

VOL 10. THE SUTTON HOO RECORDING SYSTEM

SUTTON HOO - SITE PROCEDURES

System designed by Martin Carver with amendments, modifications and additions by Andrew Copp, Catherine Royle, Madeleine Hummler, Nigel Macbeth and Linda Peacock; user trials by Andrew Copp, Catherine Royle, Nigel MacBeth, Madeleine Hummler, Kathryn Dowse and Linda Peacock; comments gratefully received from the above and Peter Leach, Paul McCullough, Malcolm Cooper, members of Birmingham University Field Archaeology Unit, and numerous visitors including Brian Hope-Taylor and Steve Roskams.

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Site Procedures

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Department of Archaeology, University of York, Kings Manor, York YO1 2EP

PREFACE

These operating procedures are those followed during the excavation of the Sutton Hoo campaign 1983-1993.

They follow the set of principles known as *Field Research Procedure*, which assumes that archaeological data cannot be 'found', 'revealed' or 'discovered' but are defined and acquired as a result of archaeologically informed choice. 'Data' are variables which are chosen and defined before an intervention, and are measured in the field. Data are expressed as measured quantities, dimensions or other values. 'Observations' are recorded impressions which are not data.

Sand, stones and debris become data and data become history as a result of a systematic scientific itinerary, which begins with *reconnaissance*, proceeds to *evaluation*, then to *strategy* (project design) which leads to *data acquisition* (the excavation). The data acquired are then studied in *analysis* and afterwards placed in archive; conclusions drawn from them are selectively *published* as the Field Reports (FR) and Research Reports (RR). All archaeological activity can be located somewhere within this itinerary.

The *Operations Procedure* summarised here refer to the data acquisition stage. They give (in Part 1) the principles of how data are defined; in Part 2 the recording procedures, and in Part 3 details of the records themselves.

Martin Carver
York and Sutton Hoo, 1986

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PART 1: PRINCIPLES

1.1: *Project Records*

1.1.1 ALL OBSERVATIONS, sketches, photographs, deductions and remarks made in connection with the Sutton Hoo research project form part of the *project records* which are retained by obligation to the sponsor and for the benefit of the public.

1.1.2 PROJECT RECORDS are heterogenous, since they are not all made for a common purpose to a common design. Records about the creation, prosecution, administration, funding and history of the project itself are contained in a series of classified binders known collectively as the PROJECT FILE. Records of data acquired by intervention on or in the ground are known collectively as the SITE FILE. Records of analyses, hypotheses, comparative studies, methodologies and reports generated on the basis of data collected in the site file or otherwise are known collectively as the RESEARCH FILE.

1.1.3 The contents of all files which constitute the project records are pre-structured. The structure of the project file is given in part 3.1, of the site file in 3.3 and of the research file in 3.2.

1.1.4 Of these three files only the SITE FILE contains records of new archaeological evidence, and only a part of this evidence (the 'DATA BASE') constitutes data acquired for analysis. The generation of these data is the subject of the rest of these principles.

1.1.5 A guide to the structure of the Project Records is given in Fig 2.

Fig. 2: Structure of the Project Records

PROJECT FILE (blue binders)

- X0: Content of the Project Records (A4, DB)
- X1: List and map of interventions (A4, A1, DB)
- X2: Programmes (A4)
- X3: List of Publications drawn from the records (A4, DB)
- X4: Index of contributors (A4, DB)
- X5: Project History (A4)
- X6: Picture History (A4)
- X7: Site Management and Presentation (A4)

SITE FILE (black binders)

- Y0: Indices (A4, DB)
 - Y00: Index to site file
 - Y01: Index of notebooks
 - Y02: Index of contexts
 - Y03: Index of features
 - Y04: Index of structures
 - Y05: Index of drawings
 - Y051: Co-ordinates
 - Y06: Index of photographs

- Y07: Index of finds
- Y071: Finds label
- Y08: Index of reports

- Y1: Notebooks (A4)
- Y2: Context records (A4)
- Y3: Feature records (A4)
 - Y31: Skeletal record

- Y4: Structure records (A4)
- Y5: Site geometry (A1)
 - Y50: Legend
 - Y51: Co-ordinates
 - Y52: Plans
 - Y53: Maps
 - Y54: Sections
- Y6: Photographs
- Y7: Finds (A4, DB)
 - Y71: Records of provenance of Finds
 - Y72: Records of study (inventories) of Finds
- Y8: Reports (A4)

RESEARCH FILE (red binders)

- Z0: Index to research (A4, DB)
- Z1: Site analyses and studies (A4, A1)
- Z2: Environment and resources (A4, A1)
- Z3: Comparative archaeology (including regional surveys) (A4, A1)
- Z4: Site assessment and evaluation (A4, A1)
- Z5: Surface monuments (A4, A1)
- Z6: Documentary sources (A4, A1)
- Z7: Bibliography (A4, DB)
- Z8: Methodology (including replication and experiment) (A4, A1)
- Z9: Synthesis (A4)

1.2 *Zones and Interventions*

1.2.1 The 'site', in the sense used in these procedures, refers to the geographical area of a predicted concentration of cultural material. The investigation of this cultural material is conducted in *zones* which are defined on the basis of their present conditions of use and access. Zones on the periphery are not bounded in advance, since the cultural material has unknown limits or no limits. The Zones in use at Sutton Hoo are given in Fig. 3.

1.2.2 Any exercise on the ground designed to acquire data is called an *Intervention*, and is defined by the application of a technique or a set of techniques of investigation over a stated area. For example, INT. 5 was the excavation of a ship burial beneath Mound 1. INT. 27 was a metal-detector survey in Zone A; INT. 20 was the excavation of a transect 2 x 100m in Zone F; INT. 41 was the excavation of Sector 2. A list of the interventions to 1987 is given in Fig. 4

Fig 4: List of Interventions

Int 1 1860: Survey of Mounds and later and separate excavation of a mound by Mr Barritt (landowner). Reported in Ipswich Journal for 24 Nov 1860 FR2/3.1.

Int 2 1938: Excavation of Mound 3 by Basil Brown for Mrs Pretty (Landowner). Bruce-Mitford 1975, 100

Int 3 1938: Excavation of Mound 2 by Basil Brown for Mrs Pretty (Landowner). Bruce-Mitford 1975, 100

Int 4 1938: Excavation of Mound 4 by Basil Brown, instigated by Mrs Pretty (landowner). Bruce-Mitford 1975, 100

Int 5 1939: Excavation of Mound 1 by (1) Basil Brown (2) Charles Phillips (3) Cdr. Hutchison, instigated by Mrs Pretty (landowner). Bruce-Mitford 1975

Int 6 1965-7: Re-excavation of Mound 1 by R L S Bruce-Mitford (British Museum) Bruce-Mitford 1975

Int 7 1967-70: Excavation of spoil heaps and Mound 1 by P Ashbee (for British Museum).1 Bruce-Mitford 1975

Int 8 1971: Excavation of a trench in the vicinity of Mound 1 by P Ashbee (for British Museum). Unpub.

Int 9 1971: Excavation of a trench in the vicinity of Mound 1 by P Ashbee for the British Museum. Unpub.

Int 10 1971: Excavation of a trench in the vicinity of Mound 1 by P Ashbee for the British Museum. Unpub.

Int 11 1966: Excavation of an area ('Area A') near Mound 17 by I Longworth and I Kinnes for the British Museum. Longworth & Kinnes 1980

Int 12 1970: Excavation of an Area ('Area C') over Mound 5 by I Longworth & I Kinnes for the British Museum. Longworth & Kinnes 1980

Int 13 1968-9: Excavation of a trench ('Area B') east of Int 12 by I Longworth & I Kinnes for the British Museum. Longworth & Kinnes 1980

Int 14 1968-9: Excavation of a trench ('Area B') east of Int 13 by I Longworth & I Kinnes for the British Museum. Longworth & Kinnes 1980

Int 15 1968-9: Excavation of a trench ('Area B') east of Int 14. Longworth & Kinnes 1980

Int 16 1968-9: Excavation of a trench ('Area B') east of Int 15 by I Longworth and I Kinnes for the British Museum. Longworth & Kinnes 1980

Int 17 1982: Recording by S West for Suffolk Archaeological Unit of a fresh robber pit made in centre of Mound 11 FR 2/7.3

Int 18 1983-4: Surface mapping of plants over Zone A by A J Copp and J Rothera for Sutton Hoo Research Trust. FR 3/4

Int 19 1983-4: Surface collection of artifacts over Zones D, E and F by A J Copp and C Royle for Sutton Hoo Research Trust. FR3/4

Int 20 1984: Excavation of 100m long trench to the east of the burial mounds in Zone F by M O H Carver for Sutton Hoo Research Trust. FR3/4

Int 21 1984: Excavation of a trench across a buried anti-glider ditch in Zone F by M O H Carver for Sutton Hoo Research Trust. FR3/4

Int 22 1984: Excavation of a 100m long trench to the south of the burial mounds in Zone D by M O H Carver for Sutton Hoo Research Trust. FR 3/4

Int 23 1984: Re-excavation of a length of anti-glider ditch in Zone A by M O H Carver for Sutton Hoo Research Trust. FR 3/4

Int 24 1984: Excavation of a trench in Top Hat Wood, Zone B, by M O H Carver for Sutton Hoo Research Trust. FR 3/4

Int 25 1984: An attempt to smother vegetation over the area of Mound 5 preparatory to total excavation, by M O H Carver for Sutton Hoo Research Trust. FR 3/4

Int 26 1984-5: Re-excavation of the central point of Basil Brown's trench across Mound 2 by M O H Carver, A C Evans and G Hutchinson for Sutton Hoo Research Trust. FR 4/7

Int 27 1983-4: Metal detector survey of Zone A by C L Royle for Sutton Hoo Research Trust. FR 3/4

Int 28 1984: Magnetometer survey on pilot area in Zone F by M Gorman for Sutton Hoo Research Trust. FR 3/4

Int 29 1984: Soil-sounding radar test on pilot area in Zone F and over Mound 2 and Mound 12 by M Gorman for Sutton Hoo Research Trust. FR 3/4

Int 30 1983-4: Topographic survey of the burial mound (Zone A) by J Bruce, E Ingrams and M Cooper for Sutton Hoo Research Trust. FR 3/4

Int 31 1984: Re-excavation of east edge of silage pit, Zone C, by M O H Carver for Sutton Hoo Research Trust. FR 3/4

Int 32 1985: Excavation of an area in Zone F by M O H Carver and P Leach for Sutton Hoo Research Trust. FR8ii

Int 33 1966: Topographic survey of the burial mounds by British Museum.

Int 34 1980: Topographical survey of the burial mounds by British Museum.

Int 35 1984: Fluxgate gradiometer survey over a pilot area in Zone F by A Bartlett for Sutton Hoo Research Trust. FR 3/4

Int 36 1985: Resistivity survey over a pilot area in Zone F by R Walker for Sutton Hoo Research Trust. FR 3/4

Int 37 1985: Phosphate survey over Zones D and F by P A Gurney for Sutton Hoo Research Trust. FR 3/4

Int 38 1986: Stripping and recording of Horizon 1 of an area in Zone F, north of Int 32, by M O H Carver for Sutton Hoo Research Trust. FR8ii

Int 39 1986: Excavation of an area in Zone F east of Int 32 by M O H Carver for Sutton Hoo Research Trust. FR8iii

Int 40 1986: A Sieving experiment on the ploughsoil in Zone F, by M O H Carver for Sutton Hoo Research Trust.

Int 41 1986-8: Excavation of an area in Zone A containing Mounds 2 and 5, by M O H Carver and A J Copp, with A C Evans (Mound 5). FR4

Int 42 1986: Establishment of a permanent 100 m grid over Zone A by C L Royle for Sutton Hoo Research Trust.

Int 43 1986: An experiment to determine the inorganic chemical signatures of deteriorated human remains by P Bethell for Sutton Hoo Research Trust/Leverhulme Trust. FR9/7

Int 44 1988-9: Excavation of an area in Zone A containing Mounds 6 and 7 by M O H Carver and A J Copp with A C Evans (Mound 7). FR5

Int 45 1988: Magnetic susceptibility survey; pilot studies in Zones A D and F by C L Royle and A Clark for Sutton Hoo Research Trust. FR 3/4

Int 46 1988: Soil sounding radar survey over Mounds 6 and 7 (Zone A) by Oceanfix Ltd. FR 3/4

Int 47 1988: Resistivity survey (Zones A, D and F) by I Lawson. FR 3/4

Int 48 1989-92: Excavation of an area on the west side of Zone A containing Mounds 17 and 18 by M O H Carver and M R Hummler, with A Roe (Mound 17) and A C Evans (Mound 18) for Sutton Hoo Research Trust. FR6

Int 49 1989: Resistivity survey in Zones D and F by K Clark for Sutton Hoo Research Trust. FR 3/6

Int 50 1990-1: Excavation of an area between Int 32 and 41 containing Mound 14, by M O H Carver and J Garner-Lahire with G Bruce (Mound 14) for Sutton Hoo Research Trust. FR 8i

Int 51 1991: Resistivity survey of northern half of Int 50 prior to excavation by J Dunk and I Lawton for Sutton Hoo Research Trust.

Int 52 1991: Excavation of the trench between Int 50 and Int 32 by M O H Carver and A J Copp for Sutton Hoo Research Trust. FR8i

Int 53 1991: Excavation of a trench in the valley below Top Hat Wood (Zone G) to obtain

environmental samples, by M O H Carver for Sutton Hoo Research Trust.

Int 54 1991: Excavation of organic materials buried experimentally in Int 43 to investigate their rate of decay, by P Bethell for Sutton Hoo Research Trust. FR9/7

Int 55 1991-2: Excavation of an area to the south of Mound 7, containing parts of Mound 13, Mound 3 and Mound 4, by M O H Carver and M R Hummler for Sutton Hoo Research Trust. FR5ii

Int 56 1993: Reconstitution of the areas excavated and reconstruction of the original form of Mound 2 by M O H Carver, A J Copp and P Berry for Sutton Hoo Research Trust.

1.3 *Recovery Template*

1.3.1 Archaeological evidence is as data derived from cultural material. Neither evidence nor data is deemed to be 'found', 'revealed' or 'discovered'. The range of stratigraphic, artefactual or environmental indicators (cultural material) is first proposed by means of a *site evaluation* which investigates the range of physical, chemical and morphological variations underground and defines the attributes in which data are to be acquired. Thus, at Sutton Hoo some dozen methods of remote sensing and 26 small-scale excavations were used to define the attributes of soil anomalies, of artefacts and of the environmental evidence as they had severally survived in different Zones as a result of the heterogenous decay trajectories operating (see *Bulletin* 4, 1986; Vol 3).

1.3.2 The site evaluation set limits to the data that were to be acquired during a particular intervention. These data are pre-structured and have a predefined analytical destiny (see 1.7). On completion of any intervention, the evaluation is revised and improved, so that new species and structures of data may be proposed for subsequent interventions.

1.3.3 Site evaluation is also used to define the sensitivity of different zones and terrain types, and buried cultural material to different methods of investigation. This is reported as the 'Visibility Template' which reports the range of archaeological entities visible to modern remote mapping or excavation at Sutton Hoo (Fig 5). This shows which data are recoverable in which way.

1.3.4 The application of research objectives to the visibility template generates the 'Data Acquisition Template', which shows which techniques are to be applied where (Fig. 7). This diagram reports which data are to be recovered and how.

1.4 *Data Recovery Levels*

1.4.1 It is a further principle that information recovered from an archaeological site depends on the method of investigation applied. Methods can be intensified to provide greater precision, but can never really get to the point where the recovery of information is 'total'. It is therefore as important to specify the methods of definition and retrieval as it is to specify what is retrieved. Non-destructive methods of investigation are currently unable to achieve much precision (see Fig. 5) beyond that defined at 'Level A', the crudest. Destructive methods (ie excavation) can be applied on a rising scale of intensity and resource-commitment but are limited to a single occasion of access (see Fig. 7).

1.4.2 The 'data recovery levels' applied during excavation are given in Fig. 6. Each level represents a coherent set of digging and recording operations, which are assembled as a result of considering the results of the evaluation and data acquisition template. The operations implied by a particular level would of course be varied in other projects, other terrain. This figure merely gives the acquisition strategy adopted at Sutton Hoo. Each level implies recovery through a particular 'mesh'; so that contexts, features and finds of particular minimum visibility or size are captured by the application of a particular recovery level.

1.4.3 For this reason it is important that data acquisition within a single set of strata should be executed within a single designated recovery level, rather than allow methods of investigation and recording to vary reactively. Unless data sets are acquired within a single pre-set recovery level, subsequent analyses of the data set will not be valid. It is not possible, for example, to compare finds assemblages, either for environmental evidence or manufacturing activity, which have been excavated at different recovery levels.

1.4.4 The recovery levels will therefore be varied only between major blocks of cultural material (as predicted by the site evaluation). Fig. 7 shows the principal applications of different recovery levels at Sutton Hoo.

1.5 *Definition of Data*

1.5.1 The structure of data at Sutton Hoo is hierarchical (Fig. 8). The site evaluation defined a range of *components*, which may be constituents of natural deposits or anthropogenic, such as seeds, pollen, flint flakes, etc. Components which are kept are called *finds*. The location and type of each find is recorded in the finds index (3.4), and the attributes of each find are recorded in the Finds Inventory (3.5). Both form part of the data base. The recording level of each find depends solely on the recovery level operating. There are no 'small finds', and no finds are given special treatment by virtue of their composition or supposed historical significance.

1.5.2 A set of components is called a *context*. Each context is defined as a homogenous group of components forming a single deposition: the reality of this assumption depends on the recovery level applied - in fact no context may be a single deposition. Each context has location, shape and an inventory of components, those retained (as 'finds') being so indicated. Observations relating to a context are recorded on a context recording form (3.5) and data is extracted onto a context index (3.4) (which forms part of the data base).

1.5.3 A set of contexts is called a *feature*, each of which has a location, a shape and inventory of its contexts. Observations relating to features are recorded on feature records (3.5), and data are extracted onto the feature index (3.4).

1.5.4 A set of features is called a *structure*, each of which has location, geometry and an inventory of its features. Observations relating to structures are recorded on structure records (3.5) and data are extracted onto the structure index (3.6).

1.5.5 Thus, as an example, a prehistoric building (Structure 1) may comprise 10 post-holes (Features 200 - 209), each containing two or three contexts. If Feature 200 contains contexts (say 1213, 1216, 1224) context 1213 may contain humic sand (described and discarded) together with a piece of charcoal (Find 15010), a flint arrowhead (Find 5031)

and a soil sample for phosphate analysis (Find 15033). Find 15010 belongs to the set of all finds from this intervention, and belongs also to the set defined as Context 1213, which belongs to the set defined as Feature 200, which belongs to the set defined as Structure 1.

1.5.6 The hierarchy thus offers entities which are subsets of each other but are also independent variables. Structures are numbered S1, S2 ... Features are numbered F1, F2 ... contexts are numbered 1000, 1001 ... Finds are numbered 1, 2 ... It should be emphasised that these entities are not alternative to each other. The *context* is identical to the 'single number stratigraphic unit' generally used in Britain at present, and the site could be recorded solely as finds and contexts (as in those systems). The concepts of 'feature' and 'structure' are here applied as **additional** levels of data.

1.5.7 Within the hierarchical structure of component, context, feature and structure, parameters such as location, dimension, colour and description are recorded, expressed in predetermined quantities and keywords (3.6). These parameters are considered to be data only if they have an analytical destiny.

The parameters are:-

For *finds*: position (point)
 attitude (vector)

For other *components*: description of composition (mineral distribution as a percentage by volume of the context as a whole).

For *contexts*: position (location of perimeter in 3-D)
 shape
 stratigraphy (relationship with other contexts)

For *features*: position
 shape
 stratigraphy

For *structures*: position
 shape
 stratigraphy

The analytical destinies for these attributes are given in 1.7 below.

Data and Non-data

1.5.8 *Observations*, (which are not data but used to illustrate the sequence generated by analysis of the data) are made in the form of written notes (Y1), context records (Y2), feature records (Y3), structure records (Y4), drawings (Y5), photographs (Y6) and finds locations (Y071, Y71). The particular procedures used are detailed in Part 2 (below). *Data* are extracted, edited and entered onto the data base as the context index (Y02), feature index (Y03), structure index (Y04) and finds index (Y07).

1.5.9 **Drawn Records - Principles**

It will be seen from the comments above that POSITION and SHAPE are key parameters for all stratigraphic entities. Position could be reduced to data by, for example, free hand drawing on site, or by photogrammetry, and then extracting specific dimensions (eg width, depth) referred to the site grid. However, in the present system the designation of position and shape (as data) is separated from the recording of the position and shape as graphic description. It has been found that plans made over planning frames on a grid using colour or mono-chrome conventions suffer from inaccuracy, inconsistency and subjectivity, partly due to indecision about the position of context perimeters in unstable horizons. In the present systems, within a particular recovery level, the position of a context perimeter is defined at the moment of maximum definition by a single observer (the supervisor) who marks the perimeter on the ground. The uncertainties are recorded photographically. The perimeter is thus a 3-dimensional locus whose position is defined on the ground and can be used in the analyses.

Fig 9

	Written	Drawn	Photographic
A			
C			
Q	Notebook Y1	Index of Drawings Y05	Index of Photographs Y06
U			
I	Context Record Y2		Co-ordinates Y051 Category 1 Photographs
S			
I	Feature Record Y3		Plans Y52 Category 2 Photographs
T			
I	Structure Record Y4		Maps Y53 Category 3 Photographs
O			
N	Finds Label Y071		Sections Y54 Category 4 Photographs
(on site)	Finds Location Y71		

S O R T

	DATA	Record	Records
A	Held on DBMS	Held on DBMS	Held in store
N			
A			
L	Context Index Y02		Y00 Index to site file Notebooks Y1
Y			
S	Feature Index Y03		Y05 Index of drawings Context records
Y2			
I			
S	Structure Index Y04		Y06 Index of photographs Feature records
Y3			
A	Co-ordinates Y051		Structure records Y4
N			
D	Finds index Y07	Drawings Y5	
S	Finds Location Y71		Photographs Y6
T			
O	Finds inventory Y72		Finds Y7
R			
A			
G			
E			

1.6 *Data Analysis*

1.6.1 Data defined and entered onto the data base is predestined for analyses which have either been tested as pilot projects or represent itineraries with products of tested validity. Each of the parameters listed in 1.5 (above) is deemed to have a routine destiny - see Fig. 10.

1.6.2 Analyses number 1, 7, and 8 are predominantly graphics packages, designed to produce an accessible presentation of the site geometry. Analyses 2 - 6 contribute to the synthesis.

1.7 *Synthesis*

1.7.1 Synthesis is the process of presenting the sequence of structure and activity, using (a) the results of the analysis (1.6) and (b) the other descriptive observations.

1.7.2 The analyses on the data base are performed first in order to produce:-

1. Phased maps of contemporary features and finds
2. Primary assemblages within contemporary clusters, from which to determine activity
3. Sequences of similar activities (eg burials) within single or consecutive periods.

1.7.3 The descriptive observations preserved as drawings and photographs are then added to provide accounts of structures and episodes which occurred within the sequence.

1.7.4 The site can then be modelled as an illustrated sequence of activity. The clustering of data species (eg artifact assemblages) also remains accessible to inform other interventions, other sites, other projects.

PART 2 - PROCEDURES

2.1 *Non-destructive data acquisition procedures*

The following procedures can currently be used at Sutton Hoo with the acquired data-set as shown .

- **Aerial Photography:** plan of features generally deeper than 1m and wider than 1m.
Yield: coarse geography of undated features.
- **Field Walking:** recovery of finds larger than 2cm across by surface collection. Located in 3-D within 0.1m of modern position.
Yield: (1) coarse geography and dated occupation areas (2) surface topography (from locations) (3) flint industry assemblage.

- **Surface Mapping:** map of botanically characterised zones in 2-D.
Yield: previous interventions below ground.
- **Contour Mapping:** array of 3-D points.
Yield: surface topography and relict features. Metal only recovered in disturbed strata.
- **Metal Detection:** position in 2-D of ferrous/non-ferrous/deep/shallow signals.
Yield: areas of disturbance containing metal.
- **Resistivity:** position in 2-D of low resistivity signals. Relates generally to features wider than 0.5m and deeper than 0.5m.
Yield: coarse geography of undated features.
- **Gradiometry:** position in 2-D of magnetic anomalies. Relates to features wider than 1.0m. Yield: coarse geography of undated features.
- **Magnetometry:** Position in 2-D of magnetic anomalies. Relates to features wider than 1.5m.
Yield: coarse geography of undated features.
- **Magnetic Susceptibility:** position in 2-D of areas of high magnetic susceptibility.
Yield: areas of high susceptibility, which can be expected with occupation.
- **Radar:** Position in 3-D of strong soil interfaces up to 3m deep.
Yield: spasmodic location of deep continuous features.
- **Phosphate survey:** Concentration of phosphate measured as ppm of P_2O_5 per m^2 .
Yield: coarse geography of indicated occupation areas.

Most non-destructive data acquisition procedures result in records of 3 to 4 fields, namely easting, northing (height AOD), value [quantity of pottery by type, electromagnetic reading, etc.]

The records themselves are not numbered. The output is a map, contour map or dot-density map.

2.2 *Horizon Definition and Recording*

2.2.1 A 'horizon' is a cleaned surface at which anomalies in the soil can be defined and mapped. Horizons are achieved within 'quadrants', rectangular zones into which all interventions are divided (see Site Atlas). NW and SE quadrants (the 'leading quadrants') are excavated first, followed by NE and SW quadrants (the 'trailing quadrants'). The *drawn sections* are those of the exposed faces of the trailing quadrants.

2.2.2 'Horizon Zero' is the extant surface of the site. Only non-destructive data acquisition procedures are applied here and data is deemed to be recovered at Level A. No contexts are defined. Feature perimeters are mapped to within 1m. Finds larger than 1cm are

recovered in samples taken every 100m (one metre square in ten metres square).

2.2.3 'Horizon One' is the surface defined after the removal of scrambled strata (turf or ploughsoil). Trowel, brush, spraying with water and drying are used until features show.

2.2.4 After recording of this Horizon, defined contexts and features are excavated and the site is then lowered in 1-5cm spits until the next feature array is defined (Horizon 2). The procedure is then repeated until undisturbed deposits are reached. Removal of soil to achieve Horizon 1 and subsequent Horizons is deemed to take place at Level D.

2.2.5 Horizons are 'horizontal sections' recovered at vertical intervals which vary from 1cm to a maximum of 50cm. Each horizon is recorded by:

- (a) one or more vertical or near vertical colour photographs printed at A4.
- (b) context perimeters marked at intervals of <10cm by white tags.
- (c) 3-D co-ordinates of the tags taken and logged [by remote plotting, see 2.5].
- (d) limited context descriptions, written on transparent overlays to the A4 photographs.

2.3 *Finds Recording Procedures*

2.3.1 Components identified in situ. Components identified as artefacts, artefact fragments, bone, alien mineral or any other member of an anthropogenic assemblage (as defined by the evaluation) are retrieved and recorded individually according to the operating acquisition level. This will require, for example, plotting to the nearest metre square at Level B, and in 3-D to the nearest cm at Level D. A *Finds Location Record* (3.5, Y71), which records the attitude of the find in space is required at Level E.

Finds at all recovery levels are bagged on site with a *label* (YO71) giving context number and co-ordinates. Finds are allocated finds numbers, and indexed on the *finds index*. Finds are subsequently described and recorded by species on the *finds inventory*.

2.3.2 Components identified in sieving. Components recovered by sieving off-site are designated as recorded at Level C provided they can be retrospectively located in a context to within 1m .

2.3.3 Components recovered by sampling. The following methods are employed:-

233.1 Sampling for Plant Macrofossils

components: burnt seeds, carbonised wood.
target contexts: selected features within Level D recovery.
method: wet-sieving/flotation of 1m in 100m .
analytical yield: plants exploited within primary assemblages.

233.2 Sampling for Pollen

components: pollen assemblages.
target Contexts: buried soils, primary contexts; vertical sequence from whole site at c.20m horizontal intervals along quadrant baulks.
method: 1. 'Monolith' tinned soil column (baulks).
2. 30gm dried bagged sample (contexts).
3. record of pH (baulks and contexts).

analytical yield: 1. vegetation sequence from buried soils.
2. plants exploited within primary assemblages.
3. horizons (from pollen concentrations in monoliths) within opaque sequences (eg barrow make-up).

233.3 Sampling for Soil Identification

components: soil structure
target contexts: buried soils; primary soil deposits; burial chambers; mound make-up; ditches.
method: soil fossil taken in Kubiena box at selected points.
analytical yield: 1. reference collection for micromorphological methodology.
2. identification of ploughing, perturbation, sediments etc.

233.4 Sampling for Chemical Mapping

components: preselected cations, P, humic acids, amino acids, proteins etc, measured in ppm.
target contexts: burials, buried soils, timber constructions.
method: 30gm/m /10cm vertical interval samples taken in array across selected features.
analytical yield: 1. location of bodies and other organic sources through their decay products.
2. study of decay trajectory.
3. development of enhancement techniques.

2.4 *Stratigraphic Elements: Definition and Recording Procedures*

2.4.1 Contexts are sets of components defined as homogenous at the operating acquisition level. Measurements, components, their quantities, colours and descriptions are expressed in predetermined parameters as given in the RECORDS (see Y02, Y2).

Features are sets of contexts defined at the operating acquisition level. Attributes are expressed in predetermined parameters as given in RECORDS (see Y03, Y3).

Structures are sets of features defined at the operating acquisition level. Attributes are expressed in predetermined parameters as given in RECORDS (see Y04, Y4).

2.4.2 *Feature Excavation Procedure*

242.1 **Feature numbers and context numbers** are generally already allocated at Horizon definition stage. Find appropriate yellow (Feature) and white (Context) card(s) in files Y2 Y3. If feature does not yet exist, ask your Intervention Supervisor to allocate numbers (filling in Feature and Context Indices).

Check in Feature and Context Indices what stage of recording the feature has reached (generally pre-exc. plan only).

242.2 **Clean** feature if necessary. Take pre-excavation photo with board, scale, North-sign, fill in photographic record sheet, tidy photo boxes.

242.3 Spray for **photo** if necessary, as well as a suitable area around it. Spray if necessary.

242.4 If no pre-excavation **plan** exists, or if the feature looks drastically different from that planned at Horizon stage, then plan. Otherwise, the Horizon pre-excavation plan is used as the record. For convenience's sake, it can be useful to trace the plan of your feature onto a sheet of A4 permatrace: it can be used for plotting finds, drawing section lines, etc. but since it is not the original pre-excavation plan, *do not* give it a drawing number, discard/erase it when feature is finished, or if you keep it (eg it is on the same sheet of A4 as the section drawing and post-exc. plan) annotate it clearly, stating that it is an extract copy of the Horizon plan (give plan number).

If you need to plan:

Tag feature outline, survey outline with theodolite and Psion + wand. Plot points: if you wish to do this straight away, use Check option on Psion. Otherwise dump and plot from printout. Then draw plan at 1:10 (using 6H pencil) *on the ground*. Do not forget to include at least 3 grid points and North sign on the plan. This plan will require a new Drawing number (see below).

Alternatively, you can plan feature using a planning frame: put a nail at each corner, survey these 4 points with theo + Psion. Lay out site grid on A4 permatrace (at least 3 points), plot position of nails, then move permatrace so that graph paper squares coincide with planning frame squares. As the 4 points do not belong to the Feature/Context, enter a dummy context (1000) into Psion, and when you have plotted the 4 points using the check option, erase this data.

Occasionally (eg when a feature is suspected to be a grave), a full colour detailed context plan will be required: plan with planning frame.

242.5 After planning, **clean** again if necessary and spray if necessary.

242.6 Lay out **section line(s)**, usually W-E (South facing, ie you will be digging the S half first). Other orientations are of course acceptable, when the main axis of the feature dictates it. Consistency is important eg a row of postholes should be sectioned along the same axis. Some features will be quadranted, lay out section lines at right angles. Level string of section to nearest 5mm. Keep record of height AOD.

242.7 **Excavate half** of your feature a single context at a time. If more than one context is present in your feature, give entire treatment to the first context (ie section photo, section drawing, context record, pollen sample, excavate other half, post-exc. photo, hachure plan) until it is completely finished before starting again with the next context. On rare occasions new contexts are only recognised at a late stage, ie when most or all has been removed to half-section stage: if this is the case, then photograph section with all contexts, draw whole section, record each context, pollen sample each context, and proceed with other half, excavating each context separately and keeping finds separate. The pre-exc. photo(s) and plan(s) of half-contexts will generally be omitted, but consult your Supervisor about this.

242.8 **Finds** are plotted using the pre-excavation plan to obtain the xyz co-ordinates; these co-ordinates, the Intervention, Context and Feature numbers are marked clearly on label in finds' bag (one bag per find, but see below for dry-sieving).

To plot finds, several methods can be used, mainly depending on the size of the feature/context. For large features, the only accurate method is remote plotting (Theo. + Psion). For small features (eg small scoop, posthole), you can plot position of find on pre-exc. plan by offsetting against section line, and measuring height AOD by subtracting measured depth from the section string's known height.

Finds consist mainly of burnt flint (and burnt stone), flint artefacts or waste material (eg flakes) and ceramic sherds, although, of course, other materials are expected (eg bone (jburnt or decayed), metal, glass, slag, etc.). Organic material (eg a possible wooden artefact) may be given its own find's number. If it is extensive and/or decayed in the sand (eg a coffin or a wooden plough) it will be treated as a separate feature/context. Consult your Supervisor.

242.9 **Sampling:** within features other than graves, generally only pollen samples are taken systematically (see below). Otherwise, "sampling" is done on a "grab" basis: contexts likely or proved to contain macroscopic plant material are sampled for flotation (and bulk sieving). If such is the case, put "flot-bag" in bucket, fill it with the context (do not pick out just the "juicy" bits; discard stones, though). When full, double bag, write 2 labels (1 inside, 1 outside) with Int. feature and context numbers as well as xyz co-ordinates.

Charcoal: isolated flecks contained within the matrix are *not* sampled but listed in the context description and discarded (D). Concentrations of charcoal are sampled (eg for C14 dating): treat all charcoal as a single find, plot and bag as other finds and write this data as well as "Charcoal sample" on the white bands of the bag.

Other samples may be taken at the request of the Supervisor: pollen and/or solid micromorphology columns through a fill sequence (to establish history of infill) or phosphate samples.

242.10 While excavating, all soil (other than that kept in samples) is **dry-sieved**: take bucket or wheelbarrow to dry-sieve, retrieve finds. Each category of finds is bagged together (eg all burnt flint or all pottery sherds) from each sieving session. Mark Int. feature and context numbers on label. Write "sieved" on back of label. Co-ords: it is not possible to give these, as the spoil comes from no precise location. If you are dry-sieving a large context, you may have to sample sieve (eg 1 bucket in 4). Consult your Supervisor.

Having finished excavation of context to half-section, **clean** and make sure section is vertical, spray if necessary.

242.11 **Photograph section** with board, scale North sign behind section line, fill in photo record, tidy photo boxes.

242.12 **Draw section** at 1:10 in pencil (sharp 6H) and naturalistic colour. Check height of your section string (write height AOD on your section drawing), clip horizontal tape along string, measure profile, edges, components, etc. with handtape (and plumbline). If you are right-handed, start drawing on the left (avoids smudging).

242.13 **Record Context** (see procedure for Context recording). Spray so that condition on recording is consistently damp (eg for colour comparison), use Munsell chart. Dig some of context matrix out, handle it (for material composition, consistency, colour). Do not sit on baulk looking at it from afar.

Take 30g (a handful) **sample** of the matrix **for pollen analysis** from a clean part of the section, wrap it in cling-film, bag it and write 3D co-ords, context, feature and Int. numbers on white bands of bag.

242.14 **Excavate other half** of context, finds plotted as before, dry-sieving (and flot sampling or other samples if necessary) as before.

When feature is satisfactorily emptied, **clean** the whole feature and a suitable area around it. Do not overdo this, the sand is very soft and cleaning can drastically alter the shape of a feature. Remove section line, but *not* the nails/arrows anchoring the line: push these into the ground so that they are level with the ground surface.

242.15 **Photograph** empty feature with board, scale, N sign, fill in photo record, tidy photo boxes. If possible, take post-exc. photo in same direction as pre-exc. photo (easier to compare).

242.16 Draw **hachure plan** (an attempt to render shape of empty feature). Generally 2 methods or a combination of the 2 methods can be employed: remote plotting (theo. + Psion) or planning frame.

Remote plotting (Fig 11) : lay out tags at top, bottom, along any break of slope, or anywhere you need a point. Survey and plot (using Check option on Psion, or dump and plot from printout). Then draw *on the ground*, using points as guides, use hachure conventions. Write on plan levels of points plotted.

Planning frame: survey the 4 corners with Theo. + Psion using dummy context (1000), plot co-ords using Check option on Psion, erase this data from Psion. Lay out permatrace so that graph squares coincide with frame, plan. Make sure planning frame is horizontal and use plumbline for any measurement below ground surface. Make sure you are standing vertical above feature, not drawing at an angle (you may have to stand in the frame). Since there are no spot heights given by remote-plotted points, take levels at top and bottom of feature and write these onto plan.

Survey section origin points with Theo. + Psion (using dummy context 1000), plot these from Check option onto hachure plan, erase this data from Psion.

Put at least 3 grid reference points on plan and North sign.

242.17 **Record the feature** (yellow card). See feature recording procedure. Think about it, write down any comments or interpretations *now*: this is best done while you are looking at it, not in the site office.

242.18 **Tidy** box, tools, etc. Make sure all finds and samples have reached the finds' office.

Spray empty feature with **Vynamul** solution.

242.19 In **drawing office**: tidy records, label each original drawing with:

SH 90

Int ...

Quad ...

title (eg "F63, N-S (East-facing) section through 1020")

Scale (usually 1:10)

Your initials and date

D number (Supervisor to fill in)

Put feature pack (ie context and feature sheet(s), plan(s), section(s), hachure plan(s), ms notes if present) in Supervisor's in-tray for checking.

242.20 **Supervisors:**

Check records and cross-reference with other contexts/features if necessary.

List of check that finds' categories have been entered on context cards (check with Finds' Index).

Fill in Indices: Drawing Index, Context Index, Feature Index.

Tick "Finished Features List" on drawing office wall.

[MRH/AJC Revised June 1990]

242.21 *Equipment Needed for Feature Excavation (Level D)*

Theodolite

Psion

Wand

Clipboard

Feature & Context cards

Blank paper

Biro

A4 or A3 or A1 board with permatrace & masking tape

6H pencils (sharp!)

Colour pencils

Rubber

Sharpener or surgical blades

Handtape(s)
30m tape
Bulldog clips or clothes pegs
Plumbline
Ruler
Section string
Surveying arrows
6" and 2" nails
Clean tags
Thick marker
Thin marker
Used plastic bags
Clean plastic bags
Clingfilm
Procedure notes for recording
Munsell chart

Photographic box

Wheelbarrow
Bucket
Handshovel
Trowel(s), spoon, (plasterer's leaf)
(Brush, painting brush)
Killarspray with water
Killarspray with Vynamul
Mattress or cushion if possible

[MRH revised June 1990]

2.4.3 *Recording a Grave at Data Recovery Level E*

243.1 **Setting Out Plan, Section & Sampling Positions** (Fig 11)

Using a planning frame, lay out a grid around the grave at 1m intervals (A-H). The grid is established using 6" nails and the position of each nail is surveyed-in using the Psion.

Draw up plan locating the planning nails.

Establish a longitudinal and two transverse sections across the axes of the grave (1-6). Again, use 6" nails to establish to position and survey each nail.

Draw up plan location the section nails. The section nails will be the basis of the intensive sampling array that is put across the grave. If chemical sampling is required, position the 30gm samples every 10cm horizontally and every 5cm vertically. Using the string and a tape, the 10cm horizontal intervals can easily be established. As the grave progresses vertically, a plumb-bob will locate the sampling point. On the plan record the co-ordinates ($x + y$) for each individual sampling point.

The $x y + z$ co-ordinate must be recorded on the outside of each sample bag together with Intervention, year, Feature, Context and Find number.

A pollen sample must be taken from each context (30g)

A single flot must be taken from one of the backfill contexts. (10 ltr)

243.2 **Excavation and Recording Procedure**

Establish outline of grave; if grave int by later feature, remove it as usual at Level D recovery, but once grave defined move into Level E recovery.

Excavation

Recording

Clean grave & Surroundings

Photo (Recorder & NMB)
Allocate Feature & Context nos.
Plan at 1:10 using colour-coded pencils
Write notes
For chemical sampling - remove transverse array

Excavate one half of fill against longitudinal section

Sieve soil
Plot finds using grid or Psion
Draw section 1:10 using colour-coded pencils
For chemical sampling - remove longitudinal array

Remove trailing half

As each 10cm spit is reached clean the grave fill and photograph (recorder)
Write notes

Repeat until first variation in context

Allocate new context no.
Clean and photograph (recorder)
Plan 1:10 using colour-coded pencils
Write notes
Sample

Repeat until first feature defined (feature identified by shape of stain).
Expose feature as long as it remains stable, maintaining cumulative section

Allocate feature and context no.
Photograph (recorder)
Draw plan 1:10 using colour-coded pencils
Write notes

One feature isolated or unstable, record and remove

Divide into finds number and plot.
Remove feature.
Photograph (recorder)

Once body located, excavate with wood stain, grave goods as a tableau

Photograph (recorder & NMB)
Draw plan 1:10, colour coded
Draw plan 1:10, naturalistic
Record co-ords for contour plot

	Draw hachure plan 1:10 Record shape with 3-space tracker (if available) Write notes Abandon longitudinal section
Excavate artefact stains Excavate body stain & search for skeleton	Keep a sample for chemical analysis. Discard remainder Body stain discarded after sieving Allocate context for bonemeal Photograph 'skeleton' (NMB & Recorder) Draw plan 1:10, colour coded Skeletal record card
Excavate 'Bonemeal Skeleton'	Body divided into anatomical parts & allocated find nos. Annotate a plan illustrating anatomical pieces with allocated finds nos. Bag separately the anatomical pieces. Bags must contain Int, year, feature & context no., find no., material, identity & type Co-ord
Empty grave subsoil	Describe subsoil; if required, sample the Allocate subsoil a context no. Hachure plan of empty grave Draw profile along longitudinal & both transverse axes Photograph (recorder)

242.3 **Checklist of Records to be Made**

2423.1 *Drawn Records*

Plan locating planning grid superimposed with position of sampling grid.

Colour-coded plans of grave fill as each new context is exposed, annotated with context nos. and levels.

Colour-coded plan of features - at the level they are defined - within the grave, annotated with appropriate feature and context nos. and levels.

Colour-coded plan of body & grave goods tableau

Naturalistic coded plan of body & grave goods tableau

Hachure plan of body & grave goods tableau

Hachure plan of empty grave

Cumulative section along longitudinal axis - colour coded - to depth of body

Profile along longitudinal axis of empty grave

2423.2 *Written Records*

Context cards

Feature cards: include grave cut & any recognisable shapes eg body, coffin

List of finds nos., co-ords & material

Daily log of activity - excavation methodology, progress, weather, etc.

Is the feature being dug to the Leverhulme sampling strategy?

2423.3 *Photographic Records*

Record shot taken at each 10cm spit by recorder & duplicate NMB shots.

NMB takes pre-excavation & body tableau photo

2423.4 *Finds*

Each find (ie anything kept) recorded in 3-D with theodolite or planning frame, given finds no., context & feature no.

Sieved finds only located to their context , but each sieved find gets its own find no.

242.4 **Check List of Equipment**

Trowels	Black A4 file	Theodolite	
Plasters' leaf		Context cards	Psion
Spoon	Feature cards	Wand	
Brushes, 1", 3"	A4 paper	Camera set	
Hand tape	Black biro	1.00m scale	
Long tape	Marker pens, narrow & broad		Grave cover
Nails, 6", 2"		A4 permatrace	Generator
Hand shovel		6H pencils	Hoover
Bucket	Rubber		
Hand spray	Tipp-Ex		
Plumb-bob	Masking tape		
Section string	Coloured pencil set		
Planning frame	Clean finds bags		
Fishing box		Used finds bags	
Bulldog clips	Clean tags		
	Pre-numbered tags		

Planning board
Munsell book
Colour Convention chart
Grave recording notes
Cling film

2.5 *Site Geometry*

2.5.1 Three methods of recording site geometry are employed:

- (a) Photographic (Y6). Photography of Level D and horizons, graves, chambers, boats etc with registration points (white crosses) located in 3-D.
- (b) Drawn (Y5). Using conventions and colour code, plans at 1:10 made of Level E contexts and features, and main sections.
- (c) Remote Plotting (Y51). Array of points at 10cm interval (or less) used at Level D and to locate perimeter of contexts and features, and to record surfaces of horizons and contexts. The method employs a theodolite, wand and Psion Organiser hand-held computer to allocate x, y, z co-ordinates to nearest mm to each point.

2.5.2 **Remote Plotting** (Fig 11)

[from *The Field Archaeologist* 7 (1987) 102-103]

2.5.3 **Remote Plotting: User Handbook for Planet 2 (1988)**

2.5.4 **Psion Dumping Procedure**

2.6 *The Photographic Record*

2.6.1 **Four categories** of photograph are deployed:

Category 1 PUBLICATION. Portraits of features, surfaces, techniques in action or special occasions destined for publication. These photographs are taken in black and white and may be trimmed, edited, enlarged etc as required.

Category 2 SITE GEOMETRY. These photographs are taken as records of surface and constitute horizon and context maps (see 1.4). They are colour prints, enlarged to A4 and equipped with registration marks (see 2.2)

Category 3 PUBLICITY. These photographs are taken to provide material for lectures, exhibitions, displays, and sales. They are colour transparencies, which are taken in duplicate.

Category 4 RECORD. These photographs are taken to provide a record of all stratigraphic elements (context, feature, find, section, monolith etc) which are otherwise encountered and

recorded, in order to illustrate and qualify the supervisor's written and drawn record. They are colour prints, used as enprints.

2.6.2 Composition

Category 1 and 3 photographs may have any composition, but will normally include people (with faces shown as far as possible). Category 2 and 4 photographs will include a board, colour scale and north sign. The board will be set out with the intervention number, 'horizon/context/feature/structure number, and date.

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2.6.3 Responsibility

Category 1, 2 and 3 photographs are the responsibility of the Site Photographer. Category 4 photographs are contributed by Supervisors.

Format

For formats and documentation, see Records 3.4.

2.6.4 Formats (1988)

<u>Category</u>	<u>Destination</u>	<u>Subject Area(s)</u>	<u>Format</u>
1	Publication	a. Whole Sector during excavation	B/W 5x4
		b.	Whole sector at stated horizon
	B/W 5x4	c. Burial chamber/boat/grave during excavation	B/W 2¼
		d.	Burial chamber/boat/grave after excavation
	B/W 2¼	e. Working methods	B/W 2¼
		f. Distinguished visits	B/W 2¼
		g.	Kite overheads B/W 35mm

(Note: Category 1 photographs will *normally* have people in them, preferably excavators whose faces we can see)

2	Site Geometry	a. Horizon plans	Colour print A4
		b.	Graves before excavation
	Archive	c. Graves after excavation	Colour print A4

(Note: Category 2 photographs will normally *not* have people; but will have boards, N signs

and registration points)

3	Publicity	a. All subject areas mentioned	35mm slides
		b.	Sponsors and methodology
		c. Infill shots for BBC films	35mm or large format slide
35mm slide			
4	Illustration Archive	Contexts and features as determined by Supervisors	35mm colour print

2.6.5 Applications

<u>Subject</u>	<u>Formats</u>	<u>Destination</u>
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Category 1*

Whole sectors during excavation and at stated horizons (a + b)	5x4 B/W 35mm slide (2¼ c/print)	Publication
Burial chamber/boat/graves during and after excavation. Working methods. Distinguished visits (c, d, e + f)	2¼ B/W 35mm slide (2¼ c/print)	Publication
Kite shots (g)	35mm slide (35mm B/W)	Publication

Category II**

Horizon plans, Graves before and after excavation - all A4 (a, b + c)	2¼ c/print (2¼ B/W) 35mm slide	Site Geometry
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Category III

Included in above. To include all subjects plus sponsors and methodology and BBC infill (a + b)	35mm slide 2¼ slide (2¼ B/W)	Publicity (BBC)
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Category IV

Features and Contexts	35mm c/print	Illustration Archive
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* Normally to include people, preferably excavators faces seen

** No people. With board, N sign and registration points

2.6.6 Guide to the Field Descriptions on the 1986 Photographic Catalogue

FILM NO.: The appropriate film number. This is a single number system for each type of film, either slides prefixed 'S', or prints prefixed 'N'.

CAMERA: The type of camera used, eg Nikon FM, Olympus OM10. Toyo 5.4 inches. Mamiya 6 x 4.5cm. Pentax 35mm. Olympus 35mm. Konica 35mm. Wild P32 6.7cm. Polaroid 3 x 3 inches.

FILM MAKE: Enter a single letter (see keywords).

COLOUR/MONO: Delete the inappropriate description.

SLIDE/PRINT: Delete the inappropriate description.

ASA: Enter appropriate ASA number.

FRAME: A list of pre-numbered film exposures. The second column is for revising the exposure numbers after processing, ensuring the slide or print has the appropriate description.

CONDITION: The prevailing environmental conditions which have influenced the Feature/Context being recorded.

LENS:

SCALE: (mm) or (m)

DIRECTION: The compass direction in which the camera is pointing against grid North. No more than 2 characters, eg NW.

CTXT/FEAT/FIND/STRU/SUBJECT: Enter appropriate C/F/F/S/S being recorded in the frame together, if necessary, with the appropriate spit level, eg Level 2. Can also locate sections using a grid reference.

INIT: Enter the initials of the photographer. If the exposure descriptions are also entered in the photographer's (Nigel's) notebook, the person's initials MUST be prefixed with *. If the photograph is an aerial shot, the photographer's initials are not recorded, instead they are replaced by the appropriate aerial abbreviation (see keywords). Again, these MUST be prefixed * if the description enters the photographer's notebook.

INT: The subsite number.

PART 3: RECORDS

3.1 *Organisation of Project File* (refer to Fig. 2)

- XO: Content of Project Records
- X1: Location plans and list of Interventions
- X2: Programmes
- X3: Bibliography of publications
- X4: Contributors (to be indexed)
 - X4.1: authors
 - X4.2: participants
 - X4.3: collaborators
 - X4.4: students/colleagues
- X5: Project history
 - X5.1: Diary
 - X5.2: Financial records
 - X5.3: Press cuttings
- X6: Picture history
 - X6.1: Scrapbook
 - X6.2: BBC 16mm film (pre-numbered by BBC)
- X7: Site management and presentation
 - X7.1: Ownership
 - X7.2: Permissions
 - X7.3: Access
 - X7.4: Presentation
 - X7.5: Constitutions of performing bodies and associates
 - X7.6: Campaign/team management

3.2 *Organisation of Research File* (refer to Fig. 2)

- Z0: Index to Research File
- Z1: Site Analyses and Studies
 - Z1.1: 1860 Mound Removal, Barritt (Int 1)
 - Z1.2: 1938 Excavations, Brown (Ints 2,3,4)
 - Z1.3: 1939 Excavation, Brown and Phillips (Int 5)
 - Z1.4: 1965-71 Excavations, Bruce-Mitford, Ashbee and Carney (Ints 6-10)
 - Z1.5: 1966-70 Excavations, Longworth and Kinnes (Ints 11-16)
 - Z1.6: 1984 Excavation, Carver (Int 20)
 - Z1.7: 1984 Excavation, Carver (Int 21)
 - Z1.8: 1984 Excavation, Carver (Int 22)
 - Z1.9: 1984 Excavation, Carver (Int 23)
 - Z1.10: 1984 Excavation, Carver (Int 24)
 - Z1.11: 1984-5 Excavation, Carver (Int 26)
 - Z1.12: 1984-5 Excavation, Carver (Int 31)
 - Z1.13: 1985 Excavation, Carver (Int 32)
 - Z1.14: 1986 Excavation, Carver (Int 39)
 - Z1.15: 1986-88 Excavation, Carver (Int 41)
 - Z1.16: 1988 Excavation, Carver (Int 44)

- Z1.17: 1989-81 Excavation, Carver (Int 48)
- Z1.18: 1990-91 Excavation, Carver (Int 50)
- Z1.19: 1991 Excavation, Carver (Int 52)

Z2: Environment and Resources

- Z2.1: Research Proposals
- Z2.2: Specialist reports - results

Z3: Comparative Archaeology

- Z3.1: Regional Surveys
- Z3.2: Excavations
- Z3.3: Artefacts
- Z3.4: Snape
- Z3.5: Ships

Z4: Site Assessment and Evaluation

- Z4.1: Interpretation of Sutton Hoo data pre 1986
- Z4.2: Remote Sensing results

Z5: Surface Monuments

- Z5.1: Recording
- Z5.2: Evaluation, results

Z6: Documentary Sources

- Z6.1: General Reports
- Z6.2: Place-names
- Z6.3: Maps
- Z6.4: Historical

Z7: Bibliography

- Z7.1: Prehistoric
- Z7.2: Early Medieval
- Z7.3: Methodological

Z8: Methodology

- Z8.1: Recording methods
- Z8.2: Excavation methods
- Z8.3: Remote Sensing methods
- Z8.4: Experimental Archaeology (including replication)
- Z8.5: Decay Products (includes LTP)
- Z8.6: Chemical Tests
- Z8.7: Computer Applications

Z8.8: Conservation

Z9: Synthesis

Z9.1: BBC transcripts

Z9.2: Interim reports (eg Bulletins)

Z9.3: Research designs, research programmes

Z9.4: Sutton Hoo seminars and conferences

3.3 *Organisation of Site File* (refer to Fig. 2)

3.3.1 A site file exists for each INTERVENTION, numbered 00Y where 00 represents the intervention number. A site file is a heterogeneous set of records, consisting of pre-formatted written records, drawn records, photography and finds. Finds include any retained material, ie. artefacts, bone, and samples of all kinds. The site file also contains indices of all the records made (the YO series).

The physical appearance of a site file comprises:

- A4 paper records (eg. indexes, contexts, features) in black binders
- A4 drawings
- A1 drawings, in plan-hangers
- Photographic negatives and prints
- diskettes containing data extracted from the records
- boxes containing finds

3.3.2 The following views of the site records are given in part 3:

SITE FILE INDICES (Y0) describe the indices that are made for each class of record, and their contents. The index to the indices is given first (Y00).

FIELD RESEARCH FORMATS (Y1-Y7) give the formats in which records are made and data is acquired in the field.

DATA BASE FILE STRUCTURES (Y02-Y07) give the files onto which data extracted from the records is entered, naming each field and its length in characters.

THESAURUS OF KEYWORDS gives the words which may be used within the data base in each field.

3.4 SITE FILE INDICES

3.4.1 List of Indices in the Site File

Y00: Index to Site File

Y01: Index of Notebooks

Y02: Index of Contexts

Y03: Index of Features

Y04: Index of Structures

Y05: Index of Drawings
Y06: Index of Photographs
Y07: Index of Finds
Y08: Index of Reports

3.4.2 *Description of Site File Indices*

Y00: Index of Site File (Fig 12).

Y01: Index of Notebooks. Field notes are generated in A4 bound books by supervisors and director, generally at the rate of one per year. These notebooks contain observations, sketches and polaroids made at first hand on site and in the laboratory. These notebooks contain no data which is not found in the data base. Notebooks are designated by originator and year (AJC/1987). They are not internally indexed but the list of those forming part of the project records will be found in the YO binder for each intervention.

Y02: Index of contexts. Contexts are allocated numbers by supervisors from a list of consecutive numbers in the context index, but contexts do not exist as data until the context record (Y2) is completed. The data extracted from the context record and placed on the data base also constitutes the context index (Y02). This index does not exist in hard copy. Printouts may be generated from the DBMS using any of the fields as search criterion.

Y03: Index of Features (as contexts).

Y04: Index of Structures (as contexts).

Fig. 12 INDEX to SITE FILE (updated 1991)

Class of		Hard	Print-	
<u>Record</u>	<u>Description</u>	<u>Copy</u>	<u>Disk</u>	<u>out</u>
Y01	Index of notebooks	A4		
Y02	Context index	A4	X	
Y03	Feature index	A4	X	
Y04	Structure index	A4	X	
Y05	Drawing index	A4	X	X
Y051	Graphic co-ords index	A4	X	X
Y06	Index of photographs	A4	X	
Y061	Index of BW photographs	A4		
Y062	Index of colour photographs	A4		
Y063	Index of slides	A4		
Y07	Finds index	A4	X	
Y071	Finds location index			
Y0721	Flint inventory index			
Y0722	Ceramic inventory index			
Y0723	Artefact inventory index			
Y0724	Soil inventory index			
Y0725	Identification inventory index			
Y0726	Rivet inventory index			
Y0727	Gunwale spikes inventory index			
Y0728	Rib bolt inventory index			
Y08	Index of reports	A4		
Y09	Computer inventory index			
Y010	Index of finds off site			
Y011	Index of excavation strat. file	A4 ringbinder		
Y1	Notebooks (+ sketches & documents)	A4 books		
Y2	Context records	A4 in ringbinders	X	X
Y20	Context abstracts		X	
Y3	Feature records	A4 in ringbinders		
Y30	Feature abstracts		X	
Y31	Skeleton record	A4 in ringbinders		
Y4	Structure records	A4		
Y40	Structure abstracts		X	
Y5	Site geometry	A4/A1		
Y50	Conventions	A4		
Y51	Graphic co-ordinates	A4/A1		
Y52	Plans	A4 with Y2, Y3		
Y53	Maps	A1 plan-hanger		

Y54	Sections	A4/A1 plan-hanger	
Y55	Finds distribution	A1/A4	
Y729	Finds drawings	A4	
Y6	Photographs		
Y61	B/W negatives	A4 pocketed in binders	
Y62	Colour negatives	A4 pocketed in binders	
Y63	Slides	A4 pocketed in binders	
Y7	Finds	Bagged in boxes	
Y71	Finds location record	A4 in ring binders	
Y721	Flint inventory	A4 in ring binder	X
Y722	Ceramic inventory	A4 in ring binder	X
Y723	Artefact inventory	A4 in ring binder	X
Y724	Soil inventory	A4 in ring binder	X
Y725	Identification inventory	A4 in ringbinder	
Y726	Rivet inventory	A4 in ringbinder	
Y727	Gunwale spike inventory	A4 in ringbinder	
Y728	Rib bolt inventory	A4 in ringbinder	
Y8	Reports		
Y9	Computer inventory		
Y10	Finds off site (includes Y723 and Y724 records)	A4 in ringbinder	
Y11	Excavation strategy (in "Site File")	A4 in ringbinder	

Y05: Index of Drawings (Fig. 13). A hard copy is made on paper on the format attached (Y05) and entered using the file structure given (see Data Base file structures, Y05).

KEY

DRAW NO.: A unique drawing number is required for each plan, section or profile. The number is obtained from a master list located in the site drawing office.

INT NO.: The relevant subsite intervention division.

INIT.: The initials of the person who has completed the drawing.

FORMAT: The technical size of the permatrace, either A1 or !4, together with its orientation.

SCALE: The scale the drawing is made at.

PLAN/SEC: Whether the drawing is a plan (P), section (S), profile (F), ot hachure plan (H).

O/C/D: Is the drawing an original (O), ie the grubby site pencil drawing, a copy (C), ie and inked copy of a site drawing on clean permatrace, of a dyeline (D) of the copy.

DATE: the date a drawing is completed.

DETAILS: A list of all the feature & context numbers belonging to the drawing and, if

necessary, a written description. It is important to ensure that all the numbers have been entered onto the original permatrace drawings in pencil, rather than leave an annotated written description.

THE ORIGINAL DRAWINGS SHOULD HAVE ALL THESE FIELDS WRITTEN AS A CAPTION, TOGETHER WITH AN ORIENTATION AND GRID REFERENCE.

Y06: Index of Photographs (Fig 14) . A hard copy index is made for each film initiated on the format attached (Y061) using the file structure given (see Data Base file structures, Y061).

KEY

A Film Processing Record is also made (in hard copy only) on the format attached (Y062, Fig. 15).

Y07 (Fig. 16): Index of Finds. A hard copy record is made for every find designated, using the fields in the form Y07.

Y071 (Fig. 17): The finds label is completed on site for every find recovered at data recovery level Level C, or higher.

The Finds Label: Key

SITE: Abbreviate to SH (Sutton Hoo).

INTERV: Relevant subsite division.

CONTEXT: Relevant context number belonging to the find.

Km SQ: Relevant kilometre square.

REC. L: Relevant recovery level to which the context is being excavated.

HT: The height of the find AOD.

GRID: The grid reference of the find to the nearest figure according to the recovery level. If a find is recorded to five figures, any zeros must be written. Do not leave the spaces blank. If a find is sieve-recovered, then the grid reference is recorded to the nearest metre square; the remaining spaces must be 'starred' thus 153**/200**. The easting is always the first number.

MATERIAL: Enter the relevant description using the keywords in the Finds Index. The Material description in the Index File is not always identical to the Material description for the Context File, eg bodies, charcoal, soil.

IDENT: DO NOT use this field.

NB: THERE IS NO FEATURE FIELD ON THE LABEL. IF THE FIND IS FROM A FEATURE, WRITE IN A CONVENIENT PLACE, IN FREEHAND, THE FEATURE NUMBER PREFIXED BY AN F.

Y08 Index of Reports

Reports are keyworded by AUTHOR, YEAR, INTERVENTION and SUBJECT. The list of reports is held on A4 in the Site Index ring binder.

3.5 *Field Record Formats*

3.5.1 List of formats

Y1	Notebooks (A4; no fixed format)
Y2	Context record and field descriptions
Y3	Feature record and field description
Y31	Skeleton record and key
Y4	Structure record and field description
Y5	Formats for drawing records
Y6	Formats for photographic records
Y71	Finds Location record
Y72	Finds Inventory
Y721	Flint
Y722	Ceramic
Y723	Artifact
Y724	Soil matrix

3.5.2 **Y2 The Context Record** (Fig. 18)

Key to Context Record - Field Descriptions:

INTERVENTION: Relevant subsite allocation

CONTEXT: Unique four-digit pre-numbered record

KM SQUARE: Area code

GRID REF: Given to centimetre

HEIGHTS: Spot height on the highest and lowest point on each context

RECORDED AT LEVEL: Recovery level

DESCRIPTION: Free field for text entry. Describe quadrant, broad description of fill, character, ie homogenous?; variations in colour, texture, mineral content, etc. Must include keyword of Munsell colour code. If more than one matrix recorded, describe Munsell colour as 'various'.

SHAPE IN PLAN: Geometry of context before excavation

ENHANCEMENT USED: Any chemical or photographic techniques applied to the context which enhances the visibility of particular attributes.

DESCRIPTION AFTER: Describe the reaction

TREATMENT: Any special physical treatments applied to the context.

CONDITION ON RECORDING: General condition of the context observed during recording

pH:

DISTURBANCE AGENTS: Any physical disturbances which can be identified

The COMPONENTS FROM VISUAL ESTIMATES describes the attributes of the context. The attributes are divided into the description of a matrix, or multiple matrices [using the top line) (s)] and a list of the components

%: Quantity of each attribute as a percentage

DISTRIBUTION: The ordering of each component within the context

COMPACTION: The handling and cohesive properties of each attribute

STRUCTURE: The composition of the attributes

PURITY: The cleanliness of each attribute, seen without artificially smoothing the surface

COLOUR: Only a Munsell code entry

SIZE: Attributes described in mm, the matrix expressed as '<' according to keyword set, and stone components described using a set range.

MATERIAL: A keyword description of the attributes. This includes a Material entry for artefacts as a component (see Finds Index for keywords). Also list samples - flot, pollen, etc, and quantity

D/S/K: Discarded/sampled/kept. If entire context kept enter K for matrix, D for stone. Any context containing macroscopic plant remains is sampled and noted beneath Material field.

STRATIGRAPHY: (fields listing strat. relationships of context)

UNDER: A list of the earliest contexts which seal the current context

OVER: A list of the latest contexts which are sealed by the current context

SAME AS: Identical contexts spread over different quadrants

DATE RECORDED:

RECORDED BY:

COMPUTERISED BY:

BELONGS TO F: Part of relevant feature package

IDENTIFIED AS: Specific generic type

3.5.3 **The Feature Record** (Fig.19)

Key to Feature Record - Field Descriptions

SET WITH: Is the feature an isolated entity or unequivocally related by mapping to another feature?

FINAL FORM SHAPE IN PLAN AT TOP: After excavation, the shape of the feature in plan

FINAL FORM SHAPE IN PLAN AT, OR NEAR, BOTTOM: After excavation the shape of the feature in plan, on or near the floor

PROFILE: The vertical shape described in section across the feature

DESCRIPTION: A free field containing no keywords, but should contain a description of the relevant quadrant, the horizon(s) at which the feature was first seen and later excavated and the general shape and character of the excavated feature. This contrasts with the COMMENT field, which requires a description of the excavation procedure/history, methodology and comments on specific sampling procedures

TREATMENT: A description of any special physical treatments applied to the surface of the feature during or after excavation

STRATIGRAPHY

SAME AS: A list of feature numbers which relate to the same feature through different quadrants of the site. This may be entered retrospectively

OVERLYING:

CUTTING: Relationship to an earlier stratigraphic feature or context

JOINED TO:

MADE OF:

CUT BY: Later features which cut the current feature

SEALED BY: Any feature or context which is stratigraphically later and seals the current feature

BACKFILLED WITH: A list of contexts which belong with the current feature

SINKAGE: Features and contexts which have sunk into the top of the current feature

COMMENT: (see Description field)

BELONGING TO STRUCTURE: (entered retrospectively)

FUNCTION: An interpretative description of the feature

IDENTIFIED AS: The generic type

DATE RECORDED:

RECORDED BY:

COMPUTERISED BY:

353.1 **Y31 The Skeleton Record** (Fig. 20-21)

The skeleton is generally a *feature*, consisting of *contexts* which may be bone, or various conjoined elements of sand body. Bone or sand body which is recovered becomes a *find*.

3.5.4 **Y4 The Structure Record** (Fig. 22)

Guide to Structure Record - Field Descriptions and Keywords:

STRUCTURE NO: A unique number, site-specific (Sutton Hoo), rather than intervention specific

INTERVENTION NO(S): The appropriate subsite division

ZONE(S): The appropriate zone:

A - grass monument

B - promontory opposite Mound 1 in Top Hat Wood

C - Top Hat Wood

D - field to South of grass monument

E - plantation to North of grass monument

F - field to East of grass monument

G - field to West of Zone C

H - field South of Zone G and West of C

KM SQ: The appropriate kilometre square

FEAT: A list of the features which comprise the structure

INT: The appropriate intervention number for the feature

CONTEXTS: A list of the contexts comprising the features

IDENT. AS: A description of each feature, this should be identical to the description entered in the appropriate field on the Feature record

FINDS: A description of the finds from each feature. The keywords list exists under the Material heading of the Index file

GENERIC TYPE: A taxonomic description of the structure:

- Burial chamber
- Burial
- Palisade
- Barrow
- Boat
- Building
- Unidentified

ORIENTATION: A compass reading of the general axis of the structure, comprising no more than 5 characters, eg NW-SE

PERIOD: the date of the structure, eg LN/EBA (entered at post excavation stage)

INTERPRETATION: A free field to enter details concerning eg its identification, methods of excavation and possible function

RECONSTRUCTION: A sketch of the features comprising the structure and any features which might be tentatively associated

IDENTIFIED BY: The initials of the person identifying the structure

DATE: The date the structure was first identified

CARD: The number of cards required to record one structure

3.5.5 *FORMATS for Drawn Records*

355.1 *Y51: Co-ordinates*

These are recorded by on-site data capture using a hand-held computer (eg. Psion Organiser) and down-loaded onto the data base in the co-ordinate files Y051, (by intervention).

355.2 *Graphics*

Each element of site geometry is to be converted to graphic form, and these (computer-generated) plans will be entered into the index of drawings (Y05). The required formats are as follows:-

contexts: 2-D plan at 1:10 on A4 paper with labelled grid reference (x3) and labelled heights AOD (x3)

feature: 2-D plan at 1:10 on A4 paper with labelled grid reference (x3).
2-D profiles N-S and E-W at 1:10 on A4 paper with labelled height AOD (x3)
3-D oblique view with 3-D grid points (x3).

horizons: Composite map at 1:100 (conflated from 1:10 plans) on A4 paper with grid references labelled at 10m intervals and heights at each grid reference (Fig 23-4)

Y52: Plans: Applied to contexts and features. To be presented at 1:10 on A4 in ink with grid refs (x3), heights (x3) and N sign. For level E and F colour coding is used. All plans use conventions as given in Thesaurus (Y50).

Y53: Maps: This term is used to describe a plan drawing which contains more than one context or feature. The maps routinely generated contain all feature and context boundaries in a sector at a stated horizon drawn on A1 at 1:100, drawn in ink without conventions.

355.3 *Y54: Sections*

This term applies to an elevation drawing which contains more than one context or feature. The sections routinely generated are those along the boundaries of quadrants and are normally cumulative. They are drawn at 1:10 on A1 against a locus of known co-ordinates and colour coded (see Thesaurus).

3.5.6 *Y6 FORMATS for Photographic Records*

356.1 The photographic record is divided into three categories according to the purpose for which the record was made. All photographic shots are indexed by film no. and shot no. on photographic index (Y06). Photographs are stored as:

Black and white negatives	Y61	A4 binders
Colour negatives		Y62 A4 binders

Colour slides	Y63	A4 binders
Colour enprints	Y64	A6 index boxes

Thus A4 binders containing B/W negatives are numbered INT 99 Y61 Vol. 1, 2 ; but each negative within carries its film no./neg. no. : N121/16 which is unique to the project and independent of intervention. PRINTS carry the neg. number as a means of identity.

356.2 *Y6 FORMATS for Photographic Records*

CATEGORY/PURPOSE	SUBJECT AREA	FORMAT(S)
1.PUBLICATION	(a)Whole sector during excavation	B/W 5x4
	(b) Whole sector at stated horizon	B/W 5x4
	(c) Burial chamber/boat/grave during excavation	B/W 2¼
	(d) Burial chamber/boat/grave after excavation	B/W 2¼
	(e) Working methods	B/W 2¼
	(f) Distinguished visits	B/W 2¼
	(g) Kite overheads	B/W 35mm

- Category 1 shots will normally have people with visible faces.

2.	SITE	(a) Horizons	CP at A4
	GEOMETRY	(b) Grave, before excavation	CP at A4
		(c) Grave, after excavation	CP at A4

- Category 2 shots will normally have board, N sign and colour scale.

3.	PUBLICITY	(a) All subject areas in Cat. 1,2	Slide 35mm
		(b) Sponsor activity and methodology	Slide 35mm
		(c) Infill shots for BBC film sequences	Slide 35mm or 2¼

- Category 3 shots will normally have people.

4.	RECORD	Contexts, features, sections as decided by supervisors.	CP 35mm
----	--------	---	---------

- Category 4 shots will normally have board, N sign and colour scale

3.5.7 *Y7 Finds*

357.1 Y7 refers to the finds themselves which are curated, indexed, identified, packed and stored (2.3.4) in numbered cardboard boxes.

357.2 *Y71 The Finds Location Record* (Fig. 25)

- 357.3 Y721 The Flint Inventory (Fig. 26)
- 357.4 Y722 The Ceramic Inventory (Fig. 27)
- 357.5 Y723 The Artefact Inventory (Fig. 28)
- 357.6 Y724 Matrix (soil sample) Inventory (Fig. 29)
- 357.7 Y725 Finds identification by BM (Fig 30)
- 357.8 Y726 Ship Rivet inventory form (Fig 31a,b,c)

3.6 **DATA BASE FILE STRUCTURES**

The name and length of each field is given for the following files which constitute the data base:-

Y20	CONTEXT ABSTRACT
Y30	FEATURE ABSTRACT
Y40	STRUCTURE ABSTRACT
Y05	INDEX OF DRAWINGS
Y051	CO-ORDINATES
Y06	INDEX OF PHOTOGRAPHS
Y07	FINDS INDEX
Y0721	FINDS INVENTORY: FLINT
Y0722	FINDS INVENTORY: CERAMIC

A separate disk is introduced for each file in respect of each intervention, with the exception of Y05 or Y06 which are cumulative.

[Note, 2004: Although data structures were designed for all indices listed, only those at YO7 were entered (c. 100,000 records). These are held on 3.5in floppy disks. The DBMS is based on DBase III+] and has been re-activated through the good offices of the archaeological data service (www.ads.ac.uk) See Field Reports, Finds Index]

DATA FILES

DBase Entry Form Y20

Subfile 1 of 3

CONTEXT ABSTRACT Y20

<u>Abstract</u>	<u>Example</u>	<u>Width</u>	
1. Intervention	A1	2	
2. Zone	A	1	
3. Context		1014	A
4. Grid East	11715	5	
5. Grid North	20532	5	
6. Grid square	D	1	
7. High point	33.61	5	
8. Low point	33.40	5	
9. Recovery level	D	1	
10. Description	-	50	
11. Enhancement	water	10	
12. Description after	no change	30	
13. Treatment	sieved	12	
14. Shape: in plan	circular	20	
15. Shape: in profile	deposit	20	
16. Condition on recording	damp	15	
17. Dominant colour	red-brown	15	
18. PH		5	3
19. Disturbance agents	burrows	20	

COMPONENTS - repeated field

20. Percentage	98	3	
21. Distribution	disordered	12	
22. Compaction	friable	12	
23. Structure		crumbs	20
24. Purify	clean	10	
25. Colour (Munsell Code)	5YR 4/4	15	
26. Size		<10	8
27. Material		silt/sand	12
28. Discarded/sample/kept	sampled	1	
29. Under		1016	35
30. Over		1052	35
31. Save as		1102	20
32. Feature		42	3
33. Identified as	fill	25	
34. Finds date	EBA	11	
35. Deposition date	EBA	11	
36. Date of accession	12/05/88	8	
37. Recorder		CLR	3
38. Date recorded	16/01/88	8	

Subfile 2 of 3

FEATURE ABSTRACT Y30

Abstract	Example	Width	
1. Intervention	A1	2	
2. Zone	A	2	
3. Feature	32	3	
4. Grid square	D	1	
5. Grid East	11745	5	
6. Grid North	20550	5	
7. High point	33.69	5	
8. Low point	33.15	5	
9. Recovery level	D	1	
10. Set with		F213, F210	
20			
11. Shape in plan at top	subcircular	15	
12. Shape in plan at bottom	circular	15	
13. Shape in profile	U-shaped	15	
14. Treatment	Vynamuled	20	
15. Over		-	40
16. Cut into	F21	40	
17. Joined to	-	20	
18. Same as		F13	12
19. Made of		1119	40
20. Cut by		F16	28
21. Sealed by	1019	20	
22. Backfilled with	1050, 1061	40	
23. Sinkage from		9	
24. Comment	-	100	
25. Belonging to structure	12	2	
26. Date of latest context	EBA	11	
27. Function		structural	30
28. Identified as	posthole	30	
29. Date assessed	15/09/88	8	
30. Recorder		JMG	

Subfile 3 of 3

STRUCTURE ABSTRACT Y40

	<u>Example</u>	<u>Width</u>	
1. Structure		12	3
2. Intervention	41/32	8	
3. Zone	A	5	
4. Grid square	D	3	
5. Grid East	1200	5	
6. Grid North	19600	5	
7. Generic type	barrow	20	
8. Orientation	E-W	5	
9. Period	EBA	11	
10. Interpretation		50	
11. Identified by	BB	3	
12. Date		13/01/88	8

COMPONENTS - Repeated field

13. Feature No.	98	3	
14. Intervention	32	2	
15. Contexts		1071, 1085,	
1088 60			
16. Identified as	Ditch	20	
17. Finds		Flint ceramic	

3.6
form YO5

DATA FILES

DBase entry

INDEX OF DRAWINGS YO5

	<u>Example</u>	<u>Width</u>
1. Drawing no.	A30	A
2. Intervention	A1	2
3. Format	A1P	3
4. Scale	1:10	10
5. Plan/section/profile/hachure	5	3
6. Original/copy/dyeline	0	5
7. Details - Feature nos., context nos., etc.	F121 1082	120
8. Date drawn	13/01/88	8
9. Date accessed	26/10/88	8
10. Drawn by	CLR	3

3.6
Form YO6

DATA FILES

DBase Entry

PHOTOGRAPHIC INDEX YO6

	<u>Example</u>	<u>Width</u>	
1. Film no.		S124	4
2. Camera type	4	10	
3. Film make	C	1	
4. Colour/monochrome	M	1	
5. Slide/print	P	1	
6. ASA no.		200	4
7. Date of exposure	13/02/88	8	
8. Frame no.	5	2	
9. Condition on recording	damp	20	
10. Size of lens	50	3	
11. Scale		0.50	4
12. Direction camera is facing	NW	2	
13. Details of shot	F102 1012	120	
14. Taken by	AJC	4	
15. Intervention	41	2	
16. Date of accession	12/09/88	8	

3.6
Form YO7

DATA FILES

DBase Entry

FINDS INDEX YO7

		<u>Example</u>	<u>Width</u>	
1.	Intervention	41	2	
2.	Zone	A	1	
3.	Find no.		21200	6
4.	Context no.	1089	4	
5.	Feature no.	71	3	
6.	Grid square	D	1	
7.	Grid East	11761	5	
8.	Grid North	19901	5	
9.	Height	33.02	5	
10.	Weight		1.3	8
11.	Material		Ceramic	10
12.	Identity		Pot (body)	
20				
13.	Type		Beaker	10
14.	Type no.		3	5
15.	Period		EBA	11
16.	Recovery level	D	1	
17.	Inventory	N	1	
18.	Box no.		C-12	10
19.	Stored at		BM	4
20.	Date accessed	26/03/88	8	
21.	Joins to		21202	4
22.	Spare field 1	-	30	
23.	Spare field 2	-	30	
24.	Spare field 3	-	10	

3.7 **THESAURUS OF KEYWORDS** for use in Project Records and Data Base

3.7.1 Contents:

Y2	Context Record
Y3	Feature Record
Y4	Structure Record
Y50	Drawing Conventions
Y06	Photographic Index
Y07	Finds Index
Y721	Finds Inventory - Flint
Y722	Finds Inventory - Ceramic

Concordance: List of key words used in Project records and on Data base, in alphabetical order.

3.7.2 (Y2) CONTEXTS KEYWORDS

SHAPE IN PLAN:	(sub) circular (sub) rectangular (sub) square (sub) triangular (sub) linear (sub) oval semicircular amorphous skeletal not seen
SHAPE IN PROFILE:	deposit (narrowing down no spaces) dump (widening downwards with spaces) tumble (widening downwards with spaces) layer (no spaces) lens (layer with dipping meniscus) tip (narrowing downwards with spaces)
ENHANCEMENT:	water U V light U V film CT1 (HC1, ammonia molybdate, ascorbic acid) none
DESCRIPTION AFTER:	clearer stain fluorescing bone fluorescing teeth fluorescing flint fluorescing bflint colour change (only for CT1) no change

PURITY:	clean	variable
	stained	streaked
	mottled	burnt
	fired	leached

COLOUR: (Munsell code for matrix, each matrix described separately)
variable (usually describes stone components) balck, red,
brown, etc. (describes various components)

SIZE: refer to Structure field for matrix
refer to Material field for stone attributes

MATERIAL:

silt	mixed gravel (2-6)
sand	mixed gravel (6-20)
silt sand	mixed pebbles (20-60)
silt sand soil	mixed cobbles (200-600)
sand soil	stones may also be prefixed
clay	(sub)angular
clay silt sand	(sub)round
charcoal	

D/S/K discarded/sampled/kept

IDENTIFIED AS: (if necessary, suffix with `?')

fill	stain (organic)
makeup	stain (body)
upcast	stain (body?)
spread	stain (wood?)
ploughing	stain (rope?)
plough soil	stain (bone)
burrow	stain (textile?)
buried soil	subsoil
Horizon 1,2,etc	definition spit

3.7.3 (Y3) FEATURE KEYWORDS

FINAL FORM

SHAPE IN PLAN TOP:

- (sub)circular
- (sub)oval
- (sub)triangular
- (sub)rectangular
- (sub)square
- semicircular
- linear
- skeletal
- amorphous
- not seen

FINAL FORM

SHAPE IN PLAN BOTTOM: (as above)

PROFILE:

- Scoop
- U shape

	V shape
	square
	stepped
	dump
	skeletal
	irregular
	not seen
TREATMENT:	vinamuled moulded
	metaldetected backfilled
	polythened
FUNCTION:	(descriptions can be suffixed by `?')
	inhumation
	coffin
	storage
	rubbish disposal
	defensive
	quarry
	excavation
	spoilheap
	unknown
IDENTIFIED AS:	(descriptions can be suffixed by `?')
	ditch tree/bush pit
	posthole finds stance
	stakehole plank
	palisade wall
	gully slit trench
	scoop cairn
	bank cremation
	hearth robber trench
	pit no feature
	trench natural
	barrow
	burrow
	dump
	grave
	body
	organic (body?)
	organic

3.7.4 Keywords: Structure Record (see 3.5.3)

3.7.5 *Keywords for Drawings*

375.1 *Graphic Conventions for Plans* (Figs. 32-33)

375.2 *Conventions for Sections* (Fig 34)

All sections should be drawn when very clean and damp, though they should also be studied when dry and drying out. Only one make of colour pencil should be used, for the sake of consistency, and the colours chosen should be as near reality as possible.

The colour pencils used at Sutton Hoo are from the REXEL CUMBERLAND Derwent Studio series. Those generally in use are:

<u>Colour</u>	<u>Use</u>
Mineral Green (45)	Turf/grass
Bronze (52)	Matrix
Sepia (53)	Matrix
Burnt Umber (54)	Matrix
Vandyke Brown (55)	Matrix
Raw Umber (56)	Matrix
Brown Ochre (57)	Matrix, clean orange sand
Raw Sienna (58)	Matrix
Golden Brown (59)	Iron Pan flecks
Burnt Yellow Ochre (60)	Matrix
Copper Beech (61)	Iron Objects
Burnt Sienna (62)	Matrix
Chocolate (66)	Bracken roots
Ivory Black (67)	Wood, leather, charcoal, etc.
French Grey (70)	
Chinese White (72)	

Stones are indicated by white voids, drawn to scale. Burrows are indicated by white voids, with VOID written in ink.

The coloured sections can then be annotated in ink as required. Feature and context numbers are written on where necessary, and feature and context edges are marked by a continuous line (definite) or a broken line (uncertain).

Because little impression of varying texture can be given by the colour illustration, the border between material of different textures can be marked with a dotted line and notes written on the drawing eg. soft and sandy, firm and silty, hard etc.

Where soil monoliths are taken, the exact size and position of the tin is drawn on the section, and the station and find number given. Other soil samples taken are generally indicated by their find number.

Where the section is either particularly informative, or where it needs further explanation, monitor photographs are taken. These are produced in the form of colour prints, which can be

examined alongside the coloured drawing. The area covered by the photo is marked on the drawing, and the film and frame number are written in the bottom right-hand corner of this area.

Any further notes can be written on or alongside the section, and do not obscure the section itself.

3.7.6 *Keywords for Photographic Records*

FILM NO:	S (slide) N (print)
CAMERA:	See list over
FILM MAKE:	(colour slides & negatives) A. Ektachrome 200 B. Kodachrome 64 C. Kodacolor Gold 200 D. Kodachrome 25 E. Kodacolor ii F. Fujichrome 100 G. Kodak VPS iii H. Fujicolor 160S I. Ektachrome 64 (black/white slides & negatives) 1. XP1 2. HP5 3. FP4 4. PAN F 5. Technical PAN 6. DIA Direct
CONDITION:	(as it appears after trowelling) Fresh After rain During rain Snowing (as it appears after enhancement) Recently sprayed Sprayed & drying Sprayed Vinamuled Brushed Damp At night Early pm Early am Drying out Dry

Weathered
Late pm
Midday

CORRECTION:

V (vertical)
N (North)
S (South)
W (West)
E (East)

INIT:

* (prefixed if recorded in notebook)
K (kite)
B (balloon)
H (Helicopter)
P (plane)
L (highlift)

10.2 Error Trapping Exercises

10.2.1 *Colour bias experiments in Mound 2 recording* [MOHC]

10.2.2 Analysis of recording of Quarry Pit fills [AJC]

1022.1 Introduction

A number of types of quarry activity have been identified at Sutton Hoo. Around Mounds 2 and 7 the quarry activity is primarily defined by continuous, regular and shallow ditch but sandwiched between these large mounds lie two smaller mounds - 5 and 6. Here lie an irregular array of quarry pits, all of various sizes. Mound 5 is defined by a plateau of buried soil. This situation contrasts with the earlier excavations of Mound 1 where the excavators concluded in the absence of ditches or pits that the make-up was derived primarily from extensive surface scrapings. It is also suspected that this method may also have contributed a not insubstantial quantity of material to supplement the volume taken from the quarries during the construction of the other mounds.

From the height of the ancient and buried soil horizons, it is clear that substantial erosion has radically altered the shape of the quarries, whether pits or ditches. Truncation of the quarries may have been initiated during the periodic episodes of mound construction but there is no doubt that modern agricultural techniques, detectable archaeologically, have contributed to the current situation. The object of this report, therefore, is to isolate those features which belong to the quarry system of both Mounds 5 and 6, and to broadly quantify the potential volume of make-up taken from these quarries.

Those features designated as quarries were members of a larger population of diverse features which had been excavated within the subsoil. Initially, the members belonging to the set of quarries were selected according to three principal criteria:-

spatial distribution; they surround a mound or platform of ancient soil.

-size; they conform in size and shape to a potential quarry class.

- character of backfill

Across the intervention boundaries there are only two unmatched features (F560 and F6/281). No further comment on these anomalies is forthcoming since the object of this discussion is to analyze the extent and character of the whole quarry system rather than account for the archaeological visibility of its components.

The quarry pits for Mounds 5 and 6 belong to four interventions, Mound 5 - Int.41, 48, and 50; Mound 6 - Int.41, 44, 48 and 50. The totality of each quarry pit was excavated except for a narrow belt, containing two features, immediately north and west of Int.41 and Int.48 respectively. Consequently, the exact line of both F556 and F557 remains hypothetical but enough of both features were excavated to make a reasonably balanced estimate of their overall size and shape.

The perimeter of each **excavated** quarry pit was drawn from their individual hachure plans, shown as an inked edge. Lying across each pit are the lines of the drawn sections (marked with a thin blue pen). These lines are drawn to the same scale as the pits (1:50). Originally, the sections were placed across the axes of the pits with the intention of quadranting the features. However, there were situations when it was not possible to construct a reliable section line. Some of the sections appear off-line to the axes of the pits because of the equivocal shape of the pit prior to excavation, and occasionally following the late discovery of a grave within the pit. F508.82 illustrates the potential number of sections across a rather complicated pit, where the outline of both quarry and grave altered at each definition. Except for this example, the section lines for the graves have been omitted from the feature maps.

Currently, there is only one instance in which no section has been drawn across a pit. The section of F59 (Int.44), against the eastern edge of the intervention will only be drawn when the principal section lines have been completed. Consequently, it was necessary to reconstruct a hypothetical E-W section using the data recorded on the relevant hachure plan. Against the intervention/quadrant edges the drawn sections usually follow the line of the principal sections, thus reducing the recording burden for the excavator. In these instances only one section was drawn across the feature, but for F437 (Int.41) which lay in the SW corner of the intervention both a N-S and E-W section was drawn. In retrospect, it could be argued that the sections which follow this rule are not well placed since they do not record any localised variation in the pits profile (e.g. F113 and F114, Int.44). Certainly the intervention boundary will not necessarily follow the axis of the pit. Overall the basic pattern of drawn sections for these pits can be summarised:

-Int.41: sections drawn independently from principle section lines but often along identical alignment,

-Int.44: sections only drawn directly onto principle sections. If the sections across the pits were drawn only onto the principle sections and \therefore only the line of these principle sections.

-Int.48 and 50: mixture of independent and principle sections.

The interrupted nature of the excavation of these quarry pits across the different interventions has lead to some minor duplication of effort and a corresponding decrease in the effectiveness

of the recording, e.g. the N-S axis of F559.4 was drawn twice and in both instances the section did not follow the ideal line. Currently, there remain three sets of partially excavated quarry pits; from Mound 5 F30 (Int.50), from Mound 6 F2, and F119/120/170 (Int.50 and 44 respectively).

The quarry pits can be separated into their constituent mound group using basic archaeological parameters. At this stage, the pits surrounding Mound 5 remain a group of isolated elements but already around Mound 6 the elements combine to form a series of four principal quarry loci.

1022.2

Choice of Component

As archaeologists, we should be concerned with the quality and relevance of the data set we are recording. It is from this data that we identify patterns in the archaeological record and formulate explanations for the variation. The recording of the components from a context traditionally form the backbone of a recording system but archaeologists often fail to acknowledge whether this recording was informative. At Sutton Hoo where a strong emphasis is placed on context recording, it is possible to test where we can identify archaeological patterns or whether we are just recording the personal idiosyncrasies of the recorder. In order to test this model a dual approach was chosen which compares a known data set with the description of the components list.

A chart tabulating the components for each context belonging to the pits surround Mound 5 was drawn-up. Out of the nine component fields on the context card, six were reported on the chart. For each component the attributes were coded. The majority of the contexts were recorded and only three contexts were not described in any detail 1176 (F394), 1046 and 1179 (F30). Furthermore for two contexts single components were not reported [1338 (F4) and 1180 F30)].

A preliminary overview of the chart reveals a few general patterns. A greater number of contexts were identified from the quarry pit fills of Interventions 48 and 50, for example F4 (Int.48) contains a total of nine contexts but the maximum number from Int.41 was only three e.g. F129 and F557. The colour coding of the various attributes reveals a similar pattern, with Int.41 employing a more restricted vocabulary for the description of the components.

The subject of the known data set comprised a group of distinct 'pinkie fills'. It was noted that the quarry pits which contained this distinctive fill were often coincident with graves. This relationship is not exclusive since similar descriptions were afforded to pit fills on the western side of the mound. Indeed given the variation in the degree of erosion of each pit it is not possible to establish with any confidence whether this pattern is significant. The homogeneity of this group of contexts was recognised during the excavation and this is reflected in the label 'pinkie fill' which eventually became a generic term for a set of fills which exhibited a particular character. From the set of attributes reported, can we characterize independently this type of deposit? IN the following discussion only four components were chosen, these were selected on the assumption that they were the most expressive of any group relationship.

Although six out of the total seven contexts were recorded, this small group can only provide a limited study sample. What is the character of these particular fills? Under the Material field the description of the matrix as either a siltsand or sandsilt reflects a deep-seated

inconsistency. The source of the dichotomy lies in the individual approach of the supervisors - AJC and MRH. AJC identifies the predominant character of the matrix as sandy, but for MRH it is essentially silty. The range of Colour, described in Munsell notation, varies between a red brown (5YR) and yellow brown (7.5YR) with a consistent **value** between 4 and 5. In terms of Purity the matrix is described as predominantly clean and as a Percentage it comprises over 91% of total volume of all the components. In this respect the context is consistently stone-free, presumably with a smooth texture. Given this combination of attributes recorded for each 'pinky' context is it possible to isolate this group from the remaining set of pit fills?

Unfortunately, the answer is unequivocally no, since the attribute profile can be matched with other contexts which certainly did not belong to the group. In order of significance, three categories can be isolated reflecting the degree of association:

-identical in all attributes e.g. F407 2017, F556 2037 and F557 2038.

-identical to the attributes from the four selected components

-identical to the attributes from any group of three components e.g. F508 1940 and F557 2046.

The second stream of analysis using a structured approach is a method which should isolate certain types of backfill, generally those of an exceptional character. Four components can be grouped into pairs according to their descriptive potential, Material and Colour for source of backfilling, and Percentage and Purity for texture of fill. A total of 55 contexts were involved in this analysis (see chart) but note, this list also includes a feature which is not now considered a quarry pit - F134. Eight of the 55 contexts remain unrecorded and in a further four the description of one component was omitted.

Material

Sand 2
siltsand31
sandsilt11
Sandsiltsoil-3
(unrecorded8

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The overwhelming percentage of the descriptions are siltsand (89% of total recorded) and the two exceptional attributes - sand and sandsiltsoil (11%) occur within F4 (1262 and 1338), F5 (1123) and F4 (1007 and 1339) respectively. All these features lie within Int.48. Apart from the location of these features another intervention specific pattern appears if we order in a stratigraphic fashion the material described as sandsilt. Here the pattern for Int.41 shows the ordering of the contexts on the **floor** of the stratigraphic ladder (F130 1823, F133 1271 and F134 1272), but the remaining descriptions which fall within Int.48 (F5 1008, 1098 and 1122, F4 1006, 1180, 1181, F6 1011) and Int.50 (F30 1047) are always off the floor of the ladder.

Colour

5YR3-16 5YR4 7
5YR5 2
7.5YR4 11
7.5YR5 8
10YR4 3
(unrecorded) 8

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55
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A greater range of attributes were recorded for this component but in general the variability is not so intervention specific. The only qualification to this statement was that attribute 5YR3 predominated as a description within Int.41. Many pits were dislocated across the intervention boundaries and in retrospect it is very difficult to match the contexts across the boundary. Given this situation one alternative method of matching the contexts is through matching their attributes. Using this method and bearing in mind their stratigraphic order only one tentative pair can be matched - F557 2046 and F5 1008. Unfortunately, the marriage of these contexts relies solely on their colour description and on balance this does not infer a very close association.

Colour of the matrix is often used to describe the potential source of the backfill, a yellow description equated with a re-deposited subsoil, a dark brown with a stabilizing horizon and a 'pinky' fill with a windblown deposit. Two contexts 2046 (F557) and 1008 (F5) were described as possible dumps of re-deposited subsoil and both were recorded as 5YR5. Their position as the only members of this attribute group illustrates the potential significance of the Colour component. However, our inferences must remain tentative since the impression is that in order to record any variations in colour between different contexts, especially within a feature, the differences may need to be relatively pronounced. A third context described as re-deposited subsoil (F407 2107) had been recorded as 7.5YR5. Also if we look at the freehand descriptions of a specific colour - 5YR4 - we discover a wide range of interpretations - these descriptions range between 'pinky' (1266, 1921), 'light brown' (1940), 'dark brown' (2034, 2040), and 'red-brown' (2038). Minor lenses of fill within a general context often remain unrecorded on the component list but this was matched by a gradual evolution in our approach to recording. Currently, we would describe distinct colour/material attributes as two separate matrices or alternatively as bracketed colour range.

Purity

Clean-37
Mottled 4
Streaked 1
Stained 1
Variable 3
(unrecorded)- 9

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A pattern of intervention specific descriptions is illustrated within this component group. The

attributes - streaked, stained and variable only occur within Interventions 48 and 50. However, there is no doubt that if we include within this set the contexts described as mottled, we have identified an exceptional group of fills which are distinct.

Percentage

51 - 60- 3

61 - 70 3

71 - 80- 4

81 - 90-13

91 - 100-24

(unrecorded) 8

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55==

No patterning by intervention has been exposed. The figures suggest the majority of the fills are relatively stone-free but a group of fills which are stony were identified. There is a tendency for these stony contexts to lie on the floor of the stratigraphic ladder.

List of 'stonier' fills,

Class 51 - 60	F57 1114, F558, 2039 F4, 1310
61 - 70	F130 1823, F556 2034, F30 1180
71 - 80	F131 1267, F5 1098 1123, F4 1314.

1022.3 Summary

The preliminary survey of this one aspect of the recording system was carried out manually, but we have been able to identify certain patterns within this data set. Some of these patterns have archaeological significance but it is essential to recognise the strong influence of human factors. In this respect, the excavators of Int.41 were just as biased in their reporting as any other excavators, but we can show that there is a relationship between consistency in the written record and the number of excavators in each intervention.

Finally, I would like to comment on the status of the records themselves. Much of the evidence for this work has been drawn from the notes entered by the excavators in the description field of both the context and feature cards. In future, I suspect that more attention ought to be given to these notes, the listing of the components may have been standardised but they seem to lack the flexibility required to identify different patterns of backfill, at least the types of backfill that we excavated from the quarry pits.

END