

Protocol for Determination of the Absolute Age of Wood by the Radiocarbon Method No. 10-21

Protocol date: 31 May 2021 · Tests conducted: 19-31 May 2021

Issuing institution

Republican Unitary Enterprise "Scientific and Production Center for Geology", Branch "Institute of Geology", Minsk, Republic of Belarus.

The source document identifies the physical and chemical research department and cites Scientific Organization Accreditation Certificate No. 2/7 of 22 December 2018, valid through 19 December 2023.

Protocol information

Field	Recorded information
Customer	Redacted in this public copy
Contract	No. 11-1/174 of 19 May 2021
Number of samples	2 (two)
Sample description	Wood
Laboratory sample IDs	IGSB-1864 and IGSB-1865
Sampling	Samples were selected and submitted by the customer

Method and equipment

The absolute age was determined by measuring the beta activity of carbon-14 in benzene synthesized from the carbon-containing wood sample. Benzene synthesis and purification equipment, a GUARDIAN low-background beta counter, a SNOL muffle furnace, and a computer running Easy View and Calib 7.10 were listed. Beta activity was counted for 48 hours per sample. Two determinations were completed.

CALIBRATED RESULTS

Radiocarbon Dating Results

Calibration stated in the source: Oxford international calibration scale, Calib 7.10

Material / ID	¹⁴ C age, years BP*	Calibrated calendar age 1σ (68.3%)	Calibrated calendar age 2σ (95.4%)
Wood, sample 1 IGSB-1864	1880 ± 60	AD 70-220	AD 10-255 AD 290-320
Wood, sample 2 IGSB-1865	2250 ± 60	390-340 BC 310-200 BC	410-160 BC

* BP (Before Present) is the conventional radiocarbon age counted from AD 1950. BC denotes years before the Common Era; AD denotes years of the Common Era.

Document notes

The results apply only to laboratory samples IGSB-1864 and IGSB-1865. The source states that photographs of the tested wood samples form an appendix to the protocol and that the original tested samples were retained by the laboratory's physical and chemical research department.

The tests are recorded as having been performed by Lead Engineer G. I. Luchina. The source also names I. L. Kolosov as head of the physical and chemical research department and V. I. Yaskov as approving director.

Translation notice

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Key finding

Of the two tested wood samples, IGSB-1865 produced a conventional radiocarbon age of 2250 ± 60 BP, calibrated at 95.4% probability to 410-160 BC. IGSB-1864 produced 1880 ± 60 BP, with two calibrated 95.4% calendar ranges: AD 10-255 and AD 290-320.