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OXFORD UNIVERSITY
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ACCELERATOR UNIT

25 July 2007

Our Ref: P17580-95

Dr R. Housley,
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Gregory Building,
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Glasgow G12 8QQ

Dear Rupert,

Here are the further radiocarbon accelerator dates on the samples you sent us:

Kostenki 12, Voronezh region, 51:23.43N 39:02.09E, Russia

OxA-X-2158-14	EFD5C505, N1, charcoal, layer 12, d13C=-22.4	31760 ± 230
OxA-15482	EFD5C512, N8, charcoal, layer 12, d13C=-24.0	35820 ± 230
OxA-15555	**EFD5C513, N9, charcoal, layer 14, d13C=-24.9**	**35540 ± 260**
OxA-X-2158-15	EFD5C514, N10, charcoal, layer 18, d13C=-21.7	34710 ± 330
OxA-15556	**EFD5C516, N12, charcoal, layer 18, d13C=-23.1**	**41300 ± 450**
OxA-15557	**EFD5C517, N13, charcoal, layer 18, d13C=-22.3**	**30080 ± 170**

(Note: OxA-15557 was later withdrawn and replaced by:

OxA-15902	**EFD5C517, N13, charcoal, layer 18, d13C=-21.1**	**38410 ± 300**

Malaya Vorontsovskaya, 43:37.765N 39:54.738E, Russia

OxA-X-2158-17	EFD5C518, charcoal, d13C=-22.1	24820 ± 130
OxA-X-2158-18	EFD5C519, charcoal, d13C=-25.5	31510 ± 200
OxA-15436	**EFD5C520, charcoal, d13C=-21.3**	**34840 ± 800**

P 17581-6, P17590 samples in limbo

These samples have all been OxA-X'd rather than OxA'ed because of some problems noted with the samples themselves. The quality of the charcoal was extremely poor, in fact the technician working on the samples generally said that they 'did not look like charcoal' but more like stony material. This is supported by the low %carbon values during the combustion of the pretreated samples (3.9 mgs yielded 0.92 mg C; 4.6 gave 0.75, 4.2 gave 0.71 etc). The samples from M. Vorontsovskaya were slightly higher, but only ~24% C. Taken together, I have reservations about the reliability of the results and I think that this relates to the poor quality of the samples. If they were charcoal samples they were degraded and poorly

preserved. For this reason, we OxA-X'ed the group. The OxA-15482 date on the other hand produced a 66%C combustion yield and appeared to be much more like charcoal. This date is to be preferred over the others from Kostenki.

The dates are uncalibrated in radiocarbon years BP (Before Present - AD 1950) using the half life of 5568 years. Isotopic fractionation has been corrected for using the measured $\delta^{13}C$ values quoted (to ± 0.3 per mil relative to VPDB). For details of the chemical pretreatment, target preparation and AMS measurement see Radiocarbon **46** (1) 17-24, **46** (1): 155-63, and *Archaeometry* **44** (3): 1-149. When calibrated, using the Oxcal computer program (v3.10) of C. Bronk Ramsey, using the new 'INTCAL04' dataset (*Radiocarbon* 46 (3), 2004), the age ranges on the enclosed sheets are obtained.

As you may know we publish all dates measured at Oxford in a datelist which appears in the journal *Archaeometry*. When you have had the chance to consider the implications of the results I wonder if you would be kind enough to send your brief comments to me.

Yours sincerely,

Tom Higham/Diane Baker
Deputy Director/Administrative Officer
Radiocarbon Accelerator Unit