



As a further point of comparison, the following table only compares the paired analytical results (i.e., the comparison is only provided for the samples common to all three primary laboratories).

	<b>n</b>	<b>Minimum (ug/g)</b>	<b>Mean (ug/g)</b>	<b>Maximum (ug/g)</b>
<b>Lead-Queens</b>	19	79.7	164.6	295
<b>Lead-Bodycote (paired to Queens)</b>	19	96.7	382.2	1830
<b>Lead-Testmark (paired to Queens)</b>	19	74.2	163.6	322
<b>Tin-Queens</b>	18	7.2	56.4	614
<b>Tin-Bodycote (paired to Queens)</b>	18	9.0	173.7	1200
<b>Tin-Testmark (paired to Queens)</b>	18	1.8	17.3	83.7
<b>Arsenic-Queens</b>	19	16.9	48.4	159
<b>arsenic-Bodycote (paired to Queens)</b>	19	22.9	64.3	187
<b>arsenic-Testmark (paired to Queens)</b>	19	22.9	51.2	138

A statistical comparison of the interlab results was conducted. The analysis considered Arsenic, Cadmium, Copper, lead and tin. Other COCs were disregarded due to the number of non-detect results. The comparison also disregarded the Colorado data because a balanced design is required (i.e., same number of samples in each group), and 5 was too few for a repeat measures comparison. Twenty common samples to Bodycote, Testmark and Queen's labs were compared (n=19 plus 1 duplicate). The data was tested for normality on all groups of data, and it was found that, for the most part, the data were not normally distributed. Therefore, a non-parametric test called the Friedman Test (for testing differences among groups of paired data) was utilized. The PROC GLM procedure in SAS was utilized for the analysis. At alpha=0.05, following was found:

- Mean arsenic ranks significantly different among Bodycote, Testmark and Queen's
- Mean cadmium ranks significantly different among Bodycote, Testmark and Queen's
- Mean copper ranks significantly different between Bodycote and other two labs (Testmark and Queen's not significantly different)
- Mean lead ranks significantly different between Bodycote and other two labs (Testmark and Queen's not significantly different)
- Mean tin ranks significantly different among Bodycote, Testmark and Queen's

As an aside, inspection of the mercury results indicate a good correlation between the three labs (see attached figure). It should be noted that Bodycote analyzed mercury as separate samples and in a different manner than the other chemicals.

Based on the outcomes of this further re-analysis, it is our recommendation that the Bodycote analytical results be discounted and that the HHRA study move forward with the Testmark results. While both the Testmark and Queen's data appear more reliable than the Bodycote data, the greater number of samples analyzed by Testmark result in a more robust dataset.

It should also be noted that the independent QA/QC audit of all labs is on-going and will be provided to the TAC when available.