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Certificate of Analysis

March 8, 2022

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Listed below are the isolated results for the ASTM method D6866-20 Radiocarbon (^{14}C) determination with the stable carbon isotope ratio ($\delta^{13}C$) analyses and their correction for the following sample received by our laboratory on 2/11/2022 and completed on 3/7/2022.

Sample ID/USDA#	^{14}C (Meas.)		$\delta^{13}C$	^{14}C (Corr.)	% Biobase	
	(pMC)	SD	(o/oo VPDB)	(pMC)	Carbon	SD
POLBIO Enzysan 2000, USDA# 10570/ 220083	**53.32**	**0.19**	**-27.97**	**53.63**	**54**	**1**

Percent Biobased Carbon is determined from the measured ^{14}C in percent Modern Carbon (pMC) and corrected for isotopic fractionation based on measured $\delta^{13}C$ value (o/oo V-PDB). The corrected ^{14}C activity in pMC is then divided by the 2018 reference ^{14}C activity of 100.0 pMC, which represents the equivalence to the 1950 ^{14}C reference activity of 13.56 dpm/gC corrected for bomb-produced ^{14}C, and finally multiplied times 100. The % Biobase Carbon and Standard Deviation (SD) are rounded to the nearest integer. Measured ^{14}C is normalized using NIST Standard Reference Material 4990C Oxalic acid.

Authorized by,

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Certificate#: [POLLET_1-61247I_1159]