

Control Laboratories

42 Hangar Way
 Watsonville, CA 95076
 www.biocharlab.com
 Tel: 831 724-5422
 Fax: 831 724-3188

Account No:
 8539
 Batch:
 Aug 21 C
 CODE:
 BioChar IBI

Raymond Baltar
 Sonoma Ecology Center
 P.O. Box 1486
 Eldridge, CA 95431

Date Received: 8/11/2021
 Sample ID: 0
 Lab ID. Number: 1080322-01

International BioChar Initiative (IBI) Laboratory Tests for Certification Program

	Dry Basis Unless Stated:	Range	Units	Method
Moisture (time of analysis)		5.9	% wet wt.	ASTM D1762-84 (105c)
Bulk Density		13.4	lb/cu ft	
Organic Carbon		86.8	% of total dry mass	Dry Combust-ASTM D 4373
Hydrogen/Carbon (H:C)		0.37 0.7 Max	Molar Ratio	H dry combustion/C(above)
Total Ash		4.9	% of total dry mass	ASTM D-1762-84
Total Nitrogen		0.59	% of total dry mass	Dry Combustion
pH value		8.40	units	4.11USCC:dil. Rajkovich
Electrical Conductivity (EC20 w/w)		0.081	dS/m	4.10USCC:dil. Rajkovich
Liming (neut. Value as-CaCO3)		10.7	%CaCO3	AOAC 955.01
Carbonates (as-CaCO3)		3.1	%CaCO3	ASTM D 4373
Butane Act.		6.1	g/100g dry	ASTM D 5742-95
Surface Area Correlation		327	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	0.28	J	< 0.5mm	4.8 percent	F	
Cadmium (Cd)	ND	1.4 to 39	0.11	J	0.5-1mm	3.8 percent	F	
Chromium (Cr)	1.5	93 to 1200	0.28	J	1-2mm	8.0 percent	F	
Cobalt (Co)	0.67	34 to 100	0.28	J	2-4mm	19.9 percent	F	
Copper (Cu)	2.8	143 to 6000	0.28	J	4-8mm	33.9 percent	F	
Lead (Pb)	0.41	121 to 300	0.11	J	8-16mm	27.7 percent	F	
Molybdenum (Mo)	ND	5 to 75	0.28	J	16-25mm	2.0 percent	F	
Mercury (Hg)	ND	1 to 17	0.001	EPA 7471	25-50mm	0.0 percent	F	
Nickel (Ni)	1.9	47 to 420	0.28	J	>50mm	0.0 percent	F	
Selenium (Se)	ND	2 to 200	0.56	J	Basic Soil Enhancement Properties			
Zinc (Zn)	21.5	416 to 7400	0.56	J	Total (K)	2078 mg/kg	E	
Boron (B)	10.0	Declaration	2.81	TMECC	Total (P)	249 mg/kg	E	
Chlorine (Cl)	52.3	Declaration	20.0	TMECC	Ammonia (NH4-N)	3.1 mg/kg	A	
Sodium (Na)	ND	Declaration	281.2	E	Nitrate (NO3-N)	2 mg/kg	A	
Iron (Fe)	545	Declaration	14.1	E	Organic (Org-N)	5935 mg/kg	Calc.	
Manganese (Mn)	203	Declaration	0.28	J	Volatile Matter	14.3 percent dw	D	

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

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

Analyst: Nik Zumberae

