Inter-laboratory Quality Control Material Data Sheet

QC Material ID: 13040-QC-PR10730

Product Type: Soil

Issue Date: 11 September 2025

Expiry Date: 30 September 2027

Test Name	Methods	n Value	Assigned Value	Assigned Range
Acid P (mg/kg)	Extr Acid P 9G1 9G2 (mg/kg)	12	301	229 - 372
Air-Dry Moist Content (%)	Air-Dry Moisture Content 2A1 (%)	24	1.49	1.23 - 1.74
Ammonium Nitrogen (mg/kg)	Amm-N 7C2 (mg/kg) **	18	74.3	69.2 - 79.3
Aqua Regia Aluminium (mg/kg)	Aqua Regia Al 17A2 17B1 17 B2 17C1 (mg/kg)	14	5,210	1830 - 8590
Aqua Regia Arsenic (mg/kg)	Aqua Regia As 17A2 17B1 17 B2 17C1 (mg/kg)	14	2.58	1.27 - 3.88
Aqua Regia Boron (mg/kg)	Aqua Regia B 17A2 17B1 17 B2 17C1 (mg/kg)	11	3.50	2.02 - 4.98
Aqua Regia Cadmium (mg/kg)	Aqua Regia Cd 17A2 17B1 17 B2 17C1 (mg/kg)	8	0.0742	0.0629 - 0.0854
Aqua Regia Calcium (mg/kg)	Aqua Regia Ca 17A2 17B1 17 B2 17C1 (mg/kg)	14	4,520	3838 - 5202
Aqua Regia Chromium (mg/kg)	Aqua Regia Cr 17A2 17B1 17 B2 17C1 (mg/kg)	15	32.5	14.4 - 50.6
Aqua Regia Cobalt (mg/kg)	Aqua Regia Co 17A2 17B1 17 B2 17C1 (mg/kg)	12	2.32	1.76 - 2.88
Aqua Regia Copper (mg/kg)	Aqua Regia Cu 17A2 17B1 17 B2 17C1 (mg/kg)	14	11.9	9.6 - 14.1
Aqua Regia Iron (mg/kg)	Aqua Regia Fe 17A2 17B1 17 B2 17C1 (mg/kg)	14	6,680	4693 - 8667
Aqua Regia Lead (mg/kg)	Aqua Regia Pb 17A2 17B1 17 B2 17C1 (mg/kg)	12	23.3	18.6 - 28.0
Aqua Regia Magnesium (mg/kg)	Aqua Regia Mg 17A2 17B1 17B2 17C1 (mg/kg)	14	1,260	1092 - 1418
Aqua Regia Manganese (mg/kg)	Aqua Regia Mn 17A2 17B1 17B2 17C1 (mg/kg)	15	67.3	47.1 - 87.5
Aqua Regia Molybdenum (mg/kg)	Aqua Regia Mo 17A2 17B1 17B2 17C1 (mg/kg)	11	2.10	1.12 - 3.08

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Aqua Regia Potassium (mg/kg)	Aqua Regia K 17A2 17B1 17 B2 17C1 (mg/kg)	16	1,560	1110 - 2000
Aqua Regia Selenium (mg/kg)	Aqua Regia Se 17A2 17B1 17 B2 17C1 (mg/kg)	9	0.324	0.000 - 0.810
Aqua Regia Silicon (mg/kg)	Aqua Regia Si 17A2 17B1 17 B2 17C1 (mg/kg)	8	581	121 - 1040
Aqua Regia Sodium (mg/kg)	Aqua Regia Na 17A2 17B1 17 B2 17C1 (mg/kg)	13	428	342 - 514
Aqua Regia Sulphur (mg/kg)	Aqua Regia S 17A2 17B1 17 B2 17C1 (mg/kg)	11	729	554 - 904
Aqua Regia Zinc (mg/kg)	Aqua Regia Zn 17A2 17B1 17 B2 17C1 (mg/kg)	15	37.3	30.5 - 44.1
Bray P (mg/kg)	Extr P Bray 9E1 9E2 (mg/kg)	10	97.4	36.9 - 157.9
CaCl2 Extractable B (mg/kg)	CaCl2 Extractable B 12C1 12 C2 (mg/kg)	16	1.54	1.17 - 1.92
Colwell P (mg/kg)	Extr P Colwell 9B1 9B2 (mg/k g)	17	136	127 - 145
Electrical Cond (dS/m)	Elec Cond 3A1 (dS/m)	31	0.981	0.883 - 1.079
Exch Aluminium (cmol+/kg)	Exch Al 15G1 (cmol+/kg) **	9	0.0140	0.0000 - 0.0407
Exch Calcium (cmol+/kg)	Exch Ca 15E1 (cmol+/kg)	3	11.2	10.9 - 11.5
Exch Calcium (cmol+/kg)	Exch Ca 15D3 (cmol+/kg)	16	11.4	10.2 - 12.5
Exch Calcium (cmol+/kg)	Exch Ca 15A1 (cmol+/kg) **	17	11.5	10.0 - 13.0
Exch Magnesium (cmol+/kg)	Exch Mg 15A1 (cmol+/kg) **	14	3.12	2.90 - 3.34
Exch Magnesium (cmol+/kg)	Exch Mg 15D3 (cmol+/kg)	19	2.99	2.66 - 3.32
Exch Magnesium (cmol+/kg)	Exch Mg 15E1 (cmol+/kg)	3	3.22	2.86 - 3.58
Exch Potassium (cmol+/kg)	Exch K 15A1 (cmol+/kg) **	16	2.78	2.45 - 3.11
Exch Potassium (cmol+/kg)	Exch K 15D3 (cmol+/kg)	16	2.91	2.71 - 3.12
Exch Potassium (cmol+/kg)	Exch K 15E1 (cmol+/kg)	3	2.99	2.96 - 3.02
Exch Sodium (cmol+/kg)	Exch Na 15A1 (cmol+/kg) **	17	1.31	1.04 - 1.58
Exch Sodium (cmol+/kg)	Exch Na 15D3 (cmol+/kg)	18	1.33	1.16 - 1.49



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Exch Sodium (cmol+/kg)	Exch Na 15E1 (cmol+/kg)	3	1.34	1.28 - 1.40
Ext Copper (mg/kg)	Extr Cu 12A1 (mg/kg)	19	2.08	1.96 - 2.20
Ext Iron (mg/kg)	Extr Fe 12A1 (mg/kg)	20	145	121 - 169
Ext Manganese (mg/kg)	Extr Mn 12A1 (mg/kg)	23	24.8	20.1 - 29.5
Ext Potassium (mg/kg)	Extr K 18A1 (mg/kg)	11	1,250	953 - 1547
Ext Silicon (mg/kg)	Extr Si 13D1 13D2 (mg/kg)	3	355	340 - 370
Ext Sulphur (mg/kg)	Extr S 10B1 10B2 10B3 (mg/kg)	9	207	130 - 284
Ext Sulphur (mg/kg)	Extr S 10D1 (mg/kg)	12	273	224 - 322
Ext Zinc (mg/kg)	Extr Zn 12A1 (mg/kg)	23	12.7	10.6 - 14.8
Ext Zinc (mg/kg)	Extr Zn 12D1 (mg/kg)	3	20.2	19.9 - 20.5
M3-Aluminium (mg/kg)	M3-Al 18F1 (mg/kg)	13	440	410 - 470
M3-Boron (mg/kg)	M3-B 18F1 (mg/kg)	12	1.26	1.06 - 1.47
M3-Calcium (mg/kg)	M3-Ca 18F1 (mg/kg)	14	2,630	2269 - 2981
M3-Copper (mg/kg)	M3-Cu 18F1 (mg/kg)	16	2.41	0.91 - 3.91
M3-Iron (mg/kg)	M3-Fe 18F1 (mg/kg)	16	422	335 - 509
M3-Magnesium (mg/kg)	M3-Mg 18F1 (mg/kg)	15	412	362 - 462
M3-Manganese (mg/kg)	M3-Mn 18F1 (mg/kg)	16	28.4	24.6 - 32.1
M3-Phosphorus (mg/kg)	M3-P ICP 18F1 (mg/kg)	9	192	186 - 198
M3-Potassium (mg/kg)	M3-K 18F1 (mg/kg)	13	1,100	1041 - 1159
M3-Sodium (mg/kg)	M3-Na 18F1 (mg/kg)	15	297	267 - 327
M3-Sulphur (mg/kg)	M3-S 18F1 (mg/kg)	14	270	222 - 317
M3-Zinc (mg/kg)	M3-Zn 18F1 (mg/kg)	17	17.2	12.5 - 21.9

Nitrate Nitrogen (mg/kg)	Nitrate N 7B1 7B2 (mg/kg)	7	0.270	0.000 - 0.638
Nitrate Nitrogen (mg/kg)	Nitrate N 7C2 (mg/kg)	19	0.270	0.000 - 1.002
Olsen P (mg/kg)	Extr P Olsen 9C1 9C2 (mg/kg)	17	51.6	45.4 - 57.8
Organic Carbon W&B (%)	Org C W&B 6A1 (%) **	17	3.38	2.55 - 4.21
PBI Colwell (L/kg)	PBI Colwell 9I2a 9I2b 9I2c (L/kg)	17	74.7	54.5 - 94.9
PBI Olsen (L/kg)	PBI Olsen 9I3a 9I3b 9I3c (L/kg)	4	91.6	90.0 - 93.2
PBI Unadjusted (L/kg)	PBI Unadjusted 9I4a 9I4b 9I4c (L/kg)	11	50.0	38.1 - 61.9
pH CaCl2 (pH units)	pH CaCl2 4B1 4B2 4B3 4B4 (pH Units)	27	7.02	6.87 - 7.17
pH Water (pH units)	pH Water 4A1 4A3 (pH Units)	36	7.45	7.29 - 7.62
Total Carbon (%)	Total C 6B2 (%)	25	3.73	3.31 - 4.15
Total Nitrogen (%)	Total N 7A1 7A2 7A3 (%) **	10	0.234	0.195 - 0.273
Total Nitrogen (%)	Total N 7A5 (%)	26	0.240	0.208 - 0.271
Total Org C IR (%)	Total Org Carbon IR 6B4a 6B4b (%)	6	3.16	2.64 - 3.68
Total Organic Carbon (%)	Total Org C 6B1 6B3 (%) **	16	3.59	3.39 - 3.78
Total Phosphorus (%)	Total P Not Specified (%) **	19	0.0427	0.0368 - 0.0486
Water Ext Cl (mg/kg)	Water Ext Cl 5A1 5A2 5A3 (mg/kg)	16	496	475 - 517

** 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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