

BIOCHAR 'TOTALS' ANALYSIS REPORT

1 sample supplied by Brew, Gianluca Valmorbida on the 14 September 2022. Lab Job No. N2715.

Analysis requested by Gianluca Brew. Your Job: Biochar Sample.

C/o Talbot Post Office nil VIC 3068

Product Name: Product Type: Manufacturing Site: Manufactured Date: Application: Test Applicable:		Sample 1 Biochar Biochar GB 16/08/2022 .. SS-PACK-163
Parameter	Method Reference	N2715/1
Wet Bulk Density (g/cm ³)	AS4454:2012 Appendix J	0.55
Dry Bulk Density (g/cm ³)	AS4454:2012 Appendix J	0.25
Moisture Content (%)	**Inhouse S2 (105°C)	55
Volatile Matter (%)	Inhouse 750°C	94.4
Ash Content (% ash)		5.6
pH	Rayment & Lyons 2011 - 4A1 (1:10 Water)	9.41
Electrical Conductivity (dS/m)	Rayment & Lyons 2011 - 3A1 (1:10 Water)	0.45
Total Sulfur (%S)	Rayment & Lyons 2011 - 17C1 Aqua Regia	<0.01
Total Hydrogen (%)	ASTM D5291	1.90
Total Oxygen (%)	**Calculation	3.69
Total Organic Carbon (%)	LECO Trumac Analyser - Inhouse S15b	1.3
Total Carbon (%)	Inhouse S4a (LECO Trumac Analyser)	88.6
Total Nitrogen (%)		0.2
Organic Carbon/Nitrogen Ratio	**Calculation - Total Organic Carbon/Total Nitrogen	6.7
Hydrogen/Organic Carbon Ratio	**Calculation - Hydrogen/Total Organic Carbon	1.4
Oxygen/Organic Carbon Ratio	**Calculation - Oxygen/Total Organic Carbon	2.8
Acid Neutralising Capacity (% CaCO ₃)	AS4454:2012 Appendix H	1.97
METALS		
Total Calcium (%)		0.63
Total Magnesium (%)		0.11
Total Potassium (%)	Rayment & Lyons 2011 - 17C1 Aqua Regia	0.13
Total Sodium (%)		0.07
Total Sulphur (%)		<0.01
Total Phosphorus (%)	Rayment & Lyons 2011 - 17C1 Aqua Regia	0.07
Total Zinc (mg/kg)		19.5
Total Manganese (mg/kg)		175
Total Iron (mg/kg)		3,579
Total Copper (mg/kg)		3.57
Total Boron (mg/kg)		12.5
Silicon (mg/kg)		772
Total Aluminium (mg/kg)		1,751
Total Molybdenum (mg/kg)		<1
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)		1.31
Total Arsenic (mg/kg)		<2
Total Chromium (mg/kg)		9.66
Total Nickel (mg/kg)		2.83
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:

1. 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).
2. Methods from Rayment and Lyons, 2011. *Soil Chemical Methods* - Australasia. CSIRO Publishing: Collingwood.
3. Total Acid Extractable Nutrients indicate a store of nutrients.
4. Conversions for 1 mg/kg = 1 ppm; 1 % = 10,000 ppm
5. Testing completed in a NATA accredited laboratory.
6. Analysis conducted between sample arrival date and reporting date.
7. This report is not to be reproduced except in full. Results only relate to the item tested.
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9. This report was issued on 06/10/2022.