



# Northern Territory Environmental Laboratories Pty Ltd

## **MEMORANDUM**

9<sup>th</sup> Feb 2004

Att Cameco Australia

As requested here are details of the NTEL methods used for the analysis of Cameco samples.

### **Sample Prep 1 – Brick samples**

The samples are jaw crushed then milled to a nominal 90%-106um

### **Sample Prep 2 – Vial Samples**

The samples are rolls crushed to a nominal –2mm

### **G400 Rolls Digest**

The rolls crushed material is soaked in HF until all silicate minerals are decomposed (can take 2-3 days). Nitric, hydrochloric and perchloric acids are added and the sample digested and at least, double dehydrated.

### **G400 Pulp Digest**

The pulp is soaked in HF, nitric, hydrochloric and perchloric acids for 8 hours, and then the sample is digested and at least double dehydrated.

### **G400I**

The above digestion solutions are presented to an ICPOES to determine the elements of interest and any elements higher than the ICPMS upper limits.

### **G400M**

The above digestion solutions are presented to an ICPMS to determine the elements of interest

Pb Isotopes

**G950**

A large sample weight is leached with high purity nitric acid on a mixing table. After settling the clear supernatant liquor is decanted.

**G950m U and Pb isotopes**

The sample is presented to an ICPMS

**G140B**

The pulped sample is fused with sodium peroxide. Iron is precipitated. The resulting solution is read by ICPOES.

**LOI**

The pulped sample is ignited at 1000°C

**Fire Assay – New Pots**

An appropriate charge, up to 50g, depending on mineralogy and sample size is fused in a lead collection assay. The prill is dissolved and the gold, platinum and palladium are determined by either ICPMS or ICPOES.

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