



Sirotope

Results, data plot and brief interpretation of Pb isotope analyses of a galena samples from Rosebery

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Sample A quarter drill core sample was provided consisting of deformed barite with semi-massive mixed sulphides including galena.

Analytical Method

Pb isotopic analysis was undertaken at the University of Melbourne Isotope and Trace Element Laboratory. The sample was leached in a low pressure HF-HNO₃-HCL solution and Pb extracted using a single pass on Eichrom Sr resin. Isotope ratios were measured on a Multi Collector ICP-MS. Precision is an order of magnitude greater than shown by the yellow ellipse in the diagram below, which relates to the data shown in comparison and analysed by conventional TIMS methods.

Results

Results are presented in Table 1 and Plotted in Figure 1..

Table 1 Pb isotope ratios of sample.

Sa No	²⁰⁶ Pb/ ²⁰⁴ Pb	²⁰⁷ Pb/ ²⁰⁴ Pb	²⁰⁸ Pb/ ²⁰⁴ Pb
	18.209	15.601	38.008

Interpretation Notes

This sample has a distinctively lower ²⁰⁶Pb/²⁰⁴Pb ratio compared to all previously analyzed samples of Rosebery ores and thus there is a strong possibility that the mineralization relates to a different hydrothermal event, or a different stage of the hydrothermal event responsible for the bulk of the ore. All Cambrian mineralization in the Dundas Trough lie on a horizontal trend on conventional ²⁰⁶Pb/²⁰⁴Pb vs ²⁰⁷Pb/²⁰⁴Pb diagrams. The origin of this trend is not well understood, but may result from mixing of Pb from two major reservoirs – one perhaps similar to the Cambrian Mount Torrents crust and ore with a significantly higher ²⁰⁶Pb/²⁰⁴Pb, perhaps represented by mineralization at Lynchford. There is not a clear geographic relationship to this trend and so variations along the mixing line may relate to timing differences within the Cambrian magmatic event.

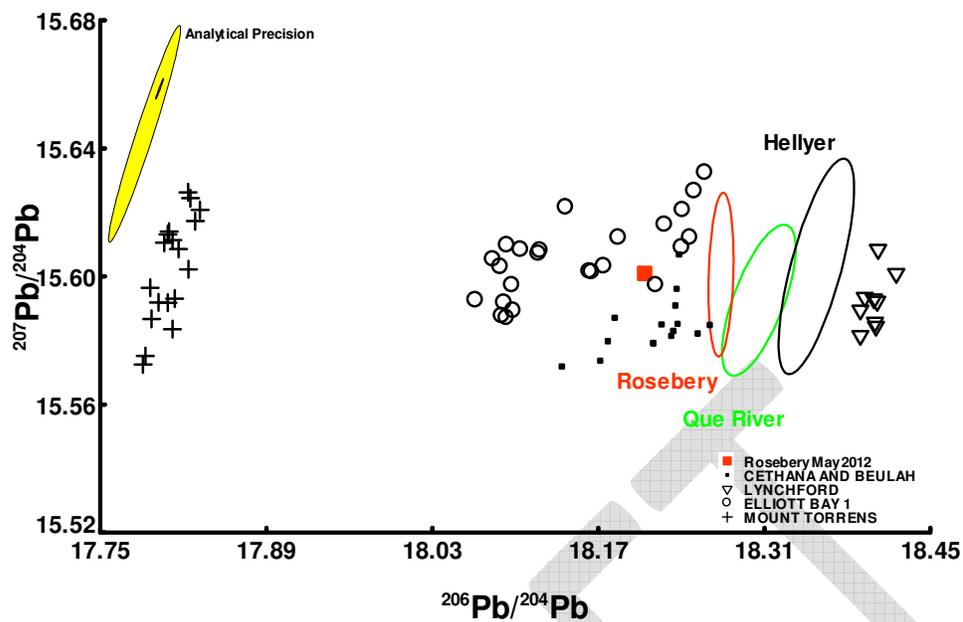


Figure 1 Conventional uraniumogenic Pb isotope diagram showing the galena result for this study (red square) in comparison to the Target Fields for Western Tasmania and other examples of Cambrian mineralization in the Dundas Trough and in South Australia. Analytical precision for the sample from this study is represented by the small red ellipse in the top left hand corner of the diagram and analytical precision for the comparative data is represented by the yellow ellipse.