

Oxford  
Radiocarbon  
Accelerator Unit  
Research Laboratory for Archaeology  
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Tel: ++44-(0) 1865-273939

P16820

OxA-X-2134-45 (NRC)

% mod  $2.1 \pm 0.1$  (=  $30\,980 \pm 220$ )

$\delta^{13}\text{C} = -24.4$  per mil (humic acid)

QAP 01/03 Issue 2 13/12/1999

Acknowledged

### SAMPLE SUBMISSION FORM

Please provide as much information as possible for each sample submitted. It will greatly help us in publishing dates rapidly if we have the full information required for publication.

If you are submitting a series of samples, there is no need to write in repeat information for each one, but please do not overlook specific stratigraphic details (pages 2 & 3).

Suggested name for sample series: EFCHED North East Black Sea Project

Your reference no: EFD4C420

Name and location of site: Kabazi V, western Crimea

Country: Ukraine

Latitude:  $44^{\circ} 50.228' \text{ N}$

Longitude:  $34^{\circ} 01.979' \text{ E}$

(Greenwich meridian)

Grid reference (specify grid):

Type of material: burnt bone

Any specific identification (please indicate as precisely as possible): Indeterminate

Family:

Genus:

Species:

For bone, type (e.g. femur): too fragmentary to determine

Collector's name: R. A. Housley

Date of excavation: 17 August 2004

Sender's name: Dr R A Housley

Sender's signature:

Address:

Department of Archaeology, University of Glasgow, Gregory Building, Lilybank Gardens, Glasgow G12 8QQ

Tel: 0141 330 6873

email:

r.housley@archaeology.gla.ac.uk

Submission date: April 2005

Is the sample primarily:

archaeological

geological

other

- 
- |                           |     |  |                          |
|---------------------------|-----|--|--------------------------|
| Was the sample            | (a) | sealed in a recognisable horizon                 | <input type="checkbox"/> |
|                           | (b) | sealed in a localised feature, e.g. grave or pit | <input type="checkbox"/> |
|                           | (c) | other  | <input type="checkbox"/> |
| Is this information known | (a) | beyond reasonable doubt                          | <input type="checkbox"/> |
|                           | (b) | with some possible doubt                         | <input type="checkbox"/> |
|                           | (c) | with major doubt                                 | <input type="checkbox"/> |
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**Certainty of Association**

(please tick one box)

- Full certainty: the sample came from the artefact itself, e.g. wagon wheel, bone pommel of dagger
- High probability: there is a direct functional relationship between the sample and archaeological finds, e.g. coffin dates finds in grave, carbonised grain in rubbish pit dates sherds, charcoal dates urn
- Probability: the functional relationship is not demonstrable but the quantity of organic material and size of fragments argue in favour or it, e.g. charcoal concentration in a rubbish pit or occupation layer
- Reasonable possibility: as above, but the fragments are small and scattered, e.g. 'dark earth' in an occupation layer, charcoal fragments in a grave
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**Sample age in relation to burial / discard** (please tick one box)

Samples are generally **older** than their contexts:

- The difference in date is so small as to be negligible (less than 20 years); e.g. twigs, grain, leather, bone, outermost tree rings.
- The time difference can amount to several decades (over 20, less than 100 years), e.g. charcoal from short-lived wood species, outermost rings from long-lived wood species, objects, which might have a long period of use.
- The time difference may amount to centuries, e.g. charcoal from long-lived wood species possibly subject to re-use.
- The nature of the dated organic material is not precisely known, e.g. samples consisting of 'dark earth', 'ash', 'soil'.
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Note: the sections above drawn from: Waterbolk, H.T. (1971) *Proc. Prehist. Soc.* 37(2), 15-33

## Named stages

Local archaeological name, e.g. Maglemosian: Staroselian

General archaeological name, e.g. Mesolithic: Mousterian / Middle Palaeolithic

Local geological unit, e.g. Larmudiac Beds: NA

General geological name, e.g. Late Glacial: Late Pleistocene – mostly likely OIS 3

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## Stratigraphic and environmental details: (if none, write 'none')

Please give details of sample locations (including detailed site drawings on a separate sheet), describing horizons and other features relevant to sample position and condition.

Please mention possible contamination, rootlets, intrusions, disturbances, humic acids, carbonates, calcareous or volcanic environment, nearness to water table, nearness to surface, etc.

The burnt bone sample comes from a depth of between 520-525 cm in a cleaned section in square 6B, archaeological horizon III/1A, which is situated in lithological (geological) layer 12 on the site of Kabazi V. It corresponds with one OSL sediment sample (EFD4L260) in square 6B and two TL burnt flint samples (EFD4L264 = SUTL 1664 and EFD4L265 = SUTL 1665) from the same horizon in square 6B. The sample is associated with a Mousterian stone tool industry that has been described as Staroselian (i.e. non-Levallois, with 5-10% bifacial tools).

The area is limestone and so the deposits are highly calcareous. Bone preservation at the site is reasonably good. The fauna from cultural horizon III/1A shows signs of weathering and root damage suggesting the bones lay on the surface for some time.

Optional checklist:

Sector: square 6B

layer, sub-layer: sample is from archaeological horizon III/1A, and is situated at a depth of 520-525 cm in lithological (geological) layer 12

feature: none

phase of site: Middle Palaeolithic layer III/1A

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## Sender's comment on submission:

(i.e. comment on what date is intended to demonstrate, designed to hold good regardless of specific results)

The purpose of this burnt bone sample is to cross-validate OSL sample EFD4L260 (geological layer 12, depth 530 cm in square 6B) and two burnt flint TL samples EFD4L264 (geological layer 12, depth 522 cm in square 6B) and EFD4L265 (geological layer 12, depth 519 cm in square 6B). All are associated with cultural horizon III/1A, one of a number of Middle Palaeolithic stone tool horizons on the site that represent living floors. There are a number of U-series and ESR measurements for cultural horizon III/1A (Rink *et al.* 1998; McKinney 1998) – the best estimate is <41-43 ka BP based on ESR EU model, although the results are far from being unproblematic.

### Sample collection and treatment

How was the sample collected ? Found during cleaning of a vertical section  
(surface, trench, section, etc.)

How has it been stored ? Polythene bag  
(nature of container, etc.)

Have preservatives, fungicides, etc., been used ? No

If so, please give details of any chemical treatments, identifying chemicals used.  
Not applicable

Was sample wet or dry when collected ? Damp

If wet, how was it dried ? Air dried

Can the entire sample be used for dating ? Yes

Has this or a related sample also been sent to another laboratory ? OSL samples are with SUERC and the TL samples are with Daniel Richter in Leipzig

If so, please give Laboratory and date numbers

SUERC sample EFD4L260: no lab or date numbers as the sample is currently undergoing OSL analysis. TL samples have the following SUTL numbers: SUTL-1664 and -1665 but are still undergoing analysis

For other dating evidence see rest of form and cited publications

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### Relevant publications

(In format: Author, initials, year, title, **Journal** (Publisher), volume, pages)

McKinney, C.R., 1998, Uranium series dating of enamel, dentine, and bone from Kabazi II, Starosele, Kabazi V, and Gabo, in *The Middle Palaeolithic of the Western Crimea*, Volume 1 (Eds. Marks, A.E., and Chabai, V.P.), 341-353, Liège: ERAUL 84.

Rink, W.J., Lee, H-K., Rees-Jones, J., and Goodger, K.A., 1998, Electron spin resonance (ESR) and mass spectrometric U-series (MSUS) dating of teeth in Crimean Palaeolithic sites: Starosele, Kabazi II and Kabazi V, in *The Middle Palaeolithic of the Western Crimea*, Volume 1 (Eds. Marks, A.E., and Chabai, V.P.), 323-340, Liège: ERAUL 84.

Yevtushenko, A.I., 1998, Kabazi V: Introduction and excavations, in *The Middle Palaeolithic of the Western Crimea*, Volume 1 (Eds. Marks, A.E., and Chabai, V.P.), 273-285, Liège: ERAUL 84.