



AQUACHECK PT Scheme AQ4474 - Institute of Speleology Individual Report

Round: 508

Issue Number 1

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Sample Details

Samples were despatched on 20 June 2016
The reporting deadline was 18 July 2016

The following samples were distributed in Aquacheck trial round 508:

4G: 1 x 500mL LDPE bottle containing spiked groundwater preserved with 0.5% nitric acid and 1 x 30mL LDPE bottle containing spiking solution for silver preserved with 0.5% nitric acid.

5G: 1 x 500mL LDPE bottle containing spiked groundwater preserved with 0.5% nitric acid, 1 x 30mL LDPE bottle containing spiking solution for mercury preserved with 0.5% nitric acid and 0.05% potassium dichromate and 1 x 30mL LDPE bottle containing spiking solution for tin preserved with 0.5% nitric acid.

Further information regarding assigned values, performance assessment and technical comments can be found under the individual sample and analyte results.

Individual Report

This individual report contains a summary of all the results submitted and the performance assessments for your laboratory and your individual analysts. Please note that nominated laboratory results are represented by a blue highlight in the analyst box.

Data statistics given in the individual report are for the method you have used for each analyte. Further detail can be obtained from the main report.

Full details of the scheme, sample types, analytes and data analysis can be found in the corresponding Main Report, along with any technical comments, if applicable. The Main Report is the definitive version.

If you have any questions regarding your results which are not answered in the Main Report, please contact us using the details on the front of the report. If you would like to order any samples for re-test, please contact our customer service department or your local office.

Results Summary

Sample	Results Reported	Satisfactory Results	Questionable Results	Unsatisfactory Results	Not Assessed [^]
4G - Metals in Groundwater (in 0.5% Nitric Acid)	10	10	0	0	0
5G - Toxic Metals in Groundwater (Preserved in 0.5% Nitric Acid)	13	13	0	0	0
Round Total	23	23	0	0	0

[^] Results which are Not Assessed should be reviewed by comparing them with the assigned value and other relevant statistics given in the main report. Participants, according to their internal quality criteria, may consider Not Assessed results to be satisfactory, questionable or unsatisfactory. Further information regarding why results may not be assessed is given in the Scheme Information section of the main report.

Please note surplus PT samples are available as QC materials once the round has closed. These samples can be purchased at a reduced rate if you have taken this sample during the main round.

No unsatisfactory results in this round

No questionable results in this round

4G - Metals in Groundwater (in 0.5% Nitric Acid)

Analyte	Analyst	Method	Result	Units	z score (** z' score)	Assigned Value	Ux AV	SDPA	Exp.SDPA	No of results	Median	Mean	Robust SD	SD
Iron	CM	ICP-MS	549	µg/L	0.22	540	7	40.5	N/A	20	529	538	30.4	50.3
Manganese	CM	ICP-MS	85.0	µg/L	0.17	83.9	0.8	6.29	N/A	22	82.6	82.7	3.34	3.33
Copper	CM	ICP-MS	31.5	µg/L	-1.12	34.4	0.4	2.58	N/A	25	33.7	34.0	1.48	1.92
Aluminium	CM	ICP-MS	98.7	µg/L	1.75	84.0	1.8	8.40	N/A	22	81.8	83.4	4.60	8.08
Zinc	CM	ICP-MS	151.9	µg/L	-1.03	169.4	1.4	16.94	N/A	23	166.8	168.6	4.75	8.94
Silver	CM	ICP-MS	4.16	µg/L	-0.48	4.37	0.09	0.437	N/A	16	4.42	4.45	0.363	0.423
Barium	CM	ICP-MS	260	µg/L	-0.30	266	2	20.0	N/A	22	266	265	8.2	8.9
Boron	CM	ICP-MS	211	µg/L	-1.36	235	3	17.6	N/A	19	235	235	14.8	14.2
Strontium	CM	ICP-MS	435	µg/L	0.03	434	6	32.6	N/A	15	434	435	22.2	17.7
Lithium	CM	ICP-MS	21.3	µg/L	-1.70	24.7	0.5	2.00	N/A	12	24.5	24.3	2.00	1.80

5G - Toxic Metals in Groundwater (Preserved in 0.5% Nitric Acid)

Analyte	Analyst	Method	Result	Units	z score (** z' score)	Assigned Value	Ux AV	SDPA	Exp.SDPA	No of results	Median	Mean	Robust SD	SD
Cadmium	CM	ICP-MS	3.13	µg/L	-0.28	3.22	0.03	0.322	N/A	24	3.24	3.28	0.096	0.177
Lead	CM	ICP-MS	33.2	µg/L	-0.31	34.0	0.3	2.55	N/A	23	34.7	34.4	1.33	1.06
Nickel	CM	ICP-MS	8.6	µg/L	-0.40	9.0	0.1	1.00	N/A	23	9.0	8.9	0.59	0.86
Selenium	CM	ICP-MS	4.51	µg/L	-0.02	4.52	0.09	0.500	N/A	20	4.52	4.61	0.311	0.334
Arsenic	CM	ICP-MS	5.64	µg/L	-0.44	5.90	0.10	0.590	N/A	22	5.89	5.87	0.400	0.320
Antimony	CM	ICP-MS	3.61	µg/L	-1.17	4.09	0.07	0.409	N/A	20	4.10	3.91	0.267	0.524
Mercury	CM	ICP-MS	3.54	µg/L	0.09	3.51	0.05	0.351	N/A	16	3.47	3.37	0.119	0.309
Cobalt	CM	ICP-MS	6.96	µg/L	-0.24	7.15	0.08	0.800	N/A	19	7.08	6.99	0.267	0.599
Vanadium	CM	ICP-MS	8.94	µg/L	-0.23	9.15	0.09	0.915	N/A	18	9.08	9.13	0.193	0.342
Chromium	CM	ICP-MS	19.37	µg/L	-0.32	20.00	0.32	2.000	N/A	24	19.37	19.55	0.934	0.816
Molybdenum	CM	ICP-MS	15.2	µg/L	1.43	13.3	0.2	1.33	N/A	15	13.4	13.5	0.74	0.86
Tin	CM	ICP-MS	11.4	µg/L	1.40	10.0	0.3	1.00	N/A	11	10.0	9.8	0.89	1.13
Beryllium	CM	ICP-MS	6.76	µg/L	-1.30	7.80	0.08	0.800	N/A	16	7.73	7.60	0.260	0.413

** Please note, participant performance for this analyte has been assessed using a z' score, rather than a z score, in order to account for the measurement uncertainty of the assigned value which is not negligible when compared to the SDPA.