

**comparison of replicate weathering samples:** Method precision across laboratories was assessed using weighted results from replicate samples exposed to weathering procedures in multiple laboratories. Weighted results (analyte concentration multiplied by the volume of water collected and divided by total sample weight) were used to mitigate the effects of the weight of individual samples and the volume of water collected when comparing results. Relative standard deviations (RSD) were calculated for replicate sample results prior to weathering (initial flush at Week 0) and as pooled RSDs for all sample weeks beginning with Week 1 and continuing through Week 14 (14-week). Because the differences in water volumes collected and total sample weights used can increase variability greatly across laboratories, RSDs are presented based on weighted results only.

The following results were eliminated from RSD calculations:

- Results associated with analytical QC failures
- Results reported at less than the laboratory MDL
- Results identified as outliers using Grubbs Test for outlying results
- Laboratory 6 did not submit acidity results, and submitted alkalinity results obtained using indicator paper; these results were not comparable to results submitted by other laboratories.
- Laboratory 1 did not include a saturation period during Week 13; results submitted during Weeks 13 and 14 were not comparable to results submitted by other laboratories
- Laboratory 8 reported analytical results for measurement of metals in mg/L. These results were not comparable to the results of the metals laboratory (reported as µg/L) and therefore, were not included in interlaboratory RPD or RSD determinations.
- Analytical results for measurement of alkalinity and acidity in Laboratories 2, 4, 5, 7 and 8, were reported to a laboratory-specific censoring level. For example, Laboratories 2, 4, 7 and 8 reported results of acidity to <10, “negative,” <1, and 0, respectively. Laboratories 2, 4, 5 and 7 reported results of alkalinity to <20, <5, 0, and <1, respectively. Although these data were used to determine within laboratory precision (as RPD), the data are not comparable to data results from other laboratories and were not used for evaluations of method performance across laboratories (i.e., pooled RSDs).

Pooled RSDs from replicate samples across laboratories are presented for each analyte in each sample in Table 4.8a; analyte-specific RSDs are presented in Table 4.8b.

**Table 4.8a: Pooled interlaboratory RSDs based on analyte concentrations in replicate samples** (Note: Highlighted cells contain RSDs >50.)

Analyte	BCS3-PA		HCS-IN		LKFC-PA		KBF-WV		MKSS-PA	
	Initial Flush	14-week	Initial Flush	14-week	Initial Flush	14-week	Initial Flush	14-week	Initial Flush	14-week
Fe	130	110	118	150	84.7	80.0	130	86.8	44.3	44.6
Mn	46.0	112	67.5	45.1	36.7	29.3	101	1.4	50.3	59.2
Al	4.3	39.1	87.1	97.6	69.5	37.5	131	–	–	–
Ca	35.5	30.5	56.7	29.0	25.5	30.8	43.8	41.4	39.9	40.8
Mg	31.7	30.9	61.4	35.6	44.4	30.2	45.7	37.4	86.6	31.9
Se	43.4	40.8	47.9	63.0	33.3	27.2	62.6	63.4	41.4	45.9
Zn	131	98.3	85.5	84.7	33.6	63.2	135	85.8	89.9	97.2
Na	39.2	30.2	47.6	39.8	52.9	38.9	53.6	41.9	55.1	59.0
K	40.9	24.1	53.8	57.8	41.0	26.0	53.5	31.7	35.5	30.0
SO <sub>4</sub>	35.1	26.0	55.8	51.4	32.1	26.2	45.5	25.8	45.2	56.9
Cond.	25.1	15.0	22.5	48.9	28.6	40.6	20.0	11.3	36.0	11.8
	<b>Standard Deviation</b>									
pH	0.3	0.4	1.0	1.8	0.4	0.5	0.3	0.5	0.3	0.3