Posting type
Advisory
updated May 2009
Subject
Module/Species
Sites
Period
Recommendation

Submitter

Sporadic contamination by Zn
A/ Zn
entire network
Documented in 2004 and later years; likely in earlier years.
Consider contamination as a possible contributor to isolated sample values.
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## Supporting information

The table below summarizes XRF analysis of January 2004 field blanks exposed at all sites, and October 2004 acceptance tests of unexposed filters. Elements measured by the Cu -anode system (distinguished by "Y" before element symbol) are at the top, elements measured by the Mo-anode system are at the bottom. Blank concentrations are presented as percentiles of contemporary sample concentrations. As an example the $90^{\text {th }}$ percentile of the field blank Zn loadings is higher than $20 \%$ of the well-determined sample Zn loadings, i.e. those with estimated uncertainties of less than $10 \%$. It is of course higher than more than $20 \%$ of all sample loadings. The implication is that apparently wellmeasured low-to-moderate values of Zn can occasionally be attributable to filter contamination. Updated statistics have been included in quarterly reports of XRF QA/QC since the fourth quarter of 2005.

|  | YNA | YMG | YAL | YSI | YP | YS | YCL | YK | YCA | YTI | YV | YCR | YMN | YFE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| percent of 1/04 samples throughout network yielding 'quantitative' values (ERR/VAL < 10\%) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0\% | 0\% | 13\% | 74\% | 1\% | 100\% | 10\% | 99\% | 98\% | 67\% | 15\% | 1\% | 49\% | 99\% |
| percent of quantitative values below field blank (FB) levels |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 95\%ile 1/04 FB |  |  |  | 2.9\% |  |  |  | 5.8\% | 0.7\% | 0.2\% |  |  |  | 7.4\% |
| 90\%ile 1/04 FB |  |  |  |  |  |  |  | 5.1\% | 0.1\% |  |  |  |  | 3.6\% |
| 75\%ile 1/04 FB |  |  |  |  |  |  |  | 3.7\% |  |  |  |  |  | 1.0\% |
| 50\%ile 1/04 FB |  |  |  |  |  |  |  | 1.5\% |  |  |  |  |  |  |
| percent of quantitative values below acceptance test (AT) levels |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 95\%ile 10/04 AT |  |  |  | 0.3\% |  |  |  | 0.7\% |  | 0.3\% |  |  |  | 2.0\% |
| 90\%ile 10/04 AT |  |  |  |  |  |  |  | 0.2\% |  |  |  |  |  | 0.6\% |
| 75\%ile 10/04 AT |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


|  | FE | NI | CU | ZN | AS | PB | SE | BR | RB | SR | Y | ZR | CD |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| percent of 1/04 samples throughout network yielding 'quantitative' values (ERR/VAL < 10\%) |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 99\% | 9\% | 34\% | 99\% | 3\% | 37\% | 26\% | 91\% | 0\% | 9\% | 0\% | 0\% | 0\% |
| percent of quantitative values below field blank (FB) levels |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 95\%ile 1/04 FB | 5.7\% |  |  | 35.4\% |  |  |  |  |  |  |  |  |  |
| 90\%ile 1/04 FB | 0.9\% |  |  | 20.1\% |  |  |  |  |  |  |  |  |  |
| 75\%ile 1/04 FB |  |  |  | 3.7\% |  |  |  |  |  |  |  |  |  |
| 50\%ile 1/04 FB |  |  |  | 0.1\% |  |  |  |  |  |  |  |  |  |
| percent of quantitative values below acceptance test (AT) levels |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 95\%ile 10/04 AT | 0.2\% |  |  | 26.0\% |  |  |  |  |  |  |  |  |  |
| 90\%ile 10/04 AT |  |  |  | 3.2\% |  |  |  |  |  |  |  |  |  |
| 75\%ile 10/04 AT |  |  |  |  |  |  |  |  |  |  |  |  |  |

