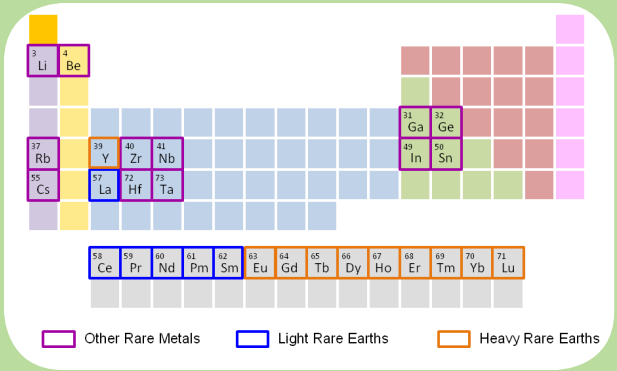
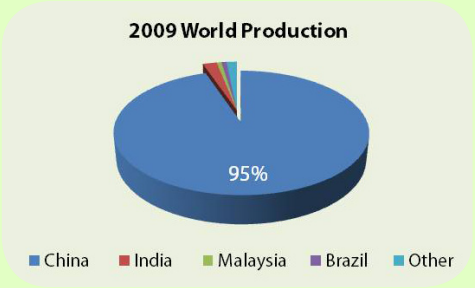
Market & World Information

The group of elements comprising the rare metals is not strictly defined, but typically include the rare earth elements plus 12 or more additional metals. They may be considered "critical" or "strategic" metals in that they are essential for a number of high-tech industrial applications, but at present only mined at very few locations worldwide, making them potentially vulnerable to supply disruptions.



China is the primary world supplier of Rare Metals however they are reducing their exports, creating a large gap in the market. This will provide a worldwide opportunity for a new supplier of Rare Earth Elements. BC is well located geographically, and geologically, to take advantage of this prospect.



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

Contributions & Acknowledgements

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Selected References

High-Tech Metals in British Columbia
By J. Pell and Z.D. Hora
www.empr.gov.bc.ca/Mining/Geoscience/PublicationsCatalogue/InformationCirculars/Pages/IC1990-19.aspx

International Workshop Geology of Rare Metals: Abstract Volume
Edited by G.J. Simandl and D.V. Lefebure
www.empr.gov.bc.ca/Mining/Geoscience/PublicationsCatalogue/OpenFiles/2010/Pages/2010-10.aspx

Bulletin 88: Carbonatites, Nepheline Syenites, Kimberlites and Related Rocks in BC
By J. Pell
www.empr.gov.bc.ca/Mining/Geoscience/PublicationsCatalogue/BulletinInformation/BulletinsAfter1940/Pages/Bulletin88.aspx

Rare Metals

in British Columbia

Information Circular 2011-2

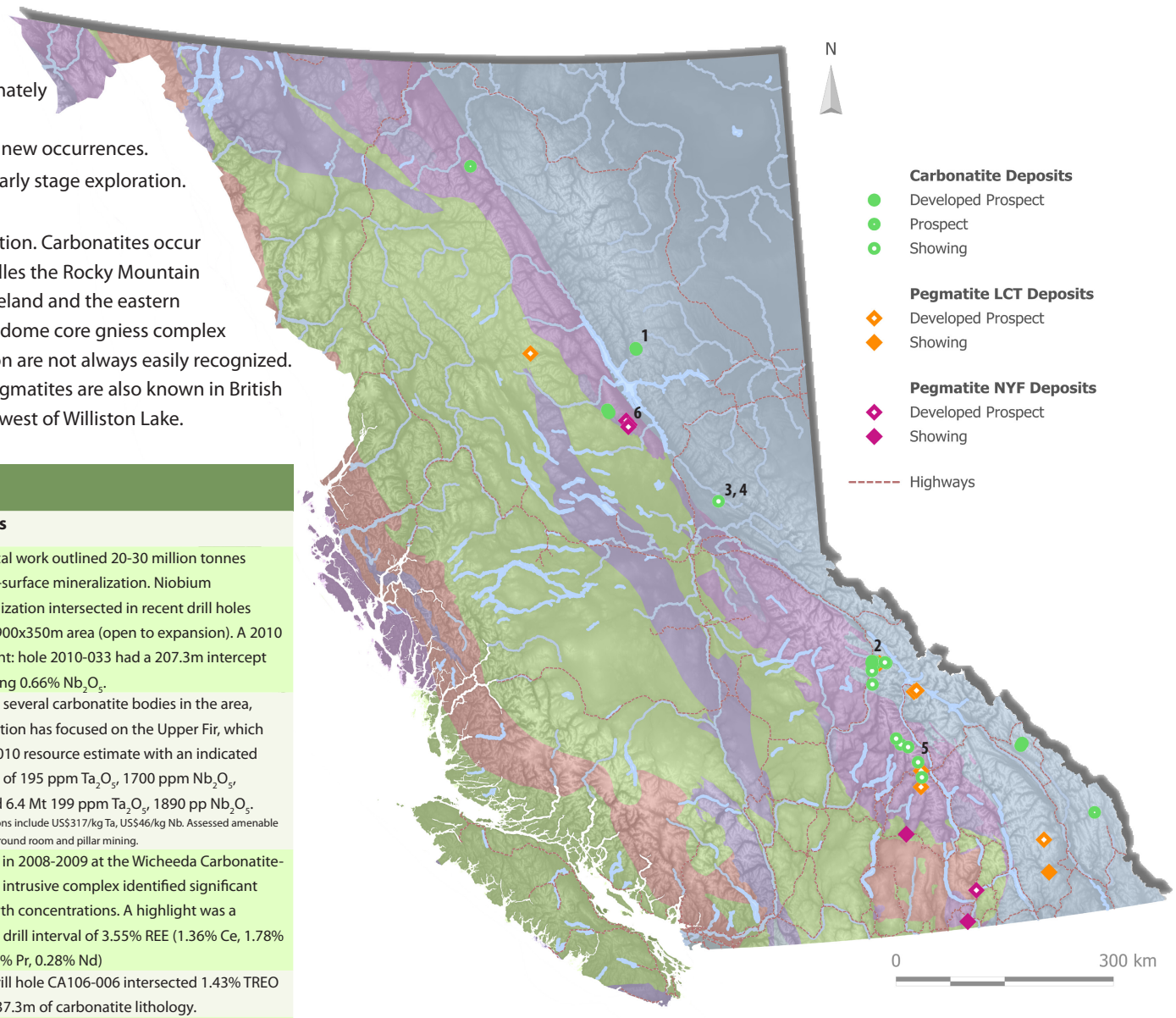
BRITISH COLUMBIA
Canada's Pacific Gateway

Ministry of Forests, Mines and Lands

Rare Metal Deposits in British Columbia

British Columbia's MINFILE database lists more than 90 rare metal occurrences hosted by carbonatites, nepheline syenites, rare element enriched pegmatites, skarns, massive sulphide deposits, sedimentary phosphate deposits and placer deposits. In approximately 25 of these occurrences, rare metals are considered the primary commodities. The recent surge in interest has added a number of new occurrences. To date, only a handful of prospects are developed beyond very early stage exploration.

Carbonatite hosted deposits have been the focus of most exploration. Carbonatites occur within a northwest trending alkaline igneous province that straddles the Rocky Mountain Trench. It intrudes the Paleozoic strata of the Rocky Mountain Foreland and the eastern Omineca belt, including an area surrounding the Frenchman Cap dome core gniess complex near Revelstoke. Carbonatite bodies and rare metals mineralization are not always easily recognized. The potential for further discovery remains high. Rare element pegmatites are also known in British Columbia, such as those of the Wolverine Metamorphic Complex west of Williston Lake.



Selected BC Rare Metal Deposits

Point	Name	MINFILE	Deposit Type/Commodity	Details
1	Aley	094B 027 094B 028	Carbonatite / Nb	Historical work outlined 20-30 million tonnes of near-surface mineralization. Niobium mineralization intersected in recent drill holes over a 900x350m area (open to expansion). A 2010 highlight: hole 2010-033 had a 207.3m intercept averaging 0.66% Nb_2O_5.
2	Upper Fir (Blue River)	083D 035 083D 005	Carbonatite / Nb, Ta	Among several carbonatite bodies in the area, exploration has focused on the Upper Fir, which has a 2010 resource estimate with an indicated 36.4 Mt of 195 ppm Ta_2O_5, 1700 ppm Nb_2O_5, inferred 6.4 Mt 199 ppm Ta_2O_5, 1890 pp Nb_2O_5. Assumptions include US$317/kg Ta, US$46/kg Nb. Assessed amenable to underground room and pillar mining.
3	Wicheeda	093J 014	Carbonatite / REE	Drilling in 2008-2009 at the Wicheeda Carbonatite-Syenite intrusive complex identified significant rare earth concentrations. A highlight was a 48.64m drill interval of 3.55% REE (1.36% Ce, 1.78% La, 0.13% Pr, 0.28% Nd)
4	Carbo	-	Carbonatite / REE, Nb	2010 drill hole CA106-006 intersected 1.43% TREO across 37.3m of carbonatite lithology.
5	Mount Copeland	082M 255	Nepheline Syenite / REE	There are recent reports of high grade REE in initial chip samples.
6	Mount Bisson	093O 021 093O 041	Pegmatite NYF / REE	The property remains at an early stage of exploration since discovery in 1987. Surface rock chip samples return up to 8.64% TREE.

REE: Rare Earth Elements
TREE: Total Rare Earth Elements
TREO: Total Rare Earth Oxides

LCT: Lithium-Cesium-Tantalum
NYF: Niobium-Yttrium-Fluorine

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