

BC Molybdenum Deposits

The British Columbia Geological Survey's MINFILE database lists 1275 molybdenum bearing occurrences, 439 of which list molybdenum as the primary commodity. Principal deposit types are Mo and Cu-Mo porphyries. The developed Mo porphyries in BC are classified as low-fluorine type, distinct from the high-fluorine climax type known in the western US.

BC is one of the world's premier locations for primary molybdenum porphyry deposits. Some deposits with high grade cores are amenable to underground mining, such as the MAX (280 Kt @ 1.17% Mo) and Davidson (77.2 Mt @ 0.17% Mo). Porphyry Cu-Mo deposits, in particular Highland Valley Copper, account for a large proportion of BC molybdenum production and resources/reserves as a by product of copper production. This is generally the case world-wide.

Generally there are two molybdenum metallogenic episodes recognized in British Columbia:

- i) Early Cretaceous – Miocene (140 Ma to 5 Ma)
- ii) Late Triassic-Middle Jurassic (220 Ma to 195 Ma)

The major uses of molybdenum are steel alloys, principally stainless and construction steel, but also heat resistant metals, cast iron, high speed tools and machine parts. Molybdenum is also used in chemical applications such as catalysts, pigments and lubricants.

Kitsault



- Past producer now owned by Avanti Mining Inc. (100%)
- Operated from 1967 to 1972 and from 1981 to 1982 with a total production of 13,600 tonnes of molybdenum
- Positive 2010 feasibility study (base case after tax NPV (8%) \$798M, IRR 26.8%) based on 40,000 tonne per day mill
- Reserves (P+P) 232.5 Mt @ 0.081% Mo

Endako



- Open pit molybdenum producer since 1965
- Owned and operated by Thompson Creek Metals Company (75%) and Sojitz Corporation (25%)
- Current workforce of 265 employees. Construction is under way to modernize and expand capacity of the Endako mill from 28,000 to 52,000 tonnes of ore per day by 2012
- 2011 reserves (P+P) 282.2 Mt @ 0.046% Mo

BC Molybdenum Deposit Types

- Porphyry Mo (low F-type): BC Mineral Deposit Profile L05, Examples (MINFILE): Endako (093K 006), Bell Moly (103P 234), Boss Mountain (093A 001), Chu (093F 001), Kitsault (103P 120), Davidson (093L 110), MAX (082KNW087), Redbird (093E 026), Ruby Creek (104N 052), Storie (104P 069)
- Porphyry Cu±Mo±Au, BC Mineral Deposit Profile L04, Examples (MINFILE): Brenda (092HNE047), Gibraltar (093B 012,007), Highland Valley Copper (092ISE001,011,012,045), Huckleberry (093E 037), Island Copper (092L 158), Schaft Creek (104G 015)

For More Information

MINFILE
www.empr.gov.bc.ca/Mining/Geoscience/Minfile

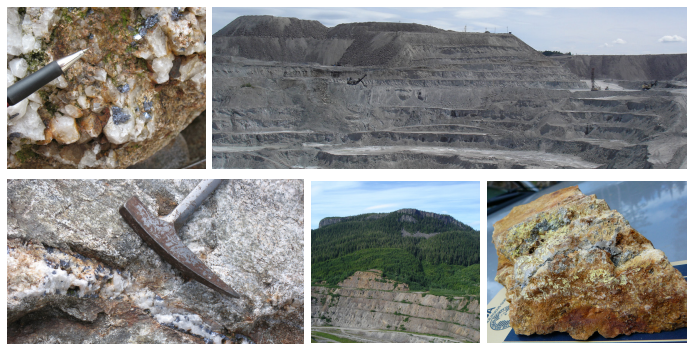
MapPlace
www.empr.gov.bc.ca/Mining/Geoscience/MapPlace

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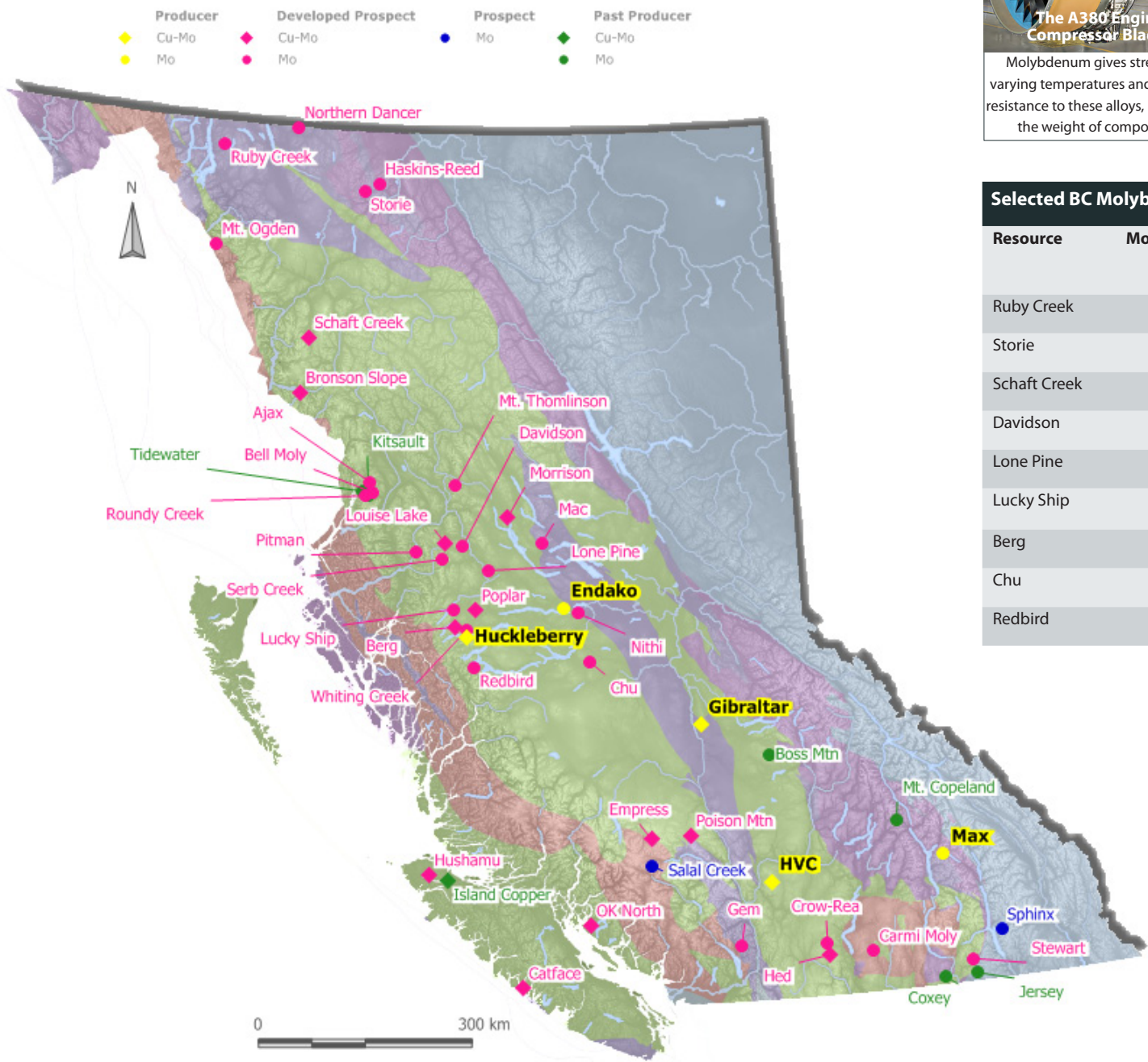


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in British Columbia
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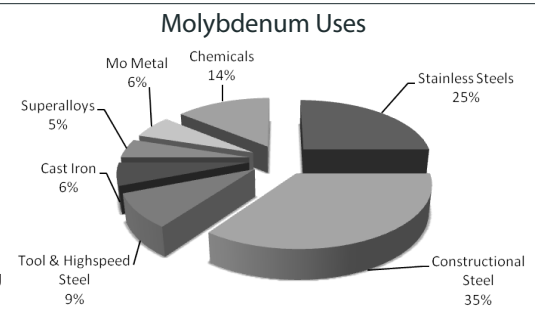


Ministry of
Energy and Mines

Selected Molybdenum Deposits in British Columbia



Molybdenum gives strength at varying temperatures and corrosion resistance to these alloys, minimizing the weight of components.



Selected BC Molybdenum Resources

Resource	Mo Grade (%)	Tonnage		Year	NI 43-101
		Indicated	Combined (M + I)		
Ruby Creek	0.04		275,354,000	2009	Y
Storie	0.064		139,820,000	2009	Y
Schaft Creek	0.019		1,393,300,000	2007	Y
Davidson	0.169		77,200,000	2007	Y
Lone Pine	0.083		110,340,000	2009	Y
Lucky Ship	0.064	65,660,000		2008	Y
Berg	0.036	372,500,000		2008	Y
Chu	0.059		370,640,000	2010	Y
Redbird	0.061	88,210,000		2007	Y

Selected BC Molybdenum Producers

Mine/Deposit Name	Years of Production	Mo Produced (t)	Other Products
Endako	1965-1998; 2002-2011	221,356	-
Gibraltar	1972-1998; 2004-2011	11,038	Cu
Max	2007-2011	1,667	W
Huckleberry	2001-2010	2,599	Cu, Au
Highland Valley Copper	1972-2010	13,950	Cu, Au, Ag