
Ancient TL

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Date List Structure

- 1. The list includes dates for fired materials of archaeological interest, for which sufficient information has been supplied. It is not intended to be an *authorised* list. The format of a list for sediment TL ages is currently under discussion.
- 2. Each entry (see below) is divided into two sections. The first (Part I) is a non-technical specification providing basic information concerning the date and associated error, and the archaeological context of the sample. The second (Part II) is a compacted technical specification, the format of which is sufficiently comprehensive to provide information of interest to TL researchers. The format is flexible and will permit subsequent additions and alterations where necessary (three techniques are represented in the first issue, but we expect others to follow; for example, the Γ technique). By providing a split entry in this way, we aim to interest archaeologists, for whom basic information concerning the date and associated error as well as the archaeological context of the sample must be easily accessible. The Reports section in Part I gives access to further detailed information.
- 3. Dates within the archaeological periods ranging from the Neolithic to the historic are given AD/BC to reinforce the absolute basis of TL dates. Earlier dates are given as TL ages before the test year; the last two digits of the test year are included in the laboratory reference code, as shown below. One error, the overall error, has been adopted in the single date entry for Part I. The precision may also be given in the technical specification.
- 4. A number of abbreviated terms and forms of expression of data have been used. The details are given in the Entry Specification. The data entries are numbered (except where tabulation is required) for database reference purposes. The information required is described in italics within squared brackets. The Specification should be read in conjunction with the Notes and Key sections.
- 5. Application forms are available from the Editor, who will be pleased to advise on data compilation; laboratories wishing to submit dates for which the current date entry specification is not suitable should write to him. A separate summary of Part I entries will be available for general archaeological circulation.

Date Entry Specification

Laboratory: [name]	Entry: [entry number]
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PART I

Site: [Name] Location: [Region, country] Grid Ref.: [National map reference]

Site Description: [Brief description of period and nature of site]

Dates:

[Type of date]	[Lab. abbrev.]	Lab. Ref.	Mat'l	Arch'l Ref.
TL Context	Date: 800 AD $\pm$ 50 (Dur-87TLfg)	100-1/6 pottery	ABC-1a	
Single	[Overall error]	[Test year]	[Technique]	[Context reference]
				[Dated material]
				[Sample ref.]

TL Context Components: [Details of component TL dates used to derive Context Date]

Archaeological Evidence: [Excavator's brief description of context(s)]

Site Director: [Full name and institutional postal address]

Reports: [Details of excavation and laboratory reports]

NOTES

General

- It is strongly recommended that, in addition to laboratory reports, reference to an excavation report is included since this will be of particular importance for archaeologists. If a non-standard technique has been used, reference to a full report or paper must be given under Reports or Special Remarks, and a copy included with date list applications if not published in a recognized journal.
- Part II currently comprises four sections A-D. It can be seen that they include the following measurement details: A(TL), B(Dose-rate), C(Error), and D(Age). Each contains numbered summaries of particular data. In section B, the total effective dose-rate (Total.Eff.Dose-rate) is broken down into percentage contributions for each radiation type. Where necessary, the internal and external grain dose-rate components are given separately (ie for those techniques employing grains with self-radioactivity).
- Grain sizes are given in μm . Errors are standard errors given at the 68% level of confidence.

Specific Data Entries

- A.1** The mineral type(s), TL technique, and grain size range(s) are specified using the standard abbreviations given in the key. For a technique employing a number of grain size ranges (gsr's), as in the multi-mineral inclusion (*mmi*) technique used at the Risø Laboratory, each gsr is assigned a number which, prefixed with the appropriate abbreviated mineral type, is used in the tabulation of measurement details A2 - A4.
- A.2** The archaeological or palaeodose, P , is given in Gy with associated standard error, and information concerning the intercept (I/P) is given in 2a.
- A.2-A.5** (Pre-dose) To be consistent with other techniques, P is used to denote the archaeological dose. Sb, the sensitivity baseline, is the (assumed) sensitivity that would have been measured after firing, expressed as a percentage of S_0 . Although stability measurements are not part of the original procedure, it is likely that they will be performed in the future.
- A.4** TL signal, TL age, or dose plateaux may be specified using the appropriate prefix (*s*, *a* or *d* respectively). The s.e. of the mean value is given (as a percentage) for the indicated temperature interval (T_1 - T_2) of the glow curve. If a well-defined TL peak is present in the plateau region, its peak temperature and the heating rate used should be given. This may not be possible for some fine-grain samples.
- A.5** The results of measurement associated with determination of TL stability are given in the specified order; temperature region of the glow curve, storage period, storage temperature, and the outcome.
- A.6** The *a* or *b* value is given.
- B.1** The total effective dose-rate, corrected for water uptake, grain size attenuation etc., is given with associated standard error. The percentage contributions of the various

radiation types are given with abbreviated name of the method used. Any correction to the dose-rate (expressed as a percentage of the total) that has been made due to radon emanation is stated, together with the experimental method used (ie α -c, γ SPEC). In the case of the *mmi* technique, the internal (Int.grain) and external (Ext.grain) dose-rate contributions for TL grains, expressed as a percentage of the total, are given separately (the isotope emissions accounted for in assessing the internal dose-rate are requested in the application form).

B.3 The average water content and assigned uncertainties for the sample and burial environment are specified.

C. "eA76" denotes a procedure for error assessment equivalent to that described by Aitken (1976; *Archaeometry*, 18, 233-238). If another procedure has been used, reference to a report/paper where the methods are described must be given.

KEY TO ABBREVIATIONS

STANDARD METHODS/TECHNIQUES/PROCEDURES

i	Inclusion	pd	Pre-dose	a Plat	Age plateau
fg	Fine-grain	MA	Multiple activation	d Plat	Dose plateau
mmi	Multi-mineral	ADD	Additive dose proc.	s Plat	TL Signal plateau
		Sb	Sensitivity baseline		
α -c	Alpha counting	FPh	Flame Photometry	TLD	TL dosimetry
AAS	Atomic absorption	NAA	Neutron Activation Anal.	XRF	X-ray fluorescence
β -c	Beta counting	PXE	PIXIE		
CAP	Capsule	SPEC	Spectrometer (SPEC = portable)		
Non-standard		AutoR	Auto regeneration	PTTL	Photo-transferred TL

MINERALS & ETC.

cal	Calcite	Nf	Sodium feldspar	*	Other
ft	Flint	p	Polyminal	-	Not applicable
f	Feldspar	q	Quartz	e	Equivalent to
Af	Unsep. alkali feldspar	z	Zircon		(used as prefix)
Kf	Potassium feldspar	por	Porcelain	a	Year
Terms: I, P, a, b, A, S_N , S_0 , TAC: as defined in the literature.					

PART II

Section A. TL Measurements
1. min.([mineral]) tech.([technique]); [grain size range, gsr] (µm) <i>Data tabulated for each sample:</i>
2. P = [value] ± s.e. Gy 2a. IP = [value]
3. Slopes [2nd/1st: [value] ± s.e.]
4. [Type of plateau] Plateau [± [value] %; [T ₁ - T ₂]]
4a. Peak [@ [value] °C; [heating rate]°/s; [pre-heat details if applicable]]
5. Stability[interval, T ₁ - T ₂]; [period]; [storage T °C]; [result ; [value] ± [value] %]]
6. a value = [value] , or b value = [value]

Section B. Dose-rate Measurements
<i>Data tabulated for each sample:</i>
1. Total Effective Dose-rate = [value] ± s.e. mGy/a [α = [value] % [method]; β = [value] % [method]; γ = [value] % [method]; cos(mic) = [value] % [method]]
2. Radon [± [value] % [method]]
3. Water [Sample ([value] ± s.e. %); (Burial) Env. ([value] ± s.e. %)]

Section C. Error [<i>Procedure : eA76 or specify other</i>]

Section D. TL Age
<i>Data tabulated for each sample: TL Age</i> [± [random error]; ± [overall accuracy]]
Special Remarks: [Details of entries with * or any other additional information]

VARIATIONS

1. Dates for the Palaeolithic may be given in years (a) or kiloyears (ka) before the test year.
2. Pre-dose technique, Part II :

Section A. TL Measurements
1. As defined above <i>Data tabulated for each sample:</i>
2. P = [value] ± s.e.Gy ([pre-dose procedures])
3. Initial. Sensitivity.[[value] %S _N ; [value] % (of S _N) UV reversible; Sb = [value] %S _O]
4. TAC [[temp. region of max. sensitization]; [heating rate]°/s]
5. Stability.[result of stability measurement]]

3. Multi-mineral inclusion techniques, Part II:

Section A. TL Measurements
1. mins.([minerals]) tech.([technique]; gsr (µm) - 1 ([value] - [value]) ,..... n ([value] - [value]))
<i>Data tabulated for each mineral grain size fraction :</i>
2-4. As defined above
5. Stab [[mineral] (gsr [n] ± [value] %), [T ₁ - T ₂]; [period]; [storage T °C]; [value] ± [value] %]]

Section B. Dose-rate Measurements
<i>Data tabulated for each smineral grain size fraction :</i>
1. Total. Effective.Dose-rate, as defined above
1a. Internal grain [[Dose-rate from internal sources, as % of total , with method used]]
1b. External grain [[Dose-rate from external sources, as % of total , with method used]]
2&3. As defined above.

Site: Lower Farm
Location: Finglesham, Northbourne, Nr Deal, Kent., UK
Grid Ref.: TR 3383 5379
Site Description: Flint scatter just above marsh level.

Dates				Lab. Ref.	Mat'l	Archaeological	Reference
TL Context Age: 6650 ± 600 a (Ox87TLfg)				257f1	flint	-	
TL Context Comps:				257f1	"	PB 30	
				6325 ± 695 a	257f2	"	PB 26
				6420 ± 580 a	257f3	"	PB 9
				6890 ± 620 a	257f4	"	PB 52
				6655 ± 665 a	257f5	"	PB 39
				5670 ± 560 a	257f8	"	PB 21
				7590 ± 900 a	257f9	"	PB 3
				7580 ± 705 a	257f10	"	PB 54

Archaeological Evidence: Mesolithic site uncovered during excavations for a new cowshed. Trenches cut into nat. head brickearth containing calcined flints and struck flints of Mesolithic type. More than 1700 flints recovered include six major fragments from axes and adzes; most remarkable for the number and quality of axe-adze sharpening flakes of which 39 so far recovered.

Site Director: K. Parfitt, and G Halliwell. Dover Archaeological Group, c/o 8 Castle Avenue, Dover, CT16 1HA

Reports: Interim Report: Parfitt, K., and Halliwell, G. (1983) A Mesolithic site at Finglesham. *Kent Archaeological Review*, 72, 29-32.
Final report in preparation.

PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements

1. Min(f) tech.(fig. 1 - 8µm)							
Sample Ref.	P ± s.e. (Gy)	I/P	S/lps	s Plateau	Peak	Stability	α value
257f1	7.85 ± 0.50	0	-	±5%; 325-400°	350°, 5°/s;	325 - 400°; 0.5a; 18°; 100±3%	0.08
257f2	8.92 ± 0.30	0	-	±5%; 325-375°	"	325 - 375°;	0.10
257f3	8.92 ± 0.50	0	-	±5%; 325-375°	"	325 - 375°;	0.10
257f4	11.30 ± 0.30	0	-	±3%; 375-475°	"	375 - 475°;	0.18
257f5	8.92 ± 0.30	0	-	±3%; 350-450°	"	350 - 450°;	0.10
257f8	7.02 ± 0.50	0	-	±6%; 350-425°	"	350 - 425°;	0.08
257f9	10.70 ± 0.50	0	-	±6%; 325-375°	"	325 - 375°;	0.10
257f10	11.30 ± 0.30	0	-	±5%; 350-450°	"	350 - 450°;	0.16

Section B. Dose-rate Measurements

Sample Ref.	Total Eff. Dose-rate	Dose-rate Components				Radon	Water Sample Env.	
		α	β	γ	cos.			
	mGy/a	%	%	%	%	%	%	%
257f1	1.31 ± 0.06	10	16	63	11	0 ± 3	0 ± 2	22 ± 3
257f2	1.41 ± 0.07	16	15	58	11	"	"	"
257f3	1.39 ± 0.07	15	15	59	11	"	"	"
257f4	1.64 ± 0.08	30	11	50	9	"	"	"
257f5	1.34 ± 0.07	16	12	61	11	"	"	"
257f8	1.24 ± 0.06	9	13	66	12	"	"	"
257f9	1.41 ± 0.07	17	14	58	11	"	"	"
257f10	1.49 ± 0.07	24	11	55	10	"	"	"
Method		α-c	α-c	Cap	SpEC	α-c		
			FPh					

Section C. Error [eA76]

Section D. TL Age			
Sample Ref.	TL Age a	Random a	Errors Overall a.
257f1	5990		540
257f2	6325		695
257f3	6420		580
257f4	6890		620
257f5	6655		665
257f8	5670		560
257f9	7590		900
257f10	7580		705

Site: Abri Vaufrey
Location: Dordogne, France
Grid Ref.: -
Site Description: Rock shelter.

Dates				Lab. Ref. Mat'l	Archaeological Reference
TL Context Age: 12.0 ± 13 ka (Ox80TLfg)		216	flint	Layer IV, K11&12	
TL Context Comps:		216c3	"	Layer IV, K12	
118 ± 10 ka		21611	"	Layer IV, K11, 32	
128 ± 25 ka		21612	"	Layer IV, K11, 93	
140 ± 25 ka		21613	"	Layer IV, K11, 120	
122 ± 25 ka					

Archaeological Evidence: Site occupation assigned to Riss-Wurm interglacial, oxygen isotope stage 5e, 115-125 ka.

Site Director: J-Ph. Rigaud, Ministère de la Culture, 28, Place Gambetta, 33074, Bordeaux Cedex, France.

Reports: Monograph, forthcoming (since 1985), Proc. Prehistoric Soc. of France. Aitken, M.J., Huxtable, J., and Debenham. (1986) Thermoluminescence dating in the Palaeolithic: burned flint, stalagmitic calcite and sediment. Bul. d l'Assoc. Française pour l'Etude du Quaternaire, 26, 7-14.

PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements

1. Min(fit) tech.(fig. 1 - 8µm)						
Sample Ref.	P ± s.e. (Gy)	I/P	Sips	s Plateau	Peak	Stability
216c3	99.5 ± 5.0	0	-	±2%; 350-475°	350°; 5°/s;	350-475°; 0.5a; 18°; 100±3%
21611	120.0 ± 5.0	0	-	±3%; 325-400°	"	325-400°; " "
21612	114.0 ± 5.0	0	-	±2%; 350-400°	"	350-400°; " "
21613	109.0 ± 4.0	0	-	±3%; 350-450°	"	350-450°; " "

Section B. Dose-rate Measurements

Sample Ref.	Total Eff. Dose-rate	Dose-rate Components				Radon		Water	
		α	β	γ	cos.	%	%	Sample	Env.
	mGy/a	%	%	%	%	%	%	%	%
216c3	0.84 ± 0.04	12	22	62	4	0 ± 3	0 ± 2	16 ± 3	
21611	0.94 ± 0.20	14	27	56	3	"	"	"	
21612	0.82 ± 0.20	13	20	63	4	"	"	"	
21613	0.89 ± 0.20	12	26	59	3	"	"	"	
Method		α-c	α-c	Cap	SpEC	α-c			
		FPh	SpEC						

Section C. Error [eA76]

Section D. TL Age			
Sample Ref.	TL Age a	Random a	Errors Overall a.
216c3	118		10
21611	128		25
21612	140		25
21613	122		25

Special Remarks
Samples il-i3: not recently excavated material, but from same layer as sample c3. Gamma dose-rate based on measurement made during excavation of c3.

Laboratory: Oxford	Entry: 14
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Site: Pontnewydd Cave
Location: nr. St Asaph, Clwyd, Wales., UK
Grid Ref.: SJ 0153 7101
Site Description: Middle Pleistocene cave site.

Dates	Lab. Ref.	Mat'l	Archaeological Reference
TL Single Date: 200 ±25 ka	(Ox81/TL/g)	226d flint	D687

Archaeological Evidence: Hominid remains and an Acheulian industry: assigned to oxygen isotope Stage 7 (195-250 ka).

Site Director: H.S. Green, National Museum of Wales, Cathays Park, Cardiff CF1 3NP, UK.

Reports: Green, H.S., Stringer, C.B., Collcutt, S.N., Currant, A.P., Huxtable, J., Schwarcz, H.P., Debenham, N., Embleton, C., Bull, P., Molleson, T.L., and Bevins, R.E. (1981).Pontnewydd Cave in Wales - a new Middle Pleistocene hominid site. *Nature*, 294, 707-713.
Green, H.S. (1984) *Pontnewydd Cave, A Lower Palaeolithic Hominid Site in Wales*. Nat. Mus. of Wales Quaternary Studies Monographs, No. 1. ISBN 0 7200 0282 6.

Laboratory: Oxford	Entry: 14
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PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements						
1. Min(ifi) tech.(fig. 1 - 8µm)						
Sample Ref.	P ± s.e. (Gy)	I/P	Slps	s Plateau	Peak	Stability
226d	290 ± 10	0	-	±3%; 375-475°	375°, 5°/s;	375-475°, 0.5 a; 18°, 100±3%
						a value 0.08

Section B. Dose-rate Measurements									
Sample Ref.	Total Dose-rate mGy/a	Dose-rate Components			Radon		Water		
		α %	β %	γ %	cos.	%	Sample %	Env. %	
226d	1.45 ± 0.10	8	9	81	2	0 ± 3	0 ± 2	18 ± 7	
Method		α-c FPh	α-c	CAP	SpEC	α-c			

Section C. Error [eA76]

Section D. TL Age		
Sample Ref.	TL Age a	Errors Random a. Overall a.
226d	200	25

Site: Baiche-Saint Vaast
Location: Metal works site: Chatillon-Commentry-Biache, Baiche-Saint Vaast, France
Grid Ref: -

Site Description: The site is located in the fluvial calcarious and shelly formations which overlie gravel of a low terrace of the Scarpe valley at the foot of the Atois chalk escarpement. The whole is overlain by a thick Saalian and Weichselian loess series which allows the site to be attributed a Middle Pleistocene age.

Dates	Lab. Ref.	Mat'l	Archaeological Reference
TL Context Age: 175 ± 13 ka (Ox83TLfg)	704g	flint	B76
TL Context Comps:	704g1	"	B76 9L Ila SE
	704g2	"	B76 16u Ila
	704g3	"	B76 9c Ila
	704g4	"	B76 10L Ila
	704g5	"	B76 10A Ila
	704g6	"	B76 15X NE

Archaeological Evidence: Archaeological material dated to the start of oxygen isotope Stage 6. An important Palaeolithic site with abundant lithic industry (especially Levallois flakes, side scrapers and denticulates), fauna, and a human skull. The flints were from the level containing the skull.

Site Director: A. Tuffreau, Université de Lille, Batiment 2 et 6, 59655 Villeneuve D'Ascq Cedex, France.

Reports: Tuffreau A., Munaut A.V., Puissegur J.J., and Somme J. (1982) Stratigraphie et environnement de la sequence archeologique de Biache-Saint-Vaast. *Bull. Ass. Fr. Et. Quai., 10-11*, 57-61.
Aitken, M.J., Huxtable, J., and Debenham. (1986) Thermoluminescence dating in the Palaeolithic: burned flint, stalagmitic calcite and sediment. *Bul. d l'Assoc. Francaise pour l'Etude du Quaternaire*, 26, 7-14.

PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements

1. Min(t) tech.(fg: 1 - 8µm)

Sample Ref.	P ± s.e. (Gy)	I/P	Slps	s Plateau	Peak	Stability	a value
704g1	80.0 ± 3.0	0	-	± 2%; 350-425°	375°, 5°/s-	350-425°; 0.5 a; 18°; 100±3%	0.12
704g2	78.5 ± 3.0	0	-	± 2%; 350-400°	"	350-400°; " "	0.15
704g3	79.4 ± 3.0	0	-	± 2%; 325-400°	"	325-400°; " "	0.11
704g4	85.6 ± 3.0	0	-	± 3%; 325-400°	"	325-400°; " "	0.11
704g5	84.4 ± 3.0	0	-	± 3%; 350-400°	"	350-400°; " "	0.11
704g6	79.4 ± 3.0	0	-	± 2%; 375-425°	"	375-425°; " "	0.13

Section B. Dose-rate Measurements

Sample Ref.	Total Eff. Dose-rate mGy/a	Dose-rate Components				Radon		Water	
		α	β	γ	cos.	%	%	Sample	Env.
704g1	0.45 ± 0.03	26	24	25	25	0 ± 3	0 ± 2	26 ± 3	"
704g2	0.40 ± 0.03	24	18	29	29	"	"	"	"
704g3	0.50 ± 0.03	29	25	23	23	"	"	"	"
704g4	0.48 ± 0.03	21	28	24	24	"	"	"	"
704g5	0.48 ± 0.03	21	33	23	23	"	"	"	"
704g6	0.50 ± 0.03	27	27	23	23	"	"	"	"
Method		α-c	α-c FPh	Cap SpEC	SpEC	α-c			

Section C. Error [eA76]

Section D. TL Age		
Sample Ref.	TL Age	
	a	Random a
704g1	178	14
704g2	196	16
704g3	159	12
704g4	178	14
704g5	176	13
704g6	159	12

Site: Grottes de Sclayn.
Location: Meuse Valley, Namur Province., Belgium
Grid Ref.: -
Site Description: Habitation cave site with Mousterian industries; overlain by Neolithic inhumations.

Dates	Lab. Ref.	Mat'l	Archaeological Reference
TL Single Date:	44 ± 5.5 ka	(Ox83TL1g) 230a1	flint Level 1A, 82-113.D15
TL Single Date:	130 ± 20 ka	(Ox83TL1g) 230a2	flint Layer 5B, 82.370.G13

Archaeological Evidence: C-14 age of 38600 ±1500 BP (Lv 1377) for bone from same context as TL sample a1; sample a2 was from level 5B which was lower, and contained within a Levallois type industry..

Site Director: M. Otte, Université de Liège, Service de Préhistoire, place du XX août 7, Bâtiment A1, B-4000, Liège, Belgium.

Reports: Otte, M. (1979) Sclayn. *Archéologie*, 2, 12.
Otte, M., Leotard, J-M, Schneider, A-M, and Gautier, A. (1983) Fouilles aux Grottes de Sclayn (Namur). *Helinium*, XXIII, 112-142.
Otte, M., Everard, J-M, and Mathis, A. (1988) L'occupation du paléolithique moyen à Sclayn (Belgique). *Revue Archéo. de Picardie*, 1-2, 115-124.
Otte, M. (forthcoming) Les Fouilles au sites Paléolithique de Sclayn - les sciences naturelles. *Études et Recherches Archéologiques de l'Université de Liège*. (Ed., M. Otte).
Aitken, M.J., Huxtable, J., and Debenham. (1986) Thermoluminescence dating in the Palaeolithic: burned flint, stalagmitic calcite and sediment. *Bul. d l'Assoc. Française pour l'Etude du Quaternaire*, 26, 7-14.

PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements						
1. Min(tl) tech. (fig. 1 - 8µm)						
Sample Ref.	P ± s.e. (Gy)	I/P	Slips	s Plateau	Peak	Stability
230a1	61.5 ± 5.0	0	-	± 2%; 350-425°	400°; 5°/s;-	350-425°; 0.5 a; 18°; 100±3%
230a2	133.0 ± 13.0	0	-	± 2%; 350-425°	400°; 5°/s;-	350-425°; 0.5 a; 18°; 100±3%

Section B. Dose-rate Measurements									
Sample Ref.	Total Dose-rate mGy/a	Dose-rate		Components		Radon		Water	
		α	β	γ	cos.	%	%	Sample	Env.
230a1	1.40 ± 0.20	12	23	60	5	10 ± 5	0 ± 2	23 ± 3	
230a2	1.02 ± 0.15	5	11	77	7	10 ± 5	0 ± 2	15 ± 3	
Method		α-c		CAP		SpEC		α-c	
		FPh		SPEC				α-SPEC	

Section C. Error [ea76]

Section D. TL Age			
Sample Ref.	TL Age a	Errors	
		Random a	Overall a.
230a1	44		5.5
230a2	130		20

Site: Maastricht-Belvedere
Location: Sites C, G and K; NW of Maastricht on left bank of river Maas, Holland
Grid Ref.: -
Site Description: Loess and gravel pit; excavation revealed about 3000 flint artefacts, mostly small flakes of Levallois type and some cores.

Dates				Lab. Ref.	Mat'l	Archaeological Reference
TL Context Age: 263 ± 22 ka (Ox85TLfg)				712k	flint	Site C Stratigraphic Unit 4
TL Context Comps:				712k4	"	Az-12/9
				712k5	"	Cz-19/15
				712k6	"	Bz-20/2
				712k11	"	22/22-44
				712k12	"	dW 84/1
				712k13	"	dW 84/2
				712k14	"	1984 11/bf
TL Single Age: 238 ± 25 ka (Ox86TLfg)				712k17 flint	"	Site G 49/106-2
TL Single Age: 220 ± 20 ka (Ox86TLfg)				712k19	"	Site G 46/105-10
TL Single Age: 218 ± 24 ka (Ox87TLfg)				712k23	"	Site K 7/203

Archaeological Evidence: Probable correlation to oxygen isotope Stage 7.

Site Director: Wil Roebroeks, Inst. of Prehistory, Leiden University, PO Box 9515, 2300 RA Leiden, The Netherlands.

Reports: Van Kolfschoten, T., and Roebroeks, W., eds. (1985) Maastricht-Belvedere: stratigraphy, palaeoenvironment and archaeology of the Middle and Late Pleistocene deposits. *Mededelingen Rijks Geologische Dienst* N.S.39. ISBN 9004 079 068.
Aitken, M.J., Huxtable, J., and Debenham. (1986) Thermoluminescence dating in the Palaeolithic: burned flint, stalagmitic calcite and sediment. *Bul. d l'Assoc. Francaise pour l'Etude du Quaternaire*, 26, 7-14.

PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements

1. Min(fit) tech. (fig. 1 - 8µm)

Sample Ref.	P ± s.e. (Gy)	I/P	Slps	s Plateau	Peak	Stability	α value
712k4	330 ± 30	0	-	± 4%; 325-400°	375°, 5°/s;	325-400°; 0.5 at 18°; 100±3%	0.07
712k5	247 ± 15	0	-	± 4%; 325-425°	375°, 5°/s;	325-425°; "	0.10
712k6	280 ± 15	0	-	± 3%; 350-450°	350°, 5°/s;	325-450°; "	0.11
712k11	313 ± 15	0	-	± 3%; 325-400°	375°, 5°/s;	325-400°; "	0.11
712k12	294 ± 14	0	-	± 4%; 350-425°	375°, 5°/s;	325-425°; "	0.10
712k13	280 ± 18	0	-	± 4%; 350-425°	375°, 5°/s;	350-425°; "	0.15
712k14	235 ± 15	0	-	± 3%; 350-400°	375°, 5°/s;	325-400°; "	0.10
712k17	243 ± 13	0	-	± 5%; 325-375°	350°, 5°/s;	325-375°; "	0.10
712k19	218 ± 10	0	-	± 3%; 350-425°	375°, 5°/s;	350-425°; "	0.10
712k23	238 ± 14	0	-	± 6%; 325-400°	375°, 5°/s;	325-400°; "	0.08

Section B. Dose-rate Measurements

Sample Ref.	Total Eff. Dose-rate mGy/a	Dose-rate Components			Radon %	Water Sample Env.	
		α	β	γ cos.		%	%
712k04	1.10 ± 0.15	8	15	65	12	45 ± 5	0 ± 2 16 ± 5
712k05	0.94 ± 0.14	3	6	77	14	"	"
712k06	1.18 ± 0.18	13	13	63	11	"	"
712k11	1.02 ± 0.15	9	7	71	13	"	"
712k12	1.18 ± 0.18	14	14	61	11	"	"
712k13	1.04 ± 0.15	8	10	69	13	"	"
712k14	1.07 ± 0.16	6	15	67	12	"	"
712k17	1.02 ± 0.15	12	18	58	12	"	"
712k19	0.99 ± 0.15	15	12	61	12	"	"
712k23	1.08 ± 0.16	10	11	67	12	"	"
Method		α-c	βPh	γCAP	SpEC	α-c	α-SPEC

Section C. Error [eA76]

Section D. TL Age			Errors	
Sample Ref.	TL Age a	Random a	Overall a.	
712k04	300		32	
712k05	263		27	
712k06	238		20	
712k11	307		28	
712k12	250		22	
712k13	269		26	
712k14	220		20	
712k17	238		25	
712k19	220		20	
712k23	218		24	

Laboratory: Oxford	Entry: 18
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Site: Seclin
Location: Mayolande factory, Seclin., France
Grid Ref.: -

Site Description: Middle Palaeolithic

Dates	Lab. Ref.	Mat'l	Archaeological Reference
TL Context Age: 9.3 ± 9 ka (Ox85TLfg)	720a	flint	Stratigraphic Unit 7
TL Context Comps: 91.5 ± 11 ka	720a1	"	3D Layer D4
90.0 ± 10 ka	720a2	"	S84.5G.D7

Archaeological Evidence: Evidence of lithic industry manufacturing Levallois blades.

Site Director: A. Tuffreau, Université de Lille, Batiment 2 et 6, 59655 Villeneuve D'Ascq Cedex, France.

Reports: Tuffreau, T., Revillon, S., Sommé, J., Aitken, M.J., Huxtable, J., and Leroi-Gourham, A. (1985) Le gisement Paleolithique moyen de Seclin. *Archeologiques Korrespondenzblatt*, **15**, 131-138.
Aitken, M.J. Huxtable, J., and Debenham. (1986) Thermoluminescence dating in the Palaeolithic: burned flint, stalagmitic calcite and sediment. *Bul. d l'Assoc. Francaise pour l'Etude du Quaternaire*, **26**, 7-14.

Laboratory: Oxford	Entry: 18
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PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements						
1. Min(fit) tech. (fig. 1 - 8µm)						
Sample Ref.	P ± s.e. (Gy)	I/P	Slps	s Plateau	Peak	Stability
720a1	89.5 ± 4.0	0	-	±2%; 350-400°	350°; 5%/s;	350-400°; 0.5 a; 18°; 100±3%
720a2	122.0 ± 5.0	0	-	±3%; 350-425°	350°; 5%/s;	350-425°; 0.5 a; 18°; 100±3%
						0.10
						0.21

Section B. Dose-rate Measurements									
Sample Ref.	Total Eff. Dose-rate	Dose-rate Components			Radon		Water		
		α	β	γ	cos.	%	Sample	Env.	%
720a1	0.98 ± 0.05	10	16	62	12	0 ± 3	0 ± 2	36 ± 4	0 ± 2
720a2	1.28 ± 0.05	26	16	50	8	0 ± 3	0 ± 2	36 ± 4	0 ± 2
Method		α-c		α-c	βPh	SpEC	α-c		

Section C. Error [eA76]

Section D. TL Age			
Sample Ref.	TL Age a	Errors	
		Random a	Overall a.
720a1	91.5	11	11
720a2	95.0	10	10

Site: Mesvin
Location: Between Mesvin and Spiennes, nr. Mons., Belgium.
Grid Ref.: -
Site Description: Fluvialile channel with a rich lithic industry of Middle Palaeolithic age.

Dates				Lab. Ref.	Mat'l	Archaeological	Reference
TL Context Age:		5.9 ± 0.6 ka	(Ox82TLfg)	233	flint	80/E, F	
TL Context Comps:		4.9 ± 0.6 ka		233a1	flint	80F183	
		6.8 ± 0.8 ka		233a2	flint	80E185	

Archaeological Evidence: Squares F181 to 185 were crossed by a ditch of unknown age, but presumed to be Neolithic or later. The burnt flint must be intrusive; C-14 dates for flint mines at Spiennes and Mesvin of 540 ±75 BP and 5340 ±150 BP are in good agreement with the TL age.

Site Director: D. Cahen, Institute Royal des Sciences Naturelles de Belgique, Rue Vautier 31, B1040, Bruxelles.

Reports: Site reports in *Archaeologica Belgica*, nos. 213(1979), 223(1980), and 238(1981).

PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements							
1. Min(t _i) tech.(fg; 1 - 8µm)							
Sample Ref.	P ± s.e. (Gy)	I/P	Slips	s Plateau	Peak	Stability	a value
233a1	8.20 ± 0.70	0	-	± 5%; 325-375°	350°; 5°/s;	325-375°; 0.5a; 18°; 100 ±3%	0.09
233a2	12.50 ± 1.00	0	-	± 5%; 325-375°	350°; 5°/s;	325-375°; 0.5a; 18°; 100 ±3%	0.13

Section B. Dose-rate Measurements											
Sample Ref.	Total Eff. Dose-rate	Dose-rate Components				Radon		Water			
		mGy/a	α	β	γ cos.	%	%	%	%	Sample	Env.
233a1	1.68 ± 0.10	24	17	51	8	0 ± 3	0 ± 2	20 ± 5	0 ± 2	20 ± 5	
233a2	1.83 ± 0.11	22	14	56	8	0 ± 3	0 ± 2	20 ± 5	0 ± 2	20 ± 5	
Method		α-c		α-c		SPEC		SPEC		α-c	
		FPh		FPh							

Section C. Error [eA76]

Section D. TL Age			
Sample Ref.	TL Age a	Errors	
		Random a	Overall a.
233a1	4.9	0.6	
233a2	6.8	0.8	

Site: Hengistbury Head
Location: Nr. Bournemouth, Dorset., UK.
Grid Ref.: SZ 172906
Site Description: Upper Palaeolithic and Mesolithic sites

Dates				Lab. Ref. Mat'l	Archaeological Reference
TL Context		Age	12.5 ± 1.15 ka	(Ox82TLfg) 707a	flint
TL Context Comps:		14.3 ± 2.43 ka		707a1	flint
		10.8 ± 1.90 ka		707a3	"
		12.8 ± 1.97 ka		707a4	"
		10.4 ± 1.42 ka		707a5	"
		11.9 ± 1.29 ka		707a11	"
		13.0 ± 1.92 ka		707a12	"
TL Context		Age	9.75 ± 0.95 ka	(Ox82TLfg) 707c	flint
TL Context Comps:		9.32 ± 1.26 ka		707c1	flint
		7.00 ± 1.14 ka		707c2	"
		12.3 ± 1.67 ka		707c3	"
		8.88 ± 1.0 ka		707c7	"
		10.75 ± 1.5 ka		707c9	"

Archaeological Evidence: Mace/Campbell Site: Scatter of flint artefacts in fine-grained sand deposits. The TL determinations were all on artefacts and the dates fall within the expected time range for a Late Upper Palaeolithic industry.
Powell Site: Concentration of flint artefacts stratified in windblown sands. The dates corroborate the Early Mesolithic classification of the flint assemblage.

Site Director: R.N.E. Barton,, Inspectorate of Ancient Monuments, Fortress House, 23 Saville Row, London W1X 2HE

Reports: Barton, R.N.E., and Huxtable, J. (1983) New dates for Hengistbury Head *Antiquity*, LVII, 220, 133-135
Barton, R.N.E. (1988) The Upper Palaeolithic and mesolithic sites at Hengistbury Head. (Ed R.N.E. Barton) Monograph Series, Oxford Committee for Archaeology. In press.

PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements

1. Min(ifi) tech.(fg; 1 - 8µm)

Sample Ref.	P ± s.e. (Gy)	I/P	Slips	s Plateau	Peak	Stability	a value
707a1	8.00 ± 0.70	0	-	± 3%; 350-425°	375°; 5°/s;	350 - 425°; 0.5a; 18°; 100+3%	0.12
707a3	6.20 ± 0.70	"	-	± 3%; 325-400°	375°; 5°/s;	325 - 400°; "	0.09
707a4	8.40 ± 0.70	"	-	± 3%; 325-400°	350°; 5°/s;	325 - 400°; "	0.19
707a5	6.20 ± 0.70	"	-	± 5%; 350-425°	375°; 5°/s;	350 - 425°; "	0.11
707a11	8.00 ± 0.70	"	-	± 5%; 350-400°	375°; 5°/s;	350 - 400°; "	0.07
707a12	8.50 ± 0.80	"	-	± 3%; 350-400°	375°; 5°/s;	350 - 400°; "	0.18
707c1	6.30 ± 0.50	"	-	± 4%; 350-425°	375°; 5°/s;	350 - 425°; "	0.14
707c2	4.40 ± 0.40	"	-	± 7%; 325-400°	375°; 5°/s;	325 - 400°; "	0.15
707c3	7.50 ± 0.50	"	-	± 2%; 325-400°	375°; 5°/s;	325 - 400°; "	0.10
707c7	7.50 ± 0.50	"	-	± 3%; 350-400°	375°; 5°/s;	325 - 400°; "	0.12
707c9	6.40 ± 0.50	"	-	± 3%; 325-400°	375°; 5°/s;	325 - 400°; "	0.08

Section B. Dose-rate Measurements

Sample Ref.	Total Eff. Dose-rate	Dose-rate Components				Radon		Water	
		mGy/a	α	β	γ cos.	%	%	Sample	Env.
707a1	0.57 ± 0.05	11	12	53	24	0 ± 3	0 ± 2	15 ± 5	"
707a3	0.57 ± 0.05	9	14	53	24	"	"	"	"
707a4	0.66 ± 0.05	17	17	45	21	"	"	"	"
707a5	0.60 ± 0.05	8	18	51	23	"	"	"	"
707a11	0.67 ± 0.05	12	22	45	21	"	"	"	"
707a12	0.65 ± 0.05	17	15	47	21	"	"	"	"
707c1	0.67 ± 0.05	18	13	49	20	"	"	"	"
707c2	0.63 ± 0.05	13	13	52	22	"	"	"	"
707c3	0.61 ± 0.04	10	13	54	23	"	"	"	"
707c7	0.84 ± 0.06	26	18	39	17	"	"	"	"
707c9	0.60 ± 0.04	8	13	56	23	"	"	"	"
Method		α-c	α-c FPh	α-c CAP	α-c SpEC	α-c			

Section C. Error [eA76]

Section D. TL Age			Errors	
Sample Ref.	TL Age a	Random a	Overall a	
707a1	14.30		2.43	
707a3	10.80		1.90	
707a4	12.80		1.97	
707a5	10.40		1.42	
707a11	11.90		1.29	
707a12	13.00		1.92	
707c1	9.32		1.26	
707c2	7.00		1.14	
707c3	12.30		1.67	
707c7	8.88		1.00	
707c9	10.75		1.50	

Site: Shuwikhat 1
Location: Gebel Ras El Bsir near Qena in the Eastern Desert., Egypt
Grid Ref.: 26°14'N 32°36'E
Site Description: In Nile silts at the outer edge of a fan deposit of a wadi draining Gebel Ras El Bsir. The site is an Early Late Palaeolithic occupation site in the flood plain of the former Nile.

Dates	Lab. Ref.	Mat'l	Archaeological	Reference
TL Context Age: 25.0 ± 2.5 ka (Ox85TLi)	253	burnt clay	ME85/3/48	21N/3EB
TL Context Comps: 25.2 ± 2.8 ka	253(i)	"		
24.8 ± 2.7 ka	253(ii)	"		
25.1 ± 2.8 ka	253(iii)	"		

Archaeological Evidence: The archaeological material is included in the Shuwikhat silts. A buried soil is present within these silts and is posterior to the occupation. The Shuwikhat silts are overlain by the black Sheikh Houssein silts, dated at 12-13,000 BP (Vermeersch, Paulissen and Van Neer, 1985), and laid down by the 'Wild Nile' (Butzer and Hansen, 1968). Faunal remains (aurochs, hartbeest, gazelle and catfish) were abundant, but only a few were identifiable due to the high degree of postdepositional fragmentation. No Levallois nor Halfan technology has been detected on the site. Nearly all tools are made on a blade. The most common tool type is the unilaterally denticulated blade (17%) but bilateral ones (9%) are also numerous. The bilaterally denticulated blades were often made on pointed blanks. Burins represent about 13% of tools and were normally made on strong blades. Multiple burins are numerous. End-scrapers on a blade are as numerous as burins. Combinations tools do occur. Blunting of the proximal and of the blade is rather frequent (10%). Backed blades, but mostly fragments, represent 5%. Boreds and truncated pieces are rare. Backed bladelets, Ouchiata bladelets and bifacial pieces are absent.

Site Director: Prof. Dr. P.M. Vermeersch, Laboratorium voor Prehistorie Katholieke Universiteit Te Leuven, Redingenstraat 16 bis, 3000 Leuven, Belgium.

Reports: Paulissen, E., and Vermeersch, P.M. (1987) Earth, Man and Climate in the Egyptian Nile Valley during the Pleistocene, 29-67. In *Prehistory of arid North Africa* (A. Close, Ed). Southern Methodist University Press, Dallas.
Paulissen, E., and Vermeersch, P.M., and Van Neer, W.(1985) Progress report on the Late Palaeolithic Shuwikhat sites. Nyame Akuma, 26, 7-14.

PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements						
1. Min(q) tech.(i; 90 - 125 µm)						
Sample Ref.	P ± s.e. (Gy)	I/P	Slps	s Plateau	Peak	Stability
253(i)	40.80 ± 4.00	0	1.25±0.05	±5%; 300-350°	325°, 5°/s;	-
253(ii)	42.70 ± 4.00	0	1.22±0.05	±3%; 300-375°	325°, 5°/s;	-
253(iii)	40.20 ± 4.00	0	1.40±0.05	±4%; 300-350°	325°, 5°/s;	-

Section B. Dose-rate Measurements									
Sample Ref.	Total Eff. Dose-rate mGy/a	Dose-rate Components				Radon	Water Sample Env.		
		α	β	γ	$\cos.$		%	%	
253(i)	1.62 ± 0.16	54	37	9		0 ± 3	5 ± 5	"	"
253(ii)	1.73 ± 0.17	57	35	8		"	"	"	"
253(iii)	1.60 ± 0.16	53	38	9		"	"	"	"
Method		α -c FPPh	α -c,FPPh SPEC	SpEC		α -c			

Section C. Error [eA76]

Section D. TL Age		
Sample Ref.	TL Age a	Errors
		Random a
253(i)	25.2	2.8
253(ii)	24.8	2.7
253(iii)	25.1	2.8

Site: Hummal Well, EL Kowm.
Location: El-Kowm basin, N of Palmyra in the Syrian desert/steppe, Syria
Grid Ref.: 426B DU8/9

Site Description: Hummal is a mound-spring, developed into a well by peasants, one of many in the artesian basin, a closed depression.

Dates		Lab. Ref.	Mat'l	Archaeological Reference
TL Context Age: 160 ± 22 ka (Ox85TL/g)		2351b	flint	Level 1b
TL Context Comps:		2351b(i)	"	
145 ± 20 ka		2351b(ii)	"	
160 ± 23 ka		2351b(iii)	"	
TL Context Age: 104 ± 9 ka		235 6b	flint	Level 6b
TL Context Comps:		235 6b(i)	"	
97 ± 8 ka		235 6b(iii)	"	
105 ± 9 ka		235 6b(v)	"	
112 ± 10 ka				

Archaeological Evidence: The industry of Level 1b (basal so far) is Yabrudian, embedded in the travertine, and below Middle Palaeolithic (Hummalian and Moustesian) layers. The date is similar to U/Th series dates of 157 ka and 140 ka for the same travertine. Level 6b was enigmatic because it consisted of abraded and patinated Moustesian-like blades but the level was far above the other Moustesian layers. Could it be transitional to Upper Palaeolithic? The date indicates the artefacts are derived possibly by spring action. The date is otherwise good for an early Levallais-Moustesian, dated elsewhere at El-Kowm by U/Th series dating to around 80 000 and earlier (c. 120 - 110 ka) on the coast.

Site Director: F. Hours (deceased); now J-M Le Tensorer, Basle University, Switzerland.

Reports: Hennig, G., and Hours, F. (1982) Dates pour le passage entre l'Acheulien et le paleolithique Moyen à El-Kowm, Syrie. *Paléorient*, 8(1), 81-83.
Copeland, L., and Hours, F. (1982) Le Yabroudien d'El-Kowm, Syrie et sa place dans la Paleolithique du Levant. *Paléorient*, 9(1), 21-37.

PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements

1. Min(fit) tech. (fig. 1 - 8µm)							
Sample Ref.	P ± s.e. (Gy)	I/P	Slips	s Plateau	Peak	Stability	a value
2351b(i)	380 ± 35	0	-	±5%; 350-425°	350°; 5°/s;	350-425°; 0.5a; 18°; 100±3%	0.12
2351b(ii)	305 ± 25	0	-	±3%; 350-400°	350°; 5°/s;	350-400°; "	0.11
2351b(iii)	350 ± 30	0	-	±5%; 375-425°	375°; 5°/s;	375-425°; "	0.12
2356b(i)	286 ± 25	0	-	±3%; 325-375°	350°; 5°/s;	325-375°; "	0.17
2356b(ii)	310 ± 25	0	-	±5%; 325-400°	350°; 5°/s;	325-400°; "	0.14
2356b(v)	310 ± 25	0	-	±5%; 325-400°	350°; 5°/s;	325-400°; "	0.18

Section B. Dose-rate Measurements

Sample Ref.	Total Eff. Dose-rate	Dose-rate Components			Radon		Water	
		α	β	γ cos.	%	%	Sample	Env.
235 1b(i)	2.11 ± 0.10	1	4	89	6	0 ± 3	0 ± 2	3 ± 3
235 1b(ii)	2.11 ± 0.10	1	4	89	6	"	"	"
235 1b(iii)	2.12 ± 0.11	1	4	89	6	"	"	"
235 6b(i)	2.96 ± 0.15	34	15	46	5	"	"	"
235 6b(iii)	2.93 ± 0.15	33	16	46	5	"	"	"
235 6b(v)	2.76 ± 0.14	33	12	50	5	"	"	"
Method		α-c	α-c FPh	CAP	CAP	α-c		

Section C. Error [eA76]

Section D. TL Age

Sample Ref.	TL Age		Errors	
	a	Random	a	Overall
235 1b(i)	180		25	
235 1b(ii)	145		20	
235 1b(iii)	165		23	
235 6b(i)	97		8	
235 6b(iii)	105		9	
235 6b(v)	112		10	

Laboratory: Oxford	Entry: 23
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Site: Höfer 1
 Location: Near Celle in Lower Saxony on the River Aschau., Germany
 Grid Ref.: -
 Site Description: Late Glacial tanged point complex.

Dates	Lab. Ref	Mat'l	Archaeological Reference
TL Single Date: 12.6 ± 1.6 ka (Ox88TLfg)	258a1	flint	II/535

Archaeological Evidence: The date for Höfer is quite interesting because it lies beyond the hitherto archaeologically presumed age of this kind of tanged-point assemblage (Diddlese-Lavesum-Gruppe of Taute, 1968): end of Dryas III or even Preboreal (=approx. 10 000 BP). Even the 68% confidence interval does not cover these chronozones. On the other hand the dating of special assemblage types of the tanged-point complex is rarely based on radiometric, pollen analytical, or other than archaeological evidence. Furthermore Höfer can archaeologically be interpreted as a special activity camp(s) which may lack tanged points perhaps because of this. It should be kept in mind however, that the limits of the chronozones are based on C-14 dates (Mangerud u.a. 1976) which are not calibrated and therefore not directly comparable with TL dates. An example for diverging dates are the Magdalenian sites of the Paris Basin where TL dates appear older than C-14 dates (Schmider, 1982, 1987).

Site Director: Dr. S. Veil, Niedersächsisches Landesmuseum, 3 Hannover 1, Am Maschpark 5, West Germany.

Reports: Veil, S., Lass, G., and Meyer, H.-H. (1987) Ein fundplatz der Steilsplittzen-Gruppen ohne steilsplittzen bei Höfer, Ldkr. Celle. *Archäologisches Korrespondenzblatt*, 17, 311-322.
 Veil, S., Lass, G., and Meyer, H.-H. (1987) Interdisziplinäre untersuchungen zum spätalolithischen fundplatz Höfer, Ldkr. Celle. *Berichte der Naturhistorischen Gesellschaft zu Hannover*, 129, 225-260.

Laboratory: Oxford	Entry: 23
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PART II
 TECHNICAL SPECIFICATION

Section A. TL Measurements						
1. Min(fit) tech.(fg: 1 - 8µm)						
Sample Ref.	P ± s.e. (Gy)	I/P	Slips	s Plateau	Peak	Stability
258a1	6.55 ± 0.50	0	-	±2%, 375-425°	375°, 5°/s;	375-425°, 0.5a, 18°, 100±3%
						a value
						0.10

Section B. Dose-rate Measurements									
Sample Ref.	Total Eff. Dose-rate	Dose-rate Components					Radon	Water Sample Env.	
		α	β	γ	cos.			%	%
	mGy/a	%	%	%	%	%	%	%	%
258a1	0.52 $\pm$ 0.05	12	12	50	26	0 $\pm$ 3	0 $\pm$ 2	13 $\pm$ 3	
Method			α -c	α -c	SPEC	SpEC	α -c		
			FPPh						

Section C. Error [eA76]

Section D. TL Age		
Sample Ref.	TL Age a	Errors Random Overall a.
258a1	12.6	1.6

Laboratory: Oxford	Entry: 24
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Site: Schweskau.
 Location: Near Lüchow, Lower Saxony , Germany.
 Grid Ref.: -
 Site Description: Late Glacial, shouldered point complex.

Dates	Lab. Ref. Mat'l	Archaeological Reference
TL Single Date: 8.3 ± 1.0 ka (Ox88TLfg)	259b1 flint	157
TL Single Date: 7.0 ± 0.9 ka (Ox88TLfg)	259b2 flint	519
TL Single Date: 8.3 ± 1.0 ka (Ox88TLfg)	259b3 flint	67/58

Archaeological Evidence: The dates of Schweskau material are acceptable, although most of the excavated concentration must be archaeologically attributed to LUP, probably before Allerød. We can isolate a few flint artefacts which scatter all over the concentration and beyond, and seem to be Mesolithic by technology, patination, proportion of craquelé and typology. Especially the craquelé may be attributed to this later settlement. OxTL259b2 fits well with the only microlith found during excavation (later Mesolithic).

Site Director: Dr. S. Veil, Niedersächsisches Landesmuseum, 3 Hannover 1, Am Masch-park 5, West Germany.

Reports: In preparation

Laboratory: Oxford	Entry: 24
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PART II
 TECHNICAL SPECIFICATION

Section A. TL Measurements						
1. Min(fit) tech (fig. 1 - 8µm)						
Sample Ref.	P ± s.e. (Gy)	I/P	Slps	s Plateau	Peak	Stability
259b1	4.90 ± 0.40	0	-	+5%; 375-450°	375°; 5°/s;	375-450°; 0.5 a; 18°; 100±3%
259b2	4.25 ± 0.35	0	-	+6%; 350-425°	375°; 5°/s;	350-425°; "
259b3	5.55 ± 0.50	0	-	+6%; 325-400°	375°; 5°/s;	325-400°; "
						0.10 0.08 0.10

Section B. Dose-rate Measurements									
Sample Ref.	Total Eff. Dose-rate mGy/a	Dose-rate Components			Radon		Water		α-c
		α	β	γ cos.	%	%	Sample	Env.	
259b1	0.59 ± 0.06	8	10	58	24	0 ± 3	0 ± 2	27 ± 3	
259b2	0.61 ± 0.06	10	13	54	23	0	"	"	
259b3	0.67 ± 0.07	15	13	51	21	0	"	"	
Method		α-c	α-c FPH	SPEC	SPEC	α-c			

Section C. Error [eA76]

Section D. TL Age			
Sample Ref.	TL Age a	Random a	Errors Overall a.
259b1	8.3		1.0
259b2	7.0		0.9
259b3	8.3		1.0

Laboratory: Oxford	Entry: 25
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Site: Chaperon Rouge I
 Location: Rabat, Morocco
 Grid Ref.: -

Site Description: Archaeological layer on Magreben calcite overlain by Ibero-Maurusien.

Dates	Lab. Ref.	Mat'l	Archaeological Reference
TL Single Date: 28.2 ± 3.3 ka (Ox88TLfg)	724g1	flint	CH-R G59.4

Archaeological Evidence: The site contains late Aterien artefacts overlain by Ibero-Maurusien Epi-Palaeolithic and Neolithic levels. The date is in good agreement with others from N. Africa.

Site Director: J-P Texier, Inst. du Quaternaire, Université de Bordeaux I. Bâtiment de Géologie. Ave. des Facultés 33405. Talence Cedex France.

Reports: Texier, J-P, Huxtable, J., Rhodes, E., Miallier, D. and Ousmoi, M. (1988) Nouvelles données sur la situation chronologie de l'Altérien et leurs implications. Paper to be published in *Prehistoire*

Laboratory: Oxford	Entry: 25
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PART II
 TECHNICAL SPECIFICATION

Section A. TL Measurements						
1. Min(f) tech.(fg: 1 - 8µm)						
Sample Ref.	P ± s.e. (Gy)	I/P	Slps	s Plateau	Peak	Stability
724g1	49.30 ± 4.00	0	-	±5%; 350-425°	375°, 5°/s;	350-425°; 0.5 a; 18°; 100±3%
						a value
						0.13

Section B. Dose-rate Measurements									
Sample Ref.	Total Eff. Dose-rate	Dose-rate Components		Radon		Water Sample Env.			
	mGy/a	α	β	γ	cos.	%	%	%	%
724g1	1.75 ± 0.17	49	28	15	8	5 ± 5	0 ± 2	5 ± 5	
Method	α-c	α-c Fph	α-c Sp,PEC	α-c Sp,PEC	α-c				

Section C. Error [eA76]

Section D. TL Age		
Sample Ref.	TL Age Random a.	Errors Overall a.
724g1	28.2	3.3

Site: Rekem
Location: Meuse River Valley, Belgium
Grid Ref.: 50°54'N 5°41'E
Site Description: Late Palaeolithic (Fodermesser group) campsite situated on late Pleistocene sand deposits.

Dates	Lab. Ref.	Mat'l	Archaeological Reference
TL Context Age: 12.2 ± 1.1 ka (Ox88TLi)	246	quartzite pebbles	-
TL Context Comps:	246a1	"	N8E 34/5
	246b3	"	N18 E0/212
	246b6	"	N18 E4/62
	246c7	"	N2 E6/136
	246c8	"	N2 E6/139
	246c9	"	N2 E6/167
	246c10	"	N2 E4/10
	246d11	"	SO E12/2

Archaeological Evidence: Excavations which started in 1984 have revealed the presence of at least sixteen spatially independent structures, consisting of concentrations of lithic waste material which are dispersed in a cluster on a total excavated surface of 1.7 ha. Organization of the settlement is studied through refitting analyses, which will help also in establishing the internal chronology of the site. Evidence of a dwelling structure and hearths are preserved. No organic preservation except the resin attached to an arrow-head point (C-14 date: 11 350 ±150 OxA-942).

Site Director: Drs Robert Lauwers Katholieke Universiteit te Leuven Laboratorium voor Prehistorie Redingenstraat 16 bis 3000 Leuven Belgium.

Reports: Lauwers, R. (1985) Découverte d'un vaste campement du Paléolithique Final dans la vallée de la Meuse, Belgique. *L'Anthropologie*, 89, 557-559.
Lauwers, R. (1988) Le gisement tjongeren de Rekem (Belgique) Premier bilan d'une analyse spatials. In *Les civilisations du Paléolithique final de la Loire à l'Oder* (M. Otte, Ed.). Liège.

PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements

1. Min(q) tech. (i; 90 - 125µm)						
Sample Ref.	P ± s.e. (Gy)	I/P	Slps	s Plateau	Peak	Stability
246a1	16.80 ± 0.80	0	0.93 ± 0.03	± 6%; 325-425°	375°, 5°/s;	-
246b3	16.50 ± 0.80	0	0.82 ± 0.04	± 3%; 300-350°	325°, 5°/s;	-
246b6	17.40 ± 0.90	0	0.85 ± 0.04	± 5%; 350-400°	375°, 5°/s;	-
246c7	63.80 ± 1.80	0	1.10 ± 0.05	± 3%; 275-375°	350°, 5°/s;	-
246c8	5.30 ± 0.30	0	0.33 ± 0.03	± 3%; 325-375°	350°, 5°/s;	-
246c9	87.00 ± 4.00	0	1.10 ± 0.05	± 5%; 350-425°	350°, 5°/s;	-
246c10	20.60 ± 0.60	0	1.00 ± 0.05	± 3%; 325-375°	350°, 5°/s;	-
246d11	10.40 ± 0.50	0	0.65 ± 0.03	± 5%; 300-350°	325°, 5°/s;	-

Section B. Dose-rate Measurements

Sample Ref.	Total Eff. Dose-rate mGy/a	Dose-rate Components			Radon		Water	
		α	β	γ	cos.	%	Sample	Env.
246a1	1.45 ± 0.10	72	18	10	0 ± 3	0 ± 2	25 ± 5	"
246b3	1.34 ± 0.13	35	55	10	"	"	"	"
246b6	1.38 ± 0.10	71	19	10	"	"	"	"
246c7	5.28 ± 0.28	83	14	3	"	"	"	"
246c8	0.44 ± 0.04	9	59	32	"	"	"	"
246c9	6.69 ± 0.50	87	11	2	"	"	"	"
246c10	1.85 ± 0.18	52	41	7	"	"	"	"
246d11	0.80 ± 0.08	50	33	17	"	"	"	"
Method		α-c FPh	α-p CAP SPEC	α-c CAP SPEC				

Section C. Error [eA76]

Section D. TL Age			
Sample Ref.	TL Age a	Errors	
		Random a	Overall a.
246a1	11.6		1.2
246b3	12.3		1.4
246b6	12.6		1.4
246c7	12.1		1.3
246c8	11.8		1.2
246c9	13.0		1.5
246c10	11.1		1.2
246d11	13.0		1.4

Site: Baume-Vallée (Abri Laborde)
Location: Near Solognac sur Loire, Haute-Loire, France
Grid Ref.: -
Site Description: Rockshelter

Dates			
	Lab. Ref.	Mat'l	Archaeological Reference
TL Context Age:	78.5 ± 7.5 ka (Ox86TLfg)	248e flint	Layers 29-32 Raynal exe.
TL Context Comps:	81 ± 8.2 ka	248e1 "	J 3.84 29b layer 29b
	75 ± 7.5 ka	248e2 "	BV 79 K6 145 layer 30
	80 ± 8.0 ka	248e3 "	BV 69 NV 490 layers 29 to 32

Archaeological Evidence: Moustérien de type Charentien, variété Ferrassie. Ces dates sont actuellement les plus anciennes connues en France pour ce genre d'outillage lithique, ce qui est en parfait accord avec la chronologie supposée de ces outillages

Site Director: J.P Raynal, Université de Bordeaux, Institut du Quaternaire, Ave. des Facultés, 33405 Talence Cedex, France

Reports: Raynal, J.P. et Decroix, C. (1987) L'abri de Baume-Vallée (Haute-Loire, France), site Moustérien de moyenne montagne dans son contexte régional. *Arqueologia*, Porto, 17-42.15
Forthcoming report in C.R. Académie des Sciences, Paris.

PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements

1. Min(fit) tech.(fig. 1 - 8 µm)							
Sample Ref.	P ± s.e. (Gy)	I/P	Slips	s Plateau	Peak	Stability	a value
248e1	76.5 ± 4.0	0	-	± 4%; 325-375°	350°; 5°/s;	325-375°; 0.5a; 18°;100±3%	0.09
248e2	72.0 ± 4.0	0	-	± 5%; 300-375°	350°; 5°/s;	300-375°; "	0.20
248e3	72.0 ± 2.0	0	-	± 5%; 325-375°	350°; 5°/s;	325-375°; "	0.17

Section B. Dose-rate Measurements

Sample Ref.	Total Eff. Dose-rate	Dose-rate Components				Water	
		α	β	γ	cos.	Radon	Sample Env.
	mGy/a	%	%	%	%	%	%
248e1	0.94 ± 0.08	9	13	74	4	0 ± 3	0 ± 2 2 ± 2
248e2	0.96 ± 0.08	16	11	69	4	"	" "
248e3	0.90 ± 0.08	13	9	74	4	"	" "
Method		α-c	α-c	CAP	*	α-c	
		FPh	SPEC	SPEC		SPEC	

Section C. Error [eA76]

Section D. TL Age

Sample Ref.	TL Age	Errors	
		Random	Overall
	a	a	a.
248e1	81		8.2
248e2	75		7.5
248e3	80		8.0

Special Remarks

Cosmic dose-rate based on calculation using formula given by J.R. Prescott and L.G. Stephan (1982).Contribution of cosmic radiation to environmental dose. *PACT J.*, 6, 17-25).

Laboratory: Durham

Entry: 28

Site: Wasperton
Location: Warwickshire, England (SMR WA 1845)
Grid Ref: SP 261 581
Site Description: Late Bronze Age - Iron Age Settlements (preceded by Neolithic occupation and succeeded by Romano-British settlement and an Anglo-Saxon cemetery)

Dates	Lab. Ref.	Mat'l	Archaeological Reference
TL Single Dates:			
440 BC ±195 (Dur86TLq1)	83-1	Pottery	F700 1804
190 BC 175	83-2	"	F715 1822
530 BC 215	83-3	"	F1729 5756
440 BC 245	83-4	"	F1739 5782
850 BC 400	83-5AS	"	F1765 5889
690 BC 225	83-6	"	F1780 6113
1300 BC 275	83-7	"	F1918 6617
630 AD 120	83-8	"	F1948 6717
280 BC 235	83-9	"	F4031 6901
205 BC 195	83-10	"	F4040 6955
885 BC 240	83-11	"	F4074 7235
735 BC 240	83-12	"	F4118 7353
100 BC 225	83-13	"	F4126 7380

Archaeological Evidence: Coarse ware pottery taken from a variety of settlement features, including storage pits, post-holes, hut foundation slots and a large defensive enclosure ditch. The settlement features were extensive and related to up to 7 spatially distinct settlements.

Site Director: Mr. Gillis Crawford, Birmingham University Field Archaeology Unit, PO Box 363, Birmingham B15 2TT.

Reports: Crawford, G.M. (1981) Excavations at Wasperton - 5th Interim Report. *West Midlands Archaeology*, 28, 1-3.

Laboratory: Durham	Entry: 28
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PART II

TECHNICAL SPECIFICATION

Section A. TL Measurements

1. Min(q) tech.(; 90 - 150 μ m)						
Sample Ref.	P $\pm$ s.e. (Gy)	I/P	Slps	Plateau	Peak	Stability
83-1	7.41 $\pm$ 0.37	0.13	1.07	s $\pm$ 3%;375-425°	-	375-400°, 0.6a;103 $\pm$ 2(se12)% *
83-2	6.32 $\pm$ 0.28	0.27	1.05	s $\pm$ 4%;375-425°	-	"
83-3	6.39 $\pm$ 0.38	0.09	1.20	s $\pm$ 3%;350-425°	-	"
83-4	6.45 $\pm$ 0.45	0.25	0.98	d $\pm$ 3%;375-400°	-	"
83-5AS*	7.78 $\pm$ 0.80	-	-	-	-	"
83-6	7.36 $\pm$ 0.40	0.05	0.99	d $\pm$ 3%;350-425°	-	"
83-7	10.91 $\pm$ 0.56	0.05	1.07	d $\pm$ 5%;375-400°	-	"
83-8	3.83 $\pm$ 0.23	0.04	0.95	s $\pm$ 4%;375-425°	-	"
83-9	6.84 $\pm$ 0.51	0.06	0.98	s $\pm$ 4%;350-425°	-	"
83-10	6.95 $\pm$ 0.37	0.03	1.05	s $\pm$ 3%;375-425°	-	"
83-11	7.54 $\pm$ 0.40	0.03	1.12	s $\pm$ 5%;375-425°	-	"
83-12	9.07 $\pm$ 0.46	0.02	1.15	s $\pm$ 3%;375-425°	-	"
83-13	6.36 $\pm$ 0.32	0.06	1.05	d $\pm$ 5%;360-400°	-	"

Section B. Dose-rate Measurements

Sample Ref.	Total Eff. Dose-rate mGy/a	Dose-rate		Comps cos.	Radon		Water	
		β	γ		%	%	Sample	Env.
83-1	3.05 $\pm$ 0.07	72	23	5	0 $\pm$ 3	%	%	
83-2	2.91 $\pm$ 0.07	71	24	5	"	8 $\pm$ 2	9 $\pm$ 2	
83-3	2.54 $\pm$ 0.04	67	28	5	"	8 $\pm$ 2	"	
83-4	2.66 $\pm$ 0.08	68	26	6	"	9 $\pm$ 2	"	
83-5AS	2.78 $\pm$ 0.10	69	26	5	"	10 $\pm$ 2	"	
83-6	2.83 $\pm$ 0.06	70	25	5	"	8 $\pm$ 2	"	
83-7	3.32 $\pm$ 0.06	74	21	5	"	9 $\pm$ 2	"	
83-8	2.83 $\pm$ 0.11	70	25	5	"	8 $\pm$ 2	"	
83-9	3.02 $\pm$ 0.11	72	23	5	"	8 $\pm$ 2	"	
83-10	3.17 $\pm$ 0.05	73	22	5	"	12 $\pm$ 2	"	
83-11	2.63 $\pm$ 0.05	68	27	5	"	9 $\pm$ 2	"	
83-12	3.33 $\pm$ 0.10	75	21	4	"	8 $\pm$ 2	"	
83-13	3.14 $\pm$ 0.12	73	22	5	"	9 $\pm$ 2	"	
Method		TLD	CAE, SPCB	CAE	α -c			
			XRF, α -c	SPCB				

Section D. TL Age			
Sample Ref.	TL Age a	Errors	
		Random a	Overall a
83-1	2426	133	196
83-2	2176	110	177
83-3	2515	154	217
83-4	2427	191	244
83-5AS	2834	151	400
83-6	2675	226	251
83-7	3287	178	275
83-8	3355	88	122
83-9	2267	189	236
83-10	2192	123	197
83-11	2870	139	239
83-12	2721	162	238
83-13	2087	181	226

Special Remarks

83-5. AS denotes Survey accuracy obtained.
5. Stab. Result is mean for all samples.

Site: Asprochaliko Rockshelter
Location: 20 m above the Louros River on the right bank of its gorge; between the modern towns of Ioannina and Arta., Greece
Grid Ref.: -
Site Description: Rockshelter

Dates		Lab. Ref.	Mat'l	Archaeological Reference
TL Context Age:	98.5 ±12 ka	(Ox88TLfg)	229g	flint Layer 18
TL Context Comps:	102 ±14 ka		229g(i)	A9/114
	96 ±12 ka		229g(ii)	A9/115

Archaeological Evidence: Layer 18 contains basal Mousterian of the Asprochaliko Rockshelter. The TL date demonstrates that this belongs to a phase within the last interglacial.

Site Director: The late E.S. Higgs, Department of Archaeology, University of Cambridge.

Reports: Higgs, S.E., and Vita-Finzi, C. (1966) The climate, environment and industries of Stone Age Greece, part II. *Proc. Prehist. Soc.*, **32**, 1-29.
Bailey, G.N., Carter, P.L., Gamble, C.S. and Higgs, H.P.(1983) Asprochaliko and Kastritsa: further investigations of Palaeolithic settlement and economy in Epirus (north-west Greece). *Proc. Prehist. Soc.*, **49**, 15-42.

PART II
TECHNICAL SPECIFICATION

Section A. TL Measurements

1. Min(fit) tech.(fig. 1 - 8 μ m)

Sample Ref.	P ± s.e. (Gy)	I/P	Slips	s Plateau	Peak	Stability	α val
229g(i)	48 ± 3	0	-	± 3%; 350-400°	375°; 5°/s.	350-400°; 0.5a; 18°; 100±3%	0.11
229g(ii)	61 ± 4	0	-	± 3%; 350-450°	375°; 5°/s.	350-450°; 0.5a; 18°; 100±3%	0.11

Section B. Dose-rate Measurements

Sample Ref.	Total Eff. Dose-rate	Dose-rate Components				Water	
		α	β	γ	cos.	Radon Sample	Env.
229g(i)	0.47 ± 0.07	11	19	47	23	0 ± 3	0 ± 2
229g(ii)	0.64 ± 0.09	28	22	34	16	0 ± 3	0 ± 2
Method		α -c	α -c	GP	GP	α -c	
			FPh				

Section C. Error [eA76]

Section D. TL Age

Sample Ref.	TL Age a	Errors Random a	Errors Overall a
229g(i)	102	14	14
229g(ii)	96	12	12

Laboratory: Durham	Entry: 30
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Site: Thorpe Thewles
Location: Cleveland, UK
Grid Ref.: NZ 3963 2432
Site Description: Iron Age settlement

Dates	Lab. Ref.	Mat'l	Archaeological Reference
TL Single dates:	145 ±210 BC (Dur86TLi)	TT1 pottery	TT 80 B 457
	515 ±275 BC	TT2 "	TT 80 B 13
	40 ±270 AD	TT3 "	TT 80 F 109
	570 ±260 BC (Dur86TLpd)	TT6 "	TT 81 A 109
	550 ±280 BC (Dur86TLi)	TT7 "	TT 81 C 876
	490 ±270 BC (Dur86TLpd)	TT8 "	TT 81 C 679
	40 ±160 AD (Dur86TLi)	TT13 "	TT 81 C 1632
	400 ±220 BC	TT14 "	TT 80 B 44
	240 ±260 BC	TT15 "	TT 80 D 118
	590 ±260 BC	TT16 "	TT 80 B 392
	700 ±270 BC	TT17 "	TT 80 B 390
	110 ±175 AD	TT18 "	TT 81 C 407 88

Archaeological Evidence: The TL date sequence forms a consistent group with one or two early outliers which may reflect the presence of residual material. Other artifactual evidence is available for the later periods of occupation and these provide dates which broadly agree with the TL results. The TL dates for the earlier periods suggest that this community in North Eastern England saw an intensification of arable agriculture and the evolution of a complex settlement type, developments previously associated with Southern and Central England. TT18 was included as a dating control, and the result agrees well with the date for the fabric; further discussion of averaging of dates can be found in the excavation report.

Site Director: Mr. D. Heslop, c/o Cleveland County Archaeology, Southlands Centre, Road, Middlesbrough, Cleveland UK.

Reports: Bailiff I.K. (1984) TL dating of Iron Age/early medieval coarse-ware from north Britain. Unpublished TL Laboratory Report No.15, Archaeology Dept., Durham University.
Heslop D. (1987) Excavation of an Iron Age settlement at Thorpe Thewles, Cleveland. *CBA Research Report 65*. (Includes TL report).

Laboratory: Durham	Entry: 30
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PART II TECHNICAL SPECIFICATION

Section A. TL Measurements						
1. Min(q) tech.(q ; 90 - 150 µm)						
Sample Ref.	P ± s.e. (Gy)	I/P	Slps	s Plateau	Peak*	Stability
TT1	7.28 ± 0.56	0.1	1.11 ± 0.10	± 5%; 360-390°;	II; 10°/s;	350-400°; 0.6s; 18°; 106±6(±e8)%*
TT2	7.23 ± 0.65	0	1.04 ± 0.09	± 5%; 380-425°;	I "	"
TT3	5.05 ± 0.58	0	1.11 ± 0.08	± 5%; 375-415°;	I "	"
TT7	7.70 ± 0.70	0.1	1.11 ± 0.13	± 3%; 375-425°;	F "	"
TT13	5.68 ± 0.18	0.4	1.09 ± 0.03	± 5%; 350-425°;	III*	"
TT14	6.23 ± 0.34	0.1	1.13 ± 0.07	± 3%; 375-425°;	I "	"
TT15	5.84 ± 0.50	0.2	1.13 ± 0.07	± 3%; 350-415°;	II "	"
TT16	8.53 ± 0.55	0.2	1.09 ± 0.06	± 3%; 330-400°;	II "	"
TT17	9.15 ± 0.80	0.1	1.00 ± 0.10	± 4%; 350-400°;	I "	"
TT18	5.49 ± 0.38	0.3	0.96 ± 0.07	± 6%; 350-400°;	I "	"
1. Min(q) tech.(pd; 90 - 150 µm)						
Sample Ref.	P ± s.e. (Gy)	Procedure	TAC Peak	Init. sensitivity		
TT6	6.80 ± 0.50	MA & ADD	550-575°C max; 10°/s	27% Sn; 40% uv rev; Sb=100%Sn ;*		
TT8	6.96 ± 0.70	MA & mod.ADD	525-575 °C max; 10°/s	25%Sn; 25% uv rev.; Sb=100%Sn ;*		

Section B. Dose-rate Measurements										
Sample Water Ref.	Total Eff.	Dose-rate Components					Radon		Sample Env.	
		Dose-rate	α	β	γ	cos.				
							mGy/a	%	%	%
TT1	3.42 ± 0.12	-	63	33	4	0	11 ± 2	20 ± 4		
TT2	2.89 ± 0.10	-	58	37	5	"	11 ± 2	"		
TT3	2.60 ± 0.09	-	51	43	6	"	12 ± 2	"		
TT6	2.66 ± 0.09	-	63	31	6	"	12 ± 2	"		
TT7	3.24 ± 0.11	-	63	32	5	"	13 ± 3	"		
TT8	2.81 ± 0.10	-	65	30	5	"	12 ± 2	"		
TT13	2.92 ± 0.10	-	56	39	5	"	20 ± 4	"		
TT14	2.61 ± 0.09	-	54	40	6	"	13 ± 3	"		
TT15	2.63 ± 0.09	-	51	43	6	"	16 ± 3	"		
TT16	3.31 ± 0.12	-	64	31	5	"	11 ± 2	"		
TT17	3.41 ± 0.12	-	62	34	4	"	11 ± 2	"		
TT18	2.93 ± 0.10	-	56	39	5	"	6 ± 1	"		
Method	β-TLD CAP + α-c and XRF checks					α-c				

Section C. Error [eA76]

PART II CONTD

Section D. TL Age			
Sample Ref.	TL Age a.	Errors	
		Random a.	Overall a.
TT1	2130	165	210
TT2	2500	220	275
TT3	1945	220	270
TT6	2555	200	260
TT7	2535	220	280
TT8	2475	220	270
TT13	1945	100	160
TT14	2385	150	220
TT15	2235	210	260
TT16	2575	195	260
TT17	2685	200	270
TT18	1875	145	175

Special remarks

Peak: Peak classifications following Fleming(1970), with addition of type III* (Bailiff, 1984) which is similar to type III (375 °C), but exhibits 2nd order behaviour.

Stability: Result represents average for all samples.

IniL Sens.: Uncertainty associated with reversible part of So included in error assessment.

Ref. Fleming, S.J. (1970) Thermoluminescent dating: refinement of the quartz inclusion technique. *Archaeometry*, 12(2), 133-145.