**Analytical Method Summary**

**Project ID:** 2017-1945

**Project Name:** Metals in Urine

**Project PI:** Breton

**Summary:**

The metals analysis in urine analysis was performed using an ICP-MS assay method based on the CDC method 3018.3, with modifications for the expanded metals panel and the Thermo Scientific iCAP RQ instrument.  All standards, QC’s, blanks and urine samples are diluted 10 fold in a diluent consisting of 2% HNO3 solution containing the internal standards and gold.  The rinse solution for the instrument is 1% Trace Metal Grade Nitric acid. The samples are analyzed in two analysis modes - standard (default) for the majority of the metals, and KED for vanadium, chromium, arsenic, molybdenum and cadmium.

Standards of known purity and identity were used during preparation of the calibration, quality control and internal standards.

The quality control samples were analyzed at three levels throughout the study (n=25). In the low-level QC, the % CV ranged from 2.8 to 7.0 for all analytes; in the mid-level QC, the % CV ranged from 2.5 to 5.2 for all analytes; and in the high-level QC, the % CV ranged from 2.8 to 6.7 for all analytes.