

Galena Lead Isotope Analysis from Foremore.

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A sample from the the Foremore deposit was analysed for lead isotopic composition. The data have been plotted on a $^{207}\text{Pb}/^{204}\text{Pb}$ v. $^{206}\text{Pb}/^{204}\text{Pb}$ diagram in Figure 1. Alldrick et al., (1987) defined clusters of lead isotope data in the Stewart mining camp that represent Jurassic and Tertiary mineralization. These clusters have been added to Figure 1 for reference.

The Foremore sample does not fall into either of the Stewart clusters, but is less radiogenic than the Jurassic cluster. This indicates that the mineralization is likely to be older than Jurassic.

Analytical Techniques

A hand-picked galena crystal was washed, then dissolved in 2N hydrochloric acid. Approximately 10-25ng of the lead in chloride form was loaded on a rhenium filament and isotopic compositions were determined using a modified VG54R thermal ionization mass spectrometer. The measured ratios were corrected for instrumental mass fractionation of 0.15% per mass unit (Faraday collector) based on repeated measurements of the N.B.S. SRM 981 Standard Isotopic Reference Material. Errors reported in Table 1 were obtained by propagating all mass fractionation and analytical errors through the calculation.

Figure Captions

Figure 1a: $^{207}\text{Pb}/^{204}\text{Pb}$ v. $^{206}\text{Pb}/^{204}\text{Pb}$ diagram of analysis from Foremore. For reference, clusters defined by Alldrick et al., (1987) have been added.

References

- Alldrick, D.J., Gabites, J.E., and Godwin, C.I., 1987. Lead isotope data from the Stewart Mining Camp (104B/1). *B.C. Geological Survey Branch Geological Fieldwork* 1986, 93-102.
- Godwin, C.J., Gabites, J.E., and Andrew, A. 1988. LEADTABLE: A galena lead isotope database for the Canadian Cordillera. *B.C. Geological Survey Branch Paper* 1988-4. 188p.
- Godwin, C.J. and Sinclair, A.J., 1982. Average lead isotope growth curves for shale-hosted zinc-lead deposits, Canadian Cordillera. *Economic Geology*, Volume 7, pp. 675-690.

206Pb/ 204Pb		Pb64 % err	207Pb/ 204Pb		Pb74 % err	208Pb/ 206Pb		Pb84 % err	207Pb/ 206Pb		Pb76 % err	208Pb/ 206Pb		Pb86 % err
18.4142	0.04		15.5875	0.06		38.0879	0.09		0.8465	0.022		2.0684	0.043	

Notes: Analysis by Janet E. Gabites, Geochronology Laboratory, Department of Earth, Ocean, and Atmospheric Sciences, University of British Columbia, Vancouver, B.C.

All ratios corrected for isotopic fractionation (0.15% for Faraday collector), based on repeated analyses of NBS981 lead standard.

Mineral analysed is galena