



Magruder Certificate of Analysis

Magruder Sample #200911 Grade 3-6-4 Organic

Analyte	Value	± Standard Uncertainty	# Labs
Total N (3%)	4.450	0.033	70
Total P ₂ O ₅ (%)	5.965	0.083	40
Direct Available P ₂ O ₅ (6%)	5.321	0.125	47
Soluble K ₂ O (4%)	2.951	0.041	72
Acid Soluble Ca (8%)	8.268	0.068	53
Acid Soluble Mg (%)	1.478	0.032	22
Acid Soluble Cd (ppm)	0.4141	0.0136	16
Acid Soluble Cr (ppm)	46.09	4.06	19
Acid Soluble Co (ppm)	18.89	2.21	20
Acid Soluble Cu (%)	0.00349	0.00011	28
Acid Soluble Fe (%)	0.4070	0.0221	21
Acid Soluble Pb (ppm)	2.074	0.293	16
Acid Soluble Mn (%)	0.05088	0.00080	19
Acid Soluble Mo (ppm)	4.213	0.401	17
Acid Soluble Ni (ppm)	21.29	1.32	22
Acid Soluble Zn (%)	0.01925	0.00042	31

1. Data obtained from participant results in the Magruder Check Sample Program.
2. Guaranteed concentrations noted by the value preceding the unit in Analyte name.
3. Values are robust means. Standard uncertainty determined as $1.25 \times \text{robust standard deviation} / \sqrt{\text{\#Labs}}$. Results only shown for analytes tested by 16 or more labs. Values and uncertainties for analytes tested by less than 16 labs are available in Analyte Reports.
4. Technical information on Certificate of Analysis available at www.magruderchecksample.org/prod/Articles.html