



# Magruder Certificate of Analysis

## Magruder Sample #210611 Grade 19-19-19

Analyte	Value	± Standard Uncertainty	# Labs
Ammoniacal N (%)	4.352	0.109	28
Urea N (%)	14.91	0.12	18
Total N (19%)	19.34	0.04	77
Total P2O5 (%)	18.72	0.1	44
Direct Available P2O5 (19%)	18.61	0.06	53
Soluble K2O (19%)	18.89	0.07	85
Acid Soluble Cd (ppm)	20.17	0.89	18
Acid Soluble Cr (ppm)	102.9	4.3	16
Acid Soluble Ni (ppm)	18.33	1.29	19
Acid Soluble Zn (%)	0.03253	0.00070	28

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](http://www.magruderchecksample.org/prod/Articles.html)