

Center for Applied Isotope Studies

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July 3, 2017

Mr. Cullen Yeatts High Plains Biochar LLC 108 Howe Rd. Laramie, WY 82070

Dear Mr. Yeatts,

Listed below are the results for the ASTM method D6866-16 Radiocarbon (14C) determination with the stable carbon isotope ratio (δ^{13} C) analyses and their correction for the sample received by our laboratory on June 15, 2017 and measured on July 3, 2017.

Sample ID	¹⁴ C (Meas.)		$\delta^{13}\mathrm{C}$	¹⁴ C (Corr.)	% Biobase	
	(pMC)	SD	(º/oo VPDB)	(pMC)	Carbon	SD
Biochar				-		
USDA#5772	112.38	0.35	-26.53	112.72	100	3

Percent Biobased Carbon is determined from the measured ¹⁴C in percent Modern Carbon (pMC) and corrected for isotopic fractionation based on measured δ^{13} C value (o/oo V-PDB). The corrected 14 C activity in pMC is then divided by the 2017 reference ¹⁴C activity of 101.0 pMC, which represents the equivalence to the 1950 ¹⁴C reference activity of 13.56 dpm/gC corrected for bomb-produced ¹⁴C. Values greater than 100% but less than 106% are reported as 100%. The % Biobase Carbon and Standard Deviation (SD) are rounded to the nearest integer. Measured ¹⁴C is normalized using NIST Standard Reference Material 4990C Oxalic acid.

If we can be of any further assistance, or if you would like to discuss these results please do not hesitate to call.

Sincerely,

Randy Culp, PhD Associate Director

C.A.I.S. Inv. No: 19697

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