMP (12)	36	23,101,859	779,037	**23,880,726**
3	AFTON CAMP (10)	37	17,121,080	6,640,239	**23,761,319**
95	GOLDEN BEAR	38	8,865,578	13,682,040	**22,547,618**
80	FRASERGOLD	39		22,200,000	**22,200,000**
272	TULSEQUAH CHIEF	40	2,931,644	19,142,200	**22,073,844**

TABLE 11 CONTINUED
1999 B.C. LODE TOTAL GOLD INVENTORY: BY RANK

File No.	DEPOSIT NAME	RANK	PRODUCTION (grams)	RESOURCES GOLD (grams)	**TOTAL GOLD (Prod. & Res.) (grams)**
112	HIGHLAND VALLEY CAMP (3)	41	7,164,823	12,504,000	**19,668,823**
205	RED MTN.	42		18,832,464	**18,832,464**
297	YMIR CAMP (12)	43	8,298,227	9,003,504	**17,301,731**
73	EQUITY SILVER	44	15,801,709		**15,801,709**
31	BRITANNIA	45	15,350,561		**15,350,561**
146	LOUISE LAKE	46		15,500,000	**15,000,000**
192	POPLAR	47		14,411,700	**14,411,700**
299	ZEBALLOS CAMP (18)	48	9,154,249	4,964,152	**14,118,401**
255	SURF INLET	49	12,095,368	1,653,450	**13,748,818**
259	TASEKO CAMP (2)	50		13,475,210	**13,475,210**
45	CHUCHI LAKE	51		10,500,000	**10,500,000**
20	BLACKDOME	52	7,254,945	3,101,140	**10,356,085**
52	COQUIHALLA CAMP (5)	53	1,581,523	8,565,245	**10,146,768**
193	PORCHER ISLAND CAMP (2)	54	639,914	9,476,157	**10,116,071**
256	TABLE MTN. CAMP (2)	55	9,072,882	876,099	**9,948,981**
42	CATFACE	56		8,573,871	**8,573,871**
36	CAPOOSE	57		8,490,456	**8,490,456**
6	ANYOX CAMP (3)	58	3,859,352	4,337,140	**8,196,492**
161	MINTO CAMP (4)	59	714,807	7,435,863	**8,150,670**
18	BIG ONION	60		7,550,400	**7,550,400**
85	GEORGIA RIVER	61	10,233	7,538,001	**7,548,234**
267	TILLICUM (ESPERANZA)	62	164,552	7,367,935	**7,532,487**
11	BANBURY	63	29,423	7,416,770	**7,446,193**
137	KUTCHO CREEK CAMP (3)	64		7,410,000	**7,410,000**
160	MILLIE MACK	65	9,829	7,386,515	**7,396,344**
109	HARRISON GOLD	66	31,590	7,040,000	**7,071,590**
43	CHAPLEAU CAMP (2)	67	59,095	6,726,312	**6,785,407**
265	TEXADA ISLAND CAMP (10)	68	2,399,355	4,369,129	**6,768,484**
64	EAGLEHEAD (JOY)	69		6,000,000	**6,000,000**
178	NORTHAIR	70	5,181,231	536,365	**5,717,596**
128	JOHNNY MTN. CAMP (2)	71	2,815,393	2,883,936	**5,699,329**
145	LORRAINE	72		5,429,800	**5,429,800**
139	LAWYERS (+ AL + METS)	73	5,401,981		**5,401,981**
197	QR	74	3,628,259	1,625,600	**5,253,859**
243	SPECTRUM CAMP (2)	75		4,984,320	**4,984,320**
149	LUSTDUST	76		4,863,788	**4,863,788**
118	HUCKLEBERRY	77	1,961	4,845,240	**4,847,201**
295	YELLOW JACKET	78		4,652,910	**4,652,910**
70	ELK	79	1,518,777	3,082,290	**4,601,067**
76	FAIRVIEW CAMP (5)	80	758,301	3,661,662	**4,419,963**

TABLE 11 CONTINUED
1999 B.C. LODE TOTAL GOLD INVENTORY: BY RANK

File No.	DEPOSIT NAME	RANK	PRODUCTION (grams)	RESOURCES GOLD (grams)	**TOTAL GOLD (Prod. & Res.) (grams)**
231	SILVER QUEEN	81		4,209,500	**4,307,692**
156	MERRY WIDOW CAMP (2)	82	3,931,702	272,154	**4,203,856**
271	TSACHA	83		4,173,392	**4,173,392**
59	DOC	84		3,922,300	**3,922,300**
172	MT. WASHINGTON	85	130,788	3,714,512	**3,845,300**
108	HARPER CREEK	86		3,840,000	**3,840,000**
61	DOME MOUNTAIN CAMP (3)	87	373,478	3,463,443	**3,836,921**
134	KENNEDY RIVER CAMP (5)	88	9,704	3,512,064	**3,521,768**
219	SCOTTIE GOLD	89	2,984,054	536,642	**3,520,696**
37	CARIBOO-AMELIA	90	2,538,101	769,201	**3,307,302**
174	NANIKA	91		3,291,684	**3,291,684**
67	ECSTALL	92		3,174,850	**3,174,850**
221	SECOND RELIEF CAMP (4)	93	3,306,372		**3,117,637**
136	KLIYUL	94		2,990,000	**2,990,000**
89	GIVEOUT CREEK CAMP (6)	95	826,922	2,162,630	**2,989,552**
4	ALPINE GOLD	96	356,360	2,609,850	**2,966,210**
35	CAMBORNE CAMP (4)	97	965,260	1,978,456	**2,943,716**
283	VINE	98		2,860,000	**2,860,000**
257	TAKLA RAINBOW	99		2,734,246	**2,734,246**
141	LINDQUIST	100		2,668,848	**2,668,848**
110	HEARNE HILL	101		2,646,780	**2,646,780**
270	TRUE FISSURE	102	6,158	2,608,995	**2,615,153**
150	MACKTUSH	103		2,553,741	**2,553,741**
138	LARA	104		2,501,408	**2,501,408**
289	WILLA (ALWYN)	105	2,873	2,498,211	**2,501,084**
294	YELLOW GIANT CAMP (4)	106		4,303,619	**4,303,619**
171	MT. SICKER CAMP (3)	107	1,171,528	1,304,863	**2,476,391**
77	FANDORA CAMP (2)	108	45,660	2,311,469	**2,357,129**
285	WATSON BAR	109		2,294,180	**2,294,180**
201	REA GOLD	110		2,293,600	**2,293,600**
214	SALMO CAMP (7)	111	1,997,000	296,045	**2,293,045**
27	BRENDA	112	2,281,868		**2,281,868**
44	CHAPUT	113	1,214	2,285,640	**2,286,854**
103	GRANITE POORMAN CAMP (6)	114	2,060,763	151,197	**2,211,960**
276	VAULT	115		2,128,000	**2,128,000**
101	GRANDUC	116	2,000,061		**2,000,061**
97	GOLDEN LION	117		1,972,181	**1,972,181**
155	MEGABUCKS (WOODJAM)	118		1,912,080	**1,912,080**
294	YELLOW GIANT CAMP (4)	119		4,303,619	**1,818,535**
79	FRANKLIN MTN. CAMP (2)	120	1,733,948	35,200	**1,769,148**

TABLE 11 CONTINUED
1999 B.C. LODE TOTAL GOLD INVENTORY: BY RANK

File No.	DEPOSIT NAME	RANK	PRODUCTION (grams)	RESOURCES GOLD (grams)	**TOTAL GOLD (Prod. & Res.) (grams)**
13	BAYONNE CAMP (2)	121	1,311,970	422,790	**1,734,760**
241	SPANISH MOUNTAIN (CPW)	122	4,946	1,634,412	**1,639,358**
292	WISCONSIN	123		1,631,419	**1,631,419**
234	SILVERTIP (Midway)	124		1,619,100	**1,619,100**
207	REX MOUNTAIN	125		1,597,902	**1,597,902**
240	SNOWBIRD	126		1,555,677	**1,555,677**
57	DEBBIE CAMP (4)	127	9,425	1,439,614	**1,449,039**
166	MORRIS	128		1,427,600	**1,427,600**
260	TASU	129	1,430,140		**1,430,140**
211	ROCK AND ROLL	130		1,393,306	**1,393,306**
98	GOLDEN STRANGER	131		1,367,000	**1,367,000**
55	DARDANELLE	132		1,360,800	**1,360,800**
249	STREBE	133		1,337,263	**1,337,263**
9	BAKER	134	1,283,973		**1,283,973**
72	ENGINEER	135	561,659	680,000	**1,241,659**
222	SENECA	136	529	1,235,116	**1,235,645**
22	BLACK JACK	137		1,200,000	**1,200,000**
88	GIBRALTAR	138	143,368	1,040,795	**1,184,163**
144	LLOYD-NORDIK	139		1,174,930	**1,174,930**
268	TODD CREEK	140		1,134,360	**1,134,360**
119	HUNTER	141	933	1,132,056	**1,132,989**
280	VIDETTE	142	929,016	194,037	**1,123,053**
290	WINDPASS	143	1,071,684	10,979	**1,082,663**
204	RED ELEPHANT	144		1,079,731	**1,079,731**
123	INEL	145		1,079,449	**1,079,449**
7	ASHLU	146	205,126	765,730	**970,856**
298	YREKA	147	49,890	886,112	**936,002**
296	YELLOW KID	148	887,401		**887,401**
186	PELLAIRE	149		830,904	**830,904**
183	PACKSACK	150		810,000	**810,000**
215	SAMATOSUM	151	639,118	137,279	**776,395**
269	TOPLEY RICHFIELD	152	31	771,035	**771,066**
223	SHASTA	153	601,229	96,000	**697,229**
185	PAYDIRT	154		689,396	**689,396**
56	DAVID	155		682,560	**682,560**
176	NEW MOON	156		681,825	**681,825**
15	BEDWELL RIVER CAMP (3)	157	223,195	440,278	**663,473**
104	GRANITE SCHEELITE	158		658,917	**658,917**
126	JD (Toodoggone)	159		650,712	**650,712**
188	PHILIPS ARM CAMP (3)	160	172,808	473,200	**646,008**

TABLE 11 CONTINUED
1999 B.C. LODE TOTAL GOLD INVENTORY: BY RANK

File No.	DEPOSIT NAME	RANK	PRODUCTION (grams)	RESOURCES GOLD (grams)	**TOTAL GOLD (Prod. & Res.) (grams)**
158	METS	161		630,433	**630,433**
277	VELVET	162	620,785		**620,785**
17	BEND	163		611,919	**611,919**
122	INDIAN CHIEF	164	22,500	589,000	**611,500**
151	MAMIE	165		606,970	**606,970**
62	DUSTY MAC	166	606,006		**606,006**
143	LITTLE GEM	167		602,307	**602,307**
46	CHU CHUA (CC)	168	563,309		**563,309**
39	CARIBOO-HUDSON	169	161,300	401,657	**562,957**
14	BEAVERDELL CAMP (24)	170	540,000		**540,000**
107	HANK	171		521,583	**521,583**
140	L.H.	172	3,452	505,973	**509,425**
58	DIVIDEND-LAKEVIEW	173	504,396		**504,396**
254	SUNRO	174	203,101	292,410	**495,511**
232	SILVER STANDARD	175	464,632	25,850	**490,482**
26	BRANDYWINE CAMP (2)	176	346,967	13,884	**485,811**
28	BRETT	177		468,266	**468,266**
82	G-SOUTH (THUNDER, AHBAU CREEK)	178		462,621	**462,621**
273	VALENTINE MTN.	179	160		**450,862**
244	SPOKANE (Lawson)	180		450,169	**450,169**
226	SHERWOOD CAMP (2)	181	3,200	432,986	**436,186**
225	SHELL (CROY)	182		428,140	**428,140**
169	MOUNTAIN BOSS	183		421,800	**421,800**
84	GEORGE GOLD-COPPER	184		378,000	**378,000**
86	GERLE GOLD	185		340,163	**340,163**
274	VALPARAISO CAMP (2)	186	3,794	329,875	**333,669**
116	HORN SILVER	187	332,992		**332,992**
230	SILVER POND	188		327,560	**327,560**
90	GLACIER CREEK CAMP (6)	189	322,295	4,860	**327,155**
210	ROCHER DEBOULE	190	133,676	189,000	**322,676**
23	BLACKWATER-DAVIDSON	191		300,000	**300,000**
227	SILVER CUP CAMP (6)	192	191,684	101,903	**293,587**
220	SCRANTON CAMP (3)	193	123,343	166,078	**289,421**
262	TAY	194		284,348	**284,348**
181	OROFINO MTN. CAMP (2)	195	275,169		**275,169**
250	STUMP LAKE CAMP (5)	196	260,568		**260,568**
60	DOCTORS POINT	197		245,376	**245,376**
100	GRANBY POINT	198	233,585		**233,585**
266	THISTLE CAMP (4)	199	109,762	123,035	**232,797**
106	HALL CAMP (6)	200	217,440		**217,440**

TABLE 11 CONTINUED
1999 B.C. LODE TOTAL GOLD INVENTORY: BY RANK

File No.	DEPOSIT NAME	RANK	PRODUCTION (grams)	RESOURCES GOLD (grams)	**TOTAL GOLD (Prod. & Res.) (grams)**
117	HOWARD	201	212,121		**212,121**
238	SMITH-NASH	202		207,318	**207,318**
228	SILVER DAWN	203		198,876	**198,876**
264	TEDDY GLACIER	204	124	197,203	**197,327**
180	OLALLA CAMP (3)	205	4,977	186,591	**191,568**
221	SECOND RELIEF CAMP (4)	206	3,306,372		**3,306,372**
251	SULLIVAN	207	174,863		**174,863**
152	MARY MAC	208		165,689	**165,689**
63	DUTHIE CAMP (3)	209	110,400	50,235	**160,635**
69	ELIZABETH	210	156	158,358	**158,514**
114	HOMESTAKE	211	11,259	144,945	**156,204**
131	KALUM LAKE	212	375	151,887	**152,262**
99	GOLSKEISH (MAY)	213	149,109		**149,109**
147	LUCKY JIM	214	7,371	139,319	**146,690**
1	ABBOTT	215	81	138,232	**138,313**
216	SANDON CAMP (5)	216	128,927		**128,927**
33	BULL RIVER	217	126,123		**126,123**
218	SCOTIA	218		123,200	**123,200**
21	BLACK BULL	219	31	113,491	**113,522**
5	ALWIN	220	46,236	66,309	**112,545**
287	WHITEWATER CAMP (5)	221	106,325		**106,325**
92	GOAT	222	5,475	93,280	**98,755**
246	SPOUT LAKE	223		94,180	**94,180**
282	VILLALTA	224		93,202	**93,202**
40	CARMI CAMP (2)	225	93,124		**93,124**
182	OX-C	226		92,161	**92,161**
129	KALAMAKA	227	90,137		**90,137**
209	RIVERSIDE	228	81,911		**81,911**
48	COLUMBIA-EVENING SUN	229	31	81,420	**81,451**
41	CASINO RED CAP	230	81,334		**81,334**
247	ST. EUGENE	231	78,846		**78,846**
162	MOLLY HUGHES	232	25,790	52,618	**78,408**
25	BONAPARTE	233	77,914		**77,914**
53	CRAIGMONT	234	77,851		**77,851**
288	WHITE ELEPHANT	235	63,170		**63,170**
203	RED CLIFF	236	5,078	52,797	**57,875**
87	GIANT COPPER CAMP (2)	237	716	55,242	**55,958**
19	BIG SLIDE	238	39,904	13,948	**53,852**
127	JEDWAY CAMP (3)	239	53,496		**53,496**
184	PAULSON CAMP (6)	240	53,340		**53,340**

TABLE 11 CONTINUED
1999 B.C. LODE TOTAL GOLD INVENTORY: BY RANK

File No.	DEPOSIT NAME	RANK	PRODUCTION (grams)	RESOURCES GOLD (grams)	**TOTAL GOLD (Prod. & Res.) (grams)**
229	SILVER LAKE	241	0	51,300	**51,300**
279	VICTORIA	242	7,341	42,550	**49,891**
54	CRONIN	243	8,772	40,094	**48,866**
71	EMERALD GLACIER	244	1,524	46,104	**47,628**
93	GOLDSTREAM	245	42,363		**42,363**
187	PERRIER CAMP (2)	246	40,280		**40,280**
51	COPPER KING	247	36,793		**36,793**
200	RABBITT	248	33,516	2,118	**35,634**
165	MONITOR	249	31,820		**31,820**
66	EAST GOLD	250	31,694		**31,694**
120	HUNTER V	251	31,413		**31,413**
235	SILVERTON CAMP (2)	252	29,829		**29,829**
245	SPOKANE	253	29,639		**29,639**
12	BARNATO CAMP (4)	254	29,206		**29,206**
275	VANGUARD COPPER	255		28,320	**28,320**
194	PORTER-IDAHO	256	27,074		**27,074**
175	NETTIE L.	257	24,300		**24,300**
284	VIRGINIA SILVER	258	401	23,800	**24,201**
34	CALEDONIA	259		23,120	**23,120**
121	HUNTER BASIN CAMP (2)	260	22,966		**22,966**
96	GOLDEN CACHE (AMPLE/GOLDMAX)	261	22,611		**22,611**
293	WWW	262	22,484		**22,484**
142	LITTLE BERTH CAMP (3)	263	22,178		**22,178**
29	BRETT	264	21,400		**21,400**
47	COLUMARIO	265	21,150		**21,150**
179	NUGGET QUEEN	266	20,869		**20,869**
206	RED ROSE	267	19,300		**19,300**
130	KALAPPA CAMP (2)	268	18,630		**18,630**
263	TAYLOR-WINDFALL	269	14,525		**14,525**
208	RICE	270	14,494		**14,494**
157	METEOR CAMP (2)	271	14,079		**14,079**
8	AUFEAS	272	13,686		**13,686**
49	COMSTOCK	273	12,387		**12,387**
153	MARY MCQUILTON CAMP (2)	274	12,287		**12,287**
163	MONASHEE	275	11,415		**11,415**
237	SKINNER	276	11,351		**11,351**
154	MCPHEE	277	10,265		**10,265**
94	GOLD HILL CAMP (3)	278	9,424		**9,424**
213	RUTH-VERMONT	279	9,405		**9,405**
91	GLACIER GULCH (NORTH)	280	9,236		**9,236**

TABLE 11 CONTINUED
1999 B.C. LODE TOTAL GOLD INVENTORY: BY RANK

File No.	DEPOSIT NAME	RANK	PRODUCTION (grams)	RESOURCES GOLD (grams)	**TOTAL GOLD (Prod. & Res.) (grams)**
213	RUTH-VERMONT	281	9,405		**9,405**
91	GLACIER GULCH (NORTH)	282	9,236		**9,236**
159	MIDWAY	283	9,082		**9,082**
233	SILVER TIP	284	309	8,697	**9,005**
24	BLUEBELL	285	8,864		**8,864**
65	EARLY BIRD	286	8,739		**8,739**
75	ESPERANZA	287	7,993		**7,993**
198	QUEEN VICTORIA	288	7,651		**7,651**
281	VIEW FRACTION	289	7,473		**7,473**
115	HOMESTAKE	290	7,463		**7,463**
177	NO. ONE	291	7,371		**7,371**
164	MONEY SPINNER	292	6,812		**6,812**
253	SUNRISE	293	6,656		**6,656**
199	QUESNEL QUARTZ	294	6,438		**6,438**
81	FRENCH PEAK	295	124	6,312	**6,436**
68	EL ALAMEIN	296	6,252		**6,252**
148	LUCKY SEVEN	297	6,221		**6,221**
78	FIDDLER	298	5,785		**5,785**
2	ACACIA	299	5,754		**5,754**
248	ST. PAUL	300	5,630		**5,630**
10	BALTIC	301	5,567		**5,567**
286	WESTERN COPPER	302	5,319		**5,319**
278	VENUS	303	5,319		**5,319**

TABLE 12
1999 B.C. LODE TOTAL GOLD INVENTORY: TOP 25 BY RANK

RANK	DEPOSIT NAME	FILE NO.	PRODUCTION (grams)	RESOURCES (grams)	**TOTAL GOLD (Prod. & Res.) (grams)**
1	PROSPERITY	196		294,978,000	**294,978,000**
2	KEMESS CAMP (2)	133	2,393,000	186,307,210	**188,700,210**
3	BRIDGE RIVER CAMP (5)	30	129,390,995	13,924,423	**143,315,418**
4	MT. MILLIGAN	170		140,329,443	**140,329,443**
5	SULPHURETS CAMP (4)	252		137,900,245	**137,900,554**
6	SCHAFT CREEK	217		136,009,300	**136,009,300**
7	GALORE CREEK CAMP (3)	83		125,537,000	**125,537,000**
8	ESKAY CREEK	74	29,577,433	78,239,181	**107,816,614**
9	ROSSLAND CAMP (44)	212	86,530,000	15,638,903	**102,168,903**
10	HEDLEY CAMP (7)	111	76,735,496	211,172	**76,946,688**
11	BELL	16	12,885,964	59,200,000	**72,085,964**
12	PREMIER CAMP (9)	195	64,888,246	6,812,800	**71,701,046**
13	SPECOGNA	242	902	70,685,000	**70,685,902**
14	HOLBERG INLET CAMP (2)	113		69,900,580	**69,900,580**
15	WINDY CRAGGY	291		59,488,000	**59,488,000**
16	RED-CHRIS	202		55,883,000	**55,883,000**
17	POLARIS TAKU	191	7,203,579	44,799,000	**52,002,579**
18	TAURUS CAMP (2)	261	1,103,537	49,995,729	**51,099,266**
19	CARIBOO-BARKERVILLE CAMP (3)	38	38,321,509	11,627,649	**49,949,158**
20	KERR	20		45,900,000	**45,900,000**
21	GREENWOOD CAMP (53)	115	39,977,644	4,885,031	**44,862,675**
22	SIMILCO CAMP (3)	236	22,841,418	19,963,070	**42,804,488**
23	POISON MTN.	190		41,396,000	**41,396,000**
24	MORRISON	167		39,900,000	**39,900,000**
25	PINE	189		39,900,000	**39,900,000**
(3) - Number of deposits within a camp					
Total of top 25 total gold (70% of total gold)			511,849,723	1,749,410,736	**2,261,260,788**

CHAPTER 3 VEIN DEPOSITS

CLASSIFICATION AND GEOLOGICAL CHARACTERISTICS

Historically, veins have been the single most productive source of gold in British Columbia. Production from veins began in the 1890s and has more or less continued ever since. The tables in this report list both discrete veins that have a history of production and camps containing clusters of past-producing veins, some of which made major contributions to the local and provincial economies for fifty years or more. Most of the mines were underground operations that produced limited tonnages of high-grade ore.

The vein gold deposits of British Columbia have been discussed by Panteleyev (1991) and many others (*e.g.* Alldrick, 1996; Ash and Alldrick, 1996 and Lefebure and Church, 1996). Traditionally, they are classified as mesothermal or epithermal, according to inferred depth of formation. However, Lefebure and Ray (1995) and Lefebure and Höy (1996) subdivide vein, breccia and stockwork deposits into seventeen deposit types, based on different structural and compositional criteria. Within the class, they include four types that have a specific association with gold. They are: Au-quartz veins (I01) described by Ash and Alldrick (1996), intrusion-related Au-pyrrhotite veins (I02) described by Alldrick (1996), turbidite-hosted Au veins (I03) described by McMillan (1996a) and iron formation hosted Au (I04) deposits described by McMillan (1996b). Other vein types, including polymetallic veins Ag-Pb-Zn+/-Au (I05), described by Lefebure and Church (1996) and Cu+/-Ag quartz veins (I06) described by Lefebure (1996) are not specifically listed as gold deposits; however, they commonly contain a significant amount of the metal. In the current study, all of these deposit types are described under the heading of mesothermal veins.

The recent discovery of major intrusion-related Au-W-Bi vein deposits such as Fort Knox, Donlin Creek, Pogo and elsewhere in Alaska (McCoy *et al.*, 1997; Smith and Thompson, 1999; and Moore and Hitzman, 2000) and the Yukon Territory has stimulated exploration for this type of deposit in British Columbia. Prospective areas are outlined by Lefebure *et al.* (1999) and Logan (2000).

PRODUCTION

Total gold production from 439 vein deposits/camps to the end of 1998 amounts to 502 700 kilograms (16.16 million ounces) of gold. This represents 61.1% of total lode production in the province (50.2% - mesothermal; 10.9% - epithermal) (Table 4, Fig. 3). Vein deposits include many of the most important producers in the province. Among the top 25 producers in terms of overall output, notable mines and districts rank as follows: (1st) **Bridge River** camp (*e.g.* **Bralorne** and **Pioneer**), (2nd) **Rossland** camp, (4th) **Premier** camp, (6th) **Cariboo - Barkerville** camp, (8th) **Snip**, (10th) **Sheep Creek** camp, (14th) **Equity Silver**, (17th) **Surf Inlet**, (18th) **Zeballos** camp, (19th) **Table Mtn.** camp, (20th) **Golden Bear**, (21st) **Ymir** camp, (22nd) **Blackdome** and (23rd) **Polaris Taku** (Table 5).

RESOURCES AND TOTAL INVENTORY

Gold resources in 150 mesothermal and 25 epithermal vein deposits total 498 300 kilograms (16 million oz), accounting for 20.5% of identifiable lode-gold resources in British Columbia (Table 8; Fig. 5). Mesothermal and epithermal types account for 14.7 and 5.8% of lode gold resources respectively.

MESOTHERMAL VEIN DEPOSITS

Geological Characteristics

Mesothermal veins with quartz ± sulphides ± carbonate ± sericite are commonly found in high-strain zones in splays associated with regional structural breaks; some of which host ultramafic rocks. Locally, as at Rossland and the Snip mine, sulphide-rich veins appear to be associated with intrusions. Veins are commonly either massive or ribbon-banded. They contain variable amounts of sulphide, most commonly pyrite, pyrrhotite, arsenopyrite, chalcopyrite, sphalerite and galena and traces of gold, scheelite, bismuthenite, tetrahedrite, stibnite and tellurides (Panteleyev, 1991). Mesothermal veins commonly occur in clusters that may either contribute to the resource of a single mine or support a number of independent mines.

Production

The production and resource figures quoted in the current study are for individual operations unless otherwise specified. Production from 428 mesothermal vein deposits accounted for 413 100 kilograms (13.28 million oz) of gold, about 82% of the total from vein deposits (Table 13).

The **Bridge River** camp (Panteleyev, 1991; Church, 1995; Schiarizza *et al.*, 1997; Church and Jones, 1999a), includes the Bralorne and Pioneer gold mines (Leitch, 1990). It is the single most important gold producer in the

Canadian Cordillera, accounting for 129 400 kilograms (4.16 million oz).

The **Rossland** camp (Höy *et al.*, 1992) includes the famous **Centre Star** and **Le Roi** mines. It is the second largest mesothermal gold camp and also second largest historical gold producer in the province, accounting for 86 500 kilograms (2.78 million oz). Other major mesothermal vein camps include **Greenwood** (veins) (Church and Jones, 1997), **Cariboo - Barkerville** (Robert and Taylor, 1989), **Sheep Creek** (Mathews, 1953), **Zeballos**, **Table Mountain** and **Ymir**. Other high ranked individual deposits include **Snip**, **Equity Silver**, **Surf Inlet** and **Polaris Taku** (Table 5).

The **Snip** mine is an intrusion-related, shear-hosted vein deposit. Between 1991 and 1998, it produced 31 700 kilograms (1.02 million oz) of gold from 1 243 600 tonnes of ore milled. The deposit was mined out and closed in the spring of 1999.

The **Equity Silver mine** (Cyr *et al.*, 1984) is classified in this report as a mesothermal vein, formed in a transitional environment between porphyry and epithermal vein systems (Schroeter *et al.*, 1989). The deposit was mined primarily for silver but it also produced a significant amount of gold. Production between 1980 and 1994 totalled 2 219 500 kilograms (71.36 million oz) of silver, 15 800 kilograms (508 000 oz) of gold, and 84 000 kilograms of copper from 32 626 500 tonnes of ore milled.

Resources and Total Inventory

Currently the largest undeveloped mesothermal resource in British Columbia is the **Taurus** camp, with an estimated 50 000 kilograms (1.61 million oz) of gold (Table 15). The past-producing **Polaris Taku** deposit, in the Taku region, has an estimated resource of 44 800 kilograms (1.44 million oz) of gold. In December 1999, the **Red Mountain** deposit (18 800 kilogram or 6000 000 oz of gold) was acquired by North American Metals Corp. The company hopes to start production within the next few years. The **Bralorne** mine in the Bridge River camp also has a significant undeveloped resource.

Total gold inventory (defined as production plus resources) for 575 mesothermal and 34 epithermal deposits amounts to 1 001 000 kilograms (32.18 million oz) of gold, accounting for 30.8% (23.7% - mesothermal; 7.1% - epithermal) (Table 9; Fig. 6) of known provincial resources. In terms of overall total gold inventory rank in British Columbia, **Bridge River** camp (3rd), **Sulphurets** camp (5th), **Rossland** camp (9th), **Premier** camp (12th), **Specogna** (13th), **Polaris Taku** (17th), **Taurus** camp (18th), **Cariboo - Barkerville** camp (19th), are included in the top 25 (Tables 5, 17 and 18).

Exploration and Development Activity - Deposit Updates

Although little exploration took place in the **Bridge River** area in the 1990s, the owners of the **Bralorne-Pioneer** property applied for a Mine Development Certificate in 1994 and installed a 150-tonne per day processing plant at the Bralorne minesite in 1996. They plan to process ore from a recently discovered, near-surface vein as well as from reserves remaining close to currently accessible underground workings.

The **Cariboo Gold Quartz** deposit in the Cariboo-Barkerville camp received significant exploration in the 1990s and is currently in the Environmental Assessment Process. International Wayside Gold Mines Ltd. is proposing a combination of underground and open-pit mining. Exploration is also being conducted on the former **Mosquito Creek** gold deposit.

The **Privateer** mine at **Zeballos** has seen intermittent production since the 1930s and it was last explored in the late 1980s when the operator of the day built a 50-tonne per day mill and gravity circuit. The mill is still operational and was rehabilitated by the current owner in 1998.

Other camps have been less productive than the above but are still of exploration interest. Ray (1990) describes the geology and mineralization of the **Coquihalla Gold Belt**, near Hope, which contains several small past-producers, including the **Ladner Creek** (Carolin) mine. The operation closed in 1984, leaving a small established reserve and a nominal 1360-tonne per day mill. Between 1995 and 1997, new owners (Athabaska Gold) conducted underground and surface drilling programs that significantly increased the gold resource.

The **Debbie** camp near Port Alberni, which includes the **Mineral Creek** deposit, saw significant exploration and underground development in the 1980s. However, little work was done in the 1990s beyond the removal of a small bulk sample from the Debbie 900 zone.

During the 1990s, small tonnages of high-grade gold ore from the **Midnight**, **Iron Colt**, and **Evening Star** mines in the **Rossland** camp were shipped to the Kettle River mill in Republic, Washington. Exploration drilling was also completed on the **Blue Bird** (**Mayflower**), **Gertrude** (adjacent to the **War Eagle** mine), **Georgia** and **New North** areas in the South Belt. The largest exploration and development program was on the **Iron Colt** property, in search of an eastern extension to the main Le Roi vein system.

During the 1990s Canarc Resource Corporation explored the **Polaris Taku** deposit, culminating with a multi-million dollar underground exploration and development program in 1997. A significant underground resource was established and a prefeasibility study completed. Road access from Atlin to the proposed Tulsequah Chief mine, and other related infrastructure, would also benefit the Polaris Taku project.

Between 1995 and 1996, Cyprus Canada Inc., under a joint venture agreement with International Taurus Inc. and Cusac Gold Mines Ltd., completed major drilling programs on the **Taurus** property. They delineated a large tonnage, low-grade resource in the vicinity of the Sable and Plaza underground workings (Panteleyev *et al.*, 1997). In July, 1996 Cyprus withdrew from the agreement and International Taurus established a joint venture with

Cusac Gold Mines. Limited work programs were conducted in 1998 and 1999.

The discovery of the Marc zone on the **Red Mountain** gold property (Rhys *et al.*, 1995) by Bond Gold Canada Inc. led to major exploration programs between 1989 and 1994. Barrick Gold Corp. acquired ownership of the property in September 1994, as a result of its takeover of Bond Gold's successor Lac Minerals Ltd. In 1995, Royal Oak Mines Inc., acquired the property and the following year it completed a significant exploration program. However, no further work has been done as it then decided to concentrate on its Kemess property in the Toodoggone region. In December 1999, North American Metals Corp., an 89% owned subsidiary of Wheaton River Minerals Ltd., reached an agreement with the interim receiver of Royal Oak Mines Inc. to buy the gold project. Approximately US$38 million has been spent by past operators. Wheaton River intends to undertake a feasibility study.

Between 1989 and 1992, Fairfield Minerals Ltd. explored the **Elk** deposit, and in 1992 it submitted the project to the Mine Development Review Process. Between 1992 and 1996, surface bulk-sampling was conducted with material processed off-site. Exploration during that period identified new veins, as well as confirming a significant underground resource below the mined-out pit.

EPITHERMAL VEIN DEPOSITS

Geological Characteristics

Epithermal veins display characteristics that set them apart from their deeper, mesothermal counterparts (Panteleyev, 1986; 1991). Lefebure and Höy (1995) refer to nine varieties of epithermal deposit of which four are notably auriferous. They are the hotspring Au-Ag (H03); epithermal Au-Ag-Cu; high sulphidation (H04); epithermal Au-Ag; low sulphidation (H05) types described by Panteleyev (1996a, 1996b and 1996c) and the alkalic intrusion-associated Au (H08) type described by Schroeter and Cameron (1996).

Epithermal deposits are most often found in relatively young, subaerial volcanic and shallow-water sedimentary rocks; although, they also occur in other geological environments. They occur as quartz and/or quartz-adularia or quartz-alunite veins and vein stockworks formed from relatively cool (<300 ^{o}C) fluids circulating at shallow depth below the land surface. The quartz is commonly chalcedonic, banded, brecciated and vuggy and locally shows evidence of multiple episodes of boiling. Epithermal deposits occur as sulphide-rich and sulphide-poor varieties. Both typically contain pyrite, electrum, native gold and silver, silver sulphosalts, tetrahedrite, tennantite and enargite as well as small amounts of sphalerite, galena and chalcopyrite. Epithermal deposits also commonly contain geochemically significant amounts of antimony, arsenic and mercury (Panteleyev, 1991).

Production

The 11 epithermal vein camps/deposits in British Columbia produced 89 600 kilograms (2.88 million oz) of gold, or about 18% of the total gold production from vein sources (Table 14).

The **Premier** camp (McDonald, 1990) is the largest epithermal producer, accounting for 64 900 kilograms (2.09 million oz) of gold and 1 337 400 kilograms (43 million oz) of silver; this is 72% of total epithermal gold production. Gold mines in the Premier camp have been inactive since the closure of the Premier mine.

The **Golden Bear** mine is here classified as an epithermal vein, although it has many similarities to Carlin-type deposits (Brown *et al*., 1999). It produced 6800 kilograms (218 000 oz) of gold from refractory ore from underground and open-cut mining, between 1990 and 1994. In 1997, 1998 and 1999 it produced 952 kilograms (30 600 oz), 1123 kilograms (36 100 oz), and 2218 kilograms (71 300 oz) respectively, from two heap-leach pads. The leaching process is seasonal, operating from June to September. This is the only heap leaching operation in the province.

The **Baker** and **Lawyers** mines, in the Toodoggone region, produced in the early 1980s and early 1990s, respectively. Exploration in the region has continued intermittently since the mid 1970s.

The **Blackdome** mine re-opened in November, 1998 but closed in the spring of 1999 due to the low price of gold.

Resources and Total Inventory

The largest undeveloped epithermal resources are the **Specogna** (Cinola) deposit (8th overall in resources rank) on the Queen Charlotte Islands, and the **Sulphurets camp** (Brucejack Lake) (part of 4th overall in resources rank). Specogna contains an estimated gold resource of 70 700 kilograms (2.27 million oz); Sulphurets, an estimated 23 000 kilograms (739 500 oz). Heap-leach gold recovery will continue at **Golden Bear** (34th overall in resources rank) until 2002. A number of significant epithermal gold deposits have been outlined in the Toodoggone region (*e.g.* Lawyers, Shasta and Al, Table 6).

Exploration and Development Activity - Deposit Updates

Due to low gold prices, the **Premier** mine closed in 1996, and is on care and maintenance status. Exploration during the last year of operation identified a relatively small gold resource. In 1998, Boliden Ltd. assumed control of the mine, which has a fully permitted mill (with a milling capacity of 2200 tonnes per day) and a tailings pond. This infrastructure has good access to tidewater at Stewart, and is potentially a very valuable asset for the region.

In the Tatsamenie Lake area, regional gold exploration, principally by Chevron Minerals Ltd. in the mid-late

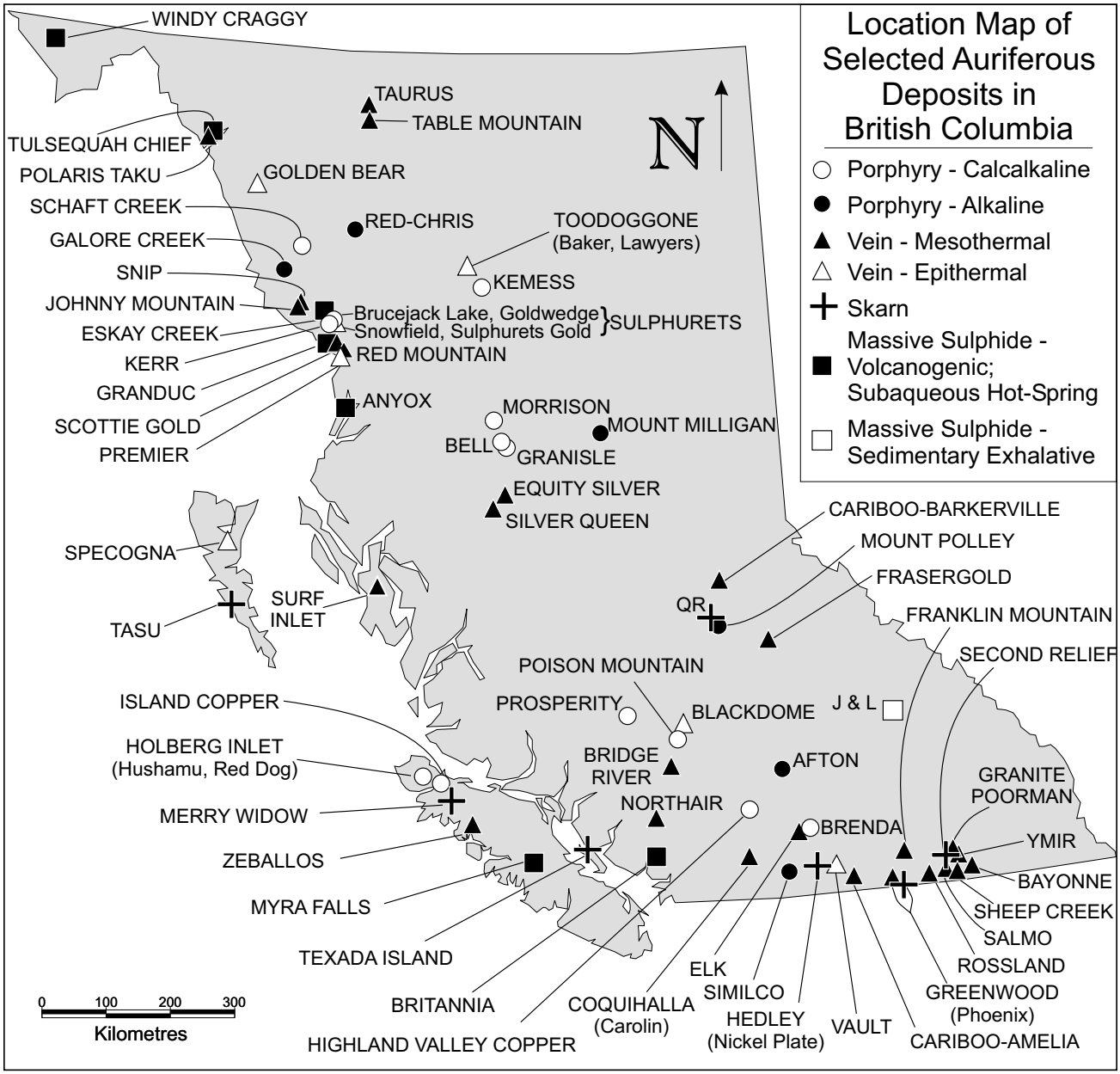


Figure 8. Location map of selected auriferous deposits in British Columbia: by deposit type.

1980s and by Homestake Mining (B.C.) Ltd. in the late 1980s to early 1990s, led to the discovery of the **Golden Bear** mine, as well as several other significant gold prospects. A 156-kilometre access road from Dease Lake, and an airstrip, were constructed and provide access to the mine and the region in general. Heap leaching is forecast to continue until 2002. During the 1990s there has been very little exploration in the region.

The **Specogna** (Cinola) deposit on the Queen Charlotte Islands (Christie, 1989) was drilled in the late 1970s and early 1980s, and the then owners applied for a Mine Development Certificate. The current operator redrilled the property between 1995 and 1997, with angled holes better suited to determine the grade of a suite of higher, locally bonanza-grade quartz veins. It also conducted metallurgical studies, revised the resource estimate and conducted prefeasibility studies.

The **Sulphurets camp** contains numerous high-grade auriferous epithermal quartz veins, most notably on the **Brucejack Lake** and **Goldwedge** properties

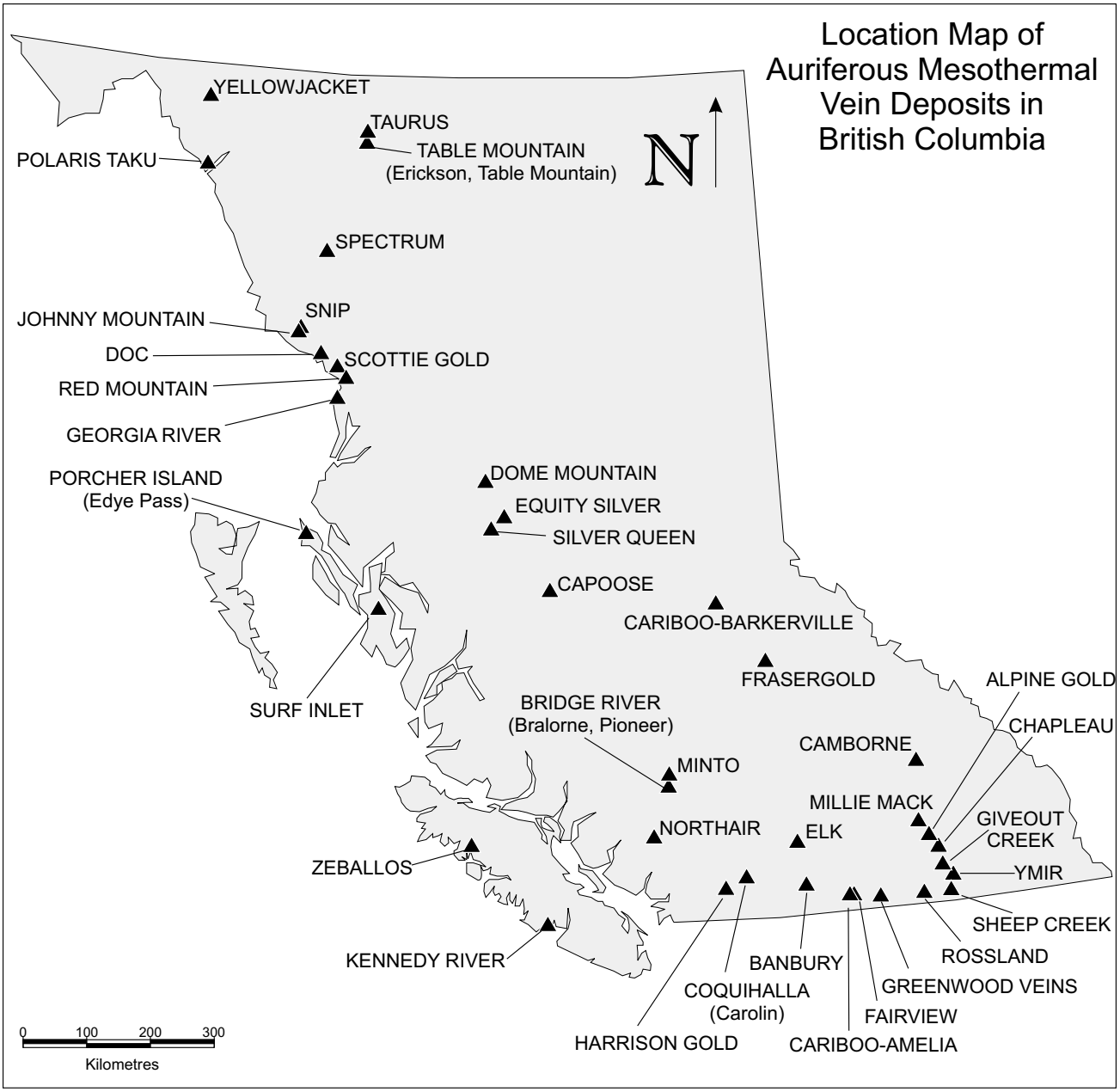


Figure 9. Location map of auriferous mesothermal vein deposits in British Columbia.

(Kirkham and Margolis, 1995). Most of the veins were discovered in the mid-to late 1980s, following the gradual melting of icefields in this area over the previous 25 years. During the late 1980s to mid-1990s, Newhawk Gold Mines Ltd. identified over 40 zones of gold-silver mineralization and completed extensive drilling and underground drifting on the West zone of the Brucejack Lake property. This work established a significant gold-silver resource and the project received a Mine Development Certificate in 1995. In 1999 Silver Standard Resources Inc. purchased the property. The high-grade **Goldwedge** property produced for two years (1982, 1985); however, despite the existence of additional resources, no further mining has occurred.

Following discovery of auriferous quartz veins on its **Tsacha** property in 1994, Teck Corporation completed significant drilling programs during 1995 and 1996. This led to the delineation of a modest gold resource. Minor exploration programs were also completed during 1997and 1998.

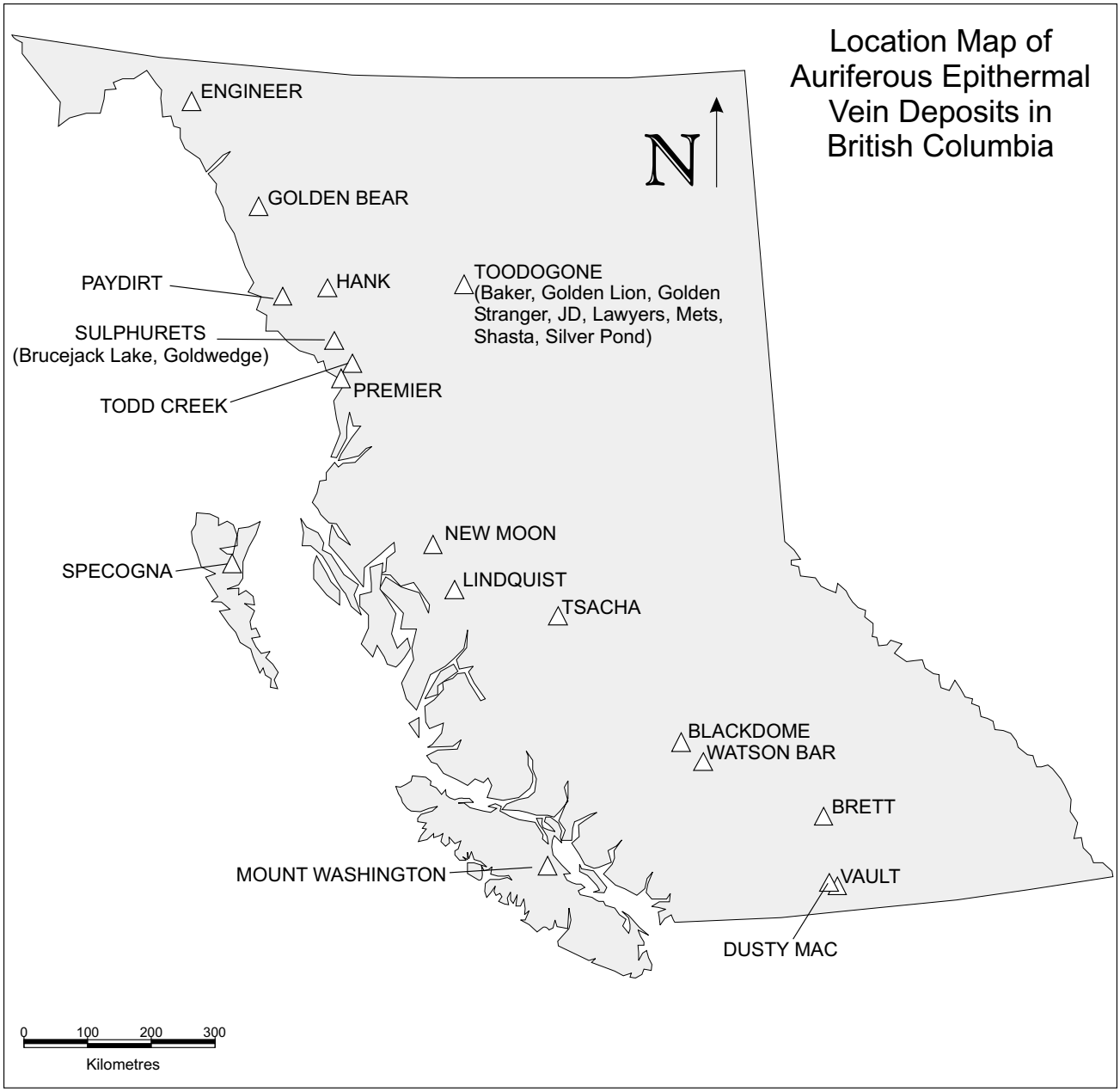


Figure 10. Location map of auriferous epithermal vein deposits in British Columbia.

In the Okanagan region, the **Brett** and **Vault** gold deposits were discovered in 1989 and both saw modest exploration programs during the early to mid-1990s. Resources were established for both projects.

TABLE 13
B.C. LODE GOLD PRODUCTION (1890-1998):
VEINS - MESOTHERMAL

File No.	DEPOSIT NAME	YEARS OF PRODUCTION (producing = *)	RANK (Prod.)	TONNES MINED OR MILLED	**GOLD (grams)**	SILVER (grams)	GOLD RESOURCES (grams)	TOTAL GOLD (Prod. + Res.) (grams)
30	BRIDGE RIVER CAMP (5)	1899-1983	1	7,261,758	**129,390,995**	29,613,140	13,924,423	143,315,418
212	ROSSLAND CAMP (44)	1897-1984	2	5,570,000	**86,530,000**	110,240,000	15,638,903	102,168,903
38	CARIBOO-BARKVERVILLE CAMP (3)	1902-1987	6	2,744,790	**38,321,509**	4,650,641	11,627,649	49,949,158
239	SNIP	1991-1998*	8	1,243,646	**31,741,068**	121,830,900	1,371,651	33,112,719
224	SHEEP CREEK CAMP (12)	1899-1985	11	2,471,527	**23,101,689**	9,102,786	779,037	23,880,726
73	EQUITY SILVER	1980-1994	14	32,626,492	**15,801,709**	2,219,480,555		15,801,709
255	SURF INLET	1902-1943	17	904,085	**12,095,368**	6,258,235	1,653,450	13,748,818
299	ZEBALLOS CAMP (18)	1934-1975	18	610,000	**9,154,249**	3,882,835	4,964,152	14,118,401
256	TABLE MTN. CAMP (2)	1939-1998*	19	635,193	**9,072,882**	2,987,237	876,099	9,948,981
297	YMIR CAMP (12)	1899-1973	21	693,639	**8,298,227**	42,968,544	9,003,504	17,301,731
191	POLARIS TAKU	1938-1951	23	689,090	**7,203,579**	365,772	44,799,000	52,002,579
178	NORTHAIR	1974-1982	27	475,042	**5,181,231**	26,308,611	536,365	5,717,596
219	SCOTTIE GOLD	1981-1985	33	160,264	**2,984,054**	1,625,145	536,642	3,520,696
128	JOHNNY MTN CAMP (2)	1988-1993	35	227,247	**2,815,393**	4,348,814	2,883,936	5,699,329
37	CARIBOO-AMELIA	1894-1962	36	112,254	**2,538,101**	1,008,979	769,201	3,307,302
105 (C-J)	GREENWOOD CAMP VEINS (35)	1893-1989	*5	275,489	**2,481,045**	74,619,529	2,199,424	4,680,469
103	GRANITE POORMAN CAMP (6)	1890-1963	40	163,138	**2,060,763**	1,999,556	151,197	2,211,960
214	SALMO CAMP (7)	1897-1981	42	26,814	**1,997,000**	6,662,060	296,045	2,293,045
79	FRANKLIN MTN. CAMP (2)	1913-1988	43	203,292	**1,733,948**	43,319,344	35,200	1,769,148
52	COQUIHALLA CAMP (5)	1916-1984	44	904,631	**1,581,523**	135,432	8,565,245	10,146,768
70	ELK	1992-1996	45	14,730	**1,518,777**	1,903,000	3,082,290	4,601,067
13	BAYONNE CAMP (2)	1935-1984	47	78,230	**1,311,970**	3,753,282	422,790	1,734,760
261	TAURUS CAMP (2)	1960-1988	50	290,052	**1,103,537**	93	49,995,729	51,099,266
290	WINDPASS	1916-1944	51	73,319	**1,071,684**	53,469	10,979	1,082,663
35	CAMBORNE CAMP (4)	1903-1989	52	179,664	**965,260**	53,770,514	1,978,456	2,943,716
280	VIDETTE	1933-1940	53	48,980	**929,016**	1,448,561	194,037	1,123,053
89	GIVEOUT CREEK CAMP (6)	1889-1949	55	228,261	**826,922**	138,639,852	2,162,630	2,989,552
76	FAIRVIEW CAMP (5)	1893-1976	56	157,476	**758,301**	6,958,768	3,661,662	4,419,963
161	MINTO CAMP (4)	1915-1940	57	117,008	**714,807**	1,600,684	7,435,863	8,150,670
193	PORCHER ISLAND CAMP (2)	1919-1939	58	34,455	**639,914**	225,994	9,476,157	10,116,071
215	SAMATOSUM	1989-1992	59	554,873	**639,116**	429,356,776	137,279	776,395
277	VELVET	1901-1964	60	21,613	**620,785**	664,359		620,785
14	BEAVERDELL CAMP (24)	1901-1990	64	1,220,000	**540,000**	1,226,620,000		540,000
232	SILVER STANDARD	1913-1988	66	167,794	**464,632**	23,738,811	25,850	490,482
61	DOME MOUNTAIN CAMP (3)	1940-1992	67	36,209	**373,478**	157,607	3,463,443	3,836,921
4	ALPINE GOLD	1915-1988	68	17,108	**356,360**	222,044	2,609,850	2,966,210
26	BRANDYWINE CAMP (2)	1970-1978	69	20,385	**346,967**	1,231,069	138,844	485,811
116	HORN SILVER	1915-1984	70	433,396	**332,992**	127,194,850		332,992
90	GLACIER CREEK CAMP (6)	1911-1925	71	53,884	**322,295**	11,423,946	4,860	327,155
181	OROFINO MTN. CAMP (2)	1899-1942	72	19,882	**275,169**	74,461		275,169
250	STUMP LAKE CAMP (5)	1900-1998*	73	71,948	**260,568**	7,887,898		260,568
100	GRANBY POINT	1917-1938	74	142,920	**233,585**	7,910,240		233,585
15	BEDWELL RIVER CAMP (3)	1941-1975	75	10,646	**223,195**	181,860	440,278	663,473
106	HALL CAMP (6)	1896-1973	76	8,929	**217,440**	105,529		217,440
117	HOWARD	1937-1970	77	19,806	**212,121**	1,613,871		212,121

TABLE 13 CONTINUED
B.C. LODE GOLD PRODUCTION (1890-1998):
VEINS - MESOTHERMAL

File No.	DEPOSIT NAME	YEARS OF PRODUCTION (producing = *)	RANK (Prod.)	TONNES MINED OR MILLED	**GOLD (grams)**	SILVER (grams)	GOLD RESOURCES (grams)	TOTAL GOLD (Prod. + Res.) (grams)
7	ASHLU	1932-1939	78	13,688	**205,126**	235,700	765,730	970,856
227	SILVER CUP CAMP (6)	1895-1988	80	22,740	**191,684**	45,287,921	101,903	293,587
221 B,C)	SECOND RELIEF CAMP (2)	1897-1969	*32	5,672	**188,735**	48,177		188,735
188	PHILIPS ARM CAMP (2)	1898-1940	82	11,323	**172,808**	384,902	473,200	646,008
39	CARIBOO-HUDSON	1938-1939	84	12,240	**161,300**	81,677	401,657	562,957
99	GOLSKEISH (MAY)	1918-1929	85	47,846	**149,109**	822,053		149,109
210	ROCHER DEBOULE	1915-1954	87	36,457	**133,676**	2,167,780	189,000	322,676
216	SANDON CAMP (5)	1893-1985	89	381,343	**128,927**	445,238,725		128,927
33	BULL RIVER	1972-1974	90	471,899	**126,123**	6,353,628		126,123
220	SCRANTON CAMP (3)	1899-1979	91	27,103	**123,343**	4,090,798	166,078	289,421
63	DUTHIE CAMP (3)	1923-1989	92	75,542	**110,400**	56,029,135	50,235	160,635
266	THISTLE CAMP (4)	1936-1950	93	8,947	**109,762**	139,280	123,035	232,797
287	WHITEWATER CAMP (5)	1892-1980	94	481,827	**106,325**	113,518,367		106,325
231	SILVER QUEEN	1972-1973	95	190,676	**98,192**	13,647,903	4,209,500	4,307,692
40	CARMI CAMP (2)	1901-1940	96	4,980	**93,124**	300,922		93,124
129	KALAMAKA	1935-1944	97	6,592	**90,137**	108,052		90,137
209	RIVERSIDE	1927-1950	98	25,158	**81,911**	2,975,847		81,911
41	CASINO RED CAP	1951-1965	99	5,514	**81,334**	23,949		81,334
247	ST. EUGENE	1899-1929	100	1,460,977	**78,846**	182,690,658		78,846
25	BONAPARTE	1994	101	2,720	**77,914**	34,992		77,914
288	WHITE ELEPHANT	1922-1935	103	4,833	**63,170**	9,549		63,170
43	CHAPLEAU CAMP (2)	1896-1941	104	2,417	**59,095**	434,664	6,726,312	6,785,407
184	PAULSON CAMP (6)	1902-1940	106	5,120	**53,340**	271,497		53,340
5	ALWIN (O.K., CHATAWAY)	1916-1982	108	233,076	**46,236**	2,719,906	66,309	112,545
77	FANDORA CAMP (22)	1960-1964	109	972	**45,660**	8,367	2,311,469	2,357,129
187	PERRIER CAMP (2)	1913-1946	111	391	**40,280**	110,043		40,280
19	BIG SLIDE	1934-1940	112	6,895	**39,904**	76,607	13,948	53,852
51	COPPER KING	1901-1940	113	6,768	**36,793**	71,226		36,793
200	RABBITT	1939-1941	114	1,304	**33,516**	18,164	2,118	35,634
165	MONITOR	1898-1958	115	4,979	**31,820**	12,783,836		31,820
66	EAST GOLD	1949-1965	116	31	**31,694**	98,627		31,694
109	HARRISON GOLD	1973-1981	117	680	**31,590**	10,139	7,040,000	7,071,590
235	SILVERTON CAMP (2)	1893-1969	119	128,616	**29,829**	364,920,381		29,829
245	SPOKANE	1915-1956	120	1,733	**29,639**	570,988		29,639
11	BANBURY	1937	121	5,987	**29,423**	13,374	7,416,770	7,446,193
12	BARNATO CAMP (4)	1933-1967	122	951	**29,206**	26,591		29,206
194	PORTER-IDAHO	1922-1981	123	27,290	**27,074**	73,431,978		27,074
162	MOLLY HUGHES	1899-1980	124	2,578	**25,790**	9,448,400	52,618	78,408
175	NETTIE L.	1899-1922	125	11,628	**24,300**	14,284,000		24,300
121	HUNTER BASIN CAMP (2)	1951-1941	126	561	**22,966**	1,410,550		22,966
96	GOLDEN CACHE	1937	127	2,789	**22,611**			22,611
293	WWW	1899-1985	129	98	**22,484**	39,143		22,484
142	LITTLE BERTHA CAMP (3)	1900-1941	130	1,975	**22,178**	201,889		22,178
29	BRETT	1900-1962	131	8,990	**21,400**			21,400
47	COLUMARIO	1934-1935	132	2,721	**21,150**	58,101		21,150
179	NUGGET QUEEN	1940-1949	133	609	**20,869**	44,758		20,869

TABLE 13 CONTINUED
B.C. LODE GOLD PRODUCTION (1890-1998):
VEINS - MESOTHERMAL

File No.	DEPOSIT NAME	YEARS OF PRODUCTION (producing = *)	RANK (Prod.)	TONNES MINED OR MILLED	**GOLD (grams)**	SILVER (grams)	GOLD RESOURCES (grams)	TOTAL GOLD (Prod. + Res.) (grams)
206	RED ROSE	1942-1954	134	110,828	**19,300**	26,800		19,300
130	KALAPPA CAMP (2)	1913-1914	135	1,389	**18,630**	111,038		18,630
263	TAYLOR-WINDFALL	1932-1954	136	553	**14,525**	156		14,525
208	RICE	1973-1974	137	1,481	**14,494**	13,405		14,494
157	METEOR CAMP (2)	1897-1985	138	1,926	**14,079**	4,891,178		14,079
8	AUFEAS	1937-1941	139	487	**13,686**	18,226		13,686
49	COMSTOCK	1898-1988	140	455	**12,387**	1,687,774		12,387
153	MARY MCQUILTON CAMP (2)	1935-1938	141	141	**12,287**	6,160		12,287
163	MONASHEE	1939-1940	142	1,421	**11,415**	50,916		11,415
237	SKINNER	1992-1995	143	172	**11,351**			11,351
154	MCPHEE	1936-1941	145	144	**10,265**	1,772		10,265
85	GEORGIA RIVER	1937	146	454	**10,233**	12,752	7,538,001	7,548,234
160	MILLIE MACK	1899-1979	147	382	**9,829**	671,794	7,386,515	7,396,344
134	KENNEDY RIVER CAMP (5)	1902-1915	148	396	**9,704**	4,819	3,512,064	3,521,768
57	DEBBIE CAMP	1898-1936	149	365	**9,425**	1,679	1,439,614	1,449,039
94	GOLD HILL CAMP (3)	1903-1925	150	115	**9,424**	7,837		9,424
213	RUTH-VERMONT	1892-1981	151	176,084	**9,405**	17,247,989		9,405
91	GLACIER GULCH (NORTH)	1933-1939	152	165	**9,236**	36,919		9,236
159	MIDWAY	1933-1962	153	1,168	**9,082**	85,534		9,082
65	EARLY BIRD	1913-1939	155	159	**8,739**	1,244		8,739
54	CRONIN	1914-1974	156	24,386	**8,772**	8,169,918	40,094	48,866
75	ESPERANZA	1911-1948	157	4,524	**7,993**	4,451,307		7,993
198	QUEEN VICTORIA	1907-1961	158	45,352	**7,651**	950,010		7,651
281	VIEW FRACTION	1974-1975	159	157	**7,473**	177,281		7,473
115	HOMESTAKE	1903-1971	160	363	**7,463**	976,790		7,463
177	NO. ONE	1889-1929	161	36,441	**7,371**	62,014,685		7,371
279	VICTORIA	1926-1940	163	51	**7,341**		42,550	49,891
164	MONEY SPINNER	1897-1938	164	1	**6,812**	1,524		6,812
253	SUNRISE	1915-1980	165	527	**6,656**	393,205		6,656
199	QUESNEL QUARTZ	1932-1939	166	2,048	**6,438**	8,553		6,438
68	EL ALAMEIN	1949-1951	167	1	**6,252**	778		6,252
148	LUCKY SEVEN	1918	168	91	**6,221**			6,221
270	TRUE FISSURE	1908-1944	169	4,605	**6,158**	1,310,929	2,608,995	2,615,153
78	FIDDLER	1926-1952	170	564	**5,785**	22,705		5,785
2	ACACIA	1945	171	99	**5,754**	1,680		5,754
248	ST. PAUL	1914-1973	172	392	**5,630**	112,406		5,630
10	BALTIC	1934-1938	173	130	**5,567**	10,294		5,567
92	GOAT	1975-1981	174	3,186	**5,475**	1,794,049	93,280	98,755
278	VENUS	1916-1959	175	362	**5,319**	28,459		5,319
286	WESTERN COPPER	1928-1929	176	215	**5,319**	45,193		5,319
203	RED CLIFF	1912-1973	177	3,768	**5,078**	2,054	52,797	57,875
180	OLALLA CAMP (3)	1948	178	1,610	**4,977**	35,363	186,591	191,568
241	SPANISH MOUNTAIN (CPW)	1947-1992	179	639	**4,946**	1,306	1,634,412	1,639,358
274	VALPARAISO CAMP (2)	1900-1955	180	508	**3,794**	42,580	329,875	333,669
140	L.H.	1939	181	196	**3,452**	1,928	505,973	509,425
226	SHERWOOD CAMP (2)	1942	182	25	**3,200**	3,110	432,986	436,186

TABLE 13 CONTINUED
B.C. LODE GOLD PRODUCTION (1890-1998):
VEINS - MESOTHERMAL

File No.	DEPOSIT NAME	YEARS OF PRODUCTION (producing = *)	RANK (Prod.)	TONNES MINED OR MILLED	**GOLD (grams)**	SILVER (grams)	GOLD RESOURCES (grams)	TOTAL GOLD (Prod. + Res.) (grams)
71	EMERALD GLACIER	1951-1988	183	8,293	**1,524**	2,596,915	46,104	47,628
44	CHAPUT (LUMBY)	1968-1976	184	1,694	**1,214**	1,697,290	2,285,640	2,286,854
119	HUNTER	1933	185	3	**933**	373	1,132,056	1,132,989
284	VIRGINIA SILVER	1975-1976	186	249	**401**	697,952	23,800	24,201
131	KALUM LAKE	1940	187	10	**375**	560	151,887	152,262
233	SILVER TIP	1949, 1951	188	23	**308**	57,909	8,697	9,005
273	VALENTINE MTN.	1984	189	6	**160**	2,541	450,702	450,862
69	ELIZABETH	1958	190	8	**156**	156	158,358	158,514
264	TEDDY GLACIER	1928	191	5	**124**	2,302	197,203	197,327
81	FRENCH PEAK	1964-1974	192	52	**124**	388,415	6,312	6,436
1	ABBOTT	1988	193	1,031	**81**	10,677	138,232	138,313
21	BLACK BULL (CROESUS, GEM)	1940-1942	194	3	**31**	62	113,491	113,522
48	COLUMBIA-EVENING SUN	1913	195	10	**31**	78,473	81,420	81,451
269	TOPLEY RICHFIELD	1938-1953	196	43	**31**	26,998	771,035	771,066
229	SILVER LAKE	1913	197	2		5,412	51,300	51,300
TOTALS:				66,217,153	**413,113,903**	6,224,389,031	267,381,986	680,495,889

*** = Part of Camp**

TABLE 14
B.C. LODE GOLD PRODUCTION (1890-1998): VEINS - EPITHERMAL

File No.	DEPOSIT NAME	YEARS OF PRODUCTION (producing = *)	RANK (Prod.)	TONNES MINED OR MILLED	**GOLD (grams)**	SILVER (grams)	COPPER (kilograms)	GOLD RESOURCES (grams)	**TOTAL GOLD (Prod. + Res.) (grams)**
195	PREMIER CAMP (9)	1918-1979	4	8,900,022	**64,888,246**	1,337,373,655	1,853,101	6,812,800	71,701,046
95	GOLDEN BEAR	1990-1998*	20	1,313,002	**8,865,578**	1,716,107		13,682,040	22,547,618
20	BLACKDOME	1986-1998*	22	338,440	**7,254,945**	25,723,176		3,101,140	10,356,085
139	LAWYERS (+ AL + METS)	1989-1992	26	619,869	**5,401,981**	113,184,127			5,401,981
9	BAKER	1980-1997	48	81,878	**1,283,973**	23,812,573	13,076		1,283,973
62	DUSTY MAC	1969, 1975	61	93,372	**606,006**	10,552,750	2,432		606,006
223	SHASTA	1989-1991	62	122,533	**601,229**	32,932,044		96,000	697,229
72	ENGINEER	1913-1952, 1995	63	14,263	**561,659**	278,373		680,000	1,241,659
172	MT. WASHINGTON	1961-1967	88	359,330	**130,788**	7,235,180	3,548,191	3,714,512	3,845,300
242	SPECOGNA (CINOLA)	1975, 1981	N/A	6	**902**	529		70,685,000	70,685,902
252 D)	SULPHURETS CAMP	1982, 1985	N/A	300	**309**			22,995,752	22,996,061
		TOTALS:		11,843,015	**89,595,616**	1,552,808,514	5,416,800	121,767,244	211,362,860

TABLE 15
B.C. LODE GOLD RESOURCES: VEINS - MESOTHERMAL

DEPOSIT NAME	File No.	RESOURCES (tonnes)	GOLD GRADE (g/t)	**RESOURCES GOLD (grams)**	RANK (Res.)	TOTAL GOLD (Prod. + Res.) (grams)
TAURUS CAMP (2)	261	62,406,549		**49,995,729**	13	51,099,266
POLARIS TAKU (New Polaris)	191	3,270,000	13.7	**44,799,000**	15	52,002,579
FRASERGOLD	80	12,000,000	1.85	**22,200,000**	25	22,200,000
RED MOUNTAIN	205	1,921,880	9.8	**18,832,464**	28	18,832,464
ROSSLAND CAMP (4)	212	1,936,524		**15,638,903**	30	102,168,903
BRIDGE RIVER CAMP (3)	30	876,023		**13,924,423**	33	143,315,418
CARIBOO-BARKERVILLE CAMP (2)	38	3,120,140		**11,627,649**	37	49,949,158
PORCHER ISLAND	193B	1,381,364	6.86	**9,476,157**	39	10,116,071
YMIR CAMP (2)	297	927,589		**9,003,504**	40	17,301,731
COQUIHALLA CAMP (3)	52	2,406,335		**8,565,245**	43	10,146,768
CAPOOSE	36	28,301,520	0.3	**8,490,456**	44	8,490,456
GEORGIA RIVER	85	272,130	27.7	**7,538,001**	46	7,548,234
MINTO CAMP (3)	161	1,120,463		**7,435,863**	47	8,150,670
BANBURY	11	3,778,500	1.57	**7,418,770**	48	7,446,193
MILLIE MACK	160	1,542,070	4.79	**7,386,515**	50	7,396,344
HARRISON GOLD	109	2,200,000	3.2	**7,040,000**	52	7,071,590
CHAPLEAU CAMP	43	653,040	10.3	**6,726,312**	54	6,785,407
SPECTRUM CAMP (2)	243	516,320		**4,984,320**	58	4,984,320
ZEBALLOS CAMP (3)	299	386,530		**4,964,152**	59	14,118,401
YELLOW JACKET	295	453,500	10.26	**4,652,910**	63	4,652,910
SILVER QUEEN	231	365,000	8.3	**4,209,500**	67	4,307,692
DOC (GRACY)	59	426,337	9.2	**3,922,300**	69	3,922,300
FAIRVIEW CAMP (2)	76	868,450		**3,661,662**	72	4,419,963
KENNEDY RIVER CAMP (2)	134	197,920		**3,512,064**	73	3,521,768
DOME MOUNTAIN CAMP (2)	61	200,768		**3,463,443**	74	3,836,547
ELK	70	121,350	25.4	**3,082,290**	78	4,601,067
JOHNNY MTN. CAMP (2)	128	51,216		**2,883,936**	80	5,699,329
VINE (BAR)	283	1,300,000	2.2	**2,860,000**	81	2,860,000
ALPINE GOLD	4	190,500	13.7	**2,609,850**	85	2,966,210
TRUE FISSURE	270	692,041	3.77	**2,608,995**	86	2,615,153
MACKTUSH	150	137,891	18.52	**2,553,741**	87	2,553,741
YELLOW GIANT CAMP (4)	294	252,956		**2,485,084**	*66	2,485,084
FANDORA CAMP	77	181,434	12.74	**2,311,469**	90	2,357,129
CHAPUT (LUMBY)	44	507,920	4.5	**2,285,640**	93	2,286,854
GREENWOOD CAMP VEINS (4)	105 C-J)	261,854		**2,199,424**	*60	4,680,469
GIVEOUT CREEK CAMP (6)	89	228,261		**2,162,630**	94	2,989,552
CAMBORNE CAMP (2)	35	206,837		**1,978,456**	96	2,943,716
SURF INLET	255	47,250	11.34	**1,653,450**	99	13,748,818
SPANISH MOUNTAIN (CPW)	241	838,160	1.95	**1,634,412**	100	1,639,358
REX MOUNTAIN	207	186,453	8.57	**1,597,902**	104	1,597,902
SNOWBIRD	240	226,775	6.86	**1,555,677**	105	1,555,677
DEBBIE CAMP (4)	57	300,754		**1,439,614**	106	1,449,039
MORRIS	166	172,000	8.3	**1,427,600**	107	1,427,600

TABLE 15 CONTINUED
B.C. LODE GOLD RESOURCES: VEINS - MESOTHERMAL

DEPOSIT NAME	File No.	RESOURCES (tonnes)	GOLD GRADE (g/t)	**RESOURCES GOLD (grams)**	RANK (Res.)	TOTAL GOLD (Res. + Prod.) (grams)
ROCK AND ROLL	211	580,544	2.4	**1,393,306**	108	1,393,306
SNIP	239	59,637	23	**1,371,651**	109	33,112,719
DARDANELLE	55	181,440	7.50	**1,360,800**	111	1,360,800
HUNTER	119	94,338	12	**1,132,056**	117	1,132,989
BLACK JACK	22	75,000	16	**1,200,000**	118	1,200,000
RED ELEPHANT	204	26,464	40.8	**1,079,731**	119	1,079,731
INEL	123	317,485	3.4	**1,079,449**	120	1,079,449
TABLE MTN. CAMP (2)	256	700,879	1.25	**876,099**	123	9,948,981
PELLAIRE	186	36,284	22.9	**830,904**	124	830,904
SHEEP CREEK CAMP (4)	224	321,377		**779,037**	126	23,880,726
TOPLEY RICHFIELD	269	181,420	4.25	**771,035**	127	771,066
CARIBOO-AMELIA	37	29,930	25.7	**769,201**	128	3,307,302
ASHLU	7	89,350	8.57	**765,730**	129	970,856
DAVID	56	96,000	7.11	**682,560**	131	682,560
GRANITE SCHEELITE	104	72,568	9.08	**658,917**	134	658,917
BEND	17	9,900	61.81	**611,919**	137	611,919
MAMIE	151	55,330	10.97	**606,970**	138	606,970
LITTLE GEM	143	27,705	21.74	**602,307**	139	602,307
SCOTTIE GOLD	219	28,992	18.51	**536,642**	142	3,520,696
NORTHAIR	178	59,071	9.08	**536,365**	143	5,717,598
L.H.	140	59,040	8.57	**505,973**	145	509,425
PHILIPS ARM CAMP (2)	188	43,700		**473,200**	146	646,008
G-SOUTH	82	45,355	10.2	**462,621**	148	462,621
VALENTINE MTN.	273	30,660	14.7	**450,702**	149	450,862
SPOKANE (Lawson)	245	77,216	5.83	**450,169**	150	450,169
BEDWELL RIVER CAMP (2)	15	25,284		**440,278**	151	663,473
SHERWOOD CAMP	226	25,247	17.15	**432,986**	152	436,186
SHELL (CROY)	225	72,560	5.9	**428,140**	153	428,140
BAYONNE CAMP	13	28,186	15	**422,790**	154	1,734,760
MOUNTAIN BOSS	169	30,000	14.06	**421,800**	155	421,800
CARIBOO-HUDSON	39	32,655	12.3	**401,657**	156	562,957
GEORGE GOLD-COPPER	84	180,000	2.1	**378,000**	157	378,000
GERLE GOLD	86	45,355	7.5	**340,163**	158	340,163
VALPARAISO CAMP	274	37,700	8.75	**329,875**	159	333,669
BLACKWATER-DAVIDSON	23	6,000,000	0.05	**300,000**	161	300,000
SALMO CAMP	214	61,676	4.8	**296,045**	162	2,293,045
TAY	262	132,255	2.15	**284,348**	164	284,348
DOCTORS POINT	60	113,600	2.16	**245,376**	166	245,376
SMITH-NASH	238	20,128	10.3	**207,318**	168	207,318
TEDDY GLACIER	264	44,216	4.46	**197,203**	170	197,327
VIDETTE	280	10,159	19.1	**194,037**	171	1,123,053
ROCHER DEBOULE	210	54,000	3.5	**189,000**	172	322,676
OLALLA CAMP	180	2,177	85.71	**186,591**	173	191,568
SCRANTON CAMP	220	17,935	9.26	**166,078**	174	289,421
MARY MAC	152	22,300	7.43	**165,689**	175	165,689
ELIZABETH	69	3,853	41.1	**158,358**	176	158,514
GRANITE POORMAN CAMP	103	16,328	9.26	**151,197**	177	2,211,960

TABLE 15 CONTINUED
B.C. LODE GOLD RESOURCES: VEINS - MESOTHERMAL

DEPOSIT NAME	File No.	RESOURCES (tonnes)	GOLD GRADE (g/t)	**RESOURCES GOLD (grams)**	RANK (Res.)	TOTAL GOLD (Res. + Prod.) (grams)
KALUM LAKE	131	9,434	16.1	**151,887**	178	152,262
BRANDYWINE CAMP	26	134,800	1.03	**138,844**	181	485,811
ABBOTT	1	139,628	0.99	**138,322**	182	138,313
SAMATOSUM	215	80,280	1.71	**137,279**	183	776,395
THISTLE CAMP	266	18,250		**123,035**	185	232,797
BLACK BULL (CROESUS, GEM)	21	4,355	26.06	**113,491**	186	113,522
SILVER CUP CAMP	227	37,191	2.74	**101,903**	187	293,587
GOAT	93	8,800	10.6	**93,280**	190	98,755
OX-C	182	196,087	0.47	**92,161**	192	92,161
COLUMBIA-EVENING SUN	48	118,000	0.69	**81,420**	193	81,451
ALWIN (O.K., CHATAWAY)	5	390,053	0.17	**66,309**	194	112,545
RED CLIFF	203	18,856	2.8	**52,797**	196	57,875
MOLLY HUGHES	162	9,072	5.8	**52,618**	197	78,408
SILVER LAKE	229	30,333	1.71	**51,300**	198	51,300
DUTHIE CAMP	63	19,700	2.55	**50,235**	199	160,635
EMERALD GLACIER	71	40,800	1.13	**46,104**	200	47,628
VICTORIA	279	1,000	42.55	**42,550**	201	49,891
CRONIN	54	117,923	0.34	**40,094**	202	48,866
FRANKLIN MTN. CAMP	79	16,000	2.2	**35,200**	203	1,769,148
VANGUARD COPPER	275	11,800	2.4	**28,320**	204	28,320
SILVER STANDARD	232	9,070	2.85	**25,850**	205	490,482
VIRGINIA SILVER	284	20,000	1.19	**23,800**	206	24,201
BIG SLIDE	19	861	16.2	**13,948**	209	53,582
WINDPASS	290	16146	0.68	**10,979**	209	1,082,663
SILVER TIP	233	11,295	0.77	**8,697**	210	9,005
FRENCH PEAK	81	2,630	2.4	**6,312**	211	6,436
GLACIER CREEK CAMP	90	18,000		**4,860**	212	327,155
RABBITT	200	1,324	1.6	**2,118**	213	35,634
	TOTALS:	149,189,591		**356,857,498**		749,419,003

TABLE 16
1999 B.C. LODE GOLD RESOURCES: VEINS - EPITHERMAL

DEPOSIT NAME	File No.	RESOURCES (tonnes)	GOLD GRADE (g/t)	**RESOURCES GOLD (grams)**	RANK (Res.)	TOTAL GOLD (Prod. + Res.) (grams)
SPECOGNA (CINOLA)	242	33,500,000	2.11	**70,685,000**	8	70,685,902
SULPHURETS CAMP (2)	252 A,D)	1,196,587		**22,995,752**	*4	22,996,061
GOLDEN BEAR	95	3,602,200		**13,682,040**	34	22,547,618
PREMIER CAMP (3)	195	2,224,140		**6,812,800**	53	71,701,046
TSACHA	271	478,600	8.72	**4,173,392**	69	4,173,392
MT. WASHINGTON	172	550,298	6.75	**3,714,512**	72	3,845,300
BLACKDOME	20	238,000	13.03	**3,101,140**	78	10,356,085
LINDQUIST	141	249,425	10.7	**2,668,848**	84	2,668,848
WATSON BAR	285	282,187	8.13	**2,294,180**	93	2,294,180
VAULT	276	152,000	14	**2,128,000**	97	2,128,000
GOLDEN LION	97	2,054,355	0.96	**1,972,181**	99	1,972,181
GOLDEN STRANGER	98	498,905	2.74	**1,367,000**	113	1,367,000
TODD CREEK	268	207,000	5.48	**1,134,360**	119	1,134,360
PAYDIRT	185	181,420	3.8	**689,396**	133	689,396
NEW MOON	176	688,712	0.99	**681,825**	135	681,825
ENGINEER	72	20,000	34	**680,000**	136	1,241,659
JD	126	147,889	4.4	**650,712**	138	650,712
METS	158	54,068	11.66	**630,433**	139	630,433
HANK	107	226,775	2.3	**521,583**	147	521,583
BRETT	28	11,970	39.12	**468,266**	150	488,266
SILVER POND	230	47,819	6.85	**327,560**	163	327,560
SHASTA	223	8,000	12	**96,000**	191	697,229
TOTALS:		46,620,350		**141,474,980**		223,798,636

*** = Part of Camp**

TABLE 17
1999 B.C. LODE TOTAL GOLD: VEINS - MESOTHERMAL

DEPOSIT NAME	File No.	PRODUCTION (grams)	RESOURCES (grams)	**TOTAL GOLD (Prod. + Res.) (grams)**	RANK (Total Gold)
BRIDGE RIVER CAMP (5)	30	129,390,995	13,924,423	**143,315,418**	3
ROSSLAND CAMP (44)	212	86,530,000	15,638,903	**102,168,903**	9
POLARIS TAKU	191	7,203,579	44,799,000	**52,002,579**	17
TAURUS CAMP (2)	261	1,103,537	49,995,729	**51,099,266**	18
CARIBOO-BARKERVILLE CAMP (3)	38	38,321,509	11,627,649	**49,949,158**	19
SNIP	239	3,174,068	1,371,651	**33,112,719**	32
SHEEP CREEK CAMP (12)	224	23,101,859	779,037	**23,880,726**	36
FRASERGOLD	80		22,200,000	**22,200,000**	39
RED MOUNTAIN	205		18,832,464	**18,832,464**	42
YMIR CAMP (12)	297	8,298,227	9,003,504	**17,301,731**	43
EQUITY SILVER	73	15,801,709		**15,801,709**	44
ZEBALLOS CAMP (18)	299	9,154,249	4,964,152	**14,118,401**	48
SURF INLET	255	12,095,368	1,653,450	**13,748,818**	49
COQUIHALLA CAMP (5)	52	1,581,523	8,565,245	**10,146,768**	53
PORCHER ISLAND CAMP (2)	193	639,914	9,476,157	**10,116,071**	54
TABLE MTN. CAMP (2)	256	9,072,882	876,099	**9,948,981**	55
CAPOOSE	36		8,490,456	**8,490,456**	56
MINTO CAMP (4)	161	714,907	7,435,863	**8,150,670**	59
GEORGIA RIVER	85	10,233	7,538,001	**7,548,234**	61
BANBURY	11	29,423	7,416,770	**7,446,193**	63
MILLIE MACK	160	9,829	7,386,515	**7,396,344**	65
HARRISON GOLD	109	31,590	7,040,000	**7,071,590**	66
CHAPLEAU CAMP (2)	43	59,095	6,726,312	**6,785,407**	67
NORTHAIR	178	5,181,231	536,365	**5,717,596**	70
JOHNNY MTN CAMP (2)	128	2,815,393	2,883,936	**5,699,329**	71
SPECTRUM CAMP (2)	243		4,984,320	**4,984,320**	75
GREENWOOD CAMP VEINS (35) 105 C-J)		2,481,043	2,199,424	**4,680,467**	*21
YELLOW JACKET	295		4,652,910	**4,652,910**	78
ELK	70	1,518,777	3,082,290	**4,601,067**	79
FAIRVIEW CAMP (5)	76	758,301	3,661,662	**4,419,963**	80
SILVER QUEEN	231	98,192	4,209,500	**4,307,692**	81
DOC	59		3,922,300	**3,922,300**	84
DOME MOUNTAIN CAMP (3)	61	373,478	3,463,443	**3,836,921**	87
KENNEDY RIVER CAMP (5)	134	9,704	3,512,064	**3,521,768**	88
SCOTTIE GOLD	219	2,984,054	536,642	**3,520,696**	89
CARIBOO-AMELIA	37	2,538,101	769,201	**3,307,302**	90
GIVEOUT CREEK CAMP (6)	89	826,922	2,162,630	**2,989,552**	95
ALPINE GOLD	4	356,360	2,609,850	**2,966,210**	96
CAMBORNE CAMP (4)	35	965,260	1,978,456	**2,943,716**	97
VINE (BAR)	283		2,860,000	**2,860,000**	98

TABLE 17 CONTINUED
1999 B.C. LODE TOTAL GOLD: VEINS - MESOTHERMAL

DEPOSIT NAME	File No.	PRODUCTION (grams)	RESOURCES (grams)	**TOTAL GOLD (Prod. + Res.) (grams)**	RANK (Total Gold)
TRUE FISSURE	270	6,158	2,608,995	**2,615,153**	102
MACKTUSH	150		2,553,741	**2,553,741**	103
YELLOW GIANT CAMP (4)	294		2,485,084	**2,485,084**	106
FANDORA CAMP (2)	77	45,660	2,311,469	**2,357,129**	108
SALMO CAMP (7)	214	1,997,000	296,045	**2,293,045**	111
CHAPUT (LUMBY)	44	1,214	2,285,640	**2,286,854**	113
GRANITE POORMAN CAMP (6)	103	2,060,763	151,197	**2,211,960**	114
FRANKLIN MTN. CAMP (2)	79	1,733,948	35,200	**1,769,148**	120
BAYONNE CAMP (2)	13	1,311,970	422,790	**1,734,760**	121
SPANISH MOUNTAIN (CPW)	241	4,946	1,634,412	**1,639,358**	122
REX MOUNTAIN	207		1,597,902	**1,597,902**	125
SNOWBIRD	240		1,555,677	**1,555,677**	126
DEBBIE CAMP (4)	57	9,425	1,439,614	**1,449,039**	127
MORRIS	166		1,427,600	**1,427,600**	128
ROCK AND ROLL	211		1,393,306	**1,393,306**	130
DARDANELLE	55		1,360,800	**1,360,800**	132
BLACK JACK	22		1,200,000	**1,200,000**	137
HUNTER	119	933	1,132,056	**1,132,989**	141
VIDETTE	280	929,016	194,037	**1,123,053**	142
WINDPASS	290	1,071,684	10,979	**1,082,663**	143
RED ELEPHANT	204		1,079,731	**1,079,731**	144
INEL	123		1,079,449	**1,079,449**	145
ASHLU	7	205,126	765,730	**970,856**	146
PELLAIRE	186		830,904	**830,904**	149
SAMATOSUM	215	639,118	137,279	**776,397**	151
TOPLEY RICHFIELD	269	31	771,035	**771,066**	152
DAVID	56		682,560	**682,560**	155
BEDWELL CAMP (3)	15	223,195	440,278	**663,473**	157
GRANITE SCHEELITE	104		658,917	**658,917**	158
PHILIPS ARM CAMP (2)	188	172,808	473,200	**646,008**	160
VELVET	277	620,785		**620,785**	162
BEND	17		611,919	**611,919**	163
MAMIE	151		606,970	**606,970**	165
LITTLE GEM	143		602,307	**602,307**	167
CARIBOO-HUDSON	39	161,300	401,657	**562,957**	169
BEAVERDELL CAMP (24)	14	540,000		**540,000**	170
L.H.	140	3,452	505,973	**509,425**	172
SILVER STANDARD	232	464,632	25,850	**490,482**	175
BRANDYWINE CAMP (2)	26	346,967	138,844	**485,811**	176
G-SOUTH	82		462,621	**462,621**	178
VALENTINE MTN.	273	160	450,702	**450,862**	179
SPOKANE (Lawson)	245		450,169	**450,169**	180
SHERWOOD CAMP (2)	226	3,200	432,986	**436,186**	181
SHELL (CROY)	225		428,140	**428,140**	182
MOUNTAIN BOSS	169		421,800	**421,800**	183
GEORGE GOLD-COPPER	84	378,000		**378,000**	184

TABLE 17 CONTINUED
1999 B.C. LODE TOTAL GOLD: VEINS - MESOTHERMAL

DEPOSIT NAME	File No.	PRODUCTION (grams)	RESOURCES (grams)	**TOTAL GOLD (Prod. + Res.) (grams)**	RANK (Total Gold)
GERLE GOLD	86		340,163	**340,163**	185
VALPARAISO CAMP (2)	274	3,794	329,875	**333,669**	186
HORN SILVER	116	332,992		**332,992**	187
GLACIER CREEK CAMP (6)	90	322,295	4,860	**327,155**	189
ROCHER DEBOULE	210	133,676	189,000	**322,676**	190
BLACKWATER-DAVIDSON	23		300,000	**300,000**	191
SILVER CUP CAMP (6)	227	191,684	101,903	**293,587**	192
SCRANTON CAMP (3)	220	123,343	166,078	**289,421**	193
TAY	262		284,348	**284,348**	194
OROFINO MTN. CAMP (2)	181	276,169		**275,169**	195
STUMP LAKE CAMP (5)	250	260,568		**260,568**	196
DOCTORS POINT	60		245,376	**245,376**	197
GRANBY POINT	100	233,585		**233,585**	198
THISTLE CAMP (4)	266	109,762	123,035	**232,797**	199
HALL CAMP (6)	106	217,440		**217,440**	200
HOWARD	117	212,121		**212,121**	201
SMITH-NASH	238		207,318	**207,318**	202
TEDDY GLACIER	264	124	197,203	**197,327**	204
OLALLA CAMP (3)	180	4,977	186,591	**191,568**	205
SECOND RELIEF CAMP (2)	221 B,C)	188,735		**188,735**	*206
MARY MAC	152		165,689	**165,689**	208
DUTHIE CAMP (3)	63	110,400	50,235	**160,635**	209
ELIZABETH	69	156	158,358	**158,514**	210
KALUM LAKE	131	375	151,887	**152,262**	212
GOLSKEISH (MAY)	99	149,109		**149,109**	213
ABBOTT	1	81	138,232	**138,313**	215
SANDON CAMP (5)	216	128,927		**128,927**	216
BULL RIVER	33	126,123		**126,123**	217
BLACK BULL (CROESUS, GEM)	21	31	113,491	**113,522**	219
ALWIN (O.K., CHATAWAY)	5	43,236	66,309	**112,545**	220
WHITEWATER CAMP (5)	287	106,325		**106,325**	221
GOAT	92	5,475	93,280	**98,755**	222
CARMI CAMP (2)	40	93,124		**93,124**	225
OX-C	182		92,161	**92,161**	226
KALAMAKA	129	90,137		**90,137**	227
RIVERSIDE	209	81,911		**81,911**	228
COLUMBIA-EVENING SUN	48	31	81,420	**81,451**	229
CASINO RED CAP	41	81,334		**81,334**	230
ST. EUGENE	247	78,846		**78,846**	231
MOLLY HUGHES	162	26,790	52,618	**78,408**	232
BONAPARTE	25	77,914		**77,914**	233
WHITE ELEPHANT	288	63,170		**63,170**	235
RED CLIFF	203	5,078	52,797	**57,875**	236
BIG SLIDE	19	39,904	1,333,948	**53,852**	238

TABLE 17 CONTINUED
1999 B.C. LODE TOTAL GOLD: VEINS - MESOTHERMAL

DEPOSIT NAME	File No.	PRODUCTION (grams)	RESOURCES (grams)	**TOTAL GOLD (Prod. + Res.) (grams)**	RANK (Total Gold)
PAULSON CAMP (6)	184	53,340		**53,340**	240
SILVER LAKE	229	0	51,300	**51,300**	241
VICTORIA	279	7,341	42,550	**49,891**	242
CRONIN	54	8,772	40,094	**48,866**	243
EMERALD GLACIER	71	1,524	46,104	**47,628**	244
PERRIER CAMP (2)	187	40,280		**40,280**	246
COPPER KING	51	36,793		**36,793**	247
RABBITT	200	33,516	2,118	**35,634**	248
MONITOR	165	31,820		**31,820**	249
EAST GOLD	66	31,694		**31,694**	250
SILVERTON CAMP (2)	235	29,829		**29,829**	252
SPOKANE	245	29,639		**29,639**	253
BARNATO CAMP (4)	12	29,206		**29,206**	254
VANGUARD COPPER	275		28,320	**28,320**	255
PORTER-IDAHO	194	27,074		**27,074**	256
NETTIE L.	175	24,300		**24,300**	257
VIRGINIA SILVER	284	401	23,800	**24,201**	258
HUNTER BASIN CAMP (2)	121	22,966		**22,966**	260
GOLDEN CACHE (AMPLE/GOLDMAX)	96	22,611		**22,611**	261
WWW	293	22,484		**22,484**	262
LITTLE BERTHA CAMP (3)	142	22,178		**22,178**	263
BRETT	29	21,400		**21,400**	264
COLUMARIO	47	21,150		**21,150**	265
NUGGET QUEEN	179	20,869		**20,869**	266
RED ROSE	206	19,300		**19,300**	267
KALAPPA CAMP (2)	130	18,630		**18,630**	268
TAYLOR-WINDFALL	263	14,525		**14,525**	269
RICE	208	14,494		**14,494**	270
METEOR CAMP (2)	157	14,079		**14,079**	271
AUFEAS	8	13,686		**13,686**	272
COMSTOCK	49	12,387		**12,387**	273
MARY MCQUILTON CAMP (2)	153	12,287		**12,287**	274
MONASHEE	163	11,415		**11,415**	275
SKINNER	237	11,351		**11,351**	276
MCPHEE	154	10,265		**10,265**	277
GOLD HILL CAMP (3)	94	9,424		**9,424**	278
RUTH-VERMONT	213	9,405		**9,405**	279
GLACIER GULCH (NORTH)	91	9,236		**9,236**	280
MIDWAY	159	9,082		**9,082**	281
SILVER TIP	233	308	8,697	**9,005**	282
EARLY BIRD	65	8,739		**8,739**	284
ESPERANZA	75	7,993		**7,993**	285
QUEEN VICTORIA	198	7,651		**7,651**	286
VIEW FRACTION	281	7,473		**7,473**	287
HOMESTAKE	115	7,463		**7,463**	288
NO. ONE	177	7,371			289

TABLE 17 CONTINUED
1999 B.C. LODE TOTAL GOLD: VEINS - MESOTHERMAL

DEPOSIT NAME	File No.	PRODUCTION (grams)	RESOURCES (grams)	**TOTAL GOLD (Prod. + Res.) (grams)**	RANK (Total Gold)
MONEY SPINNER	164	6,812		**6,812**	290
SUNRISE	253	6,656		**6,656**	291
QUESNEL QUARTZ	199	6,438		**6,438**	292
FRENCH PEAK	81	124	6,312	**6,436**	293
EL ALAMEIN	68	6,252		**6,252**	294
LUCKY SEVEN	148	6,221		**6,221**	295
FIDDLER	78	5,785		**5,785**	296
ACACIA	2	5,754		**5,754**	297
ST. PAUL	248	5,630		**5,630**	298
BALTIC	10	5,567		**5,567**	300
WESTERN COPPER	286	5,319		**5,319**	301
VENUS	278	5,319		**5,319**	302
TOTALS:		413,113,903	356,857,498	**769,971,401**	

* = Part of Camp

TABLE 18
1999 B.C. LODE TOTAL GOLD: VEINS - EPITHERMAL

DEPOSIT NAME	File No.	PRODUCTION (grams)	RESOURCES (grams)	**TOTAL GOLD (Prod. + Res.) (grams)**	RANK (Total Gold)
PREMIER CAMP (9)	195	64,888,246	6,812,800	**71,701,046**	12
SPECOGNA (CINOLA)	242	902	70,685,000	**70,685,902**	13
SULPHURETS CAMP (2)	252 A,D)	309	22,995,752	**22,996,061**	*5
GOLDEN BEAR	95	8,865,578	13,682,040	**22,547,618**	38
BLACKDOME	20	7,254,945	3,101,140	**10,356,085**	52
LAWYERS (+ AL + METS)	139	5,401,981		**5,401,981**	73
TSACHA	271		4,173,392	**4,173,392**	83
MT. WASHINGTON	172	130,788	3,714,512	**3,845,300**	85
LINDQUIST	141		2,668,848	**2,998,848**	100
WATSON BAR	285		2,294,180	**2,294,180**	109
VAULT	276		2,128,000	**2,128,000**	115
GOLDEN LION	97		1,972,181	**1,972,181**	117
GOLDEN STRANGER	98		1,367,000	**1,367,000**	131
BAKER	9	1,283,973		**1,283,973**	134
ENGINEER	72	561,659	680,000	**1,241,659**	135
TODD CREEK	268		1,134,360	**1,134,360**	140
SHASTA	223	601,229	96,000	**697,229**	153
PAYDIRT	185		689,396	**689,396**	154
NEW MOON	176		681,825	**681,825**	156
JD	126		650,712	**350,712**	159
METS	158		630,433	**630,433**	161
DUSTY MAC	62	606,006		**606,006**	166
HANK	107		521,583	**521,583**	171
BRETT	28		468,266	**468,266**	177
SILVER POND	230		327,560	**327,560**	188
TOTALS:		89,595,616	141,474,980	**231,070,596**	

* = Part of Camp

CHAPTER 4 PORPHYRY DEPOSITS

CLASSIFICATION AND GEOLOGICAL CHARACTERISTICS

The development of the first porphyry copper and molybdenum deposits in British Columbia in the 1960s and 1970s had a profound effect on the mining community (Newell *et al.*, 1995). It was recognized that large, low-grade, deposits could be mined economically by open-pit methods through economies of scale. Thus, in the following decades there was a trend toward development of larger tonnage, relatively lower grade mines that increasingly relied on byproduct sales of molybdenum and/or gold and silver to enhance their profitability (Taylor, 1995; McMillan *et al.*, 1995). By the late 1980s, the gold content of a porphyry copper deposit was commonly perceived as being crucial to its economic viability and mills were optimized to recover precious metals as by-products. Gold recovery at modern mines such as Kemess (Rebagliati *et al.*, 1995) and Mount Polley (Fraser *et al.*, 1995) is as or more important for the viability of the operation than copper.

The large volumes of ore processed at gold-bearing porphyry mines generates a large amount of gold, and the amount of provincial production from this source will rise over the coming years as mines such as Kemess and Mount Polley continue to produce.

Porphyry deposits make a major contribution to the provincial gold resource. However, resource estimates quoted by companies are highly dependent on the cut-off applied and, as with all reserve and resource estimations, are subject to change as a result of changing economic conditions.

The porphyry deposits in British Columbia have received a considerable amount of study over the years and there is a large body of data on their geology and genesis compiled in "Porphyry Deposits of the Canadian Cordillera" (A. Sutherland Brown, Editor; CIM Special Volume 15, 1976) and "Porphyry Deposits of the Northwestern Cordillera of North America" (T.G. Schroeter, Editor; CIM Special Volume 46, 1995). The deposit class is also reviewed by McMillan (1991) in "Ore Deposits, Tectonics and Metallogeny in the Canadian Cordillera". The reader is referred to these volumes for information on general aspects of the geology of porphyry deposits of the northwestern Cordillera of North America and also for more detailed information on a many of the deposits mentioned in this report.

According to Lefebure and Ray (1995), there are eight porphyry deposit types represented in British Columbia, but only four are noted as potential producers of gold [subvolcanic Cu-Ag-Au (As-Sb) (L01), porphyry-related Au (L02), alkalic porphyry Cu-Au (L03) and porphyry Cu+/-Mo+/-Au (L04)]; [Panteleyev (1995a, 1995b and 1995c)]. For the current study, porphyry deposits are subdivided, on the basis of associated magma chemistry, into alkaline and calcalkaline types, broadly equivalent to L03 and L04, respectively. The subdivision has geographic, as well as geologic implications. Alkalic porphyries are restricted to alkalic volcanic belts in the central part of the province.

PRODUCTION

Total gold production from thirteen porphyry deposits/camps to the end of 1998 amounts to 10 700 kilograms (3.44 million oz). This represents 13.5% of total lode production in the province (Tables 4 and 19; Fig. 3). Ten calcalkalic and three alkalic types account for 67 000 kilograms (2.15 million oz) and 43 700 kilograms (1.41 million oz) representing 8.14% and 5.32% of total production, respectively. These deposits have also produced 1 524 300 kilograms (49 million oz) of silver and 7 470 400 tonnes (16.5 billion lbs) of copper.

In terms of overall production rank in the province, **Island Copper** (7th), **Similco** camp (12th), **Afton** camp (13th), **Bell** (16th), **Highland Valley Copper** camp (24th), **Granisle** (25th), **Mount Polley** (30th), **Kemess** (38th), and **Brenda** (39th) are included in the top 50. The **Mount Polley** and **Kemess** deposits, which began production in 1997 and 1998 respectively, will produce significant quantities of gold and copper over the next decade, and will rise in the rankings list accordingly. The top production-ranked (7th) deposit, **Island Copper**, produced 35 300 kilograms (1.13 million oz) of gold, 294 100 kilograms (9.46 million oz) of silver and 1 227 300 tonnes (2.7 billion lbs) of copper from 366 718 800 tonnes of ore milled between 1971 and 1995.

RESOURCES AND TOTAL INVENTORY

Gold resources in porphyry deposits exceed production by almost an order of magnitude.

Forty porphyry deposits/camps contain resources of 1 674 800 kilograms (53.85 million oz) of gold, representing 69% of total gold resources in the province (Table 20; Fig.5). Also, total inventory for forty two alkalic and calcalkalic porphyry deposits/camps amounts to 1 785 000 kilograms (57.39 million oz) of gold, accounting for nearly 55% (17% - alkalic and 38% - calcalkalic) (Tables 9 and 21; Fig. 6). These figures show the importance of porphyry related gold in the province.

The four porphyry copper mines currently in production (**Mount Polley**, **Kemess**, **Highland Valley Copper** and **Huckleberry**) contain 239 600 kilograms (7.7 mil-

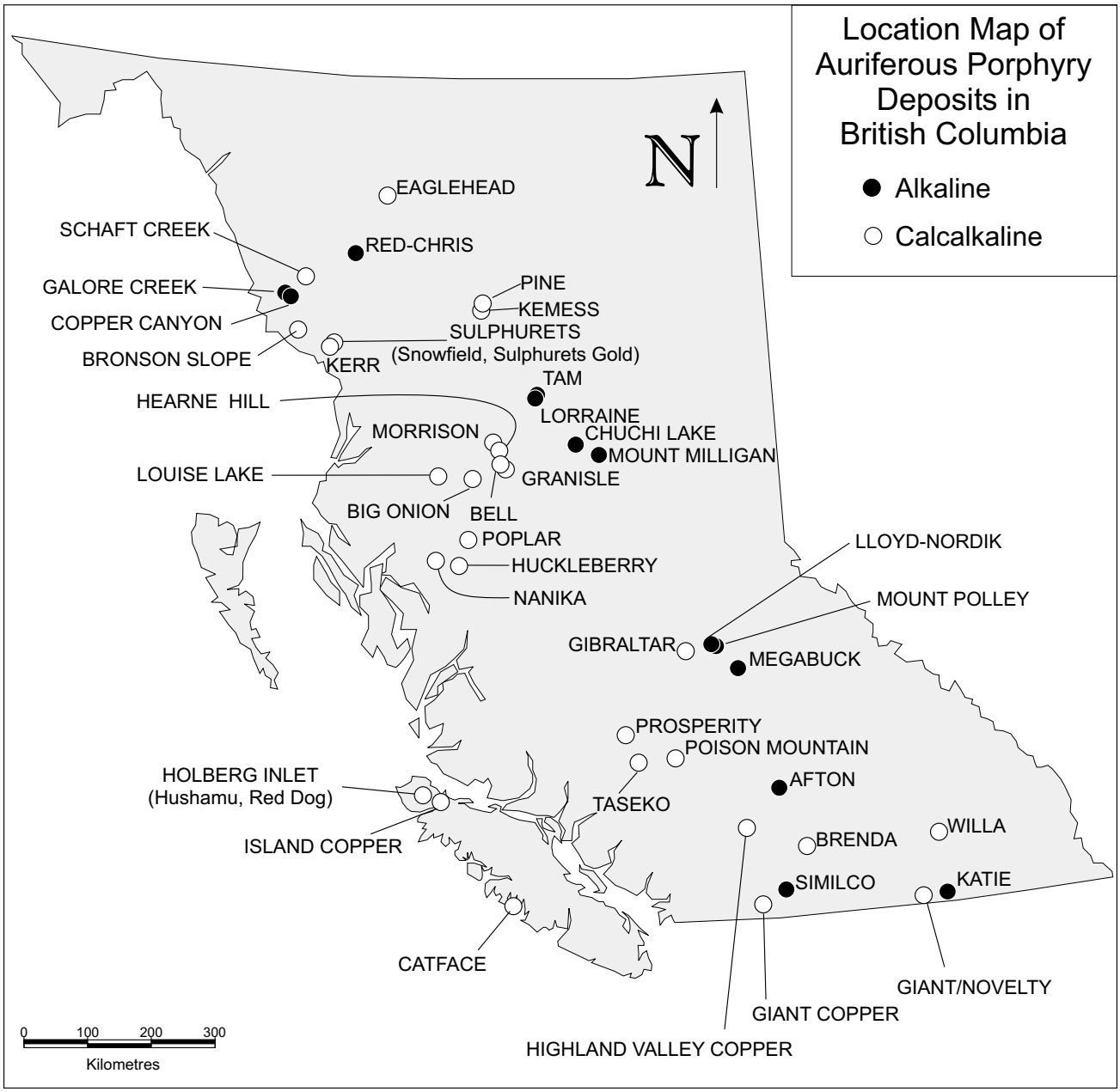


Figure 11. Location map of auriferous porphyry deposits in British Columbia.

lion oz) of gold, or 14.3% of the total porphyry resource. The remaining 85.7% is in undeveloped deposits/camps. Twelve major undeveloped porphyry deposits **(Mt. Milligan**, **Galore Creek**, **Red-Chris**, **Copper Canyon**, **Prosperity**, **Schaft Creek**, **Holberg Inlet** camp, **Snowfield**, **Sulphurets Gold**, **Kerr**, **Poison Mountain** and **Morrison**) together contain 1 094 320 kilograms (35.18 million oz) of gold, or 65.4% of the porphyry resources. Clearly the future of byproduct gold production from porphyries is linked to the future development of these deposits.

The twelve major undeveloped deposits listed above represent 61.3% of total porphyry inventory. In terms of total gold rank in British Columbia, **Prosperity** (1st), **Kemess** (2nd), **Mt. Milligan** (4th), **Sulphurets** camp (5th), **Schaft Creek** (6th), **Galore Creek** (7th), **Bell** (11th), **Holberg Inlet** camp (14th), **Red-Chris** (16th), **Kerr** (20th), **Similco** camp (22nd), **Poison Mountain** (23rd), **Morrison** (24th) and **Pine** (25th) are included in the top 25 (Table 12).

ALKALIC PORPHYRY DEPOSITS

Alkalic porphyry deposits commonly form in brecciated and hydrothermally altered volcanic and related subvolcanic intrusive rocks of broadly dioritic composition. The mineralization occurs in veinlets, stockworks and as minor disseminations and replacements. The economically significant metal content of a mineralized system commonly increases with increased fracture density. The principal sulphides found in these deposits are chalcopyrite, pyrite, bornite and chalcocite. Alkalic porphyry deposits commonly contain a significant amount of gold and silver (Panteleyev, 1995b, 1995c).

Production

Past-producing alkalic porphyries, including **Similco** (Copper Mountain; Stanley *et al.*, 1995), **Afton** (Carr and Reed, 1976) and **Ajax** (Ross *et al.*, 1995), have contributed a substantial amount of gold to the provincial account and the producing deposit at **Mount Polley** (Fraser *et al.*, 1995) will ensure that the amount of gold produced from the deposit type increases in the coming years.

The **Mount Polley** deposit was delineated in the late 1980s and was brought into the Mine Development Review process in 1990. The current owners received a Development Certificate, obtained necessary permits and started construction of an 18 000 tonnes per day open-pit operation in 1996. The mine started operating in 1997 with annual production forecast at 3110 kilograms (100 000 oz) of gold and 16 000 tonnes (35 million lbs) of copper.

The **Similco** (Copper Mountain) mine operated intermittently through the 1990s. After a short hiatus, it was reopened by a new operator in 1994. That year, it processed stockpiled ore while exploring for additional reserves to extend the life of the mine. The following year it restarted production from the Ingerbelle East pit and continued drilling along the Alabama/Virginia trend; however, low metal prices led to its closure again in November, 1996. The mine is currently on care and maintenance status.

Resources and Total Inventory

Thirteen alkaline porphyries are estimated to contain 504 800 kilograms (16.23 million oz) of gold, representing 20.8% of the total porphyry resources. Of these, four undeveloped deposits, **Mt. Milligan**, **Galore Creek**, **Red-Chris** and **Copper Canyon**, account for 49% of the total alkalic porphyry endowment.

Exploration and Development Activity - Deposit Updates

The **Afton** and nearby **Ajax** deposits ceased production in 1991 and 1997, respectively. However, a small underground resource remains below the Afton pit (Table 1). In 2000, the new owner of the Afton mine proposes to drill from the bottom of the pit to confirm and expand the resource. Production at the **Similco** camp ended in 1996; however, a significant potential open-pit resource has been identified (Table 1). Recent exploration in and around the **Mount Polley** mine has identified additional resources close tothe pit.

Placer Dome Inc., the operator of the **Mount Milligan** property (Sketchley *et al.*, 1995) completed a major diamond drilling program in 1991, and applied for a Mine Development Certificate through the British Columbia Mine Development Review Process shortly thereafter. Although it obtained the certificate in November, 1993, the feasibility of the project had been adversely affected by cost increases and changing economic conditions and the company elected to defer production. The company re-examined the feasibility of the project in 1997-1998; it awaits better metal prices. The Mine Development Certificate was amended and extended to the year 2003.

Mingold Resources Inc. and Kennecott Canada Inc./Hudson Bay Mining and Smelting Co. Ltd. completed major drilling programs on the **Galore Creek** property in 1990 and 1991, respectively and defined a significant copper-gold resource (Enns *et al.*, 1995). Ten kilometres east of Galore Creek, Consolidated Rhodes Resources Ltd. completed drilling and trenching on its **Copper Canyon** property (Bottomer and Leary, 1995) in 1990 and 1991. A significant copper-gold resource was established. If the Galore Creek deposits are ever put into production, the Copper Canyon deposit could benefit from improvements in regional infrastructure. The deposits in this area have some of the highest grades of copper and gold of any of the porphyry deposits in British Columbia.

After many years of inactivity, American Bullion Minerals Ltd. (80%) and Teck Corp. (20%) conducted

major diamond drilling programs on the **Red-Chris** property (Newell and Peatfield, 1995) between 1994 and 1995 and increased resource estimates for the deposit. Since then several pre-feasibility studies have been completed; however, no further work has taken place.

Between 1990 and 1991, Noranda Exploration Co. Ltd. (operator) completed a major drilling program on the **Katie** porphyry deposit (Naciuk and Hawkins, 1995) under a joint venture agreement between Hemlo Gold Mines Inc., Brenda Mines Ltd. and Yellowjacket Resources Ltd. Yellowjacket took over as operator in 1992 and completed additional drilling that year. Very little work has been conducted since then.

The **Lorraine** deposit (Bishop *et al.*, 1995) was further explored by modest exploration campaigns in the 1990s. In 1996 the owner expanded its large claim holdings to cover a strongly anomalous, magnetic ring, 10 kilometres in diameter, (the Jayjay ring). The company believes it has identified a major buried alkalic centre lying immediately east of the Lorraine property. Follow-up prospecting in the late 1990s has identified several new showings.

CALCALKALIC PORPHYRY DEPOSITS

Calcalkalic porphyry deposits commonly form in sub-circular zones of brecciated and hydrothermally altered rock in and around the apex of a quartz diorite to quartz monzonite stock. The style of mineralization is largely dependent on depth of formation. Deposits developed in relatively high-level, subvolcanic environments are commonly associated with multiple dike and breccia phases. However, deposits formed at greater depth are more often associated with broad zones of faulting in plutonic rocks (Panteleyev, 1995c). The deposits form as concentrations of quartz, quartz-sulphide and sulphide veinlets and stockworks and as sulphide disseminations in broad potassic and phyllic alteration zones. They are commonly surrounded by a halo of propylitic alteration. The principal economic minerals are chalcopyrite, molybdenite, lesser bornite and trace gold or electrum. Pyrite is an important constituent, particularly in the propylitic alteration zone.

Metal ratios vary considerably from deposit to deposit and, locally, within a given deposit. Although some calcalkalic occurrences contain a significant trace of gold and silver, it is not always present. In general, deposits formed at relatively shallow depth appear to be more likely to be enriched in gold. As mentioned for alkalic deposits, resource outlines are governed by economic criteria that are subject to change.

Production

Past-producing calcalkaline porphyry deposits have also made a substantial contribution to the total gold production in the province. Relatively gold-enriched occurrences, such as **Island Copper** (Perello *et al.*, 1995), **Bell** and **Granisle** (Dirom *et al.*, 1995) and **Brenda** (Weeks *et al.*, 1995) are examples of significant byproduct gold producers. The **Highland Valley Copper** operation (Casselman *et al.*, 1995) is less enriched in gold but has also made a considerable contribution.

Production at the **Island Copper** mine on northern Vancouver Island ceased in 1995. It ranks as the seventh largest gold producer in the province. Prior to closure, much detailed work by industry (Dasler *et al.*, 1995) and government (*e.g.* Panteleyev and Koyanagi, 1993; Nixon *et al.*, 1995; and Bowbrowsky and Sibbick, 1996) identified significant gold and copper porphyry resources in the region (*e.g.* **Holberg Inlet** camp). The **Highland Valley Copper** mine produces approximately 390 kilograms (12 500 oz) of gold annually. Production at the **Kemess** mine commenced in 1998; 1999 production was forecast to be 6220 kilograms (200 000 oz) of gold and 22 700 tonnes (50 million lbs) of copper. With the improved infrastructure (*i.e.* upgraded road and power) into the Toodoggone region, exploration for Kemess-style deposits has increased.

Resources and Total Inventory

Twenty-seven calcalkaline porphyry deposits are estimated to contain resources of 1 169 600 kilograms (37.6 million oz) of gold representing 48.2% of the total porphyry resource. Nine undeveloped deposits, **Prosperity** (Fish Lake), **Schaft Creek**, **Holberg Inlet** camp, **Snowfield**, **Sulphurets Gold**, **Kerr**, **Poison Mountain** and **Morrison**, account for 63% of the total.

In terms of overall resources rank in British Columbia, **Prosperity** (1st), **Kemess** (2nd), **Schaft Creek** (5th), **Holberg Inlet** camp (9th), **Bell** (11th), **Kerr** (14th), **Poison Mountain** (16th), **Morrison** (17th), **Pine** (18th), and **Bronson Slope** (19) are included in the top 25 (Table 10).

Exploration and Development Activity - Deposit Updates

The **Prosperity** (Fish Lake) deposit (Caira *et al.*, (1995) ranks number one in both resources (Table 7) and total inventory (Table 11). The current operator drilled the property in the early 1990s and also conducted in-fill drilling programs in 1996 and 1997. It completed necessary engineering studies, conducted a detailed feasibility study in 1996 and submitted an application for a Mine Development Certificate the following year. It is still being reviewed under the provincial Environmental Assessment Act.

The **Poison Mountain** deposit (Brown, 1995), near Lillooet, contains a sizable gold inventory. However, based on work carried out in the 1960s, 1980s and in 1993, the current owner does not consider it to be economic and there has been no further exploration.

Prior to closure of the **Island Copper** mine in 1995, there was considerable interest in finding additional reserves close to it. In the **Holberg Inlet** area, the **Hushamu** deposit (Dasler *et al.*, 1995) was drilled in 1991 and 1992. It was considered a possible source of feed for the Island

Copper mill and a pre-feasibility study was completed in 1993. However, the grades proved to be insufficient to carry the cost of transportation. The nearby **Red Dog** deposit was also considered. It was drilled in the early 1990s and the then operators filed a prospectus in 1992 for a certificate to barge ore down Holberg Inlet to the minesite. The application was later withdrawn.

The **Catface** deposit, near Tofino, on Vancouver Island (Enns and McDougall, 1995) was explored for copper and molybdenum in the 1960s and 1970s and reassessed for its gold content in 1990. There has been no further work on the deposit, but given a change in ownership in 1999, it may see more exploration in the years to come.

The shift in interest from bulk-tonnage back to high-grade deposits in the late 1990s led to renewed activity on some smaller, higher grade, porphyry and related deposits. For example, in 1998 Imperial Metals conducted a pre-feasibility study on its **Giant Copper** deposit which contemplated using the mill facilities at its Similco operation. In the 1960s considerable underground development was undertaken on the A.M. breccia zone, a possible source of moderately high grade copper ore. It was redrilled in 1995 and the adjoining Invermay occurrence was explored the following year. Together, they form a significant, combined open-pit and underground-mineable resource.

Porphyry copper±molybdenum±gold± silver deposits in the **Sulphurets camp** have been known and explored since the late 1950s (*e.g.* **Sulphurets Gold** and **Mitchell**; Kirkham and Margolis, 1995). However, it was not until the mid-1980s, when Esso Minerals Ltd. began exploration in the area, that several new porphyry and porphyry-related copper-gold deposits were discovered. The **Kerr** deposit was discovered by Western Canadian Mining Corporation in the 1980s and optioned and drilled by Placer Development Limited in the early 1990s. It contains a significant resource (Ditson *et al.*, 1995). The **Sulphurets Gold** deposit was also acquired by Placer Development Limited, and drilled in the early 1990s. A significant copper-gold resource was established here also (Fowler and Wells, 1995). The **Snowfield** gold deposit (Margolis and Britten, 1995) was discovered in the late 1980s and tested in the early 1990s by Homestake Canada Ltd. A significant resource was identified, hosted in volcanic rocks. The Sulphurets camp currently lacks the road access and infrastructure required to allow development of the large porphyry resources in the area.

In the **Babine** country, the **Bell** mine closed in 1992; however, prior to closure, exploration between 1990 and 1991 had identified a significant resource, mainly below the pit floor (Dirom *et al.*, 1995). To the north, Booker Gold Explorations Ltd., conducted a re-assessment at the **Morrison** property (Ogryzlo *et al.*, 1995) in 1998, under a joint venture agreement with Noranda. It included a small drilling program to test the continuity of the previously established resource. During the mid-1990s, Booker Gold also completed modest drilling campaigns on its **Hearne Hill** property (Ogryzlo *et al.*, 1995) located southeast of Morrison and north of Bell.

In the Toodoggone region, the discovery of the **Kemess South** deposit in 1990 rekindled exploration for porphyry gold-copper deposits. During the 1990s several deposits including **Pine**, **Pil** and **Atty**, were discovered. They are currently being explored. The opening of the **Kemess** mine in 1997, with its related infrastructure (*i.e.* 380-kilometre road and 230 kilovolt electric transmission line), has greatly improved access to the region. The new owners of the mine, Northgate Exploration Ltd., plan further exploration on the **Kemess North** deposit, as well as in the area immediately north of the Kemess South orebody. The British Columbia Geological Survey Branch completed regional mapping programs during the 1980s and 1990s (Diakow *et. al.*, 1991; Rogers and Houle, 1999).

In the early 1990s, International Skyline Gold Corp. conducted major drilling programs on its **Bronson Slope** (Red Bluff) porphyry deposit (Rhys, 1995), located adjacent to the Snip underground gold mine. In 1995 a resource was established and the company applied to the government for a project approval certificate under the Environmental Assessment Act. It plans to develop an open-pit mine; however, the project is still in the review stage. There has not been any recent exploration on the **Schaft Creek** property (Spilsbury, 1995).

TABLE 19
B.C. LODE GOLD PRODUCTION (1890-1998): PORPHYRIES

File No.	DEPOSIT NAME	YEARS OF PRODUCTION (producing = *)	RANK (Prod.)	TONNES MINED OR MILLED	**GOLD (grams)**	SILVER (grams)	COPPER (kilograms)	GOLD RESOURCES (grams)	TOTAL GOLD (Prod. + Res.) (grams)
	ALKALIC TYPE								
232	SIMILCO CAMP (3)	1915-1996	12	185,496,551	**22,841,418**	294,238,155	804,820,665	19,963,070	42,804,488
3	AFTON CAMP (10)	1901-1997	13	41,581,173	**17,121,080**	90,462,058	264,406,781	6,640,239	23,761,319
164	MOUNT POLLEY (CARIBOO-BELL)	1997-1998*	30	8,174,144	**3,761,583**	341,000	14,807,893	35,941,041	39,702,624
		SUBTOTAL:		49,755,317	**43,724,081**	90,803,058	279,214,674	62,544,350	106,268,431
	CALCALKALIC TYPE								
120	ISLAND COPPER	1971-1995	7	366,718,831	**35,267,550**	294,105,533	1,227,330,387		35,267,550
16	BELL	1972-1992	16	77,165,645	**12,885,964**	38,319,730	304,795,539	59,200,000	72,085,964
112	HIGHLAND VALLEY COPPER CAMP (3)	1963-1998*	24	939,943,231	**7,164,823**	1,162,298,763	4,518,197,921	12,504,000	19,668,823
102	GRANISLE	1966-1982	25	52,700,000	**6,832,716**	69,752,525	214,299,455	17,850,000	24,682,716
133	KEMESS CAMP (2)	1998*	38	7,482,000	**2,393,000**	50,000	9,690,000	186,307,210	188,700,210
27	BRENDA	1970-1990	39	181,735,292	**2,281,868**	148,045,716	276,227,104 +Pb		2,281,868
88	GIBRALTAR	1972-1998*	86	305,846,091	**143,368**	105,478,052	876,712,378	1,040,795	1,184,163
289	WILLA (ALWYN)	1899, 1988	N/A	495	**2,873**	7,883	4,418	2,498,211	2,501,084
118	HUCKLEBERRY	1997-1998*	N/A	7,798,593	**1,961**	47,583	43,111,000	4,845,240	4,847,201
87	GIANT COPPER	1936-1947	N/A	94	**716**	313,020		55,242	55,958
		SUBTOTAL:		1,572,671,441	**66,974,839**	1,524,313,272	7,470,368,202	219,531,828	351,275,537
		PORPHYRIES TOTAL:		1,622,426,758	**110,698,920**	1,615,116,330	7,749,582,876	346,845,048	457,543,968

TABLE 20
1999 B.C. LODE GOLD RESOURCES: PORPHYRIES

DEPOSIT NAME	File No.	PRODUCTION (grams)	RESOURCES (grams)	**TOTAL GOLD (Prod. + Res.) (grams)**	RANK (Total Gold)
ALKALIC TYPE					
MT. MILLIGAN	170		140,329,443	**140,329,443**	4
GALORE CREEK	83		125,537,000	**125,537,000**	7
RED-CHRIS	202		55,883,000	**55,883,000**	16
SIMILCO CAMP (3)	236	22,841,418	19,963,070	**42,804,488**	22
MOUNT POLLEY	168	3,761,583	35,941,041	**39,702,624**	27
COPPER CANYON	50		37,908,000	**37,908,000**	28
KATIE	132		34,000,000	**34,000,000**	30
TAM	258		29,592,000	**29,592,000**	33
AFTON CAMP (10)	3	17,121,080	6,640,239	**23,761,319**	37
CHUCHI LAKE	45		10,500,000	**10,500,000**	51
LORRAINE	145		5,429,800	**5,429,800**	72
MEGABUCKS (WOODJAM)	155		1,912,080	**1,912,080**	118
LLOYD-NORDIK	144		1,174,930	**1,174,930**	139
SUBTOTAL:		43,724,081	504,810,603	**548,534,684**	
CALCALKALIC TYPE					
PROSPERITY	196		294,978,000	**294,978,000**	1
KEMESS CAMP (2)	133	2,393,000	186,307,210	**188,700,210**	2
SCHAFT CREEK	217		136,009,300	**136,009,300**	6
BELL	16	12,885,964	59,200,000	**72,085,964**	11
HOLBERG INLET CAMP (2)	113		69,900,580	**69,900,580**	14
SNOWFIELD	252 B)		56,868,900	**56,868,900**	*5
SULPHURETS GOLD	252 C)		49,709,080	**49,709,080**	*5
KERR	135		45,900,000	**45,900,000**	20
POISON MOUNTAIN	190		41,396,000	**41,396,000**	23
MORRISON	167		39,900,000	**39,900,000**	24
PINE	189		39,900,000	**39,900,000**	25
BRONSON SLOPE	32		37,920,000	**37,920,000**	26
ISLAND COPPER	124	35,267,550		**35,267,550**	29
GRANISLE	102	6,832,716	17,850,000	**24,682,716**	35
HIGHLAND VALLEY COPPER CAMP (3)	112	7,164,823	12,504,000	**19,668,823**	41
LOUISE LAKE	146		15,500,000	**15,500,000**	46
POPLAR	192		14,411,700	**14,411,700**	47
TASEKO CAMP (2)	259		13,475,210	**13,475,210**	50
CATFACE	42		8,573,871	**8,573,871**	56
BIG ONION	18		7,550,400	**7,550,400**	60
EAGLEHEAD (JOY)	64		6,000,000	**6,000,000**	69
HUCKLEBERRY	118	1,961	4,845,240	**4,847,201**	77
NANIKA (NEW NANIK)	174		3,291,684	**3,291,684**	91
HEARNE HILL	110		2,646,780	**2,646,780**	101
WILLA (ALWYN)	289	2,873	2,498,211	**2,501,084**	105
BRENDA	27	2,281,868		**2,281,868**	112
GIANT/NOVELTY	212 W)		1,341,736	**1,341,736**	*9
GIBRALTAR	88	143,368	1,040,795	**1,184,163**	138
GIANT COPPER CAMP (2)	87	716	55,242	**55,958**	237
SUBTOTAL:		66,974,839	1,169,573,939	**1,236,548,778**	
PORPHYRIES TOTAL:		110,698,920	1,674,384,542	**1,785,083,462**	

* = Part of Camp

TABLE 21
1999 B.C. LODE TOTAL GOLD: PORPHYRIES

DEPOSIT NAME	File No.	PRODUCTION (grams)	RESOURCES (grams)	**TOTAL GOLD (Prod. + Res.) (grams)**	RANK (Total Gold)
ALKALIC TYPE					
MT. MILLIGAN	170		140,329,443	**140,329,443**	4
GALORE CREEK	83		125,537,000	**125,537,000**	7
RED-CHRIS	202		55,883,000	**55,883,000**	16
SIMILCO CAMP (3)	236	22,841,418	19,963,070	**42,804,488**	22
MOUNT POLLEY	168	3,761,583	35,941,041	**39,702,624**	27
COPPER CANYON	50		37,908,000	**37,908,000**	28
KATIE	132		34,000,000	**34,000,000**	30
TAM	258		29,592,000	**29,592,000**	33
AFTON CAMP (10)	3	17,121,080	6,640,239	**23,761,319**	37
CHUCHI LAKE	45		10,500,000	**10,500,000**	51
LORRAINE	145		5,429,800	**5,429,800**	72
MEGABUCKS (WOODJAM)	155		1,912,080	**1,912,080**	118
LLOYD-NORDIK	144		1,174,930	**1,174,930**	139
SUBTOTAL:		43,724,081	504,810,603	**548,534,684**	
CALCALKALIC TYPE					
PROSPERITY	196		294,978,000	**294,978,000**	1
KEMESS CAMP (2)	133	2,393,000	186,307,210	**188,700,210**	2
SCHAFT CREEK	217		136,009,300	**136,009,300**	6
BELL	16	12,885,964	59,200,000	**72,085,964**	11
HOLBERG INLET CAMP (2)	113		69,900,580	**69,900,580**	14
SNOWFIELD	252 B)		56,868,900	**56,868,900**	*5
SULPHURETS GOLD	252 C)		49,709,080	**49,709,080**	*5
KERR	135		45,900,000	**45,900,000**	20
POISON MOUNTAIN	190		41,396,000	**41,396,000**	23
MORRISON	167		39,900,000	**39,900,000**	24
PINE	189		39,900,000	**39,900,000**	25
BRONSON SLOPE	32		37,920,000	**37,920,000**	26
ISLAND COPPER	124	35,267,550		**35,267,550**	29
GRANISLE	102	6,832,716	17,850,000	**24,682,716**	35
HIGHLAND VALLEY COPPER CAMP (3)	112	7,164,823	12,504,000	**19,668,823**	41
LOUISE LAKE	146		15,500,000	**15,500,000**	46
POPLAR	192		14,411,700	**14,411,700**	47
TASEKO CAMP (2)	259		13,475,210	**13,475,210**	50
CATFACE	42		8,573,871	**8,573,871**	56
BIG ONION	18		7,550,400	**7,550,400**	60
EAGLEHEAD (JOY)	64		6,000,000	**6,000,000**	69
HUCKLEBERRY	118	1,961	4,845,240	**4,847,201**	77
NANIKA (NEW NANIK)	174		3,291,684	**3,291,684**	91
HEARNE HILL	110		2,646,780	**2,646,780**	101
WILLA (ALWYN)	289	2,873	2,498,211	**2,501,084**	105
BRENDA	27	2,281,868		**2,281,868**	112
GIANT/NOVELTY	212 W)		1,341,736	**1,341,736**	*9
GIBRALTAR	88	143,368	1,040,795	**1,184,163**	138
GIANT COPPER CAMP (2)	87	716	55,242	**55,958**	237
SUBTOTAL:		66,974,839	1,169,573,939	**1,236,548,778**	
PORPHYRIES TOTAL:		110,698,920	1,674,384,542	**1,785,083,462**	

* = Part of Camp

CHAPTER 5 SKARN DEPOSITS

CLASSIFICATION AND GEOLOGICAL CHARACTERISTICS

Gold-bearing skarn deposits commonly have lower tonnages but higher metal grades than porphyry deposits and they have, consequently, had a longer history of exploitation. Production in the Hedley and Greenwood areas was originally focused on relatively small amounts of high-grade material. However, in the 1980s, Mascot Gold Mines Inc. and Homestake Canada Inc. applied the concept of mechanized, open-pit mining to the Hedley deposits, and substantially increased the amount of gold produced from the area.

Skarn deposits in British Columbia are classified according to their principal commodity (Lefebure and Ray 1995), notably Cu, Fe, Au, Pb - Zn, W, Sn, Mo and industrial mineral skarns; the latter are potential producers of minerals such as garnet and wollastonite. Ray (1995 a, b, c, d) notes that some Cu, Fe, Mo and Pb - Zn skarns are gold-bearing and are thus a potential source of the metal. However, most of production to date has come from one area, the Hedley gold skarns (Ettlinger and Ray, 1989; Ray *et al*., 1990; Dawson, 1996; and Ray and Webster, 1997). A weak to strong spatial and chemical association exists between Fe, Cu, Au and Pb-Zn skarns and alkaline and calcalkine porphyry systems (Ray and Webster; 1991a, 1997) suggesting a genetic relationship.

Skarn deposits may be stratigraphically or structurally controlled. They form through infiltration and chemical reaction between magmatic fluids and hornfelsed calcic and or magnesian country rock. The affected rocks are commonly altered to garnet and/or pyroxene skarn before being retrograded by phyllic alteration during a later mineralizing event. Deposits may form either close to the igneous body, or more distally in the outer parts of the skarn envelope.

Many Cu, Pb-Zn, Au and Fe skarns in British Columbia are associated with quartz diorite to tonalite plutons intruded into island arc volcanic and sedimentary rocks. Copper skarn deposits are moderately to strongly enriched in sulphide as vein stockworks and disseminations. Some are zoned, with an inner core of chalcopyrite+/- pyrite+/-magnetite enrichment in garnet and pyroxenite skarn and an outer zone of bornite+/-chalcopyrite +/-sphalerite+/-tennantite in wollastonite skarn. Lead and zinc skarns are rich in galena and sphalerite and mostly have a pronounced structural control forming distal to the intrusion. Iron skarns are predominantly composed of magnetite but many deposits contain a small amount of sulphide. Gold values in these deposits are variable and may be also zoned toward the outer fringes of the deposit. Some of the larger, lower-grade Cu skarn deposits associated with alkalic porphyries (*e.g.* Ingerbelle) appear to have been formed at relatively high levels in the crust (Ray, 1996).

On the basis of mineralogy, Au skarns can be sub-divided into at least 3 types: garnet-rich, pyroxene-rich and epidote-rich. These mineralogical variations reflect differences in the original protolith and in the chemistry and oxidation state of the hydrothermal fluids. The **Nickel Plate** deposit represents an unusual example of pyroxene-dominant Au skarn. The mineralization is hosted by siltstones and developed in the outer parts of the skarn envelope. The dominance of arsenopyrite and pyrrhotite, and rarity of pyrite, suggests it formed under reduced hydrothermal conditions.

The **QR** deposit is an example of an epidote-dominant Au skarn; its mineralogy reflects the mafic nature of the tuffaceous host rocks, and its higher pyrite and chalcopyrite content suggests a more oxidized system. No proven example of a major garnet - dominant Au skarn has been described in British Columbia. Their garnet-rich gangue reflects the limestone protolith. Some of these deposits tend to contain more pyrite than pyrrhotite, and the ore bodies may form both proximal and distal to the source pluton.

One common characteristic of all Au skarns is that the gold is micron - sized, and is commonly held in sulphides (commonly arsenopyrite), where it may be intimately associated with bismuth-bearing minerals, including tellurides. Thus, it is generally difficult to distinguish ore from waste in a Au skarn, and assaying is essential when exploring for, or evaluating these deposits.

PRODUCTION

Total gold production from 16 skarn deposits/camps to the end of 1998 amounts to 130 500 kilograms (4.2 million oz) of gold. This represents nearly 16% of total lode production in the province (Tables 4 and 22; Fig. 3). Output is dominated by two world-class deposits in the **Hedley** (Ettlinger *et al.*, 1992; Ray and Dawson, 1994; Dawson, 1994) and **Greenwood** camps (McNaughton, 1945; Little, 1983; Church, 1986 and Church and Jones, 1997). Together they account for 114 200 kilograms (3.67 million oz) of gold, representing 88% of total skarn production. The **Nickel Plate** deposit is a Au skarn that produced 86% of the gold won from the Hedley camp, while the **Phoenix** Cu-Au skarn produced 90% of production in the Greenwood camp skarns, largely as a byproduct of copper mining. Open-pit mining at Phoenix and Nickel Plate ceased in 1978 and 1996, respectively.

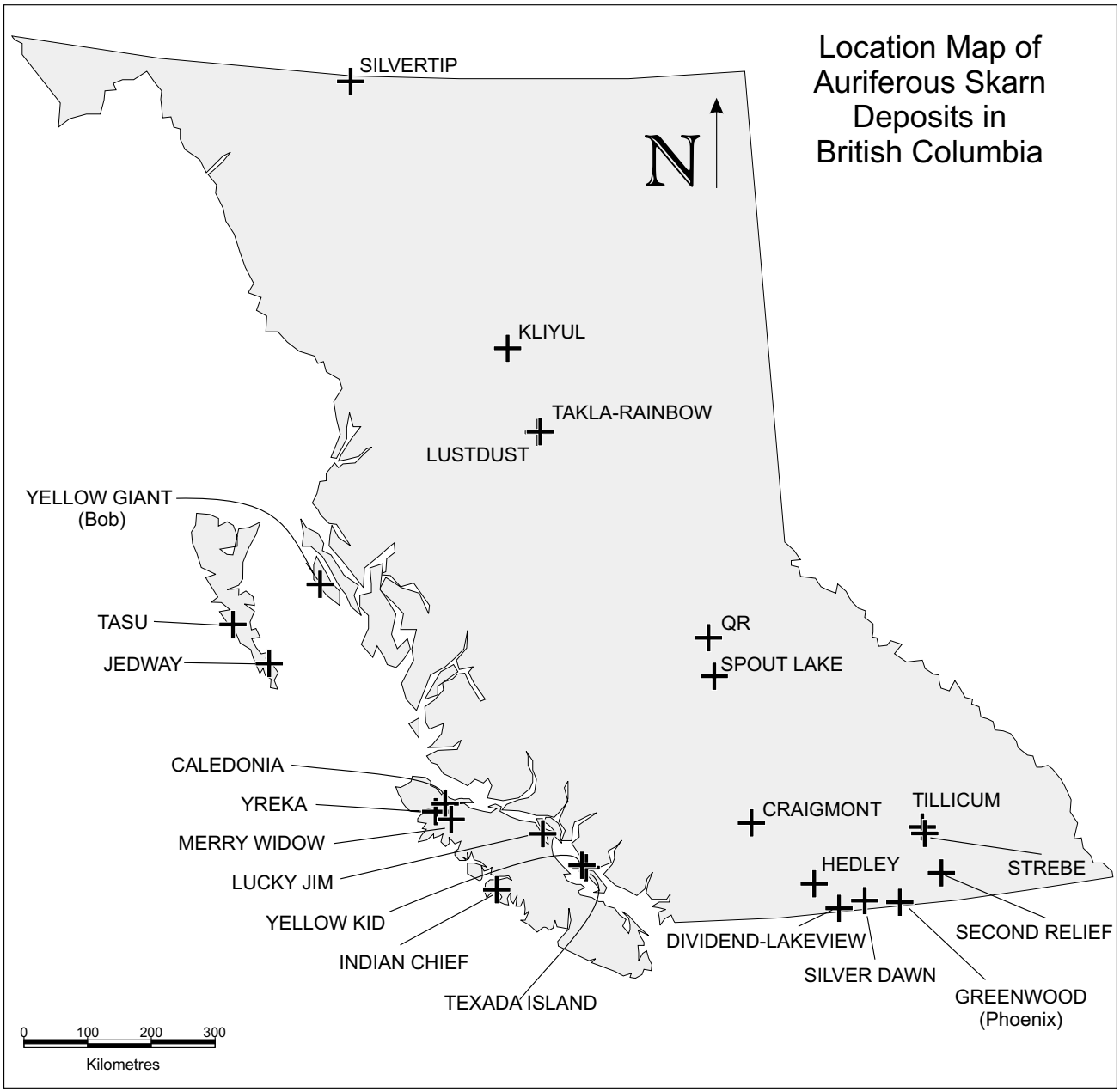


Figure 12. Location map of auriferous skarn deposits in British Columbia.

Eight districts with recorded production exceeding 1000 kilograms (32 150 oz) of gold account for nearly 99% of total production from gold-bearing skarns (Table 22). These districts (with their overall gold production ranking in parentheses) are **Hedley** camp (3rd) - Au skarn, **Greenwood** camp (skarns) (5th) - Cu-Au skarn, **Merry Widow** camp (28th) - Fe skarn, **QR** (31st) - Au skarn, **Second Relief** (32nd) - Au skarn, **Texada Island** camp (37th) - Fe skarn and **Tasu** (46th) - Fe skarn.

The **QR** mine (Melling *et al.*, 1990; Fox and Cameron, 1995), located east of Quesnel, ceased production in the spring of 1999; it remains on care and maintenance status. The gold content of the **Rossland** skarns is discussed by Wilson *et al.*, 1990.

RESOURCES AND TOTAL INVENTORY

Gold resources in 18 skarn deposits/camps total 33 800 kilograms (1.09 million oz), accounting for 1.4% of identifiable lode-gold resources in British Columbia (Tables 8 and 23; Fig. 5). None of the deposits/camps rank in the top 25 for resources; however, the amount of past production suggests that they should be an important exploration target.

Total gold inventory for 24 skarn deposits/camps amounts to 164 300 kilograms (5.28 million oz), or just over 5% of total lode inventory in British Columbia (Tables 9 and 24; Fig. 6). In terms of total gold rank in the province, the **Hedley** camp (10th), and **Greenwood** camp (skarns) (21st) are the only ones included in the top 25 (Table 12).

EXPLORATION AND DEVELOPMENT ACTIVITY - DEPOSIT UPDATES

The **QR** mine is a relatively recent discovery of a Au skarn that is associated with an alkalic prophyry. Other exploration targets of this type probably exist elsewhere in British Columbia.

The gold occurrences at the north end of **Texada Island** (Webster and Ray, 1990a and b) include mesothermal vein and iron and copper-gold skarns. Some of the latter have been mined and some have *in situ* resources. The numerous skarn showings on Texada Island, and the grades of the past-producing **Marble Bay** and **Little Billie** deposits, stimulated considerable exploration interest in the area in the late 1980s. Several companies, notably Vananda Gold, completed ground surveys and drilling programs. At the same time, there was increased interest in the gold potential of the Fe skarns in the **Merry Widow** camp (Ray and Webster; 1991b).

During the 1990s, sporadic exploration in the **Greenwood camp** focused on both high-grade auriferous veins and skarns (*e.g.* **Sylvester K**, **Lexington**, **OB**, **Eholt**, **Motherlode**, **Winnipeg** and **Golden Crown**). In the early 1990s, Battle Mountain (Canada) Inc. conducted a major re-evaluation of the **Phoenix** property for gold. Similarly during the mid-1990s, Echo Bay Mines Ltd. re-evaluated several properties in the Greenwood camp, focusing on targets similar to its **Overlook** and **K-2** mines and its recent **Lamefoot** discovery (now a mine), immediately south of the Canada/USA border. This work confirmed that the geological setting and style of mineralization are similar to deposits across the border.

In 1998, Imperial Metals Corporation filed an Environmental Assessment Process application for the **Silvertip** (formerly Midway) high-grade precious and base metal manto-type deposit, near the B.C.-Yukon border. During 1998-1999 it conducted further exploration, including deep drilling, to investigate geological environments favourable for manto/chimney mineralization. The owners believe that a high-grade intercept from its 1999 drilling indicates the presence of a feeder zone to overlying manto-type mineralization. They have dewatered a pre-existing ramp and side drifts; drilling began in January 2000.

Between 1997 and 1999, modest drilling programs were completed on the **Lustdust** skarn/manto prospect. The property covers multiple zones of gold, silver, zinc, lead and copper mineralization, primarily as structurally controlled, massive sulphide replacements. In addition, tabular calc-silicate skarn zones occur adjacent to a quartz monzonite intrusion.

In 1988 and 1989, Esperanza Exploration Ltd. completed surface and underground drilling at its **Tillicum** Au skarn project (Ray *et al.*, 1985), near Nakusp. The focus was on a 550-metre strike length of the lower grade East Ridge zone, as well as exploration and development on the high-grade Heino-Money zone.

TABLE 22
B.C. LODE GOLD PRODUCTION (1890-1998): SKARNS

File No.	DEPOSIT NAME	YEARS OF PRODUCTION (producing = *)	TONNES MINED OR MILLED	GOLD (grams)	SILVER (grams)	COPPER (kilograms)	GOLD RESOURCES (grams)	TOTAL GOLD (Prod. + Res.) (grams)
111	HEDLEY CAMP (7)	1904-1996	15,019,367	**76,735,496**	18,802,842	1,872,984	211,172	76,946,668
105 (A,B)	GREENWOOD CAMP SKARNS (17)	1900-1978	16,088,716	**37,476,113**	230,934,956	298,549,329	2,685,607	40,161,720
156	MERRY WIDOW CAMP (2)	1962-1969	2,656,061	**3,931,702**	12,219,624	42,430,209	272,154	4,203,856
197	QR	1995-1998*	1,015,822	**3,628,259**	1,069,148		1,625,600	5,253,859
221 (A)	SECOND RELIEF	1900-1959	205,316	**3,117,637**	858,347	20,210		3,117,637
265	TEXADA ISLAND CAMP (10)	1896-1952	790,177	**2,399,355**	16,090,015	9,010,036	4,369,129	6,768,484
260	TASU	1914-1984	22,701,946	**1,430,140**	52,822,505	57,090,466		1,430,140
296	YELLOW KID	1957-1976	18,946,947	**887,401**	23,645,219	25,432,000		887,401
58	DIVIDEND-LAKEVIEW	1907-1949	94,531	**504,396**	87,244	73,351		504,396
267	TILLICUM	1981-1991	227	**164,552**	218,908		7,367,935	7,532,487
53	CRAIGMONT	1961-1988	34,846,139	**77,851**	242,510	402,704,469		77,851
127	JEDWAY (3)	1906-1920	13,463	**53,496**	869,702	578,197		53,496
298	YREKA	1902-1967	136,976	**49,890**	4,537,119	3,935,873	886,112	936,002
122	INDIAN CHIEF	1904-1938	73,608	**22,500**	1,707,000	1,102,000	589,000	611,500
147	LUCKY JIM	1909-1927	478	**7,371**	7,123	11,200	139,319	146,690
34	CALEDONIA	1929	1		500	66	23,120	23,120
		TOTALS:	112,589,775	**130,486,159**	364,112,762	842,810,390	18,169,148	148,655,307

* = Part of Camp

TABLE 23
B.C. LODE GOLD RESOURCES 1999: SKARNS

DEPOSIT NAME	File No.	RESOURCES (Tonnes)	GOLD GRADE (g/t)	**RESOURCES GOLD (grams)**	RANK (Res.)	TOTAL GOLD (Res. + Prod.) (grams)
TILLICUM	267	1,184,672	5.82	**7,367,935**	51	7,532,487
LUSTDUST	149	1,133,750	4.29	**4,863,788**	62	4,863,788
TEXADA ISLAND CAMP (3)	265	355,230		**4,369,129**	65	6,768,484
KLIYUL	136	2,300,000	1.3	**2,990,000**	80	2,990,000
TAKLA RAINBOW	257	199,580	13.7	**2,734,246**	83	2,734,246
GREENWOOD CAMP SKARNS (4)	105 A,B)	1,662,988		**2,685,607**	*61	40,161,720
YELLOW GIANT (BOB)	294	45,350	40.1	**1,818,535**	101	1,818,535
QR	197	320,000	5.08	**1,625,600**	105	5,253,859
SILVERTIP (Midway)	234	2,570,000	0.63	**1,619,100**	106	1,619,100
STREBE	249	156,040	8.57	**1,337,263**	115	1,337,263
YREKA	298	128,422	6.9	**886,112**	125	936,002
INDIAN CHIEF	122	1,900,000	0.31	**589,000**	143	611,500
MERRY WIDOW CAMP	156	272,154	1	**272,154**	168	4,203,856
HEDLEY CAMP	111	175,977	1.2	**211,172**	170	76,946,668
SILVER DAWN	228	242,532	0.82	**198,876**	172	198,876
LUCKY JIM	147	12,700	10.97	**139,319**	183	146,690
SPOUT LAKE	246	554,000	0.17	**94,180**	192	94,180
CALEDONIA	34	68,000	0.34	**23,120**	210	23,120
TOTALS:		13,281,395		**33,825,136**		158,240,374

TABLE 24
B.C. LODE TOTAL GOLD: SKARNS

DEPOSIT NAME	File No.	PRODUCTION (grams)	RESOURCES (grams)	**TOTAL GOLD (Prod. + Res.) (grams)**	RANK (Total Gold)
HEDLEY CAMP (7)	111	76,735,496	211,172	**76,946,668**	10
GREENWOOD CAMP SKARNS (17)	105 A,B)	37,476,113	2,685,607	**40,161,720**	*21
TILLICUM	267	164,552	7,367,935	**7,532,487**	62
TEXADA ISLAND CAMP (10)	265	2,399,355	4,369,129	**6,768,484**	68
QR	197	3,628,259	1,625,600	**5,253,859**	74
LUSTDUST	149		4,863,788	**4,863,788**	76
MERRY WIDOW CAMP (2)	156	3,931,702	272,154	**4,203,856**	82
SECOND RELIEF	221 A)	3,117,637		**3,117,637**	*93
KLIYUL	136		2,990,000	**2,990,000**	94
TAKLA RAINBOW	257		2,734,246	**2,734,246**	99
YELLOW GIANT	294		1,818,535	**1,818,535**	*119
SILVERTIP (Midway)	234		1,619,100	**1,619,100**	124
TASU	260	1,430,140		**1,430,140**	129
STREBE	249		1,337,263	**1,337,263**	133
YREKA	298	49,890	886,112	**936,002**	147
YELLOW KID	296	887,401		**887,401**	148
INDIAN CHIEF	122	22,500	589,000	**611,500**	164
DIVIDEND-LAKEVIEW	58	504,396		**504,396**	173
SILVER DAWN	228		198,876	**198,876**	203
LUCKY JIM	147	7,371	139,319	**146,690**	214
SPOUT LAKE	246		94,180	**94,180**	223
CRAIGMONT	53	77,851		**77,851**	234
JEDWAY CAMP (3)	127	53,496		**53,496**	239
CALEDONIA	34		23,120	**23,120**	259
SKARNS TOTAL:		130,486,159	33,825,136	**164,311,295**	

* = Part of Camp

CHAPTER 6 MASSIVE SULPHIDE DEPOSITS

PRODUCTION

Total gold production from 14 massive sulphide deposits/camps to the end of 1998 amounts to 78 400 kilograms (2.52 million oz). This represents slightly more then 10% of total lode gold production in the province (Table 25; Fig. 3). Eleven volcanogenic and three sedimentary-exhalative types have accounted for 78 200 kilograms (2.51 million oz) and 215 kilograms (6900 oz), representing 10.23% and 0.03% of total production, respectively.

RESOURCES AND TOTAL INVENTORY

Gold resources for 20 massive sulphide deposits/camps in 1999 amount to 222 900 kilograms (7.17 million oz). This represents slightly more than 9% of total gold resources in the province (Table 26; Fig. 5). Nineteen volcanogenic and one sedimentary-exhalative type account for 196 800 kilograms (6.33 million oz) and 26 000 kilograms (836 000 oz), representing 8.11% and 1.11% of total resources, respectively.

Twenty-six massive sulphide deposits/camps contain a total inventory of gold of 301 300 kilograms (9.69 million oz). This represents slightly more than 10% of total lode gold inventory in the province. Twenty-two volcanogenic and four sedimentary-exhalative types account for 275 000 kilograms (8.84 million oz) and 2600 kilograms (83 600 oz) representing 8.46% and 0.81% of total inventory, respectively.

VOLCANOGENIC MASSIVE SULPHIDE DEPOSITS

Classification and Geological Characteristics

Volcanogenic massive sulphide deposits are relatively high-grade, polymetallic, base-metal sulphide lenses that locally contain a significant amount of precious metals. Until the discovery and development of the high-grade **Eskay Creek** mine, gold was produced as a byproduct of base metal mining of these deposits. In British Columbia most massive sulphide deposits have been mined underground; however, where amenable, some near-surface lenses were mined by open-pit methods.

Lefebure and Ray (1995) list seven deposit types with a marine volcanic association, including the well-known Besshi massive sulphide Zn-Cu-Pb (G04), Cyprus massive sulphide Cu (G05), Noranda/kuroko massive sulphide Cu-Pb-Zn (G06), [Höy, (1995a,b,c)] and subaqueous hot spring Ag-Au (G07), [Alldrick, (1995)] varieties. Of these, only the subaqueous hot spring variety, which includes the Eskay Creek deposit, is specifically designated as being a gold and silver dominant deposit type.

Although the **Sullivan**, **Britannia** and **Granduc** deposits were important early polymetallic producers in British Columbia, massive sulphide deposits as a whole were poorly documented prior to the 1990s (Fig.13). The first comprehensive review of volcanogenic deposits in British Columbia was published by Höy (1991). Since then, they have been discussed by Sherlock *et al.* (1996), Thompson and Barrett (1996), Massey (1999) and others. In the 1990s, the Mineral Deposit Research Unit at The University of British Columbia conducted a major review of volcanogenic massive sulphide deposits in the province to examine their tectonic setting, their environment of formation and the nature of their hydrothermal systems. Research staff have studied seven deposits: **Anyox**, **Eskay Creek**, **Granduc**, **Kutcho Creek**, **Myra Falls**, **Seneca** and **Tulsequah Chief** (Thompson and Barrett, 1996). Volcanogenic massive sulphides are not limited to the British Columbia portion of the Canadian Cordillera; significant deposits also occur in adjacent areas, in southeastern Alaska (**Greens Creek**), and in the southeastern Yukon (**Khudz ze Kayah** and **Wolverine** deposits).

The deposits commonly formed at or near the seafloor in a volcanic environment. However, they have variable characteristics reflecting differences in their regional tectonic settings and depth of formation (*e.g.* shallow or deep water). Besshi-type deposits, such as **Goldstream** (Höy *et al.*, 1984), **Granduc** and **Windy Craggy** (Peter and Scott, 1999) are thinly bedded, tabular bodies of pyrite and/or pyrrhotite with chalcopyrite and sphalerite hosted in calcalkaline volcanic rocks and coarse clastic sediments, likely formed in a back-arc basin.

Cyprus-type deposits at **Chu Chua** (Vollo, 1981) and in the **Anyox** camp (Macdonald *et al.*, 1995, 1996) comprise lenses of massive pyrite or pyrrhotite with chalcopyrite and sphalerite. These formed in ocean-floor basalts at the end of a period of effusive volcanism. The lenses are commonly intermixed with chert and underlain by stockwork mineralization.

Noranda/kuroko-type deposits, such as **Myra Falls** (Juras, 1987; Juras and Pearson, 1990; Barrett *et al.*, 1994; Barrett and Sherlock, 1996a), **Britannia** (Payne *et al.*, 1980), **Tulsequah Chief** (Nelson and Payne, 1985;

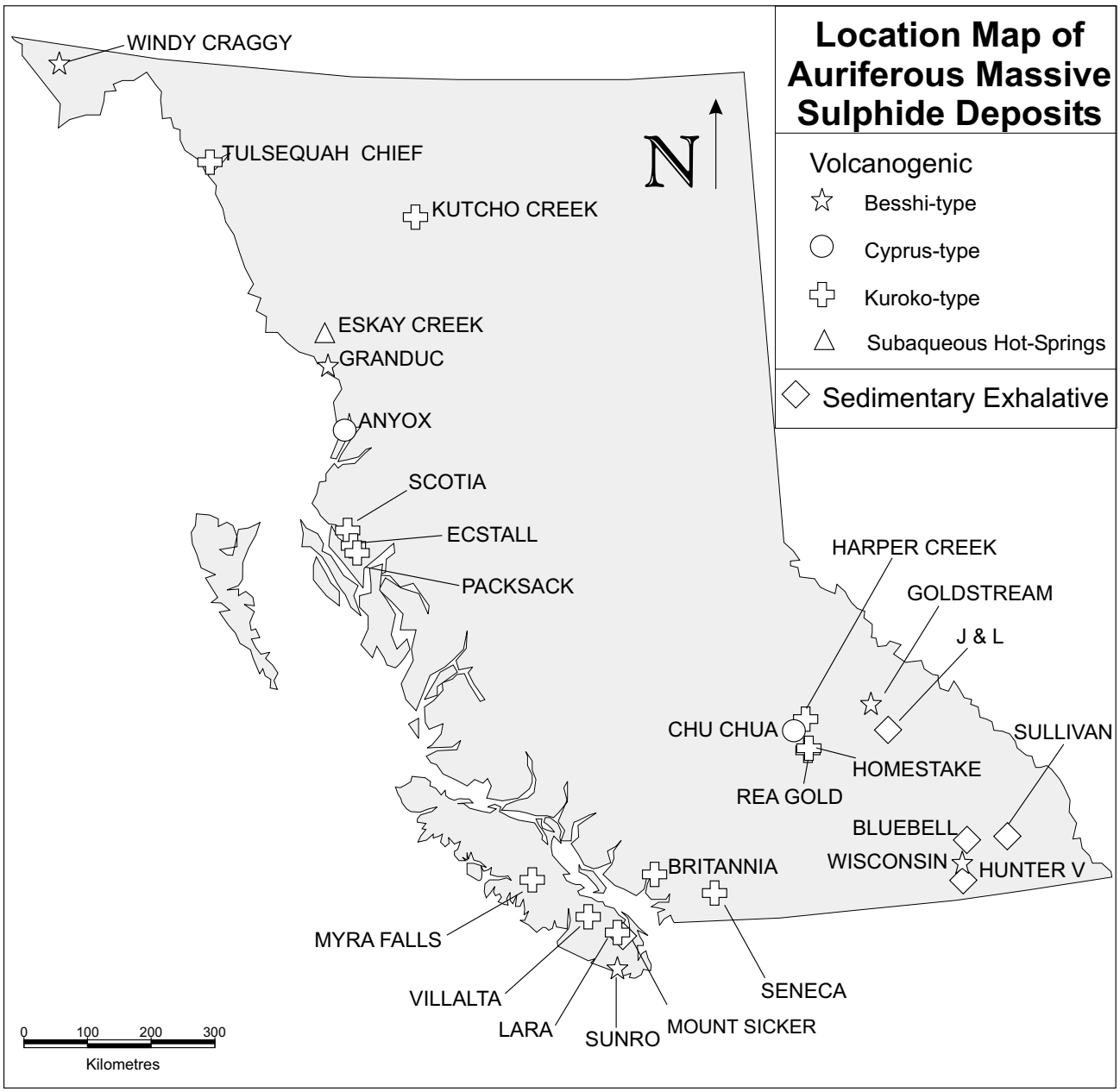


Figure 13. Location map of auriferous massive sulphide deposits in British Columbia.

Sebert *et al.*, 1995 and Sebert and Barrett (1996), **Kutcho Creek** (Bridge *et al.*, 1986; Barrett *et al.*, 1996), and **Seneca** (McKinley *et al.*, 1995) are typically sulphide lenses formed in small, down-dropped basins in bimodal volcanic and related sedimentary rocks during a rifting event in the development of an island arc complex. The sulphides may either be deposited *in situ* or they may be reworked and laid down in local depressions (Höy, 1991). There are similar, less well-defined occurrences at **Mount Sicker** and **Lara** on Vancouver Island and **Ecstall** in the Coast Mountains.

Eskay Creek appears to belong to a new class of precious metal rich volcanogenic massive sulphide deposit. It formed in a similar geological environment to a Noranda/kuroko deposit but at significantly shallower depth (Barrett and Sherlock, 1996b; Roth *et al.*, 1999). The 21B zone at Eskay Creek appears to be a marine depression filled with resedimented sphalerite, tetrahedrite, boulangerite, bournonite and native gold and silver. The deposit is notable for its exceptionally high gold and silver contents and for the presence of trace elements more typical of an epithermal vein system than a volcanogenic massive sulphide deposit (*ie*. As, Sb, Hg). The **Nifty** prospect (Ray *et al.*, 1998) is also a shallow-marine, low-temperature massive sulphide deposit. It has a pronounced barite cap, enriched in silver but not gold.

Production

Total gold production from 14 massive sulphide deposits/camps to the end of 1998 amounts to 78 400 kilograms (2.52 million oz). This represents 10.26% of lode production in the province. Volcanogenic types account for 78 200 kilograms (2.43 million oz) representing 10.23%; sedex types account for 215 kilograms (6900 oz) representing 0.03% (Tables 4 and 25; Fig. 7).

Before mining began at the **Eskay Creek** subaqueous hot spring deposit in 1995, three camps (**Myra Falls**, **Britannia** and **Anyox**) had produced more than 3000 kilograms (100 000 oz) and a fourth, **Tulsequah Chief**, had fallen short by less than 200 kilograms (Table 25). In four years, **Eskay Creek** has become the production leader among massive sulphide deposits, accounting for 29 600 kilograms (951 000 oz) of gold and 1 430 200 kilograms (46 million oz) of silver. In 1999 the mine was forecast to produce 9990 kilograms (321 000 oz) of gold and 432 300 kilograms (13.9 million oz) of silver. Together these four clusters of deposits account for 92% of gold recovered from massive sulphide orebodies. In terms of overall production rank in the province, **Eskay Creek** (9th), **Myra Falls** (11th), **Britannia** (15th) and **Anyox** (29th) are included in the top 25 (Table 5).

Average grades of gold range between roughly 0.15 and 5.0 grams per tonne (0.005 to 0.15 ounces per ton). Kuroko deposits cluster towards the high end of the range and Besshi deposits at the bottom (Fig. 4 and Fig. 15 in Schroeter *et al.*, 1989). The **Eskay Creek** mine has exceptional high grades of gold and silver (*i.e.* 58 grams and 2490 grams per tonne, respectively) for massive sulphide deposits.

The **Myra Falls** camp has been producing since 1967. Significant underground discoveries over the past few years indicate that this camp should continue to hold a preeminent position among massive sulphide producers in British Columbia.

Resources and Total Inventory

Gold resources in 20 massive sulphide deposits/camps total 222 900 kilograms (7.17 million oz), accounting for 9.2% of identifiable lode-gold resources in British Columbia (Tables 8 and 26; Fig. 5). The high-grade **Eskay Creek** subaqueous hot spring deposit contributes 78 250 kilograms of gold (35.1 %). Thirteen kuroko deposits (**Tulsequah Chief**, **Myra Falls**, **Kutcho Creek**, **Harper Creek**, **Ecstall**, **Lara**, **Rea Gold**, **Mt. Sicker**, **Seneca**, **Packsack**, **Homestake**, **Scotia** and **Villalta**) contribute 52 250 kilograms of gold (23%); three Besshi deposits (**Windy Craggy**, **Wisconsin** and **Sunro**) contribute 61 400 kilograms of gold (28%); two Cyprus deposits/camps (**Anyox**, **Chu Chua**) contribute 4900 kilograms of gold (2.2%); one sedex deposit (**J & L**) contributes 26 000 kilograms of gold (11.7%) (Table 26).

In terms of overall gold resources rank in British Columbia, **Eskay Creek** (7th), **Windy Craggy** (10th), **J & L** (24th), **Tulsequah Chief** (27th), **Myra Falls** (41st) and **Kutcho Creek** (49th) are included in the top 50.

The distribution of total inventory in massive sulphide deposits closely parallels resources. Total gold for 22 volcanogenic and 4 sedex massive sulphide deposits/camps amounts to 301 300 kilograms (9.69 million oz), accounting for 9.27% (8.4%-volcanogenic and 0.81%-sedex) of provincial production (Tables 9 and 27; Fig. 6). The **Eskay Creek** subaqueous hot spring deposit accounts for 35.8% of the total; fourteen kuroko deposits/camps account for 31.5%; five Besshi deposits/camps account for 21.1%; two Cyprus deposits/camps account for 2.9%; four sedex deposits account for 8.7%.

In terms of overall total gold inventory rank in British Columbia, **Eskay Creek** (8th), **Windy Craggy** (15th), **Myra Falls** (31st), **J & L** (34th), **Tulsequah Chief** (40th), and **Britannia** (45th) are included in the top 50.

Exploration and Development Activity - Deposit/Camp Updates

Interest in polymetallic massive sulphide deposits in British Columbia has increased in recent years. A number of factors have contributed to this trend. These include the discovery of the exceptionally high-grade **Eskay Creek** gold-silver mine in northwestern British Columbia; recognition of the subaqueous hot spring deposit type; the widespread recognition of the potential for other world-class volcanogenic massive sulphide deposits (*e.g.* **Windy Craggy** and **Myra Falls**); the high unit value of massive sulphide ores (*e.g.* **Eskay Creek**, **Samatosum**); and the opportunity they provide for product diversifica-

tion, which reduces the impact of cyclical swings in the price of a single metal.

Kuroko Deposits

The **Myra Falls** massive sulphide deposits are associated with rhyolite domes within a sequence of felsic volcanic rocks 500 metres thick and extending for at least 6 kilometres of strike length. The Lynx and Myra orebodies commenced production in 1967; the H-W orebody was developed in 1986. Exploration programs by Westmin Resources Ltd. (now Boliden Westmin (Canada) Ltd. in the early 1990s led to the discovery of the Battle and Gap zones in 1991 and the Marshall zone in 1993. Because of access difficulties, the latter was first explored in 1998. It is relatively rich in barite and gold.

The **Tulsequah Chief** project received a Mine Development Certificate from the provincial government in March, 1998. Redfern Resources Ltd. has applied for a special use permit to build a 160-kilometre road from Atlin to the minesite. It is currently seeking financing for project development.

Three subeconomic massive sulphide deposits (**Ecstall**, **Packsack** and **Scotia**) are hosted by bimodel volcanic rocks in the Ecstall septum, a roof pendant in the Central Gneiss Complex south of Prince Rupert. They are interpreted as kuroko deposits related to felsic volcanic centres. Exploration on these deposits has been intermittent but is expected to increase as a result of a new, 5-year project initiated in the area by Alldrick in 1999 (Alldrick and Gallagher, 2000).

The **Lara** deposit is a poorly documented volcanogenic massive occurrence in rocks similar to those found at Mount Sicker and Myra Falls. It was discovered and drilled in the mid 1980s and an exploration adit was driven on the main (Coronation) zone. This was too small to support a stand-alone operation and the property remained idle until a new operator drilled some step-out holes in 1998.

The large **Windy Craggy** deposit (Peter and Scott, 1999), discovered in 1957, was explored between 1988 and 1991 by Geddes Resources Ltd., under a joint venture agreement with Falconbridge Ltd. A large polymetallic resource was established for the main area; several other zones of massive sulphide mineralization are known but have not been tested. In 1992 the British Columbia Geological Survey Branch completed a field program in the area (Mihalynuk *et al.*, 1993). In 1993 the British Columbia government declared a large area including the Windy Craggy deposits a "Class A" provincial park. In December, 1994 the United Nations Education, Scientific and Cultural Organization (UNESCO) designated the area a World Heritage site.

Besshi Deposits

The **Goldstream** deposit, north of Revelstoke, produced until 1996. Regional exploration (*e.g.* Rift) is targeting similar deposits.

Cyprus Deposits

Sulphide lenses at **Anyox** occur on top of flows extruded at the end of a mafic volcanic cycle and are generally overlain by argillites. Intermittent exploration during the 1980s and 1990s has focused on the gold potential.

Subaqueous Hot Spring Deposits

The discovery of the **Eskay Creek** deposit in 1988 and subsequent commencement of production in 1995 has focused attention on the potential for future discoveries. At the minesite, Homestake Canada Inc. has been successful in replenishing reserves. Reserves as of January 1, 1999 were greater than at start-up. Several other prospects in the Eskay Creek area, which are believed to be of a similar type, include **RDN**, **Corey, Unuk River** and **Sib**.

The voluminous database which now exists for a large region surrounding the Eskay Creek mine (including studies by the Mineral Deposits Research Unit, *The University of British Columbia* and *British Columbia Geological Survey Branch*), provides an excellent base for future exploration for these very high-grade deposits.

SEDEX MASSIVE SULPHIDE DEPOSITS

Lefebure and Ray (1995) describe seventeen sediment-hosted deposit types, of which only one, Carlin-type sediment-hosted Au-Ag (E03) is specifically noted for its gold content. Few of the deposit types in the class both qualify as massive sulphide deposits and contain byproduct gold. Most notably, gold has come from sedex Zn-Pb-Ag (E14) and Irish-type carbonate-hosted Zn-Pb or Kootenay Arc-type (E13) deposits. The former are described by McIntyre (1995), and the latter by Höy (1996).

Sedimentary exhalative (sedex) deposits are typically thinly laminated to massive beds of pyrite, pyrrhotite, sphalerite and galena interbedded with greywacke and shale in structurally controlled depressions or down-dropped basins on the seafloor (MacIntyre, 1991). They are commonly floored by a pronounced stockwork zone and typically contain lead, zinc and silver without appreciable gold. The Sullivan deposit is exceptional in its large size and its gold content. The geologic setting, structure and mineralization, and the associated hydrothermal alteration at the Sullivan deposit will be described by Turner and Leitch (in preparation).

Carbonate-hosted mineral deposits, such as **Bluebell** (Shannon, 1970) in the Kootenay Arc, appear to have formed in a similar manner to other sedex deposits. They are in structurally controlled basins together with sandstone, carbonate and shale: Nelson (1991) notes they are predominantly lead, zinc and silver producers but some contain minor amounts of gold.

The **J & L** deposit (Höy, 1985; Nelson, 1991) shows similarities with typical Kootenay Arc deposits but has an unusual sulphide mineralogy. It contains abundant pyrite and arsenopyrite, with sphalerite and galena and appre-

ciable gold. In 1996 Weymin Mining Corporation optioned the deposit (Logan *et al.*, 1996), which has an established resource in the Main zone. A limited drilling program and metallurgical testing on a bulk sample were carried out in 1997. Litigation and low gold prices have brought a halt to further exploration/development.

TABLE 25
B.C. LODE GOLD PRODUCTION (1890-1998): MASSIVE SULPHIDES

File No.	DEPOSIT NAME	YEARS OF PRODUCTION (producing = *)	RANK (Prod.)	TONNES MINED OR MILLED	**GOLD PRODUCTION (grams)**	SILVER PRODUCTION (grams)	GOLD RESERVES (grams)	TOTAL GOLD (Prod. + Res.) (grams)
	VOLCANOGENIC							
74	ESKAY CREEK	1995-1998*	9	446,933	**29,577,433**	1,430,186,981	78,239,181	107,816,614
173	MYRA FALLS CAMP (3)	1967-1998*	10	19,273,562	**23,031,051**	782,217,289	10,177,500	33,208,551
31	BRITANNIA	1905-1988	15	47,402,533	**15,350,561**	180,845,883		15,350,561
6	ANYOX CAMP (3)	1914-1936	29	19,825,078	**3,859,352**	215,056,466	4,337,140	8,196,492
272	TULSEQUAH CHIEF	1939-1957	34	933,569	**2,931,644**	105,774,242	19,142,200	22,073,844
101	GRANDUC	1970-1984	41	15,559,369	**2,000,061**	124,048,961		2,000,061
171	MT. SICKER CAMP (3)	1898-1964	49	277,403	**1,171,528**	24,969,331	1,304,863	2,476,391
254	SUNRO	1962-1978	79	1,329,034	**203,101**	2,262,651	292,410	495,511
93	GOLDSTREAM	1983-1996	110	2,211,228	**42,363**	26,228,450		42,363
114	HOMESTAKE	1926-1941	144	6,940	**11,259**	8,750,829	144,945	156,204
222	SENECA	1962	N/A	260	**529**	29,828	1,235,116	1,235,645
	SUBTOTAL:			107,265,909	**78,178,882**	2,900,370,911	114,873,355	193,052,237
	SEDEX							
251	SULLIVAN	1900-1998*	81	145,788,162	**174,863**	9,217,160,166		174,863
120	HUNTER V	1902-1929	118	56,820	**31,413**			31,413
24	BLUEBELL	1895-1982	154	4,774,123	**8,864**	221,011,383		8,864
	SUBTOTAL:			150,619,105	**215,140**	9,438,171,549		215,140
	MASSIVE SULPHIDES TOTAL:			257,885,014	**78,394,022**	12,338,542,460	114,873,355	193,267,377

TABLE 26
1999 B.C. LODE GOLD RESOURCES: MASSIVE SULPHIDES

DEPOSIT NAME	File No.	RESOURCES (tonnes)	GOLD GRADE (g/t)	**RESOURCES GOLD (grams)**	RANK (Res.)	TOTAL GOLD (Prod. + Res.) (grams)
VOLCANOGENIC						
ESKAY CREEK	74	1,355,985	57.7	**78,239,181**	7	107,816,614
WINDY CRAGGY	291	297,440,000	0.2	**59,488,000**	10	59,488,000
TULSEQUAH CHIEF	272	7,910,000	2.42	**19,142,200**	27	22,073,844
MYRA FALLS CAMP	173	6,785,000	1.5	**10,177,500**	41	33,208,551
KUTCHO CREEK	137	28,000,000		**7,410,000**	49	7,410,000
ANYOX CAMP (3)	6	24,413,900		**4,337,140**	67	8,196,492
HARPER CREEK	108	96,000,000	0.04	**3,840,000**	71	3,840,000
ECSTALL	67	6,349,700	0.5	**3,174,850**	77	3,174,850
LARA	138	528,839	4.73	**2,501,408**	89	2,501,408
REA GOLD	201	376,000	6.10	**2,293,600**	94	2,293,600
WISCONSIN	292	136,065	11.99	**1,631,419**	104	1,631,419
MT. SICKER CAMP	171	317,485	4.11	**1,304,863**	116	2,476,391
SENECA	222	1,506,239	0.82	**1,235,116**	119	1,235,645
PACKSACK	183	2,700,000	0.30	**810,000**	128	810,000
CHU CHUA (CC)	46	1,043,165	0.54	**563,309**	144	563,309
SUNRO	254	423,782	0.69	**292,410**	166	495,511
HOMESTAKE	114	249,906	0.58	**144,945**	182	156,204
SCOTIA	218	224,000	0.55	**123,200**	187	123,200
VILLALTA	282	22,677	4.11	**93,202**	194	93,202
SUBTOTAL:		475,782,743		**196,802,343**		257,588,240
SEDEX						
J & L (McKINNON CK.)	125	3,600,000	7.24	**26,064,000**	24	26,064,000
SUBTOTAL:		3,600,000		**26,064,000**		26,064,000
MASSIVE SULPHIDES TOTALS:		479,382,743		**222,866,343**		283,652,240

TABLE 27
1999 B.C. LODE TOTAL GOLD: MASSIVE SULPHIDES

DEPOSIT NAME	File No.	PRODUCTION (grams)	RESOURCES (grams)	**TOTAL GOLD (Prod. + Res.) (grams)**	RANK (Total Gold)
VOLCANOGENIC					
ESKAY CREEK	74	29,577,433	78,239,181	**107,816,614**	8
WINDY CRAGGY	291		59,488,000	**59,488,000**	15
MYRA FALLS CAMP (3)	173	23,031,051	10,177,500	**33,208,551**	31
TULSEQUAH CHIEF	272	2,931,644	19,142,200	**22,073,844**	40
BRITANNIA	31	15,350,561		**15,350,561**	45
ANYOX CAMP (3)	6	3,859,352	4,337,140	**8,196,492**	58
KUTCHO CREEK	137		7,410,000	**7,410,000**	64
HARPER CREEK	108		3,840,000	**3,840,000**	86
ECSTALL	67		3,174,850	**3,174,850**	92
LARA	138		2,501,408	**2,501,408**	104
MT. SICKER CAMP (3)	171	1,171,528	1,304,863	**2,476,391**	107
REA GOLD	201		2,293,600	**2,293,600**	110
GRANDUC	101	2,000,061		**2,000,061**	116
WISCONSIN	292		1,631,419	**1,631,419**	123
SENECA	222	529	1,235,116	**1,235,645**	136
PACKSACK	183		810,000	**810,000**	150
CHU CHUA (CC)	46		563,309	**563,309**	168
SUNRO	254	203,101	292,410	**495,511**	174
HOMESTAKE	114	11,259	144,945	**156,204**	211
SCOTIA	218		123,200	**123,200**	218
VILLALTA	282		93,202	**93,202**	224
GOLDSTREAM	93	42,363		**42,363**	245
SUBTOTAL:		78,178,882	196,802,343	**274,981,225**	
SEDEX					
BLUEBELL	24	8,864		**8,864**	283
SULLIVAN	251	174,863		**174,863**	207
J & L (McKINNON CK.)	125		26,064,000	**26,064,000**	34
HUNTER V	120	31,413		**31,413**	251
SUBTOTAL:		215,140	26,064,000	**26,279,140**	
MASSIVE SULPHIDES TOTAL:		78,394,022	222,866,343	**301,260,365**	

CHAPTER 7 CONCLUSIONS

The lode gold deposits of British Columbia have contributed considerable wealth to the provincial economy over the past century, particularly in the periods from 1930 to 1935 and from 1985 to the present day (Figure 1). Production is currently at an all-time high and operating mines should continue to produce gold at or near present levels for several years to come.

Although mines have finite lives, ongoing exploration and development throughout the 20th century ensured continuity of gold production; as some mines closed, others opened. Mines operating in the earlier part of the century were commonly small, high-grade, underground operations that functioned independently or as clusters in well-defined camps, such as Bridge River and Rossland. Many of the mines and camps were long-lived and produced large amounts of gold over an extended period. On aggregate, these operations remain among the largest producers of gold in the province.

Since the 1970s, there has been less reliance on high-grade gold production in British Columbia as changes, first introduced at porphyry copper and molybdenum mines, enabled operators to recover primary or byproduct gold from large, low-grade, "open-pit" operations. This enabled the province to benefit from gold from a wider range of deposit types.

In British Columbia today, gold is produced from high and low-grade operations, as a primary product (e.g. at Eskay Creek and Golden Bear) or as a byproduct (e.g. at Myra Falls and Highland Valley Copper). It comes from both underground (e.g. Eskay Creek and Myra Falls) and from open-pit operations (e.g. Kemess and Mount Polley).

This report describes the contribution different types of deposit have made to the overall production of gold in the province and lists individual mines and camps by their production ranking (Tables 2). It shows that gold has come from seven broadly defined deposit types (mesothermal vein, epithermal vein, alkalic porphyry, calcalkalic porphyry, skarn, volcanogenic massive sulphide and sedex massive sulphide) and that, with the exception of sedex massive sulphide deposits, each type is represented by one or more occurrence that has produced over 20 000 kilograms of gold. Current production comes from epithermal vein (Golden Bear), alkalic and calcalkalic porphyry (Kemess, Mount Polley, Huckleberry and Highland Valley Copper) and massive sulphide (Eskay Creek, Myra Falls) deposits.

The resource data provided in this report show that over half the currently defined gold resource is in alkalic and calcalkalic porphyry deposits. The size and significance of this resource has increased over the past decade as a result of increased focus on exploration for gold in and around porphyry deposits in the 1980s and early 1990s. Several deposits delineated at that time (e.g. Prosperity and Mt. Milligan) are at a point where they could enter production in the next decade, if market conditions allow. Other deposits may follow after receiving more exploration and development work.

Volcanogenic massive sulphide deposits in British Columbia are commonly polymetallic and they have long been thought of as a high-grade source of byproduct gold. However, the discovery of the Eskay Creek deposit in 1988 has led to the realization that some deposits of this type can be significant primary producers of gold. The relatively low gold price of the past few years has changed the focus of many exploration companies away from low-grade, porphyry targets toward higher unit value, precious metal-bearing polymetallic deposits, including Eskay Creek-type volcanogenic massive sulphides. In time, the resource base may shift back towards higher-grade deposits.

The wide variety of deposit types that contain minable amounts of gold, and the size and grade of the larger current and historic producers make British Columbia an attractive area to explore for large-tonnage, "open-pit" and/or underground gold deposits. Further exploration should ensure that gold is mined in the province decades to come.

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	PLACER		LODE			PLACER		LODE	
YEAR	(kg)	(oz)	(kg)	(oz)	YEAR	(kg)	(oz)	(kg)	(oz)
1858	1290	41,470			1928	262	8,424	5,619	180,662
1859	2955	95,000			1929	217	6,983	4,517	145,223
1860	4077	131,090			1930	279	8,955	5,003	160,836
1861	4878	156,830			1931	534	17,176	4,545	146,133
1862	4861	156,290			1932	635	20,400	5,650	181,651
1863	7160	230,210			1933	744	23,928	6,954	223,589
1864	6835	219,760			1934	783	25,181	9,244	297,216
1865	6383	205,365			1935	962	30,929	11,363	365,343
1866	4871	156,590			1936	1350	43,389	12,584	404,578
1867	4539	145,930			1937	1684	54,153	14,332	460,781
1868	4342	139,590			1938	1797	57,759	17,341	557,522
1869	3248	104,410			1939	1547	49,746	18,268	587,336
1870	2446	78,640			1940	1215	39,067	18,149	583,524
1871	3292	105,850			1941	1362	43,775	17,761	571,026
1872	2947	94,760			1942	1023	32,904	13,826	444,518
1873	2389	76,810			1943	454	14,600	6,980	224,403
1874	3375	108,510			1944	356	11,433	5,805	186,632
1875	4528	145,580			1945	392	12,589	5,455	175,373
1876	3269	105,100			1946	489	15,729	3,658	117,612
1877	2942	94,600			1947	217	6,969	7,567	243,282
1878	2333	75,010			1948	632	20,332	8,903	286,230
1879	2360	75,890			1949	556	17,886	8,970	288,396
1880	1855	59,640			1950	595	19,134	8,833	283,983
1881	1915	61,570			1951	737	23,691	8,126	261,274
1882	1746	56,120			1952	546	17,554	7,956	255,789
1883	1453	46,720			1953	443	14,245	7,886	253,552
1884	1347	43,300			1954	270	8,684	8,037	258,388
1885	1306	41,980			1955	238	7,666	7,542	242,477
1886	1653	53,160			1956	120	3,865	5,964	191,743
1887	1269	40,810			1957	91	2,936	6,949	223,403
1888	1128	36,280			1958	176	5,650	6,045	194,354
1889	1077	34,640			1959	236	7,570	5,385	173,146
1890	905	29,080	16	500	1960	120	3,847	6,394	205,580
1891	786	25,280			1961	106	3,416	4,971	159,821
1892	731	23,500	16	500	1962	103	3,315	4,941	158,850
1893	652	20,950	36	1,170	1963	144	4,620	4,820	154,979
1894	742	23,850	195	6,252	1964	57	1,842	4,307	138,487
1895	881	28,330	1221	39,264	1965	27	866	3,643	117,124
1896	995	32,000	1937	62,259	1966	48	1,535	3,717	119,508
1897	940	30,210	3301	106,141	1967	28	891	3,924	126,157
1898	1170	37,840	3423	110,061	1968	21	670	3,854	123,896
1899	2461	79,110	4302	138,315	1969	12	399	3,654	117,481
1900	2340	75,220	5199	167,153	1970	15	491	3,136	100,809
1901	1775	57,060	6544	210,384	1971	6	177	2,668	85,781

APPENDIX 2 CONTINUED
B.C. LODE GOLD PRODUCTION

	PLACER		LODE			PLACER		LODE	
YEAR	(kg)	(oz)	(kg)	(oz)	YEAR	(kg)	(oz)	(kg)	(oz)
1902	1964	63,130	7356	236,491	1972	22	691	3,783	121,624
1903	1940	62,380	7242	232,831	1973	119	3,831	5,785	185,986
1904	2041	65,610	6906	222,042	1974	45	1,452	5,001	160,791
1905	1774	57,020	7423	238,660	1975	44	1,406	4,819	154,945
1906	1735	55,790	6968	224,027	1976	26	838	5,394	173,407
1907	1515	48,710	6102	196,179	1977	46	1,484	5,906	189,896
1908	1184	38,060	7950	255,582	1978	37	1,174	6,542	210,344
1909	873	28,060	7410	238,224	1979	214	6,884	8,063	259,229
1910	988	31,760	8326	267,701	1980	280	9,006	7,197	241,582
1911	780	25,060	7111	228,617	1981	292	9,379	7,469	257,391
1912	1017	32,680	8010	257,496	1982	176	5,646	7,512	258,788
1913	933	30,000	8468	272,254	1983	288	9,253	7,694	258,316
1914	1034	33,240	7688	247,170	1984	431	13,853	6,814	241,326
1915	1409	45,290	7777	250,021	1985	387	12,445	6,382	222,077
1916	1062	34,150	6903	221,932	1986	167	5,353	9,225	271,982
1917	908	29,180	3562	114,523	1987	457	14,676	11,645	354,840
1918	585	18,820	5122	164,674	1988	809	14,147	11,964	382,352
1919	524	16,850	4741	152,426	1989	1066	14,468	14,420	481,796
1920	406	13,040	3734	120,048	1990	660	14,780	15,375	529,836
1921	427	13,720	4223	135,763	1991	345	11,092	17,040	547,848
1922	675	21,690	6154	197,856	1992	320	10,288	14,959	480,943
1923	769	24,710	5575	179,245	1993	326	10,481	13,808	443,937
1924	770	24,750	7,705	247,716	1994	350	11,253	11,841	380,697
1925	513	16,476	6,523	209,719	1995	700	22,506	18,625	598,807
1926	650	20,912	6,265	201,427	1996	525	16,879	17,485	562,155
1927	286	9,191	5,536	178,001	1997	361	11,606	17,152	551,449
					1998	271	8,713	21,467	690,180
					TOTALS	171,602	5,517,130	815,583	26,221,580

Grand total = 987,185 kilograms (31,738,710 ounces)

(Data Source: MEM, Minerals, Oil and Gas Branch)

APPENDIX 3
DEPOSIT TYPES - MINERAL DEPOSIT PROFILES[1]

Code	Description	Synonym	USGS	BC Example	Global Example
B	**RESIDUAL/SURFICIAL**				
B10	Gossan Au-Ag	Residual Au; Precious metal gossans	- -	Villalta	Rio Tinto (Spain)
E	**SEDIMENT-HOSTED**				
E03	Carbonate-hosted disseminated Au-Ag	Carlin-type Au, Sediment-hosted micron Au	26a, 19c	Golden Bear	Brewery Creek, Carlin, Getchell & Cortez (Nevada)
E13	Irish-type carbonate-hosted Zn-Pb	Kootenay Arc-type Zn-Pb, Remac-type	- -	J&L, Reeves MacDonald, HB, Jersey, Duncan	Navin, Lisheen & Tynagh (Ireland), Troya (Spain)
E14	Sedimentary exhalative Zn-Pb-Ag	Sedex, Sediment-hosted massive sulphide	31a	Sullivan, Cirque, Driftpile, Bluebell	Mount Isa (Australia), Faro & Grum (Yukon)
G	**MARINE VOLCANIC ASSOCIATION**				
G04	Besshi massive sulphide Cu-Zn	Kieslager	24b	Goldstream, Windy Craggy, Granduc, Sunro	Besshi (Japan), Greens Creek (Alaska)
G05	Cyprus massive sulphide Cu (Zn)		24a	Anyox camp, Chu Chua Harbour (Newfoundland)	Mavrovouni (Cyprus), Lasail (Oman), York
G06	Noranda/Kuroko masssive sulphide Cu-Pb-Zn		28a	Britannia, Kutcho Creek, Myra Falls camp, Ecstall, Lara, Mt. Sicker camp, Seneca, Tulsequah Chief	Horne & Millenbach (Quebec), Kuroko District (Japan)
G07	Subaqueous hot spring Ag-Au		- -	Eskay Creek	Osorezan (Japan)
H	**EPITHERMAL**				
H04	Epithermal Au-Ag-Cu; high sulphidation	Acid-sulphate, qtz-alunite Au, Nansatu-type	25d	Taseko camp, Sulphurets camp (Brucejack), Taylor-Windfall, Mt. McIntosh (Hushamu), Todd Ck.	El Indio (Chile), Nasatsu (Japan)
H05	Epithermal Au-Ag: low sulphidation	Adularia-sericite epithermal	25c	Specogna (Cinola), Lawyers, Blackdome, Premier camp, Baker, Dusty Mac, Engineer, Golden Bear, Tsacha, Vault	Comstock (Nevada), Sado (Japan)
H08	Alkalic intrusion-associated Au	Alkalic intrusion-related Au, Au-Ag-Te veins	22b	Crowsnest (Flathead), Howell	Emperor (Fiji), Cripple Creek (Colorado), Zortman (Montana)

APPENDIX 3 CONTINUED
DEPOSIT TYPES - MINERAL DEPOSIT PROFILES[1]

Code	Description	Synonym	USGS	BC Example	Global Example
I	**VEIN, BRECCIA AND STOCKWORK**				
I01	Au-quartz veins	Mesothermal, Motherlode, saddle reefs	36a	Bridge River camp (Bralorne, Pioneer), Table Mtn. camp, Polaris-Taku, Zeballos camp, Cariboo-Barkerville camp, Coquihalla camp, Frasergold, Porcher Island camp, Surf Inlet	Alaska-Juneau (Alaska), Campbell, Dome(Ontario)
I02	Intrusion-related Au pyrrhotite veins	Subvolcanic shear-hosted gold	- -	Scottie Gold, Snip, Johnny Mountain, Rossland camp, Georgia River, Red Mtn.	
I03	Turbidite-hosted Au veins	Meguma-type	36a	Sheep Ck. (Reno, Queen),	Ballarat (Australia), Meguma (Nova Scotia), Cariboo-Barkerville (Island Mountain)
I05	Polymetallic veins Ag-Pb-Zn±Au	Felsic intrusion-associated Ag-Pb-Zn veins	22c, 25b	Silver Queen, Beaverdell, Silvana, Lucky Jim, Bayonne, Dome Mtn, Fairview camp, Northair, Salmo camp, Sheep Ck. camp, Ymir camp	Elsa (Yukon), Coeur d'Alene (Idaho), Creede (Colorado)
I06	Cu±Ag quartz veins	Churchill-type vein Cu	?	Davis-Keays, Churchill Copper, Bull River, Fandora	Nikolai (Alaska), Bruce Mines (Ontario), Butte (Montana)
I09	Stibnite veins and disseminations	Simple and disseminated Sb deposits	27d, 27e	Minto camp, Snowbird	Becker-Cochran (Yukon), Lake George,(New Brunswick), Bolivia
J	**MANTO**				
J01	Polymatallic manto Ag-Pb-Zn	Polymetallic replacement deposits	19a	Silvertip, Lustdust	East Tintic district (Utah), Naica (Mexico), Sa Dena Hess (Yukon)

APPENDIX 3 CONTINUED
DEPOSIT TYPES - MINERAL DEPOSIT PROFILES[1]

Code	Description	Synonym	USGS	BC Example	Global Example
J04	Sulphide manto Au	Au-Ag sulphide mantos	- -	Cariboo-Barkerville (Mosquito Creek, Island Mountain)	Ketza River (Yukon)
K	**SKARN**				
K01	Cu skarn		18a, b	Texada Is. camp, Yreka, Dividend-Lakeview, Greenwood (Phoenix)	Mines Gaspè (Quebec), Carr Fork (Yukon)
K03	Fe skarn		18d	Tasu, Merry Widow, Craigmont	Shinyama (Japan), Cornwall (Pennsylvannia)
K04	Au skarn		18f	Hedley camp (Nickel Plate), QR, Second Relief, Takla Rainbow	Fortitude & McCoy (Nevada), Buckhorn Mountain (Washington)
K07	Mo skarn			Rossland (Novelty)	Little Boulder Creek (Idaho), Mt. Tennyson (Australia)
L	**PORPHYRY**				
L01	Subvolcanic Cu-Ag-Au (As-Sb)	Enargite Au, Transitional Au-Ag	22a/25e	*Equity Silver, Thorn	Lepanto (Phillippines), Resck (Hungary), Kori Kollo (Bolivia)
L02	Porphyry-related Au Porphyry Au	Granitoid Au,	20d	Snowfields	Marte & Lobo (Chile), Lihir (Papua, New Guinea)
L03	Alkalic porphyry Cu-Au	Diorite porphyry copper	- -	Afton camp, Similco camp, Mount Polley, Mt. Milligan, Galore Creek, Copper Canyon, Lorraine	Tai Parit (Philippines)
L04	Porphyry Cu±Mo±Au	Calcalkaline porphyry	17, 20, 21a1	Island Copper, Highland Valley Copper camp, Gibraltar, Granisle, Bell, Brenda, Catface, Eaglehead, Holberg Inlet camp, Huckleberry, Kemess, Kerr, Morrison, Prosperity, Red-Chris, Schaft Ck.	Chuquicamata & La Escondida (Chile)

The table of Deposit Types is based on Version 2.1, May 1996 of the British Columbia Mineral Deposit Profiles of the Geological Survey Branch (GSB).
(Note: USGC = United States Geological Survey)
Parts of veins - mesothermal deposit type in this compilation

BRITISH COLUMBIA
Ministry of Energy and Mines
Energy and Minerals Division

BRITISH COLUMBIA GEOLOGICAL SURVEY

Geological Survey Branch

FIGURE 1: OPEN FILE 2000-2

COMPILATION OF GOLD OCCURRENCES IN BRITISH COLUMBIA (1890-1998)

Compiled by T. G. Schroeter, P. Eng., R. H. Pinsent, P. Geo., and M.A. Fournier.

Scale 1:2 000 000

100 0 100 200

Kilometres

LEGEND

Gold Camps

GREENWOOD

Gold Deposits

- Veins (Epithermal; Mesothermal)
- S Porphyries (Alkalic; Calcalkalic)
- Ú Skarns (Mantos)
- U Massive Sulphides (Volcanogenic; SEDEX; subaqueous hotspring)
- Physiographic Belts

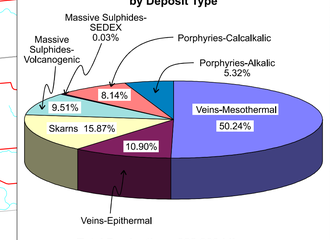
Map Symbols

- Y Cities and other communities
- Lakes
- Rivers
- Roads - paved
- Roads - gravel, dirt
- Ferry Routes

Notes:

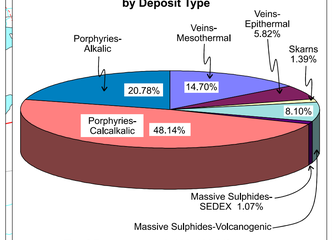
1. Cut-off of 5000 grams (approx. 160 ounces) of gold inventory. There are 299 camps and/or deposits listed in the compilation.
2. Information contained in the Open File was compiled directly and indirectly from public domain sources. Most of the data are from MINFILE, which includes all categories of resource estimates. Some of the data are from poorly documented studies or secondary sources and promotional materials. The Ministry of Energy and Mines cannot verify the estimates; they are, therefore, not authoritative. The Ministry makes every effort to ensure accuracy in the information presented; however it does not accept liability for errors and omissions.
3. The deposits are located as shown on MINFILE or other maps. Clustered deposits, camps or other area with a high density of deposits can have increased spacing between individual deposits for diagrammatic purposes; locations in there areas are approximate.
4. Where gold weights are given in both metric and imperial units, the troy ounce figure has been calculated by dividing the value in grams by a factor of 31.103.

B.C. LODE GOLD PRODUCTION (1890-1998) by Deposit Type



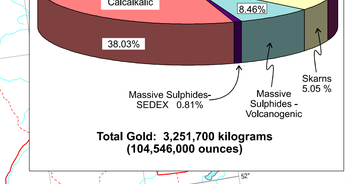
Total Production: 822,300 kilograms (26,438,000 ounces)

B.C LODE GOLD RESOURCES (1999) by Deposit Type



Total Resources: 2,429,400 kilograms (78,108,000 ounces)

B.C. TOTAL LODE GOLD INVENTORY (1999) (current resources and past production)



Total Gold: 3,251,700 kilograms (104,546,000 ounces)

TOP 25
B.C. LODE TOTAL GOLD INVENTORY (1999)

RANK	DEPOSIT NAME	FILE NO.	PRODUCTION (grams)	RESOURCES (grams)	TOTAL GOLD (Prod. & Res.) (grams)
1	PROSPERITY	196		294,978,000	294,978,000
2	KEMESS CAMP (2)	133	2,393,000	186,307,210	188,700,210
3	BRIDGE RIVER CAMP (5)	30	129,390,995	13,924,423	143,315,418
4	MT. MILLIGAN	170		140,329,443	140,329,443
5	SULPHURETS CAMP (4)	252		137,900,245	137,900,554
6	SCHAFT CREEK	217		136,009,300	136,009,300
7	GALORE CREEK CAMP (3)	83		125,537,000	125,537,000
8	ESKAY CREEK	74	29,577,433	78,239,181	107,816,614
9	ROSSLAND CAMP (44)	212	86,530,000	15,638,903	102,168,903
10	HEDLEY CAMP (7)	111	76,735,496	211,172	76,946,688
11	BELL	16	12,885,964	59,200,000	72,085,964
12	PREMIER CAMP (9)	195	64,888,246	6,812,800	71,701,046
13	SPECOGNA	242	902	70,685,000	70,685,902
14	HOLBERG INLET CAMP (2)	113		69,900,580	69,900,580
15	WINDY CRAGGY	291		59,488,000	59,488,000
16	RED-CHRIS	202		55,883,000	55,883,000
17	POLARIS TAKU	191	7,203,579	44,799,000	52,002,579
18	TAURUS CAMP (2)	261	1,103,537	49,995,729	51,099,266
19	CARIBOO-BARKERVILLE CAMP (3)	38	38,321,509	11,627,649	49,949,158
20	KERR	20		45,900,000	45,900,000
21	GREENWOOD CAMP (53)	115	39,977,644	4,885,031	44,862,675
22	SIMILCO CAMP (3)	236	22,841,418	19,963,070	42,804,488
23	POISON MTN.	190		41,396,000	41,396,000
24	MORRISON	167		39,900,000	39,900,000
25	PINE	189		39,900,000	39,900,000
	(3) - Number of deposits within a camp				
	Total of top 25 total gold (70% of total gold)		511,849,723	1,749,410,736	2,261,260,788

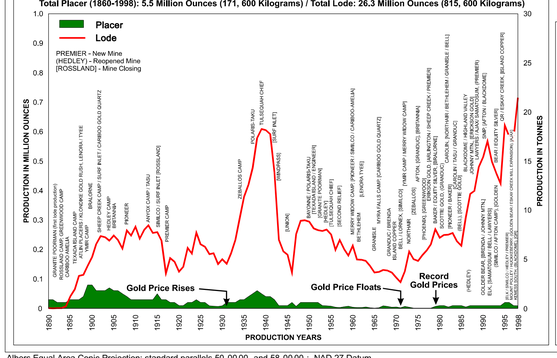
TOP 25
B.C. LODE GOLD RESOURCES (1999)

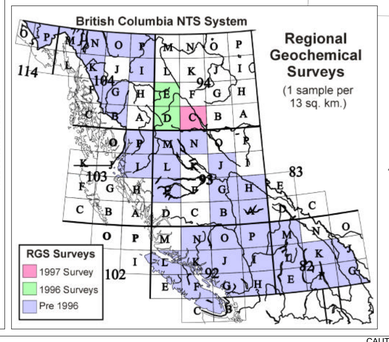
RANK	DEPOSIT NAME	File No.	RESOURCES (tonnes)	GRADE (g/t)	RESOURCES (grams)	TOTAL GOLD (grams)
1	PROSPERITY	196	633,000,000	0.466	294,978,000	294,978,000
2	KEMESS CAMP (2)	133	367,969,000		186,307,210	188,700,210
3	MT. MILLIGAN	170	275,155,770	0.51	140,329,443	140,329,443
4	SULPHURETS CAMP (4)	252	39,362,530	2.708	137,900,245	137,900,554
5	SCHAFT CREEK	217	971,495,000	0.14	136,009,300	136,009,300
6	GALORE CREEK	83	284,000,000		125,537,000	125,537,000
7	ESKAY CREEK	74	1,355,985	57.7	78,239,181	107,816,614
8	SPECOGNA	242	33,500,000	2.11	70,685,000	70,685,902
9	HOLBERG INLET CAMP (2)	113	198,237,000		69,900,580	69,900,580
10	WINDY CRAGGY	291	297,440,000	0.2	59,488,000	59,488,000
11	BELL	16	296,000,000	0.2	59,200,000	72,085,964
12	RED-CHRIS	202	118,900,000	0.47	55,883,000	55,883,000
13	TAURUS CAMP (2)	261	62,406,549		49,995,729	51,099,266
14	KERR	135	135,000,000	0.34	45,900,000	45,900,000
15	POLARIS TAKU	191	3,270,000	13.7	44,799,000	52,002,579
16	POISON MTN.	190	298,580,000	0.14	41,396,000	41,396,000
17	MORRISON	167	190,000,000	0.21	39,900,000	39,900,000
18	PINE	189	70,000,000	0.57	39,900,000	39,900,000
19	BRONSON SLOPE	32	79,000,000	0.48	37,920,000	37,920,000
20	COPPER CANYON	50	32,400,000	1.17	37,908,000	37,908,000
21	MOUNT POLLEY	166	76,470,300	0.47	35,941,041	39,702,624
22	KATIE	132	200,000,000	0.17	34,000,000	34,000,000
23	TAM	258	7,200,000	4.11	29,592,000	29,592,000
24	J & L	125	3,600,000	7.24	26,064,000	26,064,000
25	FRASERGOLD	80	12,000,000	1.85	22,200,000	22,200,000
	(2) - Number of deposits within a camp.					
	Total of top 25 resources: (79% of total resources)		4,686,342,114		1,899,972,729	1,956,899,036

TOP 25
B.C. LODE GOLD PRODUCERS (1890-1998)

RANK	DEPOSIT NAME	FILE NO.	YEARS (* = producing)	GOLD PRODUCTION (grams)	SILVER PRODUCTION (grams)	GOLD RESOURCES (grams)	TOTAL GOLD (grams)
1	BRIDGE RIVER CAMP (5)	30	1899-1983	129,390,995	29,613,140	13,924,423	143,315,418
2	ROSSLAND CAMP (44)	212	1896-1995	86,530,000	110,240,000	15,638,903	102,168,903
3	HEDLEY CAMP (7)	111	1903-1996	76,735,496	18,802,842	211,172	76,946,688
4	PREMIER CAMP (9)	195	1918-1996	64,888,246	1,337,373,655	6,812,800	71,701,046
5	GREENWOOD CAMP (53)	105	1893-1989	39,977,644	310,232,328	4,885,031	44,862,675
6	CARIBOO-BARKERVILLE CAMP (3)	38	1902-1987	38,321,509	4,650,641	11,627,649	49,949,158
7	ISLAND COPPER	124	1971-1995	35,267,550	294,105,533		35,267,550
8	SNIP	239	1991-1998*	31,741,068	12,183,090	1,371,651	33,112,719
9	ESKAY CREEK	74	1995-1998*	29,577,433	1,430,186,981	78,239,181	107,816,614
10	SHEEP CREEK CAMP (12)	224	1899-1988	23,191,859	9,102,786	779,037	23,880,726
11	MYRA FALLS CAMP (3)	173	1967-1998*	23,031,051	782,217,289	10,177,500	33,208,551
12	SIMILCO CAMP (3)	236	1910-1996	22,841,418	294,238,155	19,963,070	42,804,488
13	AFTON CAMP (10)	3	1899-1997	17,121,080	90,462,058	6,640,239	23,761,319
14	EQUITY SILVER	73	1980-1994	15,801,709	2,219,480,555		15,801,709
15	BRITANNIA	31	1905-1982	15,350,561	180,845,883		15,350,561
16	BELL	16	1972-1992	12,885,964	38,319,730	59,200,000	72,085,964
17	SURF INLET	255	1902-1943	12,095,368	6,258,235	1,653,450	13,748,818
18	ZEBALLOS CAMP (18)	299	1934-1975	9,154,249	3,882,835	4,964,152	14,118,401
19	TABLE MTN. CAMP (2)	256	1939,1979-1998*	9,072,882	2,967,237	876,099	9,948,981
20	GOLDEN BEAR	95	1990-1998*	8,863,578	1,716,107	13,682,040	22,547,618
21	YMIR CAMP (12)	297	1899-1973	8,298,227	42,968,544	9,003,504	17,306,895
22	BLACKDOME	20	1986-1991,1998*	7,254,945	25,723,176	3,101,140	10,356,085
23	POLARIS TAKU	191	1938-1951	7,203,579	365,772	44,779,000	52,002,579
24	HIGHLAND VALLEY COPPER CAMP (3)	112	1963-1998*	7,164,823	1,162,298,763	12,504,000	19,668,823
25	GRANISLE	102	1966-1982	6,832,716	69,752,525	17,850,000	24,682,716
	(3) - Number of deposits within a camp.						
	Total of top 25 producers: (91% of total producers)			738,505,950	8,478,007,860	337,884,041	1,076,415,175

B.C. GOLD PRODUCTION (1890-1998)
Total Placer (1860-1998): 5.5 Million Ounces (171, 600 Kilograms) / Total Lode: 26.3 Million Ounces (815, 600 Kilograms)





Albers Equal Area Conic Projection; standard parallels 50 00 00 and 58 00 00 ; NAD 27 Datum.

CAUTION: This map has been plotted using a HP 650C Inkjet Plotter. The ink is not waterproof and the colours will fade if exposed to direct sunlight.

Base map is amended from Journeay and Williams (1995); Geological Survey of Canada Open File 2948 v.1.

British Columbia Lode Gold Production, Resources and Total Gold Inventory (1890 - 1998)

Open File 2000-2

[Note: Gold deposits with production +/or resources totalling over 5000 grams]

FILE NO.	DEPOSIT NAME	NTS	MINFILE NUMBER	PRODUCTION: YEARS (*=producing)	TONNES MINED OR MILLED	GOLD (grams)	GOLD RANK	SILVER (grams)	COPPER (other) (kilograms)	RESOURCES: TONNES ALL CATEGORIES	GRADE (g/t Au)	GOLD (grams)	(including other commodities)	TOTAL GOLD (Prod. + Res.) (grams)	DEPOSIT TYPE (BC Model #)	REFERENCE
1	ABBOTT	082K 11E	082KNW056	1988	1,031	81	193	10,677	(Pb Zn)	139,628	0.99	138,232	6.91% Pb 6.58% Zn 220.5g/t Ag	138,313	Vein Mesothermal (I05)	Golden Arch Res. 1989
2	ACACIA	082E05W	082ESW047	1945	99	5,754	171	1,680	689					5,754	Vein Mesothermal (I05)	MINFILE
3	AFTON CAMP (10)	092I 09W		Totals:	41,581,173	17,121,080	13	90,462,058	264,406,781	12,151,000		6,640,239		23,761,319	Porphyry Alkalic (L03)	CIM SV 46 (1995) pp. 537-608
	A) AFTON (incl Pothook & Crescent pits)	092I 10E	092INE023	1899 1977-1991	33,537,568	14,826,173		85,786,171	232,190,029	3,000,000	1.13	3,390,000	1.5% Cu 6.9g/t Ag (u/g res.)	18,216,173		
	B) AJAX WEST	092I 09W	092INE012	1989-1991	4,053,706	1,264,326		2,466,644	16,906,654					1,264,326		
	C) AJAX EAST		092INE013	1994-1997	3,854,888	905,795		1,731,469	12,933,120					905,795		
	D) IRON MASK		092INE010	1901-1928	132,806	118,005		461,662	2,445,177					118,005		
	E) IRON CAP		092INE018	1938 1940	234	6,501		13,499	4,800					6,501		
	F) BIG ONION	092I 09W	092INE011	1929	30	249		809	2,897	3,266,000	0.44	1,437,040	0.71% Cu	1,437,289		GCNL Aug. 20 1997
	G) GALAXY	092I 09W	092INE007	1916-1917	48			902	2,552	3,200,000	0.340	1,088,000	0.65% Cu	1,088,000		Info. Circ. 1997-1 p.19
	H) DM	092I 09W	092INE030							2,685,607	0.27	725,199	0.38% Cu	725,199		
	I) RAINBOW	092I 09W	092INE028							15,860,000			0.5% Cu			
4	ALPINE GOLD	082F 11W	082FNW127	1915-1948 1988	17,108	356,360	68	222,044	(Pb Zn)	190,500	13.7	2,609,850		2,966,210	Vein Mesothermal (I01)	GCNL Feb. 8 1989
5	ALWIN (O.K. CHATAWAY)	092I 06E	092ISW010	1916-1982	233,076	46,236	108	2,719,906	3,786,236	390,053	0.17	66,309	0.25% Cu	112,545	Vein Mesothermal (I06)	MINFILE
6	ANYOX CAMP (3)	103P 05W		Totals:	19,825,078	3,859,352	29	215,056,466	335,845,893	24,413,900		4,337,140		8,196,492	Massive Sulphide Volcanogenic (G05)	
	A) ANYOX (HIDDEN CREEK)		103P 021	1914-1936	19,169,422	3,772,762		206,308,934	321,546,202	24,221,840	0.17	4,117,713	10.3g/t Ag 1.08% Cu	7,890,475		GCNL Feb.1 1993
	B) BONANZA		103P 023	1928-1935	655,656	86,590		8,747,532	14,299,691	10,620	0.16	1,699	13.7g/t Ag 1.76% Cu	88,289		Taiga Cons. 1992
	C) REDWING		103P 024							181,440	1.2	217,728	Cu 85.71g/t Ag 2.7% Zn	217,728		Taiga Cons. 1992
7	ASHLU	092G 14W	092GNW013	1932-1984	13,688	205,126	78	235,700	32,378	89,350	8.57	765,730	12.34g/t Ag	970,856	Vein Mesothermal (I01)	MDAP 1981
8	AUFEAS	092H06W	092HSW036	1937-1941	487	13,686	139	18,226	4,526					13,686	Vein Mesothermal (I05)	MINFILE
9	BAKER (CHAPPELLE)	094E 06E	094E 026	1981-1997	81,878	1,283,973	48	23,812,573	13,076					1,283,973	Vein Epithermal (H05)	MINFILE
10	BALTIC	092E09W	092E 026	1934-1938	130	5,567	173	10,294	87					5,567	Vein Mesothermal (I05)	MINFILE
11	BANBURY	092H 08E	092HSE046	Totals:	5,897	29,423	121	13,374	846 + (Pb)	3,778,500		7,416,770		7,446,193	Vein Mesothermal (I01)	
										3,610,000	1.57	5,667,700	86 and 87 zones	5,667,700		AR 17 631
				1937	5,897	29,423		13,374	846 + (Pb)	150,800	11	1,658,800	Pine Knot zone	1,658,800		GCNL No. 11 1982
										17,700	5.10	90,270	Maple Leaf Zone	119,693		
12	BARNATO CAMP (4)	082E07W		Totals:	951	29,206	122	26,591	525+(Pb)					29,206	Vein Mesothermal (I05)	MINFILE
	A) MAYBE		082ESE246	1938-1940	443	9,798		17,075	118+(Pb)					9,798		
	B) BARNATO		082ESE109	1937-1967	296	9,704		4,136	407+(Pb)					9,704		
	C) MOGUL		082ESE068	1933-1940	212	9,580		5,193						9,580		
13	BAYONNE CAMP (2)	082F 02W		Totals:	78,230	1,311,970	47	3,753,282	(Pb Zn)	28,186	15	422,790		1,734,760	Vein Mesothermal (I05)	
	A) BAYONNE		082FSE030	1935-1951 1984	78,211	1,311,597		3,752,691	(Pb Zn)	28,186	15	422,790	25.7g/t Ag 5% 3% Zn 0.2% Cu	1,734,387		NM June 23 1983
14	BEAVERDELL CAMP (24)	082E 06E		Totals:	1,220,000	540,000	64	1,226,620,000	11 657+(Pb Zn Cd)					540,000	Vein Mesothermal (I05)	Annual Rpt. 1990
	A) BEAVERDELL		082ESW030	1913-1991	1,170,226	520,197		1,076,005,759	11 657+(Pb Zn Cd)					520,197		
	B) WELLINGTON		082ESW072	1920-1954	7,262	11,419		46,885,178	(Pb Zn)					11,419		
	C) HIGHLAND LASS		082ESW133	1922-1936	4,735	5,940		30,925,029	(Pb Zn)					5,940		
	D) SALLY		082ESE073	1901-1941	10,413	5,007		60,998,814	(Pb Zn)					5,007		
15	BEDWELL RIVER CAMP (3)	092F 05E		Totals:	10,646	223,195	75	99,407	847+(Pb)	25,284		440,278		663,473	Vein Mesothermal (I06)	
	A) BUCCANEER		092F 061	1941-1959	5,957	121,552		39,128	315+(Pb)					121,552		NM Nov. 28 1974
	B) MUSKETEER		092F 060	1942-1975	4,599	94,956		53,996	522+(Pb)	18,034	11.32	204,145		299,101		
	C) PROSPER		092F 053	1942 1950	90	6,687		6,283	37	7,250	32.57	236,133		236,133		AR 17 620
16	BELL (NEWMAN)	093M 01E	093M 001	1972-1982 1985-1992	77,165,645	12,885,964	16	38,319,730	304,795,539	296,000,000	0.20	59,200,000	0.46% Cu	72,085,964	Porphyry Calcalkalic (L04)	CIM SV 46 (1995) pp. 256-289
17	BEND	104B 01E	104B 132							9,900	61.81	611,919	51.4g/t Ag	611,919	Vein Mesothermal (I02)	AR 13 593
18	BIG ONION	093L 15W	093L 124							94,380,000	0.08	7,550,400	0.42% Cu 0.02% Mo52	7,550,400	Porphyry Calcalkalic (L04)	CIM SV 46 (1995) pp. 410-415
19	BIG SLIDE	092I 13W	092INW036	1934-1940	6,895	39,904	112	76,607	6 810+(Pb)	861	16.2	13,948	42.1g/t Ag	53,852	Vein Mesothermal (I05)	Property File 1933
20	BLACKDOME	092O 08W	092O 053	1986-1991 1998*	338,440	7,254,945	22	25,723,176		238,000	13.03	3,101,140	37.03g/t Ag	10,356,085	Vein Epithermal (H05)	SW Dec. 18 1997
21	BLACK BULL (CROESUS GEM)	103I 09W	103I 136	1940-1942	3	31	194	62		4,355	26.06	113,491	59.31g/t Ag	113,522	Vein Mesothermal (I02)	Porperty File 1971
22	BLACK JACK	093H 04E	093H 027							75,000	16	1,200,000		1,200,000	Vein Mesothermal (I01)	Property File 1991
23	BLACKWATER-DAVIDSON	093F 02W	093F 037							6,000,000	0.05	300,000	37g/t Ag	300,000	Vein Mesothermal (I05)	Geo. Fldwk. 1993 p. 52
24	BLUEBELL	082F15W	082FNE043	1895-1982	4,774,123	8,864	154	221,011,383	2 855 381+(Pb Zn)					8,864	Massive Sulphide-sedex (E14)	MINFILE
25	BONAPARTE	092P 01W	092P 050	1994 (custom)	2,720	77,914	101	34,992						77,914	Vein Mesothermal (I05)	SW May 2 1994
26	BRANDYWINE CAMP (2)	092J 03E		Totals:	20,385	346,967	69	1,231,069	12 943+(Pb Zn)	134,800	1.03	138,844		485,811	Vein Mesothermal (I05)	
	A) BRANDYWINE		092JW 001	1970-1978	10,385	343,537		717,069	12 943+(Pb Zn)	134,800	1.03	482,381	.7g/t Ag 0.65% Cu 5% Pb	482,381		NM Feb. 24 1997
	B) SILVER TUNNEL		092JW 003	1978	10,000	3,430		514,000				3,430		3,430		
27	BRENDA	092H 16E	092HNE047	1970-1990	181,735,292	2,281,868	39	148,045,716	276,227,104					2,281,868	Porphyry Calcalkalic (L04)	CIM SV 46 (1995) pp.192-200
28	BRETT	082L 04E	082LSW110							11,970	39.12	468,266		468,266	Vein Epithermal (H05)	SW July 11 1996
29	BRETT (Mirne)	092J 09W	092JNE079	1900-1962	8,990	21,400	131							21,400	Vein Mesothermal (I05)	MINFILE
30	BRIDGE RIVER CAMP (5)	092J 15W		Totals:	7,261,758	129,390,995	1	29,613,140	(Pb Zn)	876,023		13,924,423		143,315,418	Vein Mesothermal (I01)	
	A) BRALORNE		092JNE001	1900-1980	4,954,712	87,643,244		21,969,603	(Pb Zn)	432,500	10.60	4,584,500		92,227,744		Info. Circ. 1999-1 p. 12
	B) PIONEER		092JNE004	1908-1983	2,295,891	41,525,831		7,611,999	(Pb Zn)					41,525,831		
	C) CORONATION		092JNE007	1899-1927	11,155	219,339		31,227		80,723	38.4	3,099,763		3,319,102		Info. Circ. 1995-1 p.15
	D) COSMOPOLITAN		092JNE164							362,800	17.2	6,240,160		6,240,160		
31	BRITANNIA	092G 11E	092GNW003	1905-1977 1988	47,402,533	15,350,561	15	180,845,883	516,960,095 (Pb Zn Cd)	1,424,147			1.9% Cu	15,350,561	Massive Sulphide Volcanogenic (G06)	Property File 1974
32	BRONSON SLOPE	104B 11E	104B 077							79,000,000	0.48	37,920,000	0.17% Cu 2.7g/t Ag 0.006% Mo	37,920,000	Porphyry Calcalkalic (L04)	Info. Circ. 1991-1 p.11. CIM SV 46(1995) pp. 838-850
33	BULL RIVER	082G 11W	082GNW002	1971-1974	471,899	126,123	90	6,353,628	7,256,050					126,123	Vein Mesothermal (I06)	MINFILE
34	CALEDONIA	092L 12E	092L 061	1929	1	0		500	66	68,000	0.34	23,120	1% Cu 704.2Ag 0.6% Pb 7.45% Zn	23,120	Skarn (K02)	SMF July 5 1972
35	CAMBORNE CAMP (4)	082K 13E		Totals:	179,664	965,260	52	53,770,514	85 348+(Pb Zn Cd)	206,837		1,978,456	Totals:	2,943,716	Vein Mesothermal (I05)	
	A) MERIDIAN		082KNW064	1903-1941	50,881	543,899		165,499						543,899		GCNL Apr. 26 1988
	B) SPIDER/ECLIPSE		082KNW045	1911-1958	124,436	370,531		53,480,800	85 348+(Pb Zn Cd)	25,400	4.46	113,284	254.74g/t Ag 6.19% Pb 6.34% Zn	483,815		
	C) GOLDFINCH		082KNW076	1903-1989	4,347	50,830		124,215	(Pb Zn)	181,437	10.28	1,865,172	Dorothy Zone	1,916,002		Granges Expl'n Jan. 1987
36	CAPOOSE	093F 06E	093F 040							28,301,520	0.3	8,490,456	36g/t Ag; Cu Pb Zn	8,490,456	Vein Mesothermal (I05)	Granges Dec. 13 1987
37	CARIBOO-AMELIA (CAMP MCKINNEY)	082E 03E	082ESW020	1894-1962	112,254	2,538,101	36	1,008,979	(Pb Zn)	29,930	25.7	769,201		3,307,302	Vein Mesothermal (I05)	PR-Feb. 11/98
38	CARIBOO-BARKERVILLE CAMP (3)	093H 04E		Totals:	2,744,790	38,321,509	6	4,650,641	(Pb Zn)	3,120,140		11,627,649		49,949,158	Vein Mesothermal (I01)	MINFILE
	A) CARIBOO GOLD QTZ.		093H 019	1902-1967	1,952,428	26,851,811		2,850,371		3,084,140	3.49	10,763,649		37,615,460		
	B) ISLAND MT. (AURUM)		093H 006	1934-1954	699,536	10,379,382		1,497,021	(Pb Zn)	36,000	24	864,000	11,243,382	11,243,382		
	C) MOSQUITO CK		093H 010	1980-1987	92,826	1,090,316		303,249						1,090,316		
39	CARIBOO-HUDSON (CUNNINGHAM CK)	093A 14W	093A 071	1938-1939	12,240	161,300	84	81,677		32,655	12.3	401,657	(above 60m level)	562,957	Vein Mesothermal (I01)	Cathedral Gold 1987
40	CARMI CAMP (2)	082E 06E		Totals:	4,980	93,124	96	300,922	(Pb Zn)					93,124	Vein Mesothermal (I05)	MINFILE
	A) CARMI		082ESE029	1901-1940	4,780	87,929		279,585	(Pb Zn)					87,929		
	B) BUTCHER BOY		082ESW132	1902-1940	200	5,195		21,337	(Pb Zn)					5,195		
41	CASINO RED CAP	082F 04E	082FSW158	1951-1965	5,514	81,334	99	23,949	(Pb Zn)					81,334	Vein Mesothermal (I05)	MINFILE
42	CATFACE	092F 05W	092F 120							124,259,000	0.069	8,573,871	0.46% Cu 0.006% Mo Cliff Zone	8,573,871	Porphyry Calcalkalic (L04)	CIM SV 46 (1995) pp.332-326
43	CHAPLEAU CAMP (2)	082F 11W		Totals:	2,417	59,095	104	434,664		653,040	10.3	6,726,312		6,785,407	Vein Mesothermal (I01)	SW June 17 1988
	A) KILO		082FNW131	1900-1939	2,120	29,640		27,060	(Pb Zn)					29,640		
	B) CHAPLEAU		082FNW130	1896-1941	297	29,455		407,604		653,040	10.3	6,726,312	205.7g/t Ag	6,755,767		
44	CHAPUT (LUMBY)	082L 07W	082LSE006	1968-1976	1,694	1,214	184	1,697,290	654 + (Mo Pb Zn)	507,920	4.5	2,285,640	Plateau Zone	2,286,854	Vein Mesothermal (I05)	Info. Circ. 1994-1
45	CHUCHI LAKE	093N 07E	093N 159							50,000,000	0.21	10,500,000	0.21% Cu	10,500,000	Porphyry Alkalic (L03)	Digger Res. Oct. 17 1991
46	CHU CHUA (CC)	092P 08E	092P 140						Open pittable	1,043,165	0.54	563,309	10.2g/t Ag 2.98% Cu 0.3% Zn	563,309	Massive Sulphide Volcanogenic (G05)	Cdn. Mines Handbook 1992 p. 203
47	COLUMARIO	103I 09W	103I 077	1934 1935	2,721	21,150	132	58,101						21,150	Vein Mesothermal (I01)	
48	COLUMBIA-EVENING SUN	103P 13W	103P 073	1910-1913	10	31	195	78,473	61+(Pb)	118,000	0.69	81,420	120g/t Ag 3% Pb	81,451	Vein Mesothermal (I05)	Moracco Expl'n 1988
49	COMSTOCK	082F 14E	082FNW077	1898-1988	455	12,387	140	1,687,774	(Pb Zn)					12,387	Vein Mesothermal (I05)	MINFILE
50	COPPER CANYON	104G 03W	104G 017						Central	32,400,000	1.17	37,908,000	17.1g/t Ag 0.75% Cu	37,908,000	Porphyry Alkalic (L03)	CIM SV 46 (1995) pp.645-649
51	COPPER KING	092I10E	092INE024	1901-1940	6,768	36,793	113	71,226	184,017					36,793	Vein Mesothermal (I05)	MINFILE
52	COQUIHALLA CAMP (5)	092H 11W		Totals:	904,631	1,581,523	44	135,432	55 +(Pb Zn)	2,406,335		8,565,245		10,146,768	Vein Mesothermal (I01)	
	A) CAROLIN (LADNER CREEK)	092H 11W	092HNW007 092HNW018	1982-1984	901,566	1,462,182		112,446		1,621,715	4.42	7,167,980	Prelim. u/g resource	8,630,162		Info Circ. 1997-1 p. 22
										598,620	1.75	1,047,585	Tailings: potential mill feed	1,047,585		
	B) EMANCIPATION	092H 06W	092HSW034	1916-1941	1,158	90,104		18,818	(Pb Zn)	186,000	1.88	349,680	McMaster zone	439,784		CIM '97 (Van) p.81 program
	C) PIPESTEM		092HNW011	1935-1937	1,498	8,460		1,151	55					8,460		
	D) AURUM		092HNW003	1930-1942	408	16,578		3,017						16,578		
53	CRAIGMONT	092I 02W	092ISE035	1961-1988	34,846,139	77,851	102	242,510	402,704,469	445 030 tonnes of Fe produced from dumps: 1970-73 & 1983-90.				77,851	Skarn (K03)	MINFILE
54	CRONIN	093L 15W	093L127	1914-1974	24,386	8,772	156	8,169,918	10 394+(Pb Zn)	117,923	0.34	40,094	428.5g/t Ag 7.1%Pb 8.1%Zn	48,866	Vein Mesothermal (I05)	GCNL No. 102 1988
55	DARDANELLE	103I 08E	103 I07							181,440	7.50	1,360,800	17.1g/t Ag	1,360,800	Vein Mesothermal (I05)	GCNL No. 30 1984
56	DAVID	082F 08E	082FSE108							96,000	7.11	682,560		682,560	Vein Mesothermal (I01)	Bapty Res. 1991
57	DEBBIE CAMP (4)	092F 02E	092F 079 092F 331	1898-1936	365	9,425	149	1,679	88 Totals:	300,754		1,439,614		1,449,039	Vein Mesothermal (I01)	SW May 29 1996
	A) 900 zone									20,717	7.82	162,015		162,015		
	B) Linda zone									52,021	8.57	445,885		445,885		
	C) Mineral zone									172,072	3.26	560,451		560,451		
	D) Yellow zone									73,944	3.67	271,263		271,263		
58	DIVIDEND-LAKEVIEW	082E 04E	082ESW001	1907-1949	94,531	504,396	65	87,244	73,351+(Pb Zn)					504,396	Skarn (K01)	
59	DOC (GRACY)	104B 08W	104B 014							426,337	9.2	3,922,300	44.9g/t Ag	3,922,300	Vein Mesothermal (I01)	NM Nov. 7 1988
60	DOCTORS POINT	092H 12W	092HNW071							113,600	2.16	245,376	6.20g/t Ag	245,376	Vein Mesothermal (I01)	AR 18 365
61	DOME MOUNTAIN CAMP (3)	093L 10E		Totals:	36,209	373,478	67	157,607	(Pb Zn)	220,768		3,463,443		3,836,921	Vein Mesothermal (I05)	
	A) DOME MTN.		093L 276	1991-1992	30,890	361,439		136,982						361,439		Geo. Fldwk 1986 p.212
	B) FREE GOLD		093L 023	1981-1982	5,314	11,665		20,034	(Pb Zn)	200,768	14.9	2,991,443		2,991,443		GCNL Apr. 11 1994
	C) FORKS		093L 022	1940-1951	5	374		591	(Pb Zn)	200,000	23.60	472,000		484,745		
62	DUSTY MAC	082E 05E	082ESW078	1969 1975	93,372	606,006	61	10,552,750	2 432 +(Pb Zn)					606,006	Vein Epithermal (H05)	MINFILE
63	DUTHIE CAMP (3)	093L 14W		Totals:	75,542	110,400	92	56,029,135	20,088 + (Pb Zn Cd)	19,700	2.55	50,235		160,635	Vein Mesothermal (I05)	MINFILE
	A) DUTHIE		093L 088	1923-1989	36,314	58,122		49,326,229	6 +(Pb Zn Cd)	19,700	2.55	50,235	207g/t Ag 5% Pb 7.5% Zn	108,357		
	B) DOME		093L 089	1953-1988	39,047	52,278		6,702,906	20,082 +(Pb Zn Cd)					52,278		
64	EAGLEHEAD (JOY)	104I 06E	104I 008							30,000,000	0.2	6,000,000	0.41% Cu 0.01% Mo 2.71g/t Ag	6,000,000	Porphyry Calcalkalic (L04)	CIM SV 37 p.187
65	EARLY BIRD	103C 16E	103C 001	1913-1939	150	8,739	155	1,244						8,739	Vein Mesothermal (I01)	MINFILE
66	EAST GOLD	104B 08W	104B 033	1949-1965	31	31,694	116	98,627	30+(Pb Zn)					31,694	Vein Mesothermal (I05)	MINFILE
67	ECSTALL	103H 13E	103H 011							6,349,700	0.5	3,174,850	0.6% Cu 20g/t Ag 2.5% Zn	3,174,850	Massive Sulphide Volcanogenic (G06)	GCNL Feb. 8 1994
68	EL ALAMEIN	092H10W	092HNE022	1949-1951	1	6,252	167	778						6,252	Vein Mesothermal (I01)	MINFILE
69	ELIZABETH	092O 02E	092O 012	1958	8	156	190	156		3,853	41.1	158,358		158,514	Vein Mesothermal (I01)	GCNL No. 158 1984
70	ELK	092H 16W	092HNE096	1992-1995	14,730	1,518,777	45	1,903,000		121,350	25.4	3,082,290	35.3g/t Ag	4,601,067	Vein Mesothermal (I02)	Info. Circ. 1997-1 p. 21
71	EMERALD GLACIER	093E 11W	093E 001	1951-1968	8,293	1,524	183	2,596,915	9 014 +(Pb Zn Cd)	40,800	1.13	46,104	355g/t Ag 6.23% Pb 9.49% Zn	47,628	Vein Mesothermal (I05)	MINFILE
72	ENGINEER	104M 08E	104M 014	1913-1952 1995	14,263	561,659	63	278,373		20,000	34	680,000		1,241,659	Vein Epithermal (H05)	Info. Circ. 1994-1
73	EQUITY SILVER	093L 01W	093L 001	1980-1994	32,626,492	15,801,709	14	2,219,480,555	84,086,250					15,801,709	Vein Mesothermal (L01)	1995 Annual Report
74	ESKAY CREEK	104B 09W	104B 008	1995-1998*	446,933	29,577,433	9	1,430,186,981		1,355,965	57.7	78,239,181	2493g/t Ag	107,816,614	Massive Sulphide Subaqeous Hotspring (G07)	Homestake 1999
75	ESPERANZA	103P 06W	103P 126	1911-1948	4,524	7,993	157	4,451,307	1 190+(Pb)					7,993	Vein Mesothermal (I05)	MINFILE
76	FAIRVIEW CAMP (5)	082E 04E		Totals:	157,476	758,301	56	6,958,768	14 414 +(Pb Zn)	868,450		3,661,662		4,419,963	Vein Mesothermal (I05)	Property File 1987
	A) FAIRVIEW		082ESW008	1937-1961	87,692	285,215		3,774,816	9 087 +(Pb)					285,215		
	B) MORNING STAR		082ESW006	1893-1941	22,143	252,687		965,530	926 +(Pb Zn)	52,450	11.16	585,342	37.7g/t Ag	252,687		NM Apr. 17 1995
	C) STEMWINDER		082ESW007	1893-1956	27,666	100,310		532,797	(Pb Zn)	816,000	3.77	3,076,320		3,176,630		
	D) SUSIE		082ESW090	1932-1976	17,564	83,294		1,520,252	4 401+(Pb Zn)					83,294		MINFILE
	E) STANDARD		082ESW091	1961-1962	2,411	36,795		165,343	(Pb Zn)					36,795		
77	FANDORA CAMP (2)	092F 04E		Totals:	972	45,660	109	8,367	9 +(Pb Zn)	181,434	12.74	2,311,469		2,357,129	Vein Mesothermal (I06)	
	A) FANDORA		092F 041	1960-1964	972	45,660		8,367	9+ (Pb Zn)	181,434	12.74	2,311,469		2,357,129		SW Jun. 4 1990
78	FIDDLER	103I16W	103I 048	1926-1952	564	5,785	170	22,705	(Pb Zn)					5,785	Vein Mesothermal (I01)	MINFILE
79	FRANKLIN MTN. CAMP (2)	082E 04W		Totals:	203,292	1,733,948	43	43,319,344	12 665+(Pb Zn)	16,000	2.2	35,200		1,769,148	Vein Mesothermal (I05)	MINFILE
	A) UNION		082ENE003	1913-1946 1988	202,839	1,727,012		43,305,752	12 665+(Pb Zn)	16,000	2.2	35,200	65g/t Ag	1,762,212		
	B) HOMESTAKE		082ENE051		453	6,936		13,592	(Pb Zn)					6,936		
80	FRASERGOLD	093A 07E	093A 150							12,000,000	1.85	22,200,000	Geological Reserves to 100m depth	22,200,000	Vein Mesothermal (I01)	GCNL No. 37 1992
81	FRENCH PEAK	093M 07W	093M 015	1964-1974	52	124	192	388,415	1 250+(Pb Zn)	2,630	2.4	6,312	411g/t Ag 5%Cu 14% Pb	6,436	Vein Mesothermal (I05)	CIM SV 37 p. 185
82	G-SOUTH (THUNDER AHBAU CREEK)	093G 01W	093G 007							45,355	10.2	462,621	Discovery zone	462,621	Vein Mesothermal (I05)	SW Feb. 14 1991
83	GALORE CREEK CAMP (STIKINE COPPER) (3)	104G 03W							Totals:	284,000,000		125,537,000	0.67% Cu 7.0g/t Ag	125,537,000	Porphyry Alkalic (L03)	CIM SV 46 (1995) pp.630-644
			104G 090						Central:	233,900,000	0.35	81,865,000	0.67% Cu 7.0g/t Ag	81,865,000		
			104G 095						Southwest:	42,400,000	1.03	43,672,000	0.55% Cu 7.0g/t Ag	43,672,000		
			104G 092						North Junction:	7,700,000			1.50% Cu			
84	GEORGE GOLD-COPPER	104A 04W	104A 129							180,000	2.1	378,000	17.1g/t Ag 2% Cu	378,000	Vein Mesothermal (L01)	AR 6 382
85	GEORGIA RIVER	103O 16E	103O 013	1937	454	10,233	146	12,752	(Pb)	272,130	27.7	7,538,001	14.8g/t Ag	7,548,234	Vein Mesothermal (I02)	GCNL Jun. 20 1995
86	GERLE GOLD	094D 16W	094D 006							45,355	7.5	340,163		340,163	Vein Mesothermal (I01)	Gerle Gold May 1987
87	GIANT COPPER CAMP (2)	092H 06W		Totals:	94	716		313,020		145,373	0.38	55,242		55,958	Porphyry Calcalkalic (L04)	Info. Circ. 1999-1 p.11
	A) AM		092HSW001							145,373	0.38	55,242	0.47% Cu 11.19g/t Ag	55,242		
	B) INVERMAY		092HSW002	1936-1947	94	716		313,020						716		
88	GIBRALTAR	093B 08E	093B 012	1972-1998*	305,846,091	143,368	86	105,478,052	876,712,378 (Mo)	148,685,000	0.007 est	1,040,795	0.305% Cu 0.01% Mo	1,184,163	Porphyry Calcalkalic (L04)	Boliden 1999 CIM SV 46 (1995) pp. 201-213
89	GIVEOUT CREEK CAMP (6)	082F 06W		Totals:	228,204	826,922	55	639,852	6 873 535 + (Pb Zn)	240,544		2,162,630		2,989,552	Vein Mesothermal (I05)	MINFILE
	A) ATHABASCA		082FSW168	1898-1943	20,219	631,800		201,800	13+(Pb Zn)	18,144	8.57	155,494		787,294		AR 17 184
	B) VENUS		082FSW166	1900-1941	4,197	107,120		95,486	6+(Pb)					107,120		
	C) CALIFORNIA		082FSW169	1910-1949	1,454	70,000		122,600	(Pb Zn)	36,000	29.14	1,049,040		1,119,040		AR 11 027
	D) SILVER KING		082FSW176	1889-1958	202,049	8,896		138,214,612	6 789 739 +(Pb Zn)					8,896		
	E) DAYLIGHT-BERLIN		082FSW175	1937-1949	327	8,832		4,977	(Pb Zn)					8,832		
	F) IRENE		082FSW171	1939	15	274		377		186,400	5.14	958,096		958,345		
90	GLACIER CREEK CAMP (6)	103P 13W		Totals:	53,884	322,295	71	11,423,946	14 338 + (Pb Zn)	18,000	0.27	4,860		327,155	Vein Mesothermal (I05)	
	A) DUNWELL		103P 052	1926-1937	45,657	303,067		10,222,965	11 714+ (Pb Zn)					303,067		MINFILE
	B) PORTLAND CANAL		103P 068	1911-1912	8,164	19,035		804,603	(Pb)					19,035		
	C) L&L/KATHERINE		103P 076	1913-1925	63	193		396,378	10+(Pb Zn)	18,000	0.27	4,860	31g/tAg 2.1% Zn	5,053		Morocco Expl'n 1988
91	GLACIER GULCH (NORTH)	093L 14W	093L 107	1933-1939	165	9,236	152	36,919	(Pb Zn)					9,236	Vein Mesothermal (I05)	MINFILE
92	GOAT	104A 04E	104A 002	1975-1981	3,186	5,475	174	1,794,049	153+(Pb Zn)	8,800	10.6	93,280	4 782.9g/t Ag	98,755	Vein Mesothermal (I05)	NM Mar. 1 1979
93	GOLDSTREAM	082M 09W	082M 141	1983-1996	2,211,228	42,363	110	26,228,450	78,269,389 (Zn)					42,363	Massive Sulphide Volcanogenic (G04)	MINFILE
94	GOLD HILL CAMP (3)	082F06W		Totals:	115	9,424	150	7,837	1,558					9,424	Vein Mesothermal (I05)	MINFILE
	A) GOLD HILL		082FSW092	1903-1925	115	9,424		7,837	1,558					9,424		
95	GOLDEN BEAR	104K 01	104K 079	Totals: 1990-1994; 1997-1998 (heap leach)	1,313,022	8,865,578	20	1,716,107.00		3,602,200		13,682,040		22,547,618	Vein Epithermal (H05)	Wheaton River 1998
					1,313,022	8,865,578		1,716,107.00						8,865,578		
										519,400	6.9	3,583,860	Ursa (o/p)	3,583,860		
										183,900	8.7	1,599,930	Kodiak B (u/g)	1,599,930		
										276,000	7.8	2,152,800	Kodiak C (u/g)	2,152,800		
										152,900	20.5	3,134,450	Grizzly (u/g)	3,134,450		
										2,470,000	1.3	3,211,000	East Low Grade Stockpile	3,211,000		
96	GOLDEN CACHE (AMPLE/GOLDMAX)	092J09E	092JNE094	1897-1901	2,789	22,611	127							22,611	Vein Mesothermal (I01)	MINFILE
97	GOLDEN LION	094E 11W	094E 077							2,054,355	0.96	1,972,181	4.8g/t Ag 0.49% combined Pb-Zn	1,972,181	Vein Epithermal (H05)	AR 15 779
98	GOLDEN STRANGER	094E 06W	094E 076						preliminary	498,905	2.74	1,367,000		1,367,000	Vein Epithermal (H05)	Rpt. to shareholders Mar. 30 1989
99	GOLSKEISH (MAY)	103P 05W	103P 027	1917-1929	47,846	149,109	85	822,053	(silica)					149,109	Vein Mesothermal (I01)	MINFILE
100	GRANBY POINT	103P 05W	103P 022	1916-1938	142,920	233,585	74	7,910,240	79+(Pb)					233,585	Vein Mesothermal (I01)	MINFILE
101	GRANDUC	104B 01W	104B 021	1970-1978 1981-1984	15,559,369	2,000,061	41	124,048,961	190,143,710	9,887,390			1.79% Cu	2,000,061	Massive Sulphide Volcanogenic (G04)	MINFILE
102	GRANISLE	093L 16E	093L 146	1966-1982	52,700,000	6,832,716	25	69,752,525	214,299,455 (7.25 Mo)	119,000,000	0.15	17,850,000	0.41% Cu	24,682,716	Porphyry Calcalkalic (L04)	CIM SV 46 (1995) pp.256-289
103	GRANITE POORMAN CAMP (6)	082F 06W		Totals:	163,138	2,060,763	40	1,999,556	162 125+(Pb Zn Cd)	16,328	9.26	151,197		2,211,960	Vein Mesothermal (I05)	MINFILE
	A) KENVILLE		082FSW086	1890-1954	158,212	2,024,216		861,069	1 582+(Pb Zn Cd)	16,328	9.26	151,197	240g/t Ag 8.2% Pb 8% Zn	2,175,413		
	B) EUREKA		082FSW084	1905-1954	3,603	19,190		1,124,747	159 170+(Pb)					19,190		
	C) VENANGO		082FSW087	1939-1963	160	11,758		13,655	(Pb Zn)					11,758		
	D) STAR		082FSW083	1904-1934	1,163	5,599		85	42+(Pb Zn)					5,599		
104	GRANITE SCHEELITE	092H 07W	092HSE101							72,568	9.08	658,917	79.87g/t Ag	658,917	Vein Mesothermal (I05)	SMF Feb. 28 1980
105	GREENWOOD CAMP TOTALS (53)	082E 02E		Totals:	16,364,461	39,977,644	5	310,232,328	298,805,360+(Pb Zn)	1,924,842		4,885,031		44,862,675		MINFILE
105A	PHOENIX AREA SKARNS (6)			Totals:	14,748,725	31,535,270		198,325,850	254,024,054+(Pb)					31,535,270	Skarn (K01)	
	i) PHOENIX (GREENWOOD)		082ESE020	1900-1978	13,055,128	28,340,619		183,035,743	235,692,705+(Pb)					28,340,619		
	ii) RAWHIDE		082ESE026	1904-1916	855,634	1,055,668		6,909,502	8,441,446					1,055,668		
	iii) SNOWSHOE		082ESE025	1900-1911	545,129	1,283,993		4,949,950	6,322,089					1,283,993		
	iv) BROOKLYN		082ESE013	1900-1960	292,834	854,990		3,430,655	3,567,397					854,990		
105B	GREENWOOD REGIONAL SKARNS (11)			Totals:	1,339,991	5,940,843		32,609,106	44,525,275	1,662,988		2,685,607		8,626,450		
	i) MOTHER LODE		082ESE034	1900-1962	584,211	5,390,837		21,405,520	34,915,323	407,288	0.51	207,717	4.45g/t Ag 0.65% Cu	5,598,554	Skarn (K04)	SW Feb 21 1990
	ii) EMMA		082ESE062	1901-1927	241,538	211,843		2,433,964	2,350,348					211,843		
	iii) SUNSET		082ESE038	1900-1918	109,305	144,598		746,938	866,477					144,598		
	iv) ORO DENORO		082ESE063	1903-1917	123,782	116,450		953,369	1,690,617	1,058,700	0.7	741,090	0.95% Cu 10.3g/t Ag	857,540		
	v) B.C./EHOLT		082ESE060	1900-1938	93,874	31,165		6,664,594	4,093,971					31,165		
	vi) CITY OF PARIS		082ESE042	1900-1919	1,926	26,624		139,342	60 390 + (Pb Zn)					26,624		
	vii) GREYHOUND		082ESE050	1970-1971	183,823	15,551		349,007	596,928				(incl. Greyhound)	15,551		
	viii) MARSHALL		082ESE031	1967-1975	370	15,210		17,635	472 + (Pb Zn)					15,210		
	ix) BLUEBELL		082ESE188	1938-1939	353	8,055		3,795	422					8,055		
	x) MORRISON		082ESE052	1901-1903	2,647	7,153		26,033	10,717					7,153		
	xi) LEXINGTON/GRENOBLE		082ESE041	1950-1951	8	31		8,305	(Pb Zn)	147,000	8.9	1,308,300	0.96% Cu	1,308,331		MINFILE
	xii) SYLVESTER K		082ESE046							50,000	8.57	428,500		428,500		
105C	DENTONIA AREA VEINS (7)			Totals:	131,347	1,387,816		8,762,242	6 535 +(Pb Zn)	90,710		994,182		2,381,998	Vein Mesothermal (I05)	MINFILE
	i) DENTONIA (JEWELL)		082ESE055	1900-1985	124,644	1,348,459		8,054,963	6 482 +(Pb Zn)	90,710	10.96	994,182	68.56g/t Ag	1,348,459		
	ii) NORTH STAR		082ESE152	1919-1940	5,309	23,700		475,285	(Pb Zn)					23,700		NM May 29 1975
	iii) AMANDY		082ESE126	1936-1941	1,059	10,637		196,104						10,637		
	iv) GOLD DROP		082ESE153	1915-1988	335	5,020		35,894	53 (+Pb Zn)					5,020		
105D	SKOMAC		082ESE045	1903-1983	3,574	18,550		851,893	864 +(Pb Zn)	37,191	3.4	126,449	342.8g/t Ag 2% Zn	144,999	Vein Mesothermal (I05)	NM Apr. 9 1981
105E	NO. 7		082ESE043	1901-1945	13,748	92,409		3,109,897	(Pb Zn)					92,409	Vein Mesothermal (I05)	MINFILE
105F	GREENWOOD VEINS (20)			Totals:	46,909	381,982		60,373,935	9,798	77,103		211,262		592,244	Vein Mesothermal (I05)	
	i) PROVIDENCE		082ESE001	1893-1973	10,426	183,384		42,551,891	29 +(Pb Zn)					183,384		
	ii) SKYLARK (OB)		082ESE011	1893-1989	35,167	112,721		17,033,147	9 536 +(Pb Zn)	77,103	2.74	211,262	685.6g/t Ag	323,983		AR 15 731
	iii) EPU		082ESE006	1903-1947	571	44,601		229,478	(Pb Zn)					44,601		
	iv) GOLDFINCH		082ESE004	1902-1944	299	18,102		88,426	(Pb Zn)					18,102		MINFILE
	v) BAY		082ESE005	1904-1945	447	16,981		14,463						16,981		MINFILE
	vi) ELKHORN		082ESE002	1905-1947	179	5,193		456,530	(Pb Zn)					5,193		
105G	ATHELSTAN AREA (3)			Totals:	72,543	558,860		1,393,477	175 312 +(Pb Zn)	56,850		867,531		1,426,391	Vein Mesothermal (I05)	Attwood 1989
	i) WINNIPEG		082ESE033	1900-1940	53,316	363,128		1,136,815	86 463 +(Pb)	56,850	15.26	867,531	17.83g/t Ag 0.7% Cu	1,230,659		
	ii) ATHELSTAN		082ESE047	1900-1940	16,739	157,195		186,681	50 796 +(Pb)					157,195		
	iii) GOLDEN CROWN		082ESE032	1900-1941	2,488	38,537		69,981	38,053					38,537		
105H	KING SOLOMON		082ESE054	1901-1955	1,248	7,869		52,906	59,161					7,869	Vein Mesothermal (I05)	
105I	HUMMINGBIRD		082ESE057	1900-1950	942	23,575		52,501	254 +(Pb Zn)					23,575	Vein Mesothermal (I05)	MINFILE
105J	SENATOR		082ESE187	1903-1905	5,178	9,984		22,674	10,618					9,984	Vein Mesothermal (I05)	MINFILE
106	HALL CAMP (6)	082F 06E			8,929	217,440	76	105,529	181+(Pb Zn)					217,440	Vein Mesothermal (I05)	MINFILE
	A) FERN		082FSW183	1896-1942	8,619	196,448		16,515						196,448		
	B) EUPHRATES		082FSW186	1928-1960	10	14,401		76,543	(Pb Zn)					14,401		
	C) BEAR		082FSW182	1937-1942	114	4,167		1,897						4,167		
	D) GOLDEN AGE		082FSW185	1928-1973	155	1,243		9,673	107+(Pb Zn)					1,243		
	E) CANADIAN BELLE		082FSW184	1939-1940	24	840		280	23					840		
	F) GOLD KING		082FSW181	1931-1940	7	341		621	51					341		
107	HANK	104G 01W	104G 107							226,775	2.3	521,583		521,583	Vein Epithermal (H04)	Lac Minerals 1987
108	HARPER CREEK	82M 12W	082M 009							96,000,000	0.04	3,840,000	0.41% Cu	3,840,000	Massive Sulphide Volcanogenic (G06)	Info. Circ. 1997-1 p.29
109	HARRISON GOLD	092H 05E	092HSW092	1973-1981	680	31,590	117	10,139	616	2,200,000	3.2	7,040,000		7,071,590	Vein Mesothermal (I01)	SW Feb. 27 1992 AR 20 144
110	HEARNE HILL	093M 01W	093M 006							14,230,000	0.186	2,646,780	0.6% Cu	2,646,780	Porphyry Calcalkalic (L04)	Info Circ. 1999-1 p. 11 CIM SV 46(1995) pp.290-303
111	HEDLEY CAMP (7)	092H 08E		Totals:	15,019,367	76,735,496	3	18,802,842	1,872,984	175,977	1.2	211,172		76,946,688	Skarn (K04)	MINFILE
	A) NICKEL PLATE		092HSE038	1904-1996	13,675,146	66,166,980		15,941,519	981,030					6,616,980		
	B) MASCOT FRACTION		092HSE036	1936-1949	1,100,473	8,449,392		2,539,384	870,817					8,449,392		
	C) FRENCH		092HSE059	1950-1983	69,508	1,362,392		180,616	20,535					1,362,392		
	D) HEDLEY TAILINGS (CANDORADO)		092HSE144	1988-90 1994-1996	119,002	480,026		11,800					Heap Leach	480,026		
	E) GOOD HOPE		092HSE060	1945 -1982	11,115	166,915		119,539	602					166,915		
	F) MASCOT TAILINGS		092HSE244	1995-1996	42,640	93,311		9,953		175,977	1.2	211,172	Heap Leach	304,483		
	G) CANTY		092HSE064	1939-41 1991	1,483	16,480		31						16,480		
112	HIGHLAND VALLEY COPPER CAMP (3)	092I 06E		Totals:	939,943,231	7,164,823	24	1,162,298,763	4,518,197,921	416,800,000	0.03	12,504,000		19,668,823	Porphyry Calcalkalic (L04)	CIM SV 46 (1995) pp. 161-191
	A) HIGHLAND VALLEY COPPER (amalgamation of Lornex and Valley in 1996)		092ISW012	1986-1998*	575,542,581	5,786,819		793,331,013	2,149,004,225 (Mo)	416,800,000	0.03	12,504,000	0.42% Cu 0.087% Mo 4.8g/t Ag	18,290,819		
	B) BETHLEHEM COPPER (JERSEY HEUSTIS etc)		092ISE001	1963-1982	92,834,841	1,279,833		99,826,893	398,112,545 (Mo)					1,279,833		
	C) LORNEX		092ISW045	1972-1986	271,565,809	98,171 (gold only before 1980s)		269,140,857	971,081,151	See Highland Valley Copper (107B) from 1986 onward mined grade = 0.421% Cu				98,171		
113	HOLBERG INLET CAMP (2)	092L 12							Totals:	198,237,000		69,900,580		69,900,580	Porphyry Calcalkalic (L04)	CIM SV 46 (1995) pp. 367-376
	A) HUSHAMU (EXPO)	092L 12E	092L 240							173,237,000	0.34	58,900,580	0.270% Cu 0.009% Mo	58,900,580		
	B) RED DOG	092L 12W	092L 200							25,000,000	0.44	11,000,000	0.35% Cu 0.006% Mo	11,000,000		
114	HOMESTAKE	082M 04W	082M 025	1926-1941	6,940	11,259	144	8,750,829	9 138+(Pb Zn)	249,906	0.58	144,945	226.6g/t Ag 0.28% Cu 36.7% Ba 2.19% Zn 1.24% Pb	156,204	Massive Sulphide Volcanogenic (G06)	Kamad Silver 1986
115	HOMESTAKE	082F14W	082FNW213	1903-1971	363	7,463	160	976,790	(Pb Zn)					7,463	Vein Mesothermal (I05)	MINFILE
116	HORN SILVER	082E 04E	082ESW002	1915-1984	433,396	332,992	70	127,194,850	30 034+(Pb Zn)					332,992	Vein Mesothermal (I05)	MINFILE
117	HOWARD	082F 03E	082FSW199	1937-1970	19,806	212,121	77	1,613,871	(Pb Zn)					212,121	Vein Mesothermal (I05)	MINFILE
118	HUCKLEBERRY	093E 11E	093E 037	1997-1998*	7,798,593	1,961		47,583	43,111,000	80,754,000	0.06	4,845,240	2.73g/t Ag 0.5% Cu 0.014% Mo	4,847,201	Porphyry Calcalkalic (L04)	Imperial Metals 1999 CIM SV 46 (1995) pp.313-321
119	HUNTER	103H 01W	103H 034	1933	3	933	*185	373	40	94,338	12	1,132,056		1,132,989	Vein Mesothermal (I01)	GCNL June 13, 1984
120	HUNTER V	082F 03E	082FSW014	1902-1929	56,820	31,413	118	8,464,402						31,413	Massive Sulphide Irish type/Sedex (E13)	MINFILE
121	HUNTER BASIN CAMP (2)	093L 11E		Totals:	561	22,966	126	1,410,550	87,065					22,966	Vein Mesothermal (I05)	MINFILE
	A) KING		093L 041	1915-1941	293	15,563		1,153,483	44,356					15,563		
	B) RAINBOW		093L 044	1915-1941	268	7,403		257,067	42,709					7,403		
122	INDIAN CHIEF	092E 08W	092E 011	1904-1938	73,608	22,500	128	1,707,000	1,102,000	1,900,000	0.31	589,000	1.5% Cu 23.2g/t Ag	611,500	Skarn (K01)	AR 462
123	INEL	104B 10W	104B 113							317,485	3.4	1,079,449	13.3g/t Ag 0.1% Cu 0.1% Pb 2.7%	1,079,449	Vein Mesothermal (I02)	AR 22 026
124	ISLAND COPPER	092L 11W	092L 158	1971-1995	366,718,831	35,267,550	7	294,105,533	1,227,330,387 (Mo Re)					35,267,550	Porphyry Calcalkalic (L04)	MINFILE CIM SV 46 (1995) pp. 214-238
125	J & L (McKINNON CK.)	082M 08E	082M 003						Main:	3,600,000	7.24	26,064,000	81g/t Ag 3.0% Pb 3.9% Zn + As	26,064,000	Massive Sulphide Irish-type/Sedex (E13/E14)	SW July 31 1991
									Yellowjacket:	1,000,000			54.9g/t Ag 2.5% Pb 7% Zn			
126	JD (Toodoggone)	094E 06E	094E 171							147,889	4.4	650,712		650,712	Vein Epithermal (H05)	GCNL Jan. 13 1995
127	JEDWAY CAMP (3)	103B 06E		Totals:	13,463	53,496	105	869,702	578,197					53,496	Skarn (K01)	MINFILE
	A) LILY-IKEDA		103B 028	1906-1920	13,410	51,195		862,548	574,055					51,195		
128	JOHNNY MTN CAMP (2)	104B 11E		Totals:	227,247	2,815,393	35	4,348,814	1,008,109	51,216		2,883,936		5,699,329	Vein Mesothermal (I02)	
	A) JOHNNY MTN. (REG)		104B 107	1988-1990 1993	227,247	2,815,393		4,348,814	1,008,109	24,000	11.3	271,200	22.0g/t Ag 0.23% Cu	3,086,593		Info. Circ. 1994-19
	B) McFADDEN		104B 260							27,216	96	2,612,736		2,612,736		Skyline Expl'n 1994
129	KALAMAKA	082L 03E	082LSW050	1935-1944	6,592	90,137	97	108,052	208 +(Pb Zn)					90,137	Vein Mesothermal (I05)	MINFILE
130	KALAPPA CAMP (2)	092F04W		Totals:	1,389	18,630	135	111,038	27,549					18,630	Vein Mesothermal (I05)	MINFILE
	A) KALAPPA		092F 077	1913-1914	1,372	17,697		110,229	27,380					17,697		
131	KALUM LAKE	103I 15W	103I 019	1940	10	375	187	560		9,434	16.10	151,887		152,262	Vein Mesothermal (I05)	Property File 1987
132	KATIE	082F 03W	082FSW291							200,000,000 (potential)	0.17	34,000,000	0.17% Cu	34,000,000	Porphyry Alkalic (L03)	SW Mar. 12 1991 CIM SV 46 (1995) pp. 666-673
133	KEMESS CAMP (2)	094E 02			7,482,000	2,393,000	38	50,000	9,690,000	367,969,000		186,307,210		188,700,210	Porphyry Calcalkalic (L04)	
	A) Kemess South	094E 02E	094E 094	1998*	7,482,000	2,393,000		50,000	9,690,000	192,918,000	0.63	121,538,340	0.22% Cu	123,931,340		CIM SV 46 (1995) pp.377-396
	B) Kemess North	094E 02W	094E 021							175,051,000	0.37	64,768,870	0.18% Cu	64,768,870		
134	KENNEDY RIVER CAMP (5)			Totals:	396	9,704	148	4,819	11	197,920		3,512,064		3,521,768	Vein Mesothermal (I06)	
	A) BEAR		092F 044							160,000	17.4	2,784,000	Bear Black	2,784,000		SW Feb. 14 1989
	B) SHACK		092F 045							37,920	19.2	728,064		728,064		AR 18 693
	C) LEORA		092F 031	1902-1915	383	8,771		2,831						8,771		
135	KERR	104B 08W	104B 191							135,000,000	0.34	45,900,000	0.76% Cu; Ag	45,900,000	Porphyry Calcalkalic (L04)	SW Dec. 24 1991 CIM SV 46(1995) pp. 509-523
136	KLIYUL	094D 09E	094D 023							2,300,000	1.3	2,990,000	0.45% Cu 6.9g/t Ag	2,990,000	Skarn (K04)	Info. Circ. 1995-1 p.22
137	KUTCHO CREEK CAMP (3)	104I 01W	104I 060						Totals:	28,000,000		7,410,000	1.6% Cu 2.3% Zn	7,410,000	Massive Sulphide Volcanogenic (G06)	SW Mar. 18 1991 CIM SV 37 p.122
									Kutcho Main	17,000,000	0.3	5,100,000	29.2g/t Ag			
									Kutcho West	10,000,000		est. 1 530 000	1% Cu 1.2% Zn			
									Kutcho East	1,000,000	0.78	780,000	58g/t Ag 3.24%Cu 1.64% Zn			
138	LARA (CORONATION)	092B 13W	092B 129							528,839	4.73	2,501,408	100.09g/t Ag 1.01% Cu 1.22% Pb 5.87% Zn	2,501,408	Massive Sulphide Volcanogenic (G06)	GCNL Sept. 29 1992
139	LAWYERS (+ AL + METS)	094E 06E	094E 066	1989-1992	619,869	5,401,981	26	113,184,127						5,401,981	Vein Epithermal (H05)	SW May 22 1997
140	L.H.	082F 14W	082FNW212	1939	196	3,452	181	1,928		59,040	8.57	505,973		509,425	Vein Mesothermal (I01)	Cons. Quebec Gold Ann. Rpt. Jan. 31 1946
141	LINDQUIST (DEER HORN)	093E 06W	093E 019							249,425	10.7	2,668,848	274.2g/t Ag Wo	2,668,848	Vein Epithermal (H05)	CIM SV 37 p.186
142	LITTLE BERTHA CAMP (3)	082E01W		Totals:	1,975	22,178	130	201,889	15 325+(Pb)					22,178	Vein Mesothermal (I05)	MINFILE
	A) LITTLE BERTHA		82ESE074	1900-1939	876	13,251		120,276	29 +(Pb)					13,251		
	B) GOLDEN EAGLE		82ESE079	1900-1941	1,099	8,927		81,613	15,296					8,927		
143	LITTLE GEM	092J 15W	092JNE068							27,705	21.74	602,307	2.05% Co	602,307	Vein Mesothermal (I05)	GCNL No. 87 1979
144	LLOYD-NORDIK	093A 12E	093A 160							2,930,000	0.401	1,174,930	.531% Cu	1,174,930	Porphyry Alkalic (L03)	GCNL Mar. 25 1996
145	LORRAINE	093N 14W	093N 002							31,940,000	0.17	5,429,800	0.66% Cu 4.7g/t Ag	5,429,800	Porphyry Alkalic (L03)	SW Mar. 31 1998
146	LOUISE LAKE	093L 13E	093L 079							50,000,000	0.310	15,500,000	0.3% Cu 0.02% Mo	15,500,000	Porphyry Calcalkalic (L04)	SW May 5 1992 CIM SV 46 (1995) pp. 416-421
147	LUCKY JIM	092K 03W	092K 015	1909-1927	478	7,371	162	7,123	11,274	12,700	10.97	139,319	17.14g/t Ag 2% Cu	146,690	Skarn (K01)	GCNL Apr. 28 1986
148	LUCKY SEVEN	103I 08W	103I 099	1918	91	6,221	168							6,221	Vein Mesothermal (I05)	
149	LUSTDUST	093N 11W	093N 009							1,133,750	4.29	4,863,788		4,863,788	Manto Skarn (J01)	SW July 13 1992
150	MACKTUSH	092F 02W	092F 012							137,891	18.52	2,553,741	78.52g/t Ag 0.75% Cu	2,553,741	Vein Mesothermal (I06)	Northwest Prospector 1988
151	MAMIE	093L 14W	093L 091							55,330	10.97	606,970	102.84g/t Ag 0.7% Cu 7% Zn	606,970	Vein Mesothermal (I05)	Cons. Silver Std. 1985
152	MARY MAC	092J 15E	092JNE067	1974	4					22,300	7.43	165,689		165,689	Vein Mesothermal (I01)	AR 11 647
153	MARY MCQUILTON CAMP (2)	09205W		Totals:	141	12,287	141	6,160	477 +(Pb)					12,287	Vein Mesothermal (I05)	MINFILE
	A) MARY MCQUILTON		092F 122	1935-1938	78	7,217		3,204	265					7,217		
	B) BIG BOY		092F 123		63	5,070		2,956	212 +(Pb)					5,070		
154	MCPHEE	082F05E	082FSW375	1936-1941	144	10,265	145	1,772						10,265	Vein Mesothermal (I05)	MINFILE
155	MEGABUCKS (WOODJAM)	093A 06W	093A 078							2,056,000	0.93	1,912,080	0.13% Cu	1,912,080	Porphyry Alkalic (L03)	SW Mar. 26 1990
156	MERRY WIDOW CAMP (2)	092L 06E		Totals:	2,656,061	3,931,702	28	12,219,624	42,430,209	272,154	1	272,154	1.6% Cu 30% Fe	4,203,856	Skarn (K01)	
	A) OLD SPORT		092L 035	1962-1973	2,591,674	3,868,842		11,731,152	41,193,033					3,868,842		Conf. Rpt. Jan. 8 1990
	B) BENSON LAKE (MERRY WIDOW)		092L 091	1968-1969	64,387	62,860		488,472	1,237,176	272,154	1	272,154	1.6% Cu 30% Fe	335,014		
157	METEOR CAMP (2)	082F14W		Totals:	1,926	14,079	138	4,891,178	(Pb Zn)					14,079	Vein Mesothermal (I05)	MINFILE
	A) METEOR		082FNW137	1897-1985	1,764	13,177		4,724,994	(Pb Zn)					13,177		
158	METS	094E 06W	094E 093							54,068	11.66	630,433	Note: mined in '92 (part of #16)	630,433	Vein Epithermal (H05)	NM Sept 23 1992
159	MIDWAY	082G04W	082GSW021	1933-1962	1,168	9,082	153	85,534	108 +(Pb Zn)					9,082	Vein Mesothermal (I05)	MINFILE
160	MILLIE MACK	082K 04E	082KSW051	1899-1979	382	9,829	147	671,794	32+(Pb Zn)	1,542,070	4.79	7,386,515	222.82g/t Ag	7,396,344	Vein Mesothermal (I05)	GCNL May 1 1989
161	MINTO CAMP (4)	092J 15W		Totals:	117,008	714,807	57	1,600,684	9 711+(Pb)	1,120,463		7,435,863		8,150,670	Vein Mesothermal (I01)	
	A) MINTO		092JNE075	1934-1940	79,073	546,106		1,573,314	9 673+(Pb)					546,106		
	B) WAYSIDE		092JNE030 092JNE121	1915-1937	36,992	166,122		26,064		283,922	3.43	973,852	2.0% Cu 2.5% Zn	1,139,974		Cdn. Mines Handbook 1992 p. 69
	C) CONGRESS		092JNE029	1937	943	2,582		1,306	38	425,625	9.43	4,012,952		4,015,534	(I09)	News Release
	D) RELIANCE		092JNE033							410,916	5.96	2,449,059		2,449,059	(I09)	GCNL Apr. 14 1998
162	MOLLY HUGHES	082K03W	082KSW002	1899-1980	2,578	25,790	124	9,448,400	2 +(Pb Zn)	9,072	5.8	52,618	1282.4g/t Ag	78,408	Vein Mesothermal (I05)	Property File 1978
163	MONASHEE	082L02E	082LSE001	1939-1940	1,421	11,415	142	50,916	(Pb Zn)					11,415	Vein Mesothermal (I02)	MINFILE
164	MONEY SPINNER	092G16W	092GNE002	1897-1938	1	6,812	164	1,524						6,812	Vein Mesothermal (I05)	MINFILE
165	MONITOR	082K03W	082KSW004	1896-1958	4,979	31,820	115	12,783,836	(Pb Zn)					31,820	Vein Mesothermal (I05)	MINFILE
166	MORRIS	092N 08W	092N 002							172,000	8.3	1,427,600		1,427,600	Vein Mesothermal (I05)	GCNL No. 166 1982
167	MORRISON	093M 01W	093M 007							190,000,000	0.21	39,900,000	0.4% Cu	39,900,000	Porphyry Calcalkalic (L04)	CIM SV 46 (1995) pp. 290-303
168	MOUNT POLLEY (CARIBOO-BELL)	093A 12E	093A 008	1997-1998*	8,174,144	3,761,583	30	341,000	14,808,203	76,470,300	0.47	35,941,041	0.3% Cu	39,702,624	Porphyry Alkalic (L03)	Imperial Metals 1999
169	MOUNTAIN BOSS	092N 14E	092N 010							30,000	14.06	421,800	5.49g/t Ag	421,800	Vein Mesothermal (I01)	Property File 1948
170	MT. MILLIGAN (PHIL HEIDI)	093N 01E	093N 194							275,155,770	0.51	140,329,443	0.24% Cu	140,329,443	Porphyry Alkalic (L03)	CIM SV 46 (1995) pp.650-665
171	MT. SICKER CAMP (3)	092B 13W		Totals:	277,403	1,171,528	49	24,969,331	9 549 594+(Pb Zn)	317,485	4.11	1,304,863		2,476,391	Massive Sulphide Volcanogenic (G06)	
	A) TYEE (TWIN J)		092B 002	1901-1909	152,668	762,553		13,725,069	5,840,593	317,485	4.11	1,304,863	140.54g/t Ag 1.6% Cu	2,067,416		
	B) LENORA		092B 001	1898-1964	119,832	386,145		10,721,545	3 595 397+(Pb Zn)					386,145		NM Sept.25 1969
	C) RICHARD III		092B 033	1903-1907	4,903	22,830		522,717	113,604					22,830		
172	MT. WASHINGTON	092F 14W	092F 117	1961-1967	359,330	130,788	88	7,235,180	3,548,191	550,298	6.75	3,714,512	32.23g/t Ag	3,845,300	Vein Epithermal (H04)	GCNL Aug.3 1989
173	MYRA FALLS CAMP (3)	092F 12E		Totals:	19,273,562	23,031,051	10	782,217,289	322 368 763 +(Pb Zn)	6,785,000	1.5	10,177,500		33,208,551	Massive Sulphide Volcanogenic (G06)	Boliden 1999
	A) MYRA FALLS (H-W)		092F 330	1986-1998*	13,522,311	12,321,020		277,078,283	245 352 348 +(Pb Zn)	6,785,000	1.5	10,177,500	36.8g/t Ag 1.5% Cu 0.5% Pb 7.9% Zn	22,498,520		
	B) LYNX		092F 071	1967-1985	5,751,251	10,710,031		505,139,451	016 815 +(Pb Zn Cd)					10,710,031		
174	NANIKA (NEW NANIK)	093E 13E	093E 055							16,458,422	0.2 est.	3,291,684	0.437% Cu 0.009% Mo 0.38g/t Ag	3,291,684	Porphyry Calcalkalic (L04)	GCNL Jan. 14 1992
175	NETTIE L.	082K 11W	082KNW100	1899 - 1922	11,628	24,300	125	14,284,000	(Pb Zn)					24,300	Vein Mesothermal (I05)	EMPR Bull. 45
176	NEW MOON	093E 13W	093E 011							688,712	0.99	681,825	58.6g/t Ag 1.82% Pb 5.51% Zn	681,825	Vein Epithermal (H05)	AR 21 602
177	NO. ONE	082F10W	082FNE025	1889-1929	36,441	7,371	161	62,014,685	(Pb)					7,371	Vein Mesothermal (I05)	MINFILE
178	NORTHAIR	092J 03E	092JW 012	1974-1982	475,042	5,181,231	27	26,308,611	403 675+(Pb Zn)	59,071	9.08	536,365	26.73g/t Ag 2% Pb	5,717,596	Vein Mesothermal (I05)	Cdn. Mines Handbook 1992 p.69
179	NUGGET QUEEN	092L14E	092L178	1940-1949	609	20,869	133	44,758	1 755 +(Pb Zn)					20,869	Vein Mesothermal (I05)	MINFILE
180	OLALLA CAMP (3)			Totals:	1,610	4,977	178	35,363	38,577	2,177	85.71	186,591		191,568	Vein Mesothermal (I05)	MINFILE
	A) SUNRISE	082E 05W	082ESW015	1948	231	4,261		3,763	209	2,177	85.71	186,591	33.94g/t Ag	190,852		AR 19 963
181	OROFINO MTN. CAMP (2)	082E 05E		Totals:	19,882	275,169	72	74,461	(Pb Zn)					275,169	Vein Mesothermal (I05)	MINFILE
	A) TWIN LAKES		082ESW011	1926-1942	9,654	151,471		36,608						151,471		
	B) GRANDORO		082ESW010	1899-1942	10,228	123,698		37,853	(Pb Zn)					123,698		
182	OX-C	093E 11E	093E 101							196,087	0.47	92,161	411.3g/t Ag 2.85% Pb 4.63% Zn	92,161	Vein Mesothermal (I05)	Int'l Damascus Jan. 24 1986
183	PACKSACK	103H 14W	103H 013							2,700,000	0.30	810,000	34g/t Ag 0.5% Cu 2.7% Zn .01% Pb	810,000	Massive Sulphide Volcanogenic (G06)	AR 15 756
184	PAULSON CAMP (6)	082E 01E		Totals:	5,120	53,340	106	271,497	697+(Pb)					53,340	Vein Mesothermal (I05)	MINFILE
	A) INLAND EMPIRE		082ESE083	1912-1940	4,184	29,920		218,840	566					29,920		
	B) CASCADE		082ESE085	1902-1939	650	13,094		48,272	131+(Pb Zn)					13,094		
	C) MOLLY GIBSON		082ESE082	1909-1940	286	10,326		4,385						10,326		
185	PAYDIRT	104G 04E	104G 108							181,420	3.8	689,396		689,396	Vein Epithermal (H04)	Cons. Silver Std. 1988
186	PELLAIRE	092O 04E	092O 045							36,284	22.9	830,904	78.8g/t Ag	830,904	Vein Mesothermal (I05)	Lord River 1988
187	PERRIER CAMP (2)	082F 06W		Totals:	391	40,280	111	110,043	(Pb Zn)				Totals:	40,280	Vein Mesothermal (I05)	
	A) PERRIER		082FSW208	1913-1946	256	34,681		94,803	(Pb Zn)					34,681		
	B) CATHERINE		082FSW209	1928-1941	135	5,599		15,240	(Pb Zn)					5,599		
188	PHILIPS ARM CAMP (3)	092K 11W		Totals:	11,323	172,808	82	384,902	4,424	43,700		473,200		646,008	Vein Mesothermal	
	A) DORATHA MORTON		092K 023	1898-1934	9,319	143,913		333,923	1,094	18,100	12	217,200		361,113		Expl'n in BC-1986 p. C274
	B) ALEXANDRIA		092K 028	1939-1940	1,694	22,239		40,590	1,761	25,600	10	256,000		278,239		GCNL April 7 1987
	C) DOUGLAS PINE		092K 035	1938-1940	310	6,656		10,389	1,569					6,656		
189	PINE	094E 02E	094E 016							70,000,000	0.57	39,900,000	0.15% Cu	39,900,000	Porphyry Calcalkalic (L04)	Info. Circ. 1999-1 p.15
190	POISON MOUNTAIN	092O 02E	092O 046						Totals:	298,580,000	0.14	41,396,000	0.24% Cu 0.007% Mo	41,396,000	Porphyry Calcalkalic (L04)	Imperial Metals 1995 CIM SV 46 (1995) pp. 343-351 GCNL Oct. 28 1993
									Copper Ck:	280,000,000	0.14	39,200,000	0.26% Cu 0.51g/t Ag	39,200,000		
									Fenton Ck:	18,300,000	0.12	2,196,000	0.31% Cu	2,916,000		
191	POLARIS TAKU (New Polaris)	104K 12E	104K 003	1938-1951	689,090	7,203,579	23	365,772	79,958	3,270,000	13.7	44,799,000		52,002,579	Vein Mesothermal (I01)	Info. Circ. 1999-1 MINFILE
192	POPLAR	093L 02W	093L 239							144,117,000	0.1 est	14,411,700	0.368% Cu 0.011% Mo 6.86g/t Ag (est)	14,411,700	Porphyry Calcalkalic (L04)	GCNL Jan. 14 1992 CIM SV 46 (1995) pp.397-400
193	PORCHER ISLAND CAMP (2)	103J 02E		Totals:	34,455	639,914	58	225,994	4,161	1,381,364	6.86	9,476,157	5.49g/t Ag	10,116,071	Vein Mesothermal (I01)	MINFILE
	A) EDYE PASS		103J 015	1919-1939	34,311	632,418		223,568	4,161				AT Zone	632,418		
	B) SURF POINT		103J 017	1934-1937	144	7,496		2,426		1,381,364	6.86	9,476,157	5.49g/t Ag	9,483,653		
194	PORTER-IDAHO	103P 13W	103P 089	1922-1950 1981	27,290	27,074	123	73,431,978	27,285 (Pb Zn)	826,400			668.5g/t Ag 5%Pb 5% Zn	27,074	Vein Mesothermal (I05)	Pers. Com. D. Alldrick 1991
195	PREMIER CAMP (9)	104B 01E		Totals:	8,900,622	64,888,246	4	1,337,373,655	1,853,101	2,224,140		6,812,800		71,701,046	Vein Epithermal (H05)	GCNL Feb. 6 1997
	A) PREMIER		104B 054	1918-1979	4,235,706	56,117,494		1,269,104,418	1,853,101					56,117,494		
	B) PREMIER GOLD (Big Missouri and Premier)			1989-1996	2,209,715	6,063,316		62,296,609		350,140	7.14	2,500,000	37.7g/t Ag 1.6% Zn	8,563,316		GCNL Feb. 6 1997
	C) BIG MISSOURI		104B 046	1927-1942	768,782	1,815,947		1,638,408	(Pb Zn)					1,815,947		GCNL Feb. 6 1997
	D) SILVER BUTTE		104B 150	1991 1993	108,391	851,741		2,542,238		1,774,000	2.2	3,902,800	Kansas/West Kansas	4,754,541		SW May 18 1995
	E) INDIAN		104B 031	1925-1953	12,803	39,128		1,540,034	(Pb Zn)					39,128		
	F) HOPE-POWER		104B 154						(Pb Zn)	100,000	4.1	410,000		410,000		GCNL May 27 1988
196	PROSPERITY (FISH LK.)	092O 05E	092O 041							633,000,000	0.466	294,978,000	0.25% Cu	294,978,000	Porphyry Calcalkalic (L04)	Taseko Mines 1999
197	QR	093A 12W	093A 121	1995-1998*	1,015,822	3,628,259	31	1,069,148		320,000	5.08	1,625,600		5,253,859	Skarn (K04)	Info. Circ. 1999 - 1
198	QUEEN VICTORIA	082F06W	082FSW082	1907-1961	45,352	7,651	158	950,010	672,630					7,651	Vein Mesothermal (I05)	MINFILE
199	QUESNEL QUARTZ	093G07E	093G 015	1932-1939	2,048	6,438	166	8,553						6,438	Vein Mesothermal (I01)	MINFILE
200	RABBITT	092H 10W	092HNE014	1939-1941	1,304	33,516	114	18,164		1,324	1.6	2,118	dump	35,634	Vein Mesothermal (I05)	AR 12 434
201	REA GOLD (HILTON)	082M 04W	082M 191							376,000	6.10	2,293,600	69.4g/t Ag 2.3% Zn 2.2% Pb 0.33% Cu	2,293,600	Massive Sulphide Volcanogenic (G06)	NM Nov. 30 1987
202	RED-CHRIS	104H 12W	104H 005							118,900,000	0.47	55,883,000	0.584% Cu	55,883,000	Porphyry Alkalic (L03)	Info. Circ. 1999-1
203	RED CLIFF	104A 04W	104A 037	1910-1973	3,768	5,078	177	2,054	41 386+(Zn)	18,856	2.8	52,797	3.19% Cu	57,875	Vein Mesothermal (I05)	AR 17 465
204	RED ELEPHANT	082K 11E	082KNW053						Indicated	26,464	40.8	1,079,731	36.34g/t Ag 0.93% Cu	1,079,731	Vein Mesothermal (I05)	GCNL Dec. 14 1988
205	RED MOUNTAIN	103P 13E	103P 086						Marc and AV Zones	1,921,680	9.8	18,832,464	38.1g/t Ag	18,832,464	Vein Mesothermal (I02)	Info. Circ. 1998-1 p.16 CIM SV 46 (1995) pp. 811-828
206	RED ROSE	093M 04E	093M 067	1942-1954	110,828	19,300	134	26,800	26,500 (977 500 W)	13,606			1.18% Wo	19,300	Vein Mesothermal (I02)	BCDM Bull. 43
207	REX MOUNTAIN	092J 16W	092JNE034							186,453	8.57	1,597,902	0.92% Cu	1,597,902	Vein Mesothermal (I05)	SW Feb.8 1996
208	RICE	082F09E	082FNE055	1973-1974	1,481	14,494	137	13,405	1 307 +(Pb Zn)					14,494	Vein Mesothermal (I05)	MINFILE
209	RIVERSIDE	104B01E	104B 073	1927-1950	25,158	81,911	98	2,975,847	34 336+(Pb Zn)					81,911	Vein Mesothermal (I05)	MINFILE
210	ROCHER DEBOULE	093M 04E	093M 071	1915-1954	36,457	133,676	87	2,167,780	2,557,433 (Pb Zn)	54,000	3.5	189,000	2.77% Cu 207.4g/t Ag	322,676	Vein Mesothermal (I05)	GCNL Nov. 26 1990
211	ROCK AND ROLL	104B 11E	104B 377							580,544	2.4	1,393,306	335.9g/t Ag 0.64% Cu 0.79% Pb 3.08% Zn	1,393,306	Vein Mesothermal (I02)	NM Oct. 28 1991
212	ROSSLAND CAMP (44)	082F 04E		Totals:	5,570,000	86,530,000	2	110,240,000	72 660 000 +(Pb Zn)	1,936,524		15,638,903		102,168,903	Vein Mesothermal (I02)	MINFILE
	A) CENTRE STAR		082FSW094	1897-1917	2,065,331	34,164,625		23,147,008	13,366,167	278,900	16.54	4,613,006	11.21g/t Ag 0.65% Cu	38,777,631		
	B) LE ROI		082FSW093	1989-1942	1,791,680	24,091,170		37,653,105	21,330,618					24,091,170		
	C) JOSIE		082FSW147	1898-1922	568,700	9,792,252		15,544,721	7,965,035					9,792,252		
	D) WAREAGLE		082FSW097	1898-1905	300,169	5,659,751		12,036,613	5,021,436					5,659,751		
	E) I.X.L.		082FSW116	1898-1984	5,292	811,746		270,531	8 306 +(Pb Zn)					811,746		
	F) JUMBO		082FSW111	1903-1942	30,794	435,597		12,347						435,597		
	G) NICKEL PLATE		082FSW095	1901-1913	18,685	291,778		335,787	209,376					291,778		
	H) MIDNIGHT		082FSW119	1927-1984	5,682	245,311		182,978	670 +(Pb Zn)					245,311		
	I) CALIFORNIA		082FSW113	1898-1913	4,131	113,246		23,265	1,330					113,246		
	J) WHITE BEAR		082FSW114	1903-1920	17,028	72,905		229,104	142,064					72,905		
	K) COLUMBIA-KOOTENAY		082FSW151	1896-1904	144	68,520								68,520		
	L) EVENING STAR		082FSW102	1896-1939	2,859	56,701		21,521	1,276	907,000	10.29	9,333,030		9,389,731		
	M) SPITZEE		082FSW121	1900-1905	5,910	55,207		97,290	52,264					55,207		
	N) IRON COLT		082FSW100	1936-1995	1,434	21,586		466						21,586		
	O) O.K.		082FSW117	1909-1939	293	17,916		14,991	154					17,916		
	P) CLIFF		082FSW136	1989-1936	1,915	14,868		99,530	24,195					14,868		
	Q) BLUE BIRD		082FSW145	1908-1978	7,239	12,857		3,910,823	864 + (Pb Zn)					12,857		
	R) GOLDEN DRIP		082FSW118	1923-1982	233	12,039		10,910	39 +(Pb Zn)					12,039		
	S) CROWN POINT		082FSW152	1905-1906	714	9,456		6,065	3,600					9,456		
	T) SNOWDROP		082FSW115	1931-1957	6	6,843		16,640						6,843		
	U) BLACK BEAR		082FSW105	1919	1,314	5,474		9,891	4,214					5,474		
	V) GERTRUDE		082FSW108							44,447	7.9	351,131		351,131		Inf. Circ. 1995-9 p.18
	W) GIANT/NOVELTY		082FSW109							706,177	1.9	1,341,736	0.2% Mo	1,341,736	Porphyry Calcalkalic (L04)	David Minerals 1980
213	RUTH-VERMONT	082K 15W	082KNE009	1892-1981	176,084	9,405	151	17,247,989	55 693+(Pb Zn)	273,944			233.1g/t Ag 4.8% Pb 5.4%	9,405	Vein Mesothermal (I05)	GCNL Sept. 22 1982
214	SALMO CAMP (7)	082F 03W		Totals:	26,814	1,997,000	42	6,662,080	347 +(Pb Zn)	61,676	4.8	296,045		2,293,045	Vein Mesothermal (I05)	
	A) ARLINGTON		082FSW205	1897-1979	15,182	1,700,339		4,334,578	(Pb Zn)	61,676	4.8	296,045		1,996,384		GCNL Apr. 7 1989
	B) CLUBINE		082FSW200	1926-1942	3,616	123,293		239,463	(Zn)					123,293		
	C) KEYSTONE		082FSW202	1901-1981	1,969	84,476		189,044	177					84,476		
	D) SILVER DOLLAR		082FSW207	1947-1977	5,607	50,916		1,818,469	170 +(Pb Zn)					50,916		
	E) CANADIAN KING		082FSW203	1900-1912	440	37,976		80,526	(Pb)					37,976		
215	SAMATOSUM	082M 04W	082M 244	1989-1992	554,873	639,116	59	429,356,776	3,678,016 (Pb Zn)	80,280	1.71	137,279	1021.7g/t Ag 1.2% Cu 1.7% Pb 2.9% Zn	776,395	Vein Mesothermal (I05)	Per. Com. 1993 SW July 31 1991
216	SANDON CAMP (5)	082F 14		Totals:	381,343	128,927	89	445,238,725	69 + (Pb Zn Cd)					128,927	Vein Mesothermal (I05)	
	A) VICTOR	082F 14W	082FNW204	1923-1985	101,239	76,833		129,127,274	69 + (Pb Zn Cd)					76,833		MINFILE
	B) SILVERSMITH	082F 14E	082FNW053	1893-1965	190,723	37,509		226,107,767	(Pb Zn Cd)					37,509		
	C) RUTH-HOPE		082FNW052	1895-1962	60,575	7,712		76,946,676	(Pb Zn Cd)					7,712		
	D) WONDERFUL		082FNW043	1896-1979	28,806	6,873		13,057,008	(Pb Zn)					6,873		
217	SCHAFT CREEK (LIARD COPPER)	104G 06E	104G 015							971,495,000	0.14	136,009,300	1.2g/t Ag 0.248% Cu 0.02% Mo	136,009,300	Porphyry Calcalkalic (L04)	CIM SV 46 (1995) pp.239-246
218	SCOTIA	103I 04E	103I 007							224,000	0.55	123,200	23g/t Ag .2% Cu 1.2% Pb 12.2% Zn	123,200	Massive Sulphide Volcanogenic (G06)	GCNL Jan. 12 1998
219	SCOTTIE GOLD (SUMMIT LAKE)	104B 01E	104B 034	1981-1985	160,264	2,984,054	33	1,625,145		28,992	18.51	536,642		3,520,696	Vein Mesothermal (I02)	Pers. Com. D. Alldrick 1992
220	SCRANTON CAMP (3)	082F 14E		Totals:	27,103	123,343	91	4,090,798	1 313 + (Pb Zn Cd)	17,935	9.26	166,078		289,421	Vein Mesothermal (I05)	MINFILE
	A) SCRANTON		082FNW112	1948-1979	25,943	117,152		3,497,850	1 313 + (Pb Zn Cd)	17,935	9.26	166,078	240g/t Ag 8.2% Pb 8% Zn	283,230		NM Jan. 12 1978
	B) PONTIAC		082FNW111	1898-1970	1,160	6,191		592,948	(Pb Zn)					6,191		
221	SECOND RELIEF CAMP (4)	082F 06W		Totals:	210,988	3,306,372	32	906,524	20 532 +(Pb Zn)					3,306,372		MINFILE
	A) SECOND RELIEF		082FSW187	1900-1959	205,316	3,117,637		858,347	20 210 + (Pb Zn)					3,117,637	Skarn (K04)	
	B) PORTO RICO		082FSW189	1897-1969	5,528	178,470		46,405	322+(Pb Zn)					178,470	Vein Mesothermal (I05)	MINFILE
	C) HARRIET		082FSW188	1936-1941	144	10,265		1,772						10,265		
222	SENECA (HARRISON)	092H 05W	092HSW013	1962	260	529		29,828	3 229+(Zn)	1,506,239	0.82	1,235,116	41.13g/t Ag 0.63% Cu 0.15% Pb 3.57% Zn	1,235,645	Massive Sulphide Volcanogenic (G06)	SW May 6 1991
223	SHASTA	094E 07W	094E 050	1989-1991	122,533	601,229	62	32,932,044		8,000	12	96,000		697,229	Vein Epithermal (H05)	Info. Circ. 1999-1 p. 10
224	SHEEP CREEK CAMP (12)	082F 03E		Totals:	2,471,527	23,101,689	11	9,102,786	3 691 +(Pb Zn)	321,377		779,037		23,880,726	Vein Mesothermal (I05)	GCNL Nov.12 1987
	A) QUEEN		082FSW048	1902-1970	649,688	9,453,072		3,121,278	(Pb Zn)					9,453,072		
	B) RENO		082FSW036	1929-1979	288,915	5,269,714		2,424,075	(Pb Zn)					526,714		
	C) KOOTENAY BELLE		082FSW046	1904-1967	252,310	3,507,079		1,306,232	(Pb Zn)							
	D) GOLD BELT		082FSW044	1934-1979	232,861	2,512,906		1,061,298	681 +(Pb Zn)					2,512,906		
	E) MOTHERLODE		082FSW041	1906-1985	63,108	1,256,988		588,106	3010 +(Pb Zn)	3,152	12	37,824		1,294,812		
	F) NUGGET		082FSW040	1907-1988	28,519	777,791		283,053	(Pb Zn Si)	300,089	16.1	484,433		1,262,224		
	G) YELLOWSTONE		082FSW052	1899-1970	15,306	174,457		96,357	(Pb Zn)					174,457		
	H) ORE HILL		082FSW053	1906-1940	885	88,612		168,424						88,612		
	I) VANCOUVER		082FSW049	1909-1933	347	29,983		12,815						29,983		
	J) SUMMIT		082FSW054	1906-1938	907	27,059		37,883	(Pb Zn)					27,059		
	K) FAWN		082FSW039	1915 1935	64	4,074		404		3,882	28.4	110,249		114,323		
	L) BONANZA		082FSW055	1963	14	124		2,861	(Pb)	14,254	10.28	146,531		146,655		
225	SHELL (CROY)	094D 08	094D 015							72,560	5.9	428,140	3% Cu minor Ag	428,140	Vein Mesothermal (I06)	Prospectus Dec. 1988
226	SHERWOOD CAMP (2)	092F 05E		Totals:	25	3,200	182	3,110	50 +(Pb)	25,247	17.15	432,986		436,186	Vein Mesothermal (I06)	
	A) SHERWOOD		092F 069	1942	20	1,866		3,110	50 +(Pb)	25,247	17.15	432,986		436,096		Property File 1944
227	SILVER CUP CAMP (6)	082K 11W		Totals:	22,740	191,684	80	45,287,921	485 +(Pb Zn)	37,191	2.74	101,903	Totals:	293,587	Vein Mesothermal (I05)	
	A) SILVER CUP		082KNW027	1895-1988	21,117	173,147		45,278,218	485 +(Pb Zn)	37,191	2.74	101,903	229.67g/t Ag 1.7% Pb 1.5% Zn	275,050		Property File 1951
	B) WINSLOW		082KNW025	1934-1941	1,623	18,537		9,703	(Pb Zn)					18,537		MINFILE
228	SILVER DAWN	082E 02W	082ESE115							242,532	0.82	198,876	103.2g/t Ag 1.04% combined Pb-Zn	198,876	Skarn (K01)	MINFILE
229	SILVER LAKE	093L 14W	093L 097	1913	2	0		5,412	834	30,000	1.71	51,300	449.13g/t Ag 6.7% Pb 17.7% Zn	51,300	Vein Mesothermal (I05)	EMR Bulletin 198 p. 238
230	SILVER POND	094E 06E	094E 163							47,819	6.85	327,560	West zone	327,560	Vein Epithermal (H05)	AR 16 952
231	SILVER QUEEN (NEW NADINA)	093L 02E	093L 002	1972 1973	190,676	98,192	95	13,647,903	Totals: 405,009 (Pb Zn Cd)			4,209,500	Totals:	4,307,692	Vein Mesothermal (I05)	MINFILE SW Nov 17 1989
										365,000	8.3	3,029,500	400g/t Ag 7.6% Zn No. 3 vein South end	3,127,692		
										400,000	2.95	1,180,000	164g/t Ag 5.43% Zn No. 3 vein Central/North end	1,180,000		
232	SILVER STANDARD	093M 05E	093M 049	1913-1988	167,794	464,632	66	23,738,811	202,650 (Pb Zn Cd)	9,070	2.85	25,850	1275g/t Ag 4.5% Pb 8% Zn	490,482	Vein Mesothermal (I05)	MINFILE
233	SILVER TIP	104B 01E	104B 043	1949 1951	23	308	188	57,909	(Pb Zn)	11,295	0.77	8,697	148.1g/t Ag 1.9% Pb 1.8% Zn	9,005	Vein Mesothermal (I05)	Property File 1957
234	SILVERTIP (Midway)	104 016W	104O 038							2,570,000	0.63	1,619,100	325g/t Ag 8.8% Zn 6.4% Pb	1,619,100	Skarn/ Manto (J01)	Info. Circ. 1999-1 p. 12
235	SILVERTON CAMP (2)	082F 14W		Totals:	128,616	29,829	119	364,920,381	(Pb Zn Cd)					29,829	Vein Mesothermal (I05)	MINFILE
	A) STANDARD		082FNW180	1894-1969	87,638	20,280		278,230,334	(Pb Zn Cd)					20,280		
	B) VAN ROI		082FNW064	1893-1958	40,978	9,549		86,690,377	(Pb Zn Cd)					9,549		
236	SIMILCO CAMP (3)	092H 07E		Totals:	185,496,551	22,841,418	12	294,238,155	804,820,665	128,794,000	0.155 est	19,963,070		42,804,488	Porphyry Alkalic (L03)	MINFILE
	A) SIMILCO (COPPER MTN.)		092HSE001 092HSE020	1980-1996 1917-1962	142,389,861	15,538,366		264,451,587	648,183,434	128,794,000	0.155 est	19,963,070	1.576g/t Ag 0.397% Cu	35,501,436		Info Circ. 1991-1
	B) INGERBELLE		092HSE004	1972-1979	43,106,626	7,302,598		29,782,556	156,628,776					7,302,598		
	C) RED BUCK		092HSE006	1910 1939	64	454		4,012	8,455					454		
237	SKINNER	092N 09W	092N 039	1992	172	11,351	143							11,351	Vein Mesothermal (I02)	MINFILE
238	SMITH-NASH	093E 05E	093E 014							20,128	10.3	207,318		207,318	Vein Mesothermal (I02)	Cons. Silver Std. 1988
239	SNIP	104B 10W	104B 250	1991-1998*	1,243,646	31,741,068	8	12,183,090	334,076,000	59,637	23	1,371,651		33,112,719	Vein Mesothermal (I02)	Homestake 1999
240	SNOWBIRD	093K 07E	093K 036	1939-1953					Sb	226,775	6.86	1,555,677		1,555,677	Vein Mesothermal (I01)	NM Mar. 27 1989
241	SPANISH MOUNTAIN (CPW)	093A 11W	093A 043	1947-1992	639	4,946	179	1,306	46 (+Pb)	838,160	1.95	1,634,412	CPW Zone	1,639,358	Vein Mesothermal (I01)	Trio Gold 1988
242	SPECOGNA (CINOLA BABE)	103F 09E	103F 034	1975	6	902		529		33,500,000	2.11	70,685,000	3.09g/t Ag	70,685,902	Vein Epithermal (H05)	Info. Cir. 1999-1
243	SPECTRUM CAMP (2)	104G 09W							Totals:	516,320		4,984,320		4,984,320	Vein Mesothermal (I05)	
	A) RED DOG		104G 036							504,800	9.6	4,846,080		4,846,080		AR 22 838
	B) HAWK (SPECTRUM)		104G 005							11,520	12	138,240		138,240		Moongold Resources Oct. 14 1988
244	SPOKANE (Lawson)	104M 09W	104M 006							77,216	5.83	450,169		450,169	Vein Mesothermal (I05)	AR 21 816
245	SPOKANE	082F 02W	082FSE032	1915-1956	1,733	29,639	120	570,988	(Pb Zn)					29,639	Vein Mesothermal (I05)	MINFILE
246	SPOUT LAKE	092P 14W	092P 120							554,000	0.17	94,180	1.8% Cu 49% Mag.	94,180	Skarn (K03)	SW Mar. 4 1993
247	ST. EUGENE	082G 05W	082GSW025	1899-1929	1,460,977	78,846	100	182,690,658	(Pb)					78,846	Vein Mesothermal (I05)	MINFILE
248	ST. PAUL	082L 01W	082LSE010	1914-1973	392	5,630	172	112,406	(Pb Zn)					5,630	Vein Mesothermal (I05)	MINFILE
249	STREBE (CARIBOU)	082F13E	082FNW255							156,040	8.57	1,337,263		1,337,263	Skarn (K04)	AR 18 638
250	STUMP LAKE CAMP (5)	092I 08W		Totals:	71,948	260,568	73	7,887,898	50 524 +(Pb Zn)					260,568	Vein Mesothermal (I05)	MINFILE
	A) ENTERPRISE (PLANET)		092ISE028	1926-1980	71,313	254,783		7,781,650	49 562 +(Pb Zn)					254,783		
	B) JENNY LONG		092ISE031	1935	635	5,785		106,248	(Pb Zn)					5,785		
251	SULLIVAN	082F 09E	082FNE052	1900-1998*	145,788,162	174,863	81	9,217,160,166	5,106,742 (Pb Zn Cd Sn)	6,100,000			20g/t Ag 3.7% Pb 6.6% Zn	174,863	Massive Sulphide Sedex (E14)	MINFILE
252	SULPHURETS CAMP (4)	104B 08/09		Totals:	300	309			Totals:	39,362,530	2.708	137,900,245		137,900,554	Vein Epithermal (H04)	CIM SV 46 (1995) pp. 373 - 499
	A) BRUCEJACK LAKE:	104B 08E	104B 193						West Zone	749,264	15.4	11,538,666	647.8g/t Ag	11,538,666	"	GCNL May 14 1997
									Shore Zone	83,703	12.7	1,063,028	158.7g/t Ag	1,063,028	"	AR 24 610
									Gossan Hill	25,071	66.5	1,667,545	121.4g/t Ag	1,667,545	"	
	B) SNOWFIELD	104B 09E	104B 179							19,954,000	2.85	56,868,900		56,868,900	Porphyry (L02)	GCNL Aug. 24 1989
	C) SULPHURETS GOLD	104B 09W	104B 182							18,142,000	2.74	49,709,080		49,709,080	Porphyry (L04)	Property File 1982
	D) GOLDWEDGE	104B 08E	104B 105	1982 1985	300	309			Totals:	338,549		8,726,513	38.3g/t Ag	8,726,822	Vein Epithermal (H04)	SW Mar. 3 1991
253	SUNRISE	093M 06W	093M 043	1915-1980	527	6,656	165	393,205	229+(Pb Zn)					6,656	Vein Mesothermal (I05)	MINFILE
254	SUNRO	092C 08E	092C 073	1962-1978	1,329,034	203,101	79	2,262,651	13,754,271	423,782	0.69 est	292,410 est	1.43% Cu	495,511	Massive Sulphide Volcanogenic (G04)	NM Dec. 27 1973
255	SURF INLET	103H 02W	103H 027	1902-1943	904,085	12,095,368	17	6,258,235	Totals: 2,834,461	486,750		1,653,450	Totals:	13,748,818	Vein Mesothermal (I01)	CIM SV 37 p. 184
										47,250	11.34	535,815	5g/t Ag 0.6% Cu (Pugsley)	12,631,183		Surf Inlet 1986
										270,000	3.43	926,100	(Dumps)	926,100		AR 17 275
										169,500	1.13	191,535	(Tailings)	191,535		
256	TABLE MTN. CAMP (2)	104P 04E		Totals:	635,193	9,072,882	19	2,987,237		700,879	1.25	876,099	Tailings	9,948,981	Vein Mesothermal (I01)	Info. Circ. 1999-1 MINFILE
	A) ERICKSON		104P 029	1939 1979-1988	532,766	7,232,169		2,987,237						7,232,169		
	B) TABLE MTN. (Incl. CUSAC after 1987)		104P 070	1994-1998*	102,427	1,840,713				700,879	1.25	876,099	Tailings	2,716,812		
														876,099		
257	TAKLA RAINBOW (TWIN)	093N 11W	093N 082							199,580	13.7	2,734,246		2,734,246	Skarn (K04)	AR 17 013
258	TAM	093N 13F	093N 093							7,200,000	4.11	29,592,000	0.55% Cu Boundary Zone	29,592,000	Porphyry Alkalic (L03)	1991 Roundup Snapshot
259	TASEKO CAMP (2)	092O 03W							Totals:			13,475,210		13,475,210	Porphyry Calcalkalic (L04)	MINFILE
	A) TASEKO		092O 033						Empress	10,040,000	0.79	7,931,600	0.61% Cu	7,931,600		GCNL Aug. 7 1991
	B) SPOKANE		092O 004							6,760,500	0.82	5,543,610	1.71g/t Ag	5,543,610		NM Feb. 18 1991
260	TASU	103C 16E	103C 003	1914-1984	22,701,946	1,430,140	46	52,822,505	57,090,466 Fe					1,430,140	Skarn (K03)	MINFILE
261	TAURUS CAMP (2)	104P 05E		Totals:	290,052	1,103,537	50	93		62,406,549		49,995,729	Totals:	51,099,266	Vein Mesothermal (I01)	MINFILE
	A) HANNAH (TAURUS)		104P 012	1960 1981-1988	290,052	1,103,537		93		62,397,477	0.8	49,917,982	88 Hill zone	51,021,519		GCNL Apr. 23 1997
	B) MACK		104P 011							9,072	8.57	77,747		77,747		GCNL No. 13 1985
262	TAY	092F 06W	092F 212							132,255	2.15	284,348	0.68g/t Ag	284,348	Vein Mesothermal (I06)	AR 18 395
263	TAYLOR-WINDFALL	092O 03W	092O 028	1932-1954	553	14,525	136	156						14,525	Vein Mesothermal (I01)	
264	TEDDY GLACIER	082KNW 13E	082KNW069	1929	5	124	191	2,302	(Pb Zn)	44,216	4.46	197,203	161.14g/t Ag 7.9% Pb 6.8% Zn	197,327	Vein Mesothermal (I05)	Sunshine Lardeau Mining 1964 Annual Rpt.
265	TEXADA ISLAND CAMP (10)	092F 15E		Totals:	790,177	2,399,355	37	16,090,015	9,010,036	355,230		4,369,129		6,768,484	Skarn (K01)	MINFILE
	A) MARBLE BAY	092F 15E	092F 270	1899-1929	285,028	1,555,180		12,621,753	6,789,882	71,481	12.0	857,772	1.2% Cu	2,412,952		
	B) CORNELL	092F 10E	092F 112	1897-1919	40,687	471,085		2,194,471	1,368,512					471,085		
	C) LITTLE BILLIE	092F 15E	092F 105	1896-1952	63,713	363,199		1,198,553	819,225	181,420	11.65	2,113,543	2.0% Cu 34.28g/t Ag	2,476,742		GCNL Oct.20 1992
	D) COPPER QUEEN	092F 15E	092F 271	1907-1917	749	9,891		75,238	32,417					9,891		
	E) YEW	092F 10E	092F 516							102,329	13.66	1,397,814	1.45% Cu	1,397,814		GCNL No.146
266	THISTLE CAMP (4)	092F 02E		Totals:	8,947	109,762	93	139,280	311 239 +(Pb)	18,250		123,035		232,797	Vein Mesothermal (I05)	
	A) THISTLE		092F 083	1938-1942	6,283	85,874		65,969	309,088					85,874		MINFILE
	B) BLACK PANTHER		092F 084	1947-1950	1,715	15,832		29,642	226 +(Pb)	12,250	6.86	84,035		99,867		AR 9 639
	C) SKYLINE		092F 438							6,000	6.50	39,000		39,000		AR 9 639
	D) GILLESPIE		092F 082	1936-1939	949	8,056		43,669	1 925 +(Pb)					8,056		
267	TILLICUM (ESPERANZA)	082F 13E	082FNW234	1981-1993	5,729	164,552	83	218,908	Totals: (Pb Zn)	1,198,272		7,367,935		7,532,487	Skarn (K04)	MINFILE
										1,184,672	5.82	6,894,791	East Ridge Zone	7,059,343		Info Circ. 1993-13 p.17
										13,600	34.79	473,144	Heino-Money Zone	473,144		
268	TODD CREEK	104A 04W	104A 001						geological res	207,000	5.48	1,134,360	South Zone	1,134,360	Vein Epithermal (H04)	Hemlo Gold Mines Inc. 1988 Annual Report
269	TOPLEY RICHFIELD	093L 09W	093L 018	1938-1953	43	31	196	26,998		181,420	4.25	771,035	191 96g/t Ag 2% combined Pb-Zn	771,066	Vein Mesothermal (I05)	Cdn. Mines Handbook 1989 p.327
270	TRUE FISSURE	082K 11W	082KNW030	1908 1944	4,605	6,158	169	1,310,929	Pb Zn	692,041	3.77	2,608,995	1446.8g/t Ag 15% Pb	2,615,153	Vein Mesothermal (I05)	MINFILE
271	TSACHA	093F 03E	093F 055							478,600	8.72	4,173,392	82.3g/t Ag	4,173,392	Vein Epithermal (H05)	MEG Feb. 19 1997
272	TULSEQUAH CHIEF	104K 12E	104K 002	1939-1957	933,569	2,931,644	34	105,774,242	12,341,215 (Pb Zn)	7,910,000	2.42	19,142,200	100.91g/t Ag 1.27% Cu 1.18% Pb 6.35% Zn	22,073,844	Massive Sulphide Volcanogenic (G06)	Info. Circ. 1998-1
273	VALENTINE MTN. (BLAZE)	092B 12W	092B 108	1984	6	160	189	2,541	(Pb Zn)	30,660	14.7	450,702	C zone	450,862	Vein Mesothermal (I01)	AR 22 683
274	VALPARAISO CAMP (2)	082F 07E		Totals:	508	3,794	180	42,580	(W)	37,700	8.75	329,875		333,669	Vein Mesothermal (I05)	MINFILE
	A) VALPARAISO		082FSE038	1900-1955	503	3,732		37,852	(W)	37,700	8.75	329,875	104.2g/t Ag	333,607		AR 10 811
275	VANGUARD COPPER	103P 12E	103P 210							11,800	2.4	28,320	141g/t Ag 8.6% Cu	28,320	Vein Mesothermal (I02)	Property File 1977
276	VAULT	082E 05E	082ESW173							152,000	14	2,128,000	North Vein	2,128,000	Vein Epithermal (H05)	GCNL Sept 20 1990
277	VELVET	082F 04W	082FSW162	1901-1964	21,613	620,785	60	664,359	1 154 104 + (Pb Zn)					620,785	Vein Mesothermal (I05)	MINFILE
278	VENUS	092F 09W	092F 131	1916-1959	362	5,319	175	28,459	30,004					5,319	Vein Mesothermal (I05)	MINFILE
279	VICTORIA	093M 04E	093M 072	1926-1940	51	7,341	163		Co	1,000	42.55	42,550	2.84%g/t Ag 2% Cu	49,891	Vein Mesothermal (I05)	MINFILE
280	VIDETTE	092P 02W	092P 086	1933-1940	48,980	929,016	53	1,448,561	43 825+(Pb)	10,159	19.1	194,037	29.8g/t Ag	1,123,053	Vein Mesothermal (I05)	Tugold Res. 1985
281	VIEW FRACTION	104A 04W	104A 075	1974-1975	157	7,473	159	177,281	1 051 +(Pb Zn)					7,473	Vein Mesothermal (I05)	MINFILE
282	VILLALTA	092F 01W	092F 384						Proven	22,677	4.11	93,202	open pittable: 35% Fe	93,202	Massive Sulphide Gossan (B10)	MDAP June 1991
283	VINE (BAR)	082G 05W	082GSW050							1,300,000	2.2	2,860,000	36.3 g/tAg 3.12% Pb 0.76% Zn 0.11% Cu	2,860,000	Vein Mesothermal (I05)	SW Feb. 7 1991
284	VIRGINIA SILVER	093M 03W	093 021	1975-1976	249	401	186	697,952	(Pb Zn)	20,000	1.19	23,800	2948.4g/t Ag 4.4% Pb 2.2%Zn	24,201	Vein Mesothermal (I05)	CIM SV 37 p.185
285	WATSON BAR	092O 01E	0920 051							282,187	8.13	2,294,180	Zone V	2,294,180	Vein Epithermal (H05)	Info. Circ. 1998-1 p.27
286	WESTERN COPPER	103H 01W	103H 033	1928-1929	215	5,319	176	45,193	30,812					5,319	Vein Mesothermal (I05)	MINFILE
287	WHITEWATER CAMP (5)	082K 03E		Totals:	481,827	106,325	94	113,518,367	45 + (Pb Zn Cd)				Totals:	106,325	Vein Mesothermal (I05)	
	A) WHITEWATER		082KSW033	1892-1980	471,063	54,881		108,675,512	45 + (Pb Zn Cd)					54,881		MINFILE
	B) HIGHLAND SURPRISE		082KSW037	1938-1942	1,902	50,947		29,765	(Pb Zn)					50,947		
288	WHITE ELEPHANT	082L04E	082LSW042	1922-1935	4,833	63,170	103	9,549						63,170	Vein Mesothermal (I02)	MINFILE
289	WILLA (ALWYN)	082F 14W	082FNW071	1899 1988	495	2,873		7,883	4 418+(Pb Zn)	414,297	6.03	2,498,211	0.92% Cu West Zone	2,501,084	Porphyry Calcalkalic (L04)	SW May 15 1990
290	WINDPASS	092P 08E	092P 039	1916-1944	73,319	1,071,684	51	53,469	78,906	16,146	0.68	10,979		1,082,663	Vein Mesothermal (I05)	SMF 1973
291	WINDY CRAGGY	114P 12E	114P 002							297,440,000	0.2 est	59,488,000	1.38% Cu 3.83g/t Ag 0.069% Co + Zn	59,488,000	Massive Sulphide Volcanogenic (G04)	Geddes Ann. Rpt.-1991
292	WISCONSIN	082F 07W	082FSE036							136,065	11.99	1,631,419	171.4g/t Ag	1,631,419	Massive Sulphide Volcanogenic (G04)	NM Nov. 1 1984
293	WWW	092F02E	092F 141	1899-1985	98	22,484	129	39,143	1 621 +(Pb Zn)					22,484	Vein Mesothermal (I05)	MINFILE
294	YELLOW GIANT CAMP (4)	103G 08E							Totals:	252,956		4,303,619		4,303,619	Vein Mesothermal (I05)	NM Sept. 28 1987
			103G 026						Tel Zone	71,349	14.4	1,027,426		1,027,426		
			103G 025						Discovery Zone	58,361	15.5	904,596		904,596		
			103G 021						Kim Zone	77,896	7.1	553,062		553,062	Skarn (K04)	
			103G 024						Bob Zone	45,350	40.1	1,818,535		1,818,535		
295	YELLOW JACKET	104N 12E	104N 043							453,500	10.26	4,652,910		4,652,910	Vein Mesothermal (I01)	Pers. Com.
296	YELLOW KID	092F10E	092F 258	1957-1976	18,946,947	887,401	54	23,645,219	25 432 020 +(Cd)					887,401	Skarn (K01)	MINFILE
297	YMIR CAMP (12)	082F 06E		Totals:	693,639	8,298,227	21	42,968,544	10 +(Pb Zn)	927,589		9,003,504		17,301,731	Vein Mesothermal (I05)	MINFILE
	A) YANKEE GIRL		082FSW068	1907-1951	285,203	3,850,118		22,036,290	(Pb Zn)					3,850,118		
	B) YMIR		082FSW074	1899-1973	325,101	3,410,319		14,283,898	(Pb Zn)					3,410,319		
	C) CENTRE STAR		082FSW066	1936-1950	50,595	386,145		2,955,219	(Pb Zn)					366,145		
	D) PROTECTION		082FSW073	1899-1973	14,788	333,391		2,576,104	10 +(Pb Zn)					333,391		
	E) WILCOX		082FSW077	1901-1943	13,453	241,382		526,635	(Pb Zn)					241,382		GCNL No. 212 1983
	F) BLACKCOCK		082FSW076	1899-1942	1,095	31,850		97,260	(Pb Zn)					31,850		
	G) DUNDEE		082FSW067	1899-1951	2,717	30,886		472,144	(Pb Zn)	872,000	10	8,720,000	170g/t Ag	8,750,886		
	H) TAMARAC		082FSW072	1899-1959	346	8,040		404		55,589	5.1	283,504		291,544		Property File 1989
298	YREKA	093L 05E	092L 052	1902-1967	136,976	49,890	107	4,537,119	3,935,873	128,422	6.9	886,112	18.5g/t Ag 1.05% Cu	936,002	Skarn (K01)	MINFILE
299	ZEBALLOS CAMP (18)	092L 02W		Totals:	610,000	9,154,249	18	3,882,835	25 543+(Pb Zn)	386,530		4,964,152		14,118,401	Vein Mesothermal (I01)	MINFILE
	A) PRIVATEER		092L 008	1934-1975	146,835	5,301,289		2,160,196	4 063+(Pb)	122,470	17.00	2,081,990	2.74g/t Ag	7,383,279		
	B) GOLD FIELD		092L 211	1936-1951	95,876	1,682,859		575,219	9 195+(Pb)	220,429	10.70	2,358,590		4,041,449		
	C) MOUNT ZEBALLOS		092L 012	1939-1944	51,540	946,589		444,399	2 408+(Pb)					946,589		Cdn. Mines Handbook 1988 p.333
	D) CENTRAL ZEBALLOS		092L 212	1938-1947	37,830	636,773		432,238	7 370+(Pb)	43,631	12.00	523,572		1,160,345		MINING REVIEW 1989
	E) WHITE STAR		092L 010	1935-1957	1,293	220,987		92,531	1 563+(Pb Zn)					220,987		
	F) LONE STAR		092L 015	1938-1941	5,645	143,074		44,322	470+(Pb)					143,074		
	G) NORTH STAR		092L 017	1942	13,600	125,913								125,913		
	H) GOLDEN HORN		092L 019	1941-1942	3,249	46,374		108,705	318+(Pb)					46,374		
	I) VAN ISLE		092L 038	1936-1940	2,814	36,702		16,858						36,702		
	J) PRIDENT		092L 009	1939	43	5,536		2,395	30+(Pb)					5,536		

1. Cut-off of 5000 grams (approx. 160 ounces) of gold inventory. There are 299 camps and/or deposits listed in this compilation.
2. Information is compiled from public domain sources. Most data are from MINFILE, which includes all categories of resource estimates. Some of the data are from poorly documented studies or promotional materials. The Ministry of Energy and Mines does not verify the estimates and therefore they are not authoritative. The Ministry makes every effort to ensure accuracy in the information presented, however, it does not accept liability for errors and/or omissions.
3. The deposits are located as shown on MINFILE or other maps. Clustered deposits, camps or other areas with a high density of deposits may have increased spacing between individual deposits for illustrative purposes; locations in these areas are approximate.

Cdn = Canadian; CIM SV = Canadian Institute of Mining, Metallurgy and Petroleum Special Volume; Conf Rpt. = Confidential Report; Cons = Consultants; Cons Silver Std = Consolidated Silver Standard; EMPR = (BC) Energy Mines and Petroleum Resources; EMR = Energy, Mines and Resources (Geological Survey of Canada); est = estimate; Expl'n = Exploration; g/t = grams per tonne; GCNL = George Cross Newsletter; Geo Fldwk = Geological Fieldwork; incl = includes; Info Circ = Information Circular (B.C. Ministry of Energy and Mines); Int'l = International; m = metres; Mag = magnetite; MDAP = Mine Development Assessment Process; MEG = (Vancouver) Mining Exploration Group; NM = Northern Miner; o/p = open pit; p/pp = page/pages; Pers Com = Personal Communication; PR = Press Release; Prod = Production; Res = Resources; Rpt = Report; SMF = Statement of Material Facts (Vancouver Stock Exchange); SW = Canada Stock Watch; u/g = underground; Van = Vancouver