Inter-laboratory Quality Control Material Data Sheet

QC Material ID: 12150-QC-PR12388

Product Type: Soil

Issue Date: 30 October 2025

Expiry Date: 30 June 2027

Test Name	Methods	n Value	Assigned Value	Assigned Range
Acid P (mg/kg)	Extr Acid P 9G1 9G2 (mg/kg)	9	845	753 - 937
Air-Dry Moist Content (%)	Air-Dry Moisture Content 2A1 (%)	25	7.89	6.14 - 9.64
Ammonium Nitrogen (mg/kg)	Amm-N 7C1 7C2 (mg/kg) **	19	9.69	8.62 - 10.76
Aqua Regia Aluminium (mg/kg)	Aqua Regia Al 17A2 17B1 17 B2 17C1 (mg/kg)	15	31,700	17467 - 45933
Aqua Regia Arsenic (mg/kg)	Aqua Regia As 17A2 17B1 17 B2 17C1 (mg/kg)	14	1.22	0.00 - 2.50
Aqua Regia Boron (mg/kg)	Aqua Regia B 17A2 17B1 17 B2 17C1 (mg/kg)	13	3.50	0.00 - 8.84
Aqua Regia Cadmium (mg/kg)	Aqua Regia Cd 17A2 17B1 17 B2 17C1 (mg/kg)	12	0.0775	0.0345 - 0.1205
Aqua Regia Calcium (mg/kg)	Aqua Regia Ca 17A2 17B1 17 B2 17C1 (mg/kg)	17	11,300	9521 - 13079
Aqua Regia Chromium (mg/kg)	Aqua Regia Cr 17A2 17B1 17 B2 17C1 (mg/kg)	12	128	113 - 142
Aqua Regia Cobalt (mg/kg)	Aqua Regia Co 17A2 17B1 17 B2 17C1 (mg/kg)	12	52.9	49.2 - 56.6
Aqua Regia Copper (mg/kg)	Aqua Regia Cu 17A2 17B1 17 B2 17C1 (mg/kg)	14	34.5	29.1 - 39.8
Aqua Regia Iron (mg/kg)	Aqua Regia Fe 17A2 17B1 17 B2 17C1 (mg/kg)	12	67,900	63550 - 72150
Aqua Regia Lead (mg/kg)	Aqua Regia Pb 17A2 17B1 17 B2 17C1 (mg/kg)	12	3.11	2.56 - 3.65
Aqua Regia Magnesium (mg/kg)	Aqua Regia Mg 17A2 17B1 17B2 17C1 (mg/kg)	16	9,870	8234 - 11496
Aqua Regia Manganese (mg/kg)	Aqua Regia Mn 17A2 17B1 17B2 17C1 (mg/kg)	18	1,420	1064 - 1776
Aqua Regia Molybdenum (mg/kg)	Aqua Regia Mo 17A2 17B1 17B2 17C1 (mg/kg)	10	0.381	0.126 - 0.636

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Aqua Regia Nickel (mg/kg)	Aqua Regia Ni 17A2 17B1 17 B2 17C1 (mg/kg)	12	134	94 - 174
Aqua Regia Phosphorus (mg/kg)	Aqua Regia P 17A2 17B1 17B 2 17C1 (mg/kg)	9	1,790	1434 - 2146
Aqua Regia Potassium (mg/kg)	Aqua Regia K 17A2 17B1 17 B2 17C1 (mg/kg)	15	2,200	1874 - 2526
Aqua Regia Selenium (mg/kg)	Aqua Regia Se 17A2 17B1 17 B2 17C1 (mg/kg)	9	0.559	0.203 - 0.915
Aqua Regia Sodium (mg/kg)	Aqua Regia Na 17A2 17B1 17 B2 17C1 (mg/kg)	16	217	143 - 291
Aqua Regia Sulphur (mg/kg)	Aqua Regia S 17A2 17B1 17 B2 17C1 (mg/kg)	9	160	151 - 169
Aqua Regia Zinc (mg/kg)	Aqua Regia Zn 17A2 17B1 17 B2 17C1 (mg/kg)	16	94.5	69.3 - 119.7
Bray P (mg/kg)	Extr P Bray 9E1 9E2 (mg/kg)	7	24.0	20.1 - 27.9
CaCl2 Extractable B (mg/kg)	CaCl2 Extractable B 12C1 12 C2 (mg/kg)	16	0.641	0.315 - 0.967
Colwell P (mg/kg)	Extr P Colwell 9B1 9B2 (mg/k g)	19	93.0	81.7 - 104.3
Electrical Cond (dS/m)	Elec Cond 3A1 (dS/m)	31	0.292	0.248 - 0.336
Exch Aluminium (cmol+/kg)	Exch Al 15G1 (cmol+/kg) **	10	0.0059	0.0000 - 0.0162
Exch Calcium (cmol+/kg)	Exch Ca 15E1 (cmol+/kg)	3	31.3	29.8 - 32.8
Exch Calcium (cmol+/kg)	Exch Ca 15A1 (cmol+/kg) **	16	33.5	26.7 - 40.3
Exch Calcium (cmol+/kg)	Exch Ca 15D3 (cmol+/kg)	11	32.2	31.0 - 33.4
Exch Magnesium (cmol+/kg)	Exch Mg 15E1 (cmol+/kg)	3	14.8	13.6 - 16.0
Exch Magnesium (cmol+/kg)	Exch Mg 15A1 (cmol+/kg) **	16	15.8	13.4 - 18.2
Exch Magnesium (cmol+/kg)	Exch Mg 15D3 (cmol+/kg)	14	15.1	13.9 - 16.2
Exch Potassium (cmol+/kg)	Exch K 15E1 (cmol+/kg)	3	1.26	1.08 - 1.44
Exch Potassium (cmol+/kg)	Exch K 15A1 (cmol+/kg) **	16	1.60	1.32 - 1.88
Exch Potassium (cmol+/kg)	Exch K 15D3 (cmol+/kg)	16	1.53	1.28 - 1.78
Exch Sodium (cmol+/kg)	Exch Na 15E1 (cmol+/kg)	3	0.178	0.134 - 0.222

Exch Sodium (cmol+/kg)	Exch Na 15A1 (cmol+/kg) **	12	0.209	0.181 - 0.238
Exch Sodium (cmol+/kg)	Exch Na 15D3 (cmol+/kg)	11	0.186	0.174 - 0.198
Ext Copper (mg/kg)	Extr Cu 12A1 (mg/kg)	19	1.73	1.46 - 2.00
Ext Iron (mg/kg)	Extr Fe 12A1 (mg/kg)	17	19.9	14.0 - 25.8
Ext Manganese (mg/kg)	Extr Mn 12A1 (mg/kg)	19	62.8	49.5 - 76.1
Ext Potassium (mg/kg)	Extr K 18A1 (mg/kg)	9	567	514 - 620
Ext Silicon (mg/kg)	Extr Si 13D1 13D2 (mg/kg)	5	1,990	1693 - 2287
Ext Sulphur (mg/kg)	Extr S 10D1 (mg/kg)	12	20.0	17.8 - 22.3
Ext Sulphur (mg/kg)	Extr S 10B1 10B2 10B3 (mg/kg)	9	23.0	21.5 - 24.5
Ext Zinc (mg/kg)	Extr Zn 12A1 (mg/kg)	16	0.904	0.785 - 1.022
Ext Zinc (mg/kg)	Extr Zn 12D1 (mg/kg)	3	2.94	2.41 - 3.47
M3-Aluminium (mg/kg)	M3-Al 18F1 (mg/kg)	15	780	676 - 884
M3-Boron (mg/kg)	M3-B 18F1 (mg/kg)	9	1.00	0.911 - 1.089
M3-Calcium (mg/kg)	M3-Ca 18F1 (mg/kg)	14	6,320	5737 - 6893
M3-Copper (mg/kg)	M3-Cu 18F1 (mg/kg)	16	3.02	2.20 - 3.83
M3-Iron (mg/kg)	M3-Fe 18F1 (mg/kg)	16	192	142 - 242
M3-Magnesium (mg/kg)	M3-Mg 18F1 (mg/kg)	11	1,840	1781 - 1899
M3-Manganese (mg/kg)	M3-Mn 18F1 (mg/kg)	16	175	125 - 225
M3-Phosphorus (mg/kg)	M3-P ICP 18F1 (mg/kg)	16	50.8	41.8 - 59.9
M3-Potassium (mg/kg)	M3-K 18F1 (mg/kg)	15	546	457 - 635
M3-Sodium (mg/kg)	M3-Na 18F1 (mg/kg)	12	44.5	38.2 - 50.9
M3-Sulphur (mg/kg)	M3-S 18F1 (mg/kg)	14	23.0	19.0 - 27.0



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M3-Zinc (mg/kg)	M3-Zn 18F1 (mg/kg)	14	2.18	1.90 - 2.47
Nitrate Nitrogen (mg/kg)	Nitrate N 7B1 7B2 (mg/kg)	9	71.8	66.8 - 76.8
Nitrate Nitrogen (mg/kg)	Nitrate N 7C1 7C2 (mg/kg)	15	66.9	62.5 - 71.3
Olsen P (mg/kg)	Extr P Olsen 9C1 9C2 (mg/kg)	12	36.0	33.1 - 38.8
Organic Carbon W&B (%)	Org C W&B 6A1 (%) **	12	1.46	1.29 - 1.62
PBI Colwell (L/kg)	PBI Colwell 9I2a 9I2b 9I2c (L/kg)	12	157	132 - 182
PBI Unadjusted (L/kg)	PBI Unadjusted 9I4a 9I4b 9I4c (L/kg)	8	133	101 - 164
pH CaCl2 (pH units)	pH CaCl2 4B1 4B2 4B3 4B4 (pH Units)	29	7.23	6.90 - 7.56
pH Water (pH units)	pH Water 4A1 4A3 (pH Units)	36	7.68	7.40 - 7.97
Total Carbon (%)	Total C 6B2 (%)	27	1.76	1.52 - 2.00
Total Nitrogen (%)	Total N 7A5 (%)	24	0.145	0.129 - 0.161
Total Nitrogen (%)	Total N 7A1 7A2 7A3 (%) **	9	0.140	0.110 - 0.170
Total Organic Carbon (%)	Total Org C 6B1 6B3 (%) **	24	1.70	1.32 - 2.07
Total Organic Matter (%)	Total Org Matter 6G1 (%)	5	6.28	1.54 - 11.02
Total Phosphorus (%)	Total P Not Specified (%) **	22	0.173	0.120 - 0.226
Water Ext Cl (mg/kg)	Water Ext Cl 5A1 5A2 5A3 (mg/kg)	20	37.0	25.5 - 48.6

** 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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