Inter-laboratory Quality Control Material Data Sheet

QC Material ID: 10593-QC-PR12165

Product Type: Soil

Issue Date: 13 June 2025

Expiry Date: 31 March 2027

Test Name	Methods	n Value	Assigned Value	Assigned Range
Acid P (mg/kg)	Extr Acid P 9G1 9G2 (mg/kg)	11	21.0	14.5 - 27.5
Air-Dry Moist Content (%)	Air-Dry Moisture Content 2A1 (%)	27	2.80	2.53 - 3.07
Ammonium Nitrogen (mg/kg)	Amm-N 7C1 7C2 (mg/kg) **	19	24.9	21.9 - 27.9
Aqua Regia Aluminium (mg/kg)	Aqua Regia Al 17A2 17B1 17B 2 17C1 (mg/kg)	14	22,900	8914 - 36786
Aqua Regia Arsenic (mg/kg)	Aqua Regia As 17A2 17B1 17B 2 17C1 (mg/kg)	11	2.46	1.99 - 2.94
Aqua Regia Boron (mg/kg)	Aqua Regia B 17A2 17B1 17B 2 17C1 (mg/kg)	10	1.64	1.27 - 2.01
Aqua Regia Cadmium (mg/kg)	Aqua Regia Cd 17A2 17B1 17 B2 17C1 (mg/kg)	10	0.0630	0.0422 - 0.0838
Aqua Regia Calcium (mg/kg)	Aqua Regia Ca 17A2 17B1 17 B2 17C1 (mg/kg)	14	983	847 - 1119
Aqua Regia Chromium (mg/kg)	Aqua Regia Cr 17A2 17B1 17B 2 17C1 (mg/kg)	14	15.6	9.3 - 21.8
Aqua Regia Cobalt (mg/kg)	Aqua Regia Co 17A2 17B1 17 B2 17C1 (mg/kg)	12	12.8	9.8 - 15.8
Aqua Regia Copper (mg/kg)	Aqua Regia Cu 17A2 17B1 17 B2 17C1 (mg/kg)	14	8.28	6.70 - 9.87
Aqua Regia Iron (mg/kg)	Aqua Regia Fe 17A2 17B1 17B 2 17C1 (mg/kg)	15	48,500	35750 - 61250
Aqua Regia Lead (mg/kg)	Aqua Regia Pb 17A2 17B1 17 B2 17C1 (mg/kg)	13	9.80	8.61 - 10.99
Aqua Regia Magnesium (mg/kg)	Aqua Regia Mg 17A2 17B1 17 B2 17C1 (mg/kg)	15	535	357 - 713
Aqua Regia Manganese (mg/kg)	Aqua Regia Mn 17A2 17B1 17 B2 17C1 (mg/kg)	14	737	684 - 790
Aqua Regia Molybdenum (mg/kg)	Aqua Regia Mo 17A2 17B1 17 B2 17C1 (mg/kg)	10	0.981	0.440 - 1.522

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Version 2

Aqua Regia Nickel (mg/kg)	Aqua Regia Ni 17A2 17B1 17B 2 17C1 (mg/kg)	12	6.53	3.42 - 9.65
Aqua Regia Potassium (mg/kg)	Aqua Regia K 17A2 17B1 17B 2 17C1 (mg/kg)	14	311	6 - 616
Aqua Regia Selenium (mg/kg)	Aqua Regia Se 17A2 17B1 17 B2 17C1 (mg/kg)	9	1.31	0.00 - 2.88
Aqua Regia Sodium (mg/kg)	Aqua Regia Na 17A2 17B1 17 B2 17C1 (mg/kg)	13	58.2	30.9 - 85.5
Aqua Regia Sulphur (mg/kg)	Aqua Regia S 17A2 17B1 17B 2 17C1 (mg/kg)	13	340	298 - 382
Aqua Regia Zinc (mg/kg)	Aqua Regia Zn 17A2 17B1 17 B2 17C1 (mg/kg)	17	60.9	44.6 - 77.2
Bray P (mg/kg)	Extr P Bray 9E1 9E2 (mg/kg)	9	7.00	5.22 - 8.78
CaCl2 Extractable B (mg/kg)	CaCl2 Extractable B 12C1 12C 2 (mg/kg)	17	0.660	0.454 - 0.867
Colwell P (mg/kg)	Extr P Colwell 9B1 9B2 (mg/kg)	23	54.7	43.7 - 65.7
Electrical Cond (dS/m)	Elec Cond 3A1 (dS/m)	35	0.178	0.166 - 0.190
Exch Aluminium (cmol+/kg)	Exch Al 15G1 (cmol+/kg) **	12	0.493	0.413 - 0.573
Exch Calcium (cmol+/kg)	Exch Ca 15A1 (cmol+/kg) **	15	4.35	4.20 - 4.50
Exch Calcium (cmol+/kg)	Exch Ca 15D3 (cmol+/kg)	15	4.03	3.82 - 4.24
Exch Calcium (cmol+/kg)	Exch Ca 15E1 (cmol+/kg)	3 *	4.20	3.93 - 4.47
Exch Magnesium (cmol+/kg)	Exch Mg 15A1 (cmol+/kg) **	18	1.62	1.48 - 1.75
Exch Magnesium (cmol+/kg)	Exch Mg 15D3 (cmol+/kg)	16	1.63	1.47 - 1.79
Exch Potassium (cmol+/kg)	Exch K 15A1 (cmol+/kg) **	17	0.143	0.109 - 0.177
Exch Potassium (cmol+/kg)	Exch K 15D3 (cmol+/kg)	14	0.142	0.135 - 0.150
Exch Sodium (cmol+/kg)	Exch Na 15A1 (cmol+/kg) **	16	0.132	0.114 - 0.150
Exch Sodium (cmol+/kg)	Exch Na 15D3 (cmol+/kg)	14	0.127	0.118 - 0.136
Exch Sodium (cmol+/kg)	Exch Na 15E1 (cmol+/kg)	3 *	0.116	0.101 - 0.131
Ext Copper (mg/kg)	Extr Cu 12A1 (mg/kg)	23	1.22	0.92 - 1.52

Ext Iron (mg/kg)	Extr Fe 12A1 (mg/kg)	22	157	133 - 181
Ext Manganese (mg/kg)	Extr Mn 12A1 (mg/kg)	22	83.8	61.2 - 106.3
Ext Potassium (mg/kg)	Extr K 18A1 (mg/kg)	14	58.0	31.3 - 84.6
Ext Silicon (mg/kg)	Extr Si 13D1 13D2 (mg/kg)	4 *	283	257 - 308
Ext Sulphur (mg/kg)	Extr S 10B1 10B2 10B3 (mg/kg)	10	52.9	44.2 - 61.6
Ext Sulphur (mg/kg)	Extr S 10D1 (mg/kg)	12	19.7	18.2 - 21.2
Ext Zinc (mg/kg)	Extr Zn 12A1 (mg/kg)	21	2.84	2.40 - 3.28
Ext Zinc (mg/kg)	Extr Zn 12D1 (mg/kg)	3 *	5.14	4.28 - 6.00
M3-Aluminium (mg/kg)	M3-Al 18F1 (mg/kg)	15	1,040	889 - 1191
M3-Boron (mg/kg)	M3-B 18F1 (mg/kg)	11	0.248	0.173 - 0.322
M3-Calcium (mg/kg)	M3-Ca 18F1 (mg/kg)	13	795	721 - 869
M3-Copper (mg/kg)	M3-Cu 18F1 (mg/kg)	16	1.17	0.91 - 1.44
M3-Iron (mg/kg)	M3-Fe 18F1 (mg/kg)	16	316	188 - 444
M3-Magnesium (mg/kg)	M3-Mg 18F1 (mg/kg)	13	200	188 - 212
M3-Manganese (mg/kg)	M3-Mn 18F1 (mg/kg)	16	105	85 - 125
M3-Phosphorus (mg/kg)	M3-P ICP 18F1 (mg/kg)	16	14.9	9.3 - 20.6
M3-Potassium (mg/kg)	M3-K 18F1 (mg/kg)	13	57.0	48.4 - 65.6
M3-Sodium (mg/kg)	M3-Na 18F1 (mg/kg)	12	28.6	25.3 - 31.9
M3-Sulphur (mg/kg)	M3-S 18F1 (mg/kg)	12	35.0	28.9 - 41.1
M3-Zinc (mg/kg)	M3-Zn 18F1 (mg/kg)	14	3.51	3.02 - 4.00
Nitrate Nitrogen (mg/kg)	Nitrate N 7B1 7B2 (mg/kg)	10	60.6	54.2 - 67.0
Nitrate Nitrogen (mg/kg)	Nitrate N 7C1 7C2 (mg/kg)	20	58.1	54.8 - 61.4

Olsen P (mg/kg)	Extr P Olsen 9C1 9C2 (mg/kg)	17	13.6	11.8 - 15.3
Organic Carbon W&B (%)	Org C W&B 6A1 (%) **	17	2.21	1.85 - 2.57
PBI Colwell (L/kg)	PBI Colwell 9I2a 9I2b 9I2c (L/kg)	16	283	227 - 339
PBI Olsen (L/kg)	PBI Olsen 9I3a 9I3b 9I3c (L/kg)	3 *	282	267 - 297
PBI Unadjusted (L/kg)	PBI Unadjusted 9I4a 9I4b 9I4c (L/kg)	10	265	247 - 283
pH CaCl2 (pH units)	pH CaCl2 4B1 4B2 4B3 4B4 (pH Units)	25	4.41	4.38 - 4.44
pH Water (pH units)	pH Water 4A1 4A3 (pH Units)	36	4.85	4.70 - 5.00
Total Carbon (%)	Total C 6B2 (%)	28	2.43	2.28 - 2.58
Total Nitrogen (%)	Total N 7A1 7A2 7A3 (%) **	12	0.213	0.190 - 0.235
Total Nitrogen (%)	Total N 7A5 (%)	24	0.220	0.208 - 0.232
Total Organic Carbon (%)	Total Org C 6B1 6B3 (%) **	26	2.38	2.02 - 2.73
Total Phosphorus (%)	Total P Not Specified (%) **	18	0.102	0.091 - 0.114
Water Ext Cl (mg/kg)	Water Ext Cl 5A1 5A2 5A3 (mg/kg)	21	14.7	4.3 - 25.1

** n Values < 8 are indicative only and should be used with caution*

*** These methods should be reported on an oven dried basis (105°C) by using the formula given in method 2A1 of Rayment and Lyons 2011.*

Instructions for use: Due to possible moisture reabsorption, re-dry the sample at 40°C to constant weight prior to analysis

Description: 150g+ irradiated, packaged in plastic jar

Homogeneity: This QC material has been assessed as homogeneous for use in an Inter-Laboratory Proficiency Study

Stability: An expiry period consistent with the shelf life of the product, experience, and technical advice has been applied

Storage: Keep samples at a stable temperature < 25°C (eg in air conditioned storage). Reseal containers after each use. Do not store in sunlight.

Values: The *Assigned Value* is the consensus median from an inter-laboratory proficiency round excluding outliers; *n Values* are the number of results used to calculate the assigned value. The *Assigned Range* is 2 standard deviations of *n Values*.

Methods: Multiple methods were used in the preparation of these assigned values.

