Inter-laboratory Quality Control Material Data Sheet

QC Material ID: 13954-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)	9	21.6	16.9 - 26.3
Air-Dry Moist Content (%)	Air-Dry Moisture Content 2A1 (%)	29	0.340	0.103 - 0.577
Ammonium Nitrogen (mg/kg)	Amm-N 7C1 7C2 (mg/kg) **	20	6.03	4.81 - 7.25
Aqua Regia Aluminium (mg/kg)	Aqua Regia Al 17A2 17B1 17B 2 17C1 (mg/kg)	11	712	528 - 896
Aqua Regia Arsenic (mg/kg)	Aqua Regia As 17A2 17B1 17B 2 17C1 (mg/kg)	9	0.730	0.641 - 0.819
Aqua Regia Boron (mg/kg)	Aqua Regia B 17A2 17B1 17B 2 17C1 (mg/kg)	10	0.650	0.000 - 1.615
Aqua Regia Cadmium (mg/kg)	Aqua Regia Cd 17A2 17B1 17 B2 17C1 (mg/kg)	10	0.0110	0.0000 - 0.0229
Aqua Regia Calcium (mg/kg)	Aqua Regia Ca 17A2 17B1 17 B2 17C1 (mg/kg)	15	435	355 - 515
Aqua Regia Chromium (mg/kg)	Aqua Regia Cr 17A2 17B1 17B 2 17C1 (mg/kg)	13	3.35	2.31 - 4.39
Aqua Regia Cobalt (mg/kg)	Aqua Regia Co 17A2 17B1 17 B2 17C1 (mg/kg)	7	0.295	0.265 - 0.325
Aqua Regia Copper (mg/kg)	Aqua Regia Cu 17A2 17B1 17 B2 17C1 (mg/kg)	14	1.48	0.88 - 2.07
Aqua Regia Iron (mg/kg)	Aqua Regia Fe 17A2 17B1 17B 2 17C1 (mg/kg)	10	1,310	1266 - 1354
Aqua Regia Lead (mg/kg)	Aqua Regia Pb 17A2 17B1 17 B2 17C1 (mg/kg)	12	4.40	3.51 - 5.29
Aqua Regia Magnesium (mg/kg)	Aqua Regia Mg 17A2 17B1 17 B2 17C1 (mg/kg)	14	140	105 - 174
Aqua Regia Manganese (mg/kg)	Aqua Regia Mn 17A2 17B1 17 B2 17C1 (mg/kg)	14	7.77	5.04 - 10.50
Aqua Regia Molybdenum (mg/kg)	Aqua Regia Mo 17A2 17B1 17 B2 17C1 (mg/kg)	9	0.255	0.107 - 0.403

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Version 2

Aqua Regia Nickel (mg/kg)	Aqua Regia Ni 17A2 17B1 17B 2 17C1 (mg/kg)	12	1.80	0.97 - 2.63
Aqua Regia Potassium (mg/kg)	Aqua Regia K 17A2 17B1 17B 2 17C1 (mg/kg)	12	99.2	83.8 - 114.6
Aqua Regia Selenium (mg/kg)	Aqua Regia Se 17A2 17B1 17 B2 17C1 (mg/kg)	7	0.120	0.040 - 0.200
Aqua Regia Sodium (mg/kg)	Aqua Regia Na 17A2 17B1 17 B2 17C1 (mg/kg)	12	68.4	48.7 - 88.1
Aqua Regia Sulphur (mg/kg)	Aqua Regia S 17A2 17B1 17B 2 17C1 (mg/kg)	12	99.0	78.2 - 119.8
Aqua Regia Zinc (mg/kg)	Aqua Regia Zn 17A2 17B1 17 B2 17C1 (mg/kg)	14	6.79	5.32 - 8.26
Bray P (mg/kg)	Extr P Bray 9E1 9E2 (mg/kg)	6	14.7	12.9 - 16.5
CaCl2 Extractable B (mg/kg)	CaCl2 Extractable B 12C1 12C 2 (mg/kg)	12	0.295	0.239 - 0.351
Colwell P (mg/kg)	Extr P Colwell 9B1 9B2 (mg/kg)	18	18.1	12.8 - 23.5
Electrical Cond (dS/m)	Elec Cond 3A1 (dS/m)	29	0.120	0.108 - 0.132
Exch Aluminium (cmol+/kg)	Exch Al 15G1 (cmol+/kg) **	9	0.0467	0.0251 - 0.0683
Exch Calcium (cmol+/kg)	Exch Ca 15A1 (cmol+/kg) **	11	1.62	1.47 - 1.77
Exch Calcium (cmol+/kg)	Exch Ca 15D3 (cmol+/kg)	15	1.63	1.36 - 1.90
Exch Calcium (cmol+/kg)	Exch Ca 15E1 (cmol+/kg)	3	1.72	1.39 - 2.05
Exch Magnesium (cmol+/kg)	Exch Mg 15A1 (cmol+/kg) **	14	0.569	0.499 - 0.639
Exch Magnesium (cmol+/kg)	Exch Mg 15D3 (cmol+/kg)	10	0.581	0.550 - 0.612
Exch Magnesium (cmol+/kg)	Exch Mg 15E1 (cmol+/kg)	3	0.560	0.471 - 0.649
Exch Potassium (cmol+/kg)	Exch K 15A1 (cmol+/kg) **	14	0.109	0.081 - 0.138
Exch Potassium (cmol+/kg)	Exch K 15D3 (cmol+/kg)	14	0.111	0.090 - 0.131
Exch Potassium (cmol+/kg)	Exch K 15E1 (cmol+/kg)	3	0.110	0.080 - 0.140
Exch Sodium (cmol+/kg)	Exch Na 15A1 (cmol+/kg) **	14	0.269	0.187 - 0.350
Exch Sodium (cmol+/kg)	Exch Na 15E1 (cmol+/kg)	3	0.249	0.187 - 0.311



Exch Sodium (cmol+/kg)	Exch Na 15D3 (cmol+/kg)	12	0.258	0.216 - 0.300
Ext Copper (mg/kg)	Extr Cu 12A1 (mg/kg)	15	0.366	0.324 - 0.408
Ext Iron (mg/kg)	Extr Fe 12A1 (mg/kg)	17	118	88 - 148
Ext Manganese (mg/kg)	Extr Mn 12A1 (mg/kg)	17	2.88	2.52 - 3.24
Ext Potassium (mg/kg)	Extr K 18A1 (mg/kg)	9	50.0	32.2 - 67.8
Ext Silicon (mg/kg)	Extr Si 13D1 13D2 (mg/kg)	4	37.0	20.1 - 53.9
Ext Sulphur (mg/kg)	Extr S 10B1 10B2 10B3 (mg/kg)	8	21.5	18.6 - 24.3
Ext Sulphur (mg/kg)	Extr S 10D1 (mg/kg)	11	21.7	19.6 - 23.8
Ext Zinc (mg/kg)	Extr Zn 12A1 (mg/kg)	17	3.80	3.36 - 4.24
Ext Zinc (mg/kg)	Extr Zn 12D1 (mg/kg)	4	4.50	4.19 - 4.81
M3-Aluminium (mg/kg)	M3-Al 18F1 (mg/kg)	14	253	204 - 302
M3-Boron (mg/kg)	M3-B 18F1 (mg/kg)	9	0.200	0.158 - 0.242
M3-Calcium (mg/kg)	M3-Ca 18F1 (mg/kg)	10	352	334 - 369
M3-Copper (mg/kg)	M3-Cu 18F1 (mg/kg)	14	0.507	0.403 - 0.611
M3-Iron (mg/kg)	M3-Fe 18F1 (mg/kg)	13	190	160 - 220
M3-Magnesium (mg/kg)	M3-Mg 18F1 (mg/kg)	13	70.9	61.7 - 80.1
M3-Manganese (mg/kg)	M3-Mn 18F1 (mg/kg)	14	3.03	2.46 - 3.59
M3-Phosphorus (mg/kg)	M3-P ICP 18F1 (mg/kg)	14	20.8	16.9 - 24.7
M3-Potassium (mg/kg)	M3-K 18F1 (mg/kg)	13	42.3	34.6 - 50.0
M3-Sodium (mg/kg)	M3-Na 18F1 (mg/kg)	12	58.1	51.1 - 65.1
M3-Sulphur (mg/kg)	M3-S 18F1 (mg/kg)	13	25.0	21.1 - 28.9
M3-Zinc (mg/kg)	M3-Zn 18F1 (mg/kg)	9	4.45	4.30 - 4.60



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Nitrate Nitrogen (mg/kg)	Nitrate N 7B1 7B2 (mg/kg)	9	11.0	7.4 - 14.6
Nitrate Nitrogen (mg/kg)	Nitrate N 7C1 7C2 (mg/kg)	18	11.5	10.0 - 13.0
Olsen P (mg/kg)	Extr P Olsen 9C1 9C2 (mg/kg)	15	11.3	9.2 - 13.4
Organic Carbon W&B (%)	Org C W&B 6A1 (%) **	11	0.963	0.877 - 1.049
PBI Colwell (L/kg)	PBI Colwell 9I2a 9I2b 9I2c (L/kg)	12	24.0	17.6 - 30.3
PBI Unadjusted (L/kg)	PBI Unadjusted 9I4a 9I4b 9I4c (L/kg)	9	20.0	0.4 - 39.6
pH CaCl2 (pH units)	pH CaCl2 4B1 4B2 4B3 4B4 (pH Units)	26	4.64	4.52 - 4.75
pH Water (pH units)	pH Water 4A1 4A3 (pH Units)	34	5.47	5.29 - 5.65
Total Carbon (%)	Total C 6B2 (%)	21	1.07	0.98 - 1.16
Total Nitrogen (%)	Total N 7A1 7A2 7A3 (%) **	8	0.0514	0.0442 - 0.0587
Total Nitrogen (%)	Total N 7A5 (%)	23	0.0528	0.0415 - 0.0641
Total Org C IR (%)	Total Org Carbon IR 6B4a 6B4b (%)	3	0.990	0.55 - 1.43
Total Organic Carbon (%)	Total Org C 6B1 6B3 (%) **	24	1.01	0.75 - 1.28
Total Organic Matter (%)	Total Org Matter 6G1 (%)	4	2.07	1.55 - 2.59
Total Phosphorus (%)	Total P Not Specified (%) **	16	0.0047	0.0038 - 0.0056
Water Ext Cl (mg/kg)	Water Ext Cl 5A1 5A2 5A3 (mg/kg)	15	58.1	51.3 - 64.9

** 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.

