

## Quantitative Analysis Assignment #2

### Statistics

1) Repeated measurements of the zirconium concentration (Zr, 91.224 g/mol) from a soil sample gave values of 192.5, 189.4, 167.6, 185.45, and 189.2 ppm. What are the mean concentration, standard deviation, and 95% confidence interval of the Zr concentration? Use the Q-test to determine if the lowest value can be discarded. A second soil sample analyzed 6 replicate times for Zr content gave a mean of 0.0195 % and standard deviation of 0.00208 %. At the 95% confidence level, does this soil sample differ in Zr concentration from the 1<sup>st</sup> one?