

Table 4.7c: Overall RPDs based on analyte*(Note: Highlighted cells contain RPDs >50.)*

Analyte	Initial Flush		14-week period		Analytical (from Table 6)
	Unweighted	Weighted	Unweighted	Weighted	
Fe	44.8	50.9	91.5	90.4	29.0
Mn	43.1	44.1	52.1	52.5	5.4
Al	37.0	38.6	76.9	72.5	10.3
Ca	36.0	38.8	16.1	21.9	2.2
Mg	15.6	16.4	18.9	21.4	2.3
Se	23.5	26.2	44.2	42.9	24.6
Zn	54.5	52.0	61.4	60.2	4.6
Na	14.5	21.1	25.6	25.1	7.8
K	12.2	21.5	16.3	23.7	4.8
SO₄	15.3	20.4	26.8	27.5	1.2
Alkalinity	32.2	35.2	22.1	28.7	
Acidity	20.0	27.0	106	99.9	
Conductivity	11.1		13.2		
	Mean absolute difference				
pH	0.2		0.2		

The largest pooled RPD in all weathered samples resulted between measurements of iron, aluminum, manganese, and acidity; for the metals, this corresponds to the analytes with the greatest number of results falling below the laboratory MDL (see Table 4.6). The lowest variability between duplicates occurred with magnesium, sodium, potassium, and sulfate. With the exception of sulfate, these analytes were measured in mg/L or g/L ranges in water samples collected from the test columns (compared with µg/L levels for iron, aluminum, and manganese).

For most analytes, the RPDs between duplicate samples during the 14-week weathering period were similar to or decreased from the RPDs between duplicate samples during the initial flush, indicating that the method weathering procedures do not impose a notable increase in variability between duplicate samples. RPDs for both calcium and alkalinity improved during the 14-week weathering period.

RPDs for the following analytes increased significantly during the 14-week weathering period (see Table 4.7c):

- **Iron (Fe)** – Unweighted and weighted pooled RPDs are 44.8 and 50.9 during the initial flush period, compared to 91.5 and 90.4 during the 14-week weathering.
- **Aluminum (Al)** – Unweighted and weighted pooled RPDs are 37.0 and 38.6 during the initial flush, compared to 76.9 and 72.5 during the 14-week weathering period.
- **Selenium (Se)** – Unweighted and weighted pooled RPDs are 23.5 and 26.2 during the initial flush period, compared to 44.2 and 42.9 during the 14-week weathering.
- **Acidity** – Unweighted and weighted pooled RPDs are 20.0 and 27.0 during the initial flush period, compared to 106 and 99.9 during the 14-week weathering.