



Update on HHRA

- **Supplementary Indoor Dust Study**
- **Fish and Blueberries**
- **Other progress on the HHRA**
- **Next Steps in the HHRA**

SUPPLEMENTARY DUST RESULTS

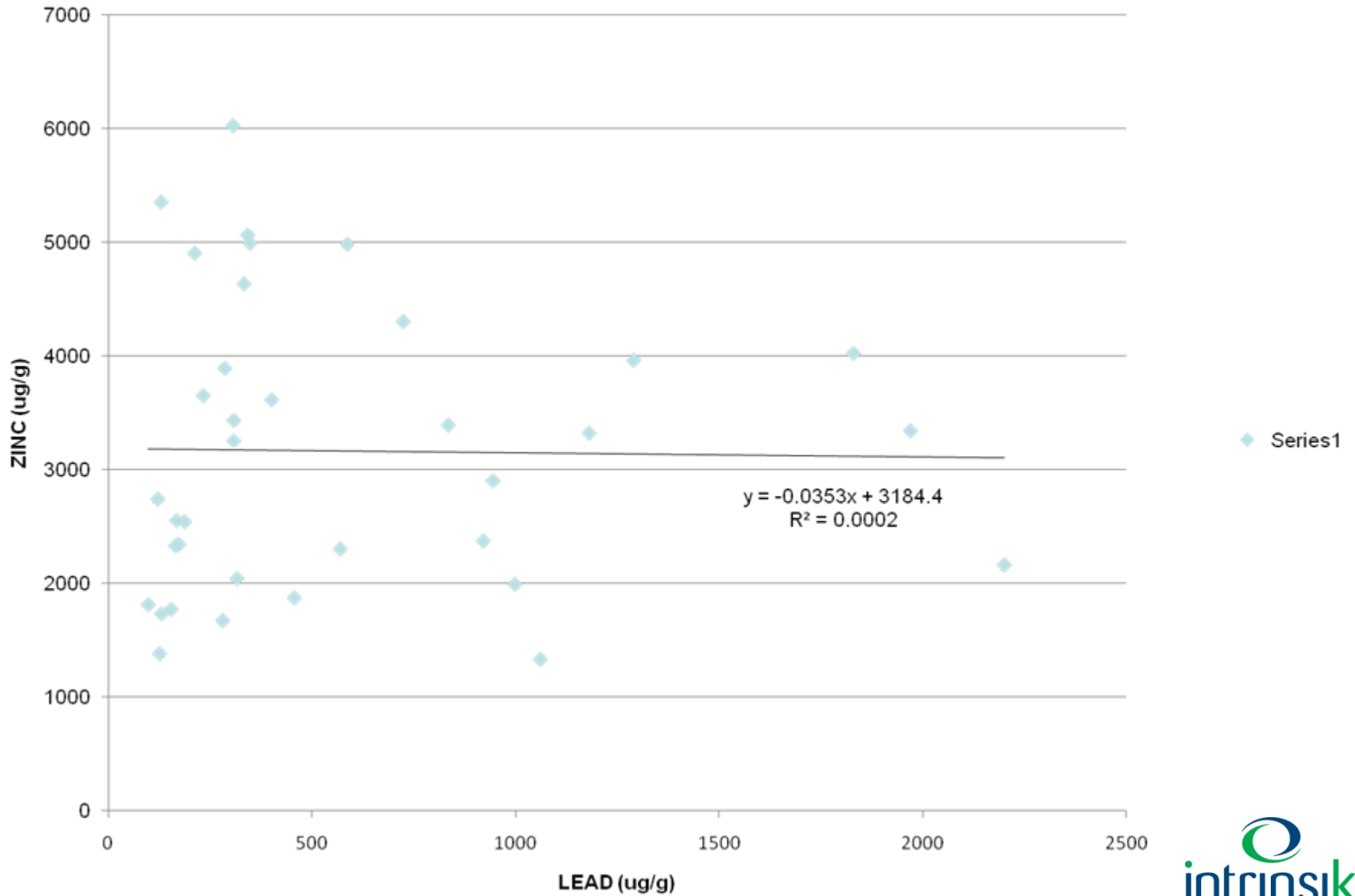
- Memos to TAC August 18th and September 4th
 - Analytical results from laboratory (Bodycote) are questionable
 - samples submitted for re-analysis (Testmark)
 - Re-analysis results significantly differ from first analysis; results appear consistent with expectation
 - Samples submitted to third lab for re-analysis to satisfy all concerns
 - Independent audit of laboratory QA/QC to be conducted

SUMMARY OF AUGUST 18TH MEMO

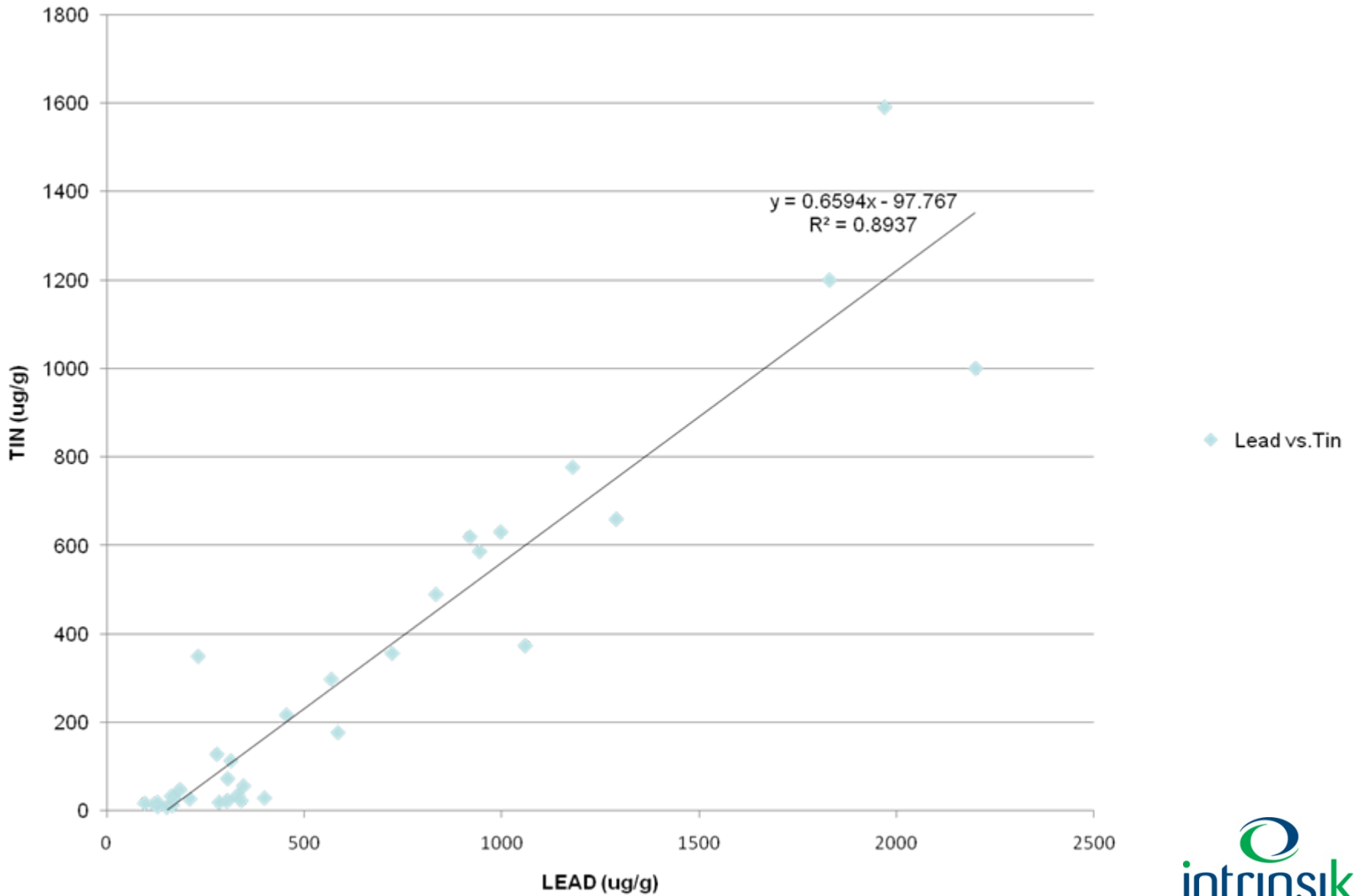
What do we have

- Two dust samples (out of 38) appear to be outliers from the remaining data, and are distinguished by very high lead and tin concentrations (elevated tin levels have not been found in previous sampling programs)
- The remaining 36 dust samples generally have maximum metal values that are similar to those reported in an urban community, which does not have a point source
- Dust wipe samples from hardwood floors and window sills taken in 2007 from these same properties do not suggest any concerns related to lead exposures
- An expected relationship between co-located outdoor soils and indoor dusts is not evident in the data
- The expected geographical distribution of results is not present
- There are QA/QC concerns with the analytical results
- Samples have been submitted for re-analysis and speciation

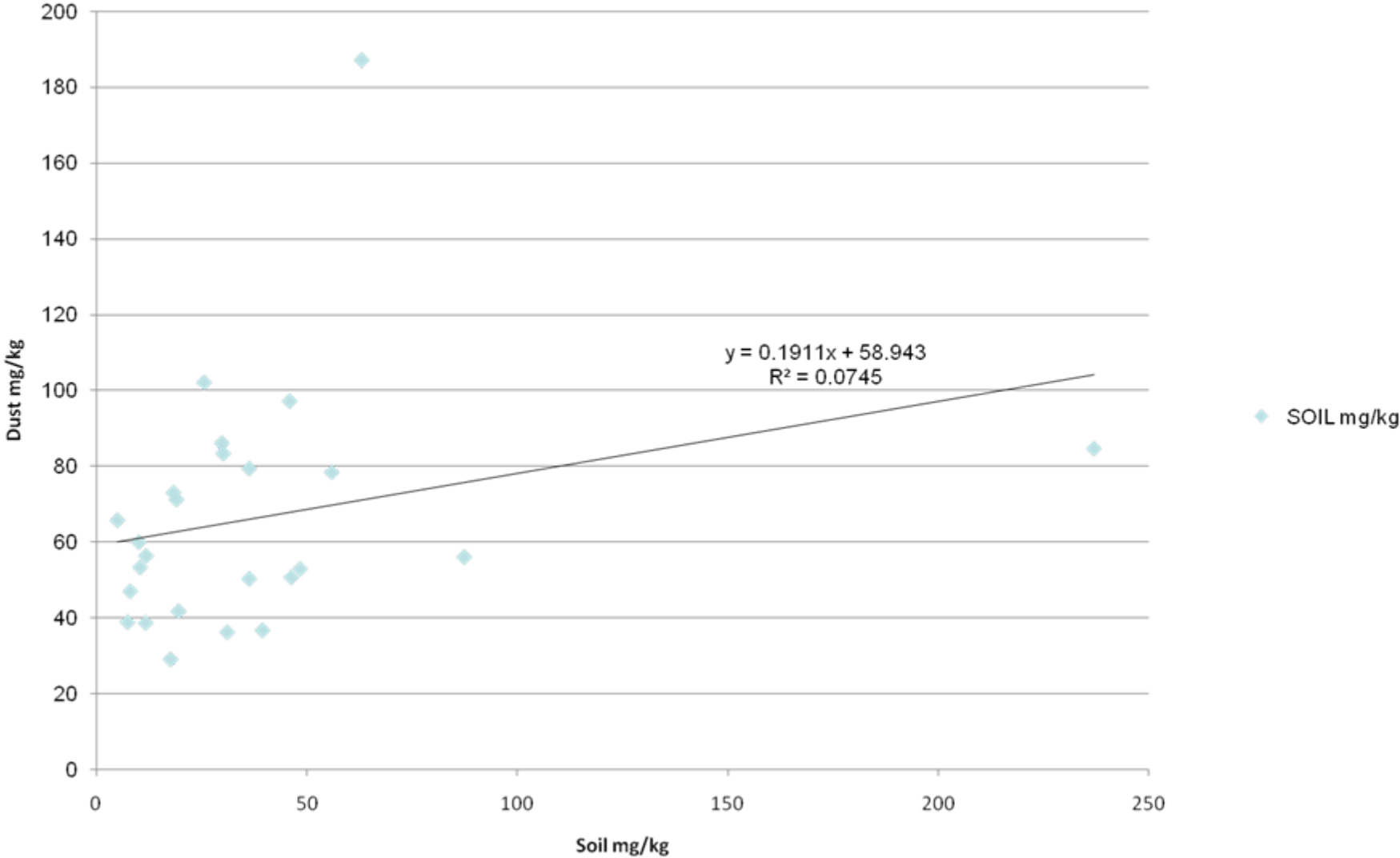
DUST



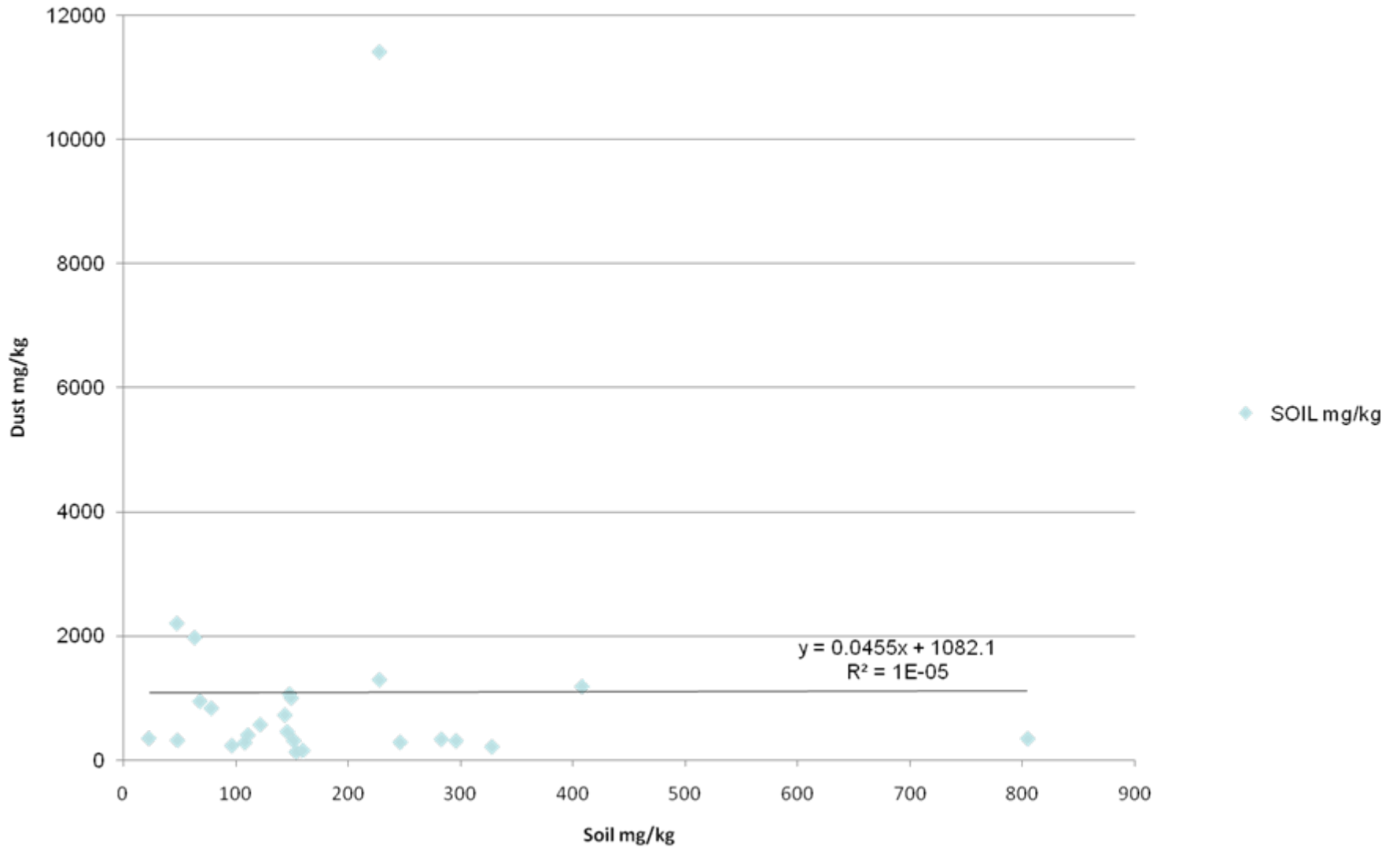
DUST



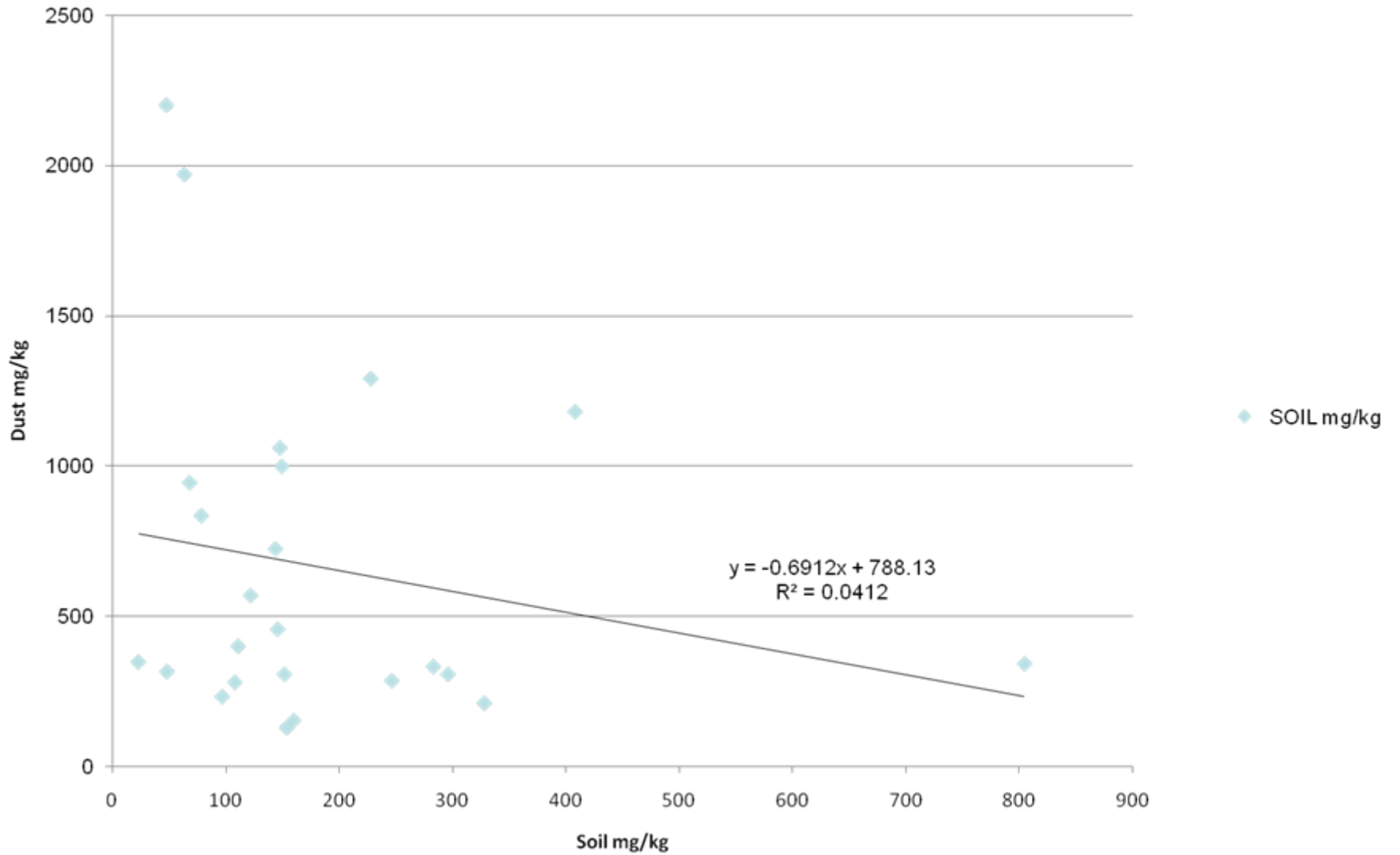
ARSENIC



LEAD



LEAD (outliers removed)



SUMMARY OF AUGUST 18TH MEMO

What does it mean

- The interpretation of these results is unclear for the following reasons:
 - some of the data remains in question and further analysis is underway;
 - The hard surface floor and windowsill data taken from the same properties were all are all within acceptable ranges for lead;
 - the HVS3 vacuum used in the study is specially designed to collect deeply embedded material;
 - since no regulatory benchmarks exist for dust, this data will require thorough evaluation in the HHRA; and,
 - based on comparisons to urban house dust characterized in Ottawa, the samples collected in the Flin Flon study appear to be similar to those reported in Ottawa for many of the metals

SUMMARY OF AUGUST 18TH MEMO

What are we going to do about it

- Notification of Medical Officers and TAC
- Re-analysis (at Testmark and Queen's University)
- Speciality speciation (University of Colorado)

- Pending re-analysis results
 - Homeowner notification
 - Re-sampling in some homes

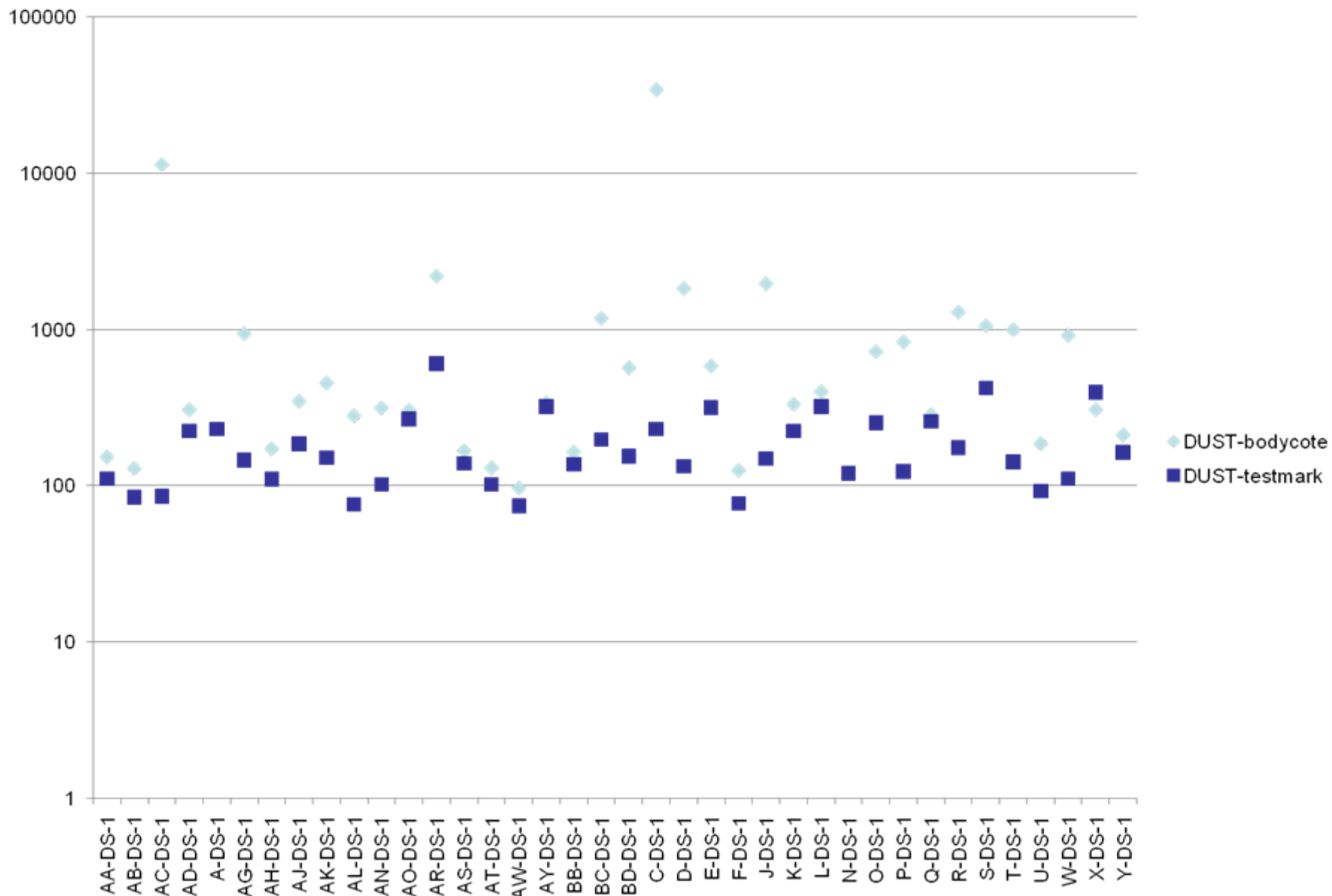
SUMMARY OF SEPTEMBER 4TH MEMO

- Re-analysis of the supplemental dust data conducted by Testmark Laboratories in Sudbury ON
- The re-analysis results are significantly different than the original analysis (conducted by Bodycote Laboratories)
- The re-analysis results are more consistent with dust studies conducted in other locations and reported in the literature
- The Testmark dataset included a more extensive set of Quality Assurance checks than the BodyCote analysis, and the QA/QC outcomes of the Testmark dataset are acceptable
- The dust results correlate better with the co-located yard soil samples, which is a relationship typically seen in these types of studies

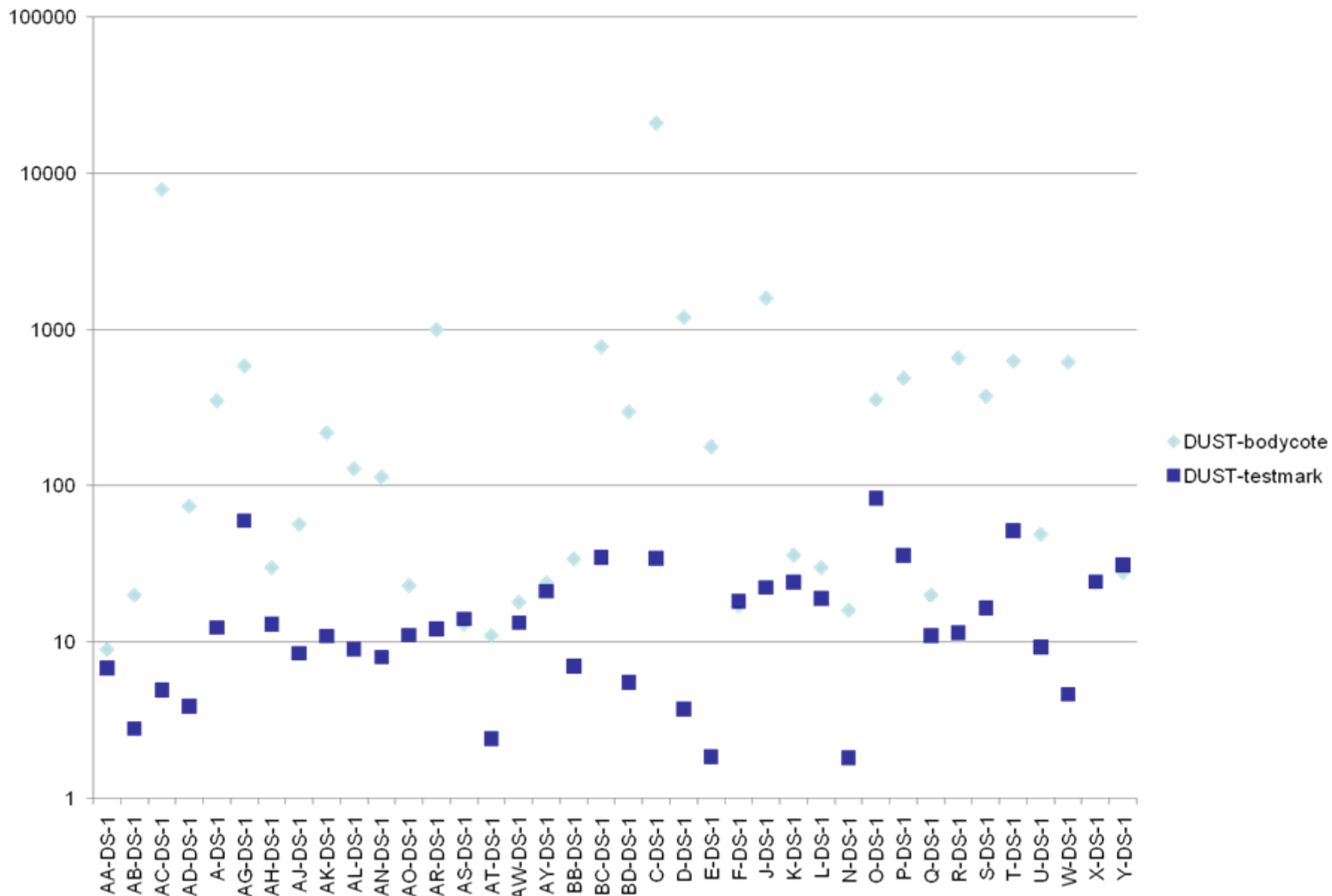
ANALYTICAL DIFFERENCES

	Minimum (ug/g)	Mean (ug/g)	Maximum (ug/g)
Lead-Bodycote	96.7	1749	34400
Lead-Testmark	74.2	183	606
Tin-Bodycote	9	1026	21000
Tin-Testmark	1.8	17	83
Arsenic-Bodycote	36.3	60.7	1874
Arsenic-Testmark	13.8	45	138

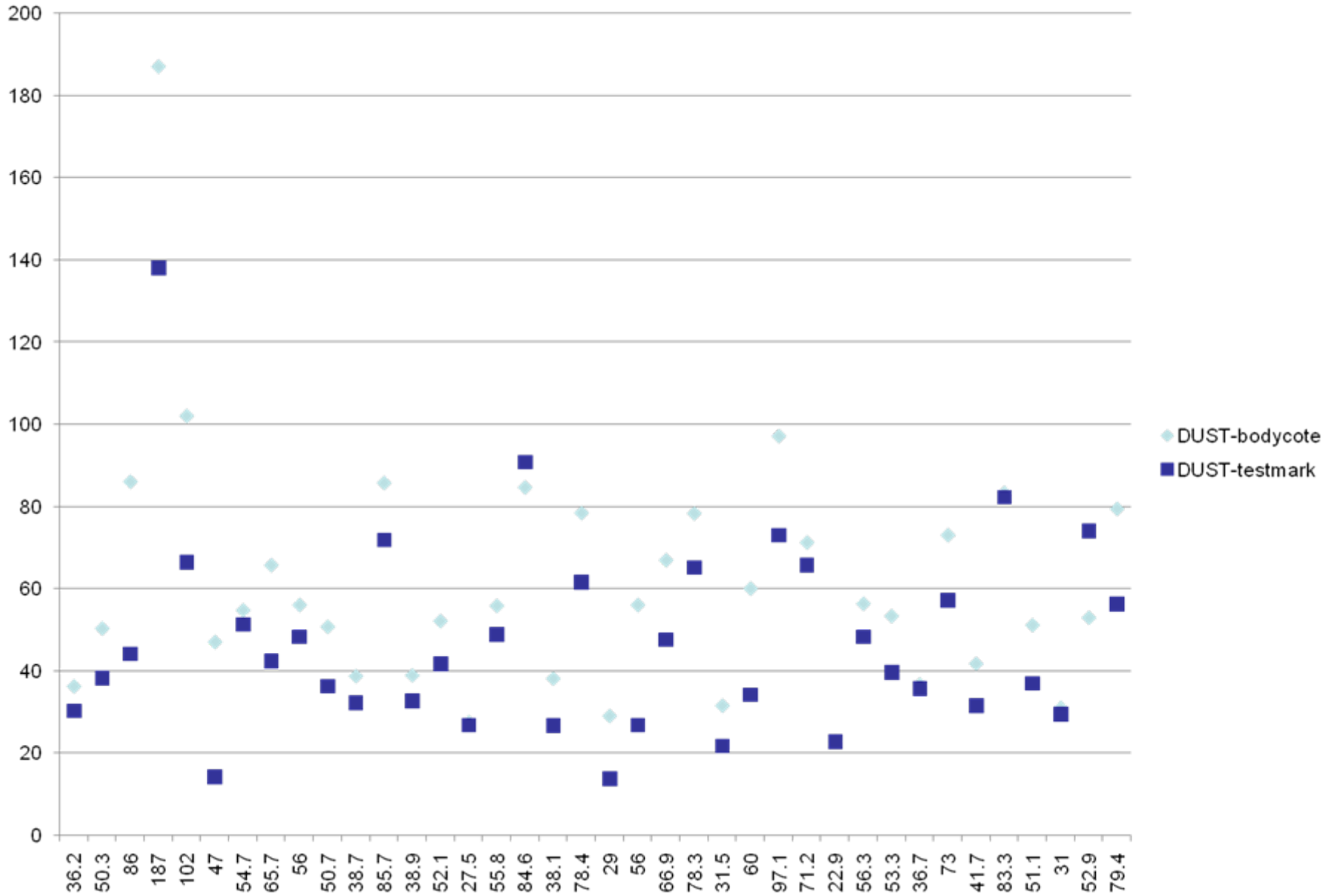
LEAD



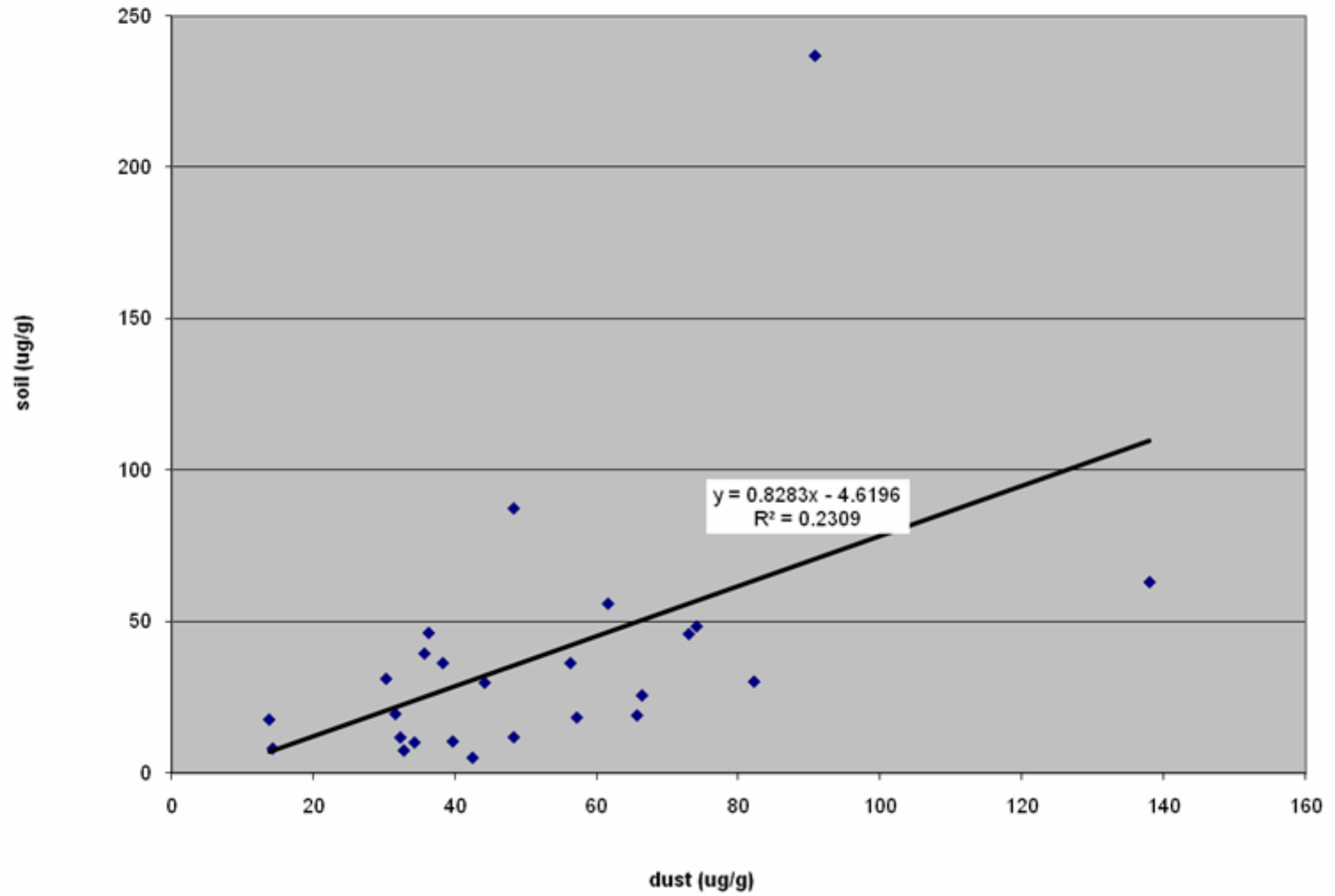
TIN



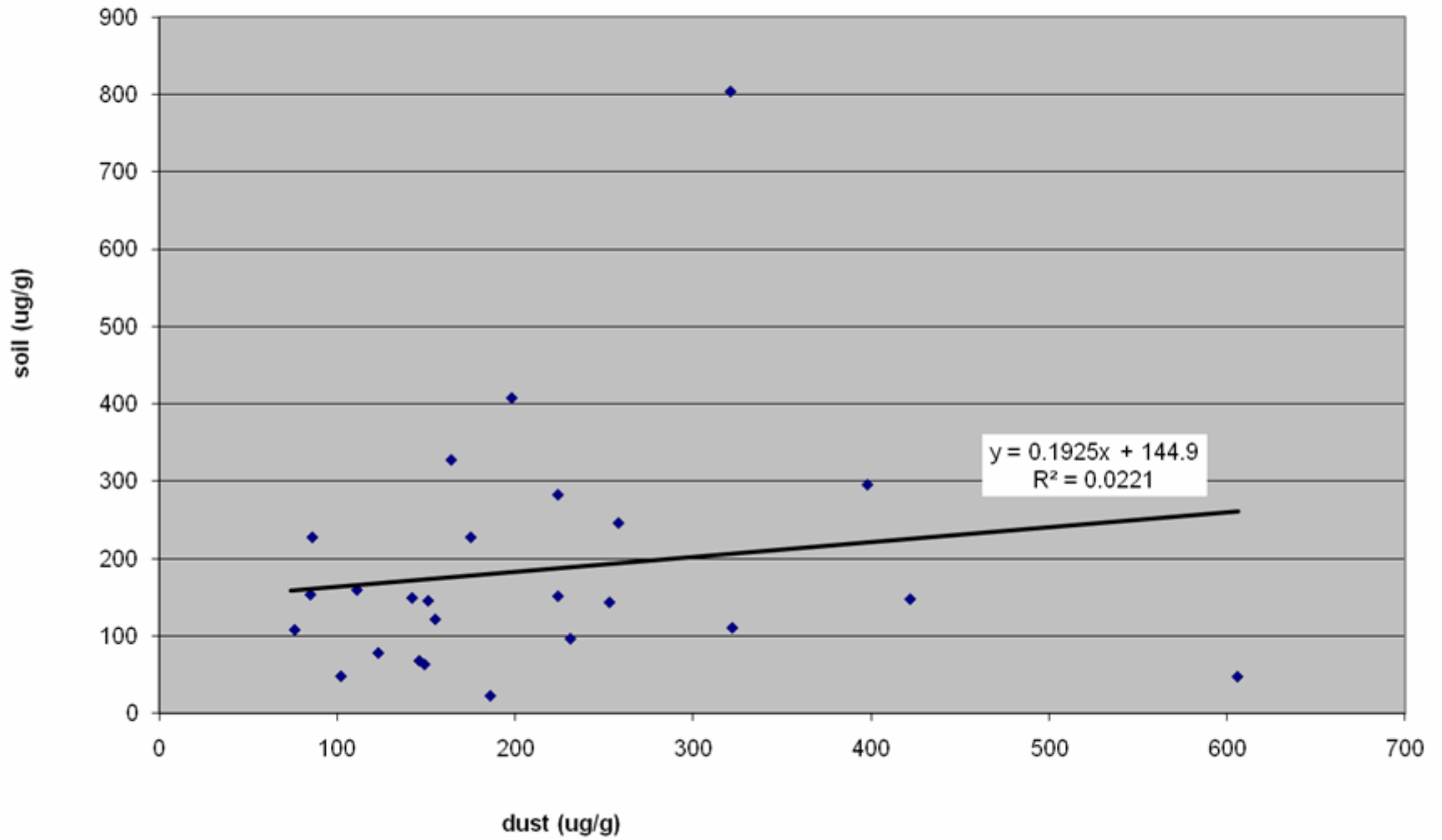
ARSENIC



Arsenic



Lead



SUPPLEMENTAL DUST STUDY – WHAT'S NEXT

- Based on the outcomes of the re-analysis, and the outstanding QAQC issues related to the BodyCote dataset, it is our recommendation that the Bodycote analytical results be discounted and that that HHRA study move forward with the Testmark results
- Speciation results pending from University of Colorado
- Samples submitted to third lab for re-analysis to satisfy all concerns
- Independent audit of laboratory QA/QC to be conducted

FISH AND BLUEBERRY SAMPLING

- Stantec retained to conduct field study
 - 9 lakes sampled for sport fish species, sediment and water
 - 13 locations sampled for blueberries (collection done by Dave Price)
- Fish, Blueberry, Water and Sediment samples submitted to Maxxam Laboratories on August 27th/28th
- Fish tissue also submitted to Flett Laboratories for methyl mercury
- Manitoba WSD to provide data for Schist and Athapapuskow
- Analysis report to be available in next couple of weeks

OTHER HHRA ACTIVITIES

- Bioaccessibility-data just received; still awaiting report
- Problem formulation-complete
- Toxicological profiles-drafts complete and submitted for TAC review
- Residential water sampling-report posted to web-site yesterday
- Exposure assessment-ongoing
- Risk characterization-ongoing

UPDATE ON HHRA PROGRESS

HBMS-HHRA Flow Chart and Schedule [revised August 21, 2008]

