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Radiocarbon dating report

Argentina

KIA-19492 (Mischwen III) : 625±25BP, C/N= 2.70, δ¹³C = -10.73‰, δ¹⁵N = +18.59‰,

Comment: The quality of the bone was very good as indicated by the C/N (carbon over nitrogen ratio). The isotopic fractionation however shows that the alimentation of that person was NOT terrestrial. A large fraction of the diet was composed of marine fish. Normal value for “carnivores” that live on marine food is around: δ¹³C = -12‰, δ¹⁵N = +18‰. The consequence of this is that the marine calibration curve seems to be much more appropriate than the terrestrial calibration curve. But if we want to use the marine curve, we must now the local RESERVOIR AGE of the sea. On the Internet we can find a few of these data. The difference between South-America and Antarctica is enormous (see attachments). Since you did not gave the geographical coordinates of the site we used the ΔR= 215±41.

A: Calibrated result if the sample is interpreted as terrestrial:  
68.2% confidence  
1300AD (0.43) 1325AD  
1345AD (0.41) 1370AD  
1380AD (0.16) 1390AD  
95.4% confidence  
1290AD (1.00) 1400AD

B: Calibrated result if the sample is interpreted as marine:  
The corrected radiocarbon age of the sample is 410. Valid radiocarbon ages (adjusted for ΔR) must be >450. This indicates that the sample is younger than 1950 AD.

If the reservoir age of the local sea is somewhat lower than the value used in this calculation or if there is some mixing of marine food with small quantities of terrestrial food, the calibrated result will be somewhere in between both results.

Both possibilities indicate that the sample is very young to sub-modern.

All the best,

Mark Van Strydonck