

Control Laboratories

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Account No:
 7298
 Batch:
 JUN 21 D
 CODE:
 BioChar IBI

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 Biochar NOW!
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Date Received: 6/24/2021
 Sample ID: CC-June 2021
 Lab ID. Number: 1060686-01

International BioChar Initiative (IBI) Laboratory Tests for Certification Program

	Dry Basis Unless Stated:	Range	Units	Method
Moisture (time of analysis)		1.5	% wet wt.	ASTM D1762-84 (105c)
Bulk Density		8.8	lb/cu ft	
Organic Carbon		87.4	% of total dry mass	Dry Combust-ASTM D 4373
Hydrogen/Carbon (H:C)		0.48 0.7 Max	Molar Ratio	H dry combustion/C(above)
Total Ash		2.1	% of total dry mass	ASTM D-1762-84
Total Nitrogen		0.53	% of total dry mass	Dry Combustion
pH value		8.93	units	4.11USCC:dil. Rajkovich
Electrical Conductivity (EC20 w/w)		0.136	dS/m	4.10USCC:dil. Rajkovich
Liming (neut. Value as-CaCO3)		1.5	%CaCO3	AOAC 955.01
Carbonates (as-CaCO3)		0.75	%CaCO3	ASTM D 4373
Butane Act.		5.5	g/100g dry	ASTM D 5742-95
Surface Area Correlation		308	m2/g dry	G

All units mg/kg dry unless stated:		Range of		Reporting		Particle Size Distribution		
	Results	Max. Levels	Limit (ppm)	Method	Results	Units	Method	
Arsenic (As)	ND	13 to 100	0.44	J	< 0.5mm	0.0 percent	F	
Cadmium (Cd)	ND	1.4 to 39	0.18	J	0.5-1mm	0.0 percent	F	
Chromium (Cr)	0.59	93 to 1200	0.44	J	1-2mm	0.0 percent	F	
Cobalt (Co)	ND	34 to 100	0.44	J	2-4mm	0.0 percent	F	
Copper (Cu)	30.3	143 to 6000	0.44	J	4-8mm	0.0 percent	F	
Lead (Pb)	2.0	121 to 300	0.18	J	8-16mm	18.1 percent	F	
Molybdenum (Mo)	ND	5 to 75	0.44	J	16-25mm	81.9 percent	F	
Mercury (Hg)	ND	1 to 17	0.001	EPA 7471	25-50mm	0.0 percent	F	
Nickel (Ni)	0.57	47 to 420	0.44	J	>50mm	0.0 percent	F	
Selenium (Se)	ND	2 to 200	0.89	J	Basic Soil Enhancement Properties			
Zinc (Zn)	181	416 to 7400	0.89	J	Total (K)	1422 mg/kg	E	
Boron (B)	ND	Declaration	4.43	TMECC	Total (P)	324 mg/kg	E	
Chlorine (Cl)	92.3	Declaration	20.0	TMECC	Ammonia (NH4-N)	2.1 mg/kg	A	
Sodium (Na)	582	Declaration	442.6	E	Nitrate (NO3-N)	1.0 mg/kg	A	
Iron (Fe)	210	Declaration	22.1	E	Organic (Org-N)	5280 mg/kg	Calc.	
Manganese (Mn)	164	Declaration	0.44	J	Volatile Matter	19.1 percent dw	D	

* "ND" stands for "not detected" which means the result is below the reporting limit.

Method A Rayment & Higginson	G Butane Activity Surface Area Correlation Based on McLaughlin, Shields, Jagiello, & Thiele's 2012 paper: Analytical Options for Biochar Adsorption and Surface Area
D ASTM D1762-84	J EPA3050B/EPA 6020
E EPA3050B/EPA 6010	
F ASTM D 2862 Granular	

Analyst: Nik Zumberae

