

BIOCHAR 'TOTALS' ANALYSIS REPORT

1 sample supplied by Macclesfield Community Association on the 16 February 2022. Lab Job No. M6184.

Analysis requested by Brian Lewis. **Your Job: Maccy Biochar.**

PO Box 535 MACCLESFIELD SA 5153

		Product Name: Product Type: Manufacturing Site: Manufactured Date: Test Applicable:	Sample 1 MaccyBiochar Biochar Macclesfield Community Association 11/02/2022 SS-PACK-163
Parameter	Method Reference	M6184/1	
Wet Bulk Density (g/cm3)	AS4454:2012 Appendix J	0.54	
Dry Bulk Density (g/cm3)	AS4454:2012 Appendix J	0.19	
Moisture Content (%)	**Inhouse S2 (105°C)	65	
Volatile Matter (%)	Inhouse 750°C	89.4	
Ash Content (% ash)		10.6	
pH	Rayment & Lyons 2011 - 4A1 (1:10 Water)	9.90	
Electrical Conductivity (dS/m)	Rayment & Lyons 2011 - 3A1 (1:10 Water)	1.33	
Total Sulfur (%S)	Rayment & Lyons 2011 - 17C1 Aqua Regia	0.04	
Total Hydrogen (%)	Subcontract SGS Report SE217178 (ASTM D5291)	1.76	
Total Oxygen (%)	**Calculation	3.52	
Hydrogen/Organic Carbon Ratio	Calculation - Hydrogen/Total Organic Carbon	0.02	
Total Organic Carbon (%)	LECO Trumac Analyser - Inhouse S15b	83.7	
Total Carbon (%)	Inhouse S4a (LECO Trumac Analyser)	83.7	
Total Nitrogen (%)		0.5	
Acid Neutralising Capacity (% CaCO ₃)	AS4454:2012 Appendix H	8.36	
METALS			
Total Calcium (%)		2.45	
Total Magnesium (%)		0.33	
Total Potassium (%)	Rayment & Lyons 2011 - 17C1 Aqua Regia	0.54	
Total Sodium (%)		0.12	
Total Sulphur (%)		0.04	
Total Phosphorus (%)	Rayment & Lyons 2011 - 17C1 Aqua Regia	0.13	
Total Zinc (mg/kg)		199	
Total Manganese (mg/kg)		139	
Total Iron (mg/kg)		2,401	
Total Copper (mg/kg)		22.6	
Total Boron (mg/kg)		23.1	
Silicon (mg/kg)		1,259	
Total Aluminium (mg/kg)		2,249	
Total Molybdenum (mg/kg)		1.04	
Total Cobalt (mg/kg)	Rayment & Lyons 2011 - 17C1 Aqua Regia	<1	
Total Selenium (mg/kg)		<1	
Total Cadmium (mg/kg)		<0.5	
Total Lead (mg/kg)		1.17	
Total Arsenic (mg/kg)		<2	
Total Chromium (mg/kg)		13.6	
Total Nickel (mg/kg)		1.44	
Total Mercury (mg/kg)		<0.1	
Total Silver (mg/kg)		<1	

* < LOR Less than limit of reporting. ND Not detected. NA Not applicable. NR Not required.

Notes:

- All analysis is dry weight – Samples reported on an oven dried basis at 105°C (testing conducted on finely ground sample dried at 40°C).
- Methods from Rayment and Lyons, 2011. *Soil Chemical Methods - Australasia*. CSIRO Publishing: Collingwood.
- Total Acid Extractable Nutrients indicate a store of nutrients.
- Conversions for 1 mg/kg = 1 ppm; 1 % = 10,000 ppm
- Testing completed in a NATA accredited laboratory.
- Analysis conducted between sample arrival date and reporting date.
- This report is not to be reproduced except in full. Results only relate to the item tested.
- All services undertaken by EAL are covered by the EAL Laboratory Services Terms and Conditions (refer scu.edu.au/eal/t&cs or on request).
- This report was issued on 10/03/2022.

Quality Checked: Brian Smith
 Compost & Landscape Soils Co-ordinator