Wessex Archaeology

Westbury Eastern By-pass, Wiltshire

Assessment of the geoarchaeology of the colluvial sequence (TP90)

Ref: 61130.01

October 2005

Westbury Eastern By-Pass, Wiltshire

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Prepared on behalf of
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Summary

Wessex Archaeology was commissioned by RPS, Planning, Transport and Environment, on behalf of Mouchel Parkman and Wiltshire County Council, to undertake on-site geoarchaeological recording and sampling of part of a well-preserved sequence of buried soil horizons, likely to date from the Late Neolithic/Early Bronze Age. The work was undertaken during geotechnical test-pitting along the line of the revised route of the proposed Westbury Eastern By-pass, at Test-pit 90, near Wellhead Springs, located at National Grid Reference 388087 150275.

An examination of Test-pit 90, lying within the valley bottom, was undertaken and 2.4m of postglacial colluvium was observed and recorded. The sequence contained a buried soil, overlying Late Glacial periglacial deposits. The Holocene sequence was recorded in detail to provide some interpretive framework and a full suite of samples for land snails and magnetic susceptibility were taken throughout the sequence.

Rapid assessment of the recovered samples shows that land snails are preserved through the entire sequence and have the potential to provide a relatively detailed land-use history. This data and the few finds recovered provide some indication that the sequence has occurred as a result of deforestation and ploughing, and the basal buried soils were eroded from the slopes within the later Neolithic to earlier Bronze Age period. As a result of cultivation, colluviation continued from prehistoric times up to the medieval and post-medieval periods.

This stratified sequence can be related to the valley profile and other records of deeper sequences in the valley. This data can aid in elucidating the human history, and lived-in environment and land-use of the chalk scarp bench. This information will provide important background information on archaeological activity dating from the Neolithic period to the cutting of the Westbury White Horse.

This report contains proposals for analysis and publication. These proposals apply to existing samples obtained from both the previous evaluation trenches and recent test-pit work in the colluvial sequences, within the dry valley.

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Acknowledgements

The project was commissioned by RPS, Planning, Transport and Environment, on behalf of Mouchel Parkman and Wiltshire County Council, and Wessex Archaeology would like to thank Martin Connell (RPS) and Rebecca Yates (Mouchel Parkman) for their help and assistance during the course of this project.

The fieldwork was conducted by Dr Michael J. Allen, assisted by Eion Fitzsimons, Samples were processed by Hayley Clark, and flots recorded by Sarah Wyles. This report was complied by Dr Michael J. Allen. The project was managed for Wessex Archaeology by Andy Manning.

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1 INTRODUCTION AND FIELD METHODS

1.1 Project background and location

1.1.1 Wessex Archaeology was commissioned by RPS, Planning, Transport and Environment, on behalf of Mouchel Parkman and Wiltshire County Council, to undertake on-site geoarchaeological recording and sampling of part of a well-preserved sequence of buried soil horizons, likely to date from the Late Neolithic/Early Bronze Age.

1.1.2 The work was undertaken in September 2005, during geotechnical test-pitting along the line of the revised route of the proposed Westbury Eastern By-pass, at Test-pit 90, near Wellhead Springs, Westbury, Wiltshire, and located at National Grid Reference 388090 150280 (**Figure 1**).

1.2 Archaeological background

1.2.1 Test-pit 90 lies within a dry valley running parallel to the high chalk scarp, which lies to the south-east of Westbury (**Figure 1**)**.** Archaeological evaluation of the original route of the proposed Westbury Eastern By-pass in 2003 had identified significant deep colluvial sequences within this area (Wessex 2004).

1.2.2 One sequence of 4.1m of colluvium contained three main buried soil horizons (one horizon was recorded as consisting of doubled or welded soil in Trench 25). This sequence represented a significant finding, unparalleled in Southern England, with a significant depth of deposits and a good separation of cultural and environmental events. The buried soils were clearly defined and contained charcoal flecks and flint artefacts indicating the potential for buried prehistoric sites (see Allen 2005a; 2005b and 2005c-both in press). At that time, this significant sequence could only be observed and recorded in the field and was not assessed in any detail.

1.2.3 Consequently, during geotechnical test-pitting, the opportunity was taken to undertake detailed archaeological fieldwork and a rapid assessment, the results of which are contained within this report.

1.3 Methodology

1.3.1 Test-pit 90, measuring approximately 3m by 2m, was excavated by machine under supervision to a final total depth of 2.8m. Once excavated, one face of the test-pit was cleaned and made available for detailed archaeological description, recording and sampling of the visible Holocene sequence.

1.3.2 Sediment and soils were described following terminology outlined by Hodgson (1976), and Allen (1991; 1992). Vigorous cleaning of the sections

facilitated recovery of a few artefacts. The sequence was sampled for land snails, following methods outlined by Evans (1972).

2 RESULTS

2.1 The colluvial sequence (Figure 2)

2.1.1 The cleaned test-pit section revealed approximately 2.4m of Holocene deposits and buried soils overlying periglacial solifluction deposits dating to the Devensian glaciation (**contexts 8-10** and **Appendix 1**). The Pleistocene deposits included brecciated chalk pieces in a chalky matrix (Coombe Deposit) typical of mass solifluction, a lens of cemented small chalk pieces, typical of a fluvial wash, and a fine-grained, calcareous stonefree chalk marl.

2.1.2 The Holocene deposits revealed a well preserved weakly calcareous buried rendzina or brown earth with a clear turf horizon (**context 7**). This buried soil contained charcoal flecks and a number of struck flints. Although these worked flints can not be closely dated, they are likely to be later prehistoric in date (Neolithic-Iron Age in date).

2.1.3 The turf horizon was sealed by eroded soil (**context 6**) in which a second soil was developed (**context 5**). These two soils were, in turn, sealed by 1.8m of hillwash (**contexts 2-4**). This latter deposit indicates open downland landscape, probably ploughed. It represents several phases of landuse, and thinning soil on the adjacent slope.

2.2 Land snails and the palaeoenvironment

2.2.1 Samples were taken within a mollusc column at 100mm intervals contiguously through the sequence, taking care to cross horizon boundaries (**Figure 2; Appendix 2**). The full suite of 23 land snail samples were processed following standard methods (Evans 1972) to enable assessment of the snails and to stabilise the samples archive stable. In addition, 10g sub-samples of air-dried soil (particle size <2mm) were removed for magnetic susceptibility measurement.

2.2.2 The flots were rapidly scanned to assess the numbers of shells present and range and general composition of the assemblages to determine:

- if enough shells survive to make analysis viable
- if changes in the assemblages through time can be detected
- a very general land-use history

2.2.3 The flots were scanned under a low powered stereo-binocular microscope and species main species listed in order of quantitative significance (**Table 1**). Shells were generally moderately well preserved throughout the sequence except the basal soils and periglacial marl.

2.2.4 The shells were typically comminuted which is typical of colluvial assemblages, and a rapid scan of the fine (0.5mm) residue fraction indicated

that many fragments and apices survive in the unsorted residues. It is considered likely that sufficient remains were recovered to form statistically viable assemblages (*i.e.* <100 shells) from almost the entire sequence.

2.2.5 The assessed assemblages (**Table 1**) show a change from slightly more shady conditions (ie long grass, and shrubby habitats) in the basal soil and eroded soil (**contexts 7, 6 and 5**) to open downland conditions within the colluvium and modern soil (**contexts 4, 3 and 2**).

2.2.6 The nature of the earlier environments can be determined by full analysis, but certainly indicate that the post-glacial woodland had been removed and the earlier soils truncated by erosion resulting from this clearance (cf. Allen 1992). The main body of colluvium contained typical open country downland environment. Nevertheless some general changes were observed between the lower and upper colluvial units (*i.e.* **context 5** and **contexts 4/3/2** see **Table 1**) and it is probable that more detailed fluctuations and changes in land-use occur within this units.

Table 1. Assessment of land snails

Sample	*Depth*	*context*	*Description*	*No. shells*	*Representative and significant species*	*Comment*
23	40-50	2a	Colluvial B horizon/colluvium	15	*Helicella itala*, *Vallonia*, Limacidae, Introduced Helicellids, Clausiliidae, *Cecilioides aciula*	Very open dry downland, probably arable locally, essentially medieval or later
22	50-60	2b	Colluvial B horizon/colluvium	7	*Helicella itala*, Introduced Helicellids, *Vallonia*	
21	60-70	2b		40	*Vallonia*, *Helicella itala*, *Trichia hispida*, Introduced Helicellids, *Pupilla muscorum*, *Discus rotundatus*, *Vitrea*	
20	70-80	3	Upper Colluvium	40	*Vallonia*, *Helicella itala*, *Trichia hispida*, Introduced Helicellids, *Discus rotundatus*, *Vertigo*, *Pupilla muscorum*, *Punctum pygmaeum*, *Cochlicopa*	
19	80-90	3		20	*Vallonia*, *Helicella itala*, *Trichia hispida*, *Vertigo*	Very open dry downland, probably arable locally
18	90-100	3		50	*Vallonia*, *Helicella itala*, *Trichia hispida*, *Vertigo*, *Carychium tridentatum*, *Aegopinella*, *Oxychilus*, *Punctum pygmeum*, *Discus rotundatus*, *Vitrea*	
17	100-110	3		45	*Vallonia*, *Helicella itala*, *Trichia hispida*, *Vertigo*, *Pomatias elegans*, *Vitrea*, *Cochlicopa*, *Carychium tridentatum*, *Discus rotundatus*	
16	110-120	3		45	*Vallonia*, *Helicella itala*, *Trichia hispida*, *Vertigo*, *Pupilla muscorum*, *Vitrina pellucida*, *Vitrea*, *Punctum pygmaeum*, *Cochlicopa*	
15	120-127	4	Lower colluvium	50	*Vallonia*, *Helicella itala*, *Vertigo*, *Trichia hispida*, *Punctum pygmaeum*, *Cochlicopa*, *Aegopinella*, Clausiliidae, *Carychium tridentatum*, *Discus rotundatus*	Open downland but some longer grassland
14	127-137	4		75	*Vallonia*, *Helicella itala*, *Trichia hispida*, *Vertigo*, *P. pygmaeum*, *Cochlicopa*, *Cepaea*, *Aegopinella*, Limacidae	Open downland arable and/or short-grazed grassland
13	137-147	4		50	*Vallonia*, *Helicella itala*, *Vertigo*, *Trichia hispida*, *Vitrea*, *Aegopinella*, *Cochlicopa*, *Punctum pygmaeum*	
12	147-157	4		50	*Vallonia*, *Helicella itala*, *Trichia hispida*, *Punctum pygmaeum*, *Cochlicopa*, *Vertigo*, *Vitrea*	
11	157-167	4		40	*Vallonia*, *Helicella itala*, *Trichia hispida*, *Carychium tridentatum*, *Punctum pygmeum*, *Cochlicopa*, *Vitrea*	
10	167-177	4		40	*Vallonia*, *Helicella itala*, *Trichia hispida*, *Cochlicopa*	

Table 1. Assessment of the land snails (cont.)

Sample	*Depth*	*context*	*Description*	*No. shells*	*Representative and significant species*	*Comment*
9	177-183	5	Colluvial soil	30	*Vallonia*, *Helicella itala*, *Trichia hispida*, *Aegopinella*, *Discus rotundatus*, Clausiliidae	More open but shade and shrubs/trees still present
8	183-193	5		40	*Vallonia*, *Helicella itala*, *Trichia hispida*, *Pupilla muscorum*, *Discus rotundatus*	
7	193-203	5		35	*Vallonia*, *Helicella itala*, *Trichia hispida*, *Discus rotundatus*, *Punctum pygmaeum*, *Aegopinella*, *Pomatias elegans*, *Carychium tridentatum*, *Cepaea*, Clausiliidae	
6	203-210	6	Eroded soil	25	*Vallonia*, *Trichia hispida*, Clausiliidae, *Cepaea*, *Pomatias elegans*, *Acanthinula aculeata*, *Vertigo*, *Carychium tridentatum*, *Cochlicopa*, *Discus rotundatus*	Open but some shade
5	210-220	6		7	*Discus rotundatus*, *Vallonia*, *Helicella itala*, Clausiliidae	
4	220-224	7	Turf of buried soil/old land surface	30	Clausiliidae, *Discus rotundatus*, *Trichia hispida*, *Cepaea*, *Vallonia*, *Pomatias elegans*, *Helicella itala*, *Aegopinella*, *Cochlicopa*, *Pupilla muscorum*	
3	224-228	7		3	*Trichia hispida*, *Helicella itala*	-
2	228-238	7	Buried soil/old land surface	4	*Discus rotundatus*, *Pomatias elegans*	Post 6500 BC
1	238-250	8	Periglacial marl	8	Clausiliidae, *Pomatias elegans*, *Cochlicopa*, *Vallonia*, *Pupilla muscorum*, Limacidiae, *Discus rotundatus*	Intrusive post glacial assemblage

2.2.7 The assemblages and sediments indicate a change from cold Late Glacial conditions to warmer Holocene post-clearance environments with long grassland and open woodland with some shade produced by trees and shrubs. This gave way to open farmed downland or tilled and pasture, and latterly to more intensively tilled and farmed landscape extending into the medieval and post-medieval periods.

2.3 Finds

2.3.1 A few finds were recorded and recovered during the cleaning of the section in the field (**Table 2**).

2.3.2 The single crumb of pottery was small (<1g) but contained an oolitic temper and is probably post Deverel-Rimbury and in view of the other pottery finds on the proposed Westbury by-pass can probably be attributed to the later Bronze Age - Iron Age periods.

2.3.3 The three flints were all chalk-derived flint flakes typical of later prehistoric (*i.e.* Neolithic, Bronze Age and Iron Age) assemblages rather than Mesolithic ones.

2.3.4 The largest charcoal fragment was retained (*c.* 4mm x 3mm), but despite microscopic examination and fracturing the fragment could not be identified to taxa or species.

Table 2. List of artefacts recovered

context	context type	SF	artefact	wt	comment
2a	Upper colluvium	-	CBM	-	Post medieval brick/tile
3	Upper colluvium	1	Pottery	<1g	Eroded and abraded
6	Eroded soil	2	Flint	42g	Flake
7	Buried soil	3	Flint	8g	Flake
7	Buried soil	3	Flint	1g	Flake
7	Buried soil	7	Charcoal	-	Unidentifiable (C. Chisham)

2.4 Dating the sequence

2.4.1 Deep stratified sequences of colluvium can be ascribed general chronologies from their included artefacts. During detailed research excavations, colluvium has been excavated by hand and all artefacts recovered and recorded. The distributions of datable artefacts enable some chronology to be ascribed to the sequences (Bell 1983; Allen 1988; 1991; 1994; 2005b).

2.4.2 During this evaluation, no hand excavation was conducted but the colluvial face was cleaned by hand and a number of artefacts were recovered (see below). Their location is recorded on **Figure 2.**

2.4.3 The small sherd of pottery (<1g) from the upper colluvium is too small to be significant. It is heavily rolled and eroded and is likely to be residual.

2.4.4 The flint flakes were all recovered from the buried soil, and with the charcoal indicate some human activity on this surface, within the immediate vicinity. Although these do not positively indicate the presence of contemporary

settlement, they do indicate a high potential for such remains (*e.g.* Allen 2005a).

2.4.5 In addition to the artefacts, the land snail assemblages provide some chronological indicators. For instance the presence of *Pomatias elegans* in the buried soil indicates that this is unlikely to be earlier than *c.* 7500 cal BC, *i.e.* Atlantic climate zone (Kerney 1968; Evans 1972; Ellis 1986). In view of the nature of the land snail assemblages which indicate the lack of Atlantic and sub-boreal (ie earlier Neolithic) woodland, we can suggest that the post-glacial sequence that survives represents post clearance phases of, at the earliest, a later Neolithic or later date.

2.4.6 At the other end of the sequence, the occurrence of the introduced Helicellids in the last samples of the upper colluvium (context 2 and 3) suggest a medieval or post-medieval date (Kerney 1966). This concurs with the fragment of brick or tile found in this soil.

2.4.7 These finds (artefacts and land snail assemblages) indicate that the sequence encompasses the Bronze Age to medieval periods, thus bracketing the periods of most significant archaeology in the vicinity (Wessex Archaeology 2004).

3 DISCUSSION

3.1 The presence and occurrence of colluvium

3.1.1 The colluvium recorded here, combined with that recorded previously (i.e. Wessex Archaeology 2004), indicate appreciable depths of hillwash within this scarp foot dry valley.

3.1.2 The rapid assessment of the sequence and its recovered artefacts and ecofacts have given a general indication of the archaeological value and significance of the findings, and the potential of the deposits.

3.1.3 Examination of the measured profile and records of hillwash have been shown to have the potential to indicate the nature and distribution of both hillwash and buried soil in the valley.

3.2 Potential for buried archaeology

3.2.1 The scarp foot chalk dry valley is an unusual geomorphic feature. Most dry valleys form a dendritic pattern draining away from the scarp edge. This scarp foot dry valley running parallel to the scarp slope is located at the ecotone and provides an ideal location for prehistoric activity exploiting both the dry downland and open clay vale.

3.2.2 The presence of well-defined buried soils in this area has been attested in Trenches 25 and 26 (Wessex Archaeology 2004), and in the most recent work, in Test-pit 90. All these trenches/test-pits have been shown to contain artefacts and charcoal, from initial cursory examination and cleaning, and

strongly indicate the presence of deeply buried prehistoric sites within this valley.

3.2.3 As such evidence was present in deeply stratified sequences, this indicates the potential of more than one former activity site, and that they may belong to the same, or differing, phases of activity (cf. Allen 1988).

3.2.4 However, these potential activity sites are buried below at least at 1.75m of hillwash, and therefore are unlikely to be impacted by any, but the deepest, development activity.

3.3 Correlation of the existing sequences

3.3.1 Several investigations of the scarp foot colluvium have been undertaken. Most have revealed at least one buried soil and up to three distinct buried soil horizons (one of which was a double or welded soil). These include Trenches 25 and 26, and Trench 43 further to the north, from the evaluation phase (Wessex Archaeology 2004; Appendix 2) and Test-pit 90 summarised here.

3.3.2 Although there is no dating or palaeo-environmental evidence with which to confirm the any sedimentary correlations, we can tentatively suggest some correlation of the main sediments units (**Table 3**).

3.3.3 This allows a greater appreciation of the nature of the evidence in the scarp foot valley and indicates that not represented in the detailed recording and sampling from TP 90.

Table 3. Possible correlation of colluvial sequences in the scarp foot dry valley

Trench	TP 90		Tr 25		Tr 26	
	context	*Depth/cm*	*context*	*Depth/cm*	*context*	*Depth/cm*
Ploughsoil	1	0-32	2501	0-27	2601	0-35
colluvial soil	2	32-74	2502	27-120	2602	35-90
colluvium 1	3+4	74-175	2503	120-240	2606	90-175
Eroded soil			2504	240-275		
Buried soil [1]			2505	275-305		
Eroded soil			2506	205-345		
Buried soil [2]	7	215-234	2507	345-385	2603	175-195
Water sorted hillwash					-	195-230
Dark colluvium/ eroded soil			2508	385-388		
Buried soil [3] (double/welded soil)			2509-10	388-410		
Truncated Bt					2604	245-250
Coombe deposit	8, 9 + 10	234+	2511	410+	2605	250+

3.4 Palaeo-environmental significance

3.4.1 This valley has been shown to contain in excess of 4m in depth of post-glacial hillwash, which is unprecedented (see **Table 4**). The significance of this is that the resolution of the *changes* through time as defined by the sediments, the environmental data and the included archaeology is significantly better, when depths are greater.

3.4.2 Although the section in Test-pit 90 that was recorded and sampled in detail is about 2.4m in depth, it embraces most of the periods of known human habitation in this scarp foot zone (**Table 3**).

Table 4. List of other colluvial sites with depth and presence of buried soils

Site	***Depth***	***comment***
0.5-1m		
Folly Bottom, Wilts	0.7m	no buried soil
Coombe Bottom, Dorset	0.7m	no buried soils
Hambledon Hill, Dorset	0.8m	
Bishopstone lynchet, Sx	c 0.8m	no buried soil
Heytesbury, Wilts	0.9m	no buried soil
1-1.5m		
Fordington Bottom F, Dorset	1.0m	no buried soil
Grey Pit, E. Sussex	**1.1m**	**1 buried soil**
Ashcombe Bottom, E. Sx	1.2m	Beaker site and ard marks
Midde Farm Dorset	1.2m	no buried soil but Beaker site identified
Newbarn Combe 2, IoW	1.4m	1 stasis horizon
Hambledon Lynchet, Dorset	1.4m	no buried soils
Bourne Valley, E. Sx	1.5m	no buried soils
Whitesheet Hill, Wilts	**1.5m**	**basal buried soil**
1.5-2m		
Itford Bottom, E. Sussex	1.8m	no buried soils
Duxmore Combe	c 1.8m	no buried soil
Redcliff, IoW	**1.9m**	**1 buried soil**
Chalton, W. Sussex/Hants	1.9m	no buried soils
2-2.5m		
Fordington Bottom M, Dorset	**2.2m**	**1 buried soil**
Westbury TP 90, Wilts	***2.4m***	***1 buried soil***
Westbury Tr 26, Wilts	***2.5m***	***1 buried soil***
2.5-3m		
Newbarn Combe 1, IoW	2.6m	no buried soil
Kiln Combe, E. Sussex	2.8m	Beaker site and ard marks
3-3.5m		
Strawberry Hill, Wilts	**3.1m**	**two buried soils**
4-4.5m		
Westbury, Tr25, Wilts	***4.1m***	***3 buried soils (inc 1 double/welded soil)***

3.4.3 The presence of stasis or buried soil horizons significantly increases its importance. Many colluvial sequences (*e.g.* Itford Bottom, E. Sussex, Chalton, West Sussex/Hants (Bell 1983), Hambledon Hill, Dorset (Bell and Allen 1985) contain no buried soils.

3.4.4 Buried soils at the base of colluvial sequences are rare (Allen 1992), and the presence of more than one Holocene buried soil is rare, the record of three

buried Holocene soils (the basal being a double/welded soil) in Trench 25 at Westbury is unprecedented.

3.4.5 The colluvial sequences recorded from this valley are the deepest and one of the most significant Holocene colluvial sequences from the chalk in the country.

3.4.6 The land snail sequence is well preserved (for colluvial assemblages) and shows change and development in land-use through probably some 3,500 years of prehistory and early history. This land-use history can be related to the Bronze Age and Iron Age activity on the scarp foot bench.

3.4.7 Although there is a relative wealth of palaeo-environmental information from the chalklands in general, and Salisbury Plain in particular, there is, surprisingly, very little data in the Westbury area. This sequence thus provides a significant and key sequence regionally and nationally.

4 RECOMMENDATIONS AND PROPOSALS

4.1 Outline

4.1.1 This well-stratified sequence probably embraces up to some four millennia and has the potential to provide a chronologically long, and well-defined, land-use sequence in an area of the Salisbury Plain in which there are few other data locally (see Allen 1992). The basal soils have the potential to provide further artefacts and datable material from the large (2kg) land snail samples taken.

4.1.2 Any opportunity to examine and sample in detail the known long sequence in the vicinity of Trench 25 should be taken. It is however, understood that construction is unlikely to damage this sequence, although it will make this sequence unavailable for further research.

4.1.3 Apart from the above, no further fieldwork intervention is recommended or proposed to specifically examine the colluvial sequences in this scarp foot dry valley.

4.1.4 Failing recovery of any further detailed and sampled sequence, the sequence as sampled in detail should be analysed and reported providing the palaeo-environmental background to the prehistoric and historic land-use of the scarp foot bench. It provides a detailed history of the scarp foot valley which was probably a focus of past activity, much of which is invisible to archaeological reconnaissance being buried under depths of hillwash (see Allen 1988; 1991; 2005a).

4.1.5 This work should entail;

- the analysis of the land snail sequence
- the dating and analysis of recovered artefacts, and
- magnetic susceptibility results, which may indicate further soil horizons or indications of possible settlement activity, and reporting of the section
- the preparation of a report of the results, with appropriate illustration.

4.1.6 At this stage, the scope of further fieldwork and reporting is yet to be determined. It would be intended that the reporting of the analysis and interpretation of the sequences would be suitable for publishing in conjunction with other mitigation work on the By-pass route, or publication in its own right.

4.2 Tasks

Table 5. Proposed task list and resources

Task	Description	Grade	Time
1.	**Pre-analysis tasks**		
1.1	Extraction of land snails (23 samples)	EO	6 days
1.2	Preparation of magnetic susceptibility samples (23 samples)	ES	1 day
2	**Analysis tasks I**		
2.1	Magnetic susceptibility (measurement)	ES	1 day
2.2	Snails: Identification, tabulation, database entry and graph	EO	9 days
2.3	Snails: analysis	EM	2 days
3	**Reporting tasks**		
3.1	Snails: report writing	EM	2 days
3.2	Magnetic susceptibility (reporting)	EM	0.25days
3.3	Site and sequence reporting	EM	2 days
3.4	Finds reporting	FM	0.125 days
3.5	Publication drawings	DO	3 days
4	**Management and Monitoring**		
4.1	Management, monitoring and editing	PM	1 day
4.2	Reports Manager	RM	0.5 days
4.2	QA	SH	0.25 days
5	**Post Analysis tasks**		
5.1	Archive (environmental)	EO	0.125
5.2	Archive (site)	EM	0.375

4.3 Proposed staff

4.3.1 It is currently proposed that the following Wessex Archaeology core staff will be involved in the programme of post-excavation analyses**.**

Project Manager (PM)	Andrew Manning MA, BSc, AIFA
Finds Manager (FM)	Lorraine Mepham, BA, MIFA
Environmental Manager (EM)	Michael J. Allen, BA, PhD, MIFA, MAEA
Reports Manager (RM)	Julie Gardiner, BA, PhD, MIFA, FSA
Environmental Officer (EO)	Sarah Wyles, BA, PIFA, MAEA
Environmental Supervisor (ES)	Hayley Clark, BA PIFA

4.4 Wessex Archaeology quality standards

4.4.1 Wessex Archaeology operates an integrated project management system. Projects are assigned to individual Project Managers who monitor their progress and quality and control budgets from inception to completion, in all aspects including Health and Safety. Projects are managed in accordance with English Heritage guidelines outlined in the document Management of Archaeological Projects 2 (English Heritage 1991).

4.4.2 At all stages the Project Manager will carefully assess and monitor performance of staff and adherence to objectives, timetables and budgets. The performance of the Project Manager is monitored in turn by the Head of the General Development Section (Jonathan Nowell) who will ensure that the project meets Wessex Archaeology's quality standards and is adequately programmed and resourced within Wessex Archaeology's portfolio of project commitments. A formal written report is made to the Section once a month by the Project Manager.

4.5 Museum

4.5.1 The final destination of the project archive is uncertain, since no appropriate repository has yet been identified. Final deposition of the finds with any Museum or other repository will only be carried out with the full agreement of the landowner.

4.6 Conservation

4.6.1 No immediate conservation requirements were noted in the field.

4.7 Discard policy

4.7.1 Wessex Archaeology follows the guidelines set out in *Selection, Retention and Dispersal* (Society of Museum Archaeologists 1993), which allows for

the discard of selected artefact categories which are not considered to warrant any future analysis.

4.8 Archive

4.8.1 The complete site archive, which will include paper records, photographic records, graphics, artefacts and ecofacts, will be prepared following nationally recommended guidelines (SMA 1995).

4.9 Copyright

4.9.1 The full copyright of the written/illustrative archive relating to the Site will be retained by Wessex Archaeology Ltd under the Copyright, Designs and Patents Act 1988 with all rights reserved. The recipient museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profitmaking, and conforms with the Copyright and Related Rights regulations 2003.

4.10 Security copy

4.10.1 In line with current best practice, on completion of the project a security copy of the paper records will be prepared, in the form of microfilm. The master jackets and one diazo copy of the microfilm will be submitted to the National Monuments Record Centre (English Heritage), a second diazo copy will be deposited with the paper records, and a third diazo copy will be retained by Wessex Archaeology.

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APPENDIX 1: Westbury soil descriptions from TP 90

context	*Depth (cm)*	*Samples*	*Description*
1	0-32		Very dark brown humic silty clay almost stonefree colluvial brown earth Ploughsoil
2a	32-54	23	Light yellowish brown calcareous firm silt loam, almost stonefree with weak medium to large blocky/prismatic structure and rare vertical macropores (0.5mm) filled with above (roots / worms).
2b	54-74	21-22	As above but no structure. Clear diffuse boundary. Colluvial B horizon/colluvium
3	74-120	16-20	Yellowish brown firm silty clay loam with common to many small and very small chalk pieces, very rare medium flints, clay content increases with depth, rare fine charcoal pieces. Upper colluvium
4	120-175	10-15	Yellowish brown very stiff silty clay with many very small chalk pieces, clear boundary. Lower colluvium
5	175-200	7-8	Darker yellowish brown stiff silty clay with many very small chalk pieces weak medium prismatic structure [*Cepaea* spp.], clear boundary. Lower colluvial soil
6	200-215	5-6	Very dark yellowish brown silty clay, many/abundant small chalk pieces no structure, rare charcoal flecks, psuedomycelium, clear boundary. Eroded soil
7	215-234	2-4	Very dark silty clay, upper portion (80mm) is stonefree below this is clear medium prismatic – columnar structure, few small and very small chalk pieces and psuedomycelium, sharp boundary. Buried Soil
8	234-251	1	Light yellowish brown/cream stonefree chalk marl. Periglacial solifluction material
9	251-268		Abundant small and medium chalk pieces cemented into a chalky matrix. Periglacial solifluction material
10	268-280+		Chalky marl matrix and small and medium chalk pieces. Periglacial solifluction material

APPENDIX 2: List of land snail and magnetic susceptibility samples

sample	*depth*	*context*	*Description*
23	40-50	2a	Colluvial B horizon /colluvium
22	50-60	2b	Colluvial B horizon /colluvium
21	60-70	2b	
20	70-80	3	Upper Colluvium
19	80-90	3	
18	90-100	3	
17	100-110	3	
16	110-120	3	
15	120-127	4	Lower colluvium
14	127-137	4	
13	137-147	4	
12	147-157	4	
11	157-167	4	
10	167-177	4	
9	177-183	5	Colluvial soil
8	183-193	5	
7	193-203	5	
6	203-210	6	Eroded soil
5	210-220	6	
4	220-224	7	Ah / turf of buried soil / old land surface
3	224-228	7	
2	228-238	7	buried soil / old land surface
1	238-250	8	Periglacial marl

APPENDIX 3. List of comparable colluvial sites on the chalk in southern England

Site	Depth of Sequence	Truncation of E. Holocene soil (latest date)	Buried soils	Dates of soils	Sequence date range	No. excavated artefacts	Density artefacts per m3	artefacts from exposed section only
DORSET								
Middle Farm (SY 672 902) Allen 1997	1.2m	L Neo/Beaker	0 but beaker site under	EBA	LNeo – post Rom	c 75	21	
Fordington Bottom M (SY 665 908) Allen 1997	2.2m	L Neo/EBA	1	prob. BA	LNeo – post Rom	?	?	
Fordington Bottom F (SY 665 908) Allen 1997	1.0m	BA	0		BA – post Rom	?	?	
Hambledon environs 1 Combe Bottom (ST 8565 1190) Bell & Allen 1985: Bell *et al*. forthcoming	0.7m	Pre Iron Age	0	-	BA - med	167	104	
2 Stepleton Lynchet (ST 8579 1165) Bell & Allen 1985; Bell *et al.* forthcoming	1.4m	Pre Iron Age	0	-	BA -med	1163	-	
WILTSHIRE								
Strawberry Hill (ST 996 528) Allen 1992; 1994	3.1m	L Neo/EBA	1	Early Iron Age	Meso-med	152	28	
Durrington Walls (SU 152 436) Wainwright & Longworth 1971		Neolithic		???Iron Age	?	-	-	
Figheldean (SU 148 468) Allen & Wyles 1993		Neolithic/EBA		relict L Neo/EBA	Neo-med	?	?	

Heytesbury (ST 939 418) Allen 1992	0.9m	Neolithic/EBA		-	BA-med	?	?	
Whitesheet Hill (ST 802 352) Allen 1992, Rawlings *et al.* 2004	1.5m	LBA/EIA	1	Mid Iron Age	IA – post Rom	?	?	
Folly Bottom (SU 173 424) Allen 1992, 2004	0.7m	Pre Romano-British		-	EBA on	-	-	
ISLE OF WIGHT								
Redcliff (SZ 625 8555) Allen 1994	1.9m	Neolithic/EBA	1	L Neo/EBA		-	-	0
Newbarn Combe 1 Allen 1992; 1994	2.6m	Neolithic/EBA				124	43	
Newbarn Combe 2 Allen 1992; 1994	1.4m	Neolithic/EBA		?1. EBA		204	196	
Newbarn Lynchet (SZ 4355 8618) Allen 1992; 1994	1m	LBA		2. 1A/Romano-British		-	-	
Duxmore (SZ 563 874) Allen unpubl. Iow	c. 1.8m	EBA		-		?	?	
Gore Cliff (SZ 493 763) Preece 1980		Romano-British		-				3
HAMPSHIRE								
Compton (SU 475 264) Allen 2000		BA		BA				
Bascombe (SU 721 166) Bell 1981; 1983		pre Iron Age		-	Neo-post med	366	114	

Chalton (SU 729 160) Bell 1981; 1983	1.9m	pre BA	0	-	BA- post med	3105	204	
SUSSEX								
Ashcombe Bottom (TQ 380 106) Allen 1984; 1991; 1992; 2005a; 2005b	1.2	Neolithic/EBA	1 + Beaker ard marks	Beaker	LNeo-post med	1911	138	
Bishopstone lynchet (TQ 468 006) Bell 1977; Allen 1984	1.2	Neolithic/BA	0	-	BA-med	1985	64	
Bourne Valley lynchet (TV600 994) Allen 1980	1.5	BA	0	-	BA-med	10,000	256	
Kiln Combe (TV 573 964) Bell 1983	2.8m	L Neo	1 + Beaker ard marks	Beaker	L Neo-med	3109	68	
Itford Bottom (TQ 441 049) Bell 1983	1.8m	Neo/BA	0	-	EBA- med	2103	69	
Malling Cliff, lynchet Allen 1994; 1995	1.4					-	-	26
Grey Pit Allen 1995	1.1	Neo	1	LNEBA	Neo-med	-	-	88

APPENDIX 4. Summary comparative descriptions of the three main colluvial sequences in the scarp foot valley

Westbury By-pass TP 90 (2005)

context	*Depth (cm)*	*Description*
1	0-32	Very dark brown humic silty clay almost stonefree colluvial brown earth Ploughsoil
2a	32-54	Light yellowish brown calcareous firm silt loam, almost stonefree with weak medium to large blocky/prismatic structure and rare vertical macropores (0.5mm) filled with above (roots / worms).
2b	54-74	As above but no structure. Clear diffuse boundary. Colluvial B horizon/colluvium
3	74-120	Yellowish brown firm silty clay loam with common to many small and very small chalk pieces, very rare medium flints, clay content increases with depth, rare fine charcoal pieces. Upper colluvium
4	120-175	Yellowish brown very stiff silty clay with many very small chalk pieces, clear boundary. Lower colluvium
5	175-200	Darker yellowish brown stiff silty clay with many very small chalk pieces weak medium prismatic structure [*Cepaea* spp.], clear boundary. Lower colluvial soil
6	200-215	Very dark yellowish brown silty clay, many/abundant small chalk pieces no structure, rare charcoal flecks, psuedomycelium, clear boundary. Eroded soil
7	215-234	Very dark silty clay, upper portion (80mm) is stonefree below this is clear medium prismatic – columnar structure, few small and very small chalk pieces and psuedomycelium, sharp boundary. Buried Soil
8	234-251	Light yellowish brown/cream stonefree chalk marl. Periglacial solifluction material
9	251-268	Abundant small and medium chalk pieces cemented into a chalky matrix. Periglacial solifluction material
10	268-280+	Chalky marl matrix and small and medium chalk pieces. Periglacial solifluction material

Westbury Proposed by-pass, Trench 25

context	*Depth (cm)*	*Description*
2501	0-27	Ploughsoil
2502	27-120	calcareous colluvium with common small chalky pieces, moderate medium blocky structure
2503	120-240	Calcareous silty clay colluvium with few chalk inclusions
2504	240-275	brown silty clay – darker hillwash/eroded soil
2505	275-305	dark brown silty clay buried soils with many charcoal pieces inc charred grain. Buried soil possible occupation activity
2506	205-345	calcareous colluvium with common small chalky pieces, moderate medium columnar structure
2507	345-385	dark grey brown silty clay loam – lower buried soil, some chalk pieces, contained pottery old land surface
2508	385-388	colluvium
2509	388-400	upper basal buried soil
2510	388-410	Lower basal buried soil; a double/welded soil
2511	410+	Coombe Deposit

Westbury Proposed by-pass, Trench 26

context	*Depth (cm)*	*Description*
2601	0-35	Grey silty loam with weak medium blocky structure, few to many small and very small (flecks) chalk pieces/flecking, sharp boundary Ploughsoil
2602	35-90	Light yellowish brown calcareous silty clay loam with many to common small and rare medium subrounded chalk pieces with large block/prismatic structure, gradual boundary. Colluvial B, colluvium 1
2606	90-175	Light yellowish brown silty stonefree calcareous clay loam with medium to large columnar structure, clear boundary. Colluvial B, colluvium 1
2603	175-*c.* 195	Greyish brown stonefree silty clay with medium weak to moderate block structure, shells noticed inc. *Cepaea* sp bB; buried soil
	augered *c.*195-230	Greenish grey silty clay with fine small/very small chalk flecks, possibly water sorted colluvium. B2, colluvium 2
	c. 230-245	Dark greyish brown silty clay with many very fine comminuted chalk pieces – possibly stabilisation horizon. ? buried land surface
2604	*c* 245-250	very dark reddish brown clay, possibly translocated clay or an argillic brown earth (forest soil) in pockets. Bt ?argillic horizon of second buried soil
2605	250-295+	Calcareous silty marl. R, Coombe Deposit

388000

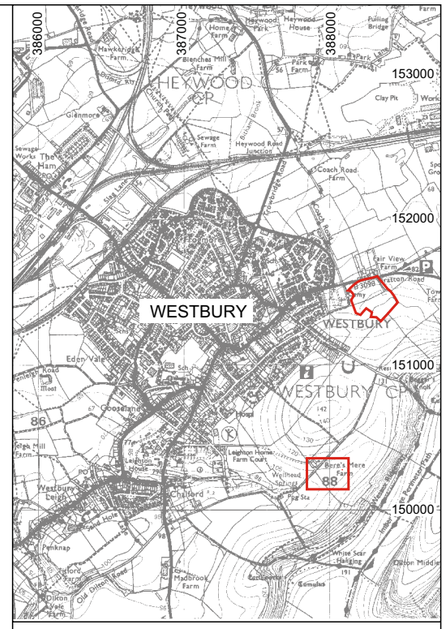
TP90

Trench 26

150200

Trench 25

0 50m



Evaluation trench

Test pit

Revision Number:	0
Illustrator:	SEJ
Date:	24/10/05
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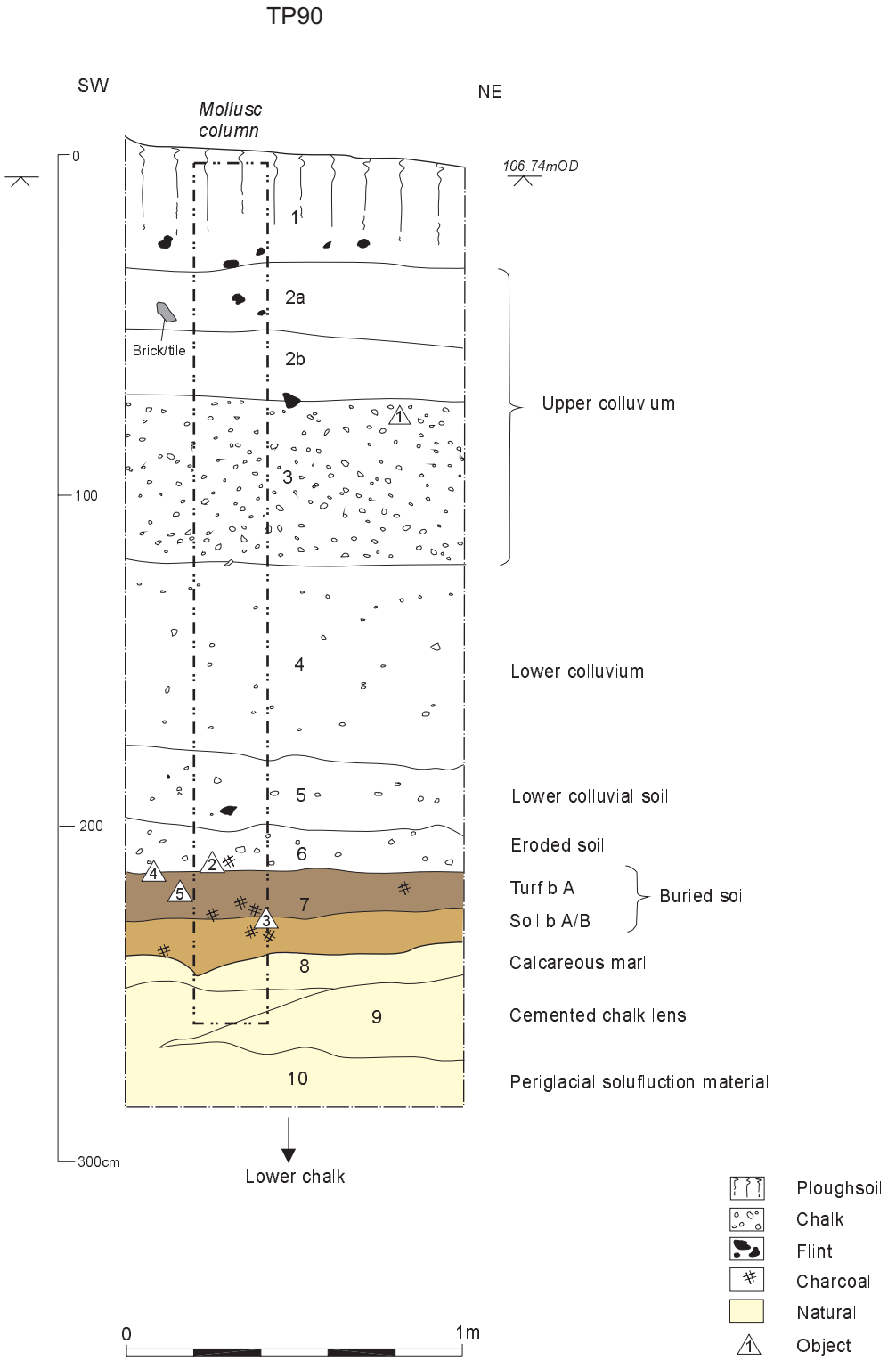
Location of TP90

Figure 1



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TP90 section

Figure 2

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