

## Measurement uncertainty arising from sampling: A guide to methods and approaches

Second Edition (2019)

### ERRATA

The following pages provide editorial corrections to the corresponding elements of the above Guide. Amendments are indicated in colour.

Errata Version	Issue date	Remarks
1.2	2020-03-04	Correction to Working Group member list
1.1	2020-01-09	Corrections to Table A3.7 and dependent values in Table A3.4 and summary on p. 60

**Title page – Working group composition amended as follows:**

Add Eurachem member:

Silke Richter BAM, Germany

**Page 57: Table A3.4 amended as follows:**

**Table A3.4: Relative expanded uncertainty (% , coverage factor 2) for analysis, sampling and between-target (between wells) as obtained during validation using range calculations**

Range calculations	Analyses	Sampling	Between-target
Dissolved iron	1.8%	10.5%	70%

**Page 59: Table A3.7 amended as follows:**

**Table A3.7: Results and range calculations for the validation study, dissolved iron, basic data in bold, symbols used to describe calculations only (T: target, S: sample, A: analysis, R: absolute differences)**

Well	S1A1	S1A2	S2A1	S2A2	R1	R2	R <sub>S+A</sub>	Average
	mg l <sup>-1</sup>	mg l <sup>-1</sup>	mg l <sup>-1</sup>	mg l <sup>-1</sup>	mg l <sup>-1</sup>	mg l <sup>-1</sup>	mg l <sup>-1</sup>	mg l <sup>-1</sup>
99.474	0.815	0.834	0.912	0.893	0.019	0.019	0.078	0.86
99.468	1.8	1.83	1.94	1.93	0.030	0.010	0.12	1.88
99.469	1.69	1.68	1.79	1.77	0.010	0.020	0.095	1.73
99.916	2.62	2.61	2.83	2.84	0.010	0.010	0.22	2.73
99.327	1.66	1.63	1.58	1.59	0.030	0.010	0.06	1.62
99.371	1.52	1.53	1.47	1.50	0.010	0.030	0.04	1.51
				Average	0.018	0.017	0.102	1.719
							Stand. dev	0.604
Analysis	$R_A = (\overline{R}_1 + \overline{R}_2)/2$		$R_A =$	0.017	$s_A = R_A/1.128$		$s_A =$	0.015
							CV <sub>A</sub> =	0.89 %
Sampling	$s_{S+A} = \overline{R}_{S+A}/1.128$		$s_{S+A} =$	0.091	$s_S = \sqrt{s_{S+A}^2 - \left(\frac{s_A}{\sqrt{2}}\right)^2}$		$s_S =$	0.090
							CV <sub>S</sub> =	5.23 %
Between target			$s_{T+S+A} =$	0.604	$s_T = \sqrt{s_{T+S+A}^2 - \left(\frac{s_{S+A}}{\sqrt{2}}\right)^2}$		$s_T =$	0.601
							CV <sub>T</sub> =	35 %

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*Page 60: Summary table amended as follows:*

Dissolved iron in groundwater	Expanded uncertainty, coverage factor of 2			Between-target variability <i>(k = 2)</i>
	Sampling	Analysis	Measurement	
Validation	11 %	1.9 %	11 %	70 % <sup>1</sup>
Quality control	3.6%	2.5%	4.4 %	9.9 % <sup>2</sup>
<sup>1</sup> In the validation study, between-target variability was between wells <sup>2</sup> In the quality control, between-target variability was between sampling occasions				