Inter-laboratory Quality Control Material Data Sheet

QC Material ID: 13951-QC-PR12350

Product Type: Soil

Issue Date: 2 September 2025

Expiry Date: 6 June 2028

Test Name	Methods	n Value	Assigned Value	Assigned Range
Acid P (mg/kg)	Extr Acid P 9G1 9G2 (mg/kg)	7	3.40	2.81 - 3.99
Air-Dry Moist Content (%)	Air-Dry Moisture Content 2A1 (%)	26	2.81	1.91 - 3.71
Ammonium Nitrogen (mg/kg)	Amm-N 7C1 7C2 (mg/kg) **	18	5.40	4.58 - 6.22
Aqua Regia Aluminium (mg/kg)	Aqua Regia Al 17A2 17B1 17 B2 17C1 (mg/kg)	11	35,200	5845 - 64555
Aqua Regia Arsenic (mg/kg)	Aqua Regia As 17A2 17B1 17 B2 17C1 (mg/kg)	12	4.11	3.01 - 5.20
Aqua Regia Boron (mg/kg)	Aqua Regia B 17A2 17B1 17 B2 17C1 (mg/kg)	14	13.3	0.0 - 27.4
Aqua Regia Cadmium (mg/kg)	Aqua Regia Cd 17A2 17B1 17 B2 17C1 (mg/kg)	8	0.0095	0.0072 - 0.0118
Aqua Regia Calcium (mg/kg)	Aqua Regia Ca 17A2 17B1 17 B2 17C1 (mg/kg)	14	2,590	2318 - 2852
Aqua Regia Chromium (mg/kg)	Aqua Regia Cr 17A2 17B1 17 B2 17C1 (mg/kg)	13	44.5	25.2 - 63.8
Aqua Regia Cobalt (mg/kg)	Aqua Regia Co 17A2 17B1 17 B2 17C1 (mg/kg)	12	7.88	5.96 - 9.79
Aqua Regia Copper (mg/kg)	Aqua Regia Cu 17A2 17B1 17 B2 17C1 (mg/kg)	15	1.40	0.21 - 2.59
Aqua Regia Iron (mg/kg)	Aqua Regia Fe 17A2 17B1 17 B2 17C1 (mg/kg)	15	35,600	27594 - 43606
Aqua Regia Lead (mg/kg)	Aqua Regia Pb 17A2 17B1 17 B2 17C1 (mg/kg)	11	11.6	10.1 - 13.1
Aqua Regia Magnesium (mg/kg)	Aqua Regia Mg 17A2 17B1 17B2 17C1 (mg/kg)	15	3,000	1636 - 4364
Aqua Regia Manganese (mg/kg)	Aqua Regia Mn 17A2 17B1 17B2 17C1 (mg/kg)	16	43.2	19.9 - 66.4
Aqua Regia Molybdenum (mg/kg)	Aqua Regia Mo 17A2 17B1 17B2 17C1 (mg/kg)	11	0.497	0.000 - 1.099

Global Proficiency Ltd
10 Bisley Road, Enderley, Hamilton 3214, New Zealand
Unit 2/25 Mareno Road, Tullamarine, VIC 3043, Australia
p +64 7 850 4483 | +61 3 9089 1151
e sales@global-proficiency.com
w www.global-proficiency.com

Aqua Regia Nickel (mg/kg)	Aqua Regia Ni 17A2 17B1 17 B2 17C1 (mg/kg)	12	13.9	0.0 - 28.1
Aqua Regia Potassium (mg/kg)	Aqua Regia K 17A2 17B1 17 B2 17C1 (mg/kg)	14	5,660	2364 - 8946
Aqua Regia Selenium (mg/kg)	Aqua Regia Se 17A2 17B1 17 B2 17C1 (mg/kg)	5	0.600	0.407 - 0.793
Aqua Regia Sodium (mg/kg)	Aqua Regia Na 17A2 17B1 17 B2 17C1 (mg/kg)	11	1,240	1151 - 1329
Aqua Regia Sulphur (mg/kg)	Aqua Regia S 17A2 17B1 17 B2 17C1 (mg/kg)	12	186	142 - 230
Aqua Regia Zinc (mg/kg)	Aqua Regia Zn 17A2 17B1 17 B2 17C1 (mg/kg)	16	11.0	1.8 - 20.2
Bray P (mg/kg)	Extr P Bray 9E1 9E2 (mg/kg)	4	0.816	0.000 - 2.029
CaCl2 Extractable B (mg/kg)	CaCl2 Extractable B 12C1 12 C2 (mg/kg)	11	1.94	1.52 - 2.36
Colwell P (mg/kg)	Extr P Colwell 9B1 9B2 (mg/k g)	17	4.40	0.84 - 7.96
Electrical Cond (dS/m)	Elec Cond 3A1 (dS/m)	32	1.28	1.18 - 1.39
Exch Aluminium (cmol+/kg)	Exch Al 15G1 (cmol+/kg) **	10	0.0121	0.0000 - 0.0314
Exch Calcium (cmol+/kg)	Exch Ca 15A1 (cmol+/kg) **	16	12.9	11.3 - 14.6
Exch Calcium (cmol+/kg)	Exch Ca 15D3 (cmol+/kg)	11	12.6	12.0 - 13.2
Exch Calcium (cmol+/kg)	Exch Ca 15E1 (cmol+/kg)	3	10.9	10.3 - 11.5
Exch Magnesium (cmol+/kg)	Exch Mg 15A1 (cmol+/kg) **	10	6.60	6.48 - 6.72
Exch Magnesium (cmol+/kg)	Exch Mg 15D3 (cmol+/kg)	9	6.34	6.22 - 6.46
Exch Magnesium (cmol+/kg)	Exch Mg 15E1 (cmol+/kg)	3	6.05	5.96 - 6.14
Exch Potassium (cmol+/kg)	Exch K 15D3 (cmol+/kg)	13	1.37	1.25 - 1.49
Exch Potassium (cmol+/kg)	Exch K 15E1 (cmol+/kg)	3	1.21	1.12 - 1.30
Exch Potassium (cmol+/kg)	Exch K 15A1 (cmol+/kg) **	15	1.48	1.36 - 1.60
Exch Sodium (cmol+/kg)	Exch Na 15A1 (cmol+/kg) **	15	4.36	3.94 - 4.78
Exch Sodium (cmol+/kg)	Exch Na 15E1 (cmol+/kg)	3	3.97	3.41 - 4.53



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w www.global-proficiency.com

Exch Sodium (cmol+/kg)	Exch Na 15D3 (cmol+/kg)	10	4.18	3.98 - 4.37
Ext Copper (mg/kg)	Extr Cu 12A1 (mg/kg)	12	0.150	0.134 - 0.166
Ext Iron (mg/kg)	Extr Fe 12A1 (mg/kg)	18	10.9	7.3 - 14.4
Ext Manganese (mg/kg)	Extr Mn 12A1 (mg/kg)	15	4.60	4.10 - 5.10
Ext Potassium (mg/kg)	Extr K 18A1 (mg/kg)	11	420	301 - 539
Ext Silicon (mg/kg)	Extr Si 13D1 13D2 (mg/kg)	5	915	737 - 1093
Ext Sulphur (mg/kg)	Extr S 10B1 10B2 10B3 (mg/kg)	8	156	128 - 184
Ext Sulphur (mg/kg)	Extr S 10D1 (mg/kg)	12	120	108 - 131
Ext Zinc (mg/kg)	Extr Zn 12A1 (mg/kg)	13	0.417	0.375 - 0.459
Ext Zinc (mg/kg)	Extr Zn 12D1 (mg/kg)	4	0.425	0.249 - 0.601
M3-Aluminium (mg/kg)	M3-Al 18F1 (mg/kg)	14	905	731 - 1078
M3-Boron (mg/kg)	M3-B 18F1 (mg/kg)	12	2.23	1.84 - 2.62
M3-Calcium (mg/kg)	M3-Ca 18F1 (mg/kg)	9	2,290	2201 - 2379
M3-Copper (mg/kg)	M3-Cu 18F1 (mg/kg)	12	0.226	0.162 - 0.289
M3-Iron (mg/kg)	M3-Fe 18F1 (mg/kg)	10	40.8	36.4 - 45.2
M3-Magnesium (mg/kg)	M3-Mg 18F1 (mg/kg)	12	762	722 - 802
M3-Manganese (mg/kg)	M3-Mn 18F1 (mg/kg)	10	6.76	6.35 - 7.16
M3-Phosphorus (mg/kg)	M3-P ICP 18F1 (mg/kg)	12	0.912	0.503 - 1.321
M3-Potassium (mg/kg)	M3-K 18F1 (mg/kg)	13	506	453 - 559
M3-Sodium (mg/kg)	M3-Na 18F1 (mg/kg)	13	915	841 - 989
M3-Sulphur (mg/kg)	M3-S 18F1 (mg/kg)	10	131	128 - 133
M3-Zinc (mg/kg)	M3-Zn 18F1 (mg/kg)	13	0.526	0.315 - 0.737



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Nitrate Nitrogen (mg/kg)	Nitrate N 7B1 7B2 (mg/kg)	9	10.3	7.93 - 12.67
Nitrate Nitrogen (mg/kg)	Nitrate N 7C1 7C2 (mg/kg)	18	9.37	8.21 - 10.53
Olsen P (mg/kg)	Extr P Olsen 9C1 9C2 (mg/kg)	12	1.42	0.71 - 2.13
Organic Carbon W&B (%)	Org C W&B 6A1 (%) **	10	0.190	0.175 - 0.205
PBI Colwell (L/kg)	PBI Colwell 9I2a 9I2b 9I2c (L/kg)	10	233	219 - 246
PBI Unadjusted (L/kg)	PBI Unadjusted 9I4a 9I4b 9I4c (L/kg)	7	235	191 - 279
pH CaCl2 (pH units)	pH CaCl2 4B1 4B2 4B3 4B4 (pH Units)	25	6.50	6.26 - 6.74
pH Water (pH units)	pH Water 4A1 4A3 (pH Units)	33	6.77	6.47 - 7.07
Total Carbon (%)	Total C 6B2 (%)	23	0.194	0.152 - 0.236
Total Nitrogen (%)	Total N 7A1 7A2 7A3 (%) **	9	0.0221	0.0147 - 0.0295
Total Nitrogen (%)	Total N 7A5 (%)	21	0.0239	0.0147 - 0.0331
Total Org C IR (%)	Total Org Carbon IR 6B4a 6B4b (%)	3	0.190	0.160 - 0.220
Total Organic Carbon (%)	Total Org C 6B1 6B3 (%) **	18	0.182	0.145 - 0.219
Total Organic Matter (%)	Total Org Matter 6G1 (%)	3	5.11	1.82 - 8.40
Total Phosphorus (%)	Total P Not Specified (%) **	18	0.0051	0.0016 - 0.0085
Water Ext Cl (mg/kg)	Water Ext Cl 5A1 5A2 5A3 (mg/kg)	17	1,710	1502 - 1918

** 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



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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.



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