

## **Pb Isotope Analysis Of K Feldspars – A Challenge For LA-ICP-MS**

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Feldspars are a useful provenance indicator but are easily weathered into small grains and are poor in uranium, making isotope ratio work difficult. Analyses are usually conducted by LA-MC-ICP-MS to improve precision and deal with the low sensitivity. Economically, it would be preferable to perform this analysis via LA-ICP-QMS, however the detection limits and precision are challenging.

Here we explore the use of cutting edge LA-ICP-QMS techniques for provenancing of K feldspars. An iCAP Q (Thermo Fisher Scientific) was configured in high-sensitivity mode and running a He CCT method to maximise the high mass signal. An NWR213 (ESI) with TwoVol2 ablation cell was used to ablate mounted and polished grains of K Feldspar (identified by SEM). The resulting data concurred with previously published studies using LA-ICP-MC-MS. Although precision from the LA-ICP-QMS method was slightly poorer it was within a useful range for the application.