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**RESULTS OF RADIOCARBON DATING OF THE PREHISTORIC WOODEN FRAGMENT FROM
THE TUNNEL RAVNE, BOSNIAN VALLEY OF PYRAMIDS, VISOKO, BOSNIA AND
HERZEGOVINA.**

SUMMARY

Radiocarbon dating of the prehistoric wood fragment was carried out in Gliwice Radiocarbon Laboratory using gas proportional counting method (Lab. No. Gd-; Pazdur *et al.* 2000) with standard sample pre-treatment AAA (acid-alkali-acid, 2 % HCl, 2 % NaOH at 60°C and again 2 % HCl). The alkali soluble fraction (NaOH-SOL) was dated.



Fig.1 During the enlarging of the prehistoric unknown tunnel Ravne, Visoko, was discovered the fragment of black wood in the conglomerate layer. On the right down is the tunnel. From that place the Foundation Archaeological Park „Bosnian Pyramid of the Sun“ has taken the sample for Radiocarbon Dating in the foreign labs. This place is 145 m from the tunnel entry and 19 m from the surface. During all length the tunnel has been constructed through the marine/lake (?) conglomerate without props in unknown time. (Photo: Archives of Foundation January 15, 2008)



Fig.2 Discovered and excavating the megalit stone (K-2), perfect rounded block, with unknown prehistoric signs and symbols, located under the conglomerate layer, the same stone layer as on the Fig.1, just 10 m distant. It means, if we determine the age of the radiocarbon sample, then we determine the age of conglomerate, too. The megalit stone block with prehistoric signs will, by all means, older than radiocarbon sample. The similar signs were found on the Bosnian pyramid of the Sun and the Bosnian pyramid of the Moon.

This material was carbonised by heating to 800°C without access of oxygen, and subsequently combusted in oxygen flow in temperature ca. 1200°C, with use of the vacuum line for combustion (Fig.3). Obtained CO₂ was subjected to purification during which the nitrogen and sulfur oxides, as well as water vapor is removed, and then stored in glass vessel for ca. 1 month, which is necessary to get rid of radioactive ²²²Rn (T_{1/2}=3,8 days). Obtained CO₂ amount corresponds to carbon content of ca. 1 g in the dated fraction.

For measurements of ¹⁴C activity the L3 detector with volume 1.5 dcm³ (with CO₂ pressure ca. 1 atm) was used (Fig. 4).



Fig. 3 Fragment of vacuum line with ovens containing Ag and Cu (500°C) and water traps, used for purification of CO₂ and for filling gas proportional counters.



Fig. 4 Site of 5 gas proportional counters (L1, L3, L4, L5 and L6) in Gliwice Radiocarbon Laboratory: in the front – L1, L3 – behind of L1 on the right, L4, L5 and L6 counters in iron shield on the left of L1).

Conventional radiocarbon date was corrected for $\delta^{13}\text{C}$ according to Stuiver and Polach procedure (1977) using assumed value equal to -25‰ . Dating result was reported as below. The standard dating range of L3 detector is ca 36 000 BP and measurement time of ^{14}C radioactivity equal to 3 days. The conventional ^{14}C age of dated sample (34 000 BP) is near L3 dating range and because of this relatively high uncertainty (1500 years) was obtained.

Conventional ^{14}C date could not be calibrated using the IntCal04 calibration curve (Reimer et al., 2004) because its range is 26 000 Cal BP. The recent studies on calibration curve indicate on the calendar age even ca 42 000 Cal BP for sample with ^{14}C age 34 000 BP.

Bibliography

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Gliwice, 23 April 2008

LABORATORY REPORT 23/2008

Submitter:

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Sample record index No.: 2373
Job number: NB-95/RMF-1/2008

No.	Sample name	Lab. No.	Age ¹⁴ C (BP)	Calibrated age range 68%	Calibrated age range 95%
1	Ravne 7c	Gd-19158	34800 ± 1500	Out of calibration curve range.	Out of calibration curve range.

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