Attachment 3. Mean, standard deviation, and relative standard deviation of replicate measurements of spikes and stand
values from a Wilcoxon signed ranks test of the replicate measurements made using calibration standards made with 1.(

[m/z, mass to charge ratio of analyte; DL, detection limit; %, percent; µg/L, micrograms per liter; n, number
ND, no data available because the ambient concentration was above upper detection limit; NC, not calculat
cases]

Analyte	symbol	m/z	DL	Expected Concentration or Spiked Amount (µg/L) Acid Matrix	Mean (µg/L) 0.4%	1%
Silver, WF, ICP-MS	Ag	107	0.02	0.02	0.02	0.02
Aluminum, WF, ICP-MS	Al	27	2.2	2.2	2.3	2.2
Arsenic, WF, cICP-MS	As	75	0.10	0.10	0.08	0.10
Boron, WF, ICP-MS	B	11	5.0	5.0	5.8	5.9
Barium, WF, ICP-MS	Ba	137	0.25	0.25	0.28	0.31
Beryllium, WF, ICP-MS	Be	9	0.02	0.02	0.02	0.02
Cadmium, WF, ICP-MS	Cd	111	0.03	0.03	0.03	0.03
Cobalt, WF, cICP-MS	Co	59	0.05	0.05	0.05	0.05
Chromium, WF, cICP-MS	Cr	52	0.3	0.3	0.25	0.26
Copper, WF, cICP-MS	Cu	63	0.8	0.8	0.85	0.90
Lithium, WF, ICP-MS	Li	7	0.22	0.22	0.22	0.20
Manganese, WF, ICP-MS	Mn	55	0.40	0.40	0.43	0.47
Molybdenum, WF, ICP-MS	Mo	95	0.05	0.05	0.06	0.05
Nickel, WF, cICP-MS	Ni	60	0.20	0.20	0.17	0.17
Lead, WF, ICP-MS	Pb	208	0.04	0.04	0.04	0.04
Antimony, WF, ICP-MS	Sb	121	0.027	0.027	0.03	0.03
Selenium, WF, cICP-MS	Se	78	0.05	0.05	0.05	0.06
Strontium, WF, ICP-MS	Sr	88	0.8	0.8	0.92	0.98
Thallium, WF, ICP-MS	Tl	205	0.03	0.03	0.02	0.02
Uranium, WF, ICP-MS	U	238	0.014	0.014	0.01	0.01
Vanadium, WF, cICP-MS	V	51	0.08	0.08	0.04	0.06
Tungsten, WF, cICP-MS	W	182	0.03	0.03	0.03	0.03
Zinc, WF, cICP-MS	Zn	66	2.0	2.0	2.4	2.7
						Su
Silver, WF, ICP-MS	Ag	107	0.02	0.2	0.18	0.17
Aluminum, WF, ICP-MS	Al	27	2.2	0.2	37	37
Arsenic, WF, cICP-MS	As	75	0.10	0.2	0.47	0.48
Boron, WF, ICP-MS	B	11	5.0	0.2	13	14

Barium, WF, ICP-MS	Ba	137	0.25	0.2	36	36
Beryllium, WF, ICP-MS	Be	9	0.02	0.2	0.20	0.22
Cadmium, WF, ICP-MS	Cd	111	0.03	0.2	0.26	0.26
Cobalt, WF, cICP-MS	Co	59	0.05	0.2	0.30	0.30
Chromium, WF, cICP-MS	Cr	52	0.3	0.2	0.27	0.26
Copper, WF, cICP-MS	Cu	63	0.8	0.2	25	26
Lithium, WF, ICP-MS	Li	7	0.22	0.2	7.7	7.9
Manganese, WF, ICP-MS	Mn	55	0.40	0.2	38	38
Molybdenum, WF, ICP-MS	Mo	95	0.05	0.2	7.6	7.7
Nickel, WF, cICP-MS	Ni	60	0.20	0.2	1.2	1.2
Lead, WF, ICP-MS	Pb	208	0.04	0.2	0.21	0.20
Antimony, WF, ICP-MS	Sb	121	0.027	0.2	0.23	0.24
Selenium, WF, cICP-MS	Se	78	0.05	0.2	0.29	0.32
Strontium, WF, ICP-MS	Sr	88	0.8	0.2	186	193
Thallium, WF, ICP-MS	Tl	205	0.03	0.2	0.19	0.19
Uranium, WF, ICP-MS	U	238	0.014	0.2	1.4	1.4
Vanadium, WF, cICP-MS	V	51	0.08	0.2	0.46	0.47
Tungsten, WF, cICP-MS	W	182	0.03	0.2	0.25	0.23
Zinc, WF, cICP-MS	Zn	66	2.0	0.2	5.8	6.0

Silver, WF, ICP-MS	Ag	107	0.02	0.2	0.18	0.17
Aluminum, WF, ICP-MS	Al	27	2.2	0.2	3.3	3.4
Arsenic, WF, cICP-MS	As	75	0.10	0.2	5.6	5.8
Boron, WF, ICP-MS	B	11	5.0	0.2	23	24
Barium, WF, ICP-MS	Ba	137	0.25	0.2	36	36
Beryllium, WF, ICP-MS	Be	9	0.02	0.2	0.22	0.23
Cadmium, WF, ICP-MS	Cd	111	0.03	0.2	0.20	0.20
Cobalt, WF, cICP-MS	Co	59	0.05	0.2	0.21	0.21
Chromium, WF, cICP-MS	Cr	52	0.3	0.2	0.27	0.27
Copper, WF, cICP-MS	Cu	63	0.8	0.2	ND	ND
Lithium, WF, ICP-MS	Li	7	0.22	0.2	11	11
Manganese, WF, ICP-MS	Mn	55	0.40	0.2	0.36	0.34
Molybdenum, WF, ICP-MS	Mo	95	0.05	0.2	0.96	0.96
Nickel, WF, cICP-MS	Ni	60	0.20	0.2	0.51	0.51
Lead, WF, ICP-MS	Pb	208	0.04	0.2	0.84	0.82
Antimony, WF, ICP-MS	Sb	121	0.027	0.2	0.22	0.23
Selenium, WF, cICP-MS	Se	78	0.05	0.2	1.2	1.3
Strontium, WF, ICP-MS	Sr	88	0.8	0.2	277	287
Thallium, WF, ICP-MS	Tl	205	0.03	0.2	0.18	0.18
Uranium, WF, ICP-MS	U	238	0.014	0.2	2.0	2.1
Vanadium, WF, cICP-MS	V	51	0.08	0.2	4.1	4.1
Tungsten, WF, cICP-MS	W	182	0.03	0.2	0.21	0.20
Zinc, WF, cICP-MS	Zn	66	2.0	0.2	10	11

Silver, WF, ICP-MS	Ag	107	0.02	5.69	5.57	5.57
Aluminum, WF, ICP-MS	Al	27	2.2	121	124.08	124.36
Arsenic, WF, cICP-MS	As	75	0.10	0.51	0.46	0.48
Boron, WF, ICP-MS	B	11	5.0	15.8	16.41	15.80
Barium, WF, ICP-MS	Ba	137	0.25	39	39.19	39.84
Beryllium, WF, ICP-MS	Be	9	0.02	0.485	0.46	0.47
Cadmium, WF, ICP-MS	Cd	111	0.03	3.85	3.83	3.96
Cobalt, WF, cICP-MS	Co	59	0.05	1.19	1.16	1.14
Chromium, WF, cICP-MS	Cr	52	0.3	2.8	2.76	2.70
Copper, WF, cICP-MS	Cu	63	0.8	0.764	0.90	0.87
Lithium, WF, ICP-MS	Li	7	0.22	8.4	8.07	7.95
Manganese, WF, ICP-MS	Mn	55	0.40	76.9	77.00	77.37
Molybdenum, WF, ICP-MS	Mo	95	0.05	1.53	1.60	1.61
Nickel, WF, cICP-MS	Ni	60	0.20	0.54	0.43	0.41
Lead, WF, ICP-MS	Pb	208	0.04	0.4	0.40	0.39
Antimony, WF, ICP-MS	Sb	121	0.027	1.59	1.57	1.60
Selenium, WF, cICP-MS	Se	78	0.05	0.58	0.41	0.45
Strontium, WF, ICP-MS	Sr	88	0.8	257	256.01	261.38
Thallium, WF, ICP-MS	Tl	205	0.03	7.03	7.08	7.01
Uranium, WF, ICP-MS	U	238	0.014	1.67	1.63	1.64
Vanadium, WF, cICP-MS	V	51	0.08	0.312	0.37	0.37
Tungsten, WF, cICP-MS	W	182	0.03	NA	0.10	0.09
Zinc, WF, cICP-MS	Zn	66	2.0	4.45	4.05	3.80

Silver, WF, ICP-MS	Ag	107	0.02	1	0.91	0.94
Aluminum, WF, ICP-MS	Al	27	2.2	5	5.3	5.0
Arsenic, WF, cICP-MS	As	75	0.10	1	1.0	1.0
Boron, WF, ICP-MS	B	11	5.0	50	51	50
Barium, WF, ICP-MS	Ba	137	0.25	50	49	50
Beryllium, WF, ICP-MS	Be	9	0.02	1	0.96	0.96
Cadmium, WF, ICP-MS	Cd	111	0.03	2	1.9	1.9
Cobalt, WF, cICP-MS	Co	59	0.05	10	9.69	9.64
Chromium, WF, cICP-MS	Cr	52	0.3	1	0.96	0.96
Copper, WF, cICP-MS	Cu	63	0.8	50	48	47
Lithium, WF, ICP-MS	Li	7	0.22	5	4.9	4.8
Manganese, WF, ICP-MS	Mn	55	0.40	25	26	26
Molybdenum, WF, ICP-MS	Mo	95	0.05	2	1.9	1.9
Nickel, WF, cICP-MS	Ni	60	0.20	1	0.98	0.92
Lead, WF, ICP-MS	Pb	208	0.04	5	4.8	4.8
Antimony, WF, ICP-MS	Sb	121	0.027	1	1.0	1.0
Selenium, WF, cICP-MS	Se	78	0.05	1	0.97	0.98
Strontium, WF, ICP-MS	Sr	88	0.8	250	247	251
Thallium, WF, ICP-MS	Tl	205	0.03	1	0.96	0.98
Uranium, WF, ICP-MS	U	238	0.014	1	0.92	0.93
Vanadium, WF, cICP-MS	V	51	0.08	2	1.9	1.9

Tungsten, WF, cICP-MS	W	182	0.03	1	1.0	1.0
Zinc, WF, cICP-MS	Zn	66	2.0	10	9.7	9.5

1. For some analytes the ambient concentration in the sample matrix was either more than 10x the DL or mor
and no valid spike recovery calculationswere performed.
2. Since n is small for this matrix, paired statistical tests were not used.
3. Most probable values or certified values are not available for tungsten, therefore recoveries can not be calc

lard reference samples, along with mean percent recoveries, number of replicates measured, and p
) percent nitric acid and 0.4 percent nitric acid .

of replicate measurements; QSB SRS, Quality Systems Branch standard reference sample;
ed due to low n; --, insufficient data to calculate recovery, see footnotes for individual

Standard Deviation (µg/L)		Relative Standard Deviation (%)		Mean Recovery (%)		n		p
0.4%	1%	0.4%	1%	0.4%	1%	0.4%	1%	
Blank Spike at the Detection Limit								
0.01	0.01	35.7	86.6	106	82	18	17	0.0395
0.5	0.7	20.4	32.5	106	101	18	17	0.3289
0.01	0.04	6.8	39.0	84	102	18	17	0.0887
1.1	1.2	18.9	19.7	115	117	18	17	0.6777
0.15	0.21	55.4	68.3	110	126	18	17	0.4238
0.00	0.01	20.2	37.7	76	83	18	17	0.4514
0.01	0.01	18.1	30.5	98	101	18	17	0.7337
0.03	0.04	61.2	80.1	98	108	18	17	0.4948
0.01	0.01	5.0	5.5	84	85	18	17	0.3778
0.26	0.38	30.8	42.5	106	113	18	17	0.4586
0.03	0.05	13.6	22.7	101	90	18	17	0.1743
0.11	0.18	24.8	39.7	109	116	18	17	0.9632
0.01	0.01	20.0	27.5	114	103	18	17	0.0461
0.02	0.03	9.7	15.3	87	84	18	17	0.4874
0.01	0.02	33.9	48.1	105	110	18	17	0.9356
0.00	0.01	16.4	19.4	102	102	18	17	0.6524
0.01	0.02	19.4	30.1	102	121	18	17	0.0395
0.81	0.83	88.2	85.4	114	122	18	17	0.2435
0.00	0.01	21.1	28.9	70	75	16	17	0.5897
0.00	0.01	25.6	61.0	92	87	18	17	0.0267
0.01	0.07	34.6	108.4	45	76	18	17	0.0398
0.00	0.01	14.1	20.4	93	93	18	17	0.8496
0.4	1.0	15.7	35.7	118	134	18	17	1.0000
ırface Water Spike with 0.2 µg/L of each analyte[1, 2]								
0.01	0.01	3.9	7.9	90	88	4	4	NC
0.9	1.0	2.4	2.6	--	--	4	4	NC
0.02	0.02	3.9	3.3	92	86	4	4	NC
0.8	1.1	5.7	7.5	--	--	4	4	NC

0.4	0.9	1.3	2.4	--	--	4	4	NC
0.01	0.00	3.4	2.0	91	101	4	4	NC
0.01	0.02	3.4	7.1	89	91	4	4	NC
0.01	0.00	2.3	1.5	89	91	4	4	NC
0.01	0.01	2.4	2.8	99	95	4	4	NC
0.9	0.3	3.5	1.0	--	--	4	4	NC
0.14	0.25	1.9	3.1	--	--	4	4	NC
0.3	0.3	0.7	0.8	--	--	4	3	NC
0.08	0.14	1.1	1.8	--	--	4	4	NC
0.03	0.03	2.3	2.3	--	--	4	4	NC
0.01	0.01	6.0	5.1	87	85	4	4	NC
0.01	0.01	2.9	2.6	92	95	4	4	NC
0.01	0.01	2.1	4.5	97	108	4	4	NC
1.6	6.2	0.9	3.2	--	--	4	4	NC
0.01	0.01	5.7	3.9	95	91	4	4	NC
0.03	0.05	2.5	3.2	--	--	3	4	NC
0.06	0.01	13.3	2.6	99	71	4	4	NC
0.01	0.01	5.1	5.2	104	98	4	4	NC
0.08	0.50	1.3	8.4	--	--	4	4	NC
Groundwater Spike with 0.2 µg/L of each analyte[1,2]								
0.01	0.01	2.9	7.1	88	85	4	4	NC
0.3	0.9	8.0	26.0	--	--	4	4	NC
0.1	0.1	2.5	2.6	--	--	4	4	NC
1	0	3.8	0.7	--	--	4	4	NC
0	1	1.4	2.3	--	--	4	4	NC
0.01	0.01	4.1	2.5	92	97	4	4	NC
0.00	0.01	1.8	6.3	94	93	4	4	NC
0.01	0.01	3.9	3.2	92	90	4	4	NC
0.01	0.01	3.3	2.9	89	85	4	4	NC
ND	ND	ND	ND	--	--	0	0	NC
0.3	0.2	3	1.6	--	--	4	4	NC
0.02	0.01	5.2	2.3	91	85	4	3	NC
0.02	0.02	2.1	2.1	90	86	4	4	NC
0.02	0.01	3.3	2.9	93	95	4	4	NC
0.03	0.03	4.0	3.6	86	83	4	4	NC
0.01	0.00	2.5	2.1	92	95	4	4	NC
0.02	0.04	1.7	3.1	--	--	4	4	NC
5	7	1.8	2.5	--	--	4	4	NC
0.01	0.00	4.9	2.6	91	88	4	4	NC
0.0	0.1	1.7	3.1	--	--	3	4	NC
0.1	0.1	2.2	1.8	--	--	4	4	NC
0.01	0.01	6.0	4.4	100	95	4	4	NC
0.3	0.4	2.7	3.9	--	--	4	4	NC
BQS SRS T-215[3]								

0.19	0.17	3.5	3.0	98	98	8	8	1.0000
4.31	1.01	3.5	0.8	103	103	8	8	0.9375
0.01	0.03	3.2	5.4	91	94	8	8	0.1094
0.61	1.25	3.7	7.9	104	100	8	8	0.1094
1.42	0.84	3.6	2.1	100	102	8	8	0.1484
0.03	0.01	5.4	2.4	95	97	8	8	0.7422
0.15	0.07	3.8	1.9	100	103	8	8	0.0547
0.04	0.02	3.1	1.7	98	96	8	8	0.1953
0.06	0.05	2.2	2.0	99	97	8	8	0.0781
0.09	0.05	9.8	5.5	117	114	8	8	0.0313
0.32	0.21	4.0	2.6	96	95	8	8	0.4609
1.99	0.44	2.6	0.6	100	101	8	6	0.1563
0.04	0.04	2.2	2.5	104	105	8	8	0.7422
0.06	0.09	14.2	22.3	80	75	8	8	0.2500
0.01	0.01	3.5	3.8	100	98	8	8	0.5469
0.04	0.02	2.7	1.3	98	101	8	8	0.0547
0.01	0.02	2.6	5.5	71	77	8	8	0.0156
8.50	3.75	3.3	1.4	100	102	8	8	0.4609
0.27	0.29	3.8	4.1	101	100	7	8	0.6875
0.05	0.04	3.0	2.3	98	98	7	8	1.0000
0.04	0.02	10.7	4.1	119	118	8	8	0.8438
0.01	0.01	6.0	7.7	--	--	8	8	0.5469
0.14	0.63	3.4	16.6	91	85	8	8	0.4609

Low QC in same acid matrix as calibrators								
0.05	0.04	5.6	4.1	109	106	43	39	<0.0001
0.2	0.4	4.2	9.0	94	101	43	39	<0.0001
0.02	0.03	2.0	3.2	100	100	43	39	0.9454
2	4	4.1	7.4	98	100	43	39	0.2884
1	1	3.0	2.0	102	100	43	39	0.0002
0.04	0.06	4.6	6.0	104	104	43	39	0.9603
0.1	0.0	3.1	2.5	103	103	43	39	0.5688
0.30	0.24	3.1	2.4	103	104	43	39	0.7424
0.03	0.03	2.8	3.2	104	104	43	39	0.3316
2	1	3.8	2.5	104	105	43	39	0.1110
0.3	0.3	5.3	7.1	101	103	43	39	0.4752
1	1	1.9	2.1	96	94	43	39	<0.0001
0.04	0.03	2.3	1.5	104	104	43	39	0.1791
0.05	0.05	4.9	5.7	102	108	43	39	<0.0001
0.2	0.2	4.4	4.2	103	104	43	39	0.7372
0.04	0.02	4.1	2.2	100	100	43	39	0.5100
0.04	0.03	3.7	3.1	103	102	43	39	0.0556
5	5	2.2	2.0	101	100	43	39	0.0006
0.12	0.08	12.6	8.1	104	102	43	39	0.5646
0.04	0.03	4.8	3.7	108	107	43	39	0.0226
0.1	0.04	3.1	2.2	103	103	43	39	0.3786

0.1	0.04	5.5	4.5	99	101	43	39	0.1143
0.3	0.4	3.0	4.7	103	105	43	39	0.0235

e than 10x the spiked amount (or both). When this is the case, only the ambient concentration is reported

ulated.

Expected Concentration or Spiked Amount (µg/L)	Mean (µg/L)		Standard Deviation (µg/L)		Relative Standard Deviation (%)	
Acid Matrix	0.4%	1%	0.4%	1%	0.4%	1%
				Blank Low Spike		
1	0.93	0.92	0.05	0.05	5.8	5.5
5	5.5	5.4	0.2	0.2	3.1	4.6
1	1.00	1.04	0.02	0.07	2.2	6.9
50	52	52	2	1	4.4	1.9
50	50	50	2	1	3.1	2.4
1	1.00	1.00	0.04	0.03	3.6	3.5
2	1.96	1.98	0.07	0.05	3.8	2.5
10	9.8	9.6	0.3	0.2	3.5	1.9
1	0.97	0.95	0.02	0.04	1.9	3.7
50	48	47	2	1	4.2	2.2
5	5.1	5.0	0.2	0.2	3.2	4.2
25	26	26	0.2	0.2	0.9	0.9
2	1.9	1.9	0.1	0.0	2.8	2.2
1	0.99	0.96	0.05	0.03	4.6	3.3
5	4.9	4.8	0.2	0.1	3.1	2.4
1	1.03	1.04	0.03	0.03	3.3	3.0
1	0.98	1.03	0.04	0.03	3.9	3.1
250	248	248	5	3	1.8	1.4
1	1.01	0.78	0.06	0.23	6.3	29.2
1	0.94	0.94	0.03	0.02	3.1	2.5
2	1.9	2.0	0.04	0.18	2.1	9.0
1	1.0	1.0	0.04	0.02	4.0	2.5
10	9.9	10.0	0.4	0.3	3.8	2.6
				Surface Water Low Spike[2]		
0.8	0.74	0.74	0.02	0.03	2.2	4.5
200	231	234	4.3	5.2	1.9	2.2
4	4.3	4.4	0.06	0.17	1.4	4.0
40	54	54	2.5	1.1	4.6	2.0

40	77	78	3.0	2.4	4.0	3.1
0.8	0.81	0.82	0.04	0.04	4.7	4.6
4	4.0	4.1	0.2	0.1	6.0	2.3
4	3.9	3.8	0.1	0.1	2.0	3.5
7.5	7.2	7.1	0.1	0.2	1.6	3.3
7.5	32	32	1	1	2.2	3.5
7.5	15	15	0.4	1	2.8	4.2
75	109	109	2	1	1.8	0.8
7.5	15	15	1	0.3	3.6	2.1
4	4.7	4.6	0.1	0.2	2.7	4.2
7.5	7.0	7.0	0.3	0.2	4.5	2.6
4	4.0	4.1	0.1	0.1	3.3	1.8
0.8	0.88	0.95	0.01	0.05	1.1	5.4
200	387	392	13	10	3.2	2.5
0.8	0.79	0.79	0.03	0.03	3.3	3.9
7.5	8.3	8.4	0.03	0.1	0.4	1.1
4	4.2	4.2	0.1	0.3	1.9	6.9
0.8	0.86	0.85	0.02	0.03	2.1	3.0
7.5	13	13	0.4	0.4	2.9	3.2

				Groundwater Low Spike[2]		
0.8	0.73	0.72	0.00	0.04	0.6	5.2
200	194	203	3	6	1.6	2.7
4	9.3	9.7	0.01	0.21	0.1	2.2
40	63	67	3	2	4.1	2.4
40	74	77	1	3	2.0	4.3
0.8	0.78	0.86	0.02	0.03	2.4	3.0
4	3.7	3.9	0.05	0.16	1.3	4.1
4	3.8	3.7	0.05	0.03	1.3	0.8
7.5	7.2	7.2	0.03	0.03	0.5	0.5
7.5 ND	ND	ND	ND	ND	ND	
7.5	18	19	0	0	1.1	1.6
75	72	74	1 NC		1 NC	
7.5	8.0	8.0	0.03	0.2	0.4	2.0
4	4.0	4.0	0.1	0.03	1.6	0.7
7.5	7.4	7.7	0.1	0.3	1.6	3.3
4	3.8	4.0	0.05	0.2	1.2	3.9
0.8	2.0	2.2	0.04	0.1	2.2	4.4
200	472	488	19	23	4.1	4.6
0.8	0.76	0.79	0.00	0.03	0.2	4.3
7.5	8.8	9.1	0.3	0.02	3.2	0.2
4	7.8	7.7	0.03	0.1	0.3	1.0
0.8	0.82	0.82	0.03	0.03	4.1	3.1
7.5	17	18	0.4	0.1	2.1	0.6

				BQS SRS T-219[3]		

10.7	10.23	10.13	0.46	0.31	4.5	3.1
845	858.04	862.99	34.97	12.28	4.1	1.4
3.51	3.56	3.66	0.06	0.07	1.6	1.8
10.3	10.36	9.83	0.61	1.29	5.9	13.2
36.2	36.13	36.47	1.64	0.87	4.6	2.4
0.22	0.22	0.23	0.01	0.01	6.0	3.0
0.588	0.61	0.63	0.03	0.02	5.6	3.6
0.826	0.81	0.79	0.04	0.02	4.4	2.0
0.341	0.74	0.70	0.09	0.14	11.8	20.2
19.9	19.48	19.16	0.68	0.33	3.5	1.7
20.7	21.79	21.82	1.03	0.74	4.7	3.4
219	218.89	220.02	5.95	2.62	2.7	1.2
2.67	2.76	2.77	0.09	0.04	3.3	1.6
1.78	2.16	1.99	0.42	0.40	19.4	20.0
2.57	2.51	2.47	0.12	0.08	4.7	3.4
1.26	1.23	1.26	0.06	0.02	4.7	1.9
0.62	0.47	0.50	0.01	0.02	1.2	4.4
135	135.15	138.25	4.80	2.47	3.5	1.8
5.7	5.69	5.59	0.28	0.25	4.9	4.5
1.58	1.54	1.56	0.05	0.04	3.0	2.7
3.35	3.38	3.31	0.08	0.08	2.3	2.3
NA	0.04	0.04	0.01	0.01	12.9	16.1
193	185.41	195.64	7.53	2.41	4.1	1.2

			High QC in same acid matrix as calibrators			
10	9.8	9.8	0.3	0.2	3.4	2.3
50	52	52	1	1	2.5	2.4
10	10.0	10.1	0.1	0.1	1.2	1.2
500	494	499	16	20	3.3	4.0
500	500	505	6	8	1.1	1.7
10	9.8	9.8	0.4	0.4	3.8	3.9
20	19	19	1	0.4	2.6	2.2
100	102	102	1	2	1.2	1.5
10	9.7	9.7	0.2	0.2	1.8	1.7
500	487	488	5	7	1.1	1.4
50	49	50	2	2	3.6	3.9
250	255	257	4	3	1.6	1.2
20	19	19	0.4	0.3	2.2	1.6
10	9.5	9.5	0.2	0.2	2.0	2.1
50	50	50	1	1	2.3	1.9
10	9.8	9.8	0.3	0.2	3.0	1.6
10	9.8	9.9	0.2	0.1	2.3	1.3
2500	2471	2487	27	26	1.1	1.0
10	10.4	10.3	0.4	0.3	4.0	2.7
10	9.7	9.6	0.4	0.3	3.7	2.6
20	19	19	0.3	0.3	1.8	1.7

10	10.0	10.1	0.3	0.2	3.2	2.0
100	99	99	3	3	3.2	2.9

Mean Recovery (%)		n		p	Expected Concentration or Spiked Amount (µg/L)	Mean (µg/L)	
0.4%	1%	0.4%	1%		Acid Matrix	0.4%	1%
93	92	8	8	0.5469	10	9.7	9.6
111	108	8	8	0.0781	50	53	52
100	104	8	8	0.0078	10	10	10
105	104	8	8	0.4609	500	494	502
99	100	8	8	0.9453	500	502	504
100	100	8	8	1.0000	10	10	10
98	99	8	8	0.3672	20	19	19
98	96	8	8	0.1953	100	101	100
97	95	8	8	0.0547	10	9.7	9.5
96	95	8	8	0.2344	500	483	479
103	100	8	8	0.7422	50	50	50
105	105	8	8	0.0234	250	255	254
97	95	8	8	0.0391	20	19	19
99	96	8	8	0.0781	10	9.5	9.4
99	95	8	8	0.0078	50	51	50
103	104	8	8	0.3125	10	10.0	9.9
98	103	8	8	0.1094	10	9.8	10.5
99	99	8	8	0.7734	2500	2459	2465
101	78	6	8	0.0313	10	11	10
94	94	7	8	0.9375	10	9.5	9.6
97	99	8	8	1.0000	20	20	19
104	98	8	8	0.0156	10	10	10
99	100	8	8	0.6416	100	99	104
92	94	4	4	NC	8	7.6	7.5
97	98	4	4	NC	2000	2000	2023
100	102	4	4	NC	40	40	41
102	101	4	4	NC	400	406	407

100	103	4	4	NC	400	446	449
99	100	4	4	NC	8	8.0	8.0
98	99	4	4	NC	40	39	39
94	92	4	4	NC	40	39	38
95	93	4	4	NC	75	75	73
86	87	4	4	NC	75	98	96
101	102	4	4	NC	75	81	80
95	95	4	3	NC	750	774	771
101	100	4	4	NC	75	84	83
92	91	4	4	NC	40	42	41
93	94	4	4	NC	75	74	74
98	101	4	4	NC	40	40	40
99	105	4	4	NC	8	8.0	8.4
99	99	4	4	NC	2000	2166	2186
98	98	3	4	NC	8	8.0	8.0
95	96	4	4	NC	75	78	76
97	98	4	4	NC	40	40	39
103	102	4	4	NC	8	8.2	8.2
95	94	4	4	NC	75	77	81

91	90	2	2	NC	8	7.4	7.6
95	100	2	2	NC	2000	1919	1982
98	102	2	2	NC	40	45	47
100	109	2	2	NC	400	406	414
95	100	2	2	NC	400	435	448
93	104	2	2	NC	8	7.9	8.0
92	98	2	2	NC	40	38	39
93	93	2	2	NC	40	38	38
94	94	2	2	NC	75	74	72
ND	ND	ND	ND	NC	75	ND	ND
92	112	2	2	NC	75	83	83
96	98	2	1	NC	750	721	734
96	97	2	2	NC	75	75	76
92	92	2	2	NC	40	38	38
90	93	2	2	NC	75	73	75
94	98	2	2	NC	40	39	41
98	109	2	2	NC	8	9.0	9.6
95	100	2	2	NC	2000	2221	2287
94	98	2	2	NC	8	7.8	8.1
93	96	2	2	NC	75	77	77
98	97	2	2	NC	40	43	42
101	101	2	2	NC	8	8.1	8.2
94	97	2	2	NC	75	81	85

96	95	8	8	0.3125
102	102	8	8	0.9453
102	104	8	8	0.0234
101	95	8	8	0.5469
100	101	8	8	0.5469
101	103	8	8	0.6406
103	107	8	8	0.1953
98	96	8	8	0.6406
218	205	8	8	0.0156
98	96	8	8	0.1953
105	105	8	8	1.0000
100	100	8	6	0.4375
103	104	8	8	0.9844
121	112	8	8	0.6094
98	96	8	8	0.4609
98	100	8	8	0.1094
75	81	8	8	0.0156
100	102	8	8	0.2500
100	98	7	8	0.4688
97	99	7	8	0.3281
101	99	8	8	0.0781
--	--	8	8	0.0078
96	101	8	8	0.0078

102	102	19	18	0.6095
97	96	19	18	0.3692
100	99	19	18	0.5723
101	100	19	18	0.3194
100	99	19	18	0.0310
102	102	19	18	0.8986
105	104	19	18	0.7019
98	98	19	18	0.4106
103	103	19	18	0.2645
103	102	19	18	0.6019
101	100	19	18	0.2645
98	97	19	18	0.2598
105	104	19	18	0.3409
105	105	19	18	0.5509
100	100	19	18	0.6019
102	102	19	18	0.7337
102	101	19	18	0.0814
101	101	19	18	0.0987
96	97	19	18	0.3410
103	104	19	18	0.6095
103	104	19	18	0.2507

100	99	19	18	0.8086
101	101	19	18	0.3060

Standard Deviation (µg/L)		Relative Standard Deviation (%)		Mean Recovery (%)		n		p
0.4%	1%	0.4%	1%	0.4%	1%	0.4%	1%	
		Blank High Spike						
0.5	0.3	4.8	3.0	97	96	8	8	0.1484
1.1	0.4	2.0	0.8	106	105	8	8	0.1406
0.2	0.1	1.7	1.4	100	102	8	8	0.0547
15	5	3.0	1.1	99	100	8	8	0.3125
8	6	1.6	1.3	100	101	8	8	0.9453
0.3	0.3	2.8	2.7	100	100	8	8	0.7422
0.8	0.4	4.0	2.1	97	97	8	8	0.7422
3	2	3.4	2.0	101	100	8	8	0.5469
0.3	0.2	3.0	1.7	97	95	8	8	0.0391
19	10	3.9	2.2	97	96	8	8	0.5469
1	1	2.5	2.8	101	100	8	8	0.5469
3	2	1.2	0.6	102	102	8	8	0.5781
0.6	0.3	3.0	1.6	97	96	8	8	0.3125
0.5	0.3	4.8	2.8	95	94	8	8	0.4609
1	1	2.6	1.9	103	99	8	8	0.0156
0.3	0.1	3.3	1.0	100	99	8	8	0.5469
0.3	0.1	3.3	1.4	98	105	8	8	0.0078
38	22	1.5	0.9	98	99	8	8	0.7188
0.5	0.4	4.3	4.4	110	101	5	8	0.0625
0.4	0.2	3.7	2.2	95	96	7	8	0.6875
0.5	0.3	2.7	1.6	98	96	8	8	0.0234
0.4	0.2	3.8	1.7	105	100	8	8	0.0078
5	2	4.5	1.6	99	104	8	8	0.0078
		Surface Water High Spike[2]						
0.3	0.3	4.4	3.3	96	94	5	5	NC
64	36	3.2	1.8	98	99	5	5	NC
1	1	1.6	1.5	100	102	5	5	NC
18	4	4.5	0.9	98	98	5	5	NC

10	9	2.2	2.1	102	103	5	5	NC
0.4	0.3	5.4	3.2	99	99	5	5	NC
2	1	5.6	2.1	98	98	5	5	NC
1	1	3.2	3.0	97	94	5	5	NC
2	3	2.4	4.4	100	97	5	5	NC
4	3	3.7	3.1	97	94	5	5	NC
3	3	4.0	3.3	98	97	5	5	NC
24	3	3.1	0.4	98	98	5	4	NC
3	1	3.7	1.6	102	100	5	5	NC
1	1	3.4	1.3	103	101	5	5	NC
2	2	2.8	3.2	99	99	5	5	NC
2	1	3.8	1.8	100	101	5	5	NC
0.2	0.2	2.5	2.9	98	104	5	5	NC
86	59	4.0	2.7	99	100	5	5	NC
0.5	0.2	5.6	2.7	100	100	3	5	NC
1	1	0.8	1.6	103	100	5	5	NC
1	1	2.4	2.3	99	95	5	5	NC
0.1	0.2	1.8	2.8	103	102	5	5	NC
4	2	4.9	2.7	96	100	5	5	NC

Groundwater High Spike[2]								
0.2	0.3	2.2	3.7	93	95	4	4	NC
37	43	1.9	2.1	96	99	4	4	NC
0.3	1	0.7	1.4	99	103	4	4	NC
16	10	4.0	2.4	96	98	4	4	NC
5	9	1.1	2.0	100	103	4	4	NC
0.4	0.3	5.3	3.6	98	100	4	4	NC
2	1	4.2	2.2	96	98	4	4	NC
1	1	2.8	2.9	96	95	4	4	NC
2	3	2.2	4.0	98	96	4	4	NC
ND	ND	ND	ND	ND	ND	ND	ND	NC
3	3	3.6	4.1	95	97	4	4	NC
12	9	1.7	1.2	96	98	4	3	NC
1	1	1.8	1.8	99	100	4	4	NC
0.5	0.4	1.2	1.1	93	93	4	4	NC
2	2	2.4	3.1	97	99	4	4	NC
1	1	2.7	2.1	98	101	4	4	NC
0.1	0.3	1.3	3.6	97	104	4	4	NC
63	60	2.8	2.6	97	100	4	4	NC
0.1	0.2	1.7	3.1	98	101	2	4	NC
1	1	1.7	1.3	101	100	4	4	NC
1	1	2.8	2.2	98	96	4	4	NC
0.2	0.3	2.2	3.2	101	102	4	4	NC
3	1	3.6	1.5	94	100	4	4	NC