Abu Salabikh Excavations
Volume 4

The 6G Ash-Tip and its contents:
cultic and administrative discard from the temple?

Text

BRITISH SCHOOL OF ARCHAEOLOGY IN IRAQ
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The 6G Ash-Tip and its contents: cultic and administrative discard from the temple?

by H.D. Baker, M.P. Charles, Gillian Clark, Anthony Green, Harriet P. Martin, R.J. Matthews, E. McAdam, R.L. Miller, Jane Moon, J.N. Postgate, T.F. Potts and J. Rees Miller

Edited by Anthony Green

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CONTENTS

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The Ash-Tip excavations were supervised, when not by myself, by Robert Shirley (1975), Nicholas Postgate (1976), Rosemary Ellison (1978) and Susan Thorpe (1985). To all of them go thanks for their hard efforts under often difficult conditions.

To our Iraqi colleagues in the Directorate-General of Antiquities and Heritage, under Dr. Muayad Sa'eed and before him Dr. Isa Salman and the late Prof. Fuad Safar, go our warm thanks for permitting and facilitating the work, and to the staff and successive Directors of the Iraq Museum for their constant helpful co-operation during a difficult time for the country at large.

In the major seasons of work on the Ash-Tip the excavations at Abu Salabikh were supported by the British Academy, the British Museum, the Royal Ontario Museum, the National Geographic Society (Washington D.C.), Trinity College Cambridge and the C.H.W. Johns Fund of the University of Cambridge. The work was sponsored by the British School of Archaeology in Iraq, from whom much material support was also received. Much of the early preparation of the volume was undertaken during my time as research assistant to the Abu Salabikh project in Cambridge (1983-85), which was supported by a grant from the Leverhulme Trust. Periods of working on the volume since that time, and the work of my co-authors, have largely been financed by the British School of Archaeology in Iraq. The majority of the editorial work on the volume was undertaken during my tenure of a J. Paul Getty Post-doctoral Fellowship at the University of Pennsylvania in 1988-89. Final editing and preparation of the work for publication was assisted, in 1989-90, by a grant from the G.A. Wainwright Fund of the University of Oxford, and the cost of final work on the illustrations was met by the McDonald Fieldwork Fund, University of Cambridge.

PREFACE

It is by now over a decade ago, following our spring season at Abu Salabikh in 1981 (during which I had served as supervisor of the Ash-Tip excavations), that in drawing up plans for the stage-by-stage final publication of the site we first discussed the desirability of a self-contained volume on the Ash-Tip. With its abundant and distinctive material assemblage, the Tip lent itself well to such a treatment. The notion also suited my own predilection for publication essentially by provenance rather than by classes of materials, and I was pleased to accept Nicholas Postgate's offer of co-ordinating the work and editing the proposed volume.

While the decision to publish the Ash-Tip material as an assemblage was, in my view, correct, it has made the post-excavation work abnormally complex, since it has involved the co-operation of a number of different specialists over what has inevitably been a rather extended period. Much of the work, moreover, had to be done at the site (where a good deal of the material is stored) during successive subsequent seasons, alongside other fieldwork, and in far from ideal conditions. To complicate matters further, remaining questions over the stratigraphy, sampling, and other matters which inevitably emerged more starkly during the writing-up process, necessitated further limited excavations in the Ash-Tip itself, which have modified our earlier assumptions somewhat and have thereby also affected the conclusions of our specialists. Futhermore, while we have endeavoured to make all the relevant material available for study, this has not always proved possible. In some cases material has been split between the site store and the Museum, and in the case of items housed in the Iraq Museum, despite the marked efforts and full co-operation of the Museum staff, we have not always been able to retrieve material which has been moved and reorganised several times during the period of war (the most regrettable failure being our inability to relocate much of the collection of flaked stone). Sometimes it has been possible to study material on one occasion, but not again subsequently, after refinements to our recording methods or to our ideas of what features are significant, or after additions to the study aids available would have made reinvestigation desirable (an example of this is those sections of the catalogue in which Munsell colour references have been given for some items but not for others). Since limited excavations have continued, moreover, up to 1986, the occasional important piece has been discovered subsequent to the completion of studies for a particular report and has therefore not been seen by the author of the chapter to which it should belong; this applies to a few of the sealings whose reverses were not studied by Roger Matthews (and are referred to in the catalogue as 'not studied') and to one of the animal figurines, some details of which have been added by the Editor to Ellen McAdam's catalogue as **317a**. In two cases (a fragment of grinding stone and a fragmentary baked clay sickle) items had been previously discarded. In addition, as the personal commitments and timetables of the various authors have necessitated their conducting their researches in Iraq at differing times, and over a fairly long period, the practical assistance that we were able to provide has varied from case to case.

It is also true that while the material from the Ash-Tip may certainly be regarded as a single and rather special assemblage, its full implications can only be appreciated by contrasting it with material from elsewhere on the site, which is as yet mostly unpublished and indeed unstudied in detail. In this sense the present work could not be the 'last word' on the Ash-Tip and its assemblage even were it entirely exhaustive as regards the material from the Tip itself. A greater appreciation of the real status of the Tip will evolve, we hope and assume, from the publication of further volumes in the series of excavation reports.

In spite of these difficulties, and some consequent inconsistencies and inadequacies in recording and interpretation, we have managed to provide fairly detailed treatments of the main categories of material in the assemblage, and for this the various authors must be thanked for their efforts, co-operation and – in the case of those who completed their studies and reports comparatively early in the programme – their patience in awaiting publication of their work and readiness to make continual revisions in the light of developing ideas during the intervening period.

Although the present volume has been created as a vehicle for the publication of an *assemblage* of material, most of which certainly 'belonged' together from the beginning, we are certainly aware that the various types of material will be of significance for specialist interests, and that the individual chapters will be used separately. Readers interested in one particular class of material will not wish to expend time and effort on others in order to make the chapter or chapters which concern them intelligible. In this sense the editorial requirements pull in diametrically opposing directions, on the one hand towards extensive integration, on the other to self-contained and internally intelligible reports. The result has to be a

compromise, the balance a matter of personal judgement. What unites the various reports procedurally is a single series of catalogue entry numbers (**1-942**) and reference to the stratigraphic Phases of the Tip (for the finds only Phases 2 and 3 being relevant) and, at least in the catalogue sections, the 'context codes' A to U (see pp. 223-4). We have, where considered desirable, made cross-reference to other chapters of the volume, but have tried to ensure that each report is comprehensible in itself.

One particular problem has been the presentation of the clay sealings, which forms a major contribution to this volume. Because of the unique position of the study of so-called glyptic art within the ancient Near Eastern field, it was at first intended that the seals and sealings from the 1975-81 seasons at Abu Salabikh – most of which are from the Ash-Tip – should be presented as a separate volume. However, with the growing recognition of the importance of studying the backs of such sealings as a method of identifying the items originally sealed – a study which has implications for the reconstruction of patterns of trading and storing of goods – it became clear that a functional analysis as well as an iconographic treatment of the sealings would be required; this would obviously have to be included in the same volume as the traditional art-historical study and, indeed, should ideally be in part integrated with it, since the one aspect bears heavily on the other. Since the principle of 'separatism' in the study of the iconography of the sealings would in any case thus be eroded, it seemed most sensible to include the Ash-Tip seals and sealings within the present volume. In the process of integrating the material both authors have had to endure modifications to their original text; what is here presented seemed to us the best possible compromise.

As the final report, the present volume is intended entirely to supersede pre-existing reports touching on the Ash-Tip excavations. In a few cases, either because items have been 'finally' published already (as with material dealt with in the pottery report, *Abu Salabikh Excavations* Vol. 3), or because there are reports including pieces which could not be restudied for this volume (as with some of the flints), earlier works remain significant and reference to them is given. We have decided, however, not to burden the catalogue entries with exhaustive reference to earlier illustrations and comments. In the interests of completeness, however, and as a record of the publication histories of individual items, a list of all the places of previous publication of material in this volume is appended on pp. 213-5.

Ed.

NOTE ON CONVENTIONS USED IN THE FIELD AND IN THIS VOLUME

156 Numbers in bold typeface refer to entries in the catalogue sections of the volume.

+6.78 m Level above site datum. The arbitrary site datum of +0.00 m, established in 1975, is at 14.74 m above sea-level (ASE 2, p. 18).

6G76, 6G76a The grid system divides the site into 100 x 100 m squares, designated by numbers (running west-east) and letters (running north-south). The Ash-Tip lies within the area thus known as 6G. Each of these areas is sub-divided into one hundred 10 x 10 m grid-squares, designated by numbers (running west-east row by row from north to south), from 00 to 99. Each 10 x 10 m square is again divided, for recording purposes and often for excavation, by 2 m wide North and West Baulks, and, within the remaining 8 x 8 m square, four 2 x 2 m 'quadrants', given the designations a, b, c and d (NW, NE, SW and SE respectively; see ASE 2, p. 2).

6G76:291 The so-called 'object numbers' are assigned to most finds (excluding potsherds) on site. They may be assigned by the site supervisor at the time of excavation, or subsequently during field processing (often the latter case for the Ash-Tip, as many of the smaller items were only 'discovered' from the examination of soil samples, from sieving and flotation, or, in the case of the miniature potsherds, were retrieved from the pottery batches). Normally the object number is composed of the designation for the 10 x 10 m grid-square plus a number in running sequence, e.g. 6G76:291; occasionally in widespread surface clearance operations or in very limited excavations (as here for the test trench in grid-square 6G97) a single numerical sequence is used per 100 x 100 m square, in the form 6GS:158 (item 158 in the general series of numbers for square 6G).

7.5YR 4/2 When such recording has been possible, colours of objects are given in this volume by reference to Munsell 1975, employing charts with the ranges 10R, 2.5YR, 5YR, 7.5YR, 10YR, 2.5Y, 5Y, and the supplementary charts 5R and 7.5R.

§ 2.1.4 Such numbers refer to numbered sections (§§) of the text.

AbS 1569 AbS (Abu Salabikh) numbers are the Expedition's official catalogue numbers, assigned to material deposited in the Iraq Museum, Baghdad. They are required to obtain access to material in the Museum's collections. As well as items carrying their own AbS-prefixed number, some groups of material are also, collectively, assigned such numbers. Individual items in these groups are referred to in this report as 'in AbS ...'. A concordance of AbS numbers with catalogue numbers in this volume is given on pp. 217-221.

Area A, E 'Area A' and 'Area E' are designations assigned in 1963 to the two main areas of excavation on the Main Mound, and they have continued to be used in reports on the British expedition's work. As extended, on the present grid they fall respectively within squares 4J/4I/5I and 6G/6F.

batch 2603(F/S/W) A 'batch' is a more-or-less arbitrary unit of excavation as employed by the site supervisor on site, providing the context for any finds. The batches are designated by numbers in running series assigned to individual 10 x 10 m grid-squares. For Ash-Tip batches, the batch number is occasionally supplemented by a suffix indicating that the item was retrieved from that sample of the unit subjected to dry sieving (S), flotation (F) or 'whole earth' flotation (W). (A 'whole earth' sample is one which, for statistical recording reasons, is dug out in its entirety and floated without any previous removal of pottery or finds: cf. Matthews & Postgate 1987, 103).

context G The 'context codes' A-U (excluding I and O) are a convention for the purposes of this volume in order to group excavation batches, and the material retrieved from them, into more-or-less meaningful (straightforward and mixed) stratigraphic contexts. See pp. x, 223-4.

Phase 3 Stratigraphic phases of the Ash-Tip; see pp. 3-5.

Level III The levels at Abu Salabikh are numbered from the surface downwards. In Area E (6G), where the Ash-Tip is situated, Levels III-I (with subdivision of Level I into phases of

rebuilding designated IC, IB and IA) seem to correspond approximately to Early Dynastic periods I-III. Levels II and I of Area A, whose use by the British excavators differs from that of the American expedition (cf. Postgate & Moorey 1976, 137), cannot be precisely correlated with the levels of Area E.

mm, m, g — In accordance with the units of length recommended for the Système International d'Unités (SI), dimensions in this report are normally given in millimetres and metres only; weights are quoted in grammes (cf. Anderton & Bigg 1969, 8).

ASH-TIP CONTEXT CODES

This page is intended as a convenient quick reference to the letter abbreviations for Ash-Tip contexts used throughout the volume. For more detail see pp. 223-4.

context A	surface clearance
context B	Ash-Tip Phase 2 (p. 5)
context C	Ash-Tip Phase 2 and other deposits
context D	Graves cut into Ash-Tip Phase 2 (pp. 11-14)
context E	Ash-Tip Phase 2 with infant burials in Tip (p. 14)
context F	Pits cut into Ash-Tip Phase 2 (p. 18)
context G	Ash-Tip Phase 3 (p. 5)
context H	Ash-Tip Phase 3 and other deposits
context J	Graves cut into Ash-Tip Phase 3 (pp. 14-17)
context K	Ash-Tip Phase 3 with possible grave fill
context L	Pits cut into Ash-Tip Phase 3 (p. 18)
context M	Mud-brick feature within Ash-Tip Phase 3
context N	Grave cut into Ash-Tip Phases 2 and 3 (p. 13)
context P	Ash-Tip Phases 2 and 3 with possible grave fill
context Q	Pit cut into Ash-Tip Phases 2 and 3
context R	6G97 test trench (probably Ash-Tip Phase 3)
context S	Packing for Akkadian/Ur III drain cut into Ash-Tip Phase 3 (p. 18)
context T	Ash-Tip Phase 3 and packing for Akkadian/Ur III drain
context U	Pits west of Ash-tip Phase 3, disturbing Tip

1

THE EXCAVATIONS
Details and Overview

Anthony Green

1.1 *Introduction*

The Ash-Tip of the Abu Salabikh Main Mound, grid location 6G ('Area E'),[1] lies immediately east of the rooms of the South-East Complex and south of the southern wall of the corridor (Room 49) separating the South-East and Central Complexes (Fig. 1:9). It consists of clay and loose ash tiplines sloping very steeply downwards away from the buildings, but overlain by more-or-less level deposits of similar nature only some 18-20 m to the southeast. To the east it is enclosed by the southern return of the south wall of the corridor, and its southern perimeter lies in grid-square 6G97; it thus covers an overall surface area of some 512 m^2, about 32 m north-south by some 16 m east-west. At the point of our *sondage* in grid-

1 For a general introduction to the site, see *ASE* 1, 1.

quadrant 6G66d, the entire deposit was over 5½ m in depth, and rested directly upon virgin soil; as one would expect, there is some levelling out of the strata at the lower levels. It can be seen, therefore, as a specially dug (and, as the stratigraphy shows, at least on occasion recut) deep pit for incinerated rubbish from the building(s) to the west, comparable, perhaps, to the neighbouring 'Ash-Pit' – intrusive into Level I in 6G54-55 and 64-65 (Postgate & Moorey 1976, 143) – and to the ashy area in 5131, immediately to the south-west of the Level II (early ED III) 'Southern Building' in 'Area A' (Postgate & Moon 1982, 124).[2]

The Tip is remarkable for the recovery of a large number of small clay objects, in descending order of frequency of finds: sealings (301), figurines (170), miniature vessels (minimum 127), pottery discs (at least 95) and clay 'tokens' (perhaps 74). The sieving and flotation processes employed since 1978 (see Postgate 1980a, 91; Matthews & Postgate 1987, 102-104; and M. Charles, below p. 203, § 15.1) certainly increased the retrieval of such objects, although such concentrations would doubtless have attracted attention had they occurred elsewhere, and the occurrence of the sealings had already been commented upon after the 6G66 excavations in 1975 (cf. Postgate & Moorey 1976, 156).[3]

A further interesting feature of the Tip was the presence of intact human and animal skeletal remains. In 1975 was discovered the complete skeleton of an equid, lying definitely within the ashy tiplines, where it had been thrown (see p. 10, § 1.4). Human burials within the Tip demonstrate a number of peculiar features (p. 11, § 1.5), and include the bodies of children simply dumped, like the equid, without grave cut or the usual goods, within the tiplines ('Graves' 34, 105).

These deposits, and the stratified ash layers which contained them, were apparently accumulated oven debris and discarded items from the building(s) to the north and west, and the nature of the rubbish might provide some indication of the function of this complex at the time (see p. 7, § 1.3.8).

1.2 *Aims and methods*

Our excavations of the Ash-Tip, in grid-squares 6G66, 67, 76, 77, 86 and 97, were carried out in 1975, '76, '78, the first (spring) season of 1981, and in 1986.

In 1975 work was opened up (under the supervision of Robert Shirley) in 6G66 as part of the task of defining the southeastern limit of the Central Complex, Room 49. In quadrant a (the 4 x 4 m northwest quarter of the square, excluding baulks), a mixture of mud-brick tumble and ash against the southern face of this wall soon gave way to the steeply sloping ash lines of the Tip proper (Figs. 1:5, 1:6). In the northwest of quadrant d (the southeast quarter of the square), a small sounding was made (Fig. 1:3), down to the water table (only 0.5 m^2 at base), to establish the depth of the Tip. Cf. Postgate & Moorey 1976, 156.

In 1976 work was supervised directly by Nicholas Postgate. Surface clearance in 6G76 and 86 further defined the western perimeter of the Tip and picked up the courses of two apparent walls believed to be at the eastern extremity of the building which we subsequently named the South-East Complex. In what was intended as a tidying-up operation, the speedy removal of the remaining ash layers in quadrant 6G66a, revealed the cut-down wall stubs of a Level II room (59) with associated floor, and an earlier sequence of ash lines, also truncated by the heavily sloping deposits of the later Tip. Cf. Postgate 1977, 284.

In 1978, under the supervision of Rosemary Ellison, excavation of the Ash-Tip was resumed, in the northern half of quadrant 6G76b, as a potentially productive site for botanical remains. The sieving and flotation programme at this time in fact produced very little in the way of vegetable matter, probably because of the high temperatures of burning (cf. M. Charles, below p. 208, § 15.1). It was, however, the dry-sieving operations that fully revealed the abundance of small clay objects within the Tip, and after Dr Ellison's departure, excavations were continued (under the supervision of Anthony Green and, for a time, Alun Sheene) in grid-square 6G76, in the southern half of quadrant b and in quadrant a, with 'uncontrolled' dry-sieving by the workmen. Cf. Postgate & Watson 1979, 144; Postgate 1980a, 91-93; Postgate & Moon 1984a, 735-737.

In 1981 Green again supervised excavations in the Ash-Tip, in 6G76c and d, 6G77a and c, and 6G86a, b and West Baulk. After the definition of apparent graves and other pits, which were cleared or

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2 In contrast, ordinary domestic rubbish seems normally to have been thrown into the streets (cf. Matthews & Postgate 1987, 104).

3 Cf. also Postgate 1980a, 92, n. 3:
"Although we undoubtedly recovered more objects of all kinds as a result of sieving, any such concentration would certainly have been noticed had it existed elsewhere. This is evident from the fact that we had already observed an unusual number of sealings and of miniature vessels in the eastward extension of the same tip in 6G66, during the 1975 season."
The miniature vessels were not remarked upon in the 1975 seasonal report, where the finds from the Tip are described as "generally unremarkable", but cat. **447**, **461**, **462**, **479** and **516** were found in 1975.

avoided, excavation was in blocks which were largely arbitrary but comparable in volume, in order to ascertain the most 'productive' areas. By keeping a close check on and detailed recording of the sections between these blocks, especially in quadrant 6G86b, we also hoped to be able to determine which were the 'productive' tiplines, and in this we had a certain amount of success. There was also some attempt to make a check on the results by limited stratigraphic excavation, although this proved extremely difficult, with often ill-defined striations, usually less than 0.1 m in depth, producing batches of finds too small for quantitative comparisons. We also attempted better to define the relationship between the Ash-Tip and the South-East Complex to the west, part of the easternmost wall of which appeared, from surface clearance, to survive in 6G86 quadrant a and West Baulk (see Fig. 1:9). As it transpired, the very place that might have provided us with the detailed information we sought was badly disturbed by pits (see Figs. 1:17, 1:24). Surface scraping in 6G96 helped to determine the western limit of the Tip as it reaches south, and the eastern extent of the South-East Complex which borders it.

The Editor also made a short visit to the site during the 1983 season of excavations, primarily to study the Ash-Tip material stored there (in conjunction with work on the pieces in the museum in Baghdad). In this time, however, certain stratigraphic checks were also made, and the sections in 6G86 were drawn, notably the north section as it reaches into 6G85, excavation of which had not been fully completed in 1981.

In 1985 work was supervised by Susan Thorpe. Surface clearance in grid-square 6G67 revealed that the southern wall of the corridor (49) separating the Southern Unit and South-East Complex proceeded across the south end of the street and then turned to the south, forming an eastern limit for the Ash-Tip at this point (Fig. 1:9). This eastern perimeter, and the relationship between the Tip and this enclosing wall, were further investigated by a test-trench in 6G67a-b. Cf. Matthews & Postgate 1987, 102.

Final work in 1986, supervised again by Green, was directed at outstanding problems. The northern half of the West Baulk of 6G67 and the eastern half of the North Baulk in 6G76 were selected for careful stratigraphic removal to enable, through inclusion in the more developed site sieving and flotation programme, a comparison of the rate and nature of retrieval from the two main phases of the Tip (see p. 5, § 1.3.5). Surface clearance in grid-square 6G97 also located the southern perimeter of the Tip and a small (1 x 1 m) test trench in the 'West Baulk' of that square showed the nature of the tiplines at this southern extremity. Cf. Matthews & Postgate 1987, 102.

Lastly, samples for microstratigraphical examination were extracted from the Ash-Tip by Wendy Matthews in 1988 and are being analysed as part of a programme of micromorphological studies for the site as a whole (p. 6, § 1.3.7).

In general, the excavation of the Ash-Tip began as a marginal operation in the investigation of the important building complex in Area E, was continued sporadically as it generated fresh problems begging solution, and ended by demanding investigation and description in its own right. Thus there was no single strategy or overall aim throughout much of the period of excavations, our short-term aims altered seasonally, and there was a distinct lack of continuity in the staff involved, the methods of approach, excavation techniques, the nomenclature employed, and in the observation and recording. Against this, the sometimes sporadic but continued involvement of the present Editor in the project since 1981 (on site in 1981 and 1986, and co-ordinating specialist studies in Britain and Iraq throughout the period) has enabled a degree of consistency and a certain evolving overview in interpretation.

1.3 *Architectural relationships and stratigraphy*

The Ash-Tip appears to have been formed in three main phases. In the first phase, the Level II walls and floors on the east of the later site of the South-East Complex, south of Corridor 49, were cut back at a steep angle and overlain by stratified tiplines sloping steeply downwards towards the east (and probably south). The next phase (Phase 2) saw these ash lines themselves cut back and overlain by the deep and steeply southeastward sloping deposits of the Ash-Tip proper. These deposits reach over 5 m southward on the present surface of the mound before they are overlain and possibly partly truncated by ash lines which slope gently downwards to the east, and lie virtually horizontal north-south (Phase 3). Later intrusions are numerous smaller pits, some graves and a deep drain sunk in grid-square 6G76.

It has not on the whole been possible to make reliable distinctions between the material assemblages of these phases. In part this has been because of the differing conditions in which they were discovered, and the different methods by which they were excavated and processed. Phase 1 deposits in 6G66 barely survived, while only Phase 2 deposits were excavated to any depth; the sieving process, on the other hand, had before 1986 been applied exclusively to Phase 3 of the Tip, further to the south and east. Sampling carried out in 1986, however, demonstrates that Phase 2 of the Tip was not so relatively impoverished as earlier retrieval rates might have suggested, and that the reason for the overwhelming amount of Phase 3 material as against Phase 2 is the sieving processes employed (cf. below, p. 5, § 1.3.5). A hint of a significant chronological distinction between Phases 2 and 3 is provided by one seal

impression from the earlier phase which shows stylistic differences which might be taken independently as setting it apart (see H.P. Martin, cat. **22**) and perhaps by the distribution between the two phases of handles from upright-handled pottery jars, in which those from Phase 2 contexts were stylistically pre-ED III (J. Moon, below p. 149, § 10.2.2). In general, however, it has not been possible to distinguish the material of the two phases, which may be not widely separated in date, and the corpus may, we believe, fairly be treated as a single assemblage.

1.3.1 *Architecture preceding (at least Phase 2 of) the Ash-Tip* (Figs. 1:8, 1:10)
In 1976 the final clearance of the ash deposits at the south end of grid-quadrant 6G66a revealed the truncated wall stubs on three sides and associated floors of a room (59) which antedates at least the second phase of the Ash-Tip (see Figs. 1:8, 1:10). The clearest architectural phase (d) has two almost parallel northwest-southeast aligned walls (A, C) which must originally have formed corners with a northeast-southwest wall in the northwest of the quadrant (B). These walls were constructed of distinctive dirty dark olive and khaki-coloured bricks, and those in the east and northwest of the quadrant had a facing of yellow plaster; the wall to the southwest was not plastered, although it may originally have been so. The walls were associated with a thick yellow clay floor, at +6.08 m, which was easily followed in excavation within the room up to where it was cut by the Ash-Tip in the southeast corner of the quadrant.

At least at this point, where it could be observed after clearance of the ash deposits, this floor sealed a deposit of yellow mudbrick rubble, about 0.25 m in depth, overlying another thick yellow floor, which abutted a wall on the same alignment as Wall C, constructed of dirty olive brick with, at least on the west side, a grey-green plastered face (Phase c). Beneath this floor, the wall continued down for at least another two courses, together with noticeably darker fill.

Phase c could also be recognised in the construction of Wall B in the north-west, where it could be observed in section following excavation of a deep clay-filled pit (Pit u) which cut through it (Fig. 1:11). At the back of this pit, immediately below the level of the Phase d wall, some bricks could be seen at between +5.42 and +5.55 m, overlain by a succession of clean clay floors associated with the junction of two walls, apparently running northeast-southwest and northwest-southeast, which could be traced in plan (Fig. 1:10). These were apparently the walls, including foundation course, and floors of another room to the northwest underlying the South Corridor, and apparently belonging, as it here survives, to Phase c. Beneath was about 0.2 m of reddish fill, possibly brickwork, perhaps representing additional foundation material for the Phase c construction (Phase b), and at +4.90 m an early phase (a) of walling was apparently aligned northwest-southeast, and so may have represented a phase of Wall C, although set much further to the west than the Phase d version. This wall was constructed of yellow and sandy green bricks with dirty brown and clean reddish mortar.

Wall C was progressively moved further east, from its supposed Phase a position apparently over a metre to its Phase d location, then over half a metre more to its final surviving phase (e), the western edge of which was picked up as a wall stub of plastered clean green and yellow brick, on a slightly altered alignment, close to the east baulk of the quadrant. A corresponding northwest-southeast wall on the west side of the quadrant was observed, but did not appear in the interquadrant sections, where it was cut by the Ash-Tip; this wall was removed in excavation by a workman before it could be planned.

An admittedly ill-defined wall, of dirty dark brown bricks, probably running northwest-southeast, and just appearing in the southwest corner of the quadrant, probably belonged to a slightly later phase (f).

These walls and floors are all certainly earlier than the Level IC South Corridor wall and may be in part contemporaneous with the Level II walls in 6G54c, 6G63 and the South-East Complex.

1.3.2 *Ash-Tip Phase 1*
The earliest surviving phase of the Tip itself was noticed in 1976 during the same operation that uncovered the architecture of Room 59 in grid-quadrant 6G66a (Postgate 1977, 284). In the southwest corner of the quadrant, the stub of the Phase d wall and the floor lines associated with the Phase e wall proved to be cut not by the deep and heavily sloping tiplines excavated in 1975 but (at between +5.87 and +6.72 m) by a series of similarly sloping brown and black ash striations, which were themselves cut back to provide the slope of the later Tip. Less than a metre's depth and less than half a metre's breadth of these ash deposits were stratified beneath the later cut, but sufficient to distinguish them as a separate and earlier phase (see Figs. 1:13, 1:14).

The stump of the phase e wall here is cut directly by Phase 2 of the Ash-Tip (Fig. 1:13), so that it cannot be proved that architectural phase e is earlier than Ash-Tip Phase 1, and they may just possibly be contemporaneous. The gradient of the sloping deposits, about 1:2 as shown in the sections, is much the same as the closest lines of the Phase 2 Tip, but need not necessarily denote that the rubbish derives from

the same building (although it may do) since the same situation might result if it were thrown from a closer building at a less great height.

We have no information on the extent of the Tip at this time, and it may have been shallower and less extensive than in Phase 2, although the deliberate cutting back of the earlier walls and floors probably suggests that it originally covered a more sizeable area than the surviving deposits might initially lead us to suppose.

It is a possibility, although it cannot be proved, that this earliest phase of the Ash-Tip is contemporary with the Central Complex as excavated by us, with its Southern Unit built over a Level II refuse landfill site (cf. p. 7, § 1.3.8).

1.3.3 *Ash-Tip Phase 2*

The second phase of the Tip's deposits is represented by the clay and ash striations sloping heavily down southeastward, excavated in grid-square 6G66 in 1975 (Postgate & Moorey 1976, 156). As then noted, these tiplines reach as far as 10 m into the southeast corner of the square without any sign of levelling out, although they do move closer to the horizontal, as one would expect, near to the bottom of the cut.

From consideration of the *sondage* in the northeast of quadrant d (Figs. 1:3, 1:14), we can see that the deposits may be considered as two or three subphases of accumulated fill. Immediately above clean virgin soil, and similar soil into which some charcoal and pottery fragments have penetrated, we find just over a metre of mostly darkish coloured clayey deposits, sloping very gently downwards to the east (and probably south) (subphase 2a). Above these we find some 2½m of similarly gently sloping darkish (black, grey, greenish) and yellow striations (subphase 2b). Above this, and possibly to be considered as a separate subphase, are about 1¾m of steeply sloping homogeneous grey and yellow deposits (subphase 2c).

All these Phase 2 deposits of incinerated rubbish appear, from the direction and gradient of their tiplines, to have been cast from or over the high southern wall of the Corridor (49) of the Southern Unit.

Although comparatively little of the Ash-Tip material retrieved actually derives from this Phase, sampling suggests that it was far from lacking in artefacts (cf. p. 5, § 1.3.5).

1.3.4 *Ash-Tip Phase 3*

The final phase of the Tip is characterised by multiple, more-or-less horizontal, tiplines overlying the steeply sloping tiplines of Phase 2. In places, for example in the south section of grid-quadrant 6G66d (shown in reverse in Fig. 1:15), it appears possible (but not certain) that a comparatively shallow pit was excavated into the earlier Tip to accommodate the fresh deposits, but elsewhere (Fig. 1:13) these later tiplines appear simply to overlie, and level-up, the Phase 2 deposits where, at some distance from the building, the latter slump naturally due to the steepness of their gradient.

The nature of the Phase 3 tiplines, comparatively thin and numerous, suggests a regular serial practice of discarding in this place incinerated rubbish, and it is with this in mind that we should consider the assemblage of material as recovered, in the main, from this latest phase of the Tip. It should also be remembered that the Phase 3 deposits, first occurring in the south of 6G66 (Figs. 1:13, 1:15), and then encountered in our excavations in 6G76, 77, 86 and probably 97, were thus situated at a minimum of some 9 to 10 m from the southern wall of the Corridor, but probably ran up to the eastern outer wall of (the later rebuild of) the South-East Complex, from where the debris, therefore, must have been thrown. This seems to be confirmed by the fact that while the Phase 3 tiplines are more-or-less horizontal in the north-south sections (Figs. 1:13, 1:16) they may slope gradually down to the east (*i.e.*, away from the building) as they get closer to the eastern wall of the South-East Complex, in 6G86 (see Fig. 1:17).

A 1 x 1 m test trench dug to a depth of 0.5 m within the 'West Baulk' (on the grid) of square 6G97 showed that the ash lines here, at the southern extremity of the Ash-Tip, were the multiple thin virtually horizontal tiplines characteristic of Phase 3.

1.3.5 *Densities of artefactual material in Ash-Tip Phases 2 and 3*

The appearance that it was the Phase 3 deposits that were producing the vast bulk of the Ash-Tip artefacts was tested in 1986 with the excavations in the 6G67 West Baulk (Phase 3) and 6G76 North Baulk (mostly Phase 2, with some Phase 3 deposits cutting in the extreme west). These excavations were conducted slowly and painstakingly, each tipline being individually peeled off, and selected samples were water-sieved; additionally 'whole-earth' samples – dug out in their entirety, without any removal of pottery or finds (cf. Matthews & Postgate 1987, 103) – were floated. Details of the latter will be published later, in our analysis of the flotation and sampling programmes, but in the matter of the relative densities of material in the Ash-Tip Phases 2 and 3 the basic retrieval record of small clay artefacts from these operations is worth citing:

	Phase 2	Phase 3
6G67 West Baulk		
Sealings		2[4]
Miniature vessel sherds		3[5]
Unidentifiable fragments		7
Total		12
6G76 North Baulk		
Sealings	4[6]	0
Miniature vessel sherds	5[7]	0
Unidentifiable fragments	14	10
Total	23	10

Although this is a very small sample, it seems from these figures that the earlier phase was by no means so devoid of artefacts as our overall retrieval rates might suggest. The overwhelming predominance of Phase 3 material from our excavations should therefore be regarded as the result of differential methods of retrieval, sieving having hitherto been restricted to the later phase.

1.3.6 *Summary of Ash-Tip phasing*

As far as it is possible to reconstruct, therefore, the sequence of developments in the history of the Ash-Tip is as follows. An original tip of unknown but probably fairly wide extent was situated in this area, which had at least partly been cleared by excavation, with the cutting back of at least one earlier wall and associated floors (Phase 1). This tip, together with disused walls and floors of the building(s) to the north and west, was itself cut back in the excavation of a great pit to serve as a refuse area for large-scale dumping of rubbish cast out, apparently from some considerable height, from the building to the north (Phase 2). In this phase, while some walls were cut back, others were utilised to contain the dump (see Fig. 1:9). On the lower, southern, slopes of this dump, possibly after some localised re-excavation, later smaller quantities of ash were deposited, seemingly with a certain regularity, from further south in the building to the west, though no longer, it seems, dumped from any great height (Phase 3). It is from this latest phase of the Ash-Tip that the majority of the recovered finds derives, although we know from sampling that the earlier Phase 2 also contained large quantities of such material not retrieved by normal methods of excavation.

1.3.7 *Micromorphological characterisation of the Ash-Tip deposits*

Samples of Ash-Tip deposits were extracted during the 1988 season at Abu Salabikh and are being examined as part of a programme of micromorphological studies on various and varying contexts at the site. It was not possible to take samples from Phase 1 of the Tip because of its very limited exposure only in the 1975 *sondage* in 6G66d (Fig. 1:13, 1:14), which had been subsequently backfilled. The following preliminary comments on samples from Phases 2 and 3 have been made by Wendy Matthews:

Preliminary micromorphological examination of Ash-Tip deposits in large thin-sections of impregnated undisturbed block samples has permitted provisional characterisation of Phase 2 and Phase 3 component types and modes of deposition. The Ash-Tip Phase 2 comprises dumped deposits of trampled and rounded aggregates of building and natural materials integrated with disaggregated plant remains, and small bone and dung fragments, which have been steeply layered by deposition into a deep pit (Figs. 1:18, 1:19). The deposits were very humic and rich in crystallised organic liquid. The alternation between darker and lighter brown layers is a product of differences in burning temperature, not in original composition. The deposits in the darker layers had been burnt at very low temperatures and have a high percentage of preserved finely integrated charred remains (Fig. 1:18). The deposits in the lighter layers had been burnt at higher temperatures and have a lower percentage of charred remains and more plant silica phytoliths (Fig. 1:19). The plant remains in both deposit types include principally processed and finely divided graminae, grass, finely fragmented seeds, reed, and occasional twigs.

The Ash-Tip Phase 3, on initial assessment, does not differ essentially in the nature of the original type of material deposited. Phase 3, however, is less compacted and more serially stratified than Phase 2, perhaps as a consequence of the more horizontal distribution of the dumped material. Phase 3 deposits had generally been burnt at higher temperatures, and in more oxidising conditions than those of Phase 2. A basal layer of Phase 3 comprises massively-bedded dumped deposits of rounded detrital building and natural materials and plant remains in a calcitic yellowish orange groundmass indicative of higher temperatures and oxidising conditions. Few charred remains have been preserved (Fig. 1:20), 50–70% of the fabric is made up of plant phytoliths. These silica phytoliths do not show signs of having melted, indicating that temperatures are unlikely to have exceeded 600°C.[8] Additional plant remains include calcium oxalate crystals from deciduous leaves, not present in Phase 2, and calcitic ashes from poorly lignified branches. The upper levels of Phase 3 (Fig. 1:21) comprise alternating stratified layers of

4 Cat. **113, 246.**
5 Cat. **457, 483, 485.**
6 Cat. **22b, 52, 59, 175.**
7 Cat. **454, 470, 505, 529, 536.**

(a) burnt trampled building and natural materials with phytoliths and charred remains;
(b) disturbed or finely layered, disaggregated phytoliths and charred remains with many small bone fragments, sodium chloride salts, some sheep dung fragments, and lenses of crystallised organic juices in a calcitic fine fraction. A particularly humic part of this fabric includes a neo-formed phosphate or nitrate mineral, comparable to vivianite, which is only found in association with human or animal waste;
(c) orange fibrous layers of phytoliths, with fewer charred remains, and some small bone fragments.

Explanations of the activities which could have produced these deposits are currently being investigated, and the deposits compared to samples from 55 different microstratigraphic sections from a wide range of context types at Abu Salabikh, which include samples from the South Corridor, Central and South-East Complexes, and the open area in grid-square 5I31 (cf. Postgate & Moon 1982, 124), as well as samples from experimental combustion.

The Ash-Tip contrasts markedly with the so-called 'Ash-Pit' (Postgate & Moorey 1976, 143; cf. above, p. 2, § 1.1) which has a much lower sediment content. The Ash-Pit has layers which consist almost entirely of remarkably well articulated phytoliths and charred remains with little interstitial matrix. This state of phytolith preservation and articulation argues strongly, in this case, for *in situ* burning.

That the Ash-Tip deposits represent already-incinerated rubbish seems to be confirmed by heat spalling and cracking on the surface of over half of the studied flaked stone, "showing that the ashes were still hot when the flints came into contact with them" (R.L. Miller & J. Rees Miller, below p. 167, § 13.1); the fire-blackened state of the equid skeleton in the Tip (§ 1.4) is a further indication. It is likely that this incineration included the burning, as a fuel, of dung (M. Charles, below p. 208, §§ 15.2-3). In hot, arid regions ash is often used as a drying agent and insecticide in the preservation of stores of grain (Miller 1987a), so it is possible that the ash deposits from our Tip could in part represent the material periodically cleaned out from silos (R.L. Miller & J. Rees Miller, below p. 168, § 13.1).

1.3.8 *The building complex associated with the Ash-Tip*

The building or buildings with which the Ash-Tip was associated, therefore, were the late ED III structures to the north and west (or their later rebuilds), designated in our reports respectively by the terms 'Central Complex' (incorporating the 'Southern Unit') and 'South-East Complex' (Fig. 1:9). The main association in the latest Ash-Tip phase (from which most of the material was retrieved) appears to have been with the South-East Complex, although rubbish of the earlier Phase 2 appears to have been cast out from over the southern wall (through a gap in or beneath the roof?) or from off the roof of the Corridor separating the South-East Complex from the Southern Unit. In any event, the Central and South-East Complexes, separated as they are only by the roofed(?) Corridor (49), and known to have been in use at the same time (Postgate 1984a, 97), are considered, in all probability, to represent a single administrative unit (and probably continued to do so in the period of their later rebuilding).

As is known from the excavation of the *sondages* in grid-quadrants 6G54c and 6G64b, the Southern Unit was constructed over a Level II landfill site (Postgate 1977, 281; 1980a, 95), while the Ash-Tip seems, in the time of Level III, to have filled a space then left available within the Level II building. In a sense, therefore, the two areas, northwest and southeast of Corridor 49, exchanged functions within this time between building and refuse sites.

It has for some time been assumed by us that the building phase from which the Ash-Tip material derives has been entirely eroded from the surface of the mound, and that the Central and South-East Complexes as excavated represent earlier versions of the structure or structures contemporaneous with the Tip itself (cf. Postgate & Moorey 1976, 156). This interpretation, based on the gradient of the (Phase 2) tiplines and on preliminary examination of the pottery, requires a little caution. Even in Phase 2 it would now be possible to envisage the Ash-Tip as associated with the Central Complex as planned and excavated; the steeply sloping ash lines could be accounted for partly by the apparent excavation of a deep pit to contain the dump,[9] and partly, perhaps, by the necessity to throw the rubbish over the probably high southern wall of the Corridor of the Southern Unit or, possibly more likely, from off its roof. Nevertheless, that substantial erosion *has* taken place here is evidenced not only by the gradient of the tiplines but also by the Akkadian or Ur III period drain in 6G76 (cf. below p. 18, § 1.7), and it

8 Cf. M. Charles on the plant remains, below p. 205-8, § 15.1. The scarcity of plant remains in some Phase 3 deposits suggests incineration at a minimum temperature of 300°C. Spalling and cracking on many of the flints suggest that some of the deposits were burnt at 500°C (R.L. Miller & J. Rees Miller, below p. 167, § 13.1).

9 Cf. Matthews & Postgate 1987, 102:
"... in 1986 clearance of square 6G97 located a limit to the Ash Tip on its southern side ... Our expectation had been that it would stretch rather further than this, given its depth and the steep slope of its ash lines, but it now looks similar to the deep ashy area in Area A, and the space may have been more of a large pit - 6 metres deep - than a wide open space outside the walls of the complex, as we had previously imagined it."
For the earlier view, cf. Postgate & Moorey 1976, 155.

remains probable that the version of the Central Complex associated with the Phase 2 Tip has, in fact, been entirely eroded from the surface.[10]

The same is likely to be the case also for the South-East Complex associated with Ash-Tip Phase 3. The latest phase of the Tip, which would seem to be associated with this building, has a much more gradual gradient, and could be regarded as deriving from the largely unexcavated version of the South-East Complex still present on the site (as known chiefly from surface clearance), rather than from a later, eroded, structure. This would imply a rather complicated stratigraphic relationship, with a higher, now eroded, building associated with a phase of the Tip of earlier date than a lower, perhaps still extant, building. It would not be impossible to imagine a considerable difference in level between a rather imposing Central Complex, constructed higher up the mound, and a South-East Complex built at some later date adjoining it on the lower slopes. Such a reconstruction, however, appears to be excluded by the clear stratigraphic link established between the versions of the two buildings still present at the site, showing them to be at least in part contemporary (Postgate 1984a, 97). At present, therefore, it seems most likely that both structures associated with the different phases of the Tip have been eroded away.

Even if the actual building phase has disappeared from the site, the present remains of the buildings to the west as excavated and traced by surface clearance, may still provide some clues as to the nature of the buildings from which the Ash-Tip material derived, as there was probably a good deal of continuity in architectural associations, especially if, as we believe, this was the site of a temple complex.

For the overall layout, the plan of the Central and South-East Complexes speaks for itself,[11] and a few remarks will suffice to elucidate it. On the west side of the Central Complex (Postgate 1980a, 89, Fig. 1) there is a unit of some 25 x 16 m, centred around a square open court (Room 4) with rectangular reception area(?) (Room 9), and furnished with a variety of domestic rooms, bathroom (Room 6) and kitchen (Room 7). This 'burned building' of the U.S. excavators was clearly a residential unit of some kind (cf. Hansen 1974; Postgate & Moorey 1976, 141-142). In the southeast is the 'Southern Unit', another courtyard (Room 41) with associated rooms, of roughly comparable overall size (some 20 x 15 m). On account of the tablets found *in situ* upon its floors (in Rooms 39, 44 and 48), Postgate (1982, 54; cf. also Postgate & Moorey 1976, 154) has tentatively suggested an interpretation of this unit as the 'scriptorium' or document-centre, but adds the cautious note that Room 39, the main room on the west side, had been used as a burial chamber (Postgate & Moorey 1976, 143-153; cf. *ASE* 2, under Graves 1, 2, 27, 88). Between these two courtyard-units, to the northeast, is a suite of rooms which presently defies precise interpretation (but cf. on all of these units Matthews & Postgate 1987, 115-119); it was here, in pits dug within Room 31, that most of the Abu Salabikh tablets were found (Biggs 1974).

As yet we know little of the layout of the South-East Complex. Only to the north, with the southern wall of the Corridor, have we any kind of outer limit to the structure (Fig. 1:9), and apart from some minor excavations in the northernmost rooms, all that we have is a part of the plan running through the centre of the building, known largely from surface clearance (Postgate & Moon 1982, 129, Fig. 9). Again, however, we appear to have a series of residential(?) units, centred upon open courts such as Rooms 80 and 85. The Ash-Tip itself creates a kind of limit to the building in the east, but may yet turn out to be enclosed within it, in a similar fashion to that of the Ash-Pit within the walls of the Southern Unit (cf. Postgate & Moorey 1976, 144, Fig. 4).

Hansen (1974, 18) interpreted the rooms he excavated in the Central Complex as "probably the residential or administrative dependencies of a temple which is yet to be found in the immediate vicinity of Area E" (quoted by Postgate in Postgate & Moorey 1976, 160, and in *ASE* 2, 22), while of the South-East Complex Postgate has remarked that although its "exact nature ... is still doubtful, ... we believe that it must form part of a temple complex" (Matthews & Postgate 1987, 100). For the Ash-Tip itself, he similarly suggests that "for an explanation of the figurines and miniature vessels an association with temple life seems very attractive" (Postgate 1980a, 93).[12]

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10 On the degree of erosion of levels, see Postgate & Moorey 1976, 157; *ASE* 1, 1; a further indication is now provided by the late tiplines excavated in 1983 (Postgate 1984a, 105; Postgate & Moon 1984b, 70).

11 The best current plan of the overall layout is in *ASE* 3, 189, Fig. 5, which, however, excludes the western part of the 'burned building'. For a full, annotated plan see Postgate 1980a, 89, Fig. 1 (or *ASE* 2, Fig. 149) together with the additional plan of the South-East Complex in Postgate & Moon 1982, 129, Fig. 9 (overall plan, without labelling, in Postgate 1990, 98, Fig. 2).

12 Such figurines and miniature vessels are found in both the Ash-Tip and the Central and South-East Complexes (for miniature vessels from these public buildings, cf. below pp. 112ff, § 4.4.4). Other material from the excavations in the Central and South-East Complexes might conceivably be interpreted as having a religious function, or as indicators of a temple(?) bureaucracy. Most notable is a baked clay offering-stand from the floor of the courtyard (Room 41) of the Southern Unit (6G54:98/AbS 1042, unpublished); what seems to be a fragment of an offering-stand in stone comes from the Ash-Tip (T.F. Potts, below p. 159, § 11.2; **852**). Another link between the material assemblages of the Ash-Tip and the public buildings, though not one necessarily suggesting a particular status, is provided by a limestone stamp seal with lion-head motif from the

To be sure, there is no definitive evidence for the identification of the building with which the Tip was associated as a temple-complex. Unless and until we locate a main shrine, doubts will remain, but we do have some slight reason for believing that the building may have been a temple site. Apart from the nature of the Ash-Tip material assemblage itself, and especially the presence of miniature vessels, and perhaps the figurines, which point to a religious rather than a secular function (see the discussion in § 1.8, below p. 18), we have one major indication of temple status for the building as excavated and planned. A land allocation text (6G54:73/AbS 1044)[13] found in the fill at the southeast side of Grave 48, dug into the Court (Room 41) of the Southern Unit, begins with the allocation of fields to "the lady" (*nin*), to the god Shara, and, only then, to the *ensi* (text published by Biggs & Postgate 1978, 105-106: IAS 518; cf. Postgate & Moorey 1976, 160). The "lady", listed first and allocated the largest share, almost certainly refers to a goddess; and Postgate has gone so far as to suggest that if Abu Salabikh is correctly to be identified with ancient Eresh[14], the building could be the temple of Nisaba, goddess of reeds and writing, and tutelary deity of that city (Postgate 1982, 54).[15]

Should this suggestion of temple status be correct, a possible interpretation of the general relationship between the Central and South-East Complexes, within the temple, might make the former, with its domestic rooms, scriptorium and tomb-chamber, the residential and administrative wing, while the South-East Complex, largely known from surface clearance only, might represent, albeit also containing administrative and possibly residential units, the 'temple proper', within which would lie, still unexcavated, the sanctuary itself. A less likely interpretation might make the Central Complex the temple precinct and the South-East Complex a later addition; if the temple building originally encompassed the administrative and residential units, these may later (in the time of Ash-Tip Phase 3) have been moved to the (purpose-built?) adjoining unit, namely the South-East Complex. In any event, these arguments and speculations may have to be modified or abandoned in view of future work.

Possible relationships of Ash-Tip Phases to Temple-Complex units

As for the Ash-Tip Phases, we have suggested above (p. 5, §§ 1.3.3-4) that the steeply sloping ash lines of Phase 2 of the Tip appear to represent incinerated rubbish cast over the southern wall, or from the roof, of the now eroded later rebuild of the Central Complex (Corridor 49), while the almost horizontal Phase 3 deposits derive from the eastern area of the now eroded later version of the South-East Complex. This may possibly reflect some chronological distinction in shifting functions between areas of the Central and South-East Complexes, the administrative chambers of the Central Complex in the period of Ash-Tip Phase 2 being moved, in Phase 3, further south, to somewhere on the eastern side of the South-East Complex. The relocation of the administrative wing, whatever its purpose or the impetus behind the move, would have allowed for the continued dumping of rubbish on the Ash-Tip site, by now quite likely filled to a considerable height further to the north.

Alternatively, it may have been only the site of the refuse tipping that had changed, perhaps actually necessitated by the growing height of the Tip against the southern wall of the Corridor. At the new more southerly location it may have been impracticable or unnecessary to dump the rubbish from such a height, accounting for the more gradual gradient of the tiplines.

Beyond this, given our lack of detailed knowledge of the chronology and functions of the building, it seems pointless to speculate.

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fill of Room 52 of the South-East Complex which is comparable (though not identical) to the impressions on some Ash-Tip sealings (Postgate 1980a, Pl. XI*d*, p. 104; cf. H.P. Martin, below, p. 26, § 2.1.2).

13 Wrongly numbered 6G54:74 in Biggs & Postgate 1978, 105, 117 (cf. *ASE* 2, 104: Grave 48, No. 18).

14 So Postgate & Moorey 1976, 160-161, following Biggs 1974, 22-24. The suggestions of Jacobsen 1960, 176 (Kesh), Cohen 1976, 90-92 (Gishgi) and Steinkeller 1986, 30-31 (Matar), seem less plausible.

15 A number of further arguments in favour of an interpretation of the building as a temple have previously been advanced, but in all cases the evidence appears to us neutral, neither denying nor supporting temple status:

(a) The building represented by the Central and South-East Complexes seems definitely to represent a single public establishment because of the tablets found on floors within it (cf. Postgate & Moorey 1976, 153), because the corridors seem to be internal, not outside alleyways, and because of the quality of construction and regularity of plan. Moreover, the overall size, perhaps some 90 x 180 or more metres, is comparable, for example, to the Temple Oval at Khafaje (cf. Postgate 1982, 55; Postgate & Moon 1984a, 738; Delougaz 1940). The Northern Palace at Tell Asmar, however, is also of comparable area (cf. Delougaz, Hill & Lloyd 1967, 181-198).

(b) Hansen (1974, 11) refers to tablets in Room 44 of the Central Complex as found "on a finely plastered floor of the type one usually associates with temples", while traces of such plaster floor have since been pickedup elsewhere in the complex during our own excavations (Postgate & Moorey 1976, 153). While this feature shows that the building was well constructed, it is not a decisive indication of a temple structure.

(c) Postgate (in Postgate & Moorey 1976, 160; cf. esp. ibid., 152-153) has compared the graves dug into the Southern Unit to "those in the *gipārum* of Nanna and Ningal at Old Babylonian Ur" (cf. Weadock 1975, 109-111). In *ASE* 2, 22, however, he modifies his remarks in the light of "The identification of male bones in Grave 2, and the infant in Grave 86", which "suggest that we are not strictly in any sort of temple cloister or *giparum*", but implies that in his view a burial chamber such as Room 39 would still not be out of place in the residential or administrative wing of a temple. This feature can no longer, however, be cited as positive evidence either way.

1.3.9 *Dating of the Ash-Tip*

At least the latter two main phases of the Ash-Tip appear to date to fairly late in the Early Dynastic III period, as they cut early and late ED III structures and contain in the main late ED III ceramics (cf. J. Moon, below pp. 149-156, §§ 10.2.2, 10.4; Ash-Tip Phase 2 upright-handles are stylistically pre-ED III). The rubbish they contain also most likely derives from later, eroded, rebuilds of the already ED III structures to the west. Some of the glyptic styles, however, suggest a dating earlier rather than later in the ED IIIb (H.P. Martin, below p. 35, § 2.1.6). Possibly, therefore, the Ash-Tip (Phases 2-3) can be assigned rather closely to the early part of the second phase of the third period of the Early Dynastic, *i.e.*, early ED IIIb.

Phase 1 also cuts an apparently early ED III wall, and may be mid to late in the period, but without any material remains it is difficult to place. Later disturbances involve pits (p. 18, § 1.6), late ED III graves (p. 11, § 1.5) and an Akkadian or Ur III period drain sunk through the Ash-Tip in 6G76 (p. 18, § 1.7).

For discussion of the internal evidence of dating for sealings and pottery, cf. below p. 30, § 2.1.3.5.2 (H.P. Martin) and pp. 149, 156, §§ 10.2.2, 10.4 (J. Moon).

1.4 *The Ash-Tip equid* (Figs. 1:22, 1:23)[16]

Within the ash lines of the Phase 2 Tip, at +5.40 m within our *sondage* in grid-quadrant 6G66d, was found the complete skeleton of an equid (6G66:94),[17] which had evidently been thrown into the pit along with the rubbish. The bones, all perfectly articulated except for the head, which had been crushed, had been fire-blackened, which we assume to be the result of the hot ashes of the subsequent dumping being thrown on top of the already decomposing animal. Surviving traces of the hide over the rib bones, with individual hairs still distinguishable, show that the equid had not been fully skinned before deposition. Cf. Postgate & Moorey 1976, 15, Pl. XXIV*a*; Postgate 1986, 202-204, incl. Pl. 2.

On the basis of the dentition, the proportions of the metapodials, and the shape of the distal epiphysis of the tibia, the species has been identified as a domestic donkey (*Equus asinus*) or donkey x onager hybrid.[18] As "the bones are not so typically asinine in their proportions as others" from the site, the metacarpal/radius index being relatively high (68%), and the metapodial bones being rather long, Clutton-Brock (1986, 209) would "prefer to reserve judgement on this skeleton and identify it only as a donkey or a hybrid donkey/hemione until more information is obtained on the osteology of the hybrids" (cf. also ibid., 212). According to the deductions of Postgate (1986, 195-197) from Sumerian documentary sources, it was a common enough practice to breed donkeys (*anše*-DUN.GI or *anše*-LIBIR) with onagers (*anše-eden-na*) to produce hybrids (*anše*-BARxAN).

On the basis of the wear to the teeth and presence of only rudimentary canine teeth, the age of the animal at death has been placed at between 8 and 10 years and its sex determined as female (Clutton-Brock & Burleigh 1978, 91-92, incl. Table 1; Clutton-Brock 1986, 209).

Although the skull of the animal was crushed, the teeth and the majority of the post-cranial bones were excellently preserved. According to Clutton-Brock, however, the bones appeared entirely healthy and provided no indication of the cause of death. Possibly death resulted from the crushing of the skull itself. Presumably the animal was dead before it was hurled onto the Tip, either as a simple act of refuse disposal or possibly as a more formal type of 'burial', comparable in some respect, perhaps, to the Sumerian equid burials known from Abu Salabikh, Ur, Kish, Susa, Hamrin salvage sites (T. Madhhur, T. Razuq, Abu Qasim) and 'Usiyah in the Qadisiyeh (Haditha) Salvage Project. Yet the Ash-Tip equid cannot really be seen as parallel to the pairs of harnessed, cart-drawing, animals from graves at Abu Salabikh, Ur, Kish and Susa. Among the burials within and against the outside walls of a burnt ED III building in 'Area C' at Al-Hiba, was one, just outside the south wall, in which "were found, deliberately buried together, the bones of a human and of an ass" (Crawford 1972, 19; photograph in Hansen 1973, Fig. 26). Yet this is rather different from the Abu Salabikh Ash-Tip equid deposit, and although the material from this building at Al-Hiba demonstrates a remarkable similarity to the Ash-Tip assemblage (below p. 18, § 1.8), the presence in both of an equid is probably fortuitous. Possibly more comparable to the Ash-Tip equid are the human bodies also discovered in the Ash-Tip: children apparently thrown onto the Tip without recourse to digging a pit or to the placement of goods. If we are correct in our assessment of these human remains, that they represent the disposal of people scarcely regarded as human (cf. p. 17, § 1.5.25), it seems probable that the Ash-Tip equid also should be interpreted as simple disposal of rubbish, a dead donkey thrown onto a tip. Since we regard the other refuse on this Tip and its position with respect to what we take to be the temple complex as marking it out as a rather special rubbish dump,

16 For animal skeletal remains from the Ash-Tip in general, including equid, cf. G. Clark, below, pp. 177ff, § 14.

17 Wrongly numbered 6G66:12 in Clutton-Brock & Burleigh 1978, 91-92 (cf. Clutton-Brock 1986, 207, n. 1).

18 Previously identified as an onager (cf. Postgate & Moorey 1976, 156, n. 1; Clutton-Brock & Burleigh 1978, 91-92).

however, we are entitled to ask whether something about this particular donkey made it appropriate, or at least convenient, for it to be disposed of here? A number of possibilities can be imagined, for instance that it had been a working animal in the service of the temple. In the absence of textual references to such practices, however, such ideas must remain speculative.

According to Clutton-Brock (1986, 209), "the only possible evidence for human interference with the live animal is to be seen in the teeth where the highly oblique wear on the first upper premolars (P2) could be ascribed to 'bit-wear'". If indeed from an early form of bit or something similar, this would fit with Clutton-Brock and Burleigh's earlier assumption (1978, 92), from its presence within the central area of the mound, that the equid must have been an at least tamed animal, thus constituting some addition to the archaeological evidence for the domestication of equids in the ancient Near East.

For discussion, cf. Clutton-Brock 1986, 207, 209, 211. For metrical data, cf. ibid., 214 Table 1a [for "ash pit" read "Ash-Tip"], 215 Table 1b, 218 Table 2c, 226-229. For detailed osteological photographs, cf. ibid., 222 Pl. 3*b-d* [limb bones], 223 Pls. 4-5 [cheekteeth], 225 Pl. 7*a* [metacarpal].

1.5 *The Ash-Tip graves* (Figs. 1:24, 1:25)[19]

This is not the place to give at any length an account of the human burials within the Ash-Tip, as they are or will be published in final form, together with catalogues of the grave-goods, in those volumes of the *Abu Salabikh Excavations* series that deal exclusively with the graves (as *ASE* 2). Nevertheless, it is appropriate here to review briefly details of those human burials that were found during the excavation of the Tip, not only because these graves often contained material back-filled from the Ash-Tip deposits, but also because there do appear to be certain features that some of the burials share and which distinguish them from the majority of burials elsewhere on the site. In other words, the Ash-Tip burials do not, in the main, appear to have been burials that just happen to have been dug into that part of the settlement, and might as easily have been located elsewhere; rather, they are a peculiar group of inhumations deliberately sited within the Ash-Tip.

We also take this opportunity to present a revised publication of Grave 6, originally featured in *ASE* 2, which was only fully cleared in the Ash-Tip excavations of 1986.

There were 19 grave numbers assigned for burials or possible burials during the investigation of the Ash-Tip. For their locations, see Fig. 1:24. For plans, see Fig. 1:25. In addition, there were a number of human remains discovered within the Ash-Tip deposits which were not assigned the status of 'graves'.

1.5.1 *Grave 5*

An apparently disturbed grave, without human skeletal remains, cutting the Level I phases of the northern enclosure wall of the Ash-Tip (*i.e.*, the southern wall of the Corridor), some floors going with the pre-IC (?Level II) walls of Room 59 of the South-East Complex, and, probably without significance, the northern limits of the Phase 2 Ash-Tip in grid-quadrant 6G66a. Nature of fill unrecorded. The clay-filled pit (u) may have been associated with this grave (§ 1.6; Fig. 1:7). Late ED III.

The painted sherd **789** (Fig. 10:2) may be from the fill of this grave.

See *ASE* 2, pp. 46-47. For Nos. 2, 3, 4, 6, 7, 9, cf. now *ASE* 3, Nos. 273, 604, 606, 744, 607, 546 [all unillustrated except No. 606]

1.5.2 *Grave 6* (Figs. 1:16, 1:25)

Burial of an aged adult female, together with an 11-12 year old child. Probably ED III.

The child's burial as excavated in 1975, in grid-squares 6G66 and 67, has been described in *ASE* 2, pp. 47-48. In 1986 further excavation uncovered the southern area of the grave, including the grave-shaft, in 6G76 North Baulk. As now excavated, the maximum dimensions of the shaft are 0.65 x 1.79 m, and the grave itself is 0.50 x 1.65 m. The lowest level of the floor of the grave lies at +6.70 m (1.3 m below surface). The grave fill in 6G76 consisted of greyish and dark brown soft lumpy soil with some charcoal flecks and much yellow clay, usually in vertical streaks (collapsed or disturbed original grave lining?). The shaft was filled with hard packed bright yellow clay. The grave and shaft are dug into Phase 2 Ash-Tip deposits.

The grave in 6G76 produced further skeletal remains, this time of an aged adult female, lying on the right side, head at the southwest, face to the east, and associated with a few grave goods. In contrast to the child's skeleton, these bones were in an excellent state of preservation, yet, also unlike the child burial, they certainly appear to have been disturbed (see plan), unless the body of the old woman were

19 For discussion of faunal material from burial and non-burial contexts, cf. G. Clark, below p. 182, § 14.3.

thrown into the pit already at an advanced stage of decay. The catalogue given in *ASE* 2 can therefore be revised as below (see Fig. 1:25).

The conical bowl, No. 4, now suggests a date for the grave in the ED III period.

Batches **410**: Fill of Grave 6 in 6G66
411: Access shaft to grave in 6G66
2671: Access shaft to grave in 6G76
2672: Fill of Grave 6 in 6G76
2678: Fill immediately beneath adult inhumation in 6G76

Grave contents

[1] **Human skull and other bones** 410 6G66:15 + 37
The skull rested on reed matting.
Some teeth; mandible. Age: 11-12 years.

2 **Human skeleton** 2672
Adult, female, ca. 60 yrs.

skull	6G76:920, 921
mandible	6G76:929
ribs and vertebra	6G76:931
scapulae	6G76:930, 932
clavicle	6G76:932
humerus	6G76:934
foot	6G76:933
other bone	6G76:906, 946

Majority of bones lying at +6.73 m, with vertebra at a higher level, +7.22 m.

[3] Miscellaneous bone 2672 6G76:906

[4] Conical bowl 2672 6G76:1035
Complete profile.

[5] Stone bead 2672 6G76:939 AbS 2463 Fig. 1:26
Reddish-brown, fine grain mottled stone.
Intact, barrel-shaped bead, well polished.
L. 8-9 mm; di. 11 mm; di. of perforation 3 mm.
At 0.69 m from north grid-line (of 6G66), 0.60 m from east grid-line (of 6G77), at +6.73 m.

[6] Flint 2672 6G76:905
Fragment. Mostly cortex, with chipped ends. 10YR 4/1 dark grey – 7.5YR 4/2 dark brown flint, with 7.5YR 5/2 brown – 8/2 pinkish white cortex.[20]
27 x 22 x 6 mm.

Probably accidental in fill

[7] **Clay sealing** 2672 6G76:940
See **52**.
At 0.12 m from north grid-line, 0.40 m from east, at +6.48 m.

[8] **Clay sealing** 2672 6G76:1050
See **59**.

[9] **Clay fragment** 2672 6G76:918
Unbaked clay. Unidentifiable fragment.

[10] **Clay cone** 2672 6G76:904
Baked clay.

[11] **Clay disc** 2672 6G76:1038
Unbaked clay

[12] **3 pottery discs** 2672 6G76:1039

[13] **Miniature vessel sherds** 2672 6G76:1008, 1010, 1036, 1037, 1050
5 small (undiagnostic) fragments

[14] **Grinding stone** 2672 6G76:908
Fragment of vesicular basalt, **873**.
70 x 62 x 18 mm.
From extreme south end of grave, lower fill.

20 Colour references are to Munsell 1975.

[15] **Stone** 2672 6G76:917
Worked stone. Slightly yellowish white colour. **898**.
47 x 40 x 35 mm.

[16] **Pebble** 2672 6G76:1040
See **902**.

[17] **Shell** 2672 6G76:907
Fragments of *Unio Tigridis*. Cf. p. 201, § 14.6.1.

[18] **Bitumen** 2672 6G76:919
See **936**.

Contents of shaft

[19] **Stone rubber(?)** 2671 6G76:902
Red stone. **856**.
55 x 47 x 34 mm.

[20] **Grinding stone** 2671 6G76:986
Vesicular basalt. Small fragment, recovered in water-sieving. See **882**.

[21] **Miscellaneous bone** 2671 6G76:901
Small fragments from normal excavation.

[22] **Miscellaneous bone** 2671 6G76:984
Small fragments from water-sieved samples.

[23] **Shell** 2671 6G76:985
Small fragments of *Unio Tigridis* from water-sieved samples. Cf. p. 201, § 14.6.1.

1.5.3 *Grave 7*
Grave of an adult female, possibly accompanied by a flint blade, dug into Ash-Tip Phase 2 in grid-quadrant 6G66d. Nature of fill unrecorded. Date undetermined.

See *ASE* 2, p. 48.

1.5.4 *Grave 9*
Rectangular pit with scattered human bone, possibly a grave. The fill was a soft dark yellow clay. It cut Phase 2 of the Ash-Tip and Level II walls in 6G66a; its westward extension into 6G66 West Baulk is unexcavated. Date undetermined.

See *ASE* 2, p. 49. For the bone spatula(?), item No. 3, see **914**.

1.5.5 *Grave 10*
Pit with single inhumation, very disturbed (perhaps by animal burrowing). It cuts deposits of both Phase 2 and Phase 3 of the Ash-Tip. Only partly excavated, in 6G66d; the western extension into quadrant c is unexcavated. Filled with soft dark earth, lined with clean yellow clay. Date undetermined.

See *ASE* 2, pp. 49-50. For the cosmetic shell, No. 2, and the bitumen, No. 3, cf. **908**, **937**.

NB. Some of this grave appears to be contained in batch 406, the general batch for clearance of the Ash-Tip in grid-quadrant 6G66d. This batch is not listed for this grave in *ASE* 2, 50.

1.5.6 *Grave 14*
Adult burial, the body lying on the right side, head to west, face turned to the south; the arms were placed before the face and the legs were lightly flexed. The grave (*c.* 1.5 x 0.8 m) was dug into deposits of Phase 2 of the Ash-Tip, mostly in 6G66d, extending slightly into 6G67. "The filling of the grave was of the same loose dark soil as the surrounding ash tip". It is uncertain whether a pottery bowl belongs with this grave; other goods were a cast horned head copper pin, a copper ring, a copper fragment, a spherical headed copper pin, a cylinder seal with simple design of a horned animal, a limestone cylinder with copper mount, 19 beads, a copper roundel, and a shell button. Probably late ED III in date.

See *ASE* 2, pp. 54-56. For No. 2, see now also *ASE* 3, No. 152.

In 1986, in cleaning the east section of grid-quadrant 6G66d, a small vase was discovered; it probably belongs with this grave, and may be added to the grave-goods listed in *ASE* 2 thus:

Batch **450**: Cleaning E section of 6G66d

Grave contents

|2a| **Pottery vase** 450 6G66:209 Fig. 1:27
Rim di. 49; base di. 52; max. di. (at shoulder) 72; H. 112; di. of suspension holes 6 mm.
Small vase, complete but for a chip on the rim. The neck is perforated at opposing points, for suspension. Fairly crudely made. Fabric 5YR 6/8 reddish yellow; exterior and interior surface 10YR 8/3 very pale brown (cream). Fine vegetable inclusions.
Found close to the surface in the extreme north of grid-quadrant 6G66d.

1.5.7 *Grave 15*
Remains of a grave (in grid-quadrant 6G66c), evidenced by scattered human and animal bones and a footed jar containing fish-bones (now identified by Driesch 1986, 33, as the incomplete backbone of a small barbel, *Barbus* sp.) and carbonised grain. The grave pit was floored with clean clay. Nature of fill unrecorded. Date undetermined. Cutting Ash-Tip Phase 2.

See *ASE* 2, p. 57. For No. 6, cf. now *ASE* 3, No. 603.

1.5.8 *Grave 18*
Next to the footed jar assigned to Grave 15, the presence of some articulated human toe bones led to the suspicion of a second grave (Grave 18); these bones could, however, have belonged to the same body as the skull of Grave 15 if the latter were greatly displaced.

See *ASE* 2, p. 60.

1.5.9 *Grave 34* (Figs. 1:25, 1:28)
The body of an infant, aged between 9 and 15 months, had apparently been thrown into the Tip in 6G66d. A gazelle horn core found close to the skeleton may have been intentionally placed with the body, as the association is paralled in an infant burial on a floor of Room 101 of the 'Eastern Houses' (cf. *ASE* 2, p. 62, Grave 20). The stone bowl fragment **840** was probably not associated with the body. The head of the infant lay to the south-west. Ash-Tip Phase 2.

See *ASE* 2, p. 87, with Pl. IX*d* (= Fig. 1:28 of this work).

1.5.10 *Grave 39* (Fig. 1:22)
An area within Phase 2 of the Ash-Tip (in 6G66d) delineated by a lining of clean clay, and suspected, on analogy with Graves 9 and 10, to be a grave. Filled with ashy soil, indistinguishable from the surrounding deposit. There was a small quantity of burnt bone, not definitely human, and some shell. Ash-Tip Phase 2.

See *ASE* 2, p. 96.

1.5.11 *Grave 105*
An infant skeleton (6G66:189) apparently lying within the tiplines in 6G66a, without grave cut or goods (unless the decorated potsherd **794**, grinding stone **854**, and metal lump **935** could be associated). Ash-Tip Phase 2.

There is no plan or photograph of this burial, whose position is recorded as 2.10 m north of the southern limit and *c.* 1.90 m west of the eastern limit of the the quadrant.

1.5.12 *Grave 130*[21]
A grave with rectangular vertical shaft, containing, on the south side, the burial of a child, lying east-west, with its head to the west, and facing north. The grave cut measured 1.97 x 1.56 m; the bottom of the grave was at +7.75 m (0.58 m below surface).

The deceased was comparatively richly adorned, although the grave goods were not especially numerous, and apart from a miniature jar found at the eastern end of the grave (**473**, Fig. 4:7 = *ASE* 3, No. 802), which was not certainly one of the grave goods, pottery was absent in the burial. The child lay on his or her left side. He or she wore a necklace consisting of a central elongated silver bead, with a smaller lapis lazuli and gold-covered copper alloy bead on either side (6G76:378/AbS 1697). At the waist were a cosmetic case of copper alloy (6G76:332/AbS 1731) and a shell[22] cylinder seal with banquet scene (6G76:336/AbS 1708: Postgate 1980a, Pl. X*a*; cf. below, p. 33, § 2.1.5.2); this seal is comparatively small (18 mm in length) and has been compared to two rather smaller than usual seals from children's graves at Kish (ibid., 103, citing Mackay 1929, 190). A silver boss was also found close

21 This grave is marked in the wrong place in *ASE* 3, 189, Fig. 5. The correct location is shown here on Fig. 1: 24.
22 Described as "limestone" in Postgate 1980a, 103.

to the waist and must originally have been fixed onto the clothing. There was a thin silver eye-patch over the left eye (6G76:377/AbS 1733: Postgate 1980a, Pl. X*b*) and a pair of silver sandals (6G76:334/AbS 1732) had been placed in front of the face. A copper alloy bowl (6G76:331/AbS 1730) was sited above the skull, a common position for vessels in Early Dynastic and Ninevite 5 burials (cf. Postgate 1980b, 78; Bolt & Green, in press, § 11). Among the material retrieved from the grave fill are some items whose inclusion in the grave may have been not accidental, namely a group of flints consisting of a sickle blade of calcined flint, another of brown flint and three blade fragments of banded brown flint (6G76:249) (cf. § 1.5.13); also a carnelian bead (6G76:407/AbS 1696).

The grave fill was ashy, but its more precise nature and colour was not recorded. The grave was dug into Phase 3 of the Ash-Tip (in 6G76a/b), from which level is unknown, as the surface has been eroded, but it may have been only slightly later than the Ash-Tip itself, since the cylinder seal appears to be Early Dynastic in style.

See Postgate 1980a, 94; 1980b, 67, 69, 73.

For material presumably accidentally in the fill of this grave, probably deriving from the Ash-Tip, see (sealings) **4c**, **22a**, **30**, **42**, **48b**, **49**, **64a**, **69c**, **70**, **79c**, **90**, **114a**, **121**, **123**, **210**, **230**, **237**, **241**, **244**; (figurines) **288**, **292**, **298**, **390**, **391**; (miniature vessels) **473**, **477**, **481**, **489**, **507**; (?tokens) **679**, **691**, **710**; (miscellaneous clay items) **753**.

1.5.13 *Grave 133*

A simple pit burial cutting Phase 3 of the Ash-Tip in 6G76b. The fill of the grave was ash, presumably similar to that of the surrounding Tip, although precise details are lacking. On the southeast side, the grave pit (0.98 x 0.60 m) was delineated by two green coloured mud-bricks, separating the burial from Grave 134. The depth of the burial below present surface level was not recorded, although it cannot have been much more than 0.5 m (the general limit of excavation in this area), and the floor of the grave probably lay at a similar level to that of Grave 130.

The deceased lay on his or her right side, in contracted position, aligned north-south, with head to the north, facing west. The body lay on a slight slant downwards to the north, so that the head lay some 50 mm below the level of the legs. A black calcined flint flake (6G76:453) was located close to the pelvis, probably deliberately as this has parallels in other graves at Abu Salabikh and Khafaje (Postgate 1980b, 74-75). A fragment of textile (6G76:452), survived on the front of the torso, covering an area of some 90 x 60 mm. From the grave fill were recovered a jar stopper(?) of unbaked clay (**225**) (but no vessel was found) and a *Unio Tigridis* bivalve shell (p. 201, § 14.7.1, 6G76:429).

1.5.14 *Grave 134*

Grave 134 was located to the immediate northeast of Grave 133, also cutting Ash-Tip Phase 3. Which burial is the earlier and which the later is not clear, and since at one point the two cuts are separated only by two mud-bricks, it is possible that they were associated burial chambers of a single grave, although it is also possible that the bricks were laid at the time of the later inhumation so as to keep it apart from the disturbed earlier burial. The excavated part of Grave 134, in 6G76b, contained only a human skull and some other small human bones (unnumbered and apparently left *in situ*) and a length of copper alloy wire (**929**), the latter possibly accidental in the fill, as well as a clay sealing (**79c**) and a model chariot fragment (**398**), which must be accidental inclusions disturbed from the Ash-Tip deposits. Most of the grave, however, must lie to the east, in the West Baulk of grid-square 6G77, where it is unexcavated.

1.5.15 *Grave 146*

This grave lay on the western limit of the Ash-Tip (Phase 3), in 6G76a and West Baulk. It represents a pit burial, 1.91 x 1.57 m maximum. There is no information on the nature of the fill (presumably ash), nor on the overall depth.

There were two skulls (6G76:687, 688), some 0.7 m apart, each surrounded by a group of grave goods. The group to the west consisted of a fragmentary jar (6G76:603), a stemmed dish (*ASE* 3, No. 217) – in a common position close to the head (Postgate 1980b, 78) – and a badly worn cylinder seal (6G76:591/AbS 1710); the location of the last of these items is known only approximately. The objects to the east included an unusual 'egg' fashioned from bitumen, and possibly originally contained within a pot (6G76:600). There was also a stone slab (6G76:605), possibly intended as an ablution slab,[23] together with ring-based jar (*ASE* 3, No. 561, not there illustrated) and conical bowl (*ASE* 3, No. 6), possibly intended to be used respectively for containing and for scooping water. The handle from an upright-handled jar (*ASE* 3, No. 738) and fragment of the same or a similar vessel (6G76:552, 697), found on the surface, may also come originally from this burial. From the fill of the grave were retrieved a clay sealing (**19**), a cylindrical piece of clay (**686**), a pottery sherd with incised decoration of a fish

23 For comments on the purpose of such stones, see Postgate 1980b, 74; Bolt & Green, in press, § 11.

(**795**), a fragment of calcined flint (6G76:453) and two shells, a *Unio Tigridis* bivalve (p. 201, § 14.6.1, 6G76:593) and an example of *Melanopsis tuberculatus* (§ 14.6.2, 6G76:674).

1.5.16 *Grave 175*

Grave 175 cuts the tiplines of Phase 3 of the Ash-Tip, close to its western edge in the southeast of grid-quadrant 6G86b. A roughly circular pit-burial, the cut measuring 1.70 m east-west by approximately 1.80 m north-south (although the edge was uncertainly defined on the southern side). The pit was dug from above the present-day mound surface (here at +8.07 m); it bottoms out at +7.49 m. The grave fill was loose grey ash, distinguishable from the surrounding Tip only by its colour. The fragmentary human remains including poorly preserved skull (6G86:128, 212) and few grave-goods were clustered at the eastern end, at +7.76 m, very much disturbed. One complete round-based jar remained (*ASE* 3, No. 338). A badly corroded spherical(?) bead(?) of copper alloy (6G86:236) probably belongs with the burial, as might a flint blade found by sieving (6G86:214). Since the grave is dug into the Ash-Tip, however, a complete and intact miniature jar, also found in sieving, is most likely an accidental inclusion in the fill (**434**). Two pieces of folded clay (**760-761**) and two shell fragments (p. 201, § 14.6.1, 6G86:213, 275) are probably accidental inclusions in the fill.

1.5.17 *Grave 177*

Only the extreme southern end of the grave-pit was excavated, on the extreme western edge of the Ash-Tip, in the north-east of grid-quadrant 6G86a; most of the burial lies unexcavated to the north, in the 6G86 North Baulk. The grave belonged to a level above the present surface of the mound (here at +7.95 m); in the excavated part the base of the pit was at +6.69 (see section, Fig. 1:17). The grave fill was a very loose medium-tone grey ash, clearly distinguishable from the lighter and darker grey Phase 3 tiplines into which it had been dug. Some human bone was recovered (6G86:228) and a ring-based jar (*ASE* 3, No. 598) lay in section on the grid-line (Fig. 1:17).

1.5.18 *Grave 178*

This pit-burial, the cut measuring 1.40 (north-south) x 0.97 m (east-west) on the present mound surface, had been dug into Ash-Tip Phase 3 deposits in grid-quadrants 6G76b and d. The fill was primarily a distinctive light orange loose ash, which was easily distinguished from the jet black ash of the surrounding Tip; towards the bottom of the burial pit (at +7.53 m) the loose fill gave way to a hard light yellow clay. The grave goods were clustered at the northern end of the pit. No human remains were unearthed, but the grave was not fully excavated in quadrant b.

The pottery vessels comprised a round-based jar (6G76:739), a fragment of another jar (6G76:859) and a stemmed dish (6G76:856-857). Inside the first of these vessels was a clay sphere (**683**) (6G76:757) and a miniature bowl (6G76:740), which in this instance probably belongs with the grave goods. Three flint blades (6G76:865) and a flint core (6G76:866) in this case are probably accidental inclusions in the grave deriving from Ash-Tip deposits, since they were severely burnt. Other items found in the fill were also presumably accidental: (sealings) **4l**, **48d**, **69j**, **94**, **151**; (figurine) **286**; (?token) **683**, (miscellaneous clay) **769**.

The grave had originally been dug from above the level of the present surface. The highest point remaining was in fact the top of the stemmed dish, which protruded slightly on the surface to +7.71 m. The base of the grave-pit was at +7.53 m.

See also § 1.5.20.

1.5.19 *Grave 186*

This was the burial of a child, found close to the present surface in grid-quadrant 6G77a. The body (6G77:21, 104) lay within a basket of woven reeds coated with bitumen (latex impression: 6G77:88). To the north, this had largely been removed in excavation before the discovery of the grave, and was not easily traced in the extreme east or west, but was very visible to the south of the body. No grave-cut was apparent, in plan or section,[24] and it seems that the basket containing the child had simply been deposited alongside the refuse within the Tip. The basket was filled with a hard light grey coloured soil with numerous green clay lumps, possibly fragments of mud-brick. The surounding deposits were the thin virtually horizontal series of loose ash tiplines characteristic of Phase 3 of the Tip, here coloured light, dark and pinkish grey, black, brown, yellow and cream. The highest extant level on the grave was the highest surviving point on the basket, south of the body, at +7.61 m; the bottom of the basket lay at +7.25 m. The top of the skull was at +7.49 m, the pelvis at +7.36 m, the knee joints at +7.35 m.

24 Although this burial lies within grid-quadrant a, our original excavation in this area was within only the north half of this quadrant, so that the east-west section line of the trench lay across the burial.

The child lay east-west, head to the west, facing north. The legs were flexed at the knees. The arms were bent at the elbows, with the hands drawn up immediately before the face, as commonly in Early Dynastic and Ninevite 5 burials (cf. Postgate 1980b, 68-69; Bolt & Green, in press, § 8). The child lay on his or her left side, wrapped in reeds or reed-matting, which were observed to extend both above and beneath the bones. A fragment of coarse textile survived just below the right knee (latex impressions: 6G77:94-95).

There were apparently no grave goods, save possibly a fragment of grinding stone, partially coated in bitumen (**860**), and a modelled piece of clay (**717**), which may have been accidental inclusions from the surrounding Tip. Since the northern limits of the basket containing the body were removed in the general excavation of the northern half of the quadrant (batch 3903), it is also possible that a flat-based jar (*ASE* 3, No. 496) reconstructed from fragments found in the sieving of this soil (batch 3904) may have been associated with this burial or, less likely, with a group of (possibly associated) human bones to its north (§ 1.5.21).

Ash-Tip Phase 3.

1.5.20 *Human remains in 6G76d (6G76:764)*
Lying within the (mainly light grey and orange) tiplines of Phase 3 of the Ash-Tip, at +8.17 m (some 0.1 m below the present surface), in the northwest of grid-quadrant 6G76d, were a human skull and limb bones (6G76:764). They lay in an undisturbed area of the Tip between the east edge of Grave 178 (§ 1.5.18) and the cut for the later drain (§ 1.7). Although very close to Grave 178, these bones did not appear to belong to the grave, but to the refuse of the Tip; indeed, the skull and some small bones, and so possibly other bones originally lying to the west, appeared themselves to have been disturbed by the later digging of Grave 178. A tiny shell found to the north of the skull (6G76:765) may possibly have been associated.

1.5.21 *Human remains in 6G77a (6G77:1)*
Lying within the (mainly grey and black ash) tiplines of Phase 3 of the Ash-Tip, close to the present surface (at approx. +7.00 m), without grave-cut, in grid-quadrant 6G77a, to the north-east of Grave 186 (§ 1.5.19), and possibly associated, was a group of human bone, including a femur (*c.* 460 mm long). Excavated as part of batch 3903 (sieving: 3904).

Ash-Tip Phase 3.

1.5.22 *Human remains in 6G77c*
After clearance of the upper *c.* 50 mm in grid-square 6G77 (batch 3901), a scatter of human bones was noted within the largely yellow coloured ash in the middle area of the southern edge of quadrant c. These bones were not, however, further investigated and this part of the square remains unexcavated.

Ash-Tip Phase 3.

1.5.23 *Human remains in 6G86b (6G86:81)*
The bone recovered from batch 1911, within the grey and orange ash lines of Phase 3 of the Ash-Tip, proved to be entirely human.

Ash-Tip Phase 3.

1.5.24 *Pit v*
This small pit cutting Phase 3 of the Ash-Tip in grid-quadrant 6G86b (batch 1913) yielded a small collection of bones which were entirely human (6G86:92).

Ash-Tip Phase 3.

1.5.25 *General comments on Ash-Tip burials*
Detailed comment on the Ash-Tip graves and deposits of human remains as a group, within the context of burials at Abu Salabikh and in the Early Dynastic period in general, must await the osteological analysis of the skeletal material and full publication of these graves and of other sporadic finds of human remains. Already it can be said, however, that at least some of the Ash-Tip burials do seem to form a distinct group with certain common characteristics.

(1) In the first place, a high proportion of these 'burials' had no grave-cut, and were not graves in the usual sense, but the simple disposal of dead persons as 'rubbish' within the Tip, and with little or nothing in the way of funerary goods (§§ 1.5.9, 11, 19-21, 23). The most likely explanation of this circumstance, paralleled by that of the equid thrown onto the Tip (§ 1.4), is that such people were of very low status and thought not deserving of proper burial.

(2) As even a superficial consideration shows, and as the physical anthropology will surely bear out, there wase a high proportion of children among those deposited within the Tip, both within the rubbish strata (§ 1.5.9, 11, 19) and in more elaborate and richly adorned graves such as Grave 130 (§ 1.5.12; cf. § 1.5.2).[25]

(3) Many of the burials contained one or more flint blade(s) (§§ 1.5.1-3, 12-13, 15; but probably accidental in Grave 178, § 1.5.18) (cf. esp. § 1.5.13).

Certain features, however, are usual for Early Dynastic burials in general, such as the flexed position of the knees (cf. Postgate 1980b, 68), and, with our admittedly very small sample, there is no apparent overriding preference for or avoidance of any particular orientation of the body,[26] or any preference for the placing of the deceased on the left or right side.

1.6 *Pits within the Ash-Tip* (Fig. 1:24)

A number of pits were at some stage dug into the Ash-Tip. Their function is unclear. Some appear to be animal burrows, but others were larger and more deliberate. Some may have been storage pits (grain silos?), rubbish pits or composting sites. In most cases they were filled with the ash of the Tip, perhaps from the surrounding soil collapsing in rather than from deliberate backfilling, for Pits i, l and p contained clay sealings whose impressions matched those from the stratified tiplines (cf. below, R.J. Matthews, pp. 44-6, §§ 2.2.11.4, 11, 14, 16). Pit u, however, lying beneath Grave 5, contained a deliberate filling of clay (Fig. 1:7). Table 1:1 lists those pits recorded during our excavations (those numbered without square brackets are marked on the plan, Fig. 1:24). As some sections show (Figs. 1:16-17), some pits were not identified in plan, including a relatively large one in the northeast of grid-quadrant 6G86a. The relevant excavation batches have been regarded as mixed contexts. It is very likely, however, that some small pits were unidentified in both plan and section.

1.7 *The 6G76 drain* (Fig. 1:29)

One significant intrusive feature in the Ash-Tip was a vertical pottery drain, sunk through the tiplines in 6G76b/d (Postgate & Moon 1984b, 69-70, with Fig. *b*). It was constructed in cylindrical sections, averaging 0.23 m in height and 0.65 m in diameter, fixed one upon another. Each section had a well-finished upper rim within which fitted the plainer lower rim of the section above. The drain must originally have reached up to a surface level some several metres above that of the present. It is not known how deep the drain was sunk, as it was cleared in the Ash-Tip excavations only to a depth of 0.90 m, representing four superimposed sections.

Packed around the drain, for between 0.1 – 0.2 m, filling the remaining space of the vertical shaft that had been dug to contain the drain, was a mass of potsherds, many of types very different from the Early Dynastic forms, and tentatively dated to the Late Akkadian and Ur III periods (Postgate & Moon 1984b, esp. p. 77). Other sherds were found within the fill of the drain, and as these were of forms similar to those from the packing, it has been suggested that the drain was "constructed and abandoned within a comparatively short spell" (ibid., 70). The sherds recovered from the drain (internal fill and external packing) totalled 1,153, of which 27.5% were diagnostic (ibid., 71).

This drain and a very similar example sunk through the Corridor (49) between the Central and South-East Complexes, in grid-quadrant 6G65b (cf. Postgate & Moorey 1976, 157, 162; Postgate 1977, 295; Postgate & Moon 1984b, 69, with Fig. *a*), are evidence of the degree of soil erosion at Abu Salabikh.

1.8 *Assemblage and interpretation*

What are we to make of the Ash-Tip and its collection of material, consisting of clay sealings, figurines, miniature vessels, pottery discs and atypical pottery forms, as well as stone vessels, ground and chipped stone, human and animal remains, plant material and other clay and metal items? The closest parallel within the Early Dynastic period of ancient Sumer is the so-called SIS ('Seal Impression Strata') rubbish dump at Ur, which contained human and animal figurines, fragments of chariot models, clay sealings (referred to as "jar-sealings", but cf. below, p. 39, § 2.2.3) and tablets, which Woolley (1934, 37) regarded as "apparently thrown out from a temple store". Presumably this was an assumption based on the slope of the tiplines in relation to the outer wall of the Early Dynastic temple enclosure. We might suspect, indeed, that other types of objects characteristic of the Abu Salabikh Ash-Tip assemblage may have also been present in the ash-tip at Ur.

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25 It will be interesting to see if future work on the skeletal material will suggest a predominance of any one sex among the adults.

26 Something which has been difficult to establish for Abu Salabikh in general, although the importance of orientation by the points of the compass is clear for Ninevite 5 burials from northern Mesopotamia (Bolt & Green, in press, § 8).

Pit	Dimensions	Fill	Batch(es)	Square(s)	Comments
a	100x60cm 55cm max. depth	crumbly light grey & darker grey with large lumps	408	6G66d 6G76NB	
b	100x25cm	dark soil	414	6G66a	possible animal hole
c	80x50cm 80cm depth	ash wedged between clay; black flecks	416	6G66a	
d	70cm diam.		2602	6G76b	
e	25cm diam.		2609	6G76b	
f	35cm diam.	creamy fill	2621 2622	6G76b	
g	220x50cm 60-80cm depth	soft brown/orange & with some light cream	2627 2628 2604	6G76a	
h	120x60cm 58cm min. depth		2631 2632	6G76a	
i	70x50cm 85cm depth	pale orange/ brown clayey 2641	2639 2640 2642 2652 2653	6G76a	pit tunnels for at least 110 cm
j	60x60cm		2647 2648	6G76a	cut by pit i
k	30x25cm 24cm depth	loose grey ash	2658 2659	6G76d	
l	210x80cm 45cm max. depth	very loose grey	2662 2663	6G76d	very shallow in SW
m	100x70cm 55cm min.depth	light grey ashy	2680	6G76NB	excavation arbitrarily halted
n	60x30cm min 75cm depth	loose crumbly mixed grey & brown ash	3908 3910	6G77a	
o	60cm diam. 135cm min depth	loose brown fill	1929 1930	6G86a	subterraneously joins pit q. excavation arbitrarily halted
p	110x50cm 135cm min. depth	loose brown fill	1939 1940	6G86a	subterraneously joins pit p. excavation arbitrarily halted
q	105x75cm 40cm max. depth	light grey ash with numerous clay lumps	1959 1960	6G86a	possible grave, excavation not complete
r	100x50cm 98cm max depth	yellow & cream ash with clay lumps	1961	6G86a	
s	45x60cm 56cm max.depth	cream loose ash with coloured clay lumps	1966	6G86a	
t	90x170cm 120cm min.depth	loose mixed light grey & brown ash	1976 1977	6G86a	changes to vertical shaft. excavation arbitrarily halted pit tunnels to west
u	80x70cm	black, mixed soft organic	444 448	6G66a	cylindrical clay-filled pit beneath Grave 5
v	20x20cm	loose light greyish	1913	6G86b	one quarter only excavated as pit, rest of outline surmised from sections

Table 1.1

As has been pointed out, a close parallel to the material of the Abu Salabikh Ash-Tip was present in the rooms of a burnt ED IIIb building in 'Area C' at Al-Hiba, ancient Lagash (Postgate 1980a, 93, citing Hansen 1973, 69; 1978, 75). Although this building and its collection of material is not yet published in any detail, how close at least some of the finds were to those of the Ash-Tip at Abu Salabikh can be appreciated from the report of "over fifty" clay sealings (Hansen 1978, 75; cf. 1987),[27] "tiny miniature vessels" lying "on the floor of one room" (Hansen 1983, 426) and an "assortment of miniature clay chariot parts – wheels and bodies – and model boats and fragments" (Crawford 1972, 18);[28] though not specifically stated, it is also possible that human and animal clay figurines were discovered in the building (Ochsenschlager 1974, 174, with Fig.).[29]

The preservation of this assemblage of material at Al-Hiba was due to the destruction of the building in a fierce fire, which had even baked the bricks of its construction. The complex, more than 60 m north-south and covering some 1000 m^2 in all, consisted of more than ninety small rooms, on an irregular, haphazardly evolved, plan. The north-east sector of the building is described as "a warren of tiny rooms" (Hansen 1978, 74; 1983, 426). Two building levels were excavated, while the existence beneath of at least one more was also recognised.

Although the excavators categorically regard this building as "not a temple", suggesting that it was rather "a building for government administration" (Crawford 1972, 17; also Hansen 1987, 55), the arguments put forward for such a conclusion seem far from decisive. It is suggested that it cannot be a temple because "it lacks the niches which are such a characteristic feature of Sumerian temple architecture", but we should not, perhaps, expect such a feature in an administrative wing; nor has the entire outer wall of the building been uncovered. The arguments advanced in favour of a secular administrative complex – inscriptions naming certain rulers of Lagash, the large numbers of clay sealings and the small size of the rooms and poor quality of construction – might as easily be applied to an administrative wing of a temple complex. Again, the suggestion that the large numbers of miniature vessels might be regarded as children's toys (Crawford 1972, 18) seems hard to reconcile with the interpretation as a secular administrative structure; in our view the evidence tends towards such miniature vessels being associated with ritual (see below, p. 114, § 4.5). Furthermore, although only further excavation would indicate the truth of the matter, given the scale of the massive enclosure wall south of Area B (Postgate & Watson 1979, 145-146), one should not rule out the possibility of an association between Area C and Bagara, the temple of Ninĝirsu, to the west.

How can we distinguish items of secular administration from those of religious administration? Many types of object might serve equally well for either, for instance the sealings or the counters and tokens. However, the presence of the figurines and of the miniature vessels do, in the author's view, tend to suggest a temple origin. For a period of advanced literacy, it is hardly credible that these might be simple accounting devices. In the case of the Ash-Tip figurines, Dr McAdam has argued in this volume (p. 91) that their very short period of use suggests a transient function in ritual. The definite cases of ritual use of figurines for any period in ancient Mesopotamia are few,[30] but that their sites of distribution in the Early Dynastic period were not random is illustrated by the discovery at Abu Salabikh of six unbaked clay figurines of animals, possibly rams, within the ashy fill of a shaft in a room of an ED III house (Postgate 1990, 102-103, Pl. XVII*d*). It may not be unreasonable to interpret the human figurines as in some way representations or symbols of the worshippers, and the animal figurines as offerings to the temple in substitution for livestock. Similarly the miniature vessels may have been substitutes for offerings of food and drink (cf. Postgate 1980a, 93; Postgate & Moon 1984a, 736). The case is well stated by Postgate & Moon 1984a, 736:

The only explanation which at present seems to us to fit the facts is that we have here the rubbish cast out from the anterooms of the temple: sealings from the storerooms, counters from the shrine's business

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27 There were also six cylinder seals and one stamp seal (Crawford 1972, 18).

28 Model boats were not common in the Ash-Tip at Abu Salabikh (cf. Nos. **743-744** and possibly **539**), but as model chariots were, this may simply be a feature of Al-Hiba's geographical position in comparison to the more inland location of Abu Salabikh.

29 In his introductory discussion, on p. 163, Ochsenschlager refers to clay objects "from a large ED IIIB structure, which may have been an administrative building", excavated in 1970-71. This can only be the Area C burned building. However, it is not clear whether this building is mentioned with general reference to the ancient material contained within the article or only to the unbaked clay vessel forms. On p. 174 the author refers simply to "ED IIIB contexts" for the human and animal figurines and model chariot parts that he there illustrates.

30 Textually attested cases known to me are: (1) Kassite figurines of dogs dedicated to Gula (from Aqar-Quf: Mustafa 1947; from Isin: Edzard & Wilcke in Hrouda 1977, 90; from Sippar: Scheil 1902, 90-91; Sollberger 1968); (2) Neo-Assyrian (and some Neo-Babylonian) magically protective figurines of minor gods and 'demons' (Wiggermann 1992); (3) figurines used in potency incantations (Biggs 1967); and probably (4) Neo-Assyrian and Neo-Babylonian plaques dedicated to the goddess Lamashtu (Farber 1983; Wiggermann 1983; also 1992, xiii, n. 1). Perhaps the dog figurines (1) were substitutes for offerings of dogs. For the Old Babylonian period, Stone (1987,115-117) has now drawn distinctions on the basis of provenance between figurines of secular and religious function.

quarters, and the miniature pots and figurines being ex-votos [perhaps safer to say offerings?] submitted by worshippers and thrown away after the lapse of a suitable time.

Although it remains uncertain, therefore, we prefer to interpret the Abu Salabikh Ash-Tip material as deriving from a temple administration – and if this is correct, the Area C building at Al- Hiba must be regarded as an administrative wing of a temple complex.

Whether we are correct in this interpretation must be for the reader, and future researchers, to judge. What is certain, however, is that the material from the Abu Salabikh Ash-Tip (and, similarly, probably that from the SIS dump at Ur) belongs together as a meaningful assemblage, not just a fortuitous collection of items, and that the Tip represents dump from a building of specific and specialist function, paralleled by that of Area C at Al-Hiba.

2

SEALS AND SEALINGS (1-261)

Harriet P. Martin & R.J. Matthews

2.1 Stylistic analysis (*H.P. Martin*)
- 2.1.1 Impressions from well cut seals with imaginative patterns
- 2.1.2 Impressions from stamp seals
- 2.1.3 Animal combat scenes
  - 2.1.3.1 Seals with lion heads in profile
    - 2.1.3.1.1
    - 2.1.3.1.2
    - 2.1.3.1.3
  - 2.1.3.2 Seals with full-face lion heads
    - 2.1.3.2.1
    - 2.1.3.2.2
    - 2.1.3.2.3
    - 2.1.3.2.4
  - 2.1.3.3 Standard animal combat compositions
  - 2.1.3.4 Variant animal combat compositions
    - 2.1.3.4.1
    - 2.1.3.4.2
    - 2.1.3.4.3
    - 2.1.3.4.4
    - 2.1.3.4.5
    - 2.1.3.4.6
    - 2.1.3.4.7
  - 2.1.3.5 Common features of Ash-Tip animal combat scenes
    - 2.1.3.5.1
    - 2.1.3.5.2
- 2.1.4 Other compositions (non-animal combat scenes)
  - 2.1.4.1 'Semi-circular heads'
  - 2.1.4.2 'Arched geometric'
  - 2.1.4.3 'Long-nosed' group (plus chariots)
  - 2.1.4.4 'Rod-like nose and hollow eye' group
- 2.1.5 Miscellaneous compositions
  - 2.1.5.1 Knots or mazes
  - 2.1.5.2 Drinking and banqueting
  - 2.1.5.3 Other two-register scenes
  - 2.1.5.4 The boat-god and his entourage
  - 2.1.5.5 Goddess
  - 2.1.5.6 Geometric patterns
- 2.1.6 Dating

2.2 Functional and contextual analysis (*R.J. Matthews*)
- 2.2.1 Description of Ash-Tip sealing functions
- 2.2.2 Pegs
  - 2.2.2.1 Sealings definitely from door pegs
    - 2.2.2.1.1 The peg
    - 2.2.2.1.2 The string
    - 2.2.2.1.3 The sealing base
    - 2.2.2.1.4 Other features
  - 2.2.2.2 Sealings probably from door pegs
  - 2.2.2.3 Sealings from pegs which may have been involved in package sealing
    - 2.2.2.3.1 The peg
    - 2.2.2.3.2 The string
    - 2.2.2.3.3 Other marks
- 2.2.3 Pots
  - 2.2.3.1 Sealings definitely from pots
    - 2.2.3.1.1 The pot
    - 2.2.3.1.2 The pot covering

2.4.4.10 Patterns in two registers (apart from banquet/drinking scenes)
2.4.4.1 The 'Boat God' and his entourage
2.4.4.12 Goddess
2.4.4.13 Sealings with geometric patterns
2.4.4.14 Fragments of seal patterns
2.4.4.15 Sealings with impressions not illustrated
2.4.5 Sealings without apparent seal impressions
2.4.5.1 Peg(?) and door peg(?) sealings
2.4.5.2 Sealings possibly from vessels
2.4.5.3 Sealings possibly from packages or bales
2.4.5.4 Sealings from reed matting
2.4.5.5 Miscellaneous sealing types
2.4.5.6 Indeterminable sealings

2.1 *Stylistic analysis*
This study of the seal impressions from the Abu Salabikh Ash-Tip attempts to be as complete as possible. If it is possible to observe a pattern, it has been drawn. A gratifyingly large number of impressions could be matched with other impressions to make more complete and understandable patterns. It remains the case, however, that most designs, even when made up from more than one impression, are far from complete. It is accordingly highly probable that some impressions published here should combine with others, but overlapping elements are missing. It is also inevitably the case that some patterns remained unintelligible to me (e.g. **154**, which had an alarming tendency to resemble an owl and a pussy cat in a boat), despite the mind's determination to see familiar forms in clouds, ink blots and seal impressions. Impressions are often superimposed over each other and this can be quite confusing on a fragmentary sealing (e.g. **32**). If more of the Ash-Tip is excavated in future years, more joins will be found to these impressions and some of the fragmentary impressions published separately here may be found to join to each other. Despite this, it seems right to publish as fully as possible what is known to date. Our knowledge of the past will never be complete.

The seal impressions from the Abu Salabikh Ash-Tip are the first large collection of ED IIIb sealings to be published. Much can and will be said about their artistic merit or style compared to other seals and sites. Their real value, however, is that they give us a good collection of seal designs actually in use together over a very limited period of time (cf. above, p. 10, § 1.3.9). Some of the seal impressions are of predictable types; others may surprise even the knowledgeable seal enthusiast. Over all, the most striking features of this deposit are:

(1) Many of the impressions were made by seals that were well cut with imaginative patterns. Few of the seals, however, were masterpieces.

(2) There are impressions from 13 or 14 stamp seals, c. 7% of the total number of seals represented.

(3) As expected, almost half of the impressions show animal combat friezes, but these include a number of distinct 'schools' of seal cutting with a very wide stylistic range.

(4) The deposit gives a good representative sampling of the variety of seal designs in use in the ED III. Just over half of the seal impressions have patterns other than animal contest scenes, both figured and geometric. Among seals with less common motifs, there are at least three 'schools' of seal cutting.

The discussion below covers these four points in turn. It is particularly concerned with defining the 'schools' of seal carving which are apparent in the seal impressions. For further discussion of individual seals and seal impressions the reader is referred to the catalogue descriptions (1-261).

2.1.1 *Impressions from well cut seals with imaginative patterns*
Many of the impressions were made by seals that were well cut with imaginative patterns. Although many of the seals used on these rollings were fairly crude, over all they seem to be of higher quality than the actual seals commonly found on Early Dynastic sites. Certainly the seals found at Abu Salabikh itself have more conventional designs and are usually more crudely cut than the seals which made the Abu Salabikh impressions. It has long been noted that in the Uruk/Jemdet Nasr periods the most interesting designs and the best carving are represented on excavated seal impressions rather than on excavated seals. Seals found in Uruk/Jemdet Nasr period excavations are very frequently mass produced drill hole types. This dichotomy may also be present, if less pronounced, in the Early Dynastic. This pattern appears in later periods as well. In the Ur III period at Ur, of the 37 "royal seals" (Legrain 1951, Nos. 403-440) only one (No. 432) is known from the actual seal; the rest are known

Stamp seals:	**********
Animal contests:	**********
Wedge-shaped figures:	****
Geometric arches:	*
Long noses and chariots:	****
Rod-like noses:	*****
"Knot" patterns:	*
Boats and drinking:	********
2-register banquets:	***
Other 2-register:	****
Plow, pot and lion:	*
Boat god and ziggurat:	*
Offering to goddess:	*
Geometric:	**********

Table 2.1: Seal designs arranged as treated in text
(* = 1% of total good impressions)

Animal contests:	**********
Geometric:	**********
Stamp seals:	**********
Boats and drinking:	********
Rod-like noses:	*****
Wedge-shaped figures:	****
Long noses and chariots:	****
Other 2-register:	****
2-register banquets:	***
Geometric arches:	*
"Knot" patterns:	*
Plow, pot and lion:	*
Boat god and ziggurat:	*
Offering to goddess:	*

Table 2.2: Seal designs arranged by popularity
(* = 1% of total good impressions)

from impressions. Of the remaining Ur III introduction scenes, there are ten seals for every one impression.

It therefore appears that in all periods those with more authority possessed better quality status seals and used them more frequently. Larger numbers of men of lesser import owned seals of mediocre quality but seem rarely to have had occasion to use them.

2.1.2 *Impressions from stamp seals*

There are impressions from thirteen or fourteen stamp seals, *c.* 7% of the total number of seal impressions recovered (see **4-16**). In addition one actual stamp seal (**1**) was found in the Ash-Tip. No impression of this seal was found. Another stamp seal, 6G74:68/AbS 704, with a lion face pattern, was found in Room 52 of the South-East Complex (Postgate 1980a, Pl. XI*d*). It most likely predates the Ash-Tip slightly (ibid., 92, and cf. above, p. 7, § 1.3.8).

The stamp seals with lion heads (**4-5**) and another which may show a human head (**6**) had rectangular bases. Presumably their tops were pyramidal like the lion head seal actually recovered from the South-East Complex. A number of stamp seals have roughly oval outlines, the exact shape depending on the pattern of the seal (**7-12**, and possibly **13**). The scorpions appear on seals of this shape as do leaf and flower patterns (**10-11**). The stamp that made **12** did not have a pattern cut into a flat base. Instead its underside consisted of a grid of cut-out 'teeth' which left a lattice pattern.

In two cases the seal is actually carved in the shape of a part of the body: a foot on **14** and an arm on **15**. On the same bulla with the arm impression were smaller 'L'-shaped impressions, probably made by the butt end of the stamp seal. Each of these impressions also had traces of a fine, three-ply cord on which the seal may have been suspended. Quite possibly therefore the whole seal was 'L'-shaped in section and perforated.

None of the seals had the round outlines of the stamp seals on early ED bullae from Ur. The round shape of these impressions suggested to Legrain (1936, p. 8) that the stamp designs were engraved on the ends of the cylinder seals. This seems most unlikely with the Abu Salabikh stamps.

Other examples of ED III stamp seals are known, but they are rare (Buchanan 1984, p. 31 and Pl. XIV Nos. 224, 226-228; Legrain 1951, Pl. 8 No. 103; Speleers 1917, pp. 83, 116 No. 582).

At least four of the stamp seals were used to countersign cylinder rollings. In all instances where a cylinder and stamp appear on the same bulla and overlap, the stamp is superimposed over the cylinder impression. The implication is that the stamp was made by a higher authority. The subject matter of some of the stamps may reflect the status of the user. Powerful animals are the most popular motif. In addition to the actual stamp seal with lion head design, impressions were found from two or three other lion-head stamps (**4-5**, and possibly **6**). Three different stamp seals showing scorpions were in use (**7-9**).

Only once does a stamp seal appear with more than one cylinder seal and even this is not certain. The lion-head stamp (**4**) is usually found with impressions from a large cylinder with alternating arches and quadrupeds (**69**). On two bullae (**51**) the lion-head stamp appears with indistinct cylinder impressions which may show a frieze of smaller animals. One of these bullae also has an impression of a large cylinder with alternating arches and quadrupeds (**69**). It is possible that the indistinct rollings were also very poor rollings of this large seal, but after repeated examination I could not match the two.

Occasionally objects other than stamp seals were used to countersign cylinder or even stamp seal impressions. In one case a cylinder with a geometric pattern was pressed into the clay but not rolled along it (**16**). In several instances fingernail impressions supplemented or cut into the stamp seal impressions (**4d-f**, **6**, **123** and **224**). At least once a further mark was made by what may be the corner of a stamp seal pushed in at an angle (**4d**).

Bullae with impressions of two cylinder seals or two stamp seals exist in the Uruk period (LeBrun & Vallat 1978, pp. 15ff.; Wright, Miller & Redding 1980). In the SIS 4-5 levels at Ur early ED cylinder seal impressions were countersigned with round stamp seals. As noted above, Legrain thought these stamps were designs on the ends of the cylinders (1936, Pls. 34-35, cf. 31). In the later phases of the Early Dynastic, however, I know of no examples of countersigned bullae apart from these found in the Abu Salabikh Ash-Tip. Countersigning is unknown on both the ED I-II and the ED IIIa bullae from Fara (Martin 1988). Although this may just be an accident of discovery, present evidence suggests that countersealing with stamps and fingernails was more common at Abu Salabikh than elsewhere in the ED III (see also below, p. 46, § 2.3). Although the great majority of the stamp impressions came from the Ash-Tip, one was found in Level 2 tiplines under the courtyard of the Southern Unit in the 6G64b *sondage* (6G64:966/AbS 1638). This suggests stamps were more generally popular at Abu Salabikh, not just in rubbish from the one building or set of buildings that used the ED IIIb Ash-Tip, although it is possible that the Level 2 tiplines beneath the Southern Unit were themselves associated with an earlier period of the temple(?) administration (cf. above, p. 9, § 1.3.8).

LeBrun and Vallat (1978, 38) suggest four possible explanations for the practice of countersigning:

(1) two people jointly compiled a consignment,

(2) one person provided the consignment and another acted as overseer,

(3) one person provided the consignment and a second provided transport,

(4) one seal belonged to the provider of a consignment and the other to the purchasing client.

All of these theories presuppose the use of bullae on bundles to be transported. In fact nearly all of the bullae from Abu Salabikh which were countersigned with stamps had been applied over door-pegs. In these instances, therefore, some possible explanations for the practice of countersigning might be:

(1) the cylinder belonged to the supplier of the goods, the stamp to the store-room overseer,

(2) the cylinder and stamp belonged to store-room supervisors of different status,

(3) the cylinder belonged to the store overseer, the stamp to an official withdrawing goods.

We suggested above that the two stamp marks on **115** (the stamp **15** and a simple 'L' mark) were made by two ends of one seal. In such a case the use of a double stamp may have been a coding device personal to the seal user. One can theorize similarly on the use of fingernail impressions and non-standard impressions made by the corner(?) of a stamp seal.[1]

1 On countersealing, see also below, p. 43, § 2.2.11.4.

2.1.3 *Animal combat scenes*
As expected, almost half the impressions show animal combat friezes, but these include a number of distinct 'schools' of seal cutting with a very wide stylistic range. Some of these 'schools' show lions in profile view, others show them full-face from above. Of the seals with full-face lions, some could be described as 'simple', some as 'highly stylised' and others as 'highly modelled and elegant'. This is important because changes in the styles of animal frieze seals (in particular in the rendering of the lions' heads) are usually presumed to have chronological significance. Had, for example, **18** and **35** been found out of context it would probably have been presumed that **18** was earlier (perhaps even of ED II date) because of the profile rather than full-face rendering of the lion. As it is, it is clear that a number of contemporary schools with distinct styles were working at Abu Salabikh in the ED IIIb.

The characteristics of the most common animal combat or contest 'schools' are described below. They are subdivided into §§ 2.1.3.1 (seals with profile lion heads) and 2.1.3.2 (seals with full-face lion heads).

2.1.3.1 *Seals with lion heads in profile*
Ten seals show lion heads in profile. **17** is unique, but the other lion heads can tentatively be divided into two groups.

2.1.3.1.1
18-19 show lions with manes made by inverted 'V' incisions. On both of these the hollow inside the lions' ears is indicated. **18** has a more crisply cut image than the other seals with profile lions (e.g. **21**). Both the nose and mouth are indicated on it.

2.1.3.1.2
The second group of seals with profile lions appears to be more carelessly carved (**20-23**). On **20** and **21** straight hatchings indicate the lions' manes. The lions' noses are indicated, but not their mouths. The ungulates under attack are also fairly simple (**20, 21, 23**). Impressions **24** and **25** both show parts of seal designs which could easily have come from the same workshop as the other seals in this second group. The details of the lions' manes on **23-24** is unclear, but comparison with the caprids on **21** suggests that they belong to the same 'school' of seal cutting.

2.1.3.1.3
Seals **26** and **27** both show profile lions with rather more geometric faces. They are not necessarily, however, from the same workshop.

2.1.3.2 *Seals with full-face lion heads*
Seals with full-face lions (i.e., lion heads seen from above) are only slightly more common than those with profile heads (eleven examples).

2.1.3.2.1
Two seal impressions are clearly products of one workshop, a workshop producing elongated and stylised animals. **28** and **29** are so similar that several checks were made to be sure they were not from the same seal. The animal bodies are elongated; their features are angular. A crescent links the lions' manes with their foreheads. The ungulates attacked bend their necks at an acute angle; their legs bend equally acutely to run parallel with their bodies. **32** and **33** may be fragments of similar patterns. The geometric lion heads of **30** and **31** suggest that they too are related.

2.1.3.2.2
Three bullae (**34-36**) were rolled by large, well cut, seals with well modelled figures and fine detail. All three are very similar in style as well as scale although the rolling of **34** is relatively faint and detail is thus missing. Both **35** and **36** show striations on the horns (ibex on **35** and goat or antelope on **36**). Again, both **35** and **36** indicate the eyeballs within the eyes. Both **34** and **35** use circles as fillers between ungulate legs – a feature not seen on any other impressions. All three seals had horizontal bars dividing the space at the end of the frieze, although **35** has no designs above or below the bars, while **36** has miniature animal combats here and **34** is unclear. The miniature lions on **36** are shown with profile heads, but one suspects that the heads on the main frieze were full-face.

2.1.3.2.3
Three seal impressions with traces of inscriptions (**37-39**) are also on a large scale but resemble each other more closely than they resemble **34-36**. (E.g., the lion manes of **37** and **39** are similar while the lion face of **37** is a rather different style from **35**). These impressions were made by high quality seals and quite possibly all three seals came from one workshop which specialised in inscribed seals. The way in which small figures are juxtaposed with the inscription (e.g., on **38**) is typical of ED IIIb 'Lugalanda

style' seals from Tello (e.g., Parrot 1948, Fig. 28) but can also be found in the ED IIIa (e.g., Martin 1988, no. 438). If these seals were manufactured at Abu Salabikh, they represent the best seal carving of their time. Seal **38** may possibly have belonged to the LUGAL URI (king of Ur), in which case it is presumably not local to Abu Salabikh (unfortunately too little of the reverse remains for an identification of the sealing type). This may also be the case with the other two impressions.

2.1.3.2.4
The remaining four sealings showing full-face lions fall outside the groups outlined above. **40** and **41** might possibly come from the same workshop (or even the same seal?), but **42** and **43** are not particularly like any of the other impressions.

2.1.3.3 *Standard animal combat compositions*
It is worth remarking on the compositions used among these various 'schools' of seal cutting. Despite the large number of animal frieze seals represented among the impressions, only a few designs are reasonably complete (**22**, **23**, **34**, **35** and **40**). **22**, **23** and **40** all show five figures: crossed lions attack ungulates and a man approaches from one side. **34** and **35** omit the man, but have a horizontally divided section. Other impressions which probably had four or five figures in similar compositions are **19-21**, **24-26**, **28**, **29**, **33**, **36**, **42**, and **47-49**. Many other fragments could have come from such compositions (e.g., **18**, **30-32**, **41**, **43**, **44-46**).

2.1.3.4 *Variant animal combat compositions*
Fourteen impressions, although incomplete, suggest variations on the standard composition type. These variations from the norm include:

2.1.3.4.1
53-55: Possibly these are the products of yet another 'school' with crossed lions (traces only) attacking ungulates which rear slightly but are not vertical. Eagles attack the ungulates from behind.

2.1.3.4.2
56: A bull-man is crossed with a lion.

2.1.3.4.3
19: The lions appear to stand back to back rather than cross, but again this may be an illusion of a poor impression.

2.1.3.4.4
35: A lion, rather than a man, approaches a bull from behind. **18** may have a similar composition. On **27** probably a man approached the frieze from the left and a lion approached from the right. **61** may show two men back to back facing each end of the animal frieze.

2.1.3.4.5
56: A bull-man struggles with an animal crossed with a lion; an upended animal is behind. On **76** a man contends with an animal crossed with a lion and again an upended animal appears behind him.

2.1.3.4.6
17 appears to show two sets of crossed animals. The sealing is faint, however, and so this may be an illusion.

2.1.3.4.7
59: A bull-man is flanked by two pairs of crossed animals. He faces right and grasps the neck and leg of an ungulate. The bull-man may be compared with the very different bull-man on 6G95:21 and 22, not from the Ash-Tip.[2] On **60** a central human figure seems to be flanked by two crossed pairs of animals (quite possibly lions).

2.1.3.5 *Common features of Ash-Tip animal combat scenes*
Although there are differences in scale and technique among the animal combat frieze seal designs, there are some common factors which distinguish the Ash-Tip impressions:

2.1.3.5.1
The first factor is the popularity of dagger fillers. This may be a feature of Abu Salabikh glyptic in general. Many of the Ash-Tip seal patterns use daggers or diamond patterns as 'fillers', particularly

2 No drawing available (ed.).

between animal legs (**22**, **23**, **29**, **34**, **44**, **45**, **53**). (They also appear as fillers on some of the more unusual Ash-Tip seals, **65**, **71** and **73**.) One of the two ED II impressions and one of the three ED IIIa impressions found outside of the Ash-Tip, however, also use dagger 'fillers' (5I21:241/AbS 1025; 4J98:20/AbS 1125). In contrast, at other sites daggers occur far less often. At Fara dagger 'fillers' occur on 9% of ED IIIa seals (Martin 1988, 78). Likewise at Ur, dagger 'fillers' are rare in ED III (e.g., Woolley 1934, Pl. 204 Nos. 148, 151).

2.1.3.5.2
The second peculiarity of the Ash-Tip sealings is their composition. As described above (p. 28, § 2.1.3.1.3), most are four to five (or occasionally six) figure compositions centred around one pair of crossed lions. Only types 2.1.3.2.6-7 involve more than one pair of crossed animals.

This pattern is different from most of the sealings found at Abu Salabikh away from the Ash-Tip. Among the seal impressions found outside of the Ash-Tip there are thirteen with animal contest scenes, eleven reasonably complete. Of these eleven, only one (6G47:147/AbS 1548, from the fill of Grave 126) may fit the 'usual' Ash-Tip pattern of composition; indeed, it is very similar in style to **20** and may be from the same workshop. ED II impressions have quite different schemes (6G54:257/AbS 1121 from Level 2; probably 4J98:20/AbS 1125 from Area A surface). ED IIIa designs are either shorter than the usual Ash-Tip scene (5I10:154/AbS 652 from Area A surface = 5I21:183/AbS 661 from the fill of Grave 26) or longer with two pairs of crossed animals (5I21:241/AbS 1025 = 5I21:242/AbS 1027, both from room fill in Area A). 5I21:241/2 illustrates the greater variety of animals and postures used in ED IIIa. The ED IIIb sealing 6G45:158/AbS 1818 (from the fill of Grave 143) reintroduces the central 'hero' popular originally in ED II (cf. 4J98:20/AbS 1125 from Area A surface) but seen only rarely in earlier ED IIIb (and then flanked by crossed lions: § 2.1.3.2.7 above). This motif gains popularity in late ED III (so-called 'Ninturnin style', e.g. Frankfort 1955, No. 495) and continues into Akkadian times when the heroes' and animals' chests touch with no trace of intervening arms (cf. Frankfort 1955, No. 667).

It is tempting, therefore, to associate the four to five figure group centred on crossed lions as peculiar to the period of the Ash-Tip, perhaps early ED IIIb. It certainly appears to be very popular in this deposit. Khafaje gives only partial support for an early ED IIIb date for this composition scheme. In Houses 3-2 at Khafaje (= ED III) seven out of twelve seals with animal contest scenes are composed of four to six figures with crossed lions at the centre (Frankfort 1955, Nos. 320, 333, 335, 337, 338, 345, 355). Of these Frankfort considered only No. 320 to be ED IIIa (Houses 3). The composition continues, however, into later ED IIIb and into the Akkadian period: Frankfort 1955, Nos. 360, 372, 421 (although usually animals on Akkadian seals in this pose are angular and sketchy). At Ur this composition is popular already in ED IIIa: e.g., Woolley 1934, Pl. 196: U. 8389, U. 9878, U. 12720, U. 8056, Pl. 200: U. 15477.[3]

At Fara (Shuruppak) a number of seal impressions were found with ED IIIa tablets (Martin 1988). Animal friezes on these impressions emphasize the hero figure approaching the end of the frieze; the frieze may centre on a pair of crossed lions, but just as frequently there are several sets of crossed animals. Bull-men appear commonly on ED IIIa Fara seals, while in the Abu Salabikh Ash-Tip impressions they are rare.

The Diyala and Fara evidence may therefore support an ED IIIb, rather than an ED IIIa date. On the other hand, many of the seals from the ED IIIa Royal Graves at Ur are also composed around a pair of crossed lions. Although the style of carving of these seals is very different from the Abu Salabikh Ash-Tip impressions, the basic composition of the animal combat scenes suggests they are not far from each other in time.

There are no 'Ninturnin style' seals among the Ash-Tip impressions. These seals occur elsewhere in the ED IIIb and, as noted above, they occur elsewhere at Abu Salabikh. It therefore is probable that the Ash-Tip impressions date early rather than late within ED IIIb.

2.1.4 *Other compositions (non-animal combat scenes)*
Just over half of the seal impressions have patterns other than animal contest scenes, both figured and geometric. Among seals with less common motifs, there are at least three and possibly four further 'schools' of seal cutting. There is a difficulty in defining 'schools' of seal cutting, which should be noted here. Once we are looking for 'schools' among the less common motifs, there is a tendency to equate subject with style. It is difficult to avoid this problem when grouping the seals. For example, type 2.1.4.4 below may include too varied a group of seal patterns. On the other hand, the seals discussed under

3 Often on Royal Cemetery seals crossed lions attack inverted caprids. These inverted caprids are often attacked by yet another lion from the other side. Thus they become the centre of a symmetrical composition. This type of complex composition is more in keeping with the ED IIIa seal compositions from Fara (see next paragraph). It is a precursor of the later, more simple, ED IIIb crossed lion motifs.

§§ 2.1.4.1 and 2.1.4.2 could have originated in the same workshop. Furthermore, it is difficult to match animal contest 'schools' of seal cutting with 'schools' depicting more unusual motifs.

2.1.4.1 *'Semi-circular heads'* **(64-68)**
Five seal impressions comprise the next Abu Salabikh 'school'. The first two discussed below are almost complete, the others more fragmentary. All show humans (or human-based hybrid monsters) with rather chunky bodies. All use semi-circular wedges for the heads of the humans. On three seals the people wear the Early Dynastic fleecy skirt.

The most popular of these impressions is **64**, which shows a line of figures with arms upraised, as if dancing. The figures wear fleecy skirts and are presumably men rather than women as there is no indication of clothing above their waists.

On a second seal (**65**) two 'monsters' alternate. The first 'monster' may have had a human torso and head, but its legs turn into animals. These animals may be sheep or goats. The fleece on their bodies is indicated with deeply cut incisions similar to those used to show the fleece on the skirts of **64**, **66** and **67**. The torso of the second 'monster' is clearly human, but sprouts two pairs of legs. Had this seal impression been found out of context, it probably would have been dated to ED II. As it is one of a group of similar seals from the Ash-Tip we must accept the probability that all of these seals were made as well as used in ED III. It may be significant that on this seal the 'monsters' turn into sheep or goats; in ED II 'monsters' are usually lion-based. A dagger is used as a 'filler' between the legs of the second 'monster'; we have noted above the general popularity of dagger 'fillers' on animal combat scenes among the Ash-Tip impressions (p. 29, § 2.1.3.3).

The third of the wedge-headed group (**66**) shows what may have been a dairy scene similar to those of the al-'Ubaid temple frieze. A cow emerges from a door behind a seated figure (milking?). Serrated lines above the seated figure may represent the roof of a building. Unfortunately the objects to the right of the seated figure are very unclear.

The last two designs of the wedge-headed group are fragmentary (**67** and **68**). It is just possible that **67** shows several poor and overlapping impressions of **64**. If not, it probably showed a similar design. **68** might possibly have been part of the same seal as **66**, but there is no overlap in the design. (Could the zigzag to the right of the man on **68** be a trace of an impression of the 'roof' seen on **66**?)

The only parallel for these semi-circular heads that I know is on a seal impression from the ED IIIb Area C building at al-Hiba (2H286: Hansen 1973, Fig. 25 = 1987, Pl. XVI Fig. 28). In this scene men with similar semi-circular heads, but with more stylised skirts, sit in a boat and drink. It is interesting that in describing the al-Hiba seals, Hansen says that they "show an extraordinary diversity of styles and many of the compositions are unique" (1973, pp. 69-70), and that "For a group of such well dated seal impressions of the late third millennium B.C. from one site and mostly from one building, one is struck first of all by the extraordinary number of design types and the wide range of styles" (1987, p. 57). In their diversity as well as in this one type of head, the ED IIIb al-Hiba and Abu Salabikh seals have much in common. When the al-Hiba seals are fully published, more parallels may be apparent.[4]

2.1.4.2 *'Arched geometric'* **(69-70)**
One of the most striking of the Abu Salabikh 'schools' produced the large seals **69** and **70**. Both seals alternate arched structures with serrated edges with long-necked, stylised ungulates. On **70** a longlegged eagle stretches its wings over two ungulates (only the foot remains of one animal – see on the far right of the drawing). **69** was found on eight seal impressions, the most of any seal known from the Ash-Tip. It was often overprinted with the lion-headed stamp seal **4**. There is no reason to think these seals were manufactured before ED IIIb, although they are carved in a very different style from the more common ED IIIb seals. Parallels to these seals are rare, but it is worth noting two seals which also show quadrupeds with serrated arched structures. One is in a private collection and one comes from Susa, but with uncertain stratification. Le Breton considered the Susa seal to date from Level Ca, but Amiet suggests that both seals may be Early Dynastic in date (Amiet 1980, Nos. 1136-1137). Amiet's No. 1136 shows a goat or antelope beneath a serrated arch, suggesting that these may represent domed reed animal sheds like those depicted in Uruk and Jemdet Nasr art (e.g., Amiet 1980, Nos. 623, 629A). A very crude ED III seal from Khafaje may also be related in subject: it shows one or two quadrupeds between arches and a spread-winged eagle inverted below the arches (illustrated the other way up in Frankfort 1955, No. 269). (Cf. ED III seals with undulating lines dividing eagles and quadrupeds: e.g., Legrain 1951, Nos. 97-99).

4 A small selection of ED seal impressions from al-Hiba are published and discussed in Hansen 1987. There he describes the al-Hiba collection as "by far the best dated group of sealings for the later part of the Early Dynastic period" (p. 55). For the Area C building at the site and the parallels between its material assemblage and that of the Abu Salabikh Ash-Tip, cf. above, pp. 18ff., § 1.8.

It is possible that **69-70** were cut by the same workshop that produced the 'semi-circular head' seals of § 2.1.4.1, but the very different subject matter makes comparison difficult.

2.1.4.3 *'Long-nosed' group (plus chariots)* (**71-75**)
The heads of the charioteer on **71** and the seated figure on **72** have very similar outlines. The themes of the two seals are both unusual. In each case the carving is simplified and stylised. They lack detail, but **71** in particular shows a striking and original flare for design.

72: A small fragment of an intriguing sealing shows humans with exaggerated noses. The subject appears to be most remarkable. We seem to have a small figure seated on a 'mushroom' (this object quite faint) playing a pipe (or drinking through a straw?) while a skirted figure behind waves his or her hands about in an enthusiatic dance. Miniature musicians are known from three seal designs at Ur, but there they have tails and appear to be Pan-like characters or small animals (Legrain 1936, Nos. 298, 503, 504 = Amiet 1980, Nos. 1309-1311).

71: There are other ED III seals showing chariot scenes, but none is as dramatically stylised as **71**. The sweep of the reins over the onager's back and round in front of his head is hugely exaggerated, while the defeated enemy below the chariot is reduced to a squiggle. A lioness(?) steps toward the chariot and a grotesque human follows. The dagger behind the chariot on this seal is very like the dagger 'filler' on **73**. This suggests that possibly this striking seal may also have come from the workshop that produced **71** and **72** (although on **73** the man's nose is slightly differently rendered).

There are two fragmentary chariot seal impressions from the Ash-Tip, **74** and **75**. The latter seems to have a few sweeping lines rather like the reins of **71**. Looking at **74**, we see the reins and rein-ring are more conventional than on **71**. On the other hand, the head on the torso of the defeated enemy below the horse on **74** is similar to the human heads on **71** and **72**. Its nose and eye are particularly close to those of the 'piper' on **72**.

Seals showing chariots riding over the stripped enemy bodies begin in ED IIIa and continue into ED IIIb. On the majority of these seals two chariot wheels (possibly indicating a four-wheeled vehicle) are visible (e.g., Amiet 1980, Nos. 1213, 1215-1217, 1727). Typically these seals, like the 'Royal Standard' from Ur (Woolley 1934, Pl. 92), also show crossed rods looping up and over the front of the chariot. A limestone plaque from Khafaje (Frankfort 1939, No. 192, Pl. 109C) gives the best detailed rendering of a chariot of the simpler type seen on **71** (although the back is not quite as high). The hatched lines on the lower edge of the Abu Salabikh chariot may indicate a skin draped over the chariot; such a skin is clearly visible on the Khafaje plaque. Amiet 1980, No. 1214, shows a similar, if rather more sketchily rendered, chariot.[5]

2.1.4.4 *'Rod-like nose and hollow eye' group* (**76-81**)
Finally, there is a rather diverse group of seals which show human heads with straight, protruding, rod-like noses and large, hollowed-out eyes. **76** and **77** are very similar and may be from the same cylinder. **78** looks much like these, but the sealing is too fragmentary for any proper analysis. Seal **79** is unique in the extraordinary crudity of its carving. Two rampant animals have the large hollow eyes and a collapsing man has the rod-like nose of the group. Both he and a full-face human(?), however, have eye-balls indicated. This, together with the general crudity of the seal, suggest that it may be a mistake to group it with the others discussed here.

80 and **81** both show torsos of animals with large, hollowed eyes. A human torso in the upper register of **80** also has a protruding nose. These may be related to the seals of this group, but on the whole the evidence for grouping all these seals together is rather weaker than for some of the other Ash-Tip seal 'schools'. These seal impressions may be the result of a common tradition rather than the products of a single workshop.

On the right of the upper register of **80** there is a scorpion-man. It is interesting to note that just to his right is a six-pointed rosette or star pattern. It is possible that this symbol represents the sun. It is also possible that the numerous drill-hole dot 'fillers' on the seal represent stars (although this idea would be more convincing if the dots were clustered around a crescent moon). In the later Epic of Gilgamesh (IX 2-4), the scorpion-man and his wife are said to be the guardians of the gate of the mountain Mašu ('Twin') and therefore of sunrise and sunset; on several Early Dynastic seals scorpions and scorpion-men are shown with astral symbols (see Amiet 1980, pp. 133-134, Pl. 95 A-C).[6]

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5 For further discussion of Early Dynastic chariots, in light of the Ash-Tip chariot models, see below, pp. 87-8, § 3.4, and pp. 89-91, § 3.5.2.

6 For a brief review of the scorpion-man (*girtablullu*) in Mesopotamian literature and art, see Wiggermann 1992, 180-181.

2.1.5 *Miscellaneous compositions*
The remaining seal impressions can be grouped by subject, but it is difficult to define 'workshops' or 'schools' among them.

2.1.5.1 *Knots or mazes* (**82-83**)
Two seals used to make the Ash-Tip impressions were carved with patterns of knots or mazes. What is remarkable about the better seal of this type (**82**) is that the pattern is exactly the same as one found on an ED IIIa tablet from Abu Salabikh (Fig. 2:1, after Biggs 1974, Fig. 28). There was just enough left of that pattern on the tablet to allow me to reconstruct it in Chicago in 1968; only knowledge of that pattern allowed me to recognise and reconstruct the same pattern as it occurs on this seal impression (see discussion in the catalogue entry for **82**). This seal impression is stratigraphically later than the tablet with a similar design, but these types of interwoven doodles may be typical of cities (or of gods or temples?) rather than of periods. The second seal of this type is not as well carved and the knot pattern does not connect up as it should (**83**).

Similar endless geometric 'doodles' are reported from Vanuata (formerly the New Hebrides), 1,500 miles north-east of Australia, by Phillip Nissen of the University of the West Indies (1988, 10-11; cf. esp. his Fig. 2). In Vanuata these drawings are usually accompanied by a story, either mythological or ritual. Some are associated with humorous secular stories which may be "'shaggy dog' stories which continuously cross similar stages during their narration. As the story crosses so does the pattern that is being drawn and usually, just as the pattern, the story ends at the same point it began".

2.1.5.2 *Drinking and banqueting* (**84-93**)
No ED III collection of seals or impressions is complete without scenes of drinking and eating. **84-87** are all fragments of impressions showing figures seated on boats and drinking (beer?) through straws in the time honoured custom of ancient Mesopotamia. **88** and **89** appear to be drinking scenes without boats (**88** had a larger animal frieze to the left). **90-93** are probably all impressions from seals showing drinking scenes in the upper of two registers. Impressions from seals of this type were also found with ED IIIa tablets and animal combat seals in the XIII f-i house at Fara (Martin 1988, 94, type 2). When the actual seals with two-register banquet scenes have been recovered, they are usually made of lapis lazuli. At Ur, Rathje (1977) found they were associated with burials having a higher than average quality of grave goods (which he took to indicate that the seal owners had relatively high status). Indeed, one of the two lapis lazuli seals found to date at Abu Salabikh (6F05:98/AbS 1950 from Grave 176) has a drinking scene in two registers. The other (6FS:30/AbS 1904 from Grave 173) displays an animal contest scene along the full height of the seal. The drinking element is present, but only as a small figure drinking through a straw in the lower half of a small divided section. The only non-lapis seal to show a drinking scene is 6G76:336/AbS 1708 from Grave 130 (Postgate 1980a, Pl. X*a*). This grave had been dug into the Ash-Tip (see above, p. 14, § 1.5.12) and contained in its fill several sealings with impressions matching others from the tiplines (**4c**, **22a**, **48b**, **64a**, **69c**, **79c** and **114a**). 6G76:336/AbS 1708 is made of shell[7] and differs from the standard banquet scenes on lapis lazuli seals in that the banqueters and their servants fill the entire field; lapis banquet scenes are usually in two registers.

2.1.5.3 *Other two-register scenes* (**94-98**)
Other Ash-Tip seal impressions seem to have had small animals in two or more registers, but it is not certain that these included drinkers.

2.1.5.4 *The boat-god and his entourage* (**99-100**)
The impression **99** is fragmentary and in part unclear. What is clear, however, is a plough and a pot and the hindquarters of a feline (probably a lion). These three are all elements of a well known genre of seal centering around a 'boat-god' (over forty-five examples are known). On our impression both the divine boat and the god inside are missing (although they may have been shown on the original seal). Above the pot to the left and above the lion to the right are traces of objects which cannot be identified with certainty; the top right of the impression might even have been part of a second impression rolled over the main impression. In the absence of the boat-god himself, it should be noted that on one seal from Ur, indeed, these accessories appear with the lion-headed eagle (Legrain 1951, Pl. 7 No. 91 = Amiet 1980, No. 1271).

In his discussion on these seals, Amiet (1980, pp. 177-181) makes the point that the boat-god is far more popular in the north (Mari, Kish and the Diyala) than in the south (only one example each from Fara and Ur).

Although we have only a tiny fragment of **100**, what does survive strongly suggests a ziggurat building scene on the lower half of the seal with traces of a boat-god and lion above (cf. Amiet 1980,

7 Described as "limestone" in Postgate 1980a, 103.

Nos. 1441-1448). The lion and the boat are both only partly preserved; all that remains of the figure in the boat is a large drill hole circle (cf. Amiet 1980, Nos. 1441, 1442 and 1448). The lion is equally undistinguished. The bodies of the figures in the lower half of the seal are made by two drill holes (cf. Amiet 1980, Nos. 1442, 1446 and 1447 for equally simplified figures). They raise one arm above their heads. More detailed seals show that these men are carrying loads on their heads (often shown as drill hole dots: Amiet 1980, Nos. 1442, 1444, 1445). As sometimes happens on these scenes, the men on **100** have either lost their loads (figure to right) or find them floating in front of their arms (figure to left): cf. Amiet 1980, Nos. 1441, 1443, 1446, 1448 and 1449.

Seal impression **27** may also have a fragment of a 'boat-god' scene, though it is not clear if it is part of the larger seal with an animal contest scene or if, uniquely, it is a second cylinder rolling on the same bulla.

2.1.5.5 *Goddess* (**101**)
A fragmentary impression clearly shows a goddess seated and receiving a worshipper who bears an animal offering. Another animal rears up at the goddess' knees. There are other ED III seals and impressions showing seated gods or goddesses with animals. On an impression from Fara an ibex places its forelegs in the lap of a seated figure (not necessarily divine) who sits back to back with a divinity (Martin 1988, no. 544). On a seal in the Pierpont Morgan Library collection, New York, a worshipper brings a goat in his arms to a divinity (Amiet 1980, No. 1218). Our impression seems to combine these scenes, as two animals (both probably goats) are present, one rearing up before the divinity and one carried in by a worshipper or attendant. A rampant animal before a seated god also acts as an offering-stand support on Amiet 1980, No. 1358 (cf. the so-called "ram in the thicket" stand support from the Royal Graves at Ur: Woolley 1934, Pl. 87).

2.1.5.6 *Geometric patterns* (**102-119**)
It is now widely recognised that geometric patterned seals can as easily be ED III as Jemdet Nasr in date. The Abu Salabikh Ash-Tip has its full complement of geometric seals (18; *c.* 7% of the total).

Seals included as 'geometric' here are those with patterns based on herringbone, circular or wavy elements (impressions **69** and **70** combine geometric patterns with animal figures and are discussed above, p. 31, § 2.1.4.2). Most of these geometric seals were probably the cheap seals of their day; **118** is an exception (see below). The geometric seals typically have two registers divided by double bars. The patterns above and below the bars are similar. They are often based on repeated cuts of straight lines. The most common pattern made this way is concentric diamonds. Less popular designs are herringbone, crosses, or slightly more imaginative patterns based on parallelograms or triangles. Drill hole dots are used on about half of these seals. Three seals have two registers of curved lines looping around drill hole dots.

Impression **118** also has two similar registers divided by double bars. It differs, however, in the nature of its design and the skill with which it is carved. Thick wavy bands were carved out of the seal, not just cut into the surface. Small cross cuts on these bands are an element of detail not seen elsewhere on Ash-Tip geometric seals. In each register two of these bands intertwine like snakes in a guilloche pattern. A seal from the Royal Cemetery at Ur (Legrain 1951, No. 52) has a similar (if rather cruder) guilloche in its lower register and hatched arches in the upper register. Another Ur seal has two registers of hatched undulating snakes (not intertwined) (Legrain 1951, No. 61). In the Diyala, eagles appear spread-winged above hatched loops (e.g., Frankfort 1955, Nos. 384, 416, 572, 749). Such seals also occur at Ur (e.g., Legrain 1951, Nos. 97-99).

When Henri Frankfort produced his classic *Stratified Cylinder Seals from the Diyala Region* (1955), one of his few errors of judgement was to consider that virtually all seals with geometric designs were Jemdet Nasr period in date. A closer look at the stratified Jemdet Nasr seals from the Diyala reveals that only two of them have two registers with horizontal dividing bars (Frankfort 1955, Nos. 7 and 167); in each case these seals have patterns of double zigzag lines. This zigzag pattern is not found among the Abu Salabikh Ash-Tip geometric seals. **104** is the only impression with a (possible) zigzag pattern and it has quadruple, not double, lines. At Khafaje four seals of Jemdet Nasr – ED I have concentric diamonds (Frankfort 1955, Nos. 149, 165, 175, 228), but none are on double register seals. Despite this, Frankfort judged seals found in ED III levels with concentric diamond patterns in two registers to be of Jemdet Nasr date. Frankfort 1955, No. 327, is a complete seal of this pattern. Nos. 326 and 350 are broken seals probably of this pattern (but cf. No. 349). No. 325 is similar, but has geometric animals in the lower register. I would suggest it is also of ED III date. No. 406, found on the surface, is probably also ED III. Note also the similarity of Nos. 328 and 357, both from ED III levels, with Abu Salabikh Ash-Tip **102**. Herringbone patterns from Jemdet Nasr levels at Khafaje lack the horizontal dividing lines of these seals (Frankfort 1955, Nos. 52, 164, 172).

At Fara as well two-register geometric seals were popular in ED III. The concentric ovals on an impression from the ED IIIa house in trench XIII f-i are comparable to Abu Salabikh Ash-Tip seals **115-117** (cf. Martin 1988, no. 84 = 1975, Pl. XXXIX Fig. 5d = Heinrich 1931, Tf. 69m). Amiet makes the point that seals with two registers sometimes mix a banquet scene register with a register of concentric diamonds: this makes the ED III date of these seals very clear (Amiet 1980, p. 60; Pl. 80 Nos. 1053-1061).

In excavations outside of the Ash-Tip at Abu Salabikh ten seal impressions with geometric patterns were found. These include at least three impressions which may have been made by Jemdet Nasr steatite seals (6G64:1037/AbS 1630 from Level 2 tiplines under the ED IIIa courtyard of the Southern Unit; 6G64:664/AbS 1026 from the fill of Grave 1;[8] and 6G54:179/AbS 1120 from the Ash-Pit[9]). None of these impressions, however, shows the double register design of concentric diamonds or ovals so popular in the ED IIIb Ash-Tip.

2.1.6 *Dating*

Despite the diversity of style and design among the impressions, there are none that *must* have been made by seals earlier than ED IIIb. Seal impressions with Jemdet Nasr – ED I, early ED II, late ED II, ED IIIa and late ED IIIb have all been found at Abu Salabikh, but these were not found in the Ash-Tip. We must therefore conclude that the seals in use at the time the Ash-Tip was formed were all of relatively recent and contemporary manufacture. This is in contradiction to Frankfort's (1955) study of stratified cylinder seals in the Diyala which indicates that in the whole of his Early Dynastic strata there were found nearly as many Jemdet Nasr seals (121) as Early Dynastic (141). The Diyala picture, though, changes substantially if (a) seals from house areas only (not temples) are considered, and (b) only seals with clear Jemdet Nasr parallels are considered to be of Jemdet Nasr date. Of the fifty seals from house levels (Frankfort 1955, Nos. 309-359), we would consider only two or three (Nos. 312, 329 and possibly 347) to be Jemdet Nasr, one (No. 313) to be ED I and two (Nos. 321 and 330) to be ED II (Nos. 309, 310, 311, 317, 340, 342 and 348 are doubtful). Thus only 10% of the seals are clearly earlier than the strata in which they were found. It is possible that these were accidentally in the ED III debris as objects churned up from lower levels. It is also possible that they were kept in some families as keepsakes, but were not necessarily in use.

On the basis of the Abu Salabikh evidence we must conclude that in the Early Dynastic IIIb period craftsmen were producing a great variety of cylinder seals and that at this time all (or nearly all) of the seals in use were of recent production.

2.2 *Functional and contextual analysis*

Functional and contextual approaches to clay sealings have been fully discussed by the author in a thesis submitted to the University of Cambridge (Matthews 1989). The present analysis of the Abu Salabikh Ash-Tip clay sealing corpus, comprising 301 pieces, employs a methodology devised in the course of thesis research which, in brief, entails firstly, the application of a functional typology in order to portray the range of sealing functions attested by sealing reverse markings and secondly, the correlation of sealing function with obverse iconography in search of functional contexts for specific seals or groups of seals. In the course of applying this methodology to the Ash-Tip sealings below, some inferences on social and economic matters may be drawn, particularly from the comparison of the Ash-Tip functional distribution with those of sealing groups from other areas of the site.

2.2.1 *Description of Ash-Tip sealing functions*

Several different functions of sealing are attested by the late ED III corpus from the Ash-Tip, but they can be divided into a few convenient groups: pegs, pots, other containers, test strips, labels, and lastly those whose function cannot be determined by impressions on the reverse faces. Each of these categories is discussed below, but there are first some general comments to be made.

Several Ash-Tip sealings have distorted reverses due to removal from the sealed item while the clay was still damp. Such distortion frequently makes it hard or impossible to establish details such as peg diameter, but need not render the sealing beyond comprehension. The fact that sealings were removed from sealed items while still damp, and therefore soon after application, is itself an interesting indication of the rate of sealing actions.

One attribute of sealings which is not here pursued is clay composition. There is clearly useful work to be done on an analysis of clays used in sealings, and their relationship to sealing function and obverse seal impressions. A cursory inspection of an Ash-Tip duplicate group, such as group 4 (§ 2.2.11.4; **4**), does suggest repeated use of a particular type of clay within that group, probably from a local source. Perhaps another promising area of study is that of fingerprints, readily visible on many sealings. A

8 Not included in the list of Grave 1 finds in *ASE* 2, 23-37.

9 For the 'Ash-Pit', see for now Postgate & Moorey 1976, 143.

systematic study of these prints could assist in the identification of specific officials carrying out particular sealing tasks.

Before presenting details of sealing reverses, it is worth commenting that sealing obverses also can convey information not confined to the iconography of seal impressions. A significant attribute of cylinder seal impressions is the direction of the rolling. On door peg sealings, for example, the cylinder has generally been rolled up the length of the sealing from base to apex, parallel with the enclosed peg, and awareness of this tendency can help to orientate and identify door peg sealings. Pot sealings, on the other hand, usually have a cylinder seal impression running around the outer circumference of the sealing as it surrounded the pot neck. Many sealings do not have seal impressions at all, instead bearing marks made by reeds, patches of fabric, fingernails or other items. Within the context of an administrative system these marks may be as significant as cylinder seal impressions.

2.2.2 *Pegs*

Of the 301 Ash-Tip sealings 135, or 44.85%, had been affixed to pegs of one sort or another, which can be subdivided into three types:

1) sealings definitely from door pegs;

2) sealings probably from door pegs;

3) sealings from pegs which may have been involved in package sealing.

As several sealings could be placed in more than one of the three classes, these subdivisions should not be regarded as rigid, but rather as reflecting the elements of uncertainty which accompany any attempt functionally to define a corpus of clay sealings.

2.2.2.1 *Sealings definitely from door pegs*

The manner in which door peg sealings function has been well elucidated and illustrated in recent years (Beyer 1985; Ferioli & Fiandra 1979; Malamat 1986; Zettler 1987), following their initial identification by Fiandra (1975). A reconstruction of door peg sealing is portrayed in Fig 2:2, illustrating the fact that Mesopotamian door sealing was never a matter of physical security – a burglar would have had no difficulty in breaking the sealing, cutting or unravelling the string and entering the room – but, rather, took its place within a system of guarantee and accountability objectified in the form of clay sealings which, by means of their obverse seal impressions, identified specific guaranteeing individuals or institutions. A door peg sealing, as any other sealing, was both a public asseveration of the security of the sealed room, or container, and at the same time, via its seal impression, an assertion of the identity of the person or organisation responsible for that security.

Forty-eight of the Ash-Tip door peg sealings are definitely from door pegs, and their diagnostic attributes are described below.

2.2.2.1.1 *The peg*

Thirty-one of the Ash-Tip door peg sealings have impressions sufficient to give the diameter of the peg, which varies from 19 to 41 mm, with an average of 27.5 mm. Twenty, or 64.52%, lie within the diameter range 22 to 30 mm. Each peg impression generally has a uniform diameter throughout its preserved length (this preserved length varies from 5 to 62 mm, with an average of 25.1 mm), but there are four sealings (**4a**, **40d**, **196**, **218**) with impressions of pegs flared at the base. One peg impression, **206**, appears to have a flared lip at the top. On the whole, the Ash-Tip door pegs have simple profiles, unlike those with flared bases and heads attested on sealings from Nippur (Zettler 1987), Fara (Matthews 1989) and elsewhere.

The texture of the peg impressions is frequently extremely smooth, without obvious features, so that it is not immediately apparent of what material the pegs were made. A search through our, perforce, non-perishable artifacts from Abu Salabikh does not reveal any likely candidates for pegs. Wall cones (cf. ch. 8) and clay nails are conical rather than cylindrical, and do not have sufficient diameter, nor are they found in significant associations. One possibly relevant object is a clay cylinder, 4J97:317, of 65 mm length and 30 mm diameter: this object may have some connexion with the door peg sealings from Area A (cf. below, p. 41, § 2.2.9.3), but still leaves the far more numerous Ash-Tip sealings without a peg to hang on. The conclusion must be that most, or all, of the Abu Salabikh door pegs were of perishable materials. A few sealings offer some clues. Sealing **27** has the impression of a short stretch of peg, sub-rectangular in section, with marked parallel ridges running the length of the peg, which is clearly of some vegetable matter, almost certainly the mid-rib of a palm frond. Other sealings, such as **40g**, have smoother, more cylindrical, peg impressions with less pronounced parallel markings, probably from large reeds with diameters over 20 mm. Several further sealings, such as **4e**, **13**, **40d** to mention a few, have extremely smooth peg impressions with few or no clear markings at all. Experiment shows that these also

may be from large reeds. The few peg impressions which flare at the base may reflect carved wooden or stone pegs, but these are well in the minority.

2.2.2.1.2 *The string*

Almost all the Ash-Tip door peg sealings bear string impressions of some kind. The terminology of string description here employed follows that set out by Hurley (1979, 5-13) and is illustrated in Figs 2:8 and 2:9. All string descriptions here used follow convention in referring to a cast, real or hypothetical, of the string impressions on the clay, and not directly to the impressions themselves. As a piece of clay bears a mirror impression of the string, Z-spun string will, in its impression, have an S-spin, and vice versa. It is the true spin direction of the string itself, rather than its impression, which is given throughout this study.

In eighteen of the forty-eight Ash-Tip door peg sealings can the strand diameter be measured, varying from 2 to 4 mm, with an average of 2.7 mm. The string diameter is measurable on thirty-three sealings, ranging from 2 to 5.5 mm, with an average of 3.9 mm. The twist period, which reveals how closely twined are the strands, varies from 3.5 to 9.5 mm in the eighteen measurable instances, with an average of 6.2 mm. Some are very neatly twined (e.g. **218**), while others are loosely arranged and some have come untwined altogether.

The string spin direction is detectable on seventeen of the Ash-Tip door peg sealings, fourteen being Z-spun and three S-spun. This considerable preference for Z-spun string must have some significance, which may be related either to the nature of the fibres or to the manner in which the fibres are spun into yarn, or to both these factors.

It has not proven possible unequivocally to determine the nature of the fibres used for Abu Salabikh string, nor does previous work on fibre impressions on pottery encourage a ready identification (Hurley 1979, 3). The possibilities, however, can be examined. A few sealings, such as **103**, show string made of coarse, fibrous material, almost certainly date palm fibre (Popenoe 1973, 118), but the vast majority of Ash-Tip string impressions have fine fibres, hair-like in their thickness, which could be either goat hair or flax. There are ethnographic attestations of the use of goat hair in string production in Greece and Iran (Koster 1976; Kramer 1982, 45; Watson 1979, 108), while the use of flax in string is less certain (Helbaek 1959). Hodges (1964, 128) has noted that flax yarns are invariably S-spun, an association also identified by Eastwood (1985, 193) in her analysis of Egyptian flax textiles. Further, the small proportion of goat hair yarns discussed by Eastwood were found to be Z-spun. The considerable preference for Z-spin in the Ash-Tip sealings thus supports an identification of the fibres as goat hair. The bias of goat hair for Z-spin may have been strengthened by another factor. Hodges (1964, 128) notes that, whether yarn spinning is done by thigh-spinning or by spindle, a right-handed person will generally spin fibres into a Z-spun yarn, while a left-handed person will produce S-spun yarn. A likely explanation for the Z-spin preference at Abu Salabikh, then, is the production of goat hair string by predominantly right-handed cord workers.[10]

The string was wrapped around the peg a varying number of times, sometimes only once (**40n, 146**), occasionally as much as five or seven times (**27, 217**), but in most cases two to four times. Not one of the Ash-Tip door peg sealings has the impression of a knot in the string, which supports our interpretation of the *modus operandi* of door sealing, with a length of string knotted or secured on one side of a hole in the door, threaded through the hole, then wrapped round the peg in an adjacent wall (Fig 2:2). Several sealings (**4a, 6, 11, 13, 27, 217**) have the impression of a length of string running down the side or base of the sealing, from where the string would originally have hung loose.

2.2.2.1.3 *The sealing base*

The Ash-Tip door pegs appear, from their base impressions, to have been fixed directly into the wall surface adjacent to the secured door. The bases of the sealings bear no traces of brackets or flanges into which the pegs might have been set but, on the contrary, do have impressions either of level, yet fairly coarse, surfaces often with straw impressions, such as would be provided by a mud-brick wall, with or without mud plaster. The base impressions, therefore, do not require the existence of artifacts such as the Mari "doorbells" (Malamat 1986), nor are such artifacts, or likely substitutes, found at Abu Salabikh.

Of the Ash-Tip door peg sealings with intact bases thirteen have impressions of smooth plastered walls, seven of coarse mud or mud-brick walls and fourteen of either mud-brick or plaster.

2.2.2.1.4 *Other features*

The peg, the string and the sealing base, then, are the main diagnostic features of door peg sealings, but there are other less obvious characteristics. Even where peg and string impressions are not preserved, almost all door peg sealings have a pronounced curve to the outer edge of the base, revealing adhesion to

10 Cf. below, A. Green, p. 141, § 9.1, on left- and right-handed clay sickles.

a cylindrical object. Many other sealings have a distinct linear bulge on the obverse, running just above the base, reflecting where pressure had been applied to the sealing to make it adhere, sometimes leaving clear fingerprints, as in the case of **153**. It is, therefore, possible to identify sealings, such as **35b, 116,** as door peg sealings even when breakage, distortion or encrustation have obliterated most traces of the peg and string.

2.2.2.2 *Sealings probably from door pegs*
A total of sixty-six sealings, 21.93% of the Ash-Tip corpus, can be categorised as probable door peg sealings. Erosion and encrustation on many of these pieces have given rise to some doubt about their functional identification. Nevertheless, there are significant quantifiable features to be noted.

Thirty-four of these sealings have measurable peg diameters, varying from 17 to 40 mm, with an average of 27.8 mm, very close to that of pegs in category 2.2.2.1 above. Eighteen of the thirty-four, or 52.94%, fall within the range 22 to 30 mm. Sealings **21** and **189** have flared bases, while **66** may perhaps be a round peg with a square top. The length of the peg impression varies from 9 to 70 mm, with an average of 21.1 mm. Several peg impressions, as in category 2.2.2.1 above, have a smooth surface with fine, faint grain, probably from large reeds (**189, 132, 158**), while others have coarser ridges indicative of palm frond mid-ribs (**4g, 145**), or grain perhaps from wood (**26, 31**). Again there are no markings which suggest the use of flanges or brackets surrounding the pegs. In sum, the category 2.2.2.2 pegs are similar in all respects to those of category 2.2.2.1, which supports an interpretation of them as probably having the same function.

Such is also the case with the string impressions. In fourteen measurable instances, the strand diameter ranges from 1 to 3.75 mm, with an average of 2.4 mm. In thirty-two cases the string diameter could be measured, and it ranged from 1.75 to 6.5 mm, averaging 3.9 mm. The fourteen measurable instances of twist period vary from 3 to 8 mm, averaging 5.4 mm. The string spin direction was detected in fourteen cases, twelve being Z-spun and two S-spun, almost the same ratio as in category 2.2.2.1. The string fibres are almost all of uniform hair, probably goat, but there are a few of coarser stuff, probably date palm fibre (**21, 201**), and one of extremely fine delicate fibres (**48d**). Fifteen category 2.2.2.2 sealings have countable circuits of string around the peg, ranging from one to five, with an average of three. Twelve of the fifteen fall within the range two to four circuits. Only one sealing, (**189**), has a knot impression. Again in all respects these string attributes bear close similarities to those of category 2.2.2.1 above.

Many of these probable door peg sealings have broken or distorted bases, which is the principal reason for some doubt as to their functional identification, but some of this group have bases which were not flush against a flat surface at all (**21, 26, 66, 73, 121, 163**). If these sealings were from door pegs then no part of the sealing came into contact with the wall out of which the peg protruded. But this lack of evidence for a wall need not disqualify these sealings from being door peg sealings: it merely raises some doubt, which is why they have been treated separately.

2.2.2.3 *Sealings from pegs which may have been involved in package sealing*
There are twenty-one Ash-Tip sealings, 6.98% of the 301, in this group. As already mentioned, some of this group may in fact have been door peg sealings. Nevertheless, there are indications that category 2.2.2.3 sealings may have been affixed to pegs involved in package fastening, namely the small size of the pegs, occasional sacking impressions, and the lack of base impressions indicating a flat surface. Their possible operation is illustrated in Fig 2:4.

2.2.2.3.1 *The peg*
Fifteen of the twenty-one sealings have measurable peg diameters, ranging from 13 to 3.5 mm, with an average of 8.9 mm, substantially less than the average diameter of pegs in categories 2.2.2.1 and 2. The length of the peg impression averages 19.6 mm, ranging from 9 to 50 mm on the eighteen measurable instances. Several peg impressions have clear grain or ridge markings, probably from palm frond mid-ribs (**17, 40h, 94, 140**), while others have smoother grain marks, probably from reeds (**47b, 117b**). The remainder are smooth with no visible grain, again probably from reed, but one, **102a**, has a minutely pitted surface, perhaps from a baked clay peg.

2.2.2.3.2 *The string*
In seven cases the strand diameter is measurable, ranging from 1.25 to 4 mm, with an average of 2.5 mm. The thirteen measurable instances of string diameter range from 2.5 to 6 mm, averaging 4.2 mm. The seven examples of twist period average 6.2 mm, with a range of 3.5 to 11.5 mm. In six cases the string spin direction was detected, five being Z-spun and one S-spun. Again the string fibres are generally hairy in appearance, with a couple of examples of coarser material, probably date palm fibre (**22b, 40f**). The category 2.2.2.3 string impressions, then, are alike in every respect to those of categories 2.2.2.1 and 2.

2.2.2.3.3 *Other marks*
Sealing **117b** appears to bear the impression of a small peg passed through a smooth ring, while **79c** suggests a sealing inserted between a peg and the surrounding string. **57** has unclear sacking impressions. Apart from these markings, the general shape of category 2.2.2.3 sealings hints at a function other than door peg sealing, which may have been to secure sack or package fastenings, involving peg and string, but it must be conceded that there is room for doubt as to the precise nature of their function, and some of them may well reflect very small door pegs.

2.2.3 *Pots*
Only three Ash-Tip sealings, 1.00% of the corpus, definitely come from pots, while another nine, or 2.99%, probably come from pots. Such a small proportion underlines how misleading it is for clay sealings conventionally to be called "jar sealings" The operation of a pot sealing is illustrated in Fig 2:5, showing how the sealing covered a stretch of the string which secured a covering, usually of leather, over the mouth and neck of the vessel.

2.2.3.1 *Sealings definitely from pots*

2.2.3.1.1 *The pot*
Pot sealings are generally from medium to large vessels. Sealing **106** comes from a jar with rim diameter of 92 mm, while **135** comes from a pot with rim diameter 80 mm.

2.2.3.1.2 *The pot covering*
In two cases can the nature of the pot covering be determined, and in both instances the covering is of leather, as shown by the large creases impressed on the reverse faces of the two sealings (**69g, 106**).

2.2.3.1.3 *The string*
Few measurements can be had from these three pieces. Sealing **106** has impressions of hairy string, 3.75 mm in diameter, and **69g** has fine Z-spun string of 1.75 mm diameter.

2.2.3.2 *Sealings probably from pots*
The nine sealings in this group bear impressions which probably preclude them from being door peg sealings, usually because their reverse diameters are too large. It is likely that most or all of them were applied to pots, but the quantifiable data provided by these pieces are sparse.

The possible pot diameter varies from 48 to 230 mm, with an average of 88.3 mm. Sealing **15** bears grooved impressions probably from a leather covering, while **224** has very faint textile markings. The string strands range from 2 to 3.5 mm, with an average of 2.9 mm, while the string diameter averages 4.6 mm, varying from 4 to 5 mm. The twist period varies from 4 to 6 mm, averaging 5.4 mm. There are three instances of Z-spun string, none of S-spun. The only exceptional string is that impressed on **85b** where the string has been deftly twined, in four strands, making a very neat impression.

2.2.3.3 *Jar stoppers*
Only two jar stoppers are counted amongst the Ash-Tip sealings: **225** from a small vessel with a rim diameter of 26 mm, and **226** from a vessel of about 90 mm diameter.

2.2.4 *Other containers*
A number of other containers is attested by the Ash-Tip sealings. Many are unclear in detail and hard to understand in functional terms, but nevertheless contain some useful information. Each type is discussed below.

2.2.4.1 *Sealings with reed or interwoven split-reed impressions*
There are sixteen sealings in this category, 5.32% of the corpus. Nine sealings have impressions of interwoven split-reed, the flattened segments varying in width from 8 to 20 mm. One of these nine also bears string impressions (**238**), and it is probable therefore that the sealings served to secure tied up bundles of interwoven split-reed, perhaps containing bulky stuffs such as textiles or hides. Several of the sixteen sealings have impressions of whole sections of reeds, varying from a slender 3 mm diameter (**159**) to 16 mm diameter (**141**). Such reeds may have been used in the fastening of packages.

2.2.4.2 *Basket sealings*
Only two sealings bear basket impressions (**42, 243**). On **42** the basket is probably made of palm leaflets, each some 2.5 mm wide.

2.2.4.3 *Leather container sealings*
Five sealings have impressions of leather, only **244** lacking string impressions also, so that they are likely to have come from leather bags.

2.2.4.4 *Sacking and netting sealings*
Two sealings, **241** and **242**, have impressions of coarse woollen sacking, while one sealing, **227**, has marks of string netting.

2.2.4.5 *Wooden box sealings*
Four sealings bear impressions of wood, suggesting that they were applied to wooden boxes. Sealing **157** is unique in having impressions of what is probably a carved wooden surface, with a linear geometric design.

2.2.4.6 *Package/bale sealings*
Twelve sealings, 3.99% of the corpus, fall into this category, all of them with string impressions of varying clarity. The string fibres are hair-like, except for **229** which has coarse fibres, probably of date palm fibre. The five measurable strand diameters vary from 2 to 3.75 mm, with an average of 2.9 mm. The nine measurable string diameters vary from 2.5 to 5.75 mm, averaging 4.4 mm. The five instances of twist period vary from 4 to 7.5 mm, averaging 5.3 mm. There are six detectable string spin directions, all of them Z-spun. Three sealings have clear knot impressions (**63b**, **114b**, **228**). These twelve sealings are precluded from being door peg sealings, because of the lack of a curve to the reverse face. It is probable, but by no means certain, that they were placed over string securing rectangular packages or bales.

2.2.5 *Labels*
Four Ash-Tip sealings (**55**, **64a**, **119**, **177**) take the shape of labels, being ovoid in shape, with a line of string running along the long axis of the reverse face.

2.2.6 *Test strips*
Seven sealings from the Ash-Tip, 2.33% of the total, probably functioned as strips for a test rolling of a cylinder seal. They all have the form of thin tongues of clay, from 6 to 10 mm thickness, with clear fingerprints on the flat reverse face.

2.2.7 *Sealings of indeterminate function*
Ninety-nine sealings, 32.89% of the Ash-Tip group, cannot be classified in functional terms, because of their fragmentary, eroded or encrusted condition. Many of these pieces might not have been retrieved but for sieving.

2.2.8 *Summary of Ash-Tip sealing functions*
We can summarise the functional distribution of the 301 Ash-Tip sealings in the following manner:

	Pegs		Containers			Labels/Test strips	?
Door	?door	?package	Pot	?pot	Other		
48	66	21	3	9	44	11	99

In summary form, excluding functionally unidentifiable sealings, the Ash-Tip corpus has the following functional make-up:

Doors	Containers	Labels/Test strips	Total
114	77	11	202
56.44%	38.12%	5.45%	100%

The significance of this functional constitution can best be comprehended through its comparison with those of other sealing groups from Abu Salabikh, which are now briefly discussed.

2.2.9 *Area A sealings*
A total of forty-six sealings has been found in Area A of the Main Mound, all but one from three areas: the North-West Building (nine sealings), the Southern Building (twelve sealings) and the 4I Industrial Area (twenty-four sealings), as presented below.

2.2.9.1 *The North-West Building*
Although eroded in places, the plan of the North-West Building shows a series of rooms and open areas with kilns, enclosed to the north-west by a thick wall containing an inner series of rooms (Matthews & Postgate 1987, 111, Fig. 6). On the basis of the plan and the discovery of a metal hoard, including weapons, under the floor of one room and of a grain issue tablet and sealings, this building has been

tentatively interpreted as having had a secular public function (Postgate 1984a, 100). The nine sealings from this building have the following functional make-up:

Door peg	Pot	Split-reed container	?
1	1	3	4

In summary terms, excluding non-identifiable sealings:

Doors	Containers	Total
1	4	5
20%	80%	100%

Within the building the findspots of the nine sealings are distributed across several rooms. Admittedly a very small sample, this sealing group reflects a significant amount of container sealing activity in the North-West Building. This fact, taken with the scattered distribution of the nine sealings, suggests the receipt, opening and utilisation of sealed goods, several wrapped in split-reed bundles, rather than their storage and redistribution.

2.2.9.2 *The Southern Building*

The plan of the Southern Building in Area A (Matthews & Postgate 1987, 111, Fig. 6) shows a large structure of double courtyard rectangular layout. Excavation indicated that at least one room was used as a workroom or for storage (Postgate 1977, 271), with several stone tools and pots in situ. In all respects the plan is that of a large Sumerian domestic house. The twelve sealings from this building have the following functional distribution:

Pegs						
Door	?door	Pot	Wooden box	Package/bale	Teststrip	?
2	1	4	1	1	2	1

In summary form, excluding non-identifiable sealings:

Doors	Containers	Labels/Test strips	Total
3	6	2	11
27.27%	54.55%	18.18%	100%

As with the North-West Building sealings, these are widely distributed across almost every room of the Southern Building. Their functional make-up is again biased in favour of container sealings, with pot sealings to the fore, so that in administrative terms they can be interpreted in the same way as the North-West Building sealings. The few door peg sealings, however, do reveal that a certain amount of storage within sealed rooms was being undertaken in both these buildings.

2.2.9.3 *The 4I Industrial Area*

In 1988 and 1989 the investigation of an area centring on grid-square 4I00, towards the north-west corner of the Main Mound (cf. Postgate 1990, 103-4), revealed considerable evidence of industrial activity, including several fire installations, mounds of clinker, part of a potter's disc, unbaked clay pots and a collection of clay sealings, the majority of which came from the packing make-up of a courtyard and were retrieved by sieving, as the high proportion of functionally unidentifiable sealings indicates. Their functional constitution is as follows:

Door	?door	Pot	?pot	Sack	?	Total
5	2	1	2	3	11	24

In summary form, excluding non-identifiable sealings:

Doors	Containers	Total
7	6	13
53.85%	46.15%	100%

This functional make-up is the only Area A one which has a preponderance of door sealings, and indicates that goods were stored in sealed rooms presumably in close proximity to the area of industrial activity. As already mentioned (p. 36, § 2.2.2.1.1), the find of a possible door peg, of baked clay, in the nearby square of 4J97 may be related to the door peg sealings from this area. Containers, this time pot and sack sealings, are, however, well in evidence. If, as is likely, the sealed storerooms related at some time in their history to the nearby industrial activity, then we might envisage the store-room sealings as controlling the input and output of commodities, themselves sealed, connected with the manufacture of pottery and perhaps other industrial activities.

2.2.9.4 *Area A: general comments*

As a final comment on the Area A sealings, it may be pointed out that the container sealings from each of the three principal provenances fall into distinct groups, with split-reed container sealings from the

North-West Building, pot sealings from the Southern Building and pot and sack sealings from the 4I Industrial Area. Given the small sample size, this distribution may be fortuitous but it may also reflect the movement or utilisation of commodities of specific types within discrete localities.

2.2.10 *Area E sealings (non-Ash-Tip)*

Thirty-three sealings have been found, widely distributed, across Area E outside of the Ash-Tip. The largest single group, eighteen, comes from the Southern Unit, part of the Central Complex at the southern end of the Main Mound. The Southern Unit, where tablets were found in situ and a series of graves dug into its main reception room, is seen as part of the public administration, probably of a religious nature, at Abu Salabikh (cf. above, p. 7, § 1.3.8). The eighteen sealings were found in various contexts within the building, and have the following functional make-up:

Door	?door	Pot	?pot	Split-reed	Leather bag	Label	Test strip	?	Total
2	2	3	3	1	1	1	2	3	18

In summary form, excluding non-identifiable sealings:

Doors	Containers	Labels/Test strips	Total
4	8	3	15
26.67%	53.33%	20.00%	100%

This distribution is similar to those of the North-West Building in Area A, discussed above, again reflecting considerable movement or utilisation of sealed containers, in clear contrast to the Ash-Tip sealings. The summary functional make-up of the whole group of thirty-three non-Ash-Tip Area E sealings reinforces this distinction:

Doors	Containers	Labels/Test strips	?
7	14	4	8
28%	56%	16%	

Apart from the eighteen Southern Unit sealings, other Area E pieces are distributed widely across the area of buildings: four from the Eastern Houses, five from the South-East Complex, and others from scattered findspots. It is noteworthy that, despite close excavation of the 6H82 House in Area E only two clay sealings have been found in this building, suggesting it may not have been greatly involved in administrative activity, at least as connected to sealing.

Fig. 2:6 summarises and compares the functional distribution of sealings from the provenances discussed above, highlighting the singularity of the Ash-Tip assemblage. Firstly, it is notable that the proportion of labels and test strips from the Ash-Tip is lower than that of the Area A and Area E (non-Ash-Tip) groups, almost certainly a corollary of the low proportion of container sealings from the Ash-Tip. The most striking aspect of the Ash-Tip functional range, however, is the ratio of door to container sealings, with door sealings much more common, proportionately, than in the other groups. If we are mistaken in identifying the peg (package) sealings as coming from containers rather than doors, then the preponderance of door sealings in the Ash-Tip corpus would increase still further. This functional make-up reflects extensive control over storerooms in the building from which the Ash-Tip material originated, with low level opening of sealed goods. Moreover, the number of different pegs attested by the reverse markings on the Ash-Tip sealings suggests that several storerooms were involved. The low proportion of container sealings in the Ash-Tip may reflect the temporary storage of items in sealed storerooms, rather than their utilisation. It is possible that the functional make-up of the Ash-Tip sealings relates to their mode of disposal, in that the predominance of door peg sealings may be due to their being constituents of rubbish periodically cleared out of the storeroom area of a building. Nevertheless, there are some container sealings amongst the Ash-Tip corpus, and no obvious reason why container sealings should be disposed of in a manner differing from that accorded to door peg sealings, so that our hypothesis is that the functional constitution of the Ash-Tip sealings is a valid reflection of the range of functions of their original architectural context.

2.2.11 *Obverse-reverse correlations: 'duplicate groups'*

In this section we examine groups of sealings which share the same seal impression, in an attempt to test the hypothesis that any given seal might have been used consistently in a particular administrative function. There are nineteen groups of sealings with duplicated seal impressions amongst the Ash-Tip corpus, all from Phase 3 of the Tip (for the phasing, cf. p. 5, § 1.3.4), but of these groups only two, groups 4 and 14, contain more than five sealings. In itself, then, it is striking how few duplicated seal impressions there are from the Ash-Tip and, in turn, just how many different seal impressions there are. In fact, the 301 Ash-Tip sealings display no fewer than 179 different seal impressions, although it is possible that some of the more fragmentary impressions do double up. Given the proportion of door peg sealings from the Ash-Tip, substantially higher than for other areas of the site, as we have seen, we might reasonably have expected there to have been a high duplication of seal impressions. The very low

duplication rate suggests the involvement of considerable numbers of officials in sealing activities. In view of the great variety of seal cutting styles in evidence on the Ash-Tip sealings and the fact that the majority of them are of medium to low standard, one explanation is that these seals may have been manufactured at a non-specialist, perhaps household, level for restricted use by specific householders in some infrequent operation involving the sealing of rooms.

2.2.11.1 *Duplicate group 1*

Cat.	Type	Batch	Context (pp. 223-4)
48a	door peg	2603	G
48b	door peg	2618	J (Grave 130)
48c	?package	2655	G
48d	?door peg	2670	J (Grave 178)

48a and **48b** may well have come from the same door peg, as both bear the impression of a flared peg, and very similar string impressions. Both **48c** and **48d**, however, have unusual string marks, the former a cord of woven strips, the latter a very fine string. It is probable, nevertheless, that all four sealings have come from doors, and therefore were native to Abu Salabikh.

2.2.11.2 *Duplicate group 2*

Cat.	Type	Batch	Context
79a	?door peg		A
79b	?	2601	A
79c	peg (package)	2626	J (Grave 134)
79d	door peg	2625	T
79e	?	2667	G

There are no striking similarities between these sealings, although the string impressions are roughly similar, except for the S-spin on **79c**. There is no reason why they should not all be indigenous to Abu Salabikh.

2.2.11.3 *Duplicate group 3*

Cat.	Type	Batch	Context
92a	?	2612	G
92b	?	2616	G

Neither of these pieces has much in the way of clear detail on the reverse.

2.2.11.4 *Duplicate group 4*

Cat.	Type	Batch	Context
4a/69a	door peg	2610	G
4b/69b	?	2616	G
4c/69c	?package	2618	J (Grave 130)
4d/69d	?	2623	T
4e/69e	door peg	2625	T
4f	?door peg	2625	T
4g/69f	?door peg	2646	G
4h	?	2655	G
4j/69h	?	2655	G
4k	?	2655	G
4l/69j	?door peg	2670	J (Grave 178)
4m/69k	?door peg	1940	L (fill of Pit p)
69g	pot	2645	G

This body of thirteen sealings forms one of the two most interesting and informative duplicate groups excavated at Abu Salabikh. The obverses bear impressions of a cylinder seal and a stamp seal, three, perhaps four, sealings lacking the former, only one lacking the latter. Clearly some compound administrative activity was taking place, involving two officials/offices marking their seals on the clay in quick succession – while the clay was still damp – with the stamp seal superimposed on the cylinder rolling, where the relationship is detectable (cf. above, p. 26, § 2.1.2, and below, p. 46, § 2.3). It is notable that the only sealing to lack the lion head stamp impression, **69g**, is also the only sealing which is certainly not from a door peg, suggesting that the stamp seal was impressed by an official exclusively connected with door sealing, while the cylinder seal may have been impressed by an official connected with the objects or commodities entering and leaving the sealed room.

In any case, this group has a strong association with door sealing, and is therefore native to Abu Salabikh, which agrees with the find of a lion's head stamp seal at the site (above, p. 26, § 2.1.2). The four sealings bearing measurable peg diameters evince marked similarities, ranging only from 19 to 23 mm, probably all coming from the same peg. There are shared features with regard to the string. Six

sealings (**4b, 4e, 4g, 4h, 4j, 4k**) have string of about the same diameter, ranging from 3 to 5 mm, with a Z-spin where detectable. **4a** and **4c** have S-spun string, uncommon at Abu Salabikh, and of particular interest is **69g**, with marks of rucked up leather and extremely fine string, only 1.8 mm in diameter, not at all like the normal Ash-Tip string: again it is notable that **69g** is the only one of this group definitely not to have been applied to a door peg.

In sum, this duplicate group suggests itself as a body of sealings local to Abu Salabikh, reflecting administrative activity of a compound nature principally involving door sealing.

See further below, p. 46, § 2.3.

2.2.11.5 *Duplicate group 5*

Cat.	Type	Batch	Context
35a	peg (package)	2605	G
35b	door peg	2623	T

Neither of these pieces has enough reverse details to substantiate worthwhile comment.

2.2.11.6 *Duplicate group 6*

Cat.	Type	Batch	Context
117a	?	2612	G
117b	peg (package)	2616	G
117c	split reed container	1927	H
117d	?door peg	1948	H

At least three of this group, and perhaps all four, could have been affixed to containers.

2.2.11.7 *Duplicate group 7*

Cat.	Type	Batch	Context
118a	?door peg	2616	G
118b	wooden box	2625	T
118c	?door peg	3904	H

These are three very different sealings, each with distinctive reverse impressions, as noted in the catalogue. There is no discernible functional connection between them.

2.2.11.8 *Duplicate group 8*

Cat.	Type	Batch	Context
114a	?door peg	2619	J (Grave 130)
114b	package/bale	2625	T
114c	?pot	2646	G

All three have similar string impressions, and again may all have come off portable containers, but the evidence is inconclusive.

2.2.11.9 *Duplicate group 9*

Cat.	Type	Batch	Context
64a	label	2618	J (Grave 130)
64b	?	2625	T

The reverse details on these pieces are sparse and uninformative.

2.2.11.10 *Duplicate group 10*

Cat.	Type	Batch	Context
76a	?door peg	2623	T
76b	?door peg	2637	K

Both pieces are of a beige clay and have similar peg diameters (28 and 24 mm). They are functionally very similar and are probably native to Abu Salabikh.

2.2.11.11 *Duplicate group 11*

Cat.	Type	Batch	Context
36a	peg (package)	2613	G
36b	door peg	2640	L (fill of Pit i)
36c	?pot	2642	L (fill of Pit i)

Apart from sharing similar string impressions, these sealings have little in common on their reverse.

2.2.11.12 *Duplicate group 12*

Cat.	Type	Batch	Context
63a	package/bale	2623	T
63b	package/bale	2623	T

These two sealings are alike in every respect, formed of the same dark brown clay, with very similar string impressions and from the same excavation batch within the Ash-Tip. They both appear to have come from portable goods.

2.2.11.13 *Duplicate group 13*

Cat.	Type	Batch	Context
82a	door peg	2646	G
82b	?	2667	G

There is no clear functional relationship between these sealings.

2.2.11.14 *Duplicate group 14*

Cat.	Type	Batch	Context
40a	?	2655	G
40b	?door peg	2663	L (fill of Pit l)
40c	?door peg	2666	G
40d	door peg	2666	G
40e	?	2667	G
40f	peg (?package)	2667	G
40g	door peg	2667	G
40h	door peg	3904	H
40j	door peg	3904	H
40k	door peg	1902	G
40l	?door peg	1901	G
40m	?pot	1907	H
40n	door peg	1927	H

As with group 4 sealings, several group 14 pieces are made of similar unfired, clean grey clay. The wide area distribution of the group 14 sealings within Phase 3 of the Tip (in grid-squares 6G76, 77 and 86) suggests, though it does not necessitate, that the sealings are not precise contemporaries, but may have been impressed and discarded over a period of days, weeks, or more.

Like the group 4 pieces, these sealings have a strong association with door sealing. The peg impressions range from 23 to 34 mm in seven instances. Two other peg impressions are sub- rectangular in section, revealing that the door sealings are not all from the same peg, not surprising given their spatial distribution. There is some variety in the string impressions, with two instances of Z-spun and one of S-spun.

Apart from the obverse impressions and clay colour, the group 14 sealings are not such a homogeneous body, in detail, as the group 4 sealings, though clearly very united in function. Given the scattered distribution of the group 14 sealings, again a contrast to group 4, there is a strong possibility that these sealings were used to seal not only different pegs but also different doors, thus providing evidence for an official having control over several storerooms.

2.2.11.15 *Duplicate group 15*

Cat.	Type	Batch	Context
85a	?	1906	G
85b	?pot	1904	G

No functional relationship can be discerned.

2.2.11.16 *Duplicate group 16*

Cat.	Type	Batch	Context
110	?	1940	L (fill of Pit p)
111	?	2661	G
112	?	2665	G

All three sealings lack diagnostic features.

2.2.11.17 *Duplicate group 17*

Cat.	Type	Batch	Context
47a	?	2669	G
47b	peg (package)	2667	G

Both pieces have possible reed impressions, but are otherwise unremarkable.

2.2.11.18 *Duplicate group 18*

Cat.	Type	Batch	Context
102a	peg (package)	3904	H
102b	split reed container	3904	H
102c	?	3904	H

All three pieces are of a similar grey/brown clay, and may have come off containers.

2.2.11.19 *Duplicate group 19*

Cat.	Type	Batch	Context
28a	?	3904	H
28b	?	3904	H

Neither piece has any revealing features.

2.2.11.20 *Duplicate groups: overall analysis*
Only groups 4 and 14, then, have provided much in the way of tangible information concerning sealing processes as correlated with duplicate obverse impressions. Peg sealing predominates in a functional break-down of Ash-Tip duplicate groups viewed *en masse*.

Doors	Peg(package)	Containers	Total
31	7	13	51
60.79%	13.73%	25.49%	100%

The proportion of door sealings is thus slightly higher than in the case of identifiable sealings from the Ash-Tip as a whole (56.44%). If peg (package) sealings in fact belong to door pegs, rather than containers, the proportion of door sealings in all duplicate groups increases to 74.52%.

2.3 *Functional types and iconography: conclusions*
A study of the style and iconography of the seal impressions in connexion with the evidence for the functions of the sealings upon which they appear can suggest some possible answers to certain questions of seal manufacture, the trade, transport and storage of goods and administrative procedures.

What is striking about the seal inventory from the Ash-Tip at Abu Salabikh is that there are so many distinct styles of seal carving present: the great majority must stem from individual workshops or workmen. Within the catalogue section we illustrate 176 seal patterns from a total of 184 seal impressions from the tip. Although about a third of the seal designs are too fragmentary for any kind of detailed analysis, we have been able to define between nine and ten styles or 'schools' of seal cutting. When the very fragmentary impressions are excluded the popularity of different types of seal patterns can be plotted as a bar chart (p. 26: Tables 2:1, 2:2). Were all of the 'workshops' located at Abu Salabikh or did some of the sealings come to Abu Salabikh from neighbouring towns?

Stylistically the seal impressions can be divided into five general categories, which are correlated against sealing function in Fig. 2:7. There are several interesting features of this distribution. Firstly, door sealings bear stamp impressions and animal contest scenes in proportions above the norm, with geometric patterns below norm. Indeed, only two sealings with stamp impressions are identifiable as not coming from doors. It therefore appears beyond dispute that the stamp seal tradition is very much a homegrown aspect of the Ash-Tip sealings, and consequently that the administrative practice of countersealing (cf. above, p. 26, § 2.1.2; p. 43, § 2.2.11.4) was one carried out in the building from where the Ash-Tip material derives. Secondly, and conversely, container sealings bear far fewer stamp impressions, with animal combat friezes and scenes with other figures also below the norm. Geometric patterns, on the other hand, are represented substantially above the norm on container sealings. This distinction may reflect the fact that many container sealings were not native to Abu Salabikh and arrived at the site, bearing their geometric seal impressions, from elsewhere. Another interpretation may be that the geometric impressions on container sealings somehow related to the contents of the sealed containers, while the figured scenes on door sealings related to the officials involved in door sealing.

Finally, it may be pointed out that the high proportion of fragmentary, hard to interpret, scenes on container sealings may also reflect the fact that many of these sealings are 'foreign' to Abu Salabikh and therefore not easily slotted into the iconographic categories devised for the Ash-Tip corpus, since the

total of imported sealings, possibly originating from many sources, is likely to display a wider iconographic repertoire than those sealings strictly native to Abu Salabikh.

2.4 *Catalogue* (1-261)

2.4.1 *Stamp seal* (1)

1 **Stamp seal** 6G66:116 AbS 527 Fig. 2:10
Batch 431, context B (Ash-Tip Phase 2).
Height: Diameter: 24 mm.
Material: limestone.

Stamp seal with flat base, hemispherical back, horizontal boring.

This stamp seal has a simple pattern made from drill holes. There are five lines radiating from the centre, four with an extension bent to the right and the fifth bent to the left. It may be a pattern only or it might represent a human figure moving to the right.

2.4.2 *Cylinder seals* (2-3)

2 **Cylinder seal** 6G86:66 AbS 1872 Fig. 2:11
Batch 1912, context G (Ash-Tip Phase 3).
Height: 19 mm Diameter: 11 mm
Material: chalky limestone.
Condition: complete; surface partly obscured by concretion.

A frieze of horned animals.

3 **Cylinder seal** 6G76:309 AbS 1806 Fig. 2:12
Batch 2617, context G (Ash-Tip Phase 3).
Height: 11 mm ext. Diameter: 10-15 mm
Material: frit
Condition: about half of height extant; slightly purplish tinge to surface.

Row of oblique lines, framed by pair of horizontal lines at edge.

2.4.3 *Sealings with stamp seal impressions* (4-16)

4 **Sealings (12)** Fig. 2:13

a. 6G76:136 AbS 1523
Batch 2610, context G (Ash-Tip Phase 3).
Size: 62 x 42 mm.
Sealing type: door peg.
[= **69a**]

b. 6G76:206 AbS 1546
Batch 2616, context G (Ash-Tip Phase 3).
Size: 42 x 28 mm.
Sealing type: ?
[= **69b**]

c. 6G76:250 AbS 1564
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 12 x 13 mm.
Sealing type: ? package/bale.
[= **69c**]

d. 6G76:567 AbS 1663
Batch 2623, context T (Ash-Tip Phase 3).
Size: 55 x 35 mm.
Sealing type: ?
[= **51a, 69d**]

e. 6G76:572 AbS 1637
Batch 2625, context T (Ash-Tip Phase 3).
Size: 31 x 50 mm.
Sealing type: door peg.
[= 69e]

f. 6G76:577 AbS 1664
Batch 2625, context T (Ash-Tip Phase 3).
Size: 56 x 44 mm.
Sealing type: ?door peg.
[= **51b**]

g. 6G76:649 AbS 1811
Batch 2646, context G (Ash-Tip Phase 3).
Size: 27 x 24 mm.
Sealing type: ?door peg.
[= **69f**]

h. 6G76:750a
Batch 2655, context G (Ash-Tip Phase 3).
Size: 29 x 34 mm.
Sealing type: ?

j. 6G76:761
Batch 2655, context G (Ash-Tip Phase 3).
Size: 60 x 37 mm.
Sealing type: ?
[= **69h**]

k. 6G76:762
Batch 2655, context G (Ash-Tip Phase 3).
Size: 35 x 22 mm.
Sealing type: ?

l. 6G76:867 AbS 2029
Batch 2670, context J (fill of Grave 178 in Ash-Tip Phase 3).
Size: 41 x 39 mm.
Sealing type: ?door peg.
[= **69j**]

m. 6G86:199
Batch 1940, context L (fill of Pit p in Ash-Tip Phase 3).
Size: 30 x 29 mm.
Sealing type: ?door peg.
[= **69k**]

The impression of a stamp seal with a full-face lion's head is preserved on a total of twelve sealings (height: 15 mm). Although the impressions vary considerably in clarity, we can reconstruct a clear picture of the original by combining them. The seal apparently had a chip out of the top left hand corner. The lion head was stamped onto the sealings after a cylinder seal had been rolled over them. (Only on sealings **f** and **m** did the stamp fail to cut into a cylinder seal impression.) In most cases the cylinder seal impressions were made by the same seal, a large cylinder with a geometric pattern (**69**). Sealings d and f are the only exceptions to this, as noted below.

On sealing **e** a finger nail has been pressed into the lion's forehead. On sealing **d** in addition to a clear impression of the stamp seal there is a deep impression of what might be a corner of the stamp seal pressed in at an angle and extended. On this same sealing there

are two marks of what might be fingernails. Sealing **f** also has fingernail marks and an impression which may have been made by the corner of the left side of the lion's face. The cylinder seal impressions on sealings **d** and **f** are poorly preserved, but they appear to show a small scale animal combat scene (**51**). Sealing **d** also has traces of the more common geometric pattern (the impression actually cut by the clearer lion stamp).

a. A good example of a door peg sealing. The peg is flared at the base (base diameter: 35 mm; top diameter: 20 mm), and is at least 40 mm long. There are three rows of string circling the peg (3-strand; fibres: hairy; strand diameter: 3.5 mm; string diameter: 4 mm; twist period: 5.5 mm; string spin direction: S), with a fourth coming off the peg at its base. The underside of the sealing is bumpy and has straw marks: it has come off a mud-brick wall.

b. Reverse has a convex face which may be due to distortion during removal. There is a row of untidy string marks (loosely twined; string diameter: 3.5 mm), and the base is fairly smooth, but the function is unclear.

c. The reverse face, which is not curved, has the impressions of several rows of string (3-strand; fibres: hairy strand diameter: 2.5 mm; string diameter: 4.25 mm; twist period: 4.5 mm; string spin direction: S). The base is fairly coarse and bumpy, and may have come off a mud-brick wall, but there is no evidence of a peg. This sealing suggests a form of fastening involving string but no peg.

d. Reverse face entirely broken.

e. A very smooth section of peg impression, 33 mm long, with a diameter of 19 mm, is preserved, probably made of reed. Impressions of loosely arranged string (strand diameter: 3 mm; string diameter 5 mm; twist period: 7 mm; string spin direction: probably Z) are scattered around the base of the peg. The base is broken, but the shape suggests a door peg sealing.

f. There are extremely faint traces of what may be string impressions, and the texture of the base suggests that it may have come off a wall.

g. A 12 mm length of peg, diameter 23 mm, is preserved, and bears very slight ridges, such as suggest a peg made of palm frond mid-rib. Smudged string impressions (diameter: 4 mm) complete the reverse.

h. There is a very small area of string marks (fibres: hairy; strand diameter: 3 mm; string diameter: 4.5 mm), but no other diagnostic features.

j. Faint string impressions (string diameter: 3 mm) cross the reverse, but no other marks.

k. The reverse is distorted, but there are string marks (3-strand; fibres: hairy; strand diameter: 2.75 mm; string diameter: 5 mm; twist period: 5.75 mm; string spin direction: Z).

l. There are faint string marks on the reverse, which is encrusted, and the base may have come from a wall.

m. There is a very smooth 18 mm length of peg impression (diameter: 20 mm). The sealing is broken at the point where the string circled the peg.

5 **Sealings (2)** Fig. 2:14

a. 6G76:763
Batch 2655, context G (Ash-Tip Phase 3).
Size: 41 x 29 mm.
Sealing type: door peg.

b. 6G76:766
Batch 2655, context G (Ash-Tip Phase 3).
Size: 36 x 26 mm.
Sealing type: ?

Reconstructed from two complete and one fragmentary impression on sealing **a** and one complete and one fragmentary impression on sealing **b**.

Stamp seal, 22 x 16 mm.

One of several stamp seals showing full-face lion heads. A zigzag band above and sidelocks on either side frame the head – could this be an attempt to indicate a mane? A diamond-shaped space is left between this 'mane' and the head where ears should be.

a. A smooth flat section indicates a peg, beneath which are string impressions (3-strand; fibres: hairy; strand diameter: 2.5 mm; string diameter 3 mm; twist period: 4.5 mm; string spin direction: Z). The base has come off a smooth plastered surface.

b. There are good string impressions (3-strand; fibres: hairy; strand diameter: 1.75 mm; string diameter: 2.5 mm; twist period: 5.5 mm; string spin direction: Z), but the rest of the reverse is broken.

6 **Sealing** 6G76:576 AbS 1634 Fig. 2:15
Batch 2625, context T (Ash-Tip Phase 3).
Size: 43 x 23 mm.
Sealing type: door peg.
[= **50**]

There is one clear impression of this stamp seal, but unfortunately only slightly more than half is preserved and that is disfigured by a fingernail impression. There seem to be traces of a second, faint impression to left of the first one. Although incomplete, the seal appears to show the face of a man. Only the hair surrounding the face is at all clear.

There are very vague string marks on the reverse face, which is curved round a diameter of 64 mm. One line of cord, diameter 2 mm, comes from the reverse under the base, which is otherwise smooth and probably from a wall. The piece is a distorted example of a door sealing.

7 **Sealing** 6G86:36 AbS 1886 Fig. 2:16
Batch 1902, context G (Ash-Tip Phase 3).
Size 32 x 33 mm.
Sealing type: ?door peg.

Three impressions of stamp seal.

One of several stamp seals depicting scorpions or possibly hunting-spiders.

There is a 2 mm length of peg impression, of vegetable matter, with a diameter of about 30 mm. Rows of string circle the peg (string diameter: 4 mm), which is probably from a door.

8 **Sealing** 6G76:851c Fig. 2:17
Batch 2667, context G (Ash-Tip Phase 3).
Size: 26 x 23 mm.
Sealing type: door peg.

Drawing reconstructed from two impressions of a stamp seal, 29 mm long. One impression, almost complete, shows a scorpion; the second impression adds details of the scorpion's tail. This impression was found in close association to **16** which shows a lozenge-shaped stamp (possibly a cylinder used as a stamp) and the curved end of a stamp seal. This could be another impression of **8** (**79e** was also found near by). **15** is the only other example of a sealing with impressions from two stamps.

A distorted and encrusted piece, but there are clear impressions of a peg with string.

9 **Sealing** 6G76:704 AbS 1824 Fig. 2:18
Batch 2646, context G (Ash-Tip Phase 3).
Size: 29 x 19 mm.
Sealing type: ?
[= **134**]

An almost complete impression of a stamp seal bearing the pattern of a scorpion. Scorpion 16 mm long. Only traces of horns or legs from cylinder seal impression beneath stamp.

There are faint traces of string on this small piece, but no clear markings.

10 **Sealing** 6G86:38 AbS 1888 Fig. 2:19
Batch 1904, context G (Ash-Tip Phase 3).
Size: 32 x 25 mm.
Sealing type: ?
[= 139]

Stamp seal superimposed on poor rolling of cylinder seal (**139**); combined height is 26 mm. Although only slightly more than half is preserved, this appears to be a stamp seal with a floral rosette pattern similar to many found on the Ur SIS seal impressions.

There are only some very faint string traces on the reverse.

11 **Sealing** 6G66:40 AbS 480 Fig. 2:20
Batch 406, context P (Ash-Tip, mixed).
Size: 60 x 42 mm.
Sealing type: door peg.

Three impressions of a stamp seal. Probably about 17 mm long.

The design is a simple one of straight lines branching off at an angle on either side of a central rib, making a leaf-like pattern.

Reverse has been distorted, probably due to removal from a sealed object while still damp. There are very smooth areas, 22 mm long, from a peg, crossed by untidy string impressions (fibres: hairy; string diameter: 4 mm), which continue as a single line under the base of the sealing, which is coarse and has probably been applied to a wall.

12 **Sealing** 6G86:49 AbS 1895 Fig. 2:21
Batch 1906, context G (Ash-Tip Phase 3).
Size: 21 x 18 mm.
Sealing type: ?

One impression of a stamp seal, maximum length 125 mm.

Simple geometric design of crossed lines.

Reverse is badly encrusted but probably has string impressions.

13 **Sealing** 6G76:114 AbS 1511 Figs. 2:8, 2:22
Batch 2608, context G (Ash-Tip Phase 3).
Size: 49 x 45 mm.
Sealing type: door peg.

There appear to be two impressions on this sealing. To the left is a slightly raised area with an impression of four ridges and three grooves. This might be from a stamp seal. Adjoining this to the right is an impression of another grooved object, possibly the skirt of a seated figure facing right. There are further fragmentary objects to the right, possibly straws (if this is a drinking scene; cf. **84**, **85**, **88**, **89**, **92**) or animal legs and/or tails.

(Fig. 2:8) An extremely fine specimen of a typical Abu Salabikh door peg sealing (cf. **80**). The peg impression, of 24 mm diameter, has a length, above the string, of 19 mm. Its surface is extremely smooth, perhaps of reed. Beneath the smooth section are the marks of four rows of neatly made string (3-strand; fibres: hairy; strand diameter: 3.75 mm; string diameter: 4.5 mm; twist period: 7.5 mm; string spin direction: Z). A fifth row of string leads off to one side at the base of the sealing, and would have hung loose outside the clay. The total visible length of the peg, including the part covered by string impressions, is 42 mm. The top of the sealing is unbroken: it may be that the peg extended some length beyond that preserved here. The peg is not at right angles to the wall, but stands out at an angle of about 70 degrees. The base of the sealing has come off a plastered wall.

14 **Sealing** 6G86:69 AbS 1902 Fig. 2:23
Batch 1902, context G (Ash-Tip Phase 3).
Size: 26 x 25 mm.
Sealing type: test strip.

Three fairly complete and two fragmentary impressions of a stamp seal in the shape of a foot, height 14 mm. There is a small geometric pattern on the sole of the foot.

The reverse has no diagnostic markings, and the piece, only 5 mm thick, may have been a test strip.

15 **Sealing** 6G66:79 AbS 437 Fig. 2:24
Batch 406, context P (Ash-Tip, mixed).
Size: 81 x 76 mm.
Sealing type: ?pot.
[= **115**]

Large sealing with one good and five fragmentary impressions of stamp seals. These overprint the cylinder impressions described below (**115**). The good impression shows a human hand and arm bent at the elbow. The remaining impressions were made by a second stamp. This stamp is a simple 'L' shape with a small bump at one end. Impressions of both the arm stamp and the 'L' stamp include traces of fine S-spun 3-ply cord. On the 'L' impressions the cord crosses the seal below the bump in a slightly different position on each impression. Two impressions also have identical cord marks across the top of the stamp impression. Presumably the cord was used for suspension of the

stamp seal and got in the way each time the stamp was impressed. The cord indicates that the stamp seal impressions were made by the two ends of one seal. It is possible that the stamp seals were on the two ends of the cylinder seal used on this sealing (cf. **115**).

Most of the surface of the sealing is covered with overlapping impressions of seal **115**.

The reverse is as complex as its obverse. One reverse surface is flat and smooth, possibly from a finely plastered wall, or, as there is a slight curve to this face, a large pot of *c.* 230 mm diameter. At right angles to the smooth face is a gently rippling area, 50 x 30 mm, of faint leather impressions. These two faces are separated by an area bearing string impressions (4-strand; fibres: hairy; strand diameter: 3 mm; string diameter: 4.5 mm; twist period: 6 mm; string spin direction: unclear).

It is probable that this sealing has come from a large pot secured with leather and string.

16 **Sealing** 6G76:851b Fig. 2:25
Batch 2667, context G (Ash-Tip Phase 3).
Size: 20 x 22 mm.
Sealing type: door peg.

One impression of a seal, 6.5 mm wide and 13 mm long, but incomplete. The seal appears to be a stamp seal, but has a curved surface. In fact this is probably the impression of a small cylinder seal pressed into the clay, but not rolled, and thus functioning as a stamp seal. If this is the case, the cylinder seal had a very simple linear pattern. There is another indentation on the edge of the sealing, possibly left by a different stamp seal (see comments on 8 above).

A 15 mm length of peg impression curves round a diameter of 26 mm. The sealing base is smooth and flat.

2.4.4 *Sealings with cylinder seal impressions* (**17-183**)

2.4.4.1 *Animal contest scenes* (**17-63**)

2.4.4.1.1 *Animal contest scenes with lion heads in profile (all could be based on 4, 5 or 6 figures centred on crossed lions)* (**17-27**)

17 **Sealing** 6G86:252 Fig. 2:26
Batch 1942, context H (Ash-Tip Phase 3).
Size: 57 x 48 mm.
Sealing type: peg (?package).

A faint and fragmentary impression of a very large seal, 33 mm preserved height.

Two pairs of crossed animals, at least one a lion.

There is a length, 16 mm, of frond peg, sub-rectangular in cross-section (width: 12 mm), beneath which are eroded string impressions (fibres: hairy). The sealing base is bumpy, and has not come from a flat surface, so that this peg was not set in a wall, but must have fastened a package in some manner.

18 **Sealing** 6G76:406 AbS 1643 Fig. 2:27
Batch 2621, context L (fill of Pit f in Ash-Tip Phase 3).
Size: 31 x 22 mm.
Sealing type: ?door peg.

There is a single fragmentary impression preserved to a height of 10 mm. Of the original animal combat frieze only two heads are preserved, a wild goat on the left and a lion with profile head on the right. A zigzag line left of the goat's horns may have been part of another lion's mane (this lion would then have been crossed with the goat). Possibly, however, it is an attempt to indicate the ridges on the goat's horn. Between the goat and lion heads the top border of the seal seems to dip down to a point; this effect may have been caused by curved lines such as those on **20** (and on 6G47:147/AbS 1548 from Grave 126, unpublished). There was a further unidentified filler (or just possibly animal head) between the heads of the goat and lion.

The reverse face, carved round a diameter of 32 mm, is covered in very loosely arranged string markings (string diameter: 4 mm). The base is smooth, probably from a plastered wall.

19 **Sealing** 6G76:712 AbS 1827 Fig. 2:28
Batch 2643, context J (fill of Grave 146 in Ash-Tip Phase 3)
Size: 27 x 27 mm.
Sealing type: door peg.

One faint partial impression, 15 mm high.

Crossed(?) lions with profile heads; one attacks a rampant herbivore.

The reverse is broken except for faint string marks, but the base is intact and has come from a smooth surface, such as a plastered wall.

20 **Sealing** 6G76:768 Fig. 2:29
Batch 2655, context G (Ash-Tip Phase 3).
Size: 21 x 16 mm.
Sealing type: ?

Heads of lion and goat, lines curve down from top border and meet between animals' faces; cf. **18**.

Reverse face all broken.

21 **Sealing** 6G76:217 AbS 1544 Fig. 2:30
Batch 2616, context G (Ash-Tip Phase 3).
Size: 39 x 42 mm.
Sealing type: ?door peg.

Pattern drawn from a single rolling, maximum height: 13 mm.

Crossed lions with profile heads attack gazelles(?) with heads thrown back. The heads of the lion and gazelle to the right are faint.

The top of the reverse has the smooth impression of what must be the underside of the flared rim of a peg with top diameter of 40 mm. Beneath are the marks of three rows of string (3-strand; fibres: thicker than usual, possibly palm fibre; strand diameter: 3 mm; string diameter: 5 mm; twist period: 8 mm; string spin direction: Z). The base of the sealing is unbroken but very uneven. It is probable that the sealing comes from the top section of a large peg, at least 40 mm long.

22 **Sealings (2)** Fig. 2:31

a. 6G76:291 AbS 1569
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 50 x 32 mm.
Sealing type: ?door peg.

b. 6G76:1011 AbS 2511
Batch 2686(F), context B (Ash-Tip Phase 2).
Size: 29 x 24 mm.
Sealing type: peg (?package).

Single impression on each sealing; the combined drawing may be virtually complete.

The subject of this fragment is an animal combat, but it is smaller than usual and the figures are somewhat more roughly depicted than usual. **22b** comes from Phase 2 of the Ash-Tip and is therefore earlier than the great majority of the Ash-Tip sealings, which come from Phase 3. Just possibly the size of the seal and the crudity of the carving are early features, but generalizations can hardly be made on the basis of the seal's pattern alone.

a. The reverse is largely broken but there are traces of what may be string. The base is level, with minor bumps, probably from a mud-brick wall, which together with the outer curve of the base, and the faint string marks, suggests that the sealing was probably from a door peg.

b. A 9 mm length of smooth peg impression, of 35 mm diameter, is above the marks of three or four rows of string (3 or 4-strand; fibres: coarse, hairy; strand diameter: 1.75 mm; string diameter: 4 mm; twist period: 4 mm; string spin direction: mixed).

23 **Sealing** 6G76:143 AbS 1521 Fig. 2:32
Batch 2610, context G (Ash-Tip Phase 3).
Size: 57 x 46 mm.
Sealing type: test strip.

Drawn from one incomplete impression, height 26 mm. The circumference is probably complete.

Two lions (one at least with a profile head) cross in the centre of the design. Below them is a dagger filler. The lion to the left attacks an antelope while the lion to the right probably attacks a goat with its head turned back. A kneeling man raises his arm behind the antelope's horns. This figure probably repeats at the right end of the rolling.

Reverse is badly encrusted but was probably originally flat perhaps with some straw impressions. This may have been a strip for a test rolling of a seal.

24 **Sealing** 6G86:249 Fig. 2:33
Batch 1942, context H (Ash-Tip Phase 3).
Size: 28 x 27 mm.
Sealing type: ?door peg.

One fragmentary main rolling (height: 21 mm) and beneath this traces of a second rolling.

An ungulate (antelope ?) is attacked by one of two crossed lions. The second rolling has traces of what appears to be a hairy animal, perhaps a goat.

A 13 mm length of smooth peg (diameter: 35 mm) has vague string marks around it. The base is broken.

25 **Sealing** 6G77:65 Fig. 2:34
Batch 3904, context H (Ash-Tip Phase 3).
Size: 36 x 25 mm.
Sealing type: ?

Two fragmentary impressions, 18 mm combined height of the two impressions. From left to right: lion's head, rampant oryx, tree, rampant wild goat, feet and tail of crossed lions.

Reverse is largely broken, but there are hints of string marks.

26 **Sealing** 6G66:56 AbS 481 Figs. 2:9, 2:35
Batch 406, context P (Ash-Tip, mixed).
Size: 51 x 32 mm.
Sealing type: ?door peg.

Using parts of three impressions, the upper parts of the bodies of four rampant animals can be reconstructed. Extant height of impression is 21 mm.

The legs of an unidentified animal touch the back of a bull(?) who turns back toward them. The bull is attacked from the right by a lion with a head shown in profile, but very schematized. A second lion crosses the first and presumably attacks a further herbivore to the right.

(Fig. 2:9) There is a 25 mm long smooth curved impression with clear wood grain marks from a wooden peg, whose diameter is distorted. Beneath this is an area of messy fibre, from very loosely wound string, and then a single row of hairy string (diameter: 5 mm). The sealing is certainly from a peg, bound with string, probably a door peg, but not necessarily so, as the sealing does not have a base which may have been applied to a wall or door surface.

27 **Sealing** 6G76:853 Fig. 2:36
Batch 2665, context H (Ash-Tip Phase 3).
Size: 43 x 37 mm.
Sealing type: door peg.

Two rollings, possibly of different registers of the seal. Height of upper and main rolling: 18 mm; height of smaller rolling: 11 mm. The main rolling shows crossed lions, a rampant goat, a third lion and the legs and skirt of a man(?). The smaller impression shows a small figure with pigtail apparently seated on a stool in a boat. Behind him is a passant lion (head not preserved). There is just a trace of an object below the lion's feet which suggests that this scene might have been an upper register above the animal combat described above. If so, it is just possible that the man and lion were part of a miniature 'divine boat' scene. Similar scenes form upper registers in Amiet 1980, Nos. 1441, 1443, 1445-48. The seals noted in Amiet, however, all combine the divine boat scene with ziggurat building. Cf. **99-100**.

A 5 mm long section of grained peg (?palm frond mid-rib), of 24 mm diameter, is preserved, beneath which are five rows of string marks (string diameter: 3.5 mm), with one length leading off at the side, from where it would have hung loose. The base has a lump on it, but it is almost certainly from a mud wall.

2.4.4.1.2 *Animal contest scenes with lion heads shown full-face from above* (**28-39**)

2.4.4.1.2.1 *Geometric, elongated style* (**28-33**)

28 **Sealings (2)** Fig. 2:37

a. 6G77:23
Batch 3904, context H (Ash-Tip Phase 3).
Size: 27 x 28 mm.
Sealing type: ?

b. 6G77:37
Batch 3904, context H (Ash-Tip Phase 3).
Size: 21 x 20 mm.
Sealing type: ?

Design reconstructed from fragmentary rollings on two sealings, 19 mm in height.

One can see the heads of two lions (presumably crossed); the lion on the right bites the neck of an ungulate, probably an antelope or gazelle. There are traces of an ungulate on left, but this head cannot be reconstructed with certainty. Details of the animals are highly stylized. The faces of the lions are geometric. The necks of the ungulates are very long and thin. In many respects the impression resembles **29**. It is possible that they show different lions on the same seal. It certainly seems probable that they were made by the same seal cutter or workshop.

Reverses of both sealings entirely broken.

29 **Sealing** 6G77:60 Fig. 2:38
Batch 3904, context H (Ash-Tip Phase 3).
Size: 40 x 25 mm.
Sealing type: ?

One fragmentary rolling of a large seal, 33 mm preserved (and virtually complete) height.

This is the best example of a distinct school of seal carving found in the Ash-Tip. In all of these seals crossed lions have thin and long legs and torsos, but large, geometric heads shown full-face. They attack ungulates who have elongated bodies and forelegs.

On the reverse, there are loosely twined string impressions (string diameter: 2 mm) only.

30 **Sealing** 6G76:426 AbS 1570 Fig. 2:39
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 35 x 26 mm.
Sealing type: ?

One fragmentary impression preserved to 17 mm height.

A lion whose head is shown in a stylized full-face view bites the neck of a herbivore and reaches out with a paw to hold it. The herbivore has a very thin neck. Its head falls sharply back away from the lion. Only the tip of a horn or ear is visible where it curved back toward the neck. This fragment is very similar to **31** and may be from the same seal, though it does not appear possible to join the fragments. It is also the same style of lion as seen on **28** and may come from the same workshop.

All reverse surfaces are broken on this fragmentary sealing.

31 **Sealing** 6G76:623 AbS 1680 Fig. 2:40
Batch 2638, context K (?Ash-Tip Phase 3).
Size: 32 x 23 mm.
Sealing type: ?door peg.

Single, somewhat unclear impression, preserved height 23 mm.

The impression is not very good, but it seems most likely that crossed lions were shown to the left; one attacks a rampant goat. The lion head appears to be of the geometric full-face variety also seen on **28-30**.

Reverse is rather distorted, and has three rows of indistinct string marks (string diameter: 5 mm), as well as what are probably wood grain impressions, not dissimilar to **88**. The sealing may come from a peg, tied with string.

32 **Sealing** 6G76:823b Fig. 2:41
Batch 2669, context G (Ash-Tip Phase 3).
Size: 25 x 19 mm.
Sealing type: ?

At least two (and possibly three) overlapping impressions of a cylinder seal showing an animal combat scene; total height of impressions: 18 mm.

The figure of a herbivore with its forelegs extended along its stomach is similar to that on **28**. A depression next to the foreleg(s) indicates this was the start of one rolling. The torso of a rampant animal can also be distinguished from another rolling, but it is unclear which of the other lines and markings belong to this rolling and which may stem from yet a third rolling. The sealing is drawn twice, once as it actually appears and a second time to isolate the fragments of the lion and herbivore figures.

Reverse is encrusted and broken.

33 **Sealing** 6G76:542 AbS 1650 Fig. 2:42
Batch 2625, context T (Ash-Tip Phase 3).
Size: 51 x 29 mm.
Sealing type: ?

One impression preserved, maximum height: 25 mm.

On the left a goat is attacked by one of two crossed lions. There is a filler behind his neck, giving him the impression of having two ears. There are traces of a further figure to the left.

Reverse surfaces are entirely encrusted and broken.

2.4.4.1.2.2 *Fully modelled style* **(34-36)**

34 **Sealing** 6G76:152 AbS 1524 Fig. 2:43
Batch 2610, context G (Ash-Tip Phase 3).
Size: 58 x 42 mm.
Sealing type: test strip.

The seal impression is drawn from a faint but almost complete rolling, 35 mm high. Two crossed lions attack herbivores, probably an antelope to the left and an oryx to the right. There is a dagger filler between the antelope and crossed lions. The space between the antelope and oryx was divided by two horizontal lines. Nothing is preserved above the lines; there are traces of a pattern (intertwined snakes ?) beneath the dividing lines. The seal that made this impression was very similar to that which made **35**. Both seals were tall (*c.* 35 mm) and both use drill hole fillers between the legs of herbivores. The pattern of intertwined snakes on **35** may also be repeated as a filler below the dividing lines on **34**.

The sealing is only 9 mm thick, and its reverse displays only fingerprints on an otherwise smooth surface.

35 **Sealings (2)** Fig. 2:44
a. 6G76:95 AbS 1541 Fig. 2:9
Batch 2605, context G (Ash-Tip Phase 3).
Size: 30 x 37 mm.
Sealing type: peg (?package).

b. 6G76:476 AbS 1628
Batch 2623, context T (Ash-Tip Phase 3).
Size: 57 x 40 mm.
Sealing type: door peg.

The seal (original height: *c.* 35 mm) is reconstructed from one large and one fragmentary rolling on sealing **b** and two overlapping rollings on sealing **a**.

Design, starting at the three horizontal bars and moving right: A rampant ibex is attacked by a full-face lion. This lion crosses with a second lion which attacks a rampant bovine which turns its head back toward a lion attacking from the far right. The bovine's tail ends in a drill hole circle and a second circle fills the space between his legs (cf. **43**). Intertwined snakes(?) filled the space between the legs of the bovine and the lion. Three bars link the rear of this lion and the rear of the ibex at the other end of the design. Nothing is preserved of any pattern above or below these lines. There are traces of legs in a second rolling on sealing **b**. These appear to be the legs and tail of the two crossed lions.

a. (Fig. 2:9) One of a series of small peg sealings (cf. **36a**, **47b**, **67**, **94**, **113**, **102a**, **117b**, **125**, **140**; also 6G65:383/AbS 2451 from the 6G65 'Ash-Pit' and 6H92:97/AbS 2290 from Room 69 of the '6H82 House') which, by their size and shape, may have secured packages of some sort rather than doors. The peg impression, which is very smooth and possibly reed, has a length of 30 mm and a diameter of only 13 mm. There are two rows of hairy string (string diameter: 3.75 mm) around the peg.

b. A good example of a sealing which must come from a door peg, yet has few traces of string or a peg, because of a broken reverse. The diagnostic features are as follows: there is a hint of a string impression coming off the base of the sealing; there is a short smooth section representing the vestiges of a peg mark; the base is level and has come off a plastered wall; the outer curve of the base indicates that the sealing has come off a curved object; on the obverse there is a bulge running along the top of the base, showing where pressure was applied to the clay to stick it to the wall.

36 Sealings (3) Fig. 2:45

a. 6G76:389 AbS 1639
Batch 2613, context H (Ash-Tip Phase 3).
Size: 34 x 23 mm.
Sealing type: peg (?package).

b. 6G76:615+616 AbS 1808
Batch 2640, context L (fill of Pit i in Ash-Tip Phase 3).
Size: 58 x 40 mm.
Sealing type: door peg.

c. 6G76:660 AbS 1812
Batch 2642, context L (fill of Pit i in Ash-Tip Phase 3).
Size: 45 x 41 mm.
Sealing type: ?pot.

One small impression on sealing **a**, height: 14.5 mm; two overlapping impressions on sealing **b**, height: 30 mm; one faint impression on sealing **c**, height: 17 mm.

All three sealings have impressions of a two register 'end' from an ED III seal. Doubtless the major motif on the seal was an animal combat scene; of this only parts of an antelope are left on the left edge of our drawing. The upper register of the divided 'end' piece showed an eagle grasping a sheep protome on either side. The sheep on the left does not have horns; the area above the sheep's head is not preserved on the right. Below the double dividing lines a lion crosses a herbivore and attacks a second herbivore; neither herbivore has horns.

It seems likely that one or more other sealings may preserve some of the main animal combat frieze, although it may not join this piece.

a. Another sealing resembling **35a** in its functional shape. A 9 mm length of smooth peg (diameter: 15 mm) has string impressions beneath it (possibly 4-strand; string diameter 4.5 mm). The base is broken, but has almost certainly not come off a wall.

b. Reverse is badly broken, but retains ghost impressions of what was probably a peg wrapped with string (string diameter: 5.5 mm). The base is smooth, from a plastered wall, and the outer curve of the base argues for the identification of this piece as a door peg sealing.

c. At least seven rows of loosely twined string impressions cover the reverse, circling a diameter of 48 mm (probably 3-strand; fibres: coarse, hairy; strand diameter: 3.5 mm; string diameter: 4.5 mm; twist period: 6 mm; string spin direction: probably Z). The piece could have sealed a large peg or a small jar.

2.4.4.1.2.3 *'Court' quality* **(37-39)**

37 Sealing 6G76:44 AbS 1519 Fig. 2:46
Batch 2603, context G (Ash-Tip Phase 3).
Size: 48 x 14 mm.
Sealing type: leather container.

Design drawn from one fragmentary rolling, preserved height: 35 mm.

Inscription reading ^{d}x MES/DUB *dumu* BAD, above an animal combat scene.

A herbivore is crossed with a full-face lion. The lion attacks another herbivore to the right. Presumably there was also an animal combat scene taking the full height of the seal, but not preserved.

The sealing has probably come from a soft container of some sort. There is an area of coarse hairy impressions, and running along the base is a single row of string (3-strand; strand diameter: 2.5 mm; string diameter: 4 mm; twist period: 10 mm; string spin direction: S). The long twist period and the S-spin of the strands mark the string out from the normal Abu Salabikh string.

38 Sealing 6G76:835 AbS 1951 Fig. 2:47
Batch 2669, context G (Ash-Tip Phase 3).
Size: 29 x 25 mm.
Sealing type: ?

One fragmentary impression, height 26 mm.

Remains of an inscription deciphered by J.N. Postgate as [Š]EŠ / UNUG GAL (possibly thus to be read as *lugal-uri* "King of Ur", but the long stroke to the right of UNUG and the shape and location of the *gal* make it hard to know whether this is the correct reading). Certainly the implications of "King of Ur" on a sealing

from Abu Salabikh encourage caution. Dividing bars can just be seen below the inscription. To the left of the inscription a small herbivore is crossed with a small lion. To the right of the inscription a bearded man shown in profile grapples with an unseen animal.

No details clear on the reverse.

39 **Sealing** 6G86:95 Fig. 2:48
Batch 1910, context G (Ash-Tip Phase 3).
Size: 36 x 31 mm.
21 x 15 mm.
Sealing type: ?

Traces of at least three (probably four) overlapping rollings, largest 20 mm high.

Because there are so many impressions which overlap it is difficult to reconstruct the original seal design. It is a large ED III seal with an inscription (*ad-d[a]* is visible). The remainder of the seal showed an animal contest scene. A human 'hero' with upright locks of hair (facing left) was involved in the contest, together with a least one lion (facing right) and probably two ungulates drawn on a smaller scale than the lion (they move right but turn heads to left).

Reverse is encrusted and broken.

2.4.4.1.3 *Almost complete small seal* **(40)**

40 **Sealings (15)** Fig. 2:49

a. 6G76:767
Batch 2655, context G (Ash-Tip Phase 3).
Size: 20 x 18 mm.
Sealing type: ?

b. 6G76:793
Batch 2663, context L (fill of Pit 1 in Ash-Tip Phase 3).
Size: 27 x 32 mm.
Sealing type: ?door peg.

c. 6G76:801
Batch 2661, context G (Ash-Tip Phase 3).
Size: 47 x 21 mm.
Sealing type: ?door peg.

d. 6G76:811 Fig. 2:8
Batch 2666, context G (Ash-Tip Phase 3).
Size: 60 x 32 mm.
Sealing type: door peg.

e. 6G76:821
Batch 2667, context G (Ash-Tip Phase 3).
Size: 8 x 22 mm.
Sealing type: ?

f. 6G76:834
Batch 2667, context G (Ash-Tip Phase 3).
Size: 19 x 27 mm.
Sealing type: peg (?package).

g. 6G76:836
Batch 2667, context G (Ash-Tip Phase 3).
Size: 19 x 21 mm.
Sealing type: door peg.

h. 6G77:8
Batch 3904, context H (Ash-Tip Phase 3).
Size: 21 x 14
Sealing type: door peg.

j. 6G77:45
Batch 3904, context H (Ash-Tip Phase 3).
Size: 27 x 28 mm.
Sealing type: door peg.

k. 6G86:31 AbS 1882
Batch 1902, context G (Ash-Tip Phase 3).
Size: 35 x 24 mm.
Sealing type: door peg.

l. 6G86:80 AbS 1875
Batch 1901, context G (Ash-Tip Phase 3).
Size: 66 x 33 mm.
Sealing type: ?door peg.

m. 6G86:125 AbS 1907
Batch 1919, context G (Ash-Tip Phase 3).
Size: 35 x 28 mm.
Sealing type: ?pot.

n. 6G86:190
Batch 1927, context H (Ash-Tip Phase 3).
Size: 35 x 16 mm.
Sealing type: door peg.

Pattern reconstructed from thirteen fragmentary rollings, height: 20 mm.

Crossed lions attack a bovine and goat; a naked man reaches out to a goat; there is an unidentified filler above the back of the bovine.

a. Reverse very broken, except for faint string impressions.

b. A smooth section of peg impression curves round a diameter of 32 mm. There are vague string impressions.

c. Badly broken reverse has string marks (3-strand; fibres: hairy; strand diameter: 3.5 mm; string diameter: 4.5 mm; twist period: 6.5 mm; string spin direction: S). The base has come off a mud wall.

d. (Fig. 2:8) An excellent example of a door peg sealing. The base of the piece is flat and has come from a smooth plastered wall. A 12 mm length of peg impression is preserved, with a base diameter of 30 mm, narrowing to 25 mm. Above this section are string impressions (string diameter: 3.25 mm). The sealing closely resembles others with this same seal impression (cf. below under **g**, **h**. **k**, **n**).

e. Very fragmentary piece, but probably with string marks.

f. There is a sub-rectangular section of peg impression, 12 mm wide, crossed by coarse string (string diameter: 6 mm).

g. Another of the group of sealings with identical seal impressions as well as very similar reverse markings (see **d** above). There is a short section of peg impression (diameter: 23 mm) with faint horizontal grooves, and loosely twined string (string diameter: 4.5 mm).

h. Another sealing of the same type as **d.** There is a 15 mm length of smooth peg impression (diameter: 34 mm), with faint string marks (string diameter: 4 mm). The base is smooth and has come off a plastered surface.

j. Reverse face has a curve of 24 mm diameter, with string impressions (string diameter: 3.5 mm). A piece of vegetable matter, 5 mm wide and 23 mm long,

probably a portion of reed, lies across the string. The sealing base is flat, and has come from a wall.

k. Another sealing resembling **d**. There is a 7 mm length of smooth peg, 25 mm in diameter, circled by some badly eroded string impressions. The base is smooth and has come off wall plaster.

l. Reverse largely broken, but with vague string marks. The base may have come from a wall.

m. Reverse is largely broken and encrusted, but the base is smooth, with a slight curvature, perhaps from the neck of a vessel.

n. Good example of the type like **d** clearly a door peg. There is a 17 mm length of curved smooth peg (diameter: 26 mm). One row of string marks encircles the peg (fibres: hairy; string diameter: 3 mm). The base is very smooth, from a plastered surface.

2.4.4.1.4 *Fragments of seals, probably based on 4, 5 or 6 figures with central crossed lions* (**41-52**)

41 Sealing 6G76:659 AbS 1807 Fig. 2:50
Batch 2642, context L (fill of Pit i in Ash-Tip Phase 3).
Size: 34 x 32 mm.
Sealing type: ?door peg.

There are two impressions of the seal, both very faint; maximum height: 17 mm.

The only figure which can be discerned is a rampant lion on the far left in the upper of the two rollings. Faint traces in the second rolling suggest he was attacking a caprid with its head thrown back. The figures are small, the same scale used on **51** and **128**. Possibly they all were made by the same cylinder seal.

This fragmentary piece has a 26 mm length of smooth peg impression, diameter: 25 mm, and very faint traces of string.

42 Sealing 6G76:295 AbS 1659 Fig. 2:51
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 35 x 30 mm.
Sealing type: basket.

There is a single, incomplete impression on the sealing, preserved height: 23.5 mm.

Two crossed lions are on the left; one attacks a herbivore (no horns preserved). Traces of a further figure to the right (possibly a man approaching the herbivore) are unclear.

One side of the reverse is badly encrusted but the other side has an area, 17 x 10 mm, of interlocking basket impressions, clearly made from some grainy vegetable matter, such as strips of palm leaflets, each strand 2.5 mm wide.

43 Sealing 6G76:750c Fig. 2:52
Batch 2655, context G (Ash-Tip Phase 3).
Size: 30 x 32 mm.
Sealing type: ?pot.

At least two superimposed rollings; preserved height: 21 mm.

To the right a full-face lion attacks a caprid which turns its head back to the left. On the left are traces of an animal facing left with two long parallel lines above its back (oryx horns?) and looped lines (possibly a third rolling?) above these. Parallel lines below this animal probably belong to another rolling of the same seal.

There are several rows of string impressions (3-strand; fibres: hairy; strand diameter: 3.5 mm; string diameter: 5 mm; twist period: 6 mm; string spin direction: Z), curving round a diameter of 76 mm, which probably represents the neck diameter of a vessel.

44 Sealing 6G76:642 AbS 1810 Fig. 2:53
Batch 2639, context L (fill of Pit i in Ash-Tip Phase 3).
Size: 20 x 30 mm.
Sealing type: ?

One fragmentary impression, height: 17 mm.

Legs and tails of crossed lions, filler motif between (dagger?), traces of figures approaching lions from each side.

No details on the reverse of this fragmentary piece.

45 Sealing 6G86:220 Fig. 2:54
Batch 1952, context H (Ash-Tip Phase 3).
Size: 25 x 22 mm.
Sealing type: ?door peg.

One main rolling (fragmentary, height: 13 mm) and traces of two other rollings.

Legs of crossed animals (lion and ?) with filler between. What may be a rampant lion on a smaller scale from another rolling to left. Below main rolling are traces of lion's mane and tails(?) from an earlier rolling at right angles to the main rolling.

This small fragment has a reverse covered in string marks (fibres: hairy; string diameter: 2.5 mm), probably circling a peg of indeterminable diameter.

46 Sealing 6G76:434 AbS 1567 Fig. 2:55
Batch 2620, context T (Ash-Tip Phase 3).
Size: 29 x 25 mm.
Sealing type: test strip.

This small fragment has a single impression preserved to a height of 21 mm.

The legs of crossed animals, probably lions, are clear; between them is a dagger as filler.

This thin sealing, 5 mm thick, has a pitted reverse with no distinctive impressions. It is probably a test strip.

47 Sealings (2) Fig. 2:56

a. 6G76:823a
Batch 2669, context G (Ash-Tip Phase 3).
Size: 27 x 25 mm.
Sealing type: ?

b. 6G76:833
Batch 2667, context G (Ash-Tip Phase 3).
Size: 25 x 17 mm.
Sealing type: peg (?package).

Duplicate impressions on two sealings, maximun height: 19 mm.

Crossed lion legs; legs of animals on either side moving away from lions, but probably attacked by them.

a. There are faint traces of what may be reed impressions.

b. A 23 mm long stretch of peg impression with faint grain (?reed), curves round a diameter of 20 mm, below which are unclear string marks.

48 Sealings (4) Fig. 2:57

a. 6G76:53 AbS 1512
Batch 2603, context G (Ash-Tip Phase 3).
Size: 43 x 58 mm.
Sealing type: door peg.

b. 6G76:314 AbS 1549
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 12 x 13 mm.
Sealing type: door peg.

c. 6G76:752
Batch 2655, context G (Ash-Tip Phase 3).
Size: 60 x 37 mm.
Sealing type: ? package/bale.

d. 6G76:862
Batch 2670, context J (fill of Grave 178 in Ash-Tip Phase 3).
Size: 30 x 29 mm.
Sealing type: ?door peg.

Reconstructed from four sealings. Sealing **a** has at least three overlapping impressions; **b** has one impression; **c** has two faint impressions; **d** has one. In no case are the impressions very clear or complete.

Although incomplete the seal appears to show crossed lions, one of which attacks a gazelle on the right. There appear to be two vertical lines behind the gazelle and faint traces of further rampant animals further to the right.

a. The reverse is heavily encrusted, but enough details are clear to ascertain that this is a door peg sealing. The peg, of 29 mm diameter, and 35 mm length, has a flared base of 40 mm diameter. Two rows of string impressions cross the peg (3-strand; fibres: hairy; strand diameter: 2.75 mm; string diameter 3.75 mm; twist period: 7 mm; string spin direction: Z), which is tilted to an angle of 60 degrees from the plane of the base, which is encrusted but has come from a level surface, such as a wall.

b. A profile of part of a shouldered peg is preserved (minimum length: 23 mm; diameter at widest point: 24 mm). Two rows of string circle the peg at its narrowest point (3-strand; fibres: hairy; strand diameter: 2 mm; string diameter: 4 mm; twist period: 6 mm; string spin direction: Z). The underside of the sealing is smooth and has come off a wall.

c. An unusual reverse: a length of twisted cord, 6 mm wide, made of finely woven material strips, each strip 4.5 mm wide, has been inserted into a hole in a smooth surface, perhaps a door or a box. This piece is a rare example of a sealing which has covered a length of cord at its intersection with a hole in a surface: the cord would have been knotted on the other side of the hole, and may represent a form of package sealing.

d. A 17 mm length of smooth peg impression curves round a diameter of 26 mm. Beneath are fine string marks (3-strand; fibres: delicate; strand diameter: 1.25 mm; string diameter: 1.75 mm; twist period: 3 mm; string spin direction: Z).

49 Sealing 6G76:345 AbS 1572 Fig. 2:58
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 27 x 32 mm.
Sealing type: ?

Design drawn from one impression, 23 mm high.

What is preserved of the impression shows two crossed rampant lions. The lion facing to the right attacks a caprid which throws its head back so that its horns touch its back. Further to the right is a horizontal bar with a rampant goat below and an unidentified object above.

The small reverse face has no clear markings, except for a groove perhaps caused by a leather thong.

50 Sealing 6G76:576 AbS 1634 Fig. 2:15
Batch 2625, context T (Ash-Tip Phase 3).
Size: 43 x 23 mm.
Sealing type: door peg.
[= 6]

The sealing has the impression of a cylinder seal and, superimposed on this, a stamp seal impression (**6**), total maximum height: 28 mm. A second, fainter, stamp seal impression may be to the left of the first.

All that can be seen of the cylinder seal pattern are the legs and tail of a lion moving to the left. He appears to be crossed with another animal. To the right the lion's tail crosses with another (lion's ?) tail. Above the tails are two horizontal bars.

For details of the reverse, see **6**.

51 Sealings (2) Fig. 2:59

a. 6G76:567 AbS 1663
Batch 2623, context T (Ash-Tip Phase 3).
Size: 55 x 35 mm.
Sealing type: ?
[= 4d, 69d]

b. 6G76:577 AbS 1664
Batch 2625, context T (Ash-Tip Phase 3).
Size: 56 x 44 mm.
Sealing type: ?door peg.
[= 4f]

These two sealings seem to show a very fragmentary pattern from an animal combat scene, preserved to a height of 18 mm on sealing **b**. Both sealings also have been marked with the lion head stamp seal, **4**, but sealing **a** is exceptional in that it also has an impression of the cylinder seal **69**. Because **51** is so fragmentary and poorly preserved and because we do not have the complete pattern of **69**, it is just possible that we are mistaken in thinking that **51** is a different seal from **69**. Repeated examination has been unable to link the patterns, however, and it seems better to present **51** as it appears. Until a better rolling of this seal is found, however, it may be unwise to draw far reaching conclusions from these two examples.

For the reverses see **4d, f**.

52 Sealing 6G76:940 AbS 2466 Fig. 2:60
Batch 2672, context D (fill of Grave 6 in Ash-Tip Phase 2).
Size: 55 x 30 x 24 mm.
Sealing type: ?door peg.
[= p. 12, § 1.5.2, No. 7]

There are three fragmentary impressions, but two are largely obscured by the third and by a fingerprint. Height of the best impression is 16 mm.

The seal showed an animal contest, probably with crossed lions attacking ungulates. The lower part of a fleecy animal and the legs and tail of a lion are preserved from the left half of this pattern. Behind the ungulate the field is divided by two horizontal lines. Below these lines is a figure, possibly a scorpion. Above there may have been an inscription. One of the poorer impressions has traces of a DUMU sign above a horizontal line. The worst of the impressions shows the back of the ungulate mentioned above with either its horn or head above.

There is a pitted curved surface of 55 mm diameter, with vestiges of string impressions above it. The base has been applied to a level surface, perhaps a wall.

2.4.4.1.5 *Animal contest pattern variations* **(53-63)**

53 **Sealing** 6G76:121 AbS 1515 Fig. 2:61
Batch 2608, context G (Ash-Tip Phase 3).
Size: 60 x 49 mm.
Sealing type: ?

There are two rollings of the seal, the larger one preserved to 24 mm in height.

Two goats appear to walk away from each other, but turn their heads back towards an eagle(?) above their backs. There are traces of an unidentified figure to the left of the first goat, possibly a lion attacking it. There is a dagger filler between the legs of the second goat and an unidentified filler above the back of the first goat.

The reverse is badly broken and misshapen. There are vestiges of what may have been string impressions, but no clear markings.

54 **Sealing** 6G76:756 Fig. 2:62
Batch 2652, context L (fill of Pit i in Ash-Tip Phase 3).
Size: 41 x 41 mm.
Sealing type: ?

Two faint rollings; fragments do not overlap; preserved height: 25 mm.

An eagle stretches out its leg over the back of a passant herbivore (pattern would have been symmetrical). Possible trace of a lion's paw attacking herbivore from right. Second rolling has legs on left (or possibly herbivore's horns from first rolling) and more legs on right followed by an inverted scorpion.

Reverse surfaces are broken.

55 **Sealing** 6G76:463 AbS 1645 Fig. 2:63
Batch 2625, context T (Ash-Tip Phase 3).
Size: 30 x 20 mm.
Sealing type: label.

There is one impression, height: 20 mm.

An antelope springs forward from the right. His forelegs cross with the tail of a lion also facing left. This suggests that the antelope was rampant, not passant. There are traces of an object above the lion's back. Probably this was another animal attacking the antelope.

The reverse faces are largely broken and encrusted, except for a 20 mm length of faint string markings (string diameter: 2.5 mm). The piece very closely resembles **179**, and may well have been a tag or label attached to a piece of string dangling from some unknown object.

56 **Sealing** 6G86:86 Fig. 2:64
Batch 1917, context G (Ash-Tip Phase 3).
Size: 33 x 34 mm.
Sealing type: ?

Crossed lion and bullman; bullman seems to hold legs of up-ended animal.

Reverse is entirely broken, but there are faint string marks on the base.

57 **Sealing** 6G76:105 AbS 1520 Fig. 2:65
Batch 2601, context A (surface).
Size: 58 x 42 mm.
Sealing type: peg (? package).

Drawn from one faint impression preserved to a height of 15 mm. Traces of an animal combat scene are just visible. To the left are what are possibly the feet of an inverted animal. To the right of these is a bullman in profile who touches the leg of an unidentifiable animal crossed with a lion.

The sealing is badly encrusted and distorted, but holds the outline of a peg, 50 mm long and 20 mm in diameter. A single row of string markings cuts across the middle of the peg (string diameter: 3.5 mm). There are coarse marks around the peg, which might come from sacking.

58 **Sealing** 6G76:789 Fig. 2:66
Batch 2661, context G (Ash-Tip Phase 3).
Size: 35 x 21 mm.
Sealing type: ?door peg.

Two overlapping impressions, 14 and 11 mm high.

Upper rolling probably shows lions crossed and goat on right attacked; filler between lions and goat. Lower rolling shows goat head held by bullman using a rope(?) or possibly a misplaced goat's beard(?).

The reverse curves round a diameter of 41 mm, and has good string impressions (3-strand; strand diameter: 2 mm; string diameter: 3 mm; twist period: 4.5 mm; string spin direction: Z).

59 **Sealing** 6G76:1050 Fig. 2:67
Batch 2672, context D (fill of Grave 6 in Ash-Tip Phase 2).
Size:
Sealing type: ?
[= p. 12, § 1.5.2, No. 8]

One fragmentary rolling, 25 mm high (original sealing *c.* 30 mm high).

The seal that made this impression was one of the most elegant to leave its mark at Abu Salabikh. On what is preserved a bullman faces right between two sets of crossed animals. Behind him a lioness (crossed with another feline) reaches out her claws to his waist. The bullman is facing a bovine(?) whom he grasps by its neck and foreleg. The animal in turn crosses with another, possibly also bovine or feline.

Reverse not studied.

60 **Sealing** 6G76:832 Fig. 2:68
Batch 2667, context G (Ash-Tip Phase 3).
Size: 31 x 21 mm.
Sealing type: ?

One partial rolling, preserved height: 17 mm.

A naked 'hero' with double belt reaches out to crossed animals on left and crossed lions on right.

On the reverse, there are faint reed impressions, but no clear details.

61 **Sealing** 6G76:658 AbS 1813 Fig. 2:69
Batch 2642, context L (found in fill at edge of Pit i in Ash-Tip Phase 3).
Size: 51 x 32 mm.
Sealing type: ?

Poor impression of what may have been a poorly carved seal, 23.5 mm height preserved.

A full-face bullman moving left turns his head back toward human(?) figure. This is followed by a vertical line, and a human figure facing right and holding animal horns(?).

There are two 20 mm lengths of split reed, each *c.* 10 mm wide, across the base of which runs the impression of what is probably another split reed, but their purpose is unclear.

62 **Sealing** 6G77:17 Fig. 2:70
Batch 3904, context H (Ash-Tip Phase 3).
Size: 24 x 39 mm.
Sealing type: ?

Single fragmentary and rather faint rolling of seal, height: 26 mm.

Rampant figure of man or lion to left; crossed figures of ungulate and lion to right.

Piece has been distorted by removal while still damp.

63 **Sealings (2)** Fig. 2:71

a. 6G76:565 AbS 1642
Batch 2623, context T (Ash-Tip Phase 3).
Size: 31 x 24 mm.
Sealing type: ?package/bale.

b. 6G76:563 AbS 1679 Fig. 2:9
Batch 2623, context T (Ash-Tip Phase 3).
Size: 50 x 47 mm.
Sealing type: ?package/bale.

Each sealing has one partial rolling of the seal, 23 mm maximum height. The seal itself appears to have been crudely cut. The relief is uneven and the details (e.g. the legs of the central man) are carelessly executed.

The subject is a combat between rampant animals and men. The central motif of the composition is not preserved; what we have are the end figures (apparently two men) who move away from each other to the left and right towards the centre. The motif between the men cannot be made out. At the left edge of the impression are the hindquarters of two animals, probably lions. Presumably the one on the far left was crossed with a herbivore which the lion to the right was attacking. On the far right is a small filler in the form of a lizard(?).

a. The reverse face, which is not curved, has three rows of string impressions (3-strand; fibres: hairy; strand diameter: 2 mm; string diameter: 3.5 mm; twist period: 4 mm; string spin direction: Z), one of which continues along the side of the sealing and under the base. As the reverse face is flat, the sealing may have been used to seal the string securing a rectangular bale or package of some sort.

b. (Fig. 2:9) The reverse bears excellent string impressions (3-strand; fibres: hairy; strand diameter: 2.25 mm; string diameter: 4 mm; twist period: 4 mm; string spin direction: Z), including a fine knot, crossing a fine pitted surface. To one side of the reverse the two lengths of string continue to the edge at a steep angle to the main reverse surface. The sealing, therefore, was placed over a knot in string on a rough surface, perhaps a large package.

2.4.4.2 *Seal patterns with human figures with semi-circular heads* (**64-68**)

64 **Sealings (2)** Fig. 2:72

a. 6G76:254 + AbS 1662
6G76:255 AbS 1661
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 37 x 18 mm; 34 x 16 mm.
Sealing type: label.

b. 6G76:416 AbS 1575
Batch 2625, context T (Ash-Tip Phase 3).
Size: 54 x 41 mm.
Sealing type: ?

Sealing **b** has an almost complete rolling of the seal, but **a**, although very fragmentary, comes from a better rolling showing more detail.

The design shows a row of skirted figures who are presumably men as they are naked above the waist. They appear to move to the right with their arms upraised and crossing each other. Small double bars join the skirts, waists and chests of the men to each other. The skirts appear to be short and open in the front with a long, trailing flounce behind, but they may just be shown this way to allow the figures to overlap. The heads of the men are shown as half ovals with rounded tops and flat bottoms. Neither hair nor nose distinguish front from back. Usually a triangular eye can be seen in the middle of the head.

This is the most striking of a number of seal impressions using figures with this distinctive half oval head. One other (**67**) seems to show linked figures like these, but also includes a figure apparently pulling an object. One shows a man seated in what may be a dairy scene (**66**) and one seal gives a composite monster the half oval head (**65**). It seems probable that all these seals were made in the same workshop.

a. Two pieces join together to form a single sealing with no diagnostic details, except that the longitudinal curve of the obverse hints that the sealing may have been placed along a stretch of string, thus serving as a label.

b. Reverse is entirely pitted and encrusted.

65 **Sealing** 6G86:70 AbS 1903 Fig. 2:73
Batch 1904, context G (Ash-Tip Phase 3).
Size: 54 x 44 mm.
Sealing type: ?door peg

One quite good rolling with overlap, height 25 mm. [Drawing is based on the photograph; sealing is 'lost' in museum and no cast has been made.]

The design uses composite figures or 'monsters' with the distinctive half oval head. The larger figure appears human above the waist; below the waist he splits into two collapsing goats. Between the goats' heads and the man's torso there is another, unidentified body member (goat's hind leg ?) which rises parallel with each goat's neck, bends in, and is grasped by the man. The smaller composite figure also has a man's head, raised arms and chest. The lower body splits into two symmetrical parts, each with the legs of a man who is either kneeling or running in '*Knielauf*'. Between the legs there is a dagger filler.

Reverse surfaces are broken and encrusted.

66 **Sealing** 6G76:628 AbS 1677 Fig. 2:74
Batch 2638, context K (?Ash-Tip Phase 3).
Size: 30 x 39 mm.
Sealing type: ?peg (?door).

The sealing has one good impression, 22 mm high, probably close to the original height of the seal.

The human figure in the scene has a half oval head seen on a number of other Abu Salabikh sealings from the Ash-Tip. The seal depicted a bovine (probably cow) emerging from a door. To the right a human figure wearing a skirt sits on a stool under a roof made of at least four horizontal lines. The object in front of the man is unclear, but might be the hindquarters of another cow being milked.

The top of the reverse has a straight smooth surface, 20 x 5 mm, beneath which are the marks of three rows of fine string (3-strand; fibres: hairy; strand diameter: 1 mm; string diameter: 2 mm; twist period: 4 mm; string spin direction: Z) which curve round a diameter of 38 mm. The sealing may have come from a round peg with a square top.

67 **Sealing** 6G76:405 AbS 1641 Fig. 2:75
Batch 2617, context G (Ash-Tip Phase 3).
Size: 31 x 24 mm.
Sealing type: peg (?package).

The sealing has two impressions on it, one above the other (maximum height: 17 mm). The lower rolling was probably rolled first; the upper rolling may have disturbed its top edge.

There are two skirted figures standing next to each other in the upper rolling. They look very much like those on **64**, but this does not appear to be the same seal. The lower rolling may have been disturbed by the upper rolling; it is, in any case, very difficult to interpret. A man with a skirt and head like those of the other figures appears to be pulling on a rope(?). An object beneath the rope(?) defies identification. A fringed object tapers off above the man's head but extends to the right above the remainder of the impression. It might be architectural. (It would look right for a boat, but appears to be the top of the bottom rolling, not the bottom of the top rolling.) Comparison should also be made with 65, which shows composite 'monsters' using these same distinctive semi-oval heads. There the necks and forelegs of the goat protomes resemble the fringed object on **67**.

This is another peg sealing of the same type as **35a**. A very smooth section of peg, 9 mm long, is preserved, with a diameter of 15 mm. Beneath are two rows of very loosely twined string (3-strand; fibres: hairy; strand diameter: 3.5 mm; string diameter: 5.5 mm; twist period: 11.5 mm; string spin direction: Z). There is no base to the sealing, so that it suggests itself as coming from a peg fastening on a package of some sort.

68 **Sealing** 6G76:482 AbS 1649 Fig. 2:76
Batch 2625, context T (Ash-Tip Phase 3).
Size: 33 x 27 mm.
Sealing type: ?

One fragmentary impression, maximum height: 18 mm.

This is another example of the seals using half oval heads on human figures. Unusually in this case the figure appears to be naked rather than skirted. He stretches out his left arm towards an object with a jagged top, probably a lion. Above the lion is a crescent with at least one dot (probably moon and star(s); cf. the ED III seals in Frankfort 1955, 352).

An alternative interpretation is that two rollings are superimposed on this impression. If true, the first rolling would have shown the man's head and arm and the crescent and dot. The second rolling could have included the vertical lines under the head, the horizontal zigzag line and a very faint vertical line just below the zigzag line on the left. Just possibly this might then be a faint and incomplete rolling of the seal better seen on 66.

There are three sizeable grooves, varying in width from 4 to 8 mm, across the base, adjacent to a small smooth flat area. The grooves may represent rucked-up leather.

2.4.4.3 *Large seal patterns with geometric arches and elongated animals* **(69-70)**

69 **Sealings (10)** Fig. 2:77

a. 6G76:136 AbS 1523
Batch 2610, context G (Ash-Tip Phase 3).
Size: 62 x 42 mm.
Sealing type: door peg.
[= 4a]

b. 6G76:206 AbS 1546
Batch 2616, context G (Ash-Tip Phase 3).
Size: 42 x 28 mm.
Sealing type: ?
[= 4b]

c. 6G76:250 AbS 1564
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 12 x 13 mm.
Sealing type: ? package/bale.
[= 4c]

d. 6G76:567 AbS 1663
Batch 2623, context T (Ash-Tip Phase 3).
Size: 55 x 35 mm.
Sealing type: ?
[= 4d, 51a]

e. 6G76:576 AbS 1637
Batch 2625, context T (Ash-Tip Phase 3).
Size: 31 x 50 mm.
Sealing type: door peg.
[= **4e**]

f. 6G76:649 AbS 1811
Batch 2646, context G (Ash-Tip Phase 3).
Size: 27 x 24 mm.
Sealing type: ?door peg.
[= **4g**]

g. 6G76:713 AbS 1828
Batch 2645, context G (Ash-Tip Phase 3).
Size: 30 x 46 mm.
Sealing type: pot.

h. 6G76:761
Batch 2655, context G (Ash-Tip Phase 3).
Size: 60 x 37 mm.
Sealing type: ?
[= **4j**]

j. 6G76:867 AbS 2029
Batch 2670, context J (fill of Grave 178 in Ash-Tip Phase 3).
Size: 41 x 39 mm.
Sealing type: ?door peg.
[= **4l**]

k. 6G86:199
Batch 1940, context L (fill of Pit p in Ash-Tip Phase 3).
Size: 30 x 29 mm.
Sealing type: ?door peg.
[= **4m**]

This seal pattern (original height *c.* 3 cm) has been reconstructed using all of the above sealings; in no case is it completely preserved and usually it is cut into by the lion head stamp seal, **4**. Only sealing **g** bears rollings of **69** without the stamp seal **4**, which may be an accident of preservation (although cf. above, p. 43, § 2.2.11.4).

The design of the seal consists of a long-necked animal with a geometric pattern above its back walking toward a geometric arch made with jagged lines and with jagged lines radiating out from its centre. The same workshop may have produced this seal that made **70**: here again a long-necked animal walks toward a geometric arched motif, but in this case the geometric pattern above the animal's back is an eagle's wing. Diyala seals in ED III levels include several examples of jagged arch motifs combined with eagles and quadrupeds. Frankfort 1955, Pl. 27, no. 269 (when inverted so that the quadrupeds are upright and the eagle stands on its head) is quite reminiscent of our **69**. It differs primarily in that elements of the design that are geometric on **69** are shown as animals on Frankfort's no. 269. Where on **69** the pattern above the quadruped is geometric, on Frankfort no. 269 it is a second animal. Similarly the pattern inside the jagged arches of **69** appears to be geometric, while on Frankfort no. 269 it is an inverted eagle. (Cf. Frankfort 1955, Nos. 323, 384 and 416 for other Diyala variations on eagles and arches).

a-e. See **4a-e**.

f. See **4g**.

g. There are large grooves in the clay, caused by application to rucked-up leather. Across run three rows of very fine string marks (3-strand; strand diameter: 1.5 mm; string diameter: 1.75 mm; twist period: 3 mm; string spin direction: Z). There is a very slight curve to the reverse face, which suggests the sealing has come from a vessel covered with leather and tied with string.

h. See **4j**.

j. See **4l**.

k. See **4m**.

70 **Sealing** 6G76:287 AbS 1657 Fig. 2:78
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 64 x 52 mm.
Sealing type: ?door peg.

There are two overlapping impressions of this seal; the total preserved height of the figures is 25 mm.

The original seal must have been exceptionally large. The design presumably included an eagle with wings outstretched over the backs of two long necked, passant goats. Between the goats was a geometric arched pattern. The seal may well have been carved by the same workshop that produced the geometric patterned seal that was used so often with a lion head stamp seal (see **69**).

Reverse faces badly eroded, with no clear details, but the base is intact and may have come from a wall. The general shape of the sealing allows of interpretation as a door peg sealing, but there are not enough details to be certain.

2.4.4.4 *Seal patterns with human figures with long, sloping noses (and chariot scenes)* **(71-75)**

71 **Sealing** 6G76:457 AbS 1656 Fig. 2:79
Batch 2623, context T (Ash-Tip Phase 3).
Size: 31 x 23 mm.
Sealing type: ?door peg.

The sealing has two impressions of the seal, height: 30 mm. The impressions are complementary, only overlapping immediately in front of and under the equid. Using both impressions it is possible to reconstruct nearly the entire seal pattern.

There are a number of ED III seals with chariot scenes. This one is unusual in several respects. The human figures are quite impressionistic with large heads and distorted arms. Although much of the rampant feline is reconstructed, it clearly was also out of proportion, having a very small head and probably an overly long foreleg. The chariot itself is unusual in having a high back and low front; presumably the driver is sitting inside it, rather than riding astride a seat. Several chariot seals show the reins looping around the equid's head, but none of the others expands the reins into an abstract pattern as this seal does. Presumably it was for artistic reasons that the driver is shown holding three reins (rather than two, or four if there were meant to be two equids); the three reins combine into two on the far side of the equid before curving back above its head. Further parallel lines continue this motif above the reins, below, behind and in front of the equid. The desire to fill completely the background (so-called *horror vacui*) also resulted in the use of a number of fillers. An attenuated human body lies below the

equid. A large dagger and a straight line fill in between the standing man and the chariot. A cross above the chariot back is probably also a filler, though possibly it is meant as part of the chariot. The driver of the chariot appears to hold something in one hand. It crosses the reins and is possibly connected with them. Below the main scene is a smaller register. This is poorly preserved, but probably was meant to show a number of dead and defeated enemies.

This large sealing has an unusual reverse. A badly eroded groove may indicate where the sealing was fixed to a peg. On the base are flat areas with small pitting, as if from a wall surface, crossed by deep string impressions, unclear in detail (string diameter: 5 mm), but including a knot. The sealing was thus placed over a large knot on top of a flat surface, out of which there may have protruded a peg.

72 **Sealing** 6G77:67 Fig. 2:80
Batch 3904, context H (Ash-Tip Phase 3).
Size: 21 x 20 mm.
Sealing type: test strip.

Fragment of a seal impression, 20 mm in height.

Although it is small, the design is quite clear. A long-nosed man waves both arms and bends his body forward as if dancing. To the right a man sits on an oval object and holds to his mouth a long object which might be a shepherd's pipe. (It should be noted that the 'pipe' is unclear and other interpretations are possible). The oval object on which he sits seems to have a stem (quite faint) with a slight swelling at the top. It looks as if the man is sitting on a mushroom, but the seal impression is faint and incomplete and possibly misleading. A small filler is to the left of the stem and another object, possibly the rear of an animal, is seen to the right of the stem. Another filler appears in front of the face of the 'piper'.

To a limited degree this impression has parallels at Ur. Woolley 1934, Pl. 192:12 (= Amiet 1980, No. 1268) shows a tiny piper sitting on a stone under a tree. Similar musicians sit on stones on Legrain 1936, Pls. 28 and 57, No. 503, and Pls. 29 and 57, No. 504 (= Amiet 1980, Nos. 1310 and 1311). On all of these Ur seals, however, the musicians have the tails and sometimes the ears of animals. The figure on our Abu Salabikh impression appears fully human. Again none of the Ur seals show dancers and all have the musicians seated on a heap of stones, possibly indicating hills.

Both obverse and reverse have long straight finger-prints, where this thin piece of clay (6 mm thick) has been drawn out prior to rolling the cylinder.

73 **Sealing** 6G76:58 AbS 1518 Fig. 2:81
Batch 2602, context L (fill of Pit d in Ash-Tip Phase 3).
Size: 56 x 45 mm.
Sealing type: ?door peg.

Design reconstructed from two overlapping impressions both showing a human figure with upraised arms, maximum height: 33 mm. The top of the seal with a bird shown almost in three-quarter view is very clear. Two lines appear to the right of the bird's head; they look like horns (or legs?), but it is unclear how they relate to the rest of the pattern. Large daggers are used as filling motifs on either side of the human figure. He touches the tail of a lion(?) with his left arm.

There is a 28 mm length of smooth peg impression, of 33 mm diameter, beneath which are distorted string markings (string diameter: 6.5 mm). The base is broken.

74 **Sealing** 6G76:848 AbS 1952 Fig. 2:82
Batch 2669, context G (Ash-Tip Phase 3).
Size: 27 x 25 mm.
Sealing type: ?door peg.

Single rolling, height preserved: 20 mm.

An equid is pulling a chariot over the torso of a defeated enemy. The chariot shaft curves up and over the equid's back. The reins run in a straight line above the shaft. The arc of a rein ring can just be made out over the shaft. The tip of a metal goad (cf. *ASE* 2, pp. 13-14) is seen on the left edge of the sealing.

There are faint string marks along the reverse, and the base may well have come from a wall surface.

75 **Sealing** 6G77:83 Fig. 2:83
Batch 3906, context G (Ash-Tip Phase 3).
Size: 31 x 26 mm.
Sealing type: ?door peg.

Single fragmentary rolling, 21 mm preserved height.

Front half of a passant equid, quite probably part of a chariot scene. Traces of an object above the equid's back and of diagonal lines in front of it.

Reverse is distorted, but has several rows of string impressions (3-strand; string diameter: 2.25 mm; twist period: 7.5 mm; string spin direction: S), which have probably circled a peg.

2.4.4.5 *Seal patterns with human figures with rod-like noses (***76-79**)

76 **Sealings (2)** Fig. 2:84

a. 6G76:535 AbS 1632
Batch 2623, context T (Ash-Tip Phase 3).
Size: 42 x 33 mm.
Sealing type: ?door peg.

b. 6G76:635 AbS 1681
Batch 2637, context K (?Ash-Tip Phase 3).
Size: 36 x 31 mm.
Sealing type: ?door peg.

The drawing is based on two impressions on sealing **a** (height of main impression: 24 mm) and one on sealing **b** (height: 21 mm).

When the impressions are combined it is clear that a man wearing a fringed skirt is fighting an animal to the right; this animal is crossed with a lion whose leg and tail appear below. These traces on the right of the lower impression on sealing **a** are blurred and confusing (compare the lower part with the corresponding lion leg and tail on sealing **b**).

They are the only evidence we have of the animal held or fought by the skirted figure. To the left of the man are traces of an up-ended animal (cf. the up-ended lion on Amiet 1980, No. 957). On sealing a in the overlapping impression above the scene just described are traces of what appear to be another collapsing animal. It is unclear how this fits into the rest of the design.

a. The reverse is eroded but the general shape is clear enough. There is a 22 mm long section of smooth peg, probably of baked clay, with a diameter of 28 mm. Beneath are the vestiges of hairy string impressions (string diameter: 4 mm). The base is broken, but may not have come from a wall.

b. There is a smooth section, 15 mm long, with a curve of 24 mm diameter. The rest of the reverse is eroded, but the sealing is probably from a door peg.

77 **Sealing** 6G77:41 Fig. 2:85
Batch 3904, context H (Ash-Tip Phase 3).
Size: 35 x 34 mm.
Sealing type: ?

Single fragmentary impression, 23 mm preserved height.

A human figure with belt stands facing left. Behind him is a vertical element, perhaps supporting a roof over him (there are faint double lines above his head). The objects to the right of the vertical line are unclear, but the lower one may be an animal. What is drawn as the man's nose appears, on closer inspection, to extend in a faint line to the edge of the impression. Possibly it is a straw and he is part of a drinking scene.

There may be reed grain impressions on the base, but details are unclear.

78 **Sealing** 6G77:38 Fig. 2:86
Batch 3904, context H (Ash-Tip Phase 3).
Size: 25 x 25 mm.
Sealing type: ?door peg.

Two fragmentary impressions. Height of larger: 15 mm.

The pattern is uncertain, but possibly there are three heads plus various fillers in main impression.

Faint hairy string marks (string diameter: 3 mm) curve round a diameter of 37 mm, probably representing a peg.

79 **Sealings (5)** Fig. 2:87

a. 6GS:147 AbS 2469
Context A (surface) (no batch number. Found in 1986 reclearance of 1976 backfill in 6G66d; almost certainly from the Ash-Tip).
Size: 42 x 36 mm.
Sealing type: ?door peg.

b. 6G76:37 AbS 1513
Batch 2601, context A (surface).
Size: 54 x 33 mm.
Sealing type: ?

c. 6G76:411 AbS 1574
Batch 2626, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 55 x 44 mm.
Sealing type: peg (?package).

d. 6G76:506 AbS 1647
Batch 2625, context T (Ash-Tip Phase 3).
Size: 26 x 22 mm.
Sealing type: door peg.

e. 6G76:851a
Batch 2667, context G (Ash-Tip Phase 3).
Size: 20 x 22 mm.
Sealing type: ?

Sealings **a** and **c** have two impressions of the seal, the other sealings one impression each. Sealings **b** and **c** are fragmentary and include only the three figures on the far right. Sealing **a**, found in the 1986 season after the other impressions had been drawn, enables us to complete the seal pattern. Preserved height is 28 mm.

The carving of this seal is rough and crude. The subject appears to be an unorthodox combat scene. From the left a man attacks a squat human(?) form, apparently hitting it on the head. An unidentified filler is placed between these figures. There is an undefined object above the squat figure's head and his lower body is not preserved. Further right a man attacks an animal with a spear. The animal attacked is rampant, but splays its forelegs out in opposite directions as if it were collapsing on the ground (cf. Frankfort 1955, No. 282; ED II date and style). Further right another figure (lion?) stretches out its paw to a 'master of animals' figure. It may be in part because the carving is so sloppily done that details are confusing. The careless carving of the seal results in confused details in the design. For example, the right leg of the lion(?) seems to merge with a branch-like element running left along the bottom of the seal. The hindlegs of the speared animal merge with the extended arm of the attacking man. It is probable that the complete length of the seal is shown here, although there appears to be a vertical element on the left edge of the impression on sealing **d** which is not seen on the right edge of that on sealing **a**.

a. There are three rows of badly eroded string marks (string diameter: 6 mm), a single row of which continues under the base, which may have come off a wall.

b. Encrustation and breakage render this sealing hard to interpret. There are vague hairy string marks, 5 mm in diameter.

c. A most unusual reverse. A stretch of peg impression, 30 mm long and 18 mm in diameter, is preserved on a protruding fragment of clay. On the other side, and at the base of this protrusion, is a row of string impressions (3-strand; fibres: hairy; strand diameter: 3 mm; string diameter: 6 mm; twist period: 6 mm; string spin direction: S). This part of the sealing has thus covered a peg which fastened a package of some sort.

d. The whole reverse is distorted, but the general morphology is clear enough to establish the piece as a door peg sealing. The peg impression runs the length of the reverse face, some 55 mm, and is of the usual smooth complexion, with a diameter of 32 mm at both top and base. Across the middle of the peg run at least three rows of string impressions (probably 3-strand; fibres: hairy; strand diameter: 3.25 mm; string diameter: 4.75 mm; twist period: 7 mm; string spin direction: Z). The base has come from a level surface, such as a wall.

e. Two rows of string impressions cross the reverse (3-strand; fibres: hairy; strand diameter: 3 mm; string diameter: 4 mm; twist period: 6.5 mm; string spin direction: Z) of this fragmentary piece.

2.4.4.6 *Seal patterns using animal protomes* **(80-81)**

80 **Sealing** 6G66:105 AbS 498 Figs. 2:8, 2:88
Batch 406, context P (Ash-Tip, mixed).

Size: 71 x 47 mm.
Sealing type: door peg.

The seal can be almost completely reconstructed from one main impression with details from two other impressions; height of seal was 19 mm and the circumference probably *c.* 38 mm.

Figures are in two registers with numerous drill holes and one rosette as fillers. In the bottom half are couchant herbivores, three facing to the left and one to the right. The middle two of these figures are probably an oryx (to the left) and a goat. The oryx raises its right knee as if balancing a circular filler on it; the goat almost appears to be kicking one of these fillers with its right leg. Traces of four figures are preserved in the upper field. The first on the left might be a stylized person with long hair and skirt(?) facing left. The second is the protome of a herbivore (probably antelope) facing left. The third is the protome of a human facing right with raised arms on either side bent at the elbows. The fourth figure appears to be a scorpion-man facing right and balanced on his tail. He raises his claws to either side. Both he and the human protome have a 'pony tail' type of hair style. To the right of the scorpion-man is a rosette.

(Fig. 2:8) This sealing is a fine example of a group of Abu Salabikh sealings coming from a very similar sort of door peg (cf. **4a**, **13**, **39a** and 5I21:334/AbS 1260 from a pit in Room 3 of Area A), and bears all the diagnostic impressions of its functional type. The peg is represented by a smooth curved section, 20 mm long, with a diameter of 24 mm. There are grain marks, so the peg may have been of reed. Beneath it are marks of three rows of string (3-strand; fibres: hairy; strand diameter: 2.5 mm; string diameter: 4.5 mm; twist period: 5.5 mm; string spin direction: Z). The base is flat and bears numerous small impressions of bits of straw, such as would be present on a mud-brick wall. The sealing clearly comes from a (?reed) peg set in a mud-brick wall and bound with (?goat-hair) string, and was a common type in Early Dynastic Abu Salabikh.

81 **Sealing** 6G77:64 Fig. 2:89
Batch 3904, context H (Ash-Tip Phase 3).
Size: 34 x 27 mm.
Sealing type: ?

One fragmentary and fairly faint rolling, 21 mm preserved height.

Although faint, the seal seems to show a row of animal protomes in a lower register and smaller, crossed rampant animals above. Cf. Frankfort 1955, No. 521 (= Amiet 1980, No. 990) and Martin 1988, no. 455 (= Amiet 1980, No. 988).

Reverse face is worn and encrusted.

2.4.4.7 *Sealings with knot or maze patterns* (**82-83**)

82 **Sealings (2)** Fig. 2:90

a. 6G76:647 AbS 1809
Batch 2646, context G (Ash-Tip Phase 3).
Size: 38 x 28 mm.
Sealing type: door peg.

b. 6G76:852
Batch 2667, context G (Ash-Tip Phase 3).
Size: 34 x 35 mm.
Sealing type: ?

Sealing **a** has one rather damaged impression. Sealing **b** has a larger impression duplicating that on sealing **a** but with more detail of the human figure (total preserved height: 28 mm). A second impression is superimposed over one corner of sealing **b**.

The seal was large, 35 to 40 mm high with a circumference of at least 55 mm. A maze-like pattern fills most of the field. Although only a corner of the pattern was preserved on both impressions, it can easily be reconstructed from a more complete example of the same pattern on AbS T 222 reverse (Fig. 2:1, after Biggs 1974, Fig. 28). To my knowledge this pattern is exclusive to Abu Salabikh. Similar knot or maze patterns from Fara, Telloh and Ur usually show a snake's body woven back and forth rather as a shoe is laced (e.g., Martin 1988, nos. 176-180).

To the right of the maze pattern is a vertical divide, partially broken by the elbow of a naked man. The man appears to raise an object or carry it on his head as do the builders in ziggurat building scenes (cf. **100**). It seems unlikely, however, that there was room on the seal for a complicated scene of this nature.

a. String impressions cover almost the entire reverse, circling a diameter of 36 mm, presumably with a peg of smaller diameter inside (string: 3-strand; fibres: hairy; strand diameter: 3 mm; string diameter: 5 mm; twist period: 6.5 mm; string spin direction: S). The base is partly broken, except for a small area which could well be from a wall.

b. There are vague string marks (string diameter: 3.5 mm), but the reverse is largely broken.

83 **Sealing** 6G76:122 AbS 1514 Fig. 2:91
Batch 2608, context G (Ash-Tip Phase 3).
Size: 45 x 40 mm.
Sealing type: ?

There is one fragmentary impression of the seal preserved to 35 mm height.

This appears to be a fragment from a seal with maze pattern similar to **82**. In this case, however, the carving of the maze is not as carefully done and the pattern is not worked out properly. The figure to the right of the maze could be a kneeling human, but is unclear and fragmentary.

Part of the reverse face has a curvature of 52 mm diameter, and has three rows of faint string impressions (fibres: coarse, hairy; string diameter: 4 mm). Above this, but in a different plane, is an area of ridged markings, perhaps from rucked-up leather. It is not clear how these reverse surfaces relate to each other.

2.4.4.8 *Drinking in boat* (**84-87**)

84 **Sealing** 6G76:92 AbS 1517 Fig. 2:92
Batch 2605, context G (Ash-Tip Phase 3).
Size: 45 x 30 mm.
Sealing type: wooden box.

Design reconstructed from two overlapping impressions, height: 23 mm.

The seal shows two figures seated in boats (or more probably the opposite ends of one boat) and drinking from straws. A plant motif appears between the ends of the boat(s).

The sealing covered a knot in string (3-strand; fibres: hairy; strand diameter: 3 mm; string diameter: 4 mm; twist period: 6.25 mm; string spin direction: Z). The flat base has fine grain markings, probably from wood, so the sealing may have secured a wooden box fastening.

85 **Sealings (2)** Fig. 2:93

a. 6G86:39 AbS 1889
Batch 1904, context G (Ash-Tip Phase 3).
Size: 44 x 51 mm.
Sealing type: ?

b. 6G86:41 AbS 1891
Batch 1904, context G (Ash-Tip Phase 3).
Size: 42 x 23 mm.
Sealing type: ?pot.

Seal design reconstructed from two sealings, each with one impression; maximum height: 19 mm.

A human figure wearing a skirt sits on a stool with crossed struts. He is probably drinking from a straw. The stool appears to be in a boat.

a. Reverse is badly eroded and pitted. There is a dent, 15 x 7 mm, where perhaps a knot of string was impressed.

b. Reverse face curves round a diameter of 65 mm, and bears excellent string impressions in two rows (4-strand; fibres: fine; strand diameter: 2 mm; string diameter: 4 mm; twist period: 4 mm). The string is expertly twined, and differs substantially in appearance from the normal Abu Salabikh string. The sealing may have come from a vessel of neck diameter 65 mm.

86 **Sealing** 6G77:42 Fig. 2:94
Batch 3904, context H (Ash-Tip Phase 3).
Size: 35 x 33 mm.
Sealing type: ?package/bale.

One faint rolling of a seal, 22 mm preserved height.

The impression is very faint, but it seems to show the ends of two boats. The boat on the right has traces of a seated figure inside.

There are unclear string marks (string diameter: 2.5 mm) on the reverse and base, so that the sealing may have come from a package of some sort.

87 **Sealing** 6G86:146 Fig. 2:95
Batch 1932, context G (Ash-Tip Phase 3).
Size: 20 x 21 mm.
Sealing type: peg (?package).

Single fragmentary rolling, 20 mm high.

Right end of boat with skirted figure seated in it, seat indicated by single line. Tree-like pattern to right behind boat.

This small fragment has an 18 mm length of smooth narrow peg impression (diameter: 13 mm).

2.4.4.9 *Banquet or drinking scenes* (**88-93**)

88 **Sealing** 6G76:622 AbS 1678 Figs. 2:9, 2:96
Batch 2638, context G (Ash-Tip Phase 3).
Size: 35 x 33 mm.
Sealing type: wooden box.

There is one seal impression, height: 27 mm.

This drinking scene was found in the same batch as **66** and, like that impression, shows a seated, skirted figure with horizontal lines over his head; on both seal impressions an animal is separated from the seated figure by a vertical, possibly architectural, element. Despite the similarities it seems unlikely both impressions were made by the same seal. On this sealing the seated figure is clearly drinking from a straw. The lines above his head are part of some cuneiform signs which seem unlikely on **66**. The animal is rampant and may be a lion rather than a bovine. The head of the seated figure is not preserved.

(Fig. 2:9) The sealing comes from a most unusual type of wooden peg, 28 mm in length, with a base diameter of 48 mm, and a carinated profile. The wood grain is clear on the reverse and on the base. There are four parallel grooves, each 1.5 mm wide, near the top of the peg, probably reflecting rather fine string, which is also in evidence along the top edge of the sealing, suggesting a flared rim to the peg. The wood impressions on the base, the distinctive profile of the peg, and the fine quality of the string, suggest the sealing may have secured the fastening of a box.

89 **Sealing** 6G76:733 Fig. 2:97
Batch 2652, context L (fill of Pit i in Ash-Tip Phase 3).
Size: 29 x 22 mm.
Sealing type: ?

One rolling, fragmentary, preserved height: 17 mm.

A skirted figure sits on a cross-legged stool facing left. He may be holding a branch. In front of him are two curved lines, again one may be sprouting a leaf. Beyond these appear to be two pots joined at the middle.

Reverse is very broken, but there is a single line of delicate string (string diameter: 1.25 mm) across the surface.

90 **Sealing** 6G76:293 AbS 1565 Fig. 2:98
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 46 x 40 mm.
Sealing type: ?

One rolling of the seal, but with its top edge apparently cut off by the base of a second rolling not otherwise preserved (total height preserved: 27 mm).

The top register appears to show a drinking scene. A human figure sits facing right. Behind him is an unidentified object, possibly the remains of a jar and straws belonging to another figure. To his right is a rough raised spot on the sealing, possibly the remains of the jar from which he is probably drinking. The lower register shows an animal combat scene with a gazelle attacked by a lion crossed with a goat.

There are two straight reverse faces to the sealing, but neither has any markings of note.

91 **Sealing** 6G77:39 Fig. 2:99
Batch 3904, context H (Ash-Tip Phase 3).
Size: 36 x 28 mm.
Sealing type: peg (?package).

One main rolling, 13 mm preserved (mostly upper register), and the end of a second rolling on left edge of sealing, 7.5 mm preserved (dividing lines and fragment of lower register).

A seal in two registers with a double dividing line. The upper register contained a banquet scene. The lower register may have had an animal contest scene. 6G65:383 (AbS 2451), from the 'Ash-Pit' in the Southern Unit, is similar to 91. It also shows traces of a banquet scene above an animal contest.

A minute section, 6 x 4 mm, of smooth peg impression is preserved, with string marks below it (3-strand; fibres: hairy; strand diameter: 2.25 mm; string diameter: 4 mm; twist period: 3.5 mm; string spin direction: Z).

92 Sealings (2) Fig. 2:100

a. 6G76:167 AbS 1522
Batch 2612, context G (Ash-Tip Phase 3).
Size: 27 x 18 mm.
Sealing type: ?

b. 6G76:435 AbS 1576
Batch 2616, context G (Ash-Tip Phase 3).
Size: 22 x 21 mm.
Sealing type: ?

Each sealing has one impression, respectively 16 mm and 13 mm high.

Two bars divide the seal into two registers. In the upper register a figure sits on a stool facing left drinking from straws. There was doubtless a similar figure drinking to the left of the straws. The pattern below the dividing lines is unclear.

a. There are faint hairy string impressions and a smooth base, but not enough detail to ascertain the function of this piece.

b. The reverse of this small fragment is broken.

93 Sealing 6G77:43 Fig. 2:101
Batch 3904, context H (Ash-Tip Phase 3).
Size: 18 x 16 mm.
Sealing type: ?

Two fragmentary rollings, the larger with 12 mm preserved height and the smaller with 4 mm preserved height.

All that remain in either rolling are patterns of crossed lines. The seal may just have had a linear geometric pattern. It is clear, however, from the larger rolling that the seal had two registers with a double dividing line. Possibly the crossed lines above these dividing lines formed the stool in a drinking scene. The crossed lines in the smaller impression remain problematical.

A single row of string impressions runs across the reverse (fibres: hairy; string diameter: 3 mm), but the piece is very fragmentary.

2.4.4.10 *Patterns in two registers (apart from banquet/drinking scenes)* **(94-98)**

94 Sealing 6G76:861 Fig. 2:102
Batch 2670, context J (fill of Grave 178 in Ash-Tip Phase 3).
Size: 19 x 19 mm.
Sealing type: peg (?package).

One fragmentary rolling, 18 mm high.

A seal with two registers divided by double lines. Remains in upper register include a collapsing animal to the left, a naked, kneeling human in the middle and the legs of an animal (rampant?) to the right. There are only traces of the heads and other unidentified objects of the lower register.

There is a 13 mm length of smooth peg impression, without curve, but 6 mm wide, beneath which are string marks (3-strand; fibres: hairy; strand diameter: 1.75 mm; string diameter: 3 mm; twist period: 6 mm; string spin direction: Z).

95 Sealing 6G77:78 Fig. 2:103
Batch 3906, context G (Ash-Tip Phase 3).
Size: 30 x 22 mm.
Sealing type: ?

Single fragmentary impression, total preserved height: 22 mm.

Most of what is preserved is either the lower register of a two register seal or the lower of a two register 'end piece' on a seal. From left to right: passant goat, skirted man, faint figure of man (or lion?), faint figure of inverted animal. There is just a trace of a figure on the left edge of the upper register.

Reverse is entirely broken.

96 Sealing 6G77:85 Fig. 2:104
Batch 3906, context G (Ash-Tip Phase 3).
Size: 32 x 23 mm.
Sealing type: ?

At least two overlapping impressions, both very fragmentary, maximum preserved height of either impression is c. 10 mm.

There are traces of a double line beneath the lower of the overlapping impressions; this suggests that the figures come from a two register seal. Both impressions show crossed rampant animals, but, very probably due to the poor quality of the impressions, they cannot be joined.

Reverse is entirely broken.

97 Sealing 6G86:246 Fig. 2:105
Batch 1956, context H (Ash-Tip Phase 3).
Size: 24 x 26 mm.
Sealing type: ?

One fragmentary rolling, height: 20 mm.

There are traces of miniature figures in three registers. In the middle register an eagle seems to attack an inverted goat; other figures are problematical.

Reverse all broken, but on the obverse is a small patch of very fine textile impression, just below the seal impression.

98 Sealing 6G77:68 Fig. 2:106
Batch 3904, context H (Ash-Tip Phase 3).
Size: 27 x 17 mm.
Sealing type: ?

Single impression on small fragment, 16 mm high.

Subject unclear, but there appear to be two registers with a single dividing line. In the upper register there are traces of a passant quadruped with possibly an eagle to its left. In the lower register there may have been a scorpion. The area to the left of the scorpion is unclear.

Reverse is entirely broken.

2.4.4.11 *The 'Boat God' and his entourage* (**99-100**)

99 **Sealing** 6G76:770 Fig. 2:107
Batch 2661, context G (Ash-Tip Phase 3).
Size: 30 x 29 mm.
Sealing type: ?door peg.

Probably two fragmentary impressions, but division between them is not clear. Base of seal to top of plough: 20 mm.

Fragmentary impression of seal with a plough and pot. The passant lion under the plough probably had a human head.

Most commonly such seals also depict a god in a boat whose prow turns into the torso of a god. Although there are three objects on this rolling which are not clear, it is difficult to interpret any of them as this boat. One might be a bird (cf. Frankfort 1955, No. 331). For recent discussions of this motif, see Amiet 1980, 177-181 and Kantor 1984.

On the reverse, badly distorted impressions of string and probably a peg.

100 **Sealing** 6G77:76 Fig. 2:108
Batch 3906, context G (Ash-Tip Phase 3).
Size: 23 x 27 mm.
Sealing type: ?door peg.

Fragment of single rolling, 19 mm high.

There are figures in two registers. Above a quadruped moves right toward a crescent-shaped object (either a boat with a figure inside indicated by drill holes or a lunar crescent with dots for stars inside it). In the lower field two figures move to the right. One is human and lifts a circular object up with one arm. The second figure also raises an arm, but there is a very faint line behind him which might indicate a tail. There was probably another human(?) figure to the left of these. On the far right there may be an object or structure with a sloping side.

Although this is a tiny fragment and there are uncertainties (e.g., is the second figure in the lower register human?), the composition is very suggestive of ED III seals which show a human-headed lion and divine boat in an upper register and ziggurat building in a lower register (e.g. Amiet 1980, Nos. 1441 [= Frankfort 1955, No. 551], 1442, 1443 [= Frankfort 1955, No. 513], 1445, 1446, 1448 [= Frankfort 1955, No. 895], 1785 [= Parrot 1948, Pl. XIX 4442]).

On Amiet 1980, No. 1770, small passant animals walk above a line of men carrying offerings to a deity; there is an astral symbol above the deity. This could be used as the basis for an alternative reconstruction of **100**.

Cf. **27**.

A 20 mm length of peg impression (diameter: 36 mm) is preserved. The sealing has broken, as is often the case, at the point where the string circled the peg.

2.4.4.12 *Goddess* (**101**)

101 **Sealing** 6G77:98 AbS 2030 Fig. 2:109
Batch 3914, context G (Ash-Tip Phase 3).
Size: 44 x 29 mm.
Sealing type: test strip.

One faint and fragmentary rolling with almost the full height of the seal (32 mm preserved height). [Drawn from cast only; original 'lost' in museum and not photographed].

The hair style of the seated figure indicates it is probably female; traces of a horn indicate divinity. A small rampant goat touches her knees with his forepaws. Behind the goat a figure approaches carrying another animal. It seems likely that the animal carried is meant as an offering to the goddess. It is unclear whether the seated figure is grasping the foreleg of the animal carried or the horn of the rampant animal. There is just a trace of a small object below the forelegs of the rampant animal. Cf. Heinrich 1931, Tf. 64n (Martin 1988, seal No. 544).

The reverse of this thin sealing (10 mm thick) has impressions of straw and fingerprints. It is probably a test strip.

2.4.4.13 *Sealings with geometric patterns* (**102-119**)

102 **Sealings (3)** Fig. 2:110

a. 6G77:14
Batch 3904, context H (Ash-Tip Phase 3).
Size: 25 x 23 mm.
Sealing type: peg (?package).

b. 6G77:22
Batch 3904, context H (Ash-Tip Phase 3).
Size: 21 x 51 mm.
Sealing type: reed matting ?bundle.

c. 6G77:26
Batch 3904, context H (Ash-Tip Phase 3).
Size: 24 x 20 mm.
Sealing type: ?

Three sealings probably all with rollings of the same seal. Sealing **a** has two superimposed rollings and sealing **b** has a very spread out rolling. Linear herring-bone design.

a. A 20 mm length of lightly pock-marked (?baked clay) peg impression (diameter: 22 mm) is the only mark.

b. Split reed matting impression on base, but no other marks.

c. Reverse distorted and broken.

103 **Sealing** 6G76:619 AbS 1826 Fig. 2:111
Batch 2645, context G (Ash-Tip Phase 3).
Size: 27 x 52 mm.
Sealing type: door peg.

Probably two impressions, both faint, maximum height: 21 mm.

Appears to be simple pattern of five parallel straight lines. These were hatched originally, but the rough condition of the surface of the rolling obscures most detail. Possibly the lines were part of a herring-bone pattern on a large seal.

Coarse string impressions cover the reverse (string diameter: 4 mm), which has a curve of 43 mm diameter; a peg of smaller diameter would have been enclosed by the string, as the base has come off a mud-brick wall.

104 **Sealing** 6G86:138 Fig. 2:112
Batch 1927, context H (Ash-Tip Phase 3).
Size: 17 x 19 mm.
Sealing type: reed ?peg/?fastening.

Single fragmentary rolling, 17 mm high.

Linear zigzag design in two registers with double dividing bars.

There is a single reed impression (diameter: 12 mm) with parallel grain marks.

105 Sealing 6G86:166 Fig. 2:113
Batch 1936, context G (Ash-Tip Phase 3).
Size: 25 x 27 mm.
Sealing type: ?

One main rolling with the full height of the pattern and a repeat section (height: 13 mm) and traces of a second rolling.

Small seal with linear geometric pattern; possibly there was a second register to the seal but there are no sure traces of it on the sealing.

Reverse is distorted but there are string impressions (string diameter: 3.5 mm).

106 Sealing 6G76:297 AbS 1571 Fig. 2:9, 2:114
Batch 2617, context G (Ash-Tip Phase 3).
Size: 53 x 50 mm.
Sealing type: pot.

Design reconstructed from two partially overlapping impressions with a maximum height of 28 mm.

The pattern consists of two registers of concentric diamonds with a double dividing line between. In the upper register a scorpion(?) is squeezed between two of the diamonds.

Originally the seal was probably 45 mm high. The circumference of the seal is uncertain.

There are two registers of undulating hatched bands. The main bands are carved in high relief and crossed with vertical striations. The seal that made this impression was more carefully carved than most of the geometric seals used. Similar seals were found in the Ur Royal Cemetery and environs (Woolley 1934, Pl. 203: U.11488, U.11973, and Pl. 207: U.8339, U.8420, U.8681, U.9263). It is interesting to note that five of the six seals from Ur were of lapis lazuli.

(Fig. 2:9) The reverse has the profile of part of the shoulder, the neck, and part of the rim of a vessel (neck length: 29 mm; neck diameter: 68 mm; rim diameter: 92 mm), such as a ring-based jar or similar. There are marks of what is probably leather, around which are tied several rows of string (4-strand; fibres: hairy; strand diameter: 2 mm; string diameter: 37.5 mm; twist period: 4.25 mm; string spin direction: unclear). The sealing is, therefore, from the neck of a vessel covered with ?leather and tied with string.

107 Sealing 6G76:772b Fig. 2:115
Batch 2661, context G (Ash-Tip Phase 3).
Size: 16 x 17 mm.
Sealing type: ?

One fragmentary impression of a geometric pattern, height: 16 mm. Chevrons on either side of a double dividing line.

There is a single row of very faint string marks on this tiny piece.

108 Sealing 6G76:203 AbS 1640 Fig. 116
Batch 2615, context G (Ash-Tip Phase 3).
Size: 35 x 23 mm.
Sealing type: ?

Probably there are two impressions, the bottom one superimposed over the top one (total height: 17 mm). Both impressions are indicated in the drawing because it was impossible to be sure of the exact relationship between the two of them.

The reverse has a smooth, slightly concave face, but with no markings. On the base is a patch of black carbonised wood adhering to the outside of a concretion which has accrued to the sealing. This concretion, and therefore the wood, do not relate to the sealing function, as they must have stuck to the sealing after it had been removed from its object. The squashed nature of the obverse indicates that the sealing was removed while still damp.

109 Sealing 6G86:122 Fig. 2:117
Batch 1919, context G (Ash-Tip Phase 3).
Size: 17 x 13 mm.
Sealing type: ?

Single fragmentary rolling, 17 mm high.

Pattern of diamonds with central dots in two registers.

There are no details on the reverse of this tiny fragment.

110 Sealing 6G86:198 Fig. 2:118
Batch 1940, context L (fill of Pit p in Ash-Tip Phase 3).
Size: 29 x 31 mm.
Sealing type: ?

Probably three rollings of the same seal, maximum height preserved: 14 mm.

Geometric pattern in two registers in lattice and dots.

There are extremely faint string marks (string diameter: 3 mm), but details are unclear.

111 Sealing 6G76:795 Fig. 2:119
Batch 2661, context G (Ash-Tip Phase 3).
Size: 31 x 32 mm.
Sealing type: ?

One fragmentary rolling, maximum height preserved: 20 mm. The pattern is similar to **110**. A double line separates two registers of double diagonal lines crossing to make a lattice pattern. Drill holes decorate the centres of the triangles and diamonds.

This distorted piece has a single groove, 26 mm long and 6 mm wide, perhaps made by a reed.

112 Sealing 6G76:847 Fig. 2:120
Batch 2665, context H (Ash-Tip Phase 3).
Size: 16 x 26 mm.
Sealing type: ?

Single fragmentary impressions, height: 13 mm.

A double horizontal line separates two registers of triangles and diamonds made by intersecting double diagonal lines. Drill hole dots decorate the centres of the triangles and diamonds.

There is only a short length of string impression (string diameter: 4.25 mm).

113 Sealing 6G67:52 AbS 2464 Fig. 2:121
Batch 6413(F), context G (Ash-Tip Phase 3).
Size: 29 x 21 mm.
Sealing type: peg (?package).

Two overlapping rollings; original seal probably 21 mm high.

The seal had two registers with a double horizontal dividing bar. In each register there is a row of concentric diamonds with central drill-hole dots.

A good example of a sealing of the type of **35a**. A 20 mm length of smooth peg impression curves through a diameter of 20 mm. There are obscure string marks beneath the peg.

114 Sealings (3) Fig. 2:122

a. 6G76:288 AbS 1573
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 45 x 43 mm.
Sealing type: ?door peg.

b. 6G76:459 AbS 1653
Batch 2625, context T (Ash-Tip Phase 3).
Size: 30 x 28 mm.
Sealing type: ?package/bale.

c. 6G76:651 AbS 1814
Batch 2646, context G (Ash-Tip Phase 3).
Size: 45 x 41 mm.
Sealing type: ?pot.

Sealing **a** has at least two overlapping rollings, **b** has one rolling and **c** has two rollings. Maximum height: 22 mm.

The common pattern of two registers of diamonds and dots with a horizontal dividing line is varied here with a faint vertical line running through the centre of one set of diamonds. The three sealings are drawn separately because it is impossible to be sure where they join, though it seems highly probable that one seal made all the rollings.

a. An unusual peg shape adorns this reverse face, made up of two adjoining curves of indeterminate diameter, but of 23 mm length. The surface of the curved segments is smooth. Beneath are four rows of string marks (4-strand; fibres: hairy; strand diameter: 2.25 mm; string diameter 4 mm; twist period: 4.5 mm; string spin direction: mixed). The base of the sealing has broken off.

b. There are clear string impressions (3-strand; fibres: hairy; strand diameter: 3 mm; string diameter: 4.5 mm; twist period: 5 mm; string spin direction: Z), including that of a small knot. The base is very smooth and curves over at its outer edge. The sealing may reflect a method of bale or package fastening.

c. Several rows of coarse string impressions circle the reverse at a diameter of 48 mm (3-strand; fibres: hairy; strand diameter: 2.5 mm; string diameter: 4 mm; twist period: 5 mm; string spin direction: Z). Like **36c**, the sealing may have come from a large peg or a small jar.

115 Sealing 6G66:79 AbS 437 Fig. 2:123
Batch 406, context P (Ash-Tip, mixed).
Size: 81 x 76 mm.
Sealing type: ?pot.
[= **15**]

The cylinder seal design has been reconstructed from four impressions. The seal must have been about 30 mm high with a circumference of about 53 mm.

Two horizontal lines divide the seal into two registers. In each register a row of four circles runs down the centre. (Just possibly the pattern repeats after three circles.). Two lines loop around the circles from the top and two from the bottom.

In addition there are four impressions of stamp seals. One seal is in the form of a human arm bent at the elbow, the second is L-shaped with a bump at one end (= **15**).

For reverse, see 15.

116 Sealing 6G76:524 AbS 1644 Fig. 2:124
Batch 2627, context L (fill of Pit g in Ash-Tip Phase 3).
Size: 51 x 32 mm.
Sealing type: door peg.

There are two overlapping impressions with a total height of 27.7 mm.

The pattern is very similar to **115** with two registers of undulating lines and drill-hole dots separated by double dividing lines.

Reverse is very fragmentary, with faint string outlines. The base appears to have come off a mud-brick wall, as it is level but bumpy. There are two further criteria by which the piece should be adjudged to be a door peg sealing: firstly, the obverse has a flared rim just above the base, resulting from pressure on the sealing against a flat surface; secondly, there is a pronounced curve to the outer, unbroken, line of the base, indicating that the sealing was placed around an at least approximately circular object.

117 Sealings (4) Fig. 2:125

a. 6G76:159 AbS 1547
Batch 2612, context G (Ash-Tip Phase 3).
Size: 31 x 26 mm.
Sealing type: ?

b. 6G76:308 AbS 1543
Batch 2616, context G (Ash-Tip Phase 3).
Size: 32 x 24 mm.
Sealing type: peg (?package).

c. 6G86:193
Batch 1927, context H (Ash-Tip Phase 3).
Size: 32 x 21 mm.
Sealing type: reed ?package.

d. 6G86:202
Batch 1948, context H (Ash-Tip Phase 3).
Size: 30 x 24 mm.
Sealing type: ?door peg.

Sealings **a** and **b** must be made by the same seal; similarly **c** and **d** must be made by the same seal. All the rollings are fragmentary and just possibly all four were made by the same seal. Sealings **a** and **b** have a single rolling each. Sealing **b** has one main rolling and traces of a second. Sealing **c** has one main rolling overlapped with a second rolling at the top.

Single register seals with a somewhat similar pattern are Frankfort 1955, Pl. 78: 842, from an ED II level and Pl. 34: 347, from an ED III level.

a. This very thin sealing fragment (4 mm thick) has no identifiable marks.

b. A similar sealing to **34a** in size and shape. There is an 18 mm long peg impression with grainy markings, probably from a reed. At the base of the reed is a smooth flange or ring of 20 mm diameter. Beneath the flange are clear string marks (3-strand; fibres: hairy; strand diameter: 1.25 mm; string diameter: 2.5 mm; twist period: 4.25 mm; string spin direction: Z). The sealing may thus bear the impressions of a fastening device involving a reed passed through a ring and tied with string, and therefore is more likely to come from a package than a door.

c. Very faint string impressions cross the reverse (fibres: hairy; string diameter: 2 mm). The base has clear reed impressions.

d. A 17 mm length of peg (diameter: 39 mm) with smooth surface, has string impressions around it (fibres: hairy; string diameter: 3 mm).

118 Sealings (3) Fig. 2:126

a. 6G76:241 AbS 1545
Batch 2616, context G (Ash-Tip Phase 3).
Size: 58 x 42 mm.
Sealing type: ?door peg.

b. 6G76:507 AbS 1658
Batch 2625, context T (Ash-Tip Phase 3).
Size: 32 x 27 mm.
Sealing type: wooden box.

c. 6G77:63
Batch 3904, context H (Ash-Tip Phase 3).
Size: 41 x 31 mm.
Sealing type: ?door peg.

The design is reconstructed from three sealings; sealing **a** had at least two rollings, while **b** and **c** each had a single rolling.

Like the previous design, this pattern is in two registers with double horizontal dividing bars. Both registers have patterns of interwoven snake-like ribbons which bulge out in high relief. The 'ribbons' are scored with vertical hatchings. Several sets of thin lines outline the 'ribbons'.

a. Reverse has a 25 mm long curved section round a diameter of 37 mm. Diagonally across this runs a single row of string impressions (fibres: hairy; strand diameter: 2.5 mm; string diameter: 4 mm). The underside is roughish and may have come off a wall.

b. A 22 mm stretch of unusually fine string (diameter: 2.5 mm) is impressed, running over a level surface with clear wood grain marks. There is a knot in the string, which was probably wrapped around a wooden box.

c. The reverse has an unusual profile – that of a short thick knob on a flanged base with a rectangular edge to it. The top knob diameter is 38 mm, widening to 70 mm at the flange base. There are no string marks, which makes it hard to see this as a door peg. The knob may have served as a stopper.

119 Sealing 6G86:34 AbS 1884 Fig. 2:127
Batch 1902, context G (Ash-Tip Phase 3).
Size: 54 x 38 mm.
Sealing type: label.

Almost complete rolling of seal repeated one and a half times, but also with another rolling of same seal superimposed over the first in the lower left hand section. Height: 18 mm.

The sealing shows a compact pattern of various shaped blobs; it does not appear to be representational.

The base has an encrustation which bears the impression of numerous coarse, loosely arranged fibres, perhaps extremely badly made string. The encrustation may be a later accretion, not related to the sealing function, in which case the piece has the shape of a label.

2.4.4.14 *Fragments of seal patterns* (**120-175**)

120 Sealing 6G76:106 AbS 1516 Fig. 2:128
Batch 2601, context A (surface).
Size: 49 x 30 mm.
Sealing type: leather container.

One edge of a seal design is preserved in one rolling (height: 13 mm).

The figure to the left might be the hindquarters of an inverted goat. To the right of this are lines possibly representing vegetation. Further right again is a head(?) with several more unidentified lines above it. It is hard to see the pattern as an ordinary animal combat scene, but it is not clear what is intended.

Encrustations obscure what is probably a knot of string or cord tied over leather. The sealing may have come from a leather sack tied with cord.

121 Sealing 6G76:428 AbS 1566 Fig. 2:129
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 27 x 29 mm.
Sealing type: ?door peg.

This small and fragmentary impression is preseved to a height of 21 mm from the (upper?) edge of the seal.

It seems probable that the original seal showed a long necked animal being attacked by a lion as on **28**, although other interpretations are possible (e.g., part of a boat?).

There is a short, 9 mm, length of smooth peg impression of 24 mm diameter. Beneath are marks of loosely twined string (probably 3-strand; fibres: hairy; strand diameter: 2.25 mm; string diameter: 4 mm; twist period: 5.5 mm; string spin direction: probably Z). The base of the sealing is largely broken.

122 Sealing 6G76:445 AbS 1568 Fig. 2:130
Batch 2620, context T (Ash-Tip Phase 3).
Size: 56 x 40 mm.
Sealing type: door peg.

An extremely faint impression is preserved for 23 mm. There are slight traces of a lion on the left attacking a herbivore to the right.

At the bottom of the reverse is the impression of a bulging peg, 36 mm in diameter at its widest. Above are the marks of three rows of string (3-strand; fibres: hairy; strand diameter: 2.25 mm; string diameter: 4 mm; twist period: 5 mm; string spin direction: Z). The base is level and pitted with small marks: it has probably come off wall plaster.

123 Sealing 6G76:294 AbS 1631 Fig. 2:131
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 35 x 30 mm.
Sealing type: ?

This small fragment preserves an impression 13 mm high.

All that can be made out on the seal impression is the facade of a building, probably a temple. Such facades are common on Jemdet Nasr period seals (e.g. Frankfort 1955, Nos. 29-32, 34, 41, 42, 49, 55, 62, 73, 74, etc.; cf. Rova, forthcoming).

Next to the seal impression is a mark which may be a fingernail impression.

Reverse surfaces are broken and heavily encrusted.

124 Sealing 6G76:369 AbS 1633 Fig. 2:132
Batch 2620, context T (Ash-Tip Phase 3).
Size: 35 x 22 mm.
Sealing type: ?

Tiny fragment with impression, 12 mm high.

The impression appears to show the back and horns of a gazelle together with an unidentified object to the right. (Photo shows reverse.)

This small sealing has several markings, but it is hard to comprehend. There is a flat smooth area, 18 x 10 mm, on the reverse, and there are faint traces of what may be string on the surfaces above and below the reverse.

125 Sealing 6G76:242 AbS 1635 Figs. 2:9, 2:133
Batch 2616, context G (Ash-Tip Phase 3).
Size: 23 x 25 mm.
Sealing type: peg (?package).

Only a tiny part of an impression remains, 12 mm high.

The impression may include fragments of legs and tails, but it is too fragmentary for certain identification.

(Fig. 2:9) A short section, 9 mm long, of peg impression is preserved (diameter: 20 mm). Beneath are three rows of string markings (3-strand; fibres: hairy, but with some thicker vegetable-matter strands; strand diameter: 4 mm; string diameter: 6 mm; twist period: 8 mm; string spin direction: Z). The base is broken, but the shape of the piece suggests a peg securing a package rather than a door (cf. **35a**).

126 Sealing 6G76:475 AbS 1636 Fig. 2:134
Batch 2616, context G (Ash-Tip Phase 3).
Size: 34 x 23 mm.
Sealing type: ?

Only a small part of the original seal impression survives (preserved height: 19 mm).

The tail and hindquarters of a rampant lion striding to the right are clearly to be seen in the right half of the sealing. There are traces of a rampant animal to the left of the lion, but they are not clear (possibly ithyphallic bullman? – cf. Amiet 1980, No. 1000). Possibly another animal is crossed with the figure on the left.

The reverse is badly eroded, with no notable features.

127 Sealing 6G76:508 AbS 1646 Fig. 2:135
Batch 2625, context T (Ash-Tip Phase 3).
Size: 26 x 22 mm.
Sealing type: ?

There is one impression, height 15 mm. The hindlegs of two rampant animals moving in opposite directions are preserved. They are probably a lion on the left (with its tail falling to the ground between the figures) and a caprid to the right. The heavy use of the drill as seen in the lion's legs is typical of the ED III shell seals found on the site. Cf. Frankfort 1955, No. 428 (dated to ED III).

The details of this sealing are unclear, but there are two grooves in the base, each some 5 mm wide, which are perhaps eroded impressions of reeds.

128 Sealing 6G76:550 AbS 1648 Fig. 2:136
Batch 2625, context T (Ash-Tip Phase 3).
Size: 40 x 59 mm.
Sealing type: door peg.

There are remains of two faint impressions of a cylinder seal, the taller figure preserved to 13 mm.

One impression shows traces of a divided 'end' scene with what appear to be legs of small rampant animals above a dividing line. The second impression shows the hindquarters of a lion with an upright tail and faint traces of another figure behind it. This figure could easily fit the right leg of the 'end' scene and has been reconstructed in this fashion. The upright tail of the lion suggests an ED III date, possibly ED IIIb as this pose gains popularity later in ED III. Cf. Frankfort 1955, Nos. 332, 372, 380, 386, 428, 495, 502, 508, 543, 550, 561, 576.

Distorted sealing, removed while damp. There is a 14 mm length of peg mark, but distortion has removed what curvature it may have had. There are several hairy string marks (string diameter: 4.5 mm), but the base is broken. Its overall aspect is very much that of **79d.**

129 Sealing 6G76:526 AbS 1652 Fig. 2:137
Batch 2625, context T (Ash-Tip Phase 3).
Size: 30 x 28 mm.
Sealing type: leather container.

There is one fragmentary impression of what was probably a rather crudely carved animal combat scene, maximum height: 16 mm.

The zigzag line of a lion's mane can just be made out on the left; he crosses with another rampant animal who faces right. There are faint traces of figures further to the right. Two impressions of a stick(?) cut into the sealing on the lower left.

This sealing has been placed over a length of string (loosely twined; strand diameter: 3 mm; string diameter: 7 mm) which runs over the top of a piece of grainy leather.

130 Sealing 6G76:566 AbS 1654 Fig. 2:138
Batch 2625, context T (Ash-Tip Phase 3).
Size: 31 x 23 mm.
Sealing type: ?

The seal impression (maximum height: 16 mm) is too faint and fragmentary for any intelligent reconstruction to be possible.

This small fragment has a crumbled and eroded reverse.

131 **Sealing** 6G76:130 AbS 1655 Fig. 2:139
Batch 2610, context G (Ash-Tip Phase 3).
Size: 40 x 29 mm.
Sealing type: ?door peg.

There are at least two rollings of the seal impression, but the pattern is so confused that it seems likely that at least one rolling is superimposed on another. It is most probable that the original seal pattern was not the usual animal combat, but what it may have been is far from clear.

There are no details visible on the encrusted reverse, but the base is smooth and has probably come off a wall.

132 **Sealing** 6G76:458 AbS 1660 Fig. 2:140
Batch 2623, context T (Ash-Tip Phase 3).
Size: 49 x 50 mm.
Sealing type: ?door peg.

There are two fragmentary rollings preserved, the larger 14 mm high.

The larger rolling seems to include the legs of a rampant animal and the head of an inverted animal (possibly sheep). It is possible, however, that what is left is the right leg and tail of a lion on the left. Presumably the more disturbed part of the sealing then included the right leg of the lion and possibly one leg of a lion facing the opposite direction and crossed with the first.

The reverse is distorted by removal while damp, but has the clear profile, 35 mm long, of a smooth peg, 26 mm in diameter. Two rows of string impressions circle the base of the peg (3-strand; fibres: hairy; strand diameter: 2.75 mm; string diameter: 5 mm; twist period: 6 mm; string spin direction: Z). The sealing base is broken.

133 **Sealing** 6G76:698 AbS 1817 Fig. 2:141
Batch 2638, context K (?Ash-Tip Phase 3).
Size: 35 x 39 mm.
Sealing type: ?pot.

One very poor impression, 13.5 mm high (not drawn).

It could be a seal with two registers, drinking scene in upper register, but with some imagination it is possible to see legs or heads of horned animals in the same lines.

A small smooth section, curving round a diameter of 102 mm, has at least one row of string impressions below (possibly 4-strand; fibres: coarse; strand diameter: 3 mm; string diameter: 5 mm). This is either a badly distorted peg sealing or a jar sealing.

134 **Sealing** 6G76:704 AbS 1824 Fig. 2:18
Batch 2646, context G (Ash-Tip Phase 3).
Size: 29 x 19 mm.
Sealing type: ?
[= **9**]

Fragmentary impression, quite probably with stamp seal superimposed on the cylinder seal rolling, 23 mm combined height.

The remains of the cylinder seal impression show two curved objects, possibly animal legs or horns.

For reverse, see **9**.

135 **Sealing** 6G76:705 AbS 1825 Fig. 2:142
Batch 2646, context G (Ash-Tip Phase 3).
Size: 21 x 34 mm.
Sealing type: pot.

Two very poor and fragmentary rollings; maximum height of rolling with possible human figure: 18 mm.

Traces of one rolling may show a human figure; traces of another rolling show one oblong and two round dots.

The reverse is smooth, with a curve of 80 mm diameter. The smooth base reveals that the sealing comes from a pot, but there are no marks to indicate how the mouth of the vessel was closed.

136 **Sealing** 6G86:28 AbS 1880 Fig. 2:143
Batch 1904, context G (Ash-Tip Phase 3).
Size: 23 x 16 mm.
Sealing type: ?

Tiny fragment with trace of seal impression, 10 mm high.

Details of the reverse are unclear, except for a few string impressions (strand diameter: 2.5 mm; string diameter: 4 mm).

137 **Sealing** 6G86:29 AbS 1881 Fig. 2:144
Batch 1904, context G (Ash-Tip Phase 3).
Size: 21 x 13 mm.
Sealing type: ?

Small fragment with impression of legs, leafy branch (?), lion legs and tail; height: 10 mm.

Only very faint string marks on the reverse.

138 **Sealing** 6G86:37 AbS 1887 Fig. 2:145
Batch 1902, context G (Ash-Tip Phase 3).
Size: 20 x 23 mm.
Sealing type: leather container.

There are faint traces of what may be two overlapping seal impressions; together they cover an area 20 x 20 mm.

On the upper part of the sealing there are two tiny crossed animals, the one to the right clearly a lion (height: 13 mm). The lower part of the sealing is less clear, but it may show the long thin neck of an animal with perhaps traces of its ear and horn. It is possible that the crossed animals were part of a two register 'end panel'.

Faint hairy string marks are present on the reverse, and the base has random scattered hairs impressed on it. The sealing may come from a felt or leather bag, tied with string.

139 **Sealing** 6G86:38 AbS 1888 Fig. 2:19
Batch 1904, context G (Ash-Tip Phase 3).
Size: 32 x 25 mm.
Sealing type: ?
[= **10**]

Small fragment with unclear rolling of cylinder seal; superimposed on this is a stamp seal (**10**); the combined height is 26 mm.

The cylinder seal impression is very poor. One object, possibly a long, hairy neck, or possibly a plant with leaves, is visible. A rosette is visible above this object,

but it is quite possible that this is a stamp seal rather than the blossom on the leaf stem.

Reverse: see **10**.

140 Sealing 6G86:41 AbS 1892 Figs. 2:9, 2:146
Batch 1904, context G (Ash-Tip Phase 3).
Size: 33 x 15 mm.
Sealing type: peg (?package).

One (possibly two) very poor and fragmentary rolling(s), maxiumum height: 31 mm, width: 8 mm.

Possibly a tall seal with two registers and double lines at top, middle and bottom. Only faint traces of scenes or patterns within the registers.

(Fig. 2:9) A 22 mm length of peg impression is preserved, L-shaped in cross-section, and with a fairly coarse grain, probably a length of palm frond mid-rib. A small area of string markings runs along the base of the peg impression (string diameter: 4 mm).

141 Sealing 6G86:52 AbS 1898
Batch 1906, context G (Ash-Tip Phase 3).
Size: 31 x 36 mm.
Sealing type: ?reed ?bundle.

Only the faintest traces of two rollings can be seen; all that can be seen are hints of three to four parallel horizontal lines (height: *c.* 19 mm).

Reverse with the impression, 27 mm long, of what is probably a reed, with diameter of 16 mm. Fig. 2:147

142 Sealing 6G76:750a Fig. 2:148
Batch 2655, context G (Ash-Tip Phase 3).
Size: 19 x 22 mm.
Sealing type: ?

One rolling, fragmentary, preserved height 13.5 mm.

No coherent pattern can be made out, but there appears to be a double horizontal dividing line.

Details of reverse not recorded.

143 Sealing 6G76:759 Fig. 2:149
Batch 2655, context G (Ash-Tip Phase 3).
Size: 37 x 35 mm.
Sealing type: ?

Two rollings, fragmentary, maximum preserved height: 20 mm.

Thin, sinuous, lines may be stylized legs and tails.

There are interesting string impressions (4-strand; fibres: hairy; strand diameter: 3 mm; string diameter: 7 mm; twist period: 6 mm), but the function is not clear.

144 Sealing 6G76:762 Fig. 2:150
Batch 2655, context G (Ash-Tip Phase 3).
Size: 35 x 22 mm.
Sealing type: ?

Area on sealing with impression is *c.* 15 x 31 mm. Quite possibly two fragmentary impressions abutting each other if not actually superimposed. This fragment now thought to be a duplicate of **4** (= **4k**)!

For reverse, see **4k**.

145 Sealing 6G76:794 Fig. 2:151
Batch 2663, context L (fill of Pit 1 in Ash-Tip Phase 3).
Size: 31 x 30 mm.
Sealing type: ?door peg.

One fragmentary rolling 20 mm high.

Fragment showing a large animal, probably a wild sheep or mouflon, collapsing and throwing back its head.

A 24 mm length of peg, sub-rectangular in cross-section, and probably a palm frond mid-rib, has string impressions (string diameter: 4 mm; fibres: hairy) below it.

146 Sealing 6G76:809 Fig. 2:152
Batch 2666, context G (Ash-Tip Phase 3).
Size: 64 x 41 mm.
Sealing type: door peg.

One poor and fragmentary rolling of a seal (maximum height: 13 mm) and traces of two other rollings. Possibly also one or two impressions of a stamp seal pressed over the faint lower seal rolling, but the impressions are too poorly preserved to be certain of this. If there is a stamp seal, it does not appear to be identical with any other from the site.

The seal design seems to consist of diagonal lines outlining triangles; the smaller triangle contains a dot; the larger triangle preserved contains a figure with a jagged outline (a lion?). There are also traces of this figure from a second rolling overlapping the first to the right. The lower rolling just has faint outlines of some of the diagonal lines.

A line of string crosses the reverse (3-strand; fibres: hairy; strand diameter: 2.5 mm; string diameter: 4 mm; twist period: 5 mm; string spin direction: Z), and a smooth section of peg curves round a diameter of 21 mm. The sealing base is unusual in being partly smooth and partly rough, which may be due to distortion during removal while damp.

147 Sealing 6G76:812 Fig. 2:153
Batch 2666, context G (Ash-Tip Phase 3).
Size: 29 x 27 mm.
Sealing type: ?

Two rollings, the bottom of one overlapping the top of the other, maximum height: 17 mm.

Upper rolling shows pointed object(?) between legs(?). Lower rolling shows skirted figure with arms extended to right filler(?) and tail and leg of animal.

Reverse is largely broken, but has vague string impressions (string diameter: 3 mm).

148 Sealing 6G76:837 Fig. 2:154
Batch 2669, context G (Ash-Tip Phase 3).
Size: 29 x 28 mm.
Sealing type: ?

Two impressions, 11 and 16 mm high; upper impression cuts across lower.

Probably a drinking scene in a boat similar to that on Woolley 1934, Pl. 200, No. 94 = Amiet 1980, No. 1205. The skirts of the drinkers and the bottom of the jar are visible on the upper rolling; the jagged line under these figures would be the bottom of the boat.

The end of the boat and a tree-like motif are visible in the lower rolling.

Two rows of string marks (3-strand; fibres: hairy; strand diameter: 2.25 mm; string diameter: 3.5 mm; twist period: 6 mm; string spin direction: Z) cross an otherwise featureless reverse.

149 Sealing 6G76:838 Fig. 2:155
Batch 2669, context G (Ash-Tip Phase 3).
Size: 34 x 21 mm.
Sealing type: ?

One fragmentary rolling, 16 mm high.

To the left are the legs and tail of a bovine(?), to the right the tail and leg of a lion. Between is the tip of an animal's foreleg(?), probably belonging to an animal (possibly bullman) crossed with the lion.

The reverse is encrusted, with no details visible.

150 Sealing 6G76:842 Fig. 2:156
Batch 2666, context G (Ash-Tip Phase 3).
Size: 51 x 36 mm.
Sealing type: ?

Fragment of single rolling, 15 mm high.

Although problematical, this rolling could be interpreted as a human head to the right of the leg of an inverted animal.

The reverse is largely broken, with only some faint string marks.

151 Sealing 6G76:869 Fig. 2:157
Batch 2670, context J (fill of Grave 178 in Ash-Tip Phase 3).
Size: 25 x 22 mm.
Sealing type: ?

Fragment of single rolling, 16 mm high.

Traces of the legs and tail of an ungulate; vertical line to left (tail?) and the loop of a tail (probably lion's) to the right.

Reverse is entirely broken.

152 Sealing 6G77:15 Fig. 2:158
Batch 3904, context H (Ash-Tip Phase 3).
Size: 25 x 32 mm.
Sealing type: reed matting ?package.

Single very fragmentary impression, height: 11 mm.

Too fragmentary to identify the original seal pattern. For example, the crossed lions visible could be part of a geometric pattern or tails or legs of animals or the legs of a stool.

There are split reed matting impressions on the base, and another surface is very smooth. The sealing may be from a package.

153 Sealing 6G77:30 Figs. 2:8, 2:159
Batch 3904, context H (Ash-Tip Phase 3).
Size: 31 x 32 mm.
Sealing type: door peg.

Tiny fragment of rolling, 19 mm high; deeply cut and clear.

This may represent the rump of one animal (facing left) and the rump, thighs and shins of another animal facing right.

(Fig. 2:8) A 17 mm length of smooth peg mark (diameter: 40 mm) is above string impressions (fibres: hairy; string diameter: 3 mm). The base is level. The obverse bears good fingerprints, where the sealing has been pressed against a wall.

154 Sealing 6G77:40 Fig. 2:160
Batch 3904, context H (Ash-Tip Phase 3).
Size: 24 x 26 mm.
Sealing type: ?door peg.

One fragmentary impression, 16 mm preserved height.

It is possible to imagine a number of interpretations for this fragment, but it is really too small and unclear for any certainty. For example, what is drawn as a vertical element separating two crossed animals(?) from an unidentified object (bird?) looks rather like the leg and talons on an eagle if the impression is turned ninety degrees to the right.

Reverse is encrusted, with a diameter of 34 mm, and string impressions (string diameter: 3 mm), and has probably come from a peg.

155 Sealing 6G77:44 Fig. 2:161
Batch 3904, context H (Ash-Tip Phase 3).
Size: 57 x 27 mm.
Sealing type: door peg.

One very faint rolling, 13 mm preserved height. [No cast or photograph].

The legs and tail of a rampant lion facing right are clear; behind him to the left are the legs of another animal.

A fine example of a door peg sealing. There is a 23 mm length of fairly smooth (?reed) peg, of 36 mm diameter. Beneath are rather distorted string marks (fibres: hairy; string diameter: 4 mm).

156 Sealing 6G77:66 Fig. 2:162
Batch 3904, context H (Ash-Tip Phase 3).
Size: 26 x 21 mm.
Sealing type: ?door peg.

Tiny fragment, 7 mm high.

Legs and tail of lion facing left.

A very small, 8 x 7 mm, part of a peg impression is circled by string marks (3-strand; strand diameter: 1.75 mm; string diameter: 2.75 mm; twist period: 4 mm; string spin direction: S).

157 Sealing 6G77:77 Figs. 2:9, 2:163
Batch 3906, context G (Ash-Tip Phase 3).
Size: 22 x 19 mm.
Sealing type: ?wooden box.

One sealing with fragmentary impressions on two sides. One impression (15.5 mm maximum) is on the flat base of the sealing; (see description below). A second, fainter, impression on the sloping side of the sealing was made by a cylinder seal. This shows traces of at least one rampant animal and possibly the tail of a rampant lion.

(Fig. 2:9) There are very unusual marks on the reverse, consisting of a linear geometric pattern on a flat surface, probably carved out of wood, though no grain is visible. The geometric pattern was enclosed within a circle. The circle would originally have had a diameter of almost 55 mm. There is a hint of string impressions

down one side, so the sealing may have covered a length of string perhaps fastened through a hole in a wooden box.

158 Sealing 6G77:79 Fig. 2:164
Batch 3906, context G (Ash-Tip Phase 3).
Size: 20 x 24 mm.
Sealing type: ?door peg.

Fragmentary single rolling, 18 mm preserved height. There are traces of two or three figures from an animal contest scene.

There is a 14 mm length of peg impression (diameter: 25 mm), with a very smooth surface and a slight swollen ring around the middle, like the growth ring on a large reed. Three rows of impressions (string diameter: 3.25 mm) from string tightly wound round the peg.

159 Sealing 6G77:81 Fig. 2:165
Batch 3906, context G (Ash-Tip Phase 3).
Size: 32 x 30 mm.
Sealing type: reed ?bundle.

Fragmentary single rolling, 17 mm preserved height.

There are figures in two rows. The bottom row consists of couchant goats(?). The figures above them are much less clear. They could be from a banquet scene (cf. Amiet 1980, No. 1332) or they could be animal protomes.

Reverse has faint string marks (string diameter: 1.75 mm). On the base are marks of slender reeds (diameter: 3 mm).

160 Sealing 6G77:86 Fig. 2:166
Batch 3906, context G (Ash-Tip Phase 3).
Size: 24 x 21 mm.
Sealing type: reed matting ?bundle.

One faint and fragmentary rolling, 13 mm high.

Traces of the hindquarters of a passant animal with two hind legs. There are further traces of an impression to the left, but it is too faint to make out.

There are faint reed matting marks on the base of this small piece.

161 Sealing 6G86:42a Fig. 2:167
Batch 1904, context G (Ash-Tip Phase 3).
Size: 27 x 20 mm.
Sealing type: ?

Single fragmentary rolling, 15 mm high.

Traces of legs of men/rampant animals.

There are only faint string marks on this tiny piece.

162 Sealing 6G86:42b Fig. 2:168
Batch 1904, context G (Ash-Tip Phase 3).
Size: 21 x 12 mm.
Sealing type: ?

Lower bodies of two rampant animals.

The reverse shows only a small area of straw or grass marks.

163 Sealing 6G86:42c Fig. 2:169
Batch 1904, context G (Ash-Tip Phase 3).
Size: 27 x 22 mm.
Sealing type: door peg.

Traces of figures from an animal contest scene include the jagged edge of a lion's mane.

There is a 10 mm length of peg impression (diameter: 30 mm), circled by string marks (string diameter: 3 mm).

164 Sealing 6G86:82 Fig. 2:170
Batch 1917, context G (Ash-Tip Phase 3).
Size: 25 x 27 mm.
Sealing type: ?

Possibly two overlapping impressions, height of larger impression: 16 mm.

One narrow line and three saw-toothed bands curve very slightly down from the left. The original seal pattern may have resembled **69** or **70**, but these bands cannot be matched to either of these seals. Another possible parallel for the impression would be Amiet 1980, No. 1296 (= Martin 1988, no. 279). There are traces to the right of the toothed bands, but figures cannot be identified. There is a very faint trace of a second rolling under the first, but no figures can be identified.

Reverse is broken, but has faint string marks.

165 Sealing 6G86:84 Fig. 2:171
Batch 1917, context G (Ash-Tip Phase 3).
Size: 27 x 21 mm.
Sealing type: ?door peg.

Tiny fragmentary rolling, 18 mm maximum dimension.

This may show the hindquarters of an animal with a fragmentary cuneiform sign above or (viewed the other way up) possibly traces of a human figure on a chair.

There is a 17 mm length of peg (diameter: 20 mm), and fragmentary string impressions (diameter: 3 mm).

166 Sealing 6G86:85 Fig. 2:172
Batch 1917, context G (Ash-Tip Phase 3).
Size: 28 x 22 mm.
Sealing type: peg (?package).

Tiny fragmentary rolling, 14 mm high.

Goat, probably collapsing.

Piece is badly eroded, but has the general form of a peg with string.

167 Sealing 6G86:87 Fig. 2:173
Batch 1917, context G (Ash-Tip Phase 3).
Size: 20 x 23 mm.
Sealing type: ?

Fragmentary impression, 13 mm high.

Probably traces of an animal contest scene.

Reverse is encrusted, perhaps having faint string marks.

168 Sealing 6G86:100 Fig. 2:174
Batch 1912, context G (Ash-Tip Phase 3).
Size: 36 x 30 mm.
Sealing type: ?

Very faint impression, *c.* 15 mm high. Impression cutting into the seal rolling, possibly of the edge of a stamp seal.

Hint of vertical elements, possibly rampant animals.

Reverse is broken.

169 **Sealing** 6G86:102 Fig. 2:175
Batch 1910, context G (Ash-Tip Phase 3).
Size: 33 x 25 mm.
Sealing type: ?

Probably two fragmentary rollings of large seal, 31 mm total preserved height.

A naked human figure controls an animal up-ended to the right; there is a snake filler between. Although no join is apparent, it seems likely that the 'head' and 'right arm' of the man are, in fact, the leg and tail of a lion from a superimposed rolling. The man's legs appear to move to the left while the torso faces right. This may have been a mistake of carving, or there may be still more superimposed rollings. There is a filler between his legs.

There are faint reed marks on the base, but no details on the reverse.

170 **Sealing** 6G86:121 Fig. 2:176
Batch 1919, context G (Ash-Tip Phase 3).
Size: 28 x 31 mm.
Sealing type: ?

Very faint rolling, 20 mm height.

Probably these are figures of rampant animals, but they are so unclear that even the scale of the figures is uncertain.

The only reverse marks are of very faint string.

171 **Sealing** 6G86:123 Fig. 2:177
Batch 1919, context G (Ash-Tip Phase 3).
Size: 32 x 19 mm.
Sealing type: door peg.

Single fragmentary rolling, 16 mm high. [No cast or photograph.]

Traces of the lower portion of one rampant animal.

The reverse is covered in very loosely twined string impressions (fibres: hairy; string diameter: 3 mm), and the base has come off a flat wall. The sealing has broken at the point where the string circled the peg.

172 **Sealing** 6G86:126 Fig. 2:178
Batch 1912, context G (Ash-Tip Phase 3).
Size: 36 x 28 mm.
Sealing type: ?

Single fragmentary rolling, 22.5 mm height.

Remains of three crudely carved figures; the middle one probably a lion with raised tail, others unclear.

Reverse is entirely broken.

173 **Sealing** 6G86:147b Fig. 2:179
Batch 1932, context G (Ash-Tip Phase 3).
Size: 11 x 19 mm.
Sealing type: ?

Fragmentary rolling, 15 mm high. [No cast or photograph.]

Traces of man(?) moving left and up-ended(?) animal.

Reverse is broken.

174 **Sealing** 6G76:1012 AbS 2512 Fig. 2:180
Batch 2674, context G (Ash-Tip Phase 3).
Size: 41 x 44 mm.
Sealing type: test strip.

One fragmentary impression, 23 mm high.

On the right half of the impression the skirt and legs of a man are seen moving to the right. The size of these indicates the original seal must have been close to 30 mm tall. Behind him are a number of small, unidentifiable, objects in two registers. The man is much the same size as those on **76** and **169**, but probably this comes from a different seal.

The reverse is level and bears the impressions of fingerprints and small striations. The thin nature of the piece (10 mm thick), and the careful way in which the cylinder has been rolled on the obverse, suggest this as a test strip.

175 **Sealing** 6G76:1026 Fig. 2:181
Batch 2686, context B (Ash-Tip Phase 2).
Size:
Sealing type: details of reverse not recorded.

One fragmentary rolling, 17 mm high.

Preserved are the heads and torsos of two men back to back; between them is the top of an unidentified object. (It looks like a dagger with a globular pummel, but I know of no parallels for such a dagger.) The man on the left is rather larger in scale than the man on the right, but the top of his head is lower. This suggests he may be seated while the figure to the right is standing. If this is the case, the figures may be part of a banquet scene.

2.4.4.15 *Sealings with impressions not illustrated* **(176-183)**

176 **Sealing** 6G76:243 AbS 1540
Batch 2609, context L (fill of Pit e in Ash-Tip Phase 3).
Size: 55 x 37 mm.
Sealing type: ?

There are two faint rollings, maximum 32 mm high. All that can be made out are three parallel, somewhat jagged lines. It is impossible to be certain of the original pattern.

The reverse has a concave area, but without markings, and the base is encrusted.

177 **Sealing** 6G76:430 AbS 1651
Batch 2625, context T (Ash-Tip Phase 3).
Size: 27 x 16 mm.
Sealing type: label.

This is a tiny fragment of an impression, 12 mm high.

Although it is impossible to be certain of the original composition, the fragment may possibly show the back outline of a rampant animal on the left crossed by another animal whose foreleg hangs down in the middle of the impression. He is probably attacked by another animal whose leg crosses the impression from the right.

The only impression on the slightly convex reverse face is of a 22 mm length of string (string diameter: 2.5 mm). The shape and markings resemble those of **55**.

178 **Sealing** 6G76:750b
Batch 2655, context G (Ash-Tip Phase 3).
Size: 22 x 32 mm.
Sealing type: ?

No coherent pattern of seal impression can be made out, but there appears to be a double dividing line.

This tiny fragment has an entirely broken reverse.

179 Sealing 6G86:51 AbS 1897 Fig. 2:9
Batch 1906, context G (Ash-Tip Phase 3).
Size: 30 x 23 mm.
Sealing type: reed ?bundle.

Although one can see where a seal was rolled (height: 9 mm), no design can be made out.

(Fig. 2:9) The reverse has the grooves of three parallel reed impressions, each of 7 mm diameter and 30 mm length. The vertical grain of the reeds is clearly visible.

180 Sealing 6G76:772c
Batch 2661, context G (Ash-Tip Phase 3).
Size: 13 x 28 mm.
Sealing type: ?

One very fragmentary impression of horns or legs of figures, height: 8 mm.

Small fragment with vague string marks (string diameter: 2.75 mm).

181 Sealing 6G77:7
Batch 3904, context H (Ash-Tip Phase 3).
Size: 21 x 14 mm.
Sealing type: ?

One very fragmentary and faint rolling, height: 14 mm. It may show the forequarters of an animal.

Reverse is entirely broken.

182 Sealing 6G76:803
Batch 2665, context H (Ash-Tip Phase 3).
Size: 31 x 26 mm.
Sealing type: ?door peg.

A fragment of a single impression 4 mm high shows a linear pattern with a central drill-hole.

Reverse face curves round a diameter of 40 mm, and has a row of string marks (3-strand; fibres: hairy; strand diameter: 3 mm; string diameter: 4.5 mm; twist period: 5 mm; string spin direction: S).

183 Sealing 6G86:98
Batch 1908, context H (Ash-Tip Phase 3).
Size: 20 x 22 mm.
Sealing type: ?door peg.

Traces of seal impression, height: 16 mm.

The impression is too poor to discern any pattern with certainty.

An 18 mm length of very smooth peg impression (diameter: 20 mm) is the only reverse mark.

2.4.5 *Sealings without apparent seal impressions* **(184-261)**

2.4.5.1 *Peg(?) and door peg(?) sealings* **(184-222)**
See also 4a, e-g, l-m; 5a; 6-8; 11, 13, 16-19; 21; 22a-b; 24; 26-27; 31; 35a-b; 36a-b; 40b-d, f-l, n; 41-42; 47b; 48a-b, d; 52; 57; 58; 65-67; 70-71; 73-75; 76a-b; 78; 79a, c-d; 80; 82a; 87-88; 91; 94; 99-100; 102a; 103-104; 113; 114a, c; 116; 117b, d; 118a, c; 121-122; 125; 128; 131-132; 140; 145-6; 153-156; 158; 163; 165-166; 171; 182-183, 259.

184 Sealing 6G76:17
Batch 2601, context A (surface).
Size: 44 x 35 mm.
Sealing type: ?door peg.

A smooth peg impression, 19 mm long and 17 mm in diameter, is preserved, with four rows of string impressions (string diameter: 3.5 mm). The base is broken, but the sealing has probably been affixed to a wall.

185 Sealing [number lost]
Batch
Size:
Sealing type: door peg.

Reverse face has a curve of 45 mm diameter, with impressions of hairy string (string diameter: 5 mm). The base is level and has come off a wall.

186 Sealing 6G76:70
Batch 2603, context G (Ash-Tip Phase 3).
Size: 37 x 36 mm.
Sealing type: ?door peg.

There are four rows of string impressions (3-strand; fibres: hairy; strand diameter: 3.75 mm; string diameter: 4.5 mm; twist period: 7 mm; string spin direction: Z), curving round a diameter of 25 mm.

187 Sealing 6G76:145
Batch 2610, context G (Ash-Tip Phase 3).
Size: 53 x 32 mm.
Sealing type: ?door peg.

There are ghostly impressions of a peg and string, but details are unclear.

188 Sealing 6G76:170
Batch 2613, context H (Ash-Tip Phase 3).
Size: 58 x 43 mm.
Sealing type: ?door peg.

A 15 mm length of peg impression curves round a diameter of 30 mm. There are at least two rows of faint string marks (string diameter: 5.5 mm).

189 Sealing 6G76:304 AbS 1556 Fig. 2:8
Batch 2615, context G (Ash-Tip Phase 3).
Size: 75 x 42 mm.
Sealing type: ?door peg.

(Fig. 2:8) An exceptionally clear example of a peg and string sealing. A long section of the peg is preserved (70 mm). The peg has an exceptionally smooth surface, perhaps of reed, and is flared towards its base, reaching a diameter of 38 mm, as against top diameter of 20 mm. Across the middle of the peg are four rows of string marks (3-strand; fibres: hairy; strand diameter: 2.5 mm; string diameter: 4 mm; twist period: 5.5 mm; string spin direction: Z), the lowest of which is tied in a knot. Another row comes up the side at the top of the peg and round to the obverse. Loose fibres from the string hang down on the peg's surface. The underside of the sealing is complete, but has not come off a wall: thus, the sealing covered a 70 mm long stretch of peg, but was not flush against the surface into which the peg was affixed, which indicates the possibility that the peg was not a door fastener, though such is still the likeliest interpretation. The top of the obverse has thumb impressions where the sealing was pinched around the top of the peg. There are also faint fabric impressions on the obverse, of some coarse, hairy material: as there are no seal impressions, it may

be that a piece of clothing, such as the hem of a garment, was used in lieu of a seal.

190 Sealing 6G76:338
Batch 2613, context H (Ash-Tip Phase 3).
Size: 35 x 22 mm.
Sealing type: door peg.

There are faint string impressions across a smooth section of peg (diameter: 22 mm). The base has come off a wall.

191 Sealing 6G76:366
Batch 2620, context T (Ash-Tip Phase 3).
Size: 32 x 30 mm.
Sealing type: ?door peg.

Two rows of string impressions (3-strand; fibres: hairy; strand diameter: 2 mm; string diameter: 3 mm; twist period: 3.5 mm; string spin direction: Z) cross a flat smooth surface, probably a distorted peg.

192 Sealing 6G76:368
Batch 2620, context T (Ash-Tip Phase 3).
Size: 31 x 39 mm.
Sealing type: ?door peg.

There are two rows of string impressions (string diameter: 4.5 mm), across a smooth peg impression of 14 mm diameter. The base is very smooth and may have been applied to a wooden surface, possibly a box or wall.

193 Sealing 6G76:399
Batch 2617, context G (Ash-Tip Phase 3).
Size: 46 x 30 mm.
Sealing type: ?door peg.

Impressions of string and a smooth peg are visible.

194 Sealing 6G76:436
Batch 2616, context G (Ash-Tip Phase 3).
Size: 43 x 30 mm.
Sealing type: door peg.

Three rows of string impressions (3-strand; fibres: hairy; strand diameter: 3 mm; string diameter: 4.25 mm; twist period: 9.5 mm; string spin direction: Z) curve round a diameter of 25 mm. The base has come off a wall.

195 Sealing 6G76:444
Batch 2622, context L (fill of Pit f in Ash-Tip Phase 3).
Size: 61 x 43 mm.
Sealing type: door peg.

There are peg and string impressions on the reverse, and a level base from a wall.

196 Sealing 6G76:474
Batch 2623, context T (Ash-Tip Phase 3).
Size: 46 x 57 mm.
Sealing type: door peg.

An excellent peg profile is preserved, 50 mm long, diameter at top of peg: 24 mm, diameter at flared base: 33 mm. Three rows of string marks run round the centre of the peg (3-strand; fibres: hairy; strand diameter: 3.5 mm; string diameter: 5 mm; twist period: 7 mm; string spin direction: Z).

197 Sealing 6G76:501
Batch 2616, context G (Ash-Tip Phase 3).
Size: 50 x 48 mm.
Sealing type: door peg.

There is a smooth peg impression (diameter: 27 mm), crossed by several rows of string marks (3-strand; fibres: hairy; string diameter: 5 mm; string spin direction: probably Z).

198 Sealing 6G76:502
Batch 2625, context T (Ash-Tip Phase 3).
Size: 32 x 26 mm.
Sealing type: ?door peg.

This small fragment has faint peg and string marks.

199 Sealing 6G76:503
Batch 2625, context T (Ash-Tip Phase 3).
Size: 45 x 39 mm.
Sealing type: ?door peg.

There are distorted peg and string impressions.

200 Sealing 6G76:509
Batch 2625, context T (Ash-Tip Phase 3).
Size: 28 x 26 mm.
Sealing type: ?door peg.

Loosely twined string impressions (fibres: hairy; string diameter: 3.5 mm) cross a slightly curved reverse face. The base has come off a level surface.

201 Sealing 6G76:515
Batch 2616, context G (Ash-Tip Phase 3).
Size: 41 x 39 mm.
Sealing type: ?door peg.

There is a 17 mm length of peg impression (diameter: 26 mm), with faint hairy string marks.

202 Sealing 6G76:527
Batch 2625, context T (Ash-Tip Phase 3).
Size: 50 x 31 mm.
Sealing type: ?door peg.

Faint string and peg marks indicate a peg sealing.

203 Sealing 6G76:547
Batch 2625, context T (Ash-Tip Phase 3).
Size: 23 x 16 mm.
Sealing type: peg (?package).

A 15 mm length of peg impression curves round a diameter of 19 mm.

204 Sealing 6G76:559
Batch 2623, context T (Ash-Tip Phase 3).
Size: 73 x 33 mm.
Sealing type: door peg.

There is a 20 mm length of very smooth peg impression (diameter: 36 mm), and a base which has come off a wall.

205 Sealing 6G76:564
Batch 2625, context T (Ash-Tip Phase 3).
Size: 42 x 25 mm.
Sealing type: ?door peg.

There are distorted marks of string and probably a peg.

206 Sealing 6G76:569
Batch 2623, context T (Ash-Tip Phase 3).
Size: 62 x 68 mm.
Sealing type: door peg.

An excellent peg impression is preserved for a length of 62 mm, with a diameter of 27 mm. The top of the peg appears to have a flared lip. There are very clear

impressions of four rows of string (3-strand; fibres: hairy; strand diameter: 2 mm; string diameter: 3.5 mm; twist period: 6 mm; string spin direction: Z).

207 Sealing 6G76:571
Batch 2625, context T (Ash-Tip Phase 3).
Size: 36 x 35 mm.
Sealing type: ?door peg.

An 18 mm length of peg impression (diameter: 20 mm) is circled by string impressions (3-strand; fibres: hairy; strand diameter: 2 mm; string diameter: 4 mm; twist period: 4.5 mm; string spin direction: Z).

208 Sealing 6G76:574
Batch 2625, context T (Ash-Tip Phase 3).
Size: 44 x 42 mm.
Sealing type: door peg.

There are clear peg and string impressions.

209 Sealing 6G76:575
Batch 2625, context T (Ash-Tip Phase 3).
Size: 35 x 38 mm.
Sealing type: door peg.

Peg and string impressions cross the reverse.

210 Sealing 6G76:579
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 49 x 37 mm.
Sealing type: ?door peg.

Five rows of clear string impressions (3-strand; fibres: hairy; strand diameter: 3.5 mm; string diameter: 5.5 mm; twist period: 6.25 mm; string spin direction: Z) curve round a face with a curvature of 28 mm diameter. The base has the fine grain marks of wood.

211 Sealing 6G76:586
Batch 2623, context T (Ash-Tip Phase 3).
Size: 37 x 50 mm.
Sealing type: door peg.

A 20 mm length of peg, of 22 mm diameter, has vague string marks across it. The sealing base has straw impressions and has come off a mud wall.

212 Sealing 6G76:624
Batch 2620, context T (Ash-Tip Phase 3).
Size: 34 x 25 mm.
Sealing type: ?door peg.

A 20 mm long section of very smooth peg impression curves round a diameter of 20 mm, beneath which are vague string marks.

213 Sealing 6G76:631
Batch 2638, context K (?Ash-Tip Phase 3).
Size: 31 x 35 mm.
Sealing type: ?door peg.

An 11 mm length of smooth peg impression, of 20 mm diameter, has three rows of string impressions (3-strand; fibres: hairy; strand diameter: 3.5 mm; string diameter: 5 mm; twist period: 7 mm; string spin direction: Z).

214 Sealing 6G76:646
Batch 2646, context G (Ash-Tip Phase 3).
Size: 28 x 23 mm.
Sealing type: peg (?package).

There is a 16 mm length of peg impression (diameter: 18 mm), crossed by three rows of string marks (string diameter: 3.5 mm).

215 Sealing 6G76:648
Batch 2646, context G (Ash-Tip Phase 3).
Size: 20 x 32 mm.
Sealing type: ?door peg.

A 17 mm length of peg (diameter: 28 mm) is preserved.

216 Sealing 6G76:652
Batch 2646, context G (Ash-Tip Phase 3).
Size: 28 x 27 mm.
Sealing type: ?door peg.

There is an 18 mm length of peg (diameter: 26 mm), with vague string marks.

217 Sealing 6G76:730
Batch 2651, context S (Ash-Tip Phase 3).
Size:
Sealing type: door peg.

The obverse bulges along its base where the sealing has been pressed against a flat surface. There are at least seven rows of string impressions (3-strand; fibres: hairy; strand diameter: 2 mm; string diameter: 3.25 mm; twist period: 6 mm; string spin direction: Z), curving round a diameter of 68 mm, but there would have been a peg of smaller diameter contained within the mass of string. At the base of the reverse a single line of string leads off and under the base, where the end of the string would have hung loose. Otherwise, the base is very smooth, and has come off a plastered wall.

218 Sealing 6G76:747a
Batch 2655, context G (Ash-Tip Phase 3).
Size:
Sealing type: door peg.

The obverse is flared at the base, indicating pressure against a flat surface. The reverse bears a fine peg impression, some 40 mm long, flared at the base to a diameter of 41 mm, with a top diameter of 25 mm. The peg was either set in a flange or had a flared base. Across the peg run three rows of string marks (3-strand; fibres: hairy; strand diameter: 2.5 mm; string diameter: 3 mm; twist period: 3.5 mm; string spin direction: Z).

219 Sealing 6G76:747d
Batch 2655, context G (Ash-Tip Phase 3).
Size:
Sealing type: door peg.

A short stretch of peg mark (diameter: 34 mm) has three rows of string impressions across its surface (3-strand; fibres: hairy; strand diameter: 2.5 mm; string diameter: 3.75 mm; twist period: 4.5 mm; string spin direction: S). The obverse is flared at the base.

220 Sealing 6G76:987
Batch 2677, context G (Ash-Tip Phase 3).
Size: 39 x 35 mm.
Sealing type: ?door peg.

Reverse is encrusted but with hints of string impressions. The base is smooth, except for a single cord impression, of 2 mm diameter, and may have been applied to a wall.

221 Sealing 6G86:54
Batch 1906, context G (Ash-Tip Phase 3).
Size: 17 x 18 mm.
Sealing type: door peg.

Two very short lengths of string cross the reverse (3-strand; fibres: fine; strand diameter: 1.25 mm; string diameter: 4 mm; twist period: 5.5 mm; string spin direction: Z). The flat base has been applied to a wall.

222 Sealing 6G86:67a
Batch 1902, context G (Ash-Tip Phase 3).
Size: 43 x 36 mm.
Sealing type: ?door peg.

A 20 mm length of grained reed peg impression (diameter: 31 mm) is circled by very faint string.

2.4.5.2 *Sealings possibly from vessels* **(223-226)**
See also 15, 36c, 40p, 43, 69g, 85b, 106, 114c, 133, 135, 223, 224, 259.

223 Sealing 6G76:18
Batch 2602, context L (fill of Pit d in Ash-Tip Phase 3).
Size: 47 x 45 mm.
Sealing type: ?pot.

There are string impressions (string diameter: 5 mm) in three rows, perhaps circling a pot neck.

224 Sealing 6G76:307 AbS 1629 Fig. 2:182
Batch 2610, context G (Ash-Tip Phase 3).
Size: 25 x 15 mm.
Sealing type: ?pot.

Obverse has no seal impression, but there are two identical marks 30 mm deep with fibre impressions at the bottom suggesting they were made by a stick. At the other end of the sealing there is a fingernail impression.

Reverse has a curved face (diameter: 49 mm), bearing very faint textile impressions, and a single groove of unclear string marks. The base is smooth, and the sealing may come from the neck and shoulder of a jar secured with fabric and string.

225 Sealing 6G76:486
Batch 2624, context J (fill of Grave 133 in Ash-Tip Phase 3).
Size: 25 x 33 mm.
Sealing type: jar stopper.

The piece is a jar stopper from a vessel with a rim diameter of 26 mm.

226 Sealing 6G76:684
Batch 2623, context T (Ash-Tip Phase 3).
Size: 117 x 60 mm.
Sealing type: jar stopper.

The piece is a jar stopper from a vessel with a rim diameter of *c.* 90 mm.

2.4.5.3 *Sealings possibly from packages or bales* **(227-234)**
See also 4c, 17, 22, 35a, 36a, 40f, 47b, 48c, 57, 63a-b, 67, 79c, 86, 87, 91, 94, 102, 113, 114b, 117b-c, 125, 140, 152, 166, 303, 214, 235, 236, 238, 239, 240.

227 Sealing 6G76:123
Batch 2608, context G (Ash-Tip Phase 3).
Size: 21 x 15 x 11 mm.
Sealing type: string-netting (?bale/?package).

The reverse has a small but clear flat area of string-netting impression. The string is 1.5 mm in diameter, with spaces of 20 to 40 mm between strands.

228 Sealing 6G76:201
Batch 2615, context G (Ash-Tip Phase 3).
Size: 33 x 55 mm.
Sealing type: ?package/bale.

Clear string impressions on the reverse (3-strand; fibres: hairy; strand diameter: 3.75 mm; string diameter: 5.75 mm; twist period: 6 mm; string spin direction: Z), including a large knot. The sealing base is smooth but the reverse suggests a large package rather than a peg.

229 Sealing 6G76:302
Batch 2610, context G (Ash-Tip Phase 3).
Size: 27 x 27 mm.
Sealing type: ?package/bale.

The string impressed here is made of thin, flat vegetable matter, rectangular in section and 2 mm in width, perhaps palm fibre. The curve of the reverse suggests a large package.

230 Sealing 6G76:427
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 31 x 32 mm.
Sealing type: ?package/bale.

A straight line of string impression (string diameter: 5 mm; string spin direction: Z) cuts across a reed impression (diameter: 8 mm).

231 Sealing 6G76:562
Batch 2623, context T (Ash-Tip Phase 3).
Size: 42 x 23 mm.
Sealing type: ?package/bale.

Hairy string impressions (string diameter: 4 mm) cross a flat reverse face.

232 Sealing 6G76:626
Batch 2625, context T (Ash-Tip Phase 3).
Size: 17 x 36 mm.
Sealing type: ?package/bale.

The reverse has string impressions (3-strand; fibres: hairy; strand diameter: 3.5 mm; string diameter: 5.5 mm; twist period: 7.5 mm; string spin direction: Z) on a flat surface.

233 Sealing 6G76:632
Batch 2638, context K (?Ash-Tip Phase 3).
Size:
Sealing type: ?package/bale.

There are string impressions (string diameter: 5 mm) on a faintly curving face.

234 Sealing 6G86:147a
Batch 1932, context G (Ash-Tip Phase 3).
Size: 30 x 29 mm.
Sealing type: reed ?package.

There are impressions on both sides of this thin piece (7 mm thick). On one side are rather haphazard reed marks, while the opposite face has faint string marks (string diameter: 4.5 mm). The sealing has thus been squeezed between string and a layer of reeds.

2.4.5.4 *Sealings from reed matting* (**235-240**)
See also **102b, 152, 160**.

235 Sealing 6G76:364
Batch 2620, context T (Ash-Tip Phase 3).
Size: 50 x 43 mm.
Sealing type: reed mat ?covering/?bale.

The piece has been pressed through split reed matting.

236 Sealing 6G76:467
Batch 2616, context G (Ash-Tip Phase 3).
Size: 65 x 50 mm.
Sealing type: reed matting ?package.

Reverse has good impressions of split reed matting (width of segments: 16 mm) on a flat surface.

237 Sealing 6G76:662
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 25 x 23 mm.
Sealing type: reed matting ?bundle.

Faint reed matting marks on the reverse.

238 Sealing 6G76:747b Fig. 2:9
Batch 2655, context G (Ash-Tip Phase 3).
Size:
Sealing type: reed matting ?bale/?bundle.

(Fig. 2:9) There are fine reed matting impressions, each segment being some 15 to 20 mm wide. A single line of string cuts into the matting (3-strand; strand diameter: 2.5 mm; string diameter: 3.5 mm; twist period: 4.5 mm; string spin direction: S). The sealing has come from a bundle or bale of reed matting tied with string.

239 Sealing 6G76:747c
Batch 2655, context G (Ash-Tip Phase 3).
Size:
Sealing type: reed matting ?bale/?bundle.

Badly distorted marks of reed matting adorn the reverse.

240 Sealing 6G86:67b
Batch 1902, context G (Ash-Tip Phase 3).
Size: 42 x 25 mm.
Sealing type: reed matting ?bundle/?bale.

There are clear split reed marks (width of segments: 8 to 10 mm). The sealing has been pushed right through the matting.

2.4.5.5 *Miscellaneous sealing types* (**241-245**)

241 Sealing 6G76:315
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size:
Sealing type: ?sack.

The sealing has been applied to a cylindrical object (diameter: 18 mm), probably a reed, and there are coarse textile impressions on the obverse. The reed may have fastened a sack.

242 Sealing 6G76:365
Batch 2620, context T (Ash-Tip Phase 3).
Size: 40 x 32 mm.
Sealing type: ?sack.

There are coarse fabric impressions, probably sacking, crossed by a line of fine string (3-strand; strand diameter: 1 mm; string diameter: 2 mm; twist period: 2.5 mm; string spin direction: Z).

243 Sealing 6G76:367
Batch 2620, context T (Ash-Tip Phase 3).
Size: 36 x 24 mm.
Sealing type: basket.

An area, 24 x 17 mm, has basket impressions.

244 Sealing 6G76:683
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 34 x 28 mm.
Sealing type: leather container.

There are marks of what is probably leather on the reverse.

245 Sealing 6G86:30
Batch 1902, context G (Ash-Tip Phase 3).
Size: 25 x 23 mm.
Sealing type: reed ?bundle.

Lump which has been pressed onto vegetable material; possibly there was a seal impression present before this.

Sealing is only 9 mm thick, and the reverse has reed impressions, but not matted.

2.4.5.6 *Indeterminable sealings* (**246-261**)

246 Sealing 6G67:53 AbS 2484
Batch 6416, context G (Ash-Tip Phase 3).
Size: 45 x 33 mm.
Sealing type: not studied (string marks and incised lines).

247 Sealing 6G76:79
Batch 2603, context G (Ash-Tip Phase 3).
Size: 32 x 19 mm.
Sealing type: ?

This fragment has the impression of a small section of reed, 10 mm long.

248 Sealing 6G76:240
Batch 2616, context G (Ash-Tip Phase 3).
Size: 42 x 35 mm.
Sealing type: ?

There is a deep groove, 10 mm wide, probably from a reed.

249 Sealing 6G76:306
Batch 2605, context G (Ash-Tip Phase 3).
Size: 25 x 17 mm.
Sealing type: ?

This small fragment has no clear markings.

250 Sealing 6G76:545
Batch 2625, context T (Ash-Tip Phase 3).
Size: 31 x 30 mm.
Sealing type: ?

Very vague string impressions, but details are unclear.

251 Sealing 6G76:549
Batch 2625, context T (Ash-Tip Phase 3).
Size: 29 x 26 mm.
Sealing type: ?

The details are not clear on this sealing.

252 Sealing 6G76:621
Batch 2638, context K (?Ash-Tip Phase 3).
Size: 26 x 20 mm.
Sealing type: ?

No details clear on this tiny fragment.

253 Sealing 6G76:633
Batch 2638, context K (?Ash-Tip Phase 3).
Size: 20 x 50 mm.
Sealing type: ?

No clear details on this fragment.

254 Sealing 6G76:639
Batch 2616, context G (Ash-Tip Phase 3).
Size: 52 x 37 mm.
Sealing type: ?

No clear details.

255 Sealing 6G76:645
Batch 2646, context G (Ash-Tip Phase 3).
Size: 25 x 23 mm.
Sealing type: ?

Small fragment with no clear features.

256 Sealing 6G76:682
Batch 2625, context T (Ash-Tip Phase 3).
Size: 39 x 39 mm.
Sealing type: ?

The reverse has a ledge, 3 mm wide, where the clay has filled a gap between two smooth surfaces, but the function is unclear.

257 Sealing 6G77:36
Batch 3904, context H (Ash-Tip Phase 3).
Size: 21 x 20 mm.
Sealing type: ?

On the reverse are faint string marks (string diameter: 2.75 mm), but the obverse has a clear impression of sacking, in plain weave, with threads similar in appearance to the normal string. The warp threads are 0.75 mm thick, and the weft 1.25 mm, and are S-spun. The fabric impression is on a concave surface, just the size of a thumb-print, where the material had clearly been deliberately impressed, in lieu of a seal.

258 Sealing 6G76:706
Batch 2646, context G (Ash-Tip Phase 3).
Size: 22 x 42 mm.
Sealing type: ?

Faint string impressions, but details unclear.

259 Sealing 6G86:124
Batch 1914, context G (Ash-Tip Phase 3).
Size: 46 x 23 mm.
Sealing type: ?

The reverse is smooth and curved, perhaps from a large peg or pot, but is distorted.

260 Sealing 6G86:239
Batch 1960, context U (Ash-Tip Phase 3).
Size: 49 x 38 mm.
Sealing type: ?

Reverse has heavy encrustations.

261 Sealing 6G86:254
Batch 1942, context H (Ash-Tip Phase 3).
Size: 46 x 35 mm.
Sealing type: ?

No clear seal impression.

Reverse is eroded, and the base has a single row of faint string marks.

3

CLAY FIGURINES (262-431)

E. McAdam

3.1 *Introduction*

In all, 132 recognisable figurines and fragments were recovered from the Ash-Tip and were measured and catalogued in the Iraq Museum by the author in 1985. Munsell (1975) colour readings of most of the figurines were taken on this occasion by the draughtswoman, Jane Evans, in natural shaded daylight. Munsell readings for a few items which were overlooked were taken subsequently under neon strip lighting; the effect of the difference in lighting conditions is indicated by the fact that most of the first set are in the 10YR range, while the second set tends towards 7.5YR.[1]

The figurines were entered onto a database using dBase III[2] and subjected to a variety of sorts by type, size, manufacturing technique and context. Insofar as it is possible to make any statement concerning distribution in the face of the different methods of recovery involved and the variation in

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1 The second set comprises **295, 304, 305, 307, 308, 331, 332, 333, 361, 368, 375, 379, 380, 382, 386, 388, 389, 390, 391, 392, 393**.

2 I am grateful to Mr John Hall and the staff of the Department of Mathematics and Computing, Bolton Institute of Higher Education, for their assistance and support.

volumes of individual batches, there seems to have been no significant grouping or association of types and no chronological variation in their occurrence. The assemblage is therefore treated as homogeneous. Variation within types is discussed under the appropriate headings below.

3.2 *Human figurines*

None of the 47 human figurines is complete. All are hand-modelled from clay which often contains large pieces of grit or vegetable inclusions. Most were dark grey or brown in colour, presumably discoloured by the ashy deposits in which they were found. Of the 47, 21 are recorded as being of baked and 26 of unbaked clay, but except in the cases of **264**, **266** and **300**, which appear to have been deliberately fired, the partial and uneven nature of the baking suggests accidental rather than deliberate exposure to heat, perhaps by contact with hot ashes within the Ash-Tip.

The quality of the modelling is not high, and in many cases the objects are barely recognisable as human figurines; in the absence of objective criteria, it was necessary to proceed upon the assumption that the sensitivity of the human eye to the human form is such that if a fragment suggested the human body this should be accepted as the intention of the manufacturer.

The simplicity of the modelling and the relative absence of detail make it virtually impossible to distinguish types within this assemblage, with the exception of the figurines with incisions representing skirts (**262-269**) and three large figurines with unusually prominent heads (**270-272**). Database sorts suggested the subdivision of the remaining figurines into two types, large to medium and small figurines, on the basis of a combination of surviving height and thickness of upper body (Table 3.1). It is difficult to construct a typology for objects which are both featureless and incomplete, and there is inevitably some overlap between the two groups, but similarities in the modelling of details such as heads and arms support this division and the small figurines in particular (**288-296**) form a coherent stylistic group.

	With skirts	Large with heads	Large to medium	Small
Height	13-51 mm	24-63 mm	23-55 mm	18-35 mm
Thickness of upper body	13-18 mm	15-25 mm	12-27 mm	8-17 mm

Table 3.1: Dimensions of human figurines

3.2.1 *Figurines with skirts* (**262-269**)

The eight figurines and fragments **262-269** carry incisions which are apparently intended to indicate clothing. In addition, figurines **275**, **282**, **283** and **291** have finger impressions on the base or lower part of the body which may represent skirts.

262 is a cylindrical body fragment which bends forward slightly. Vertical incisions run all round the body, and an incision runs over the left shoulder and slants downwards across the front. The back and right shoulder are damaged, but the fragment appears represent a figure wearing a long garment which covered the left shoulder and left the right bare.

In **264**, **265** and the two fragments **268** and **269** the incisions representing the skirt were made on an applied strip of clay wrapped round the lower part of the body. In **265** the legs were modelled individually; a similar but better-preserved figurine with individually-modelled legs and applied skirt was found elsewhere at Abu Salabikh (6G76:614/AbS 1675).

The possibility that these vertical incisions represent the tufts of a skirt like those known from the 'Standard of Ur' and other Early Dynastic representations is lent support by **263**, a figurine with a conical body on a concave base on which it stands upright. In this case there are two rows of diagonal or vertical incisions running around the body below the waist, divided by a horizontal line, and it is probable that a skirt with two rows of tufts is intended.

These fragments are not sufficiently well-preserved or carefully modelled for it to be possible to compare them in detail with other representations of clothing, but it seems that at least four types of garment are being depicted: a full-length robe crossing the left shoulder in **262**, a full-length, tufted skirt in **263**, a shorter, tufted skirt in **265**, and a plain, full length skirt in (for example) **291**. In her article on early Sumerian costume Strommenger illustrates these and other permutations on the theme of the long or short skirt worn throughout the Early Dynastic period as well as a slightly more elaborate full length robe covering one shoulder which may correspond to the garment shown in **262** (Strommenger 1971, 37-40, Figs. 1-9 and 48, Fig. 27). All these garments are worn by men, and the skirt with multiple rows of tufts and the full length robe seem to be associated with higher status.

3.2.2 *Large figurines with heads* (**270-272**)
The three figurines in this group have in common both larger and better-defined heads and more substantial arms than the other human figurines. In **271** and **272** the projection forming the head was folded over. The arms, which are circular in cross-section in the cases of **270** and **272** and wing-like in **271**, project sideways and downwards.

3.2.3 *Large to medium figurines* (**273-287**)
Fifteen figurines fall within this group, which was distinguished primarily on the basis of a combination of surviving height and body thickness (see Table 3:1 above). The catalogue is arranged in decreasing order of existing height.

These figurines are largely featureless. Where the head survives it does so as a short, triangular projection above the shoulders with no attempt to portray facial features, and the arms are usually short, sideways projections. The bodies are featureless except in the cases of **275**, **282** and **283**, which bear finger impressions on the lower part of the body which may be intended to represent a skirt. In only two cases (**273** and **284**) was there any attempt to model the legs individually; in seven figurines (probably originally more) the tubular or conical figurine body flared slightly to form a concave or flat base upon which it stood upright. The impressions in **275** and **287** are probably accidental.

3.2.4 *Small figurines* (**288-296**)
Like the large to medium group, the nine small figurines were grouped together by surviving height and thickness of upper body (see Table 3:1 above) and are clumsily made and lacking in detail, although similarities in modelling suggest that the division by size is a real one. The heads, where they survive, are simple projections, as are the arms (**294** is unusual in that the arms appear to have projected upwards rather then sideways or downwards). The bodies are tubular or conical; **291** carries finger impressions which may indicate a skirt. Separately modelled legs are indicated in **289** and **290**, and **288**, **291** and **294** have flat or concave bases.

3.2.5 *Leg and base/miscellaneous human figurine fragments* (**297-308**)
Apart from the fragment **297**, which may have come from a figurine like the example with applied skirt **265**, very little can be said about the remainder of the human figurine fragments. **301** and **306** represent the range of incomprehensible fragments of clay which have certainly been shaped by human hand, but with an intention which is now obscure.

3.3 *Animal figurines*
Eighty-one animal figurines and fragments were found, of which the pig figurine **309** is the most nearly complete. Thirty-six can be identified as pigs, equids or sheep/goats, plus one possible dog; the rest are unrecognisable except as quadrupeds. All are hand-modelled, but the degree of skill exercised and the techniques employed vary according to the species being represented. Forty-eight animal figurines are of unbaked clay, 25 are baked, probably accidentally as a result of contact with hot ashes, and eight were apparently deliberately fired. At least two (**335** and **346**) appear to have been crushed while the clay was still plastic.

3.3.1 *Pig figurines* (**309-317**)[3]
There are nine pig figurines and fragments.[4] They constitute the most skilfully made group of figurines to come from the Ash-Tip, and the only group to demonstrate signs of having being manufactured by experienced modellers. Six of the pig figurines are deliberately fired and were apparently made using techniques and materials similar to those of some contemporary pottery, in a pale brown or pink fabric, sometimes with fine vegetable or mixed inclusions, sometimes with a cream slip. All are carefully modelled, with impressions or incisions indicating the characteristic bristles of the wild or early domesticated pig.

There are two types of pig figurine, those with solid and those with hollow bodies. **309** and **310** are of the solid type, which seems to have been smaller than the hollow variety. **309** was of baked clay, burnt rather than deliberately fired, and **310** was of unbaked clay. Both are carefully made, **309** particularly so. The body is rounded, with three or four rows of wedge impressions along the back representing bristles and a thin, straight, pinched-out tail. The legs were originally individually modelled, but only the right hind leg survives; it is rounded at the tip and splays outwards. The head is a continuation of the body, with wide, rounded, pinched-out ears and circular impressions for the eyes. The snout is circular in

3 Cf. G. Clark, below p. 181, § 14.2.1, for osteological remains of pigs from the Ash-Tip. Matthews 1985, 51, illustrates a pig figurine from the fill of Grave 124 at Abu Salabikh (6G47:110/AbS 1510).

4 [A tenth piece, discovered since this study was made, has been added by the Editor to the catalogue as **317a**.]

section with a flat tip in which two small circular impressions indicate the nostrils and a horizontal incision the mouth.

The hollow type of pig figurine is represented by the seven fragments **311-317**. Only **317** is of unbaked clay; the others were all manufactured from pink to pale brown clay like that used for pottery, sometimes with a cream slip or fine vegetable and mixed inclusions, and were deliberately fired. The body was rounded and hollow, with walls up to 13 mm thick; the length of one side survives in **312**, which is 64 mm long. The legs were individually-modelled tapering stumps, applied separately in the case of **313**. Bristles are indicated by vertical or (in the case of **311**) horizontal and vertical incisions. In **311** part of a circular snout survives; the end is flat, with two circular impressions representing the nostrils. It is possible that the hollow bodies originally contained pebbles or pellets and that these objects were rattles.

Both solid and hollow pig figurines are made with a superiority of technique and a standardisation of design that are missing in the other categories of figurines, even the equids.

3.3.2 *Equid figurines* (**318-333**)[5]

There were 16 equid figurines of which one (**318**) was apparently deliberately fired, six were accidentally baked and nine were unbaked. Although they do not display the same level of skill and assurance as the pig figurines, they are nevertheless carefully made with a considerable amount of detail and form the largest group of recognisable animal figurines from the Ash-Tip. When complete, the figurines must have varied considerably in size, those represented by the two heads **318** and **320** and the damaged head and body **321** having probably been rather larger than average, while the body **324** is rather small.

A number of more or less naturalistically modelled details, of which the most consistently present is a mane, identify these figurines as equids. **318, 319, 320, 322, 323, 324** and **328** have or had manes formed by an applied strip of clay running up the neck, which is characteristically long and straight; in **321** the mane was formed by pinching up the clay along the back of the neck to form a ridge. Details such as ears, eyes, nostrils and the shape of the nose may also be realistically modelled.

Another feature, found on **322, 325, 326, 327, 329** and **330**, is the pinching up of the clay between the forelegs to form the sharp angle of the breastbone. The body usually rises towards the rump, and where the tail is present it is generally shown curving downwards. In **325** a leg survives attached to a body; like a number of detached legs, it is unusually long for an animal figurine, with some attempt at anatomical realism, but this should be contrasted with the short, rounded stumps of **324**. In **325, 326, 327** and **329** the clay between the hind legs is pinched up, possibly in an attempt to portray the male genitalia.

Not all these features are present in every figurine and in the case of some of the body fragments their attribution as equids is based on a general similarity to more securely identified examples rather than definable attributes, but the general quality and level of detail of the modelling, which cannot always be fully conveyed by drawings, set this group apart.

Considerable attention has been devoted to the textual and osteological evidence for the presence of different species of equid in third millennium Mesopotamia in general and at Abu Salabikh in particular (Zarins 1986; Postgate 1986; Clutton-Brock 1986). The consensus of opinion among these authors seems to be that donkeys were the common beasts of burden, while onagers were kept only for mating and the valuable and highly-prized hybrid animals were used for pulling war chariots (Postgate 1986, 200; Clutton-Brock 1986, 213). Zarins has stressed the high status of the hybrids, which could cost up to seven times as much as a donkey, although unlike Postgate and Clutton-Brock he identifies the hybrid in question as a horse-donkey rather than an onager-donkey cross, despite the fact that, as Postgate points out, horses are rarely attested until the Ur III period, when they are still an expensive rarity (Zarins 1986, 164-176; Postgate 1986, 197).

Neither textual nor osteological evidence is of assistance in identifying the rather schematic representations provided by the figurines. Photographs and descriptions of modern onagers show that they have ass-like heads with short ears and tufted tails with more hair than a donkey's; their legs are more slender for their length than those of a donkey and they lack the donkey's marked shoulder stripe (Clutton-Brock 1981, 91-101). Unfortunately, features such as tails and ears are either damaged or modelled in insufficient detail on the figurines to be diagnostic, and although as we have seen one of the long and realistically-modelled legs of **325** has survived, one leg out of a possible 64 can hardly be conclusive.

The only distinctive aspect of the equid figurines which seems to throw any light on their identification is their well-marked manes. The photograph of a Persian onager published by Zeuner (1963, Fig. 14:1) shows an animal with a rather staring mane, longer than a donkey's but shorter than a

5 Cf. A. Green, above p. 10, § 1.4, and G. Clark, below p. 182, § 14.2.4, for osteological remains of equids from the Ash-Tip.

horse's, which stands out visually by being a markedly different colour from the rest of the coat, and ancient representations such as the onager hunt from the Palace of Ashurbanipal at Nineveh (Clutton-Brock 1981, Fig. 9.14) also show onagers with prominent, upright manes. Clutton-Brock identifies the equids on the 'Peace' panel of the 'Standard of Ur' as donkeys by their clearly-defined shoulder stripes, and the textual evidence cited above makes it likely that the animals pulling the chariots on the 'War' panel are onager-donkey hybrids. It is therefore interesting to note that the donkeys on the 'Peace' panel have no manes, while on the animals pulling the chariots (and the onager or hybrid on the electrum rein-ring from the grave of Pu-abi) the mane is quite distinct (Clutton-Brock 1981, 99; Woolley 1934, Pls. 91 and 92 and Pl. 166); they share other hybrid features such as ass-like heads with short ears, tufted but long-haired tails and long, slender legs. It seems that the prominent mane of onagers and onager-donkey hybrids was perceived as a distinguishing feature in the Early Dynastic period as well as later. Given the attention devoted to depicting the manes on the Ash-Tip figurines, as well as the general care with which they are made, they are probably to be identified as onagers or hybrids rather than as donkeys, perhaps most probably as hybrids, since they would have been of greater economic and practical importance than onagers.

3.3.3 *Sheep/goat figurines* (**334-344**)[6]
Eleven figurines and fragments fall into this category. Only one, **334**, is deliberately fired, three are baked and seven are unbaked. The quality of modelling is variable; **335** is exceptionally crude and appears to have been squashed while the clay was still plastic, while **334**, **337**, **338** and **343** are all carefully and more or less realistically modelled. **338** is the only example of which it is possible to say definitely that a sheep is depicted; the right horn was modelled separately and attached to the head, curving under the right ear. In all other cases the area of the horns and ears is either too damaged or not shown in sufficient detail to permit closer identification. In each case it is the shape of the head and nose which suggests ovo-caprids; where the body is present, it is featureless apart from a pinched-out tail sticking straight out from the rump. **335**, **336**, **338**, **340**, **342** and **343** are all smaller than the average animal figurine from the Ash-Tip. In no case is sex indicated.

3.3.4 *Semi-complete, headless and other unidentifiable figurines* (**345-389**)
Apart from **345**, whose stance and head shape suggest a dog, very little can be said about the remaining 45 animal figurines, for which either the state of preservation or the quality of the modelling (or both) preclude identification. Fifteen are baked and 20 unbaked. **346**, like the sheep/goat figurine **335**, appears to have been squashed shortly after manufacture. **347** and **348** are also of interest; **347** is covered with irregular incisions which may represent hair or fur and **348**, which consists of a head and neck only, bears incisions which cross behind the eyes and converge towards the end of the nose in such a way as to suggest a bridle, although there is nothing else to indicate that an equid is being portrayed. The headless body **358** may be an equid, although there is no trace of a mane on the fairly long stretch of neck which survives. Eight of these unidentifiable figurines have a pinchedup ridge of clay between the hind legs which is probably intended to represent the male genitalia.

3.4 *Model chariot fragments* (**394-431**)
Eight model chariot fragments, four model yoke fragments and 26 model wheels or fragments were found in the Ash-Tip.

Of the eight chariot fragments found, two (**394** and **401**) were deliberately fired and the rest are of unbaked clay. Most are badly damaged, and only **395** is more or less complete.

394 is an example of a type known from fragments found elsewhere on the mound at Abu Salabikh and from more complete examples from other sites. The front is high, widening towards the top, which has a central depression for the reins. The pole socket runs through the bottom of the front along the surviving length of the fragment, and although the fragment is broken off before the axle-holder the bottom of the model seems to have been flat, with a low ridge on either side.

The other recognisable fragments, of which **395** is the best preserved, are all of two-wheeled 'straddle' chariots. **395** has a high, rounded front and the body rises again to a flat-topped back with a projecting ledge at the base. In this case the pole and axle sockets are simple perforations, but in **396** the axle socket was more elaborately modelled, projecting below the body and slightly beyond it on either side. **397** is the rear end of a straddle chariot like **395**, with a flat-topped back and projecting ledge.

Depictions show chariots being drawn by four equids attached by neck straps to a yoke fixed to the pole, and the four objects **402-405** have been tentatively identified as model yokes. **402** is complete and consists of a slightly bowed object of unbaked clay. There is a hole in the apex of the bow which may have received the chariot pole and the ends are pinched, perhaps to fit the animals' backs.

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6 Cf. G. Clark, below p. 181, § 14.2.2, for osteological remains of sheep/goat from the Ash-Tip.

Since straddle chariots have only two wheels, the fact that model wheels outnumber model chariots by more than three to one suggests either that they had some alternative function or that model vehicles were also made out of organic materials and given clay wheels. Five model wheels from the Ash-Tip were deliberately fired and the remainder were of unbaked clay. Chariot models vary widely in size and it is not surprising that the wheels vary in diameter from 18 to 46 mm. The hub on one side of the wheel is regularly more pronounced than on the other, but it is not clear whether the more pronounced side would have been next to the vehicle to distance the rider from the rotating wheel, or whether it projected further on the outer surface of the wheel to protect the wheel itself.

The chief difference between the Ash-Tip models and these from elsewhere on the mound is that a higher proportion of straddle cars and a lower proportion of deliberately fired objects are represented. It seems to be the case that while flat-based chariot models are invariably deliberately fired and made of light reddish-brown clay with a cream slip, straddle chariots, although sometimes made this way, may also be of unbaked clay and in general show less care and less standardisation in their manufacture.

3.5 *Comparative material*

3.5.1 *Human and animal figurines*

The paucity of figurines from the Early Dynastic period in southern Mesopotamia has been noted (Barrelet 1968, 61-64). In contrast to the rich and complex repertoire of well-made human and animal figurines from the 'Ubaid period at sites such as Warka and Ur or the wide range of mainly mould-made terracottas from later periods (Green 1983), only a handful of simple and crudely made human and animal figurines appears in the published accounts of excavations in southern Mesopotamia for the entire period from the end of the 'Ubaid to the Ur III period. At Warka 216 'Ubaid figurines were found compared with 52 from the period from the Uruk to the end of the Early Dynastic (Ziegler 1962), and at Ur the figures are approximately 50 'Ubaid figurines compared with 100 from the timespan from the Uruk to the beginning of the Ur III period (Woolley 1955).

The figurines from the Ash-Tip at Abu Salabikh appear to be more numerous, less carefully made and more fragmentary than those recovered from other contexts at Abu Salabikh or from other Early Dynastic sites, but variations in methods of retrieval and collection policy may mean that the Ash-Tip assemblage is less atypical than it seems. Much of the material from the Ash-Tip was recovered by sieving, and any clay fragment which showed signs of having been deliberately modelled was kept. This almost certainly resulted in a higher recovery rate, particularly of the smaller figurines and fragments, than one would have expected from the normal processes of excavation. Comparison with material from other sites is also complicated by problems of dating. The Ash-Tip figurines come from closely datable contexts; given their fragility, it is highly unlikely that they could have been redeposited without being even more extensively damaged than they were, or indeed without disintegrating altogether. It can therefore be assumed that these objects were discarded directly into the contexts in which they were found. This is rarely true of figurines, which are usually found redeposited in general rubbish contexts, providing only a *terminus ante quem*.

Of the figurines from unsieved, non-Ash-Tip contexts at Abu Salabikh, only those from the 1975, 1976-7 and 1978-9 seasons have been studied by the author at the time of writing, a relatively small sample of 16 human and 22 animal figurines. The quality of modelling is higher than in the Ash-Tip assemblage, there are fewer small fragments, more are deliberately fired and human heads are modelled in some detail; some have applied circular eyes and locks of hair and these features occur even on small figurines with outstretched, wing-like arms and simple tubular bodies on flaring bases. Small, simple figurines like **288-296** were not found in these seasons, and there were several figurines whose heads, arms and legs all demonstrated relatively detailed modelling. There was also one female figurine with clearly modelled breasts, a type not found among the Ash-Tip figurines. Among the animal figurines, pigs (both solid and hollow), equids and sheep/goat figurines occur, outnumbered again by a mass of unidentifiable unbaked animal figurine fragments. The proportions of equid and pig figurines in the Ash-Tip and elsewhere at Abu Salabikh are similar (20% to 27% for equids and 11% to 14% for pigs), but there are two non-Ash-Tip figurines which may represent bovids, another type not present in the Ash-Tip.

At Ur, an examination of the figurines from the early periods (Woolley 1955) suggests that a policy of recording and keeping only large fragments of human figurines and complete, semi-complete or unusually interesting animal figurines must have prevailed. The criteria governing the retention of different classes of find are not discussed by Woolley, but the small fragments of human figurines and the headless, legless animals which make up a large part of the figurine assemblage at Abu Salabikh are completely absent. Collection policies which would not be considered appropriate today undoubtedly prevailed on other early excavations.

Woolley (1955) lists approximately 150 figurines dating from the 'Ubaid to Akkadian periods. Nearly one-third of these can be firmly dated to the 'Ubaid period; the well-known complete or semi-complete

female figurines were found in Pit F in graves dating to the latest phase of the 'Ubaid (Woolley 1955, Pl. 20) and a number of other fragments are datable on stylistic grounds to this phase. The 'Ubaid figurines are exceptionally well-made and hard-fired and therefore had a high survival value (in addition to being distinctive in colour and style and therefore more likely to be recognised by the workmen and kept by the excavator), but even so it is remarkable that the entire period from the end of the 'Ubaid to the beginning of the Ur III period should have produced so few figurines.

Over sixty post-'Ubaid figurines from Ur have been studied by the author, but division on either stylistic or stratigraphic grounds is difficult. Many are from the SIS rubbish strata, of which Woolley (1955, 37) says, "Crude clay figurines of men and animals are very common, and so are clay wheels and models of chariot-bodies; the fact that these are associated with the jar-sealings and tablets which are apparently thrown out from a temple store should mean that they are votive objects, not toys...". Most are of unbaked clay. The simple type consisting of a plain body flaring to a base and with outstretched, wing-like arms is found; there is more detailing on the heads (in the form of applied eyes and hair) than among the Ash-Tip figurines. One example of a human figurine with an incised skirt occurs (U18419: Woolley 1955, 190); the head is missing but the arms are simple outstretched wings and the body probably ended in a flat base. The only other detail was a triangle of circular impressions on the chest, perhaps representing a beard. Other human types similar to those at Abu Salabikh have applied pellets forming the eyes, and there are several figurines which are not paralleled elsewhere. Only one figurine is definitely female. Among the animal figurines, two pigs of the type with solid bodies can be recognised, but none of the hollow variety, and no equids. There are only one or two possible bovids compared with 19 clearly recognisable sheep/goats, although bulls and cows are a favourite subject in Sumerian art and bulls dominate the repertoire of animal figurines in the 'Ubaid and other prehistoric periods.

3.5.2 *Model chariots*[7]

It would be inappropriate to base a comprehensive review of the evidence for wheeled vehicles in the Early Dynastic period in southern Mesopotamia on the eight model chariot fragments found in the Ash-Tip, although such a review is long overdue. Current opinion is summarised by Littauer and Crouwel (1979, 15-38 and Figs. 3-10), who identify two types of chariot as being in use in the Early Dynastic period: the four-wheeled 'battle car' known from depictions, models and graves, and the two-wheeled 'straddle car' known from seals, models and plaques. A two-wheeled variant of the 'battle car' is also identified but the evidence for this is said to be scanty and derived entirely from models.

The four-wheeled battle cars shown in the battle scene on the 'Standard of Ur' (one of the enemy is being trampled underfoot by the equids) carry a driver, either standing on the flat floor or seated on a box at the back, and an armed passenger, who perches on a projecting step at the rear while apparently holding on to the driver with his free hand (Woolley 1934, Pl. 92). The front of the chariot is high and flaring, with a central depression for the reins and a quiverful of javelins on the left hand side; it is shown face on, in what appears to have been the convention governing the representation of this type of chariot, with the near front wheel appearing below the centre of the front. The pole is straight and starts from near the bottom of the front. A quiver is shown in the same position on the left of the chariot front on a four-wheeled model chariot from Kish (Moorey 1978, fiche A04—A06: Ashmolean 1925.291). The base of the four-wheeled chariot was flat, with sides that came up to about knee height, and the back was covered over to form a box on which the driver could sit. The axles were fixed and the vehicle must have been extremely difficult to manoeuvre.

Apart from models, no depiction of the two-wheeled variant of the battle car is known, but one of the cart burials at Kish appears to have contained a two-wheeled vehicle (Moorey 1978, 106: Cart Burial I). All the chariot models from contexts at Abu Salabikh other than the Ash-Tip which have been seen by the author to date, which included examples of the battle car type, have only two wheels, and in his volume on the early periods at Ur Woolley says in his discussion of strata SIS4-5 in Pit W that he found model chariot "wheels and the bodies of cars, generally with high fronts, pierced in front for the pole and laterally (or through an axle-box below the body) for the axle; all were two-wheeled..." (Woolley 1955, 75). It appears that among Early Dynastic modellers in southern Mesopotamia the two-wheeled platform chariot or battle car is more popular than the four-wheeled version.

A stone plaque fragment from Ur carries a detailed representation of a straddle car drawn by four equids being led by an attendant (Woolley 1934, Pl. 181b). Unlike the four-wheeled battle car, the vehicle is shown in profile only, with one wheel immediately under the centre of the body. The front is high and is equipped with two axes in addition to a quiverful of javelins on the left hand side. The pole arches from its junction with the body at the base of the front and is attached to the top of the front by a tie of some kind. The upper part of the body, the front and the high back are covered by what seems to be the spotted hide of an animal, perhaps a cheetah, whose legs hang down at the back. Panels of what may be intended for basketwork appear below the hide. Although the details of the construction are not

7 For discussion of chariots in Early Dynastic glyptic, cf. H.P. Martin, above p. 32, § 2.1.4.3.

entirely clear, the overall shape, with a high front and back on either side of a lower saddle, is recognisable as being that of the clay models. It is, however, radically different from the shape of the Tell Agrab copper model (Frankfort 1943, Pls. 58-60), in which the driver stands astride a chariot body which is essentially a continuation of the straight, almost horizontal pole. No weapons are shown. Models of straddle chariots are numerous; one from Kish is not only covered with animal hide, possibly sheepskin, but is equipped with a front wider than the body in order to shield the legs of the rider (Moorey 1978, Fiche A04-A06: Ashmolean 1924.281). A seal impression from Ur of Jemdet Nasr date shows a chariot of this type in use, although it is uncertain whether the rider is sitting down or standing up or whether warfare or hunting is taking place (Legrain 1936, No. 298, Pls. 16 and 48). It is generally presumed that the riders of straddle chariots were seated.

If it is accepted that chariot models, however crudely made and lacking in detail, represent real types of vehicle and not merely products of their makers' imaginations, at least four types of Early Dynastic wheeled vehicle can be distinguished from models. Three of these have already been discussed: the four-wheeled battle car with a flat base and box at the back, known from depictions, models and archaeological evidence; the two-wheeled version of this type, well-attested in models and possibly from Cart Burial I at Kish; and the straddle chariot, known from depictions, models and at least one seal impression. There seems also to have been a fourth type of model chariot not previously noted, which appears to be a hybrid between the straddle car and the platform chariot. This form is known to us from the Ash-Tip fragment **394** as well as from another example from elsewhere at Abu Salabikh; both the Abu Salabikh examples have high, flaring fronts with central depressions for the reins, and both are unfortunately broken off before the axle-holder, but enough of the body survives to show that the hole forming the pole socket ran right through the front and continued along the surviving length of the fragment. The body is narrow, with a flat base not much wider than the width of the pole, and there are the beginnings of low sides, suggesting a vehicle not unlike the Tell Agrab model in which the rider stood with his feet on either side of the pole rather than being seated astride the body.

A complete model chariot of this type from Ur is illustrated by Woolley (1955, 28, 37; Pl. 24). The context of the complete two-wheeled model chariot (equipped for the photograph with wheels from Uruk levels) is not known, but Woolley indicates that it is of Early Dynastic date. It has a high front with a central depression, but the reins are carried in holes on either side of the front. The sides are low and slope down towards the back of the chariot, which clearly lacks the box of the platform chariots. Although the inside of the chariot cannot be seen in the photograph, it is clear that it has a flat floor. This type of chariot seems to combine features from the platform chariot and the straddle car, being lighter than the former but permitting the driver to stand up, and is known from later periods (e.g. the moulded and red and black painted model from Kish, Ashmolean 1929.306).

Only the four-wheeled platform chariot is shown in use in battle, although the Jemdet Nasr seal impression from Ur shows a straddle chariot accompanied by armed men; it is not entirely clear whether the scene is one of battle or the chase (Legrain 1936, No. 298). It has been argued (for example by Noble 1969, 487-88) that straddle chariots were not military in purpose, since they are clearly designed to carry only one person, who might be supposed to be fully occupied in controlling his equids; Moorey (1978, Fiche A04-A06) suggests that, "as these obviously offer no room for two people, and little security at speed, they would seem more likely to have been routine transport rather than truly military vehicles". If we are correct in supposing that the riders of straddle chariots sat astride them then it might be supposed that the riders had considerably more stability than the drivers and passengers of the flat-based but narrow two- and four-wheeled battle cars. It is also difficult to accept that a vehicle equipped with two types of weapon and drawn by four expensive equids was intended for routine transport, when the fastest and most convenient means of travel in southern Mesopotamia must always have been by water. The way in which the four-wheeled battle car would have operated in battle has been discussed by Noble (1969, 485-88), who points out that with its fixed wheels it would have been almost impossible to manoeuvre, and that the real terror of such a vehicle resided in the partly psychological effect of four animals with the weight of a chariot and one or more riders behind them bearing down upon the enemy ranks and cutting a swathe two and a half metres wide. If this is an accurate reconstruction of the way in which chariots were used in Early Dynastic warfare, then a lighter but more manoeuvrable straddle chariot, also drawn by four animals, could have had its military value.

However the different types of chariot were used, it is clear that they were expensive, high status vehicles. This is borne out by the small numbers of model chariots found and the relatively high levels of skill expended on their manufacture, particularly in the case of platform and hybrid models, which seem to have been modelled by experienced craftsmen and which were consistently well-fired; straddle chariot models are more numerous and less carefully made. It is possible that the model chariots in the Ash-Tip were deposited as groups with yoked equid figurines and riders (the individually modelled legs **265** and **297** may have belonged to human figurines placed astride straddle chariots). The predominance of the slightly less prestigious straddle cars may suggest that these could more readily be afforded by individuals.

3.6 *Conclusions*

To summarise, the nature of the Ash-Tip figurine assemblage is as follows: there were 47 human figurines or fragments, none of which has female characteristics and eight of which are wearing male garments, in one or two cases of a kind which appears to have been confined to men of high status. There were 81 animal figurine fragments: 9 exceptionally well made pigs,[8] 16 slightly less well made equids, 11 sheep/goats, one possible dog and the rest of unknown species. In 12 animals an attempt had been made to indicate the male genitalia. No animal figurine could be recognised as bovid. Finally, there were eight model chariot fragments, mostly of 'straddle chariot' type, four model yoke fragments and 26 model wheels.

With the exception of the pig figurines, and to a lesser extent the equids and sheep/goats, the human and animal figurines are crudely and ineptly modelled to the point of being almost unrecognisable. In the case of numerous fragments it is impossible to determine what species is represented or even whether the fragment was deliberately modelled, and in at least two cases (**335** and **346**) there is reason to suppose that the figurines were stepped upon or otherwise crushed shortly after being made. This suggests that the period of use was short.

The nature of that use cannot certainly be established. It has sometimes been suggested in the past that both figurines and chariot models were toys, and it is not impossible that the crudeness of the manufacture indicates that these were playthings, made by children for children; it is also possible that the hollow pig figurines were rattles and intended as toys, although in this case toys manufactured with adult skills.

The context of the Ash-Tip itself, however, and the fact that the assemblage appears to differ from the range of figurines from other contexts at Abu Salabikh, argue against the interpretation of these figurines as toys. In this context it is interesting that in the passage quoted above on the SIS rubbish strata at Ur Woolley (1955, 37) describes quantities of figurines and chariot models found in association with sealings and tablets which appeared to have been thrown out of a temple store.

It seems probable that the figurines played some part in the ritual of the temple which the Ash-Tip is presumed to have serviced. The professional, mass-produced, often mould-made figurines of later periods were often made in the image of the deity to which they were, in some sense, offered, but it is unlikely that the human figurines from the Ash-Tip were intended as images of the god, since they are barely recognisable as human. The crudeness of manufacture and the short period of use of these figurines indicate that the actual act of making the figurine, rather than the quality of the likeness, was the significant part of the ritual. There are a number of texts, admittedly from later periods, in which figurines moulded by gods or goddesses literally come to life; in the Atra-hasis story of the creation of mankind the goddess Nintu, assisted by Enki, creates the figurines which become the first seven men and seven women from a mixture of clay and blood with an incantation (Lambert & Millard 1969), and in the poem 'Enki and Ninmah' Enki and Ninmah first create man out of clay and then, becoming drunk with success, a series of deformed creatures (Benito 1980). The belief that clay could either symbolically or in reality take on life is a powerful and persistent one in Mesopotamia, and it may not be unreasonable to see the Ash-Tip figurines as another expression of it, although it is impossible to know whether the human figurines were made to stand in place of the worshipper and the animals and chariots as token offerings, whether they were pledges of real offerings of goods or services which would be made at a later date or whether they were offered to attract the attention of the deity to concrete or spiritual favours being requested. The evidence of the figurines does, however, suggest that the ritual in question was practised exclusively by men, probably men of high status, and that pigs and equids played some special role in it.[9]

8 [Cf. above, n. 4.]

9 Cf. G. Clark's report (ch. 14) on the animal remains from the Ash-Tip.

3.7 *Catalogue* (262-431)

3.7.1 *Human figurines* (262-308)

3.7.1.1 *Figurines with skirts* (262-269)

262 Human figurine 6G66:58 in AbS 1041 Fig. 3:2
Batch 406, context P (Ash-Tip, mixed).
Height: 38 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 15 mm.
Width waist: 18 mm.
Thickness lower body: incomplete.
Unbaked clay. Hand-modelled, crudely. Body fragment of human figurine wearing skirt; arms, head and base missing.
Colour[10]: 10YR 6/4 light yellowish brown.

Cylindrical body fragment of human figurine, bending forwards slightly. Vertical incisions all the way round the fragment represent a skirt or dress; an incision running over the left shoulder and slanting downwards across the front may indicate a shoulder-strap or neckline. The back is damaged and the arms, head and base are missing.

263 Human figurine 6G76:41 AbS 1493 Fig. 3:2
Batch 2601, context A (surface).
Height: 47 mm. Width base: 21 mm.
Width shoulders: incomplete.
Thickness upper body: 13 mm.
Width waist: 15 mm.
Thickness base: 21 mm.
Unbaked clay. Uneven surface. Hand-modelled. Human figurine wearing skirt; head and one arm missing, body and base damaged.
Colour: 5YR 6/4 light reddish brown.

The body is roughly conical, with a concave base, damaged around the edge, on which it will stand upright. A tiered or flounced skirt is indicated by a horizontal incision running around the body approximately 12 mm above the base with one row of irregular vertical or diagonal incisions above it and another below it. One arm is missing and the body next to it is damaged. The other arm is a flat, sideways-projecting stump formed by applying a separate piece of clay and smoothing the edges over the body. The head is missing.

264 Human figurine 6G76:375 AbS 1579 Fig. 3:2
Batch 2620, context T (Ash-Tip Phase 3).
Height: 51 mm. Width hips: 27 mm.
Width shoulders:31 mm.
Thickness upper body: 18 mm.
Width waist: 24 mm.
Thickness lower body: 20 mm.
Baked clay. Fine vegetable inclusions. Hand-modelled. Human figurine wearing skirt; damage to base, head and skirt.
Colour: 10YR 5/2 greyish brown.

Human figurine with featureless, tubular body. The body flares slightly to a concave base, heavily chipped, on which the figurine will still stand upright. Around the lower body are the remains of an applied strip of clay with vertical cord or vegetable impressions representing a skirt. The arms are short, rounded, triangular sideways projections. The head is chipped but was apparently never more than a short, featureless, triangular projection between the shoulders.

265 Human figurine 6G76:534 in AbS 1834 Fig. 3:2
Batch 2623, context T (Ash-Tip Phase 3).
Height: 41 mm. Width: 18 mm.
Thickness: 24 mm.
Unbaked clay. Hand-modelled. Fragment of leg and skirt of human figurine.
Colour: 10YR 5/2 greyish brown.

Left leg of human figurine, rectangular in cross-section but modelled to indicate curves of thigh and calf. Flattened on the bottom to produce a flat, foot-like projection. Adhering to the fragment is part of an applied strip of clay with diagonal incisions representing a skirt.

266 Human figurine 6G86:194 in AbS 2067 Fig. 3:2
Batch 1927, context H (Ash-Tip Phase 3).
Height: 30 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 15 mm
Width waist: 18 mm.
Thickness lower body: missing.
Baked clay. Fine vegetable inclusions. Hand-modelled. Heavily weathered and salt-encrusted on one side. Body fragment of human figurine.
Colour: 5YR 6/4 light reddish brown to 5YR3/1 very dark grey.

Human figurine with tubular, featureless body broken off in the region of the waist. Three vertical incised lines on the less weathered side may represent the remains of a skirt. The arms are broken, but apparently projected sideways from the body. The head is missing.

267 Human figurine 6G66:131 in AbS 1041 Fig. 3:2
Batch 400, context A (surface).
Height: 13 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: incomplete.
Width waist: 14 mm.
Thickness lower body: incomplete.
Unbaked clay. Hand-modelled. Central body fragment of figurine wearing skirt.
Colour: 10YR 4/1 dark grey.

Central segment of human figurine body, flaring slightly towards the base. The skirt is represented by vertical incised lines running around 2/3 of the circumference, interrupted at one point by a horizontal incised line which marks the waist or a flounce.

268 Human figurine 6G76:216 AbS 1552
Batch 2616, context G (Ash-Tip Phase 3).
Height: 30 mm. Width: 21 mm.
Thickness: 14 mm.
Unbaked clay. Hand-modelled, carefully. Fragment of cylindrical human figurine body wearing skirt.
Colour: 10YR 5/1 grey.

Fragment of human figurine body with two patches of diagonal incised lines, one of them crossed by a horizontal incised line.

269 Human figurine 6G86:224 in AbS 2067
Batch 1954, context H (Ash-Tip Phase 3).
Height: 22 mm. Width: 15 mm.
Thickness: 3 mm.
Unbaked clay. Hand-modelled. Skirt fragment.

10 Colour references refer to Munsell 1975.

Colour: 10YR 4/1 dark grey.

Thinly-modelled fragment of clay with irregular vertical incised lines, probably part of applied skirt from human figurine.

3.7.1.2 *Large figurines with heads* (**270-272**)

270 Human figurine 6G86:183 in AbS 2067 Fig. 3:3
Batch 1951, context H (Ash-Tip Phase 3).
Height: 63 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 22 mm.
Width waist: 23 mm.
Thickness lower body: incomplete.
Unbaked clay. Salt-encrusted. Hand-modelled. Head and body of human figurine, arms broken.
Colour: 7.5YR 5/2 brown.

The solid, featureless body is broken off below the waist. The right arm is broken off just beyond the shoulder; the left arm extends sideways and downwards from the shoulder and is broken off in the region of the elbow. Both arms are circular in cross-section. The head is narrow, with a rounded top; it is not clear whether the gash in the front is accidental or is intended to represent the mouth.

271 Human figurine 6G76:370 in AbS 1834 Fig. 3:3
Batch 2620, context T (Ash-Tip Phase 3).
Height: 40 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 25 mm.
Width waist: incomplete.
Thickness lower body: incomplete.
Baked clay. Some salt encrustation. Hand-modelled, crudely. Head and right shoulder of human figurine.
Colour: 10YR 4/1 dark grey.

Upper part of a large human figurine. The left arm and shoulder are missing; the right arm is broken just beyond the shoulder but was wide and wing-like, extending sideways. The top of the neck has been folded over to form the head; there is an incision down the back of the head, but the features are not indicated.

272 Human figurine 6G76:523 in AbS 1834 Fig. 3:3
Batch 2625, context T (Ash-Tip Phase 3).
Height: 24 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 15 mm.
Width waist: 16 mm.
Thickness lower body: incomplete.
Unbaked clay. Hand-modelled, crudely. Upper part of human figurine; head and arms damaged.
Colour: 10YR 4/1 dark grey.

Upper part of human figurine with featureless, tubular body. Both arms are broken off just beyond the shoulders, but apparently projected sideways and downwards. The head was formed by folding over the top of the neck; the top of the head is damaged.

3.7.1.3 *Large to medium human figurines* (**273-287**)

273 Human figurine 6G76:433 AbS 1577 Fig. 3:4
Batch 2620, context T (Ash-Tip Phase 3).
Height: 55 mm. Width hips: 35 mm.
Width shoulders: 44 mm.
Thickness upper body: 24 mm
Width waist: 35 mm.
Thickness lower body: 20 mm.
Lightly baked clay. Hand-modelled. Heavily weathered on one side. Schematic human figurine; arms and legs missing.
Colour: 7.5YR 4/2 brown.

The object is trapezoidal, with a short triangular projection in the centre of the longest side which may be intended to represent a head. On either side of this projection are breaks which may mark the position of arms. On the narrow end, on the weathered side, are two circular scars which may indicate the position of the legs.

274 Human figurine 6G76:483 in AbS 1834 Fig. 3:4
Batch 2625, context T (Ash-Tip Phase 3).
Height: 49 mm. Width base: 30 mm.
Width shoulders: incomplete.
Thickness upper body: incomplete.
Width waist: 25 mm.
Thickness lower body: incomplete.
Unbaked clay. Hand-modelled, crudely. Body fragment of human figurine.
Colour: 10YR 4/1 dark grey.

Central body fragment of human figurine with featureless, unevenly-modelled body, roughly circular in cross-section, flaring towards the base and shoulders. The base is missing. The figurine is broken off above the shoulders, but the beginning of one projecting arm remains.

275 Human figurine 6G76:499 AbS 1672 Fig. 3:4
Batch 2608, context G (Ash-Tip Phase 3).
Height: 48 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 18 mm.
Width waist: 25 mm.
Thickness lower body: 15 mm.
Unbaked clay. Hand-modelled, not very carefully. Head and body of human figurine; arms and base missing.
Colour: 10YR 4/1 dark grey.

The upper body is tubular and featureless; the lower body is pinched in and then flares again. Irregular finger impressions are visible on the base (now missing), possibly intended to indicate a skirt. Both arms are broken off at the shoulders. There is a hole in the left shoulder 4 mm in diameter and 17 mm deep. The head is chipped, but was apparently never more than a featureless triangular projection between the shoulders.

276 Human figurine 6G76:227 AbS 1533 Fig. 3:4
Batch 2616, context G (Ash-Tip Phase 3).
Height: 47 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 15 mm.
Width waist: 22 mm.
Thickness lower body: incomplete.
Unbaked clay. Fine vegetable inclusions. Hand-modelled, crudely. Upper part of human figurine; head and arms damaged.
Colour: 10YR 5/3 brown.

The body is tubular and featureless and is broken off below the waist. The left arm is broken off just below the shoulder and the right arm is chipped, but both were short, pointed, sideways projections. The head is chipped, but was never more than a short, triangular projection between the shoulders.

277 Human figurine 6G76:751b in AbS 2067 Fig. 3:5
Batch 2655, context G (Ash-Tip Phase 3).
Height: 46 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 27 mm.
Width waist: incomplete.
Thickness lower body: incomplete.
Unbaked clay. Heavily salt-encrusted on one side. Head and body of human figurine.
Colour: 10YR 6/4 light yellowish brown.

The body is featureless and tubular, with one side missing. The surviving arm is short, rounded and sideways-projecting. The head projects slightly above the shoulders; it is wider than usual and rounded.

278 Human figurine 6G76:35 AbS 1509 Fig. 3:5
Batch 2601, context A (surface).
Height: 44 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 22 mm.
Width waist: incomplete.
Thickness lower body: incomplete.
Baked clay. Hand-modelled. Upper part of human figurine; right arm missing, head and left arm chipped.
Colour: 10YR 4/2 dark greyish brown.

The body is featureless and tubular. The right arm is missing; the left arm is chipped, but projected outwards and downwards from the shoulder. The head is chipped, but was apparently never more than a short, featureless projection between the shoulders.

279 Human figurine 6G77:54 in AbS 2067 Fig. 3:5
Batch 3904, context H (Ash-Tip Phase 3).
Height: 43 mm. Width: 17 mm.
Thickness: 21 mm.
Unbaked clay. Hand-modelled. One side of human figurine; head missing.
Colour: 7.5YR 4/2 brown.

One half of a featureless, tubular body flaring slightly to a circular, concave base. One arm survives, a rounded stub projecting sideways from the body. The head is missing.

280 Human figurine 6G76:751a in AbS 2067 Fig. 3:5
Batch 2655, context G (Ash-Tip Phase 3).
Height: 42 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 16 mm.
Width waist: 19 mm.
Thickness lower body: incomplete.
Baked clay. Hand-modelled, crudely. Head and body of human figurine; base missing, head and arms damaged.
Colour: 10YR 6/3 pale brown.

The body is featureless and tubular and is broken off above the base. A hole in one side measuring 2 by 4 mm is probably accidental. The beginning of one arm survives;it is short and rounded and projects sideways from the body. The head is chipped, but was apparently never more than a short, simple, rounded projection between the shoulders.

281 Human figurine 6G86:10 AbS 1877 Fig. 3:5
Batch 1902, context G (Ash-Tip Phase 3).
Height: 41 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 16 mm.
Width waist: 19 mm.
Thickness lower body: incomplete.
Unbaked clay. Vegetable inclusions. Salt-encrusted, some surface damage. Hand-modelled. Human figurine; base, arms and head damaged.
Colour: 10YR 5/2 greyish brown.

The featureless, solid body flares towards the base, which is missing. Both arms are circular in cross-section and broken off at the shoulders. The head is a salt-encrusted projection between the shoulders; it is not possible to see whether it is broken or not.

282 Human figurine 6G76:239 AbS 1530 Fig. 3:5
Batch 2616, context G (Ash-Tip Phase 3).
Height: 39 mm. Width base: 32 mm.
Width shoulders: incomplete.
Thickness upper body: 14 mm.
Width waist: 15 mm.
Thickness lower body: incomplete.
Baked clay. Hand-modelled, not very carefully. Uneven surface. Human figurine; head incomplete, arms damaged.
Colour: 5YR 5/3 reddish brown.

The body is roughly cylindrical, flaring at the foot to form a concave base, now chipped, on which the figurine will stand upright. Finger-impressions are visible around the lower part of the figurine,above the base; these may have been intended to represent a skirt. Both arms are broken off just below the shoulders; the right arm appears to have been separately applied. The head is missing.

283 Human figurine 6G86:20 AbS 1878 Fig. 3:6
Batch 1901, context G (Ash-Tip Phase 3).
Height: 36 mm. Width base: 24 mm.
Width shoulders: incomplete.
Thickness upper body: 17 mm.
Width waist: 18 mm.
Thickness base: 21 mm.
Unbaked clay. Salt-encrusted. Surface abraded. Hand-modelled, crudely. Human figurine; left arm and head missing.
Colour: 2.5Y 4/0 dark grey.

The body is unmodelled and roughly conical in shape; the base is flat and slightly chipped and the figurine will stand upright. There are faint finger-impressions which may be intended to represent a skirt. The right arm is circular in cross-section, tapering towards the end, which is chipped, and extends sideways from the body. The left arm is missing, apparently removed in antiquity by a blow which left a deep diagonal scar. The head is missing, broken off at the neck.

284 Human figurine 6G76:512 in AbS 1834 Fig. 3:6
Batch 2625, context T (Ash-Tip Phase 3).
Height: 32 mm. Width hips: 17 mm.
Width shoulders: incomplete.
Thickness upper body: 12 mm.
Width waist: 14 mm.
Thickness lower body: 14 mm.
Unbaked clay. Hand-modelled. Human figurine body; arms, legs and head damaged.
Colour: 10YR 6/3 pale brown.

The body is featureless and tubular. Both arms are chipped, but were originally short and sideways-projecting. The head is chipped; it consisted of a short projection between the shoulders. One leg is missing; the other is short and individually pinched out, now chipped.

285 Human figurine 6G76:543 in AbS 1834 Fig. 3:6
Batch 2628, context L (fill of Pit g in Ash-Tip Phase 3).
Height: 31 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 15 mm.
Width waist: 19 mm.
Thickness lower body: incomplete.
Baked clay. Hand-modelled. Human figurine fragment; base damaged, arms and head missing.
Colour: 10YR 4/1 dark grey.

The body is tubular and featureless, flaring to a slightly concave base, the edges of which are now broken. Finger-impressions are visible on one side of the body above the base. Part of one arm survives, a rounded stump extending sideways from the body. The head is missing.

286 Human figurine 6G76:868 in AbS 2067
Batch 2670, context J (fill of Grave 178 in Ash-Tip Phase 3).
Height: 25 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 15 mm.
Width waist: 18 mm.
Thickness lower body: incomplete.
Unbaked clay. Hand-modelled, not very carefully. Human figurine; base, arms and head damaged.
Colour: 10YR 5/1 grey.

The body is featureless and tubular, flaring to a slightly concave base, now badly damaged. The left arm is missing. The right arm is a small, pinched-out flap of clay, bent forwards slightly and broken off at the tip.

287 Human figurine 6G77:13 in AbS 2067 Fig. 3:6
Batch 3904, context H (Ash-Tip Phase 3).
Height: 23 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 15 mm.
Width waist: incomplete.
Thickness lower body: incomplete.
Baked clay. Hand-modelled, crudely. Upper part of human figurine, arms broken.
Colour: 10YR 4/1 dark grey.

Head and shoulders of human figurine; the arms extend sideways from body and are chipped. The head is a simple projection between the shoulders; the top is slightly abraded and there is an impression on one side measuring 2.5 by 1 mm.

3.7.1.4 *Small figurines* **(291-296)**

288 Human figurine 6G76:340 in AbS 1834 Fig. 3:7
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Height: 35 mm. Width hips: incomplete.
Width shoulders: 15 mm.
Thickness upper body: 9 mm.
Width waist: 9 mm.
Thickness lower body: incomplete.
Baked clay. Hand-modelled, crudely. Human figurine: base, back of head and right arm damaged.
Colour: 10YR 3/1 very dark grey.

Simple, approximately cylindrical body, widening slightly towards the base, which is damaged. The arms are rounded, wing-like projections, pointing backwards slightly; the right arm is chipped. The head is a simple, rounded projection between the shoulders; the back of the head is chipped.

289 Human figurine 6G76:627 in AbS 1834 Fig. 3:7
Batch 2631, context L (fill of Pit h in Ash-Tip Phase 3).
Height: 34 mm. Width hips: 19 mm.
Width shoulders: incomplete.
Thickness upper body: 8 mm.
Width waist: 12 mm.
Thickness lower body: 9 mm.
Unbaked clay. Surface weathered, cracked and salt-encrusted. Hand-modelled. Human figurine; arms, legs and possibly head damaged.
Colour: 7.5YR 6/4 light brown.

The body is thin and unmodelled, the back slightly more rounded than the front. The legs are broken off but were originally separately modelled. Both arms are also broken off at or just beyond the shoulders. The neck projects from between the shoulders; it is not clear whether it finished in a stump or developed into a distinct head.

290 Human figurine 6G76:802 in AbS 2067 Fig. 3:7
Batch 2663, context L (fill of Pit l in Ash-Tip Phase 3).
Height: 28 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 8 mm.
Width waist: 12 mm.
Thickness lower body: 9 mm.
Baked clay. Heavily salt-encrusted. Hand-modelled, carefully. Human figurine; arms and legs damaged.
Colour: 10YR 4/1 dark grey.

The body is featureless and tubular, flaring slightly towards the hips. The right leg is missing. The beginning of the left leg is present and it is clear that the legs were individually modelled, but the posture is uncertain. The right arm is broken off just beyond the shoulder and is circular in cross-section. The left arm, also broken, is obscured by salt. The head is featureless and projects some distance above the shoulders.

291 Human figurine 6G76:149 AbS 1506 Fig. 3:7
Batch 2610, context G (Ash-Tip Phase 3).
Height: 28 mm. Width base: 16 mm.
Width shoulders: incomplete.
Thickness upper body: 17 mm.
Width waist: 15 mm.
Thickness lower body: incomplete.
Unbaked clay. Hand-modelled, not very carefully. Human figurine: arms and head chipped, extensive damage to base and front.
Colour: 7.5YR 6/4 light brown.

The body is featureless and tubular, with a large area of damage on the front. It flares slightly to form a roughly circular, slightly concave base. Finger-impressions are visible on one side of the body above the base and may have been intended to represent a skirt. Both arms are chipped, but originally projected sideways from the shoulders. The head is also chipped, but was apparently never more than a short projection between the shoulders.

292 Human figurine 6G76:425 in AbS 1834 Fig. 3:7
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Height: 24 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 10 mm.
Width waist: 12 mm.

Thickness lower body: incomplete.
Baked clay. Hand-modelled. Fragment of upper part of human figurine body; head and one arm missing, extensive damage.
Colour: 10YR 6/3 pale brown.

Featureless, tubular body fragment. The right arm is missing, the left arm curves slightly downwards and forwards and is broken at the tip. The head is missing.

293 Human figurine 6G76:715 in AbS 1834 Fig. 3:7
Batch 2645, context G (Ash-Tip Phase 3).
Height: 23 mm. Width hips: incomplete.
Width shoulders: 20 mm.
Thickness upper body: 12 mm.
Width waist: 13 mm.
Thickness lower body: incomplete.
Unbaked clay. Hand-modelled. Upper part of human figurine.
Colour: 7.5YR 7/6 reddish yellow.

The body is featureless and tubular; it is broken off somewhere below the region of the waist. The arms are simple rounded stubs projecting sideways from the body. The head is barely indicated by a small, pinched-out projection between the shoulders.

294 Human figurine 6G77:10 in AbS 2067 Fig. 3:7
Batch 3904, context H (Ash-Tip Phase 3).
Height: 23 mm. Width base: 15 mm.
Width shoulders: incomplete.
Thickness upper body: 9 mm.
Width waist: 12 mm.
Thickness base: 13 mm.
Baked clay. Hand-modelled. Schematic human figurine; arms and base chipped, otherwise complete.
Colour: 10YR 5/3 brown.

The body is featureless and roughly pinched out, flaring to form a very slightly concave base on which it will stand upright. The arms are chipped but projected upwards and sideways slightly. The head is barely indicated by a small, pinched-out projection between the shoulders.

295 Human figurine 6G76:441 in AbS 1834 Fig. 3:7
Batch 2616, context G (Ash-Tip Phase 3).
Height: 22 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 10 mm.
Width waist: 12 mm.
Thickness lower body: incomplete.
Unbaked clay. Hand-modelled, not very carefully. Upper part of schematic human figurine; head and one arm damaged.
Colour: 7.5YR 5/2 brown.

The featureless, tubular body is bent to one side. It flares slightly towards the bottom but is broken off above the base. The left arm is chipped, but both arms were originally rounded sideways projections. The head is represented by a short, triangular projection between the shoulders, now chipped.

296 Human figurine 6G76:376 in AbS 1834 Fig. 3:7
Batch 2620, context T (Ash-Tip Phase 3).
Height: 18 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 11 mm.
Width waist: 11 mm.
Thickness lower body: incomplete.
Baked clay. Hand-modelled, carefully. Body and arm fragment of human figurine.
Colour: 5YR 4/1 dark grey.

The body is cylindrical, flaring towards the lower part. There are two circular impressions 1 mm in diameter and 3–4 mm deep in one side. At the upper end, the beginning of one arm projects sideways.

3.1.8.5 *Leg and base fragments* **(297-300)**

297 Human figurine 6G76:220 in AbS 1834 Fig. 3:7
Batch 2616, context G (Ash-Tip Phase 3).
Height: 23 mm. Width hips: 28 mm.
Width shoulders: incomplete.
Thickness upper body: incomplete.
Width waist: incomplete.
Thickness lower body: 16 mm.
Unbaked clay. Hand-modelled. Legs of human figurine, one chipped.
Colour: 7.5YR 5/2 brown.

Lower part of human figurine with legs apart as if for riding. One leg is chipped; the other is rectangular in section and flattened on the bottom.

298 Human figurine 6G76:342 AbS 1542 Fig. 3:8
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Height: 34 mm. Dimensions of top: 10 by 13 mm.
Dimensions of bottom: 10 by 12 mm.
Baked clay. Hand-modelled, rather crudely. Possible human figurine base or leg.
Colour: 10YR 6/4 light yellowish brown.

The fragment, which may be a human figurine base or leg, tapers and then flares again to form a 'D'-shaped, slightly concave base on which it will stand upright.

299 Human figurine 6G76:525 in AbS 1834 Fig. 3:8
Batch 2625, context T (Ash-Tip Phase 3).
Height: 37 mm. Diameter of stem: 11 mm.
Diameter of base: 18 mm.
Unbaked clay. Hand-modelled. Possible human figurine base.
Colour: 10YR 4/1 dark grey.

The fragment, which may be a human figurine base, consists of a stem, approximately circular in cross-section, which flares to form a concave base, the edges of which are now broken.

300 Human figurine 6G76:657 in AbS 1834 Fig. 3:8
Batch 2638, context K (?Ash-Tip Phase 3).
Height: 16 mm. Diameter: 14—22 mm.
Baked clay. Fine vegetable inclusions. Hand-modelled. Fragment of human figurine base.
Colour: 5YR 6/6 reddish yellow.

Fragment in the form of a truncated cone, the upper part broken off, probably the base of a human figurine.

3.7.1.6 *Miscellaneous human figurine fragments* **(301-308)**

301 Human(?) figurine
6G76:52 AbS 1501 Figs. 3:1e, 3:8
Batch 2603, context G (Ash-Tip Phase 3).
Height: 30 mm. Width hips: incomplete.
Width shoulders: incomplete.
Thickness upper body: 21 mm.
Width waist: 20 mm.
Thickness lower body: incomplete.
Unbaked clay. Hand-modelled, very crudely. Probably the upper part of a human figurine; the left arm is missing.
Colour: 10YR 6/3 pale brown.

The body is very poorly modelled, with a hump over the spine, so that the body is trefoil-shaped in cross-section. The lower part is broken off. The left arm is missing and the right arm curves forwards and upwards. There is an impression 2 mm in diameter and 20 mm deep under the right arm. The head is barely indicated by a low, rounded projection between the shoulders.

302 Human figurine 6G76:169 AbS 1505
Batch 2612, context G (Ash-Tip Phase 3).
Height: 34 mm. Diameter of stem: 15 mm.
Diameter of base: 27 mm.
Unbaked clay. Hand-modelled. Body and base fragment of human figurine.
Colour: 7.5YR 5/2 brown.

The body is cylindrical, expanding slightly towards the top and the beginning of the arms (now missing) and flaring at the bottom to form a slightly concave base (now broken).

303 Human(?) figurine 6G76:402 in AbS 1834
Batch 2621, context L (fill of Pit f in Ash-Tip Phase 3).
Height: 34 mm. Width base: 23 mm.
Width shoulders: incomplete.
Thickness upper body: incomplete.
Width waist: 15 mm.
Thickness lower body: incomplete.
Baked clay. Hand-modelled, very crudely. Possible human figurine with extensive damage to body and base.
Colour: 10YR 3/1 very dark grey.

The body flares to a slightly concave base, warped and broken. The upper part is very roughly modelled and badly damaged and the top is broken off. No features such as arms can be distinguished. Two circular holes, 2 and 3 mm in diameter, run through the figurine from its base to the existing top.

304 Human figurine 6G76:440 in AbS 1834
Batch 2616, context G (Ash-Tip Phase 3).
Height: 24 mm. Width: 16 mm.
Thickness: 9 mm.
Unbaked clay. Hand-modelled. Small fragment of upper part of human figurine.
Colour: 7.5YR 4/2 brown/dark brown.

Small fragment of human figurine with pinched-out head folded forwards and beginning of left arm.

305 Human(?) figurine 6G76:505 in AbS 1834
Batch 2608, context G (Ash-Tip Phase 3).
Height: 19 mm. Width: 20 mm.
Thickness: 10 mm.
Unbaked clay. Hand-modelled. Small fragment of human figurine body.
Colour: 7.5YR 4/2 brown/dark brown.

Small fragment, possibly from human figurine body, flattened oval in cross-section.

306 Human(?) figurine
6G76:510 in AbS 1834 Fig. 3:8
Batch 2625, context T (Ash-Tip Phase 3).
Height: 31 mm. Width: 29 mm.
Stem diameter: 22 mm.
Unbaked clay. Hand-modelled, not very carefully. Fragment of human figurine body; base and arms missing.
Colour: 10YR 5/1 grey.

The body is cylindrical and broken off above the base, swelling at the upper end to the shoulders. Both arms are missing. The head is barely indicated by a low, rounded projection between the shoulders. There is an excrescence of clay on one shoulder and two deep finger impressions on one side. Identification as a human figurine is not certain.

307 Human figurine 6G76:661 in AbS 1834
Batch 2637/8, context K (?Ash-Tip Phase 3).
Height: 32 mm. Width: 15 mm.
Baked clay. Hand-modelled. Fragment of human figurine body, extensively damaged.
Colour: 10YR 4/1 dark grey.

Fragment of human figurine body, with beginnings of projecting arms. Head missing.

308 Human(?) figurine 6G86:180 in AbS 2067
Batch 1944, context G (Ash-Tip Phase 3).
Height: 29 mm. Width: 14–16 mm.
Thickness: 15 mm.
Baked clay. Hand-modelled. Human figurine body fragment.
Colour: 10YR 5/2 brown.

Body fragment of figurine, possibly human, roughly trapezoidal in shape.

3.7.2 *Animal figurines* **(309-389)**

3.7.2.1 *Pig Figurines* **(309-317a)**

309 Pig figurine 6G76:528 AbS 1668 Fig. 3:9
Batch 2623, context T (Ash-Tip Phase 3).
Length: 48 mm. Height: 25 mm.
Width: 30 mm.
Baked clay. Surface rather uneven with light burnish in places. Hand-modelled, carefully. Pig figurine; right foreleg missing and left foreleg and hind leg damaged.
Colour: 7.5YR 6/4 light brown to 7.5YR 7/6 reddish yellow.

The body is rounded with an oval cross-section and a thin, pointed tail, formed by pinching out the clay of the rump, pointing downwards slightly. Three or four rows of wedge impressions along the back represent bristles. The legs were originally individually-modelled, tapering to rounded points and splaying outwards; only the right hind leg survives undamaged. There is no neck; the head develops without interruption out of the body. The ears are wide, rounded flaps formed by pinching out the clay on either side of the snout. Within the depressions so formed the eyes are indicated by impressions, probably made with a reed. The snout is circular and flat at the end, with two small circular impressions indicating the nostrils and a horizontal incision indicating the mouth.

310 Pig figurine 6G86:197 in AbS 2067 Fig. 3:9
Batch 1940, context L (fill of Pit p in Ash-Tip Phase 3).
Length: 30 mm. Height: 23 mm.
Width: 24 mm.
Unbaked clay. Hand-modelled, carefully. Body fragment of pig figurine; two legs, head, tail and part of one side missing.
Colour: 10YR 5/1 grey.

The body is barrel-shaped; it is not certain which end is the rump and which the head, since both are damaged. Horizontal incisions indicating bristles run along the body, and are crossed by an incision running around one end, possibly the neck. One side is

missing. On the remaining side two short, stubby legs are present, both chipped.

311 **Pig figurine** 6G76:849 in AbS 2067 Fig. 3:9
Batch 2667, context G (Ash-Tip Phase 3).
Length: 32 mm. Height: 39 mm.
Width: 17 mm. Thickness of wall: 12 mm.
Baked clay. Cream slip. Hand-modelled, carefully. Left foreleg and part of snout of hollow pig figurine.
Colour: 7.5YR 7/4 pink.

The body, which is hollow, was rounded, with incisions (four horizontal and one vertical) indicating bristles. The left foreleg survives, a short, individually-modelled rounded stub, damaged on the inner side. The snout, now damaged, was originally circular, with a flattened end on which are two circular impressions representing the nostrils.

312 **Pig figurine** 6G66:49 AbS 419 Fig. 3:9
Batch 406, context P (Ash-Tip, mixed).
Length: 64 mm. Height: 34 mm.
Width: 48 mm. Thickness of wall: 9 mm.
Baked clay. Fine vegetable inclusions, cream slip. Hand-modelled, carefully. Lower part of right side of hollow pig figurine, the hind leg missing.
Colour: 10YR 7/4 very pale brown.

The body, which is hollow, has been a rounded ovoid, with vertical incisions representing bristles. The hind leg is missing; the foreleg is tapering and rounded and points forwards slightly.

313 **Pig figurine** 6G76:229 AbS 1527 Fig. 3:9
Batch 2610, context G (Ash-Tip Phase 3).
Length: 51 mm. Height: 48 mm.
Thickness of wall: 12 mm.
Baked clay. Fine vegetable inclusions, cream slip. Hand-modelled, carefully. Part of side of hollow pig figurine with one leg.
Colour: 10YR 7/4 very pale brown.

The body, which is hollow, has been rounded in shape. Irregular vertical incisions indicate bristles. One tapering, rounded leg survives; it has been separately modelled and attached by smoothing the edges of the clay over the body.

314 **Pig figurine** 6G76:691 AbS 1819 Fig. 3:9
Batch 2616, context G (Ash-Tip Phase 3).
Length: 48 mm. Width: 45 mm.
Thickness of wall: 7 mm.
Baked clay. Heavily salt-encrusted. Hand-modelled, carefully. Part of back and side of hollow pig figurine.
Colour: 7.5YR 6/4 light brown.

The body, which is hollow, was rounded in shape. One horizontal incision indicates the spine, with vertical incisions on either side representing the bristles.

315 **Pig figurine** 6G76:625 in AbS 1834 Fig. 3:9
Batch 2625, context T (Ash-Tip Phase 3).
Length: 33 mm. Width: 27 mm.
Thickness of wall: 8 mm.
Baked clay. Cream slip. Hand-modelled, carefully. Body fragment of hollow pig figurine.
Colour: 10YR 7/4 very pale brown.

Fragment of hollow, rounded pig figurine body, with incisions representing bristles.

316 **Pig figurine** 6G76:208 in AbS 1834
Batch 2616, context G (Ash-Tip Phase 3).
Length: 35 mm. Height: 36 mm.
Thickness of wall: 13 mm.
Baked clay. Mixed inclusions. Hand-modelled. Body fragment of hollow pig figurine.
Colour: 10YR 6/3 pale brown.

Fragment of hollow, rounded pig figurine body, with incisions representing bristles.

317 **Pig figurine** 6G77:62 in AbS 2067
Batch 3904, context H (Ash-Tip Phase 3).
Length: 34 mm. Width: 27 mm.
Thickness of wall: 9 mm.
Unbaked clay. Hand-modelled, carefully. Body fragment of hollow pig figurine.
Colour: 10YR 4/2 dark greyish brown.

Fragment of hollow, rounded pig figurine body, with incisions representing bristles.

[317a **Pig figurine** 6G86:304 AbS 2477 Fig. 3:9
Batch 1903, context G (Ash-Tip Phase 3).
Size: 79 x 75 mm. Thickness of wall: 7—9 mm.
Baked clay, with fine grit inclusions. Hand-modelled, carefully.
Colour: fabric core 10YR 7/4 very pale brown; exterior surface 10YR 8/3 very pale brown; interior surface 7.5YR 6/4 light brown—7/4 pink.

Fragment of hollow, rounded pig figurine body, with incisions representing bristles.-*Ed;* see p.85, fn. 4.]

3.7.2.2 *Equid figurines* **(318-333)**

318 **Equid figurine** 6G76:48 AbS 1503 Fig. 3:10
Batch 2603, context G (Ash-Tip Phase 3).
Length: 43 mm. Height: 37 mm.
Width: 22 mm.
Baked clay. Fine vegetable inclusions. Weathered and abraded, with uneven surface. Hand-modelled, rather crudely. Head of equid figurine.
Colour: 10YR 4/2 dark greyish brown.

Head and part of neck of equid figurine. The mane is indicated by an applied strip of clay. The muzzle is long with a rounded end; the nostrils are represented by a horizontal circular piercing 2 mm. in diameter. The ears are broken; two circular depressions in front of the ear stumps may indicate the eyes.

319 **Equid figurine** 6G86:131 AbS 1908 Fig. 3:10
Batch 1927, context H (Ash-Tip Phase 3).
Length: 29 mm. Height: 32 mm.
Width: 14 mm.
Baked clay. Salt-encrusted; uneven surface. Hand-modelled. Head and forequarters of equid figurine; the legs are broken and the head is chipped.
Colour: 5YR 4/1 dark grey.

The head rises on a long neck from the shoulders; the mane is indicated by a sharp-edged applied strip of clay. The ears are broken. The eyes are indicated by a horizontal piercing 1 mm in diameter. The muzzle is long and chipped at the end.

320 **Equid figurine** 6G77:80 in AbS 2067 Fig. 3:10
Batch 3910, context L (fill of Pit n in Ash-Tip Phase 3).
Length: 47 mm. HeiHeight: 30 mm.
Width: 20 mm.
Baked clay. Smooth surface, very heavily salt-encrusted on left side. Hand-modelled. Head and neck of equid figurine; ears, nose and left side damaged.
Colour: 5YR 3/1 very dark grey.

The head rises on a long neck; the mane is indicated by a sharp-edged applied strip of clay. Details of the left side are obscured by salt encrustation. The muzzle is broken. The right ear was represented by an applied strip of clay, now broken, and pointed backwards. In front of the ear a semi-circular applied pellet of clay indicates the right eye.

321 Equid figurine
6G76:495 AbS 1671 Figs. 3:1c, 3:10
Batch 2623, context T (Ash-Tip Phase 3).
Length: 54 mm. Height: 60 mm.
Width: 32 mm.
Unbaked clay. Hand-modelled, carefully. Head and forequarters of equid figurine; legs, muzzle and top of head broken.
Colour: 10YR 5/3 brown.

The body is broken off just beyond the shoulders. The forelegs are missing and the area between them is damaged. The head rises on a long, straight neck with a pinched-out mane. The base of the right ear survives, but the muzzle and the top of the head are broken.

322 Equid figurine 6G76:546 AbS 1673 Fig. 3:10
Batch 2625, context T (Ash-Tip Phase 3).
Length: 21 mm. Height: 40 mm.
Width: 21 mm.
Baked clay. Hand-modelled, carefully. Head and forepart of equid figurine; ears and muzzle damaged.
Colour: 5Y 4/1 dark grey.

The body is broken off at the shoulders. Part of the right foreleg survives. There is a pinched-out ridge between the forelegs. The head rises on a long, straight neck; the mane is indicated by a sharp-edged, applied strip of clay. The muzzle is broken. The ears are also broken, but originally pointed backwards.

323 Equid figurine 6G86:9 AbS 1876 Fig. 3:10
Batch 1902, context G (Ash-Tip Phase 3).
Length: 44 mm. Height: 28 mm.
Width: 15 mm.
Unbaked or lightly baked clay. Heavily salt-encrusted. Hand-modelled, carefully. Equid figurine; legs missing; body, tail, head and ears damaged.
Colour: 10YR 4/1 dark grey.

The body is fairly long, with a flat back. The tail is represented by a flap of clay bent down over the rump to the left, now broken. All four legs are missing. A number of incisions run across the spine, one or two extending down the sides to run under the belly. There has been an applied mane running up the straight neck, now broken off so that only a crest at the top of the head remains. The muzzle is rather narrow and the end is rounded, with a horizontal piercing 1 mm in diameter to indicate the nostrils.

324 Equid figurine
6G76:514 AbS 1674 Figs. 3:1b, 3:10
Batch 2625, context T (Ash-Tip Phase 3).
Length: 34 mm. Height: 21 mm.
Width: 14 mm.
Baked clay. Hand-modelled, carefully. Equid figurine; head missing and legs chipped.
Colour: 10YR 4/2 dark greyish brown.

The body is featureless, rising to a flat rump with a large, pinched-out stub representing the tail. The legs are chipped, but were originally rounded stumps. The figurine will still stand upright. The head is missing, but there are the remains of an applied mane on the neck.

325 Equid figurine
6G76:73 AbS 1500 Figs. 3:1a, 3:10
Batch 2603, context G (Ash-Tip Phase 3).
Length: 50 mm. Height: 40 mm.
Width: 24 mm.
Unbaked or lightly baked clay. Hand-modelled, not very carefully. Body and left foreleg of equid figurine; other legs, head and tail broken.
Colour: 10YR 4/2 dark greyish brown.

The body has been squashed, particularly on the right side of the back. It rises markedly to a rounded rump. The tail, now broken, is large and folded down over the rump. The area between the hind legs is damaged, but there are traces of an attempt to model the male genitalia. Only the left foreleg survives; it is unusually long, with some attempt at realistic modelling. The clay between the forelegs is pinched out into a ridge. The head is missing.

326 Equid figurine
6G76:100 AbS 1497 Figs. 3:1e, 3:11
Batch 2605, context G (Ash-Tip Phase 3).
Length: 40 mm. Height: 25 mm.
Width: 20 mm.
Baked clay. Hand-modelled, carefully. Equid figurine body; head. legs and tail missing.
Colour: 10YR 5/2 greyish brown.

There is some modelling over the shoulders, and the body rises to a rounded rump. The tail, now broken, was flat and curved down over the rump. All four legs are missing. A pinched-out ridge of clay between the hind legs represents the male genitalia. The clay between the forelegs is pinched up into an angle. The head is missing.

327 Equid figurine
6G76:50 AbS 1489 Figs. 3:1c, 3:11
Batch 2603, context G (Ash-Tip Phase 3).
Length: 66 mm. Height: 38 mm.
Width: 24 mm.
Baked clay. Salt-encrusted. Hand-modelled, carefully. Equid figurine; legs, muzzle, ears and rump damaged.
Colour: 10YR 5/1 grey.

The body is modelled in some detail, with a long neck, low back, high rounded rump and sharp, pinched-up ridge between the forelegs. The rump is damaged and there is no sign of a tail. The male genitalia are indicated by a pinched-up ridge between the hind legs. There is a hump or bend in the neck before the head. The muzzle is chipped and the ears are broken. It is chiefly the shape of the body which suggests that this is an equid figurine.

328 Equid figurine
6G76:224 AbS 1532 Figs. 3:1a, 3:11
Batch 2616, context G (Ash-Tip Phase 3).
Length: 45 mm. Height: 52 mm.
Width: 24 mm.
Unbaked or lightly baked clay. Smooth, almost burnished surface. Hand-modelled, carefully. Forepart of equid figurine; legs missing, muzzle and ears damaged.
Colour: 10YR 4/1 dark grey.

The body is cylindrical and is broken off after the shoulders. Both forelegs are missing. The head rises on a long, upright neck. There is a crest on top of the head

which may be the remains of an applied mane. Both ears are broken, but the left ear seems to have been pointing backwards slightly. The muzzle is broken.

329 Equid figurine
6G76:225 AbS 1539 Figs. 3:1e, 3:11
Batch 2616, context G (Ash-Tip Phase 3).
Length: 53 mm. Height: 29 mm. Width: 24 mm.
Unbaked or lightly baked clay. Hand-modelled, carefully. Body of equid figurine; head and legs missing.
Colour: 10YR 4/1 dark grey.

The body is fairly long, rising towards the rump. The tail is conical, formed by pinching up the clay of the rump, and is chipped at the tip. All four legs are missing. A pinched-out ridge between the hind legs indicates the male genitalia. The clay between the forelegs is pinched up into an angle. The head is missing.

330 Equid figurine
6G76:21 AbS 1491 Figs. 3:1a, 3:11
Batch 2602, context L (fill of Pit d in Ash-Tip Phase 3).
Length: 38 mm. Height: 35 mm.
Width: 29 mm.
Unbaked clay. Vegetable inclusions. Hand-modelled. Forepart of equid figurine; head missing.
Colour: 2.5Y 5/2 greyish brown.

The body, which is broken off after the shoulders, is cylindrical and featureless. The forelegs are chipped; they are flattened in side view and rather narrow in front view. The clay between them is pinched up to form an angle. The head is missing.

331 Equid(?) figurine 6G76:845 in AbS 2067
Batch 2654, context G (Ash-Tip Phase 3).
Height: 34 mm. Width: 10 mm.
Thickness: 12 mm.
Unbaked clay. Hand-modelled. Leg fragment.
Colour: darker than 7.5YR 4/7 brown/dark brown.

Long, slightly curved clay fragment, broken at one end and flattened at the other, possibly the leg of an equid figurine.

332 Equid(?) figurine 6G86:53 in AbS 2067
Batch 1906, context G (Ash-Tip Phase 3).
Height: 22 mm. Width: 9 mm.
Thickness: 10 mm.
Lightly baked clay. Hand-modelled. Leg fragment.
Colour: 7.5YR 5/2 brown.

Leg of animal, possibly equid, figurine, apparently modelled separately and attached to the body. The fragment is rectangular in cross-section and has been flattened at the bottom, so that a small flange of clay projects forwards like a foot.

333 Equid(?) figurine 6G76:373 in AbS 1834
Batch 2620, context T (Ash-Tip Phase 3).
Length: 32 mm. Height: 10 mm.
Width: 7 mm.
Unbaked clay. Smooth surface. Hand-modelled. Leg fragment.
Colour: 7.5YR 5/2 brown.

Long, tapering leg fragment, possibly from equid figurine.

3.7.2.3 *Sheep and sheep/goat figurines* **(334-344)**

334 Sheep/goat figurine 6G66:154 AbS 852 Fig. 3:2
Batch 431, context B (Ash-Tip Phase 2).
Length: 31 mm. Height: 38 mm.
Width: 34 mm.
Baked clay. Fine grit inclusions. Cream slip. Hand-modelled, carefully. Head only of sheep/goat figurine.
Colour: 10YR 8/2, white (body reddish brown).

Head only of sheep/goat figurine, broken off at the shoulders. The ears/horns are broken. The muzzle is long and tapers to a blunt, rounded end.

335 Sheep/goat figurine
6G76:104 AbS 1504 Figs. 3:1b, 3:12
Batch 2605, context G (Ash-Tip Phase 3).
Length: 32 mm. Height: 16 mm.
Width: 13 mm.
Baked clay. Hand-modelled, very crudely, and subsequently squashed. Sheep/goat figurine; back and tail damaged, three legs chipped.
Colour: 10YR 5/3 brown.

The body is long. thin and rectangular in cross-section. The back is damaged. The tail is formed by a pinched-out flap of clay folded down over the rump. There is a hole in the belly measuring 2 by 3 mm and 6 mm deep. The right foreleg is undamaged; it is rudimentary and is squashed up beside the nose. The other three legs are longer and point backwards slightly, but are all chipped. The head is bent downwards onto the chest and has been squashed slightly to the right. It is made up of at least two separately-applied pieces of clay, one forming the right horn/ear and the right side of the muzzle, the other, which is applied over it, forming the left horn/ear and side. The overall shape of the muzzle is triangular.

336 Sheep/goat figurine
6G76:401 AbS 1551 Figs. 3:1b, 3:12
Batch 2621, context L (fill of Pit f in Ash-Tip Phase 3).
Length: 23 mm. Height: 21 mm.
Width: 13 mm.
Unbaked clay. Hand-modelled. Head and forepart of sheep/goat figurine.
Colour: 7.5YR 6/2 pinkish grey.

The body is broken off just after the shoulders and the chest is extensively damaged. The legs are missing. The horns/ears are damaged. The muzzle is triangular with a rounded end.

337 Sheep/goat figurine
6G76:443 in AbS 1834 Fig. 3:12
Batch 2616, context G (Ash-Tip Phase 3).
Length: 23 mm. Height: 14 mm.
Width: 15 mm.
Unbaked clay. Hand-modelled, carefully and with unusual naturalism. Head only.
Colour: 5YR 4/1 dark grey.

Broken-off head of animal figurine. The right horn/ear is slightly chipped, the left is missing. The head is domed. The muzzle is long with a blunt, rounded end, pinched to represent the nostrils. The left side is slightly chipped.

338 Sheep figurine
6G76:485 AbS 1667 Figs. 3:1b, 3:12
Batch 2623, context T (Ash-Tip Phase 3).
Length: 37 mm. Height: 25 mm.

Width: 16 mm.
Unbaked clay. Hand-modelled, carefully. Sheep figurine; left horn missing and all four legs damaged.
Colour: 10YR 5/2 greyish brown.

The body is realistically modelled over the rump and shoulders. The tail is a flat, pinched-out flap which projects horizontally from the rump. All four legs are damaged and the left hind leg is missing. The muzzle is tapering, with a flattened end. The horns and ears are individually depicted; the left horn is missing, but the right horn has been modelled separately and attached to the head, curving under the right ear.

339 Sheep/goat figurine 6G86:33 in AbS 2067 Fig. 3:12
Batch 1902, context G (Ash-Tip Phase 3).
Length: 23 mm. Height: 18 mm.
Width: 14 mm.
Unbaked clay. Salt-encrusted on right side. Hand-modelled. Head of sheep/goat figurine.
Colour: 10YR 5/1 grey.

Head of sheep/goat figurine, broken off at the neck, with long muzzle, rounded at the end. The left side of the head is damaged; the right horn/ear is broken.

340 Sheep/goat figurine 6G86:44 AbS 1894 Fig. 3:12
Batch 1908, context H (Ash-Tip Phase 3).
Length: 39 mm. Height: 29 mm.
Width: 15 mm.
Baked clay. Clay contains white grits 1.5 mm in diameter. Hand-modelled.
Colour: 5YR 7/6 reddish yellow.

The body is long, with a flat back; the rump is severely damaged. Part of the left foreleg survives; the other three legs are missing. The head points forwards slightly on a thick neck. The horns/ears are damaged; the head rises to a crest between them. The muzzle is broken.

341 Sheep/goat figurine
6G86:83 in AbS 2067 Fig. 3:12
Batch 1917, context G (Ash-Tip Phase 3).
Length: 35 mm. Height: 36 mm.
Width: 15 mm.
Unbaked clay. Very heavily weathered and salt-encrusted. Hand-modelled. Head and forepart of sheep/goat figurine; legs missing.
Colour: 7.5YR 7/4 pink.

The body is broken off just beyond the shoulders and the legs are missing. The head appears to have been realistically modelled, with horns/ears, but the details are now obscured by salt.

342 Sheep/goat figurine
6G86:151 in AbS 2067 Fig. 3:12
Batch 1932, context G (Ash-Tip Phase 3).
Length: 33 mm. Height: 17 mm.
Width: 11 mm.
Baked clay. Salt-encrusted. Hand-modelled. Sheep/goat figurine; three legs missing.
Colour: 2.5Y 5/2 greyish brown.

The body is compact, rising in a curve to the rump. The tail is a flat, pinched-out flap of clay extending horizontally from the rump. Only the right hind leg survives, tapering to a rounded point and splayed outwards slightly. The muzzle is blunt and rounded and the ears are short, pinched-out flaps with a ridge between them.

343 Sheep/goat figurine
6G76:743 in AbS 2067 Fig. 3:12
Batch 2655, context G (Ash-Tip Phase 3).
Length: 33 mm. Height: 25 mm.
Width: 18 mm.
Unbaked clay. Salt-encrusted. Hand-modelled, carefully. Smooth surface. Sheep/goat figurine; legs and horns/ears chipped.
Colour: 2.5Y 6/2 light brownish grey.

The body is compact, with high shoulders. The tail is a flat, pinched-out flap of clay extending horizontally from the rump. All four legs are chipped, but were originally tapering stumps, longer at the front than at the back. The head rises on a thick neck; the horns/ears are chipped. The muzzle is triangular, with a rounded tip.

344 Sheep/goat(?) figurine
6G76:520 AbS 1666 Figs. 3:1d, 3:12
Batch 2623, context T (Ash-Tip Phase 3).
Length: 49 mm. Height: 28 mm.
Width: 18 mm.
Unbaked clay. Hand-modelled. Uneven surface with finger-impressions. Animal figurine; forelegs missing and hindlegs damaged.
Colour: 10YR 3/1 very dark grey and 7.5YR 4/2 brown.

The body is compact, rising slightly to the rump. The tail is a flat, pinched-out flap of clay projecting horizontally from the rump, chipped at the end. The fogrelegs are missing and the hind legs are chipped. The top of the head is pinched up between the horns/ears, which are chipped.

3.7.2.4 *Semi-complete but unidentifiable animal figurines* (**345-350**)

345 Dog(?) figurine 6G86:43 AbS 1893 Fig. 3:13
Batch 1908, context H (Ash-Tip Phase 3).
Length: 33 mm. Height: 29 mm.
Width: 17 mm.
Baked clay. Salt-encrusted. Hand-modelled. Animal figurine; head, legs and tail damaged.
Colour: 7.5YR 3/0 very dark grey.

The body is short and slopes downwards from the shoulders to the rump. The rump is flat; the tail is chipped but originally projected. All four legs are chipped, but were originally rounded stumps, longer at the front than at the back; the figurine will still stand upright. The right side of the head and the left ear are damaged. The snout is roughly conical with a blunt end on which a shallow incision may be intended to represent the mouth; there is also an impression on the left side of the face which may indicate an eye, although both these features may be accidental. The shape of the head and stance suggest a dog.

346 Animal figurine 6G76:573 in AbS 1834 Fig. 3:13
Batch 2625, context T (Ash-Tip Phase 3).
Length: 41 mm. Height: 23 mm.
Width: 20 mm.
Unbaked clay. Hand-modelled, very crudely, and subsequently squashed. Animal figurine; head damaged.
Colour: 10YR 6/3 pale brown.

The body is featureless, with a ridged spine. There is a small, pinched-out tail. The hind legs are barely indicated by low humps. The forelegs are longer but are squashed against the chest so that the left leg has

come away from the shoulder. The upper part of the head is damaged, but it seems in any case to have been entirely featureless.

347 Animal figurine 6G76:519 AbS 1665 Fig. 3:13
Batch 2623, context T (Ash-Tip Phase 3).
Length: 43 mm. Height: 28 mm.
Width: 21 mm.
Unbaked clay. Hand-modelled. Fore-part of animal figurine; left foreleg, snout and horns/ears damaged.
Colour: 7.5YR 6/4 light brown.

The body is featureless, rising towards the rump; it is broken off just before the rump.The body is covered with irrgeular incisions, presumably intended to represent hair or fur. Only the right foreleg survives, a rounded, tapering stump, now chipped. The snout is curving in profile and chipped at the tip. The horns/ears are chipped and abraded.

348 Animal figurine
6G76:498 in AbS 1834 Figs. 3:1b, 3:13
Batch 2625, context T (Ash-Tip Phase 3).
Length: 27 mm. Height: 24 mm.
Width: 15 mm.
Baked clay. Surface fissured. Hand-modelled, crudely. Head only of animal figurine.
Colour: 2.5Y 5/2 greyish brown.

Head of animal figurine, broken off at the neck. The neck is long; the muzzle is blunt and rounded with a horizontal incision representing the mouth and a perforation 2.5 mm in diameter representing the eyes. The horns/ears are broken. Incised lines converge towards the point of the muzzle, crossed behind the eyes by lines at right-angles, perhaps intended to indicate a harness although there is no sign of a mane.

349 Animal figurine
6G76:59 AbS 1492 Figs. 3:1c, 3:13
Batch 2602, context L (fill of Pit d in Ash-Tip Phase 3).
Length: 37 mm. Height: 46 mm.
Width: 37 mm.
Baked clay. Salt-encrusted. Hand-modelled. Forepart of animal figurine; left foreleg and snout damaged.
Colour: 2.5Y 6/2 light brownish grey.

The body is squat and is broken off after the shoulders. The forelegs are short, irregular, rounded stumps; the left leg is chipped. The neck is short. Small horns/ears are indicated. The muzzle is short; it is not clear whether the flat surface at the end is deliberate or is the result of damage.

350 Animal figurine 6G86:56 AbS 1899 Fig. 3:13
Batch 1907, context H (Ash-Tip Phase 3).
Length: 34 mm. Height: 40 mm.
Width: 20 mm.
Unbaked clay. Hand-modelled. Head and shoulders of animal figurine, extensively damaged.
Colour: 7.5YR 7/4 pink.

The neck is short and thick. The head and muzzle are now too badly damaged for the original shape to be determined.

3.7.2.5 *Unidentifiable headless animal figurine bodies* **(351-366)**

351 Animal figurine
6G66:50 AbS 422 Figs. 3:1e, 3:14
Batch 406, context P (Ash-Tip, mixed).
Length: 51 mm. Height: 21 mm.
Width: 21 mm.
Baked clay. Hand-modelled. Body of animal figurine; tail broken, head and legs missing.
Colour: 10YR 4/1 dark grey.

The body is long and slender, rising in a curve to the rump. The tail is circular in cross-section and projects from the rump; the end is broken. The legs and head are missing.

352 Animal figurine
6G76:8 AbS 1494 Figs. 3:1e, 3:14
Batch 2600, context A (surface).
Length: 42 mm. Height: 21 mm.
Width: 21 mm.
Unbaked clay. Hand-modelled. Animal figurine body; head and legs missing.
Colour: 10YR 5/2 greyish brown.

The body is featureless and cylindrical. The rump is flat and at a sharp angle to the rest of the body. The tail, now chipped, is pinched up and bent slightly to the left. A pinched-up ridge of clay between the hind legs represents the male genitalia. The legs and head are missing.

353 Animal figurine
6G76:90 AbS 1496 Figs. 3:1e, 3:14
Batch 2605, context G (Ash-Tip Phase 3).
Length: 38 mm. Height: 24 mm.
Width: 19 mm.
Baked clay. Occasional white grits in clay. Hand-modelled. Animal figurine body; rump damaged, head and legs missing.
Colour: 10YR 4/1 dark grey.

The body is compact, rising slightly to the rump. The rump is flat and at a sharp angle to the back. The rump is damaged and the tail is missing. A pinched-up ridge of clay between the hind legs represents the male genitalia. All four legs are broken. The head is missing.

354 Animal figurine
6G76:186 AbS 1526 Figs. 3:1d, 3:14
Batch 2613, context H (Ash-Tip Phase 3).
Length: 37 mm. Height: 23 mm.
Width: 18 mm.
Unbaked clay. Heavily weathered. Hand-modelled. Body of animal figurine; head, legs and part of the left side missing.
Colour: 2.5Y 5/2 greyish brown.

The body is long and slender. The head and legs are missing.

355 Animal figurine 6G76:204 in AbS 1834 Fig. 3:14
Batch 2615, context G (Ash-Tip Phase 3).
Length: 34 mm. Height: 17 mm.
Width: 15 mm.
Unbaked clay. Hand-modelled. Animal figurine body; head, legs and tail missing.
Colour: 10YR 4/1 dark grey.

The body is long, rising over the rump and shoulders. The tail, which is circular in cross-section and is now broken, curved down over the rump. The head and legs are missing.

356 Animal figurine
6G76:197 AbS 1525 Figs. 3:1c, 3:14
Batch 2615, context G (Ash-Tip Phase 3).
Length: 38 mm. Height: 17 mm.
Width: 16 mm.

Unbaked clay. Extensive surface damage. Hand-modelled. Body of animal figurine; head and legs missing, tail chipped.
Colour: 10YR 6/2 light brownish grey.

The body is featureless. The tail is a pinched-out flap of clay, rather wide and flat and now chipped at the end, curving down over the rump. The head and legs are missing.

357 Animal figurine
6G76:223 AbS 1538 Figs. 3:1d, 3:14
Batch 2616, context G (Ash-Tip Phase 3).
Length: 31 mm. Height: 21 mm.
Width: 18 mm.
Baked clay. Hand-modelled. Body of animal figurine; head and legs missing, tail damaged.
Colour: 5YR 4/1 dark grey.

There are some traces of an attempt at realistic modelling on the shoulders, and the rump is rounded. The tail, which is broken, projects downwards over the rump. The head and legs are missing.

358 Animal figurine
6G76:479 AbS 1670 Figs. 3:1a, 3:14
Batch 2623, context T (Ash-Tip Phase 3).
Length: 49 mm. Height: 42 mm.
Width: 22 mm.
Unbaked clay. Hand-modelled, crudely. Body of animal figurine; head missing, legs and tail damaged.
Colour: 10YR 4/1 dark grey.

The body is compact, with some modelling over the rump; the surface is uneven and there are finger-marks on the clay. The tail, which is broken, curves down over the rump. A pinched-up ridge of clay between the hind legs represents the male genitalia. All four legs are damaged and the head is missing.

359 Animal figurine
6G76:480 AbS 1669 Figs. 3:1c, 3:14
Batch 2625, context T (Ash-Tip Phase 3).
Length: 53 mm. Height: 27 mm.
Width: 25 mm.
Unbaked clay. Hand-modelled, carefully. Body of animal figurine; head and legs missing, tail damaged.
Colour: 10YR 4/1 dark grey.

The chest is flat, and there is some modelling on the shoulders; the body rises and widens towards the rump. The tail, now broken, curves downwards over the rump. A pinched-up ridge of clay between the hind legs represents the male genitalia. The head and legs are missing.

360 Animal figurine 6G77:2 in AbS 2067 Fig. 3:15
Batch 3903, context H (Ash-Tip Phase 3).
Length: 41 mm. Height: 28 mm.
Width: 22 mm.
Baked clay. Salt-encrusted. Hand-modelled. Body of animal figurine, head and legs missing.
Colour: 10YR 4/2 dark greyish brown.

The body is compact, rising to a rounded rump. The tail is a short, projecting stump. The head and legs are missing.

361 Animal figurine 6G76:568 in AbS 1834
Batch 2625, context T (Ash-Tip Phase 3).
Length: 26 mm. Height: 23 mm.
Width: 17 mm.
Unbaked clay. Hand-modelled. Body of animal figurine; head, legs and tail missing.
Colour: 7.5YR 5/2 brown.

The body is featureless, rising slightly to the rump, which is damaged.

362 Animal figurine 6G77:53 in AbS 2067
Batch 3904, context H (Ash-Tip Phase 3).
Length: 40 mm. Height: 42 m.
Width: 26 mm.
Unbaked clay. Salt-encrusted. Surface extensively damaged. Handmodelled. Animal figurine; head and rump badly damaged, right hind leg and tail missing.
Colour: 10YR 5/2 greyish brown.

The body and head are rendered featureless by salt encrustation. The surviving legs are short, rounded stubs.

363 Animal figurine
6G76:233 AbS 1531 Figs. 3:1f, 3:15
Batch 2616, context G (Ash-Tip Phase 3).
Length: 31 mm. Height: 20 mm.
Width: 18 mm.
Unbaked clay. Hand-modelled, crudely. Animal figurine body; head missing, tail and legs damaged.
Colour: 10YR 6/2 brownish grey.

The body is featureless and broken off at the shoulder. The tail is broken off at the rump. All four legs are damaged.

364 Animal figurine 6G76:588 in AbS 1834 Fig. 3:15
Batch 2625, context T (Ash-Tip Phase 3).
Length: 23 mm. Height: 18 mm.
Width: 13 mm.
Unbaked clay. Smooth surface. Hand-modelled, carefully. Animal figurine body; head missing, forelegs and left hind leg damaged.
Colour: 7.5YR 4/0 dark grey.

The short, compact body rises over the rump, which is flat. A small stub at the top of the rump represents the tail. A pinched-out ridge between the hind legs represents the male genitalia. Only the right hind leg survives intact, a short, pinched-out flap.

365 Animal figurine 6G86:68 AbS 1901 Fig. 3:15
Batch 1904, context G (Ash-Tip Phase 3).
Length: 34 mm. Height: 17 mm.
Width: 16 mm.
Unbaked clay. Weathered and salt-encrusted. Hand-modelled, crudely. Animal figurine body; head and legs missing.
Colour: 7.5YR 7/4 pink.

The figurine is so heavily weathered that little of the original shape remains.

366 Animal figurine 6G86:65 AbS 1900
Batch 1910, context G (Ash-Tip Phase 3).
Length: 38 mm. Height: 18 mm.
Width: 16 mm.
Baked clay. Surface weathered and salt-encrusted. Hand-modelled. Animal figurine body; head and legs missing, tail damaged.
Colour: 10YR 4/1 dark grey.

The body is long, rising over the rump. The tail is missing. All four legs are missing and the head is broken off at the neck.

3.7.2.6 *Unidentifiable animal figurine fragments* **(367-389)**

367 Animal figurine 6G76:460 in AbS 1834 Fig. 3:15
Batch 2625, context T (Ash-Tip Phase 3).
Length: 24 mm. Height: 15 mm.
Width: 21 mm.
Unbaked clay. Hand-modelled. Fragment of forepart of animal figurine; head missing.
Colour: 10YR 6/2 light brownish grey.

Fragment of animal figurine forepart, head and legs missing. On the chest there are six vertical incised lines crossed by one horizontal incised line.

368 Animal figurine 6G76:372 in AbS 1834
Batch 2620, context T (Ash-Tip Phase 3).
Length: 28 mm. Height: 27 mm.
Width: 22 mm.
Unbaked clay. Hand-modelled. Fragment of forepart of animal figurine.
Colour: 7.5YR 6/4 light brown.

Forepart and beginning of neck of animal figurine. Both legs are missing.

369 Animal figurine
6G76:124 AbS 1499 Figs. 3:1f, 3:15
Batch 2608, context G (Ash-Tip Phase 3).
Length: 29 mm. Height: 22 mm.
Width: 18 mm.
Baked clay. Hand-modelled. Hind end of animal figurine; left leg missing, right leg and tail damaged.
Colour: 10YR 6/3 pale brown.

The body rises over the rump; the tail, now chipped, is a sharp, pinched-out, downward continuation of the rump. The left leg is missing; the right leg is long and tapering and chipped at the end.

370 Animal figurine 6G76:140 AbS 1490 Fig. 3:15
Batch 2610, context G (Ash-Tip Phase 3).
Length: 20 mm. Height: 14 mm.
Width: 12 mm.
Unbaked clay. Hand-modelled. Hind end of animal figurine; hind legs chipped.
Colour: 10YR 6/4 light yellowish brown.

The short, compact body is broken off just before the shoulders and rises slightly over the rump, which is flat. There is no tail; a hole in the rump, 1 by 3 mm, runs the existing length of the body. There is a shallower hole, 1 mm in diameter, in the right shoulder. now partly broken away. The hind legs are chipped, but were modelled as a solid, tapering block with no division between the legs.

371 Animal figurine
6G76:144 AbS 1495 Figs. 3:1f, 3:15
Batch 2610, context G (Ash-Tip Phase 3).
Length: 24 mm. Height: 24 mm.
Width: 20 mm.
Unbaked clay. Hand-modelled. Hind end of animal figurine; legs missing, tail chipped.
Colour: 10YR 5/1 grey.

The fragment is broken off just before the rump, which is flat, forming a sharp angle with the back. The conical tail, chipped at the end, is pinched up in the centre of the rump. Both legs are missing.

372 Animal figurine 6G86:251 in AbS 2067 Fig. 3:15
Batch 1942, context H (Ash-Tip Phase 3).
Length: 27 m. Height: 20 mm.
Width: 23 mm.
Baked clay. Salt-encrusted. Hand-modelled. Hind end of animal figurine; tail and legs damaged.
Colour: 10YR 5/2 greyish brown.

The tail is pinched out of the clay of the flat rump and curves downwards; the end is chipped. A pinched-up ridge of clay between the hind legs represents the male genitalia. Both hind legs are broken.

373 Animal figurine 6G76:6 AbS 1502
Batch 2600, context A (surface).
Length: 34 mm. Height: 32 mm.
Width: 14 mm.
Unbaked clay. Hand-modelled. Leg and body fragment of animal figurine.
Colour: 10YR 4/1 dark grey.

Fragment of tapering, rather flat leg and part of body of animal figurine.

374 Animal figurine 6G76:54 in AbS 1834
Batch 2603, context G (Ash-Tip Phase 3).
Length: 27 mm. Height: 30 mm.
Width: 18 mm.
Unbaked clay. Hand-modelled. Leg and rump fragment of animal figurine.
Colour: 10YR 4/1 dark grey.

Part of flat rump with stub of pinched-up tail, now broken, and left hind leg also broken, of animal figurine.

375 Animal figurine 6G76:191 in AbS 1834
Batch 2614, context G (Ash-Tip Phase 3).
Length: 22 mm. Height: 17 mm.
Width: 17 mm.
Unbaked clay. Cracked. Hand-modelled. Fragment of hind end of animal figurine.
Colour: 7.5YR 5/2 brown.

Part of rump of animal figurine with the start of the left leg; the rump is damaged and the tail is missing.

376 Animal figurine 6G76:500 in AbS 1834
Batch 2625, context T (Ash-Tip Phase 3).
Length: 26 mm. Height: 22 mm.
Width: 10 mm.
Unbaked clay. Hand-modelled. Fragment of hind end of animal figurine.
Colour: 10YR 6/2 light brownish grey.

Fragment of left hind leg and part of rump of animal figurine.

377 Animal figurine 6G76:521 in AbS 1834
Batch 2625, context T (Ash-Tip Phase 3).
Length: 25 mm. Width: 24 mm.
Thickness: 9 mm.
Baked clay. Smooth, lightly burnished surface. Hand-modelled. Horn or leg fragment.
Colour: 10YR 4/1 dark grey.

Straight, sharp-pointed, conical fragment from animal figurine, possibly horn or leg.

378 Animal figurine 6G76:541 in AbS 1834
Batch 2625, context T (Ash-Tip Phase 3).
Length: 21 mm. Height: 14 mm.
Width: 12 mm.
Baked clay. Hand-modelled. Hind end of animal figurine.
Colour: 10YR 4/1 dark grey.

The body is featureless and broken off before the shoulders. A large tail, circular in cross-section and

now broken, projects upwards from the rump. A large pinched-up ridge of clay between the hind legs represents the male genitalia. Both hind legs are broken.

379 Animal figurine 6G76:570 in AbS 1834
Batch 2625, context T (Ash-Tip Phase 3).
Length: 25 mm. Height: 28 mm.
Width: 21 mm.
Baked clay. Hand-modelled. Hind end of animal figurine.
Colour: 7.5YR 6/2 pinkish grey.

Fragment of animal figurine body and rump with tail or part of one leg; unfinished or much distorted.

380 Animal figurine 6G76:630 in AbS 1834
Batch 2638, context K (?Ash-Tip Phase 3).
Length: 24 mm. Height: 19 mm.
Width: 12 mm.
Unbaked clay. Hand-modelled. Fragment of hind end of animal figurine.
Colour: 7.5YR 6/4 light brown.

Fragment of left hind leg and rump of animal figurine.

381 Animal figurine 6G76:760 in AbS 2067
Batch 2655, context G (Ash-Tip Phase 3).
Length: 51 mm. Height: 26 mm.
Width: 28 mm.
Unbaked clay. Surface extensively damaged and salt-encrusted. Hand-modelled. Hind end of animal figurine; legs missing and tail damaged.
Colour: 10YR 4/2 dark greyish brown.

The body is long, rising to the rump, which is flat. The tail is a flat, pinched-out flap of clay, now broken. A bulge in the centre of the stomach may represent the male genitalia. Both legs are missing.

382 Animal figurine 6G76:792 in AbS 1834
Batch 2661, context G (Ash-Tip Phase 3).
Length: 36 mm. Width: 22 mm.
Thickness: 10 mm.
Unbaked clay. Salt-encrusted. Hand-modelled. Leg fragment of animal figurine.
Colour: 7.5YR 6/2 pinkish grey.

Possible leg fragment from animal figurine, tapering to a rounded end.

383 Animal figurine 6G76:828a in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Length: 26 mm. Height: 33 mm.
Width: 13 mm.
Baked clay. Hand-modelled. Animal figurine leg.
Colour: 10YR 6/4 light yellowish brown.

Right hind leg of animal figurine.

384 Animal figurine 6G76:828b in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Length: 21 mm. Height: 23 mm.
Width: 28 mm.
Unbaked clay. Hand-modelled. Fragment of hind end of animal figurine.
Colour: 10YR 6/3 pale brown.

Fragment of rump and leg of animal figurine.

385 Animal figurine 6G86:130 in AbS 2067
Batch 1929, context L (fill of Pit o in Ash-Tip Phase 3).
Length: 32 mm. Height: 32 mm.
Width: 23 mm.
Unbaked clay. Hand-modelled. Fragment of hind end of animal figurine.
Colour: 10YR 5/3 brown.

The body is rectangular in cross-section. Theere is no sign of a tail. The left hind leg is short and the end is chipped; only the attachment scar for the right leg remains.

386 Animal figurine 6G86:140 in AbS 2067
Batch 1927, context H (Ash-Tip Phase 3).
Length: 23mm. Height: 28 mm.
Width: 26 mm.
Unbaked clay. Hand-modelled. Fragment of hind end of animal figurine.
Colour: 7.5 6/2 pinkish grey.

Fragment of rump with start of both legs; top of rump damaged and tail missing.

387 Animal figurine 6G76:126 AbS 1498
Batch 2605, context G (Ash-Tip Phase 3).
Length: 23 mm. Height: 19 mm.
Width: 21 mm.
Unbaked clay. Hand-modelled. Body fragment of animal figurine.
Colour: 10YR 4/2 dark greyish brown.

Featureless body fragment of animal figurine.

388 Animal figurine 6G76:511 in AbS 1834
Batch 2625, context T (Ash-Tip Phase 3).
Length: 17 mm. Height: 18 mm.
Width: 18 mm.
Baked clay. Hand-modelled. Body fragment of animal figurine.
Colour: 10YR 6/3 pale brown.

Featureless body fragment of animal figurine.

389 Animal figurine 6G76:710 in AbS 1834
Batch 2646, context G (Ash-Tip Phase 3).
Length: 32 mm. Height: 18 mm.
Width: 16 mm.
Unbaked clay. Weathered and salt-encrusted. Body fragment of animal figurine.
Colour: 7.5YR 6/4 light brown.

Featureless body fragment of animal figurine with remains of two short legs.

3.7.3 *Miscellaneous human or animal figurine fragments* **(390-393)**

390 Figurine fragment 6G76:311 in AbS 1834
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Length: 33 mm. Height: 17 mm.
Width: 17 mm.
Baked clay. Hand-modelled. Figurine fragment.
Colour: 10YR 3/1 very dark grey.

Cylindrical body fragment, widening slightly at one end.

391 Figurine fragment 6G76:341 in AbS 1834
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Length: 24 mm. Height: 19 mm.
Width: 16 mm.
Unbaked clay. Hand-modelled. Figurine fragment.
Colour: 7.5YR 5/2 brown.

Featureless body fragment.

392 Figurine fragment 6G76:69 in AbS 1834
Batch 2603, context G (Ash-Tip Phase 3).
Length: 25 mm. Height: 21 mm.
Width: 11 mm.
Lightly baked clay. Hand-modelled. Figurine fragment.
Colour: 7.5YR 5/2 brown.

Featureless body fragment.

393 Figurine fragment 6G76:656 in AbS 1834
Batch 2638, context K (?Ash-Tip Phase 3).
Length: 23 mm. Height: 23 mm.
Width: 20 mm.
Unbaked clay. Hand-modelled. Figurine fragment.
Colour: 10YR 3/1 very dark grey.

Featureless body fragment.

3.7.4 *Model chariots* (**394-431**)

3.7.4.1 *Platform chariot* (**394**)

394 Model chariot fragment
6G76:403 in AbS 1835 Fig. 3:16
Batch 2600, context A (surface).
Max. surviving height: 64 mm.
Max. surviving width: 33 mm.
Max. surviving length: 32 mm.
Diameter pole socket: 6 mm.
Baked clay. Vegetable inclusions. Cream slip or self-slip. Hand-modelled, carefully; possibly carved. Front part of model chariot.
Colour: 10YR 7/4 very pale brown.

Front of model chariot; the top of the high front is broken, but the lower edge of a semi-circular depression, possibly a rein-rest, is visible. The sides and front are smooth and flat with well-defined angles. The pole socket runs from the bottom of the front throughout the surviving length of the fragment. The body of the chariot is broken off before the axle, but the bottom of the chariot forms a flat platform.

3.7.4.2 *Straddle chariots* (**395-401**)

395 Model chariot fragment
6G76:504 in AbS 1835 Fig. 3:16
Batch 2625, context T (Ash-Tip Phase 3).
Max. height: 29 mm. Max. width: 18 mm.
Max. length: 38 mm.
Diameter pole socket: 2.5 x 3 mm.
Diameter axle socket: 1.5 mm.
Unbaked clay. Hand-modelled, carefully. Model chariot fragment: complete, with only minor damage.
Colour: 10YR 4/1 dark grey.

Model chariot of 'straddle' type, complete apart from minor chipping at rear and around pole socket. High, rounded front, flaring at the top and lower, flat-topped rear with thin projecting ledge at the base. The pole socket is positioned approximately 2/3 of the way down the front and the axle-socket is formed by a perforation through a rounded, irregular projection towards the base of the front.

396 Model chariot fragment
6G76:85 in AbS 1835 Fig. 3:16
Batch 2605, context G (Ash-Tip Phase 3).
Max. height: 32 mm. Max. width: 28 mm.
Max. length: 40 mm.
Diameter pole socket: 2 mm.
Diameter axle socket: 2.5 mm.
Very hard unbaked clay. Hand-modelled, carefully; probably partly carved. Model chariot fragment; front, rear, body and axle-socket damaged.
Colour: 10YR 4/2 dark greyish brown.

Model chariot of 'straddle' type. The front curves upwards, but is broken off; the pole socket is about 5 mm from the bottom edge. The upper surface of the body is damaged. The rear is flat, with an incised cross, and the upper part is broken; the lower part of the rear is also damaged but there is a perforation 2 mm in diameter on either side. The axle was carried in a projection, now damaged, which extended below the base of the body and beyond it on either side.

397 Model chariot fragment
6G76:620 in AbS 1835 Fig. 3:17
Batch 2639, context L (fill of Pit i in Ash-Tip Phase 3).
Max. height: 26 mm. Max. width: 25 mm.
Max. length: 40 mm.
Unbaked clay. Hand-modelled. Rear part of model chariot.
Colour: 10YR 4/2 dark greyish brown.

Fragment of body and rear of model chariot of 'straddle' type, broken off behind the axle. The upper surface of the body is flat, curving upwards slightly to a tapering rear with a short, blunt, slightly flaring projection at its base, now damaged on one side.

398 Model chariot fragment
6G76:587 in AbS 1835 Fig. 3:17
Batch 2626, context J (fill of Grave 134 in Ash-Tip Phase 3).
Max. height: 21 mm. Max. width: 20 mm.
Max. length: 28 mm.
Diameter axle socket: 2 mm.
Unbaked clay. Hand-modelled, not very carefully. Central part of model chariot.
Colour: 2.5Y 5/2 greyish brown.

Central part of model chariot of 'straddle' type. Broken across the axle socket, which consists of a simple perforation running through the body. The body curves upwards towards the rear, which is broken off.

399 Model chariot fragment/wheeled animal ?
6G76:109 in AbS 1835 Fig. 3:17
Batch 2608, context G (Ash-Tip Phase 3).
Max. height: 38 mm. Max. width: 25 mm.
Max. length: 32 mm.
Diameter perforation: 4 mm.
Unbaked clay. Hand-modelled, crudely. Weathered. Rear of model chariot or wheeled animal figurine.
Colour: 10YR 4/1 dark grey.

Rear end, with perforation, of wheeled animal figurine or exceptionally crude model chariot of 'straddle' type, now somewhat weathered and indistinct.

400 Model chariot fragment
6G76:672 in AbS 1834 Fig. 3:17
Batch 2638, context K (?Ash-Tip Phase 3).
Max. height: 21 mm. Max. width: 28 mm.
Unbaked clay. Hand-modelled.
Colour: 10YR 4/2 dark greyish brown.

Fragment of upper part of front of model chariot with flat top and flaring corners.

401 Model chariot fragment 6G76:686 in AbS 1835
Batch 2620, context T (Ash-Tip Phase 3).
Max. width: 18 mm.
External diameter: 17 mm.
Diameter of perforation: 5 mm.
Baked clay. Fine grit inclusions; reddish-brown fabric with cream slip.
Colour: 10YR 7/3 very pale brown.

From fabric, probably fragment of axle-holder from model chariot.

3.7.4.3 *Model yokes* (**402-405**)

402 Model yoke 6G76:371 in AbS 1834 Fig. 3:17
Batch 2620, context T (Ash-Tip Phase 3).
Height: 23 mm. Width: 19 mm.
Length: 61 mm.
Diameter hole: 5 mm.
Unbaked clay. Hand-modelled. Model yoke: complete and intact.
Colour: 5YR 5/1 grey.

Possible model chariot yoke. The object is bowed, with flat, pinched ends. There is a hole in the upper part of one side of the bow which may have taken the chariot pole.

403 Model yoke 6G77:52 in AbS 2067 Fig. 3:17
Batch 3904, context H (Ash-Tip Phase 3).
Height: 22 mm. Width: 17 mm.
Length: incomplete.
Diameter perforation: 5 mm.
Baked clay. Hand-modelled. Fragment of model yoke.
Colour: 10 YR 4/2 dark greyish brown.

Possible model chariot yoke: one end is broken off. Similar to **402** in shape. There is a hole through the centre of the object which may have taken the chariot pole.

404 Model yoke 6G76:461 in AbS 1834
Batch 2625, context T (Ash-Tip Phase 3).
Height: 15 mm. Width: 11 mm.
Length: incomplete.
Unbaked clay. Hand-modelled. Fragment of model yoke.
Colour: 10YR 4/1 dark grey.

One end of possible model chariot yoke. The pinched, splayed shape of the end is similar to **402**.

405 Model yoke 6G76:131 in AbS 1834
Batch 2610, context G (Ash-Tip Phase 3).
Height: 14 mm. Width: 14 mm.
Length: incomplete.
Unbaked clay. Hand-modelled. Fragment of model yoke.
Colour: 10YR 4/2 dark greyish brown.

One end of possible model chariot yoke. The pinched, splayed shape of the end is similar to that of **402**.

3.7.4.4 *Model wheels* (**406-431**)

406 Model wheel 6G76:671 in AbS 1835 Fig. 3:18
Batch 2637, context K (?Ash-Tip Phase 3).
Diameter: 36-37 mm.
Diameter hub (thick): 19 mm.
Thickness of wheel: 6 mm.
Diameter hub (thin): 17 mm.
Thickness of hub: 17 mm.
Diameter of perforation: 5 x 7 mm.
Unbaked or lightly baked clay. Hand-modelled, very irregularly.
Colour: 10YR 4/1 very dark grey.

Model chariot wheel. Complete and intact apart from minor surface damage on hub.

407 Model wheel 6G76:363 in AbS 1835 Fig. 3:18
Batch 2614, context G (Ash-Tip Phase 3).
Diameter: 18 mm.
Thickness of wheel: 5 mm.
Thickness of hub: 14 mm.
Diameter of perforation: 1.5 mm.
Lightly baked clay. Hand-modelled.
Colour: 10YR 5/3 light brown.

Small model chariot wheel of symmetrical double conoid shape. Complete apart from chipping around rim.

408 Model wheel 6G76:353 in AbS 1835 Fig. 3:18
Batch 2617, context G (Ash-Tip Phase 3).
Diameter: 32 mm.
Diameter hub (thick): 12 mm.
Thickness of wheel: 8.5 mm.
Diameter hub (thin): 10 mm.
Thickness of hub: c. 18 mm.
Diameter of perforation: 3 mm.
Unbaked clay. Vegetable inclusions. Hand-modelled.
Colour: 10YR 4/2 dark greyish brown.

Model chariot wheel, complete apart from damage to rim in three places and chipping on thick side of hub. The perforation on the thin side is blocked by salt concretion.

409 Model wheel 6G77:4a in AbS 2067
Batch 3904, context H (Ash-Tip Phase 3).
Width: 40 mm. Thickness of hub: 13 mm.
Diameter of perforation: 3 mm.
Baked clay. Brown with cream slip; fine vegetable inclusions. Hand-modelled. Salt-encrusted.
Colour: 10YR 5/3 brown.

Fragment of one side only of a baked clay model wheel with pronounced hub.

410 Model wheel 6G77:4b in AbS 2067
Batch 3904, context H (Ash-Tip Phase 3).
Diameter: 40 mm.
Diameter hub (thick): 13 mm.
Thickness of wheel: 5 mm.
Diameter hub (thin): 12 mm.
Thickness of hub: incomplete
Diameter of perforation: 3 mm.
Lightly baked clay. Hand-modelled. Some salt encrustation.
Colour: 10YR 4/1 dark grey.

Fragment (approximately 2/3) of model wheel. The hub is broken on the thin side, and the nature of the break indicates that the hub was applied separately to the wheel.

411 Model wheel 6G77:4c in AbS 2067
Batch 3904, context H (Ash-Tip Phase 3).
Diameter: 36 mm.
Thickness of wheel: 13 mm.
Baked clay. Hand-modelled. Heavily weathered on both sides; one side obscured by salt encrustation.
Colour: 10YR 4/2 dark greyish brown.

Model wheel; approximately 1/3 of the rim is missing and both hubs are lost. The perforation is blocked by salt.

412 Model wheel 6G77:4d in AbS 2067 Fig. 3:18
Batch 3904, context H (Ash-Tip Phase 3).
Diameter: 30 mm.
Diameter hub: 10 mm.
Thickness of wheel: 9 mm.
Thickness of hub: incomplete.
Diameter of perforation: 3 mm.
Baked clay. Hand-modelled.
Colour: 7.5YR 5/2 brown.

Model wheel; rim and hubs chipped. Hubs never prominent and no difference between sides is now perceptible.

413 Model wheel 6G76:825 in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Diameter: 42 mm.
Diameter hub (thick): 15 mm.
Thickness wheel: 10 mm.
Diameter hub (thin): 14 mm.
Thickness hub: incomplete.
Diameter perforation: 3 mm.
Unbaked clay. Hand-modelled. Salt encrustation on one side.
Colour: 10YR 7/5 very pale brown.

Two joining fragments of model wheel. Hub and edges chipped.

414 Model wheel 6G76:637 in AbS 1835
Batch 2645, context G (Ash-Tip Phase 3).
Diameter: 46 mm.
Diameter hub (thick): 16 mm.
Thickness wheel: 10 mm.
Diameter hub (thin): 14 mm.
Thickness hub: incomplete.
Diameter perforation: 3 mm.
Unbaked clay. Hand-modelled.
Colour: 10YR 5/2 greyish brown.

Two joining fragments of a model wheel; approximately 1/4 of the rim is missing. Both hubs are damaged.

415 Model wheel 6G86:227 in AbS 2067 Fig. 3:18
Batch 1955, context H (Ash-Tip Phase 3).
Diameter: 27 mm.
Diameter hub (thick): 27 mm.
Thickness of wheel: 7 mm.
Diameter hub (thin): 17 mm.
Thickness of hub: 30 mm.
Diameter of perforation: 6 mm.
Baked clay. Brown with cream slip. Hand-modelled, with some use of a blade.
Colour: 7.5YR 5/2 brown.

Model wheel; approximately 1/5 of rim missing. The hubs are pronounced and one side is thicker than the other. The ends of the hubs appear to have been cut off flat with a sharp implement.

416 Model wheel 6G76:456 in AbS 1835
Batch 2625, context T (Ash-Tip Phase 3).
Diameter: 26 mm.
Thickness of wheel: 7 mm.
Thickness of hub: 13 mm.
Diameter of perforation: 3 mm.
Unbaked clay. Vegetable inclusions. Hand-modelled. One side badly weathered.
Colour: 10YR 5/2 greyish brown.

Model wheel; approximately 1/4 of the rim is missing. Both hubs are damaged and no difference is now visible between the sides.

417 Model wheel 6G76:741 in AbS 2067
Batch 2655, context G (Ash-Tip Phase 3).
Diameter: 32 mm. Diameter hub (thick): 12 mm.
Thickness of wheel: 4 mm.
Diameter hub (thin): 10 mm.
Thickness of hub: 13 mm.
Diameter of perforation: 3 mm.
Unbaked clay. Hand-modelled. Salt encrustation on one side.
Colour: 10YR 6/3 pale brown.

Fragment (approximately 2/3) of a model wheel. The hub is thicker on one side than on the other. The rim is flat with three possibly accidental nicks across it.

418 Model wheel 6G76:120 in AbS 1835
Batch 2608, context G (Ash-Tip Phase 3).
Diameter: > 44 mm.
Diameter hub (unweathered): 18 mm.
Thickness of wheel: incomplete.
Thickness of hub: incomplete.
Diameter of perforation: 4 mm.
Unbaked clay. Hand-modelled. Heavily weathered on one side.
Colour: 7.5YR 3/0 very dark grey.

Fragment (approximately 2/3) of model wheel. Most of the original rim is missing.

419 Model wheel 6G77:25 in AbS 2067
Batch 3904, context H (Ash-Tip Phase 3).
Diameter: 27 mm.
Diameter hub: 11 mm.
Thickness of wheel: 8 mm.
Thickness of hub: 16 mm.
Diameter of perforation: 4 mm.
Unbaked clay. Hand-modelled. Salt encrustation on one side.
Colour: 10YR 4/2 dark greyish brown.

Fragment (approximately 3/5) of model chariot wheel. Hubs chipped. No difference is now visible between the sides.

420 Model wheel 6G86:144 in AbS 2067
Batch 1917, context G (Ash-Tip Phase 3).
Diameter: incomplete.
Diameter hub (thick): 31 mm.
Thickness wheel: 13 mm.
Diameter hub (thin): 29 mm.
Thickness hub: 27 mm.
Diameter perforation: 6 mm.
Baked clay. Hand-modelled, irregularly. Heavily weathered; salt encrustation on one side.
Colour: 10YR 4/1 dark grey.

Fragment (approximately 2/3) of model wheel. The hub is noticeably larger one side than on the other.

421 Model wheel 6G76:49 in AbS 1835
Batch 2603, context G (Ash-Tip Phase 3).
Diameter: incomplete.
Diameter hub (thick): 27 mm.
Thickness wheel: 7 mm.
Diameter hub (thin): 18 mm.
Thickness hub: 29 mm.
Diameter perforation: 4 mm.

Unbaked clay. Hand-modelled. Salt encrustation on one side.
Colour: 10YR 4/2 dark greyish brown.

Fragment (approximately half) of model wheel. The hub is larger on one side than on the other.

422 **Model wheel** 6G76:94a in AbS 1835
Batch 2605, context G (Ash-Tip Phase 3).
Diameter: incomplete.
Diameter hub (thick): 11 mm.
Thickness wheel: 9 mm.
Diameter hub (thin): 9 mm.
Thickness hub: incomplete.
Diameter perforation: absent.
Unbaked clay. Hand-modelled.
Colour: 10YR 4/2 dark greyish brown.

Fragment (approximately 1/3) of model wheel, apparently unfinished, as there is no perforation. The hub is broken off on the thicker side.

423 **Model wheel** 6G76:94b in AbS 1835
Batch 2605, context G (Ash-Tip Phase 3).
Diameter: incomplete
Diameter hub (thick): 12 mm.
Thickness wheel: 7 mm.
Diameter hub (thin): 11 mm.
Thickness hub: 30 mm.
Diameter perforation: 2 mm.
Unbaked clay. Hand-modelled.
Colour: 10YR 4/2 dark greyish brown.

Fragment (approximately 2/3) of model wheel. The hub is larger on one side than on the other.

424 **Model wheel** 6G86:127 in AbS 2067
Batch 1915, context G (Ash-Tip Phase 3).
Diameter: incomplete.
Diameter hub (thick): incomplete.
Thickness wheel: 9 mm.
Diameter hub (thin): incomplete.
Thickness hub: 19 mm.
Diameter perforation: 3 mm.
Unbaked clay. Hand-modelled.
Colour: 10YR 6/4 light yellowish brown.

Fragment (approximately 1/3) of model wheel. The hub is thicker on one side than on the other.

425 **Model wheel** 6G76:111 in AbS 1835
Batch 2608, context G (Ash-Tip Phase 3).
Diameter: incomplete.
Thickness wheel: 10 mm.
Diameter perforation: 3 mm.
Unbaked clay. Hand-modelled.
Colour: 10YR 4/1 dark grey.

Fragment (approximately 1/3) of model wheel. Both hubs are broken off.

426 **Model wheel** 6G76:153 in AbS 1835
Batch 2610, context G (Ash-Tip Phase 3).
Diameter: incomplete.
Diameter hub (thick): 11 mm.
Thickness wheel: 6 mm.
Diameter hub (thin): 13 mm.
Thickness hub: 22 mm.
Diameter perforation: 2 mm.
Unbaked clay. Hand-modelled.
Colour: 10YR 5/2 greyish brown.

Fragment (less than 1/3) of model wheel. Only a short section of the original rim survives, but the hubs are present.

427 **Model wheel** 6G76:211 in AbS 1835
Batch 2616, context G (Ash-Tip Phase 3).
Thickness wheel: 14 mm.
Unbaked clay. Hand-modelled.
Colour: 10YR 3/1 very dark grey.

Fragment (less than 1/3) of model wheel, broken off beyond the perforation.

428 **Model wheel** 6G76:222 in AbS 1835
Batch 2616, context G (Ash-Tip Phase 3).
Thickness wheel: 12 mm.
Diameter perforation: 4 mm.
Unbaked clay. Hand-modelled.
Colour: 10YR 4/2 dark greyish brown.

Fragment (approximately 1/4) of model wheel. Both hubs are broken, but thick and thin sides can still be distinguished.

429 **Model wheel** 6G76:629a in AbS 1835
Batch 2638, context K (?Ash-Tip Phase 3).
Diameter: 29 mm. Diameter hub (thick): 14 mm.
Thickness wheel: 7 mm.
Diameter hub (thin): 12 mm.
Thickness hub: 12 mm.
Diameter perforation: 3.5 mm.
Unbaked clay with vegetable inclusions. Hand-modelled, very irregularly.
Colour: 10YR 5/3 brown.

Fragment (approximately 2/3) of model wheel with flat rim and marked difference between hubs.

430 **Model wheel** 6G76:629b in AbS 1835
Batch 2638, context K (?Ash-Tip Phase 3).
Thickness wheel: 7 mm.
Unbaked clay. Hand-modelled.
Colour: 10YR 5/2 greyish brown.

Fragment (approximately 1/5) of model wheel. Part of the hub survives on one side.

431 **Model wheel** 6G76:800 in AbS 1835
Batch 2610, context G (Ash-Tip Phase 3).
Diameter: 27 mm.
Diameter hub (thick): 14 mm.
Thickness wheel: 6 mm.
Thickness hub: incomplete.
Diameter perforation: 5 mm.
Unbaked clay with vegetable inclusions. Hand-modelled, very irregularly.
Colour: 10YR 6/2 light brownish grey.

Fragment (approximately 1/2) of model wheel with flat rim. The hub on the inner side appears barely to have been raised above the surface of the wheel.

See also **744-746**.

4

MINIATURE VESSELS (432-552)

Anthony Green

4.1 *Introduction*

Miniature unbaked clay or, more rarely, baked clay (pottery) models of vessels are, together with the sealings, figurines and pottery discs, one of the most distinctive finds from the Abu Salabikh Ash-Tip, occurring in disproportionately large numbers (121 catalogued items).

4.2 *General description of miniature vessels from the Ash-Tip*

One problem is the definition of what is meant by 'miniature'. In the first place, it is not always easy to distinguish between true miniatures and simply *small* vessels, which may include vessels used for such purposes as cosmetic containers or ointment jars.[1] While, on the one hand, some extremely tiny vessels are clearly models of well-known full-size forms, others do not seem to imitate such forms.[2]

Nevertheless, the Abu Salabikh excavations, and especially the work in the Ash-Tip, have unearthed a sizeable corpus of miniature vessels, complete and fragmentary, of a limited range of size.

The majority of miniature vessels are of unbaked clay and fashioned by hand, often quite crudely. Less commonly they are of baked clay (pottery), when they are sometimes wheel-made. Many of the Ash-Tip examples appear to be lightly baked, perhaps due to their incineration before disposal rather than to any process in their manufacture (they also commonly show signs of burning), although even from contexts without such secondary incineration clay items that have been only sun-baked are often not easily distinguished from those that have been deliberately fired at low temperatures. The miniatures represent a variety of vessel forms, often recognisably imitating the full-size versions (cf. the collection of non-Ash-Tip examples in *ASE* 3, 170-172).

432 and **433** (and possibly **434**) imitate conical bowls (cf. *ASE* 3, 3-16 for full-size examples from Abu Salabikh). **433** and **434** are crudely made by pushing the thumb into a cone of wet clay, but **432** is rather carefully fashioned to a conical bowl profile. **471** may imitate a solid-footed goblet (cf. ibid., 17-19). Although the exterior surface is abraded on one side, partly broken off on another, the vessel is recognisable as very similar to the miniature vessel 6G84:35 (AbS 1945), from a pit cut into Room 80 of the South-East Complex (batch 1710); another quite close example is 5I88:6 (in AbS 2234) from the residential quarter between Areas A and E (batch 7104). **444-451** are similar to a group of large shallow coarse-ware bowls (ibid., 40-42, Nos. 193-201). **468-470** appear to belong to miniature stemmed dishes (cf. ibid., 46-56). **478-485** (perhaps also **486-495**) are tiny bottles, only marginally smaller than their 'full-size' counterparts (for which cf. ibid., 64-68). Some of them, however, might rather be thought to be miniature versions of round-based jars (ibid., 71-91). The flat-based jars **504** and **505** can be roughly paralleled by full-size examples (ibid., 95-104). Although, as crude miniatures, **438-441** must be classed as bowls rather than jars, it is possible that these also are imitative of such flat-based full-size jars, to which they have some superficial resemblance. Ring-based jars (ibid., 106-125) are probably also

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1 In *ASE* 2, for example, a jar of height 71 mm from Grave 80 (No. 2) is called "miniature" (p. 143), while one of 69 mm height from Grave 75 (No. 7) is merely described as "small" (p. 133).

2 Cf. J. Moon in *ASE* 3, 170, on miniature vessels: "This section is not meant to be a collection of all pots under a certain size, but of those small vessels which seem to be a deliberate miniature version of a larger form. It must be admitted that larger forms are not in fact known for all of them"

represented among the miniatures, by **506-508**. As suggested by Jane Moon (ibid., 170), **473** might be a crude imitation of a jar with high ring-base (ibid., 121-125) or a "specialised miniature form". There are also fragments of miniature spouted jars, **533** and **534**, and what looks like a detached miniature spout (**534**) (cf. ibid., 128-150 for their full-size analogues). **520-529** seem to be detached handles from upright-handled jars (cf. for full-sized vessels, Moon 1981 and *ASE* 3, 151-165; from the Ash-Tip, **792-795**). **529**, like so many of the full-size handles, is decorated with a face.

4.3 *Comparative material in Mesopotamia*

Such miniature vessels, in fact, are sporadically attested at Mesopotamian sites in nearly all periods. The untimely death of Mlle Dominique Cinquabre has robbed us of what would surely have been a most illuminating study of miniature vessels of the third and second millennia BC (reported as in progress by Barrelet 1979, 45, and mentioned in our preliminary report for 1978-79, by Postgate 1980a, 93); it may therefore be worth reviewing in brief some of the evidence here.

Miniature vessels in stone are known as early as the Halaf period (Tepe Gawra: Tobler 1950, Pl. CLXXX 67-70) and, though still very rare, clay examples are not unknown in the 'Ubaid (Eridu: Safar, Mustafa & Lloyd 1981, 187, Fig. 19 [painted jar]; Tell Madhhur: J. Moon & M. Roaf in Roaf 1984: 158, Fig. 23.2 [long-necked jar]). They become more common in the Uruk period (e.g., Eridu: Safar, Mustafa & Lloyd 1981, 205, Fig. 95:16 [painted jar]; 209, Fig. 97:12 [painted bowl]; 211, Fig. 98:17 [painted jar]; Uruk: Schmandt-Besserat 1988, 152-157, 'token' types XII-XIII, Nos. 723-740, Pl. 9 [various forms]; Abu Salabikh, surface of Uruk Mound: UM:16 [stand; unpublished]; Tell Madhhur: unpublished [4 jars and a bottle]; Khafaje: Delougaz & Lloyd 1942, 20, Fig. 16 [jars]; Habuba Kabira: Sürenhagen 1978, 78, Tab. 18 [various forms]; Tell Brak: Jasim & Oates 1986, 359-360, Fig. 2b [jar, with inscribed ?pictograph]; Tell Rubeidheh: E. McAdam & H.S. Mynors in Killick 1989, 65, type 99 [various forms]) and are known from Jemdet Nasr (Mackay 1931, 240-241, 244, 247, 249; Pls. LXV 13, LXVI 13, LXVII 10, 14).

After the Early Dynastic period, miniature vessels continue to be attested for the Akkadian period (e.g., at Tell Chuera: Moortgat 1960, 41, Abb. 39; Kühne 1976, Abb. 328-339 [various forms]), in the Old Babylonian period (2 from Abu Duwari: E. Stone, pers. comm.; several from unknown, allegedly OB, sites: unpublished material on display in the Iraq Museum, Baghdad [various forms]) and in the Neo-Assyrian period (e.g., Nimrud: Oates 1959, Pl. XXXVII:71-77, pp. 134, 143-144 [jars]; Sur Jur'eh: R. Killick in Roaf, in prep., Fig. 9:3-6 [jars]).[3]

In the Early Dynastic period itself, apart from at Abu Salabikh, these miniature vessels are reported from a number of ED III sites. Most significant are the collection from the Area C Building at Al-Hiba, where they form part of an assemblage of material remarkably close to that of our Ash-Tip (see above, p. 20, § 1.8). The types presently illustrated in the preliminary publication comprise globular jars, often with restricted necks and ring-bases, open round-bodied and straight-sided, shallow and deeper bowls and an unmistakable conical bowl (Hansen 1973, Fig. 18). A number of miniature vessels, comprising conical bowls, jars and dishes, also come from Ur (Woolley 1934, Pl. 266); many were found in the SIS ash-tip (Fig. 4:2; on this tip cf. above, p. 18, § 1.8). More sporadic finds include a couple of miniature jars from Kish (Mackay 1929, Pl. XLVIII:18, p. 143 [jar]; Pl. LI:21, p. 149 ["evidently a model spouted jar"]) and miniature stemmed dish from Tell Chokheh (Rumayidh 1981, 124, Fig. 15). In the north, a number of Ninevite 5 sites have also produced isolated examples (e.g., Tell Billa: Iraq Museum, Baghdad, Room 5, and University Museum, Philadelphia, reserve collection, unpublished; Nineveh: numerous unpublished examples in the British Museum reserve collection; Tell Mohammed Arab: Bolt & Green, in press, §§ 3.5, 10.1, Fig. 24, and further unpublished examples; Kutan: Forest 1987, 86-87, Fig. 9).

4.4 *Comparative material at Abu Salabikh*

At Abu Salabikh miniature vessels are not entirely restricted to the Ash-Tip, but have been found also in other contexts at the site (cf. *ASE* 3, 170-172). We may now consider these contexts. Although this does not much aid understanding of the function(s) of such vessels, it is instructive if only to highlight the uniqueness of the Ash-Tip corpus, in terms of its relative size and variety of forms. It may also be pertinent to note that the ED III miniature vessels from outside of the Ash-Tip, except for those from the Eastern Houses and the 6H82 House (which may themselves possibly have been associated in some way

3 Possibly also worthy of mention, though clearly of different purpose from the clay and stone mini-pots, are the copper alloy forms resembling miniature vessels discovered in baked brick foundation boxes in Neo-Assyrian and Late Babylonian buildings. Two were found in separate boxes in the Temple of Ninurta at Babylon, built by Nabopolassar (Rittig 1977, 135, Nrn. 22.8.1-2; 275; 255, § 46; Abb. 53a, b), and a number of similar 'vessels' were among the copper alloy miniatures discovered in 1989 by the University of Turin Expedition in a foundation box beneath a gateway in the enclosure wall of Fort Shalmaneser at Nimrud (unpublished). They were probably the accoutrements of wooden figurines of gods buried for the purpose of protective magic (cf. Wiggermann 1992).

with the major public complex), come only from the Area E buildings from which the Ash-Tip deposits are believed to have derived.

At least 24 examples of miniature pottery vessels, or sherds from them, have so far been found in Early Dynastic contexts on the Main Mound outside of the Ash-Tip. (Since sherds from such miniatures can be difficult to recognise there may well be others assigned to the general pottery batches.) No such miniatures have been recognised from work in Area A; all come from further south in Area E and in the residential quarter of the city between Areas A and E. From the West Mound come three miniatures which are probably of ED I date, although they could belong to slightly before that period ("Uruk"; for the dating cf. *ASE* 1, pp. 5, 15, 44).

4.4.1 *West Mound*
A surface find from an uncleared grid-square (2G85) is a miniature hand-made pottery lugged jar with (undeciphered) inscription (*ASE* 1, 85, with Fig. 289; Pl. VIIIc). A pair of miniatures, a limestone jar and a pottery jar were found in surface clearance side-by-side in a patch of ashy fill in north-east of grid-square 2G98 (*ASE* 1, 39; 85-86; 94; 85 Figs. 292-293; Pls. VIIe, *f*; *ASE* 3, 171, No. 807).

4.4.2 *Residential quarter between Areas A and E (5I, 5H, 6H, 6G)*
This area apparently of domestic housing is known from surface clearance in 1981 and 1983 along a strip linking Areas A (Southern Building) and E (Central Complex) of the Main Mound. It seems to divide into a northern (ED II) and a southern (ED III) sector roughly on the line of an obscure area in grid-squares 6H41-42, 51-52 (Postgate & Moon 1982, 123-125; Postgate 1984a, 110-111; unified plan in *ASE* 3, 188, Fig. 4). Within the southern sector, a large ED III residence has been excavated in grid-squares 6H71-73, 81-84, 91-94, known in our reports as the 6H82 House (Matthews & Postgate 1987, 92-101, with plan p. 93, Fig. 1). It lies north of the Central Complex, on the other side of the main street. Within the house were a number of graves dug from a level above that of the surviving surface of the mound, but believed, because of their close alignments with and containments by the walls of the rooms to have been intramural burials within the house (an alternative possibility is that these graves post-date the house slightly but were sunk into the standing ruins of its walls). Some fragments of land administration tablets retrieved from the fill of these graves are regarded as evidence that "the bureaucracy of government was not confined to the principal buildings belonging to the city's public institutions" (Matthews & Postgate 1987, 101).

Two miniature vessels come from the northern (ED II) sector, a plain jar from the mound surface and an incised upright-handled jar from the fill of a burial (Grave 211).

From the southern (ED III) sector six miniatures have so far been retrieved, five from the excavation of the 6H82 House. A surface find from the unworked grid-square 6H68 is a miniature stand. The forms from the 6H82 House involve a tiny stemmed dish, two apparent plain bowls (one possibly rather another miniature stand), a ring-based bowl and a miniature tall vase. They were found in the room fill or in the fill of burials (the stemmed dish from Grave 223, one of the bowls from Grave 220 and the vase from Grave 246). The vase was found together with a necklace of beads (cf. Postgate 1990, 101; Pl. XVIc, with miniature vase at front left).

4.4.3 *Area E: The Eastern Houses*
The so-called Eastern 'Houses' represent a comparatively well-built structure, of late ED II – ED IIIb construction, interpreted, on the basis of its proximity to the Central Complex (immediately across the street to the north-east), the similarity of the brickwork of the two buildings, the apparent status of one of the intramural burials and of the nature of some of the finds, as a relatively well-to-do building, possibly closely associated administratively with the Central Complex (Postgate 1977, 285-288; 1980a, 90-91).[4] The overall plan, however, remains rather patchy (cf. *ASE* 2, Fig. 149, folding plan inside back cover).

Four miniature vessels come from this area, one from a robber trench (cf. Postgate 1977, 285) in Room 104, and three from graves: Grave 51 (*ASE* 2, Gr. 51 No. 6, p. 108, p. 204 Fig. 132; *ASE* 3, 170, No. 803), Grave 80 (*ASE* 2, Gr. 80 No. 2, p. 143, p. 208 Fig. 136) and Grave 129 (*ASE* 3, 171, No. 808).

4.4.4 *Area E: The Central and South-East Complexes*[5]
Eight miniature vessels - jars, bowls and dishes - have to date been discovered in the Central Complex, three in ED III room fill, two (a lugged vessel and an upright handle) from the fill of Grave 1 (*ASE* 2, Gr. 1, No. 9, p. 24, p. 194 Fig. 122; *ASE* 3. 172, No. 811; and *ASE* 3, 172, No. 809, not in *ASE* 2), one in a pit in Room 61 (*ASE* 3, 170, No. 801) and one in the 'Ash-Pit'. A lugged jar comes from a Level 2 floor (*ASE* 3, 172, No. 810).

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4 The first of these references reflects the earlier view (more explicitly stated in Postgate & Moon 1984a, 728-729) that the building represents a wealthy private dwelling or residence, hence the adopted name.

5 Cf. above, p. 7, § 1.3.8. For the Ash-Pit, see p. 2, § 1.1.

Another eight miniature vessels - jars and dishes - have been found in the South-East Complex, most from room fill, one from the fill of Grave 162 (*ASE* 3, 171, No. 805), one from the fill of Grave 183 (*ASE* 3, 171, No. 804). One of the miniatures appears to be a tiny model of a cooking pot.

4.4.5 *Eastern edge of Main Mound*
A miniature stone bowl was a surface find on the slopes of the Main Mound east of Area E (in grid-square 7G40).

4.4.6 *Graves*
It will be seen that almost all the above general contexts at the site have yielded miniature vessels from graves. Smaller than usual size vessels (but not true miniatures) are common in burials and can certainly belong with them (see throughout *ASE* 2, and cf. above, p. 16, § 1.5.18), and some of the vessels mentioned above which definitely were part of the grave goods might be classed with these rather than with the miniatures proper. For many of the miniatures, however, it is difficult to be sure when they are recovered from grave fill whether they should be attributed to the burial or be regarded as accidental inclusions in the fill. For the graves dug into the Ash-Tip itself, our usual assumption would be that these miniatures derive from the surrounding tiplines and for other areas at the site, such miniatures may similarly be derived from the surrounding fill, since they are not found in burials in areas where such vessels are unknown in non-funerary contexts. On the other hand, we should perhaps expect miniatures to be placed in burials only in areas and at times when they were in daily use and the frequency of such vessels in graves raises the possibility that they might sometimes be deliberate inclusions, as they certainly were in Ninevite 5 burials in the north. A possible example of a deliberate grave item is the miniature vase found together with a group of beads in Grave 246 (p. 113, § 4.4.2): it may simply have been a small container for them.

4.5 *Function*
The reported details of context for Mesopotamian miniature vessels are too few, secondary and ambiguous to help us very much with the question of the function, in any period. There is, however, some indication that, as we might expect, their function was not always the same. The miniature long-necked jar from Tell Madhhur (§ 4.3) was found on an exterior surface, just outside an 'Ubaid period house. In the so-named 'Sin Temple' at Khafaje, in an Uruk period rebuild (Sin Temple III), a collection of miniature pottery and stone jars was found stacked upon a shelf cut into the wall of a very small room or (as the excavators call it) a "closet"; the jars could be reached by someone standing in the adjoining courtyard through a hatchway cut through the wall. In this case it is assumed that the jars were placed on the shelf simply for storage, and "Their arrangement on the shelf so closely resembled a corner in an old-fashioned pharmacy that it seems justifiable to hazard a guess that they may have contained various substances (oils and herbs) which were administered by the priests as medicine" (Delougaz & Lloyd 1942, 20, with Fig.16). In the ED III burnt building in Area C at Al-Hiba, the collection of miniature vessels was apparently found on the floor of one room (Hansen 1983, 426). The Ninevite 5 miniatures from Tell Mohammed Arab and Tell Kutan (§ 4.3) were found in the graves of children. Some of the miniatures from Abu Salabikh also were possibly grave goods (§ 4.4.6).

Jane Moon has remarked (*ASE* 3, 170) that although "It would be naive to look for a single use for all" miniature vessels, "the quantities found in the Ash Tip suggest a special reason for their being there". In recounting the finds from the ED III Area C burnt building at Al-Hiba, an assemblage which corresponds quite closely to that of the Ash-Tip at Abu Salabikh (see above, p. 20, § 1.8), Crawford (1972, 18) remarks that

"Many miniature pots were found.[6] In lieu of the absence of the remains of any materials in them which can be identified as cosmetics, may not such vessels, so often designated as cosmetic containers, just as well be children's toys?"

Certainly there is in the Abu Salabikh Ash-Tip, no less than in the Al-Hiba building, a close association of miniature vessels with clay figurines and chariot models, which have also at times been regarded as toys (cf. above, p. 91, § 3.6). Almost certainly clay figurines, and quite possibly miniature vessels, do sometimes represent children's playthings, whether made by the children themselves or by adult hands, but in the present case it would be difficult to reconcile such an interpretation with the presence in both the Abu Salabikh Ash-Tip and the Al-Hiba Area C assemblages of other common items, especially the large numbers of clay sealings. These were fairly clearly connected with the storage and probably movement of goods (cf. ch. 2), and would be unlikely to be mixed with large numbers of toys. Indeed, the excavators of Al-Hiba themselves recognise the Area C building as an administrative unit – though as a secular rather than a religious structure (above, p. 20, § 1.8). Woolley's comments (1956, 37) on the SIS rubbish dump at Ur are more pertinent:

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6 Apparently on the floor of a single room: Hansen 1983, 426.

Crude clay figurines of men and animals are very common, and so are clay wheels and model chariot-bodies; the fact that these are associated with the jar-sealings and tablets which are apparently thrown out from a temple store should mean that they are votive objects, not toys.[7]

Quite likely (it seems to me) this assemblage too would have included sherds from miniature vessels, which are not easily recognised nor even, without sieving, retrieved.

In view of the apparent association of the clay figurines and mini-pots with items used in administrative and accounting practices — the clay sealings (ch. 2) and the pottery discs (ch. 5) — we should consider the fact that miniature vessels have sometimes been included in publications — along with other items including clay figurines — among the so-called 'tokens' believed to have been used in prehistoric accounting systems (e.g., Schmandt-Besserat 1988, 152-157, 'token' types XII-XIII, Nos. 723-740, Pl. 9; Jakob-Rost & Schmandt-Besserat 1989, 44-45, Typ XIII, Nrn. 625-634; cf. below, p. 129, ch. 6). Whatever might be the truth of this for prehistoric periods, it seems extremely unlikely that such a practice should continue to be prevalent in highly literate societies, still less that it should be elevated from the handful of 'tokens' in the form of mini-pots known, for example, from Uruk (loc. cit.) to the scale of the more than 120 miniature vessels retrieved from the Abu Salabikh Ash-Tip.

For a corpus of miniature vessels more-or-less contemporary with those from the Ash-Tip at Abu Salabikh and the Area C building at Al-Hiba, but in a context which can be more readily understood we must at present look further afield. Postgate (1980a, 93) has already drawn attention, in this context, to the Middle Bronze Age temples at Byblos and at Nahariyeh, on the Levantine coast (Ben-Dor 1950, 19-26, with reference to the Byblos examples p. 19, n. 3). Of the 129 miniature vessels found in the Nahariyeh temple, averaging 20 to 60 mm in height, the excavator remarks (Ben-Dor 1950, 19) that

It is clear that such small vessels could have had no practical use, and were therefore meant as models offered to the deity in lieu of full-sized vessels.

4.6 *Catalogue (432-552)*

432 Conical bowl 6G76:676c in AbS 1836 Fig. 4:4
Batch 2638, context K (?Ash-Tip Phase 3).
Ext. height: 16 mm
Rim diameter: prob. just over 20 mm

Single sherd with complete profile. Unbaked clay.

433 Conical bowl 6G86:106 in AbS 2238 Fig. 4:4
Batch 1912, context G (Ash-Tip Phase 3).
Height: 27 mm Rim diameter: 27-35 mm
Max. thickness body: 6 mm

Intact and complete. Unbaked clay. Fabric 7.5YR 7/4 pink; surface a slightly lighter version of 10YR 7/3 very pale brown.[8] Mainly vegetable inclusions. Crudely made 'thumb-pot'.

434 Conical bowl(?) 6G86:191 in AbS 2238 Fig. 4:4
Batch 1928(S), context J (fill of Grave 175 in Ash-Tip Phase 3).
Height: 21 mm Diameter: 19-34 mm
Max. thickness body wall: 8 mm.

Intact and complete. Unbaked clay, burnt hard but not baked. Fabric 7.5YR 6/4 light brown; exterior and interior surface 7.5YR 6/2 pinkish grey, on the flatter edge burnt to 10YR 5/1 grey. Vegetable, grog and sparse grit inclusions. Many interstices and air-bubbles in the fabric. Crudely made, with irregular, squashed, form.

435 Straight-sided flat-based shallow open bowl
6G76:518 in AbS 1836 Figs. 4:1f, 4:4
Batch 2625, context T (Ash-Tip Phase 3).
Height: 20 mm Rim diameter: 42 mm
Base diameter: 28 mm Max. diameter: 44 mm.

Intact and almost complete. Unbaked clay. 7.5YR 3/0 very dark grey. No visible inclusions. Very crude; sides roughly pinched-up; interior rounded. Many heavy finger impressions on exterior and interior surfaces.

A similar miniature vessel in stone was found on the surface in grid-square 7G40 (7GS:1).

436 Straight-sided flat-based shallow open bowl
6G76:548 in AbS 1836 Figs. 4:1f, 4:4
Batch 2628, context L (fill of Pit g in Ash-Tip Phase 3).
Height: 15 mm Rim diameter: 33 mm
Base diameter: 26 mm Interior depth: 3 mm

Very shallow bowl, with thick base. It could be a lid.

437 Bowl(?) 6G86:32 AbS 1883 Fig. 4:4
Batch 1902, context G (Ash-Tip Phase 3).
Height: 19 mm Exterior diameter: 37-54 mm
Interior diameter: 11-15 mm
Internal depth indeterminable

'Doughnut'-shaped object, possibly a very crude miniature vessel(?). Complete and intact. Unbaked clay. Fabric 5YR 6/2 pinkish grey; exterior (and interior ?) surface burnt to 10YR 3/1 very dark grey and 4/1 dark grey. Fabric inclusions indeterminable as vessel intact. Very crudely made, with heavy finger impressions over surface. Heavily salt incrusted at centre, blocking the depression, whose depth is therefore unknown; the object, however, was apparently never completely perforated, as would be necessary for its use as a net-sinker, although it might

7 Cf. also the remarks of Mackay 1931, who believed that crude miniatures were children's playthings (pp. 244, 247, 249) but that others which were "too well made to be the work of children ... may have been thrown out temple offerings" (pp. 240-241). Such a distinction, however, seems unnecessary, since the better produced model vessels could have been made for children by adults while, conversely, the crude examples might still be temple offerings.

8 Colour references, when given, refer to Munsell 1975.

be a half-made reject of some other artefact rather than a miniature vessel.

438 Cup 6G76:158 AbS 1528 Fig. 4:4
Batch 2612, context G (Ash-Tip Phase 3).
Height: 12 mm Rim and base diameter: 21 mm.

Intact and complete. Unbaked clay. 10YR 5/3 brown. No visible inclusions. A crudely made "thumb-pot", with roughly vertical pinched-up sides, flat exterior base and rounded interior.

439 Bowl 6G86:291 in AbS 2238 Fig. 4:4
Batch 1927, context H (Ash-Tip Phase 3).
Max. thickness (base): 5 mm Sherd: 24 x 14 mm.

Single sherd, probably fragment of base, flat or rounded. Fabric and interior surface brown-orange; exterior surface cream. Grit inclusions. Comparatively well made.

440 Straight-sided flat-based open bowl
6G76:650a in AbS 1836 Figs. 4:1f; 4:4
Batch 2646, context G (Ash-Tip Phase 3).
Ext. height: 36 mm Rim diameter: *c.* 6 mm
Base diameter: *c.* 5 mm

Single sherd of almost complete profile. Slightly oblique sides; flat base. Pottery. Fabric and interior surface 10YR 4/2 dark greyish brown; exterior surface burnt to 7.5YR 3/0 very dark grey. Mainly vegetable inclusions. Crudelly modelled. Sides roughly vertically pinched-up; interior rounded. Heavy finger impressions on exterior and interior surfaces.

441 Deep flat-based 'mug'
6G76:701 in AbS 1836 Fig. 4:4
Batch 2637, context G (Ash-Tip Phase 3).
Height: 36 mm Rim diameter: 39 mm
Base diameter: 28 mm

Single sherd with complete profile of deep wide-necked flat-based jar. Pottery. 7.5YR 7/4 pink. Mainly fine grit inclusions. Plain rim, straight, slightly sloping, neck, leading imperceptibly into body; almost flat (slightly convex) base.

442 Deep curved bowl or cup
6G86:285 in AbS 2238 Fig. 4:4
Batch 1912, context G (Ash-Tip Phase 3).
Ext. height: *c.* 2.5 mm (?)
Rim diameter: between 2 and 3, perhs. *c.* 22 mm (?)
Sherd: 25 x 23 x (max. thickness) 5 mm

Rim sherd, with almost complete profile; base missing. Unbaked clay. Fabric light brown; exterior and interior surface burnt grey. No visible inclusions.

443 Deep curved bowl or cup
6G77:108 in AbS 2238 Fig. 4:4
Batch 3903, context G (Ash-Tip Phase 3).
Rim diameter indeterminable
Ext. rim L. (only) 3 mm
Sherd: 23 x 21.5 x (max. thickness) 5 mm.

Rim sherd. Pottery. 7.5YR 7/6 reddish yellow. Vegetable inclusions.

444 Straight-sided flat-based open bowl
6G86:300 in AbS 2238 Fig. 4:4
Batch 1906, context G (Ash-Tip Phase 3).
Ext. height: 14 mm
Sherd: 14 x 20 x (max. thickness) 4 mm.

Single sherd of base and part of lower body. Unbaked clay. Fabric 10YR 7/4 very pale brown; exterior and interior surface 7/3 very pale brown. Mostly vegetable inclusions. Crudely made. Probably about one fifth of base preserved.

445 Straight-sided flat-based shallow open bowl (or dish)
6G86:287 in AbS 2238 Figs. 4:1b, 4:4
Batch 1904, context G (Ash-Tip Phase 3).
Height: 22 mm
Rim diameter: poss. 40 or 50 mm (?)
Max. thickness (at base): 11 mm.

Single sherd, with complete profile. Unbaked clay. Fabric brown/buff, exterior and interior surface burnt grey. No visible inclusions. Crudely made, with heavy finger impressions on interior and especially exterior. Slightly salt incrusted on interior.

446 Straight-sided flat-based bowl
6G76:774 in AbS 2238 Fig. 4:4
Batch 2661, context G (Ash-Tip Phase 3).
Height: 26 mm
Rim and base diameters indeterminable
Sherd length: 38 mm Sherd width: 19 mm
Max. thickness of body: 11 mm.

Single sherd, with complete profile. Unbaked clay. 5YR 6/6 reddish yellow. Vegetable and grog inclusions. Very crudely modelled, with multiple finger impressions, especially on lower exterior.

447 Shallow dish 6G65:124 AbS 453A Fig. 4:4
Batch 205, fill of Grave 3.
Height: 17 mm Ext. length: 43 mm.

Single sherd, fragment from the side of a tiny coarse ware dish. Unbaked clay.

ASE 2, 43, Grave 3: No. 12. In view of the location of the grave, immediately to the west of the Ash-Tip, it is likely that this vessel comes originally from the Tip.

448 Straight-sided flat-based shallow open bowl (or dish)
6G76:669 in AbS 1836 Figs. 4:1f, 4:4
Batch 2625, context T (Ash-Tip Phase 3).
Ext. height: 20 mm Sherd length: 39 mm
Rim and base diameters indeterminable.

Single sherd with complete profile. Unbaked clay. 10YR 4/1 dark grey. Grit inclusions. Roughly vertically pinched-up sides; flat exterior base; rounded interior. Shallow finger impressions on exterior and interior surface.

449 Straight-sided flat-based shallow open bowl
6G76:804 in AbS 2238 Fig. 4:4
Batch 2663, context L (fill of Pit g in Ash-Tip Phase 3).
Height: 22 mm Sherd length: 42 mm
Rim and base diameters indeterminable.
Length at rim (as unbroken): 15 mm
(as reasonably preserved) 26 mm
Ext. width: *c.* 29 mm (depending upon angle)
Max. Thickness: (body) 9 mm.

Complete profile, restored from two joining sherds. Probably unbaked clay (or possibly lightly fired pottery). Fabric and interior surface 7.5YR 7/4 pink; exterior surface largely burnt to 5YR 5/1 grey. Dense, comparatively coarse, vegetable (including straw) and sparse grog inclusions. Very crudely made.

450 **'Tray'** 6G86:293 in AbS 2238 Fig. 4:5
Batch 1927, context H (Ash-Tip Phase 3).
Height: 10 mm Rim diameter: poss. *c.* 87 mm(?)
Base diameter: poss. *c.* 80 mm(?)
Max. Thickness (base): 4 mm.

Single sherd, with complete profile. Unbaked clay. Fabric and exterior and interior surface burnt to dark grey. No visible inclusions. Rather crudely made, and covered on all surfaces with light finger impressions. Almost vertically pinched-up sides, flat exterior base, slightly curved interior.

451 **'Tray'** 6G76:696 in AbS 1836 Fig. 4:5
Batch 2638, context K (?Ash-Tip Phase 3).
Height: 14 mm Diameter indeterminable
Sherd: 51 x 31 x (max. thickness) 6 mm.

Single sherd with profile. Pottery. Fabric 7.5YR 6/4 light brown; exterior and interior surface approximately 2.5Y 8/2 white. Grit inclusions. Very shallow bowl with roughly vertically pinched-up sides, flat exterior base and slightly curved interior. Crudely made, with multiple heavy finger impressions, especially on interior of base.

452 **Deep bowl** 6G76:676a in AbS 1836 Fig. 4:5
Batch 2638, context K (?Ash-Tip Phase 3).
Ext. height: 31 mm Rim diameter: *c.* 100 mm
Max. thickness: 8 mm Usual thickness: 5 mm
Sherds: 34 x 26 mm; 19 x 26 mm; 18 x 21 mm; 17 x 20 mm.

Four rim sherds, non-joining but probably from the same vessel. Unbaked clay. Brown. No visible inclusions. Surface gloss on exterior and upper interior is probably due to the effects of the fire rather than an original burnish.

453 **Deep bowl** 6G76:667 in AbS 1836 Fig. 4:5
Batch 2620, context T (Ash-Tip Phase 3).
Ext. height: 28 mm Rim diameter: 90 mm
Sherd: 32 x 36 x (max. thickness) 7 mm.

Rim sherd, with upper profile. Unbaked clay. Fabric 10YR 5/2 greyish brown; exterior and interior surface burnt to 10YR 4/1 dark grey. No visible inclusions. The surface colour and gloss are probably due to the effects of the fire rather than an original burnish.

454 **Deep bowl** 6G76:1034 in site store Fig. 4:5
Batch 2685, context B (Ash-Tip Phase 2).
Ext. height: 25 mm Rim diameter indeterminable
Sherd: 29 x 29 x (max. thickness) 6 mm.

Rim sherd, with some of profile. Pottery. Fabric 10YR 6/4 light yellowish brown; exterior and interior surfaces 7.5YR 6/4 light brown. Sand inclusions.

455 **Deep bowl** 6G86:253 in AbS 2238 Fig. 4:5
Batch 1932, context G (Ash-Tip Phase 3).
Ext. height: *c.* 27 mm(?) Rim diameter: *c.* 60 mm(?)
Sherd: 32 x 19 x (max. thickness) 8 mm.

Rim sherd. Unbaked clay. Dark brown. Mostly vegetable inclusions. A fairly crudely made "thumb-pot" Decoration of deeply incised vertical and crossing horizontal lines. Slightly salt incrusted on all surfaces. Cf. **456**, not from the same vessel.

456 **Deep bowl or jar** 6G86:168 in AbS 2238 Fig. 4:5
Batch 1923, context G (Ash-Tip Phase 3).
Ext. height: 25 mm
Rim diameter: prob. *c.* 70 mm(?)
Ext. rim length: 21 mm
Sherd: 29 x 23 x (max. thickness) 5 mm.

Rim sherd. Unbaked clay. Light orange-yellow. Virtually without visible inclusions, although there is very sparse grit, "mica", vegetable and grog. Crudely made, with shallow finger impressions, especially on the interior. Incised decoration of vertical lines occasionally crossed by horizontals, similar to **455**, but not from the same vessel. Salt incrusted on interior surface.

457 **Hole-mouth jar (or bowl?)**
6G67:101 in site store Fig. 4:5
Batch 6418(P), context G (Ash-Tip Phase 3).
Ext. height: 34 mm Rim diameter: 50 mm
Sherd: 39 x 23 x (max. thickness) 4 mm
Diameter of perforation: *c.* 5 mm.

Rim sherd, with much of profile; lower part and base missing. Pottery. Fabric 7.5YR 7/6 reddish yellow; exterior surface 2.5Y 8/4 reddish yellow; interior surface and internal edge of perforation 5YR 6/6 reddish yellow. Sand inclusions. Perforated (for a spout?) in middle body, before firing as the surface colour extends to the inside edge of the perforation. On exterior decoration of (two extant) incised vertical and (four) oblique lines, beneath a single horizontal line bordering the rim.

458 **Deep incurving bowl**
6G76:670b in AbS 1836 Fig. 4:5
Batch 2637, context K (?Ash-Tip Phase 3).
Ext. height: 38 mm Rim diameter: 80 mm
Max. diameter: 103 mm
Sherd: 39 x 38 x (max. thickness) 75 mm.

Rim sherd, with much of profile. Pottery. Fabric and surface 10YR 7/3 very pale brown. Grit inclusions.

459 **Deep incurving bowl**
6G76:594 in AbS 1836 Figs. 4:1c, 4:5
Batch 2635, context T (Ash-Tip Phase 3).
Ext. height: 49 mm Rim diameter indeterminable
Sherd: 51 x 34 x (max. thickness) 10 mm.

Rim sherd, with much of profile. Unbaked clay or very lightly fired pottery. Brown. Grit inclusions.

460 **Medium bowl** 6G77:107 in AbS 2238 Fig. 4:5
Batch 3903, context G (Ash-Tip Phase 3).
Ext. height: *c.* 30 mm Rim diameter: *c.* 100 mm
Ext. rim length: 24 mm
Sherd: 34 x 34 x (max. thickness) 5 mm.

Rim sherd, with most of profile. Pottery. Fabric and interior surface between 5YR 6/6 and 6/8 reddish yellow; exterior surface 7.5YR 7/4 pink. Mostly vegetable inclusions. Comparatively well made. Salt incrusted over interior surface and on some of exterior.

461 **Bowl** 6G66:159 in AbS 1041 Fig. 4:5
Batch 406, context P (Ash-Tip, mixed).
Ext. height: 55 mm Length: 36 mm
Rim diameter: *c.* 70 mm.

Rim sherd, with part of upper profile. Pottery. Fabric and interior surface red; exterior surface buff. Exterior burnish.

462 **Bowl** 6G66:157 in AbS 1041 Fig. 4:5
Batch 406, context P (Ash-Tip, mixed).
Ext. height: 40 mm Length: 45 mm
Rim diameter: *c.* 80 mm(?)

Rim sherd. Pottery. Fabric and interior surface buff; exterior surface burnished to dark grey. Grit inclusions.

463 Medium bowl 6G76:843 in AbS 2238 Figs. 4:1b, 4:5
Batch 2666, context G (Ash-Tip Phase 3).
Ext. height: 35 mm Rim diameter: 100 mm
Sherd: 41 x 37 x (max. thickness) 5 mm.

Rim sherd, with almost complete profile; base missing. Lightly fired pottery. Light brown. Grit inclusions. Comparatively well made.

464 Medium bowl 6G76:422a in AbS 1836 Figs. 4:1a, 4:6
Batch 2616, context G (Ash-Tip Phase 3).
Sherd: 31 x 29 x (max. thickness) 7 mm.

Rim sherd. Unbaked clay or lightly fired pottery. 10YR 7/4 very pale brown. Dense grit inclusions. Decoration of short vertical incisions (four preserved) around rim.

465 Medium bowl 6G77:106 in AbS 2238 Fig. 4:6
Batch 3904, context G (Ash-Tip Phase 3).
Ext. height: 33 mm Rim diameter: 50 mm;
Sherd length: 34 mm Ext. length at rim: 13 mm
Max. thickness at rim: 2 mm
Max. thickness of body: 5 mm.

Rim sherd, with most of profile. Lightly fired pottery. Fabric 7.5YR 7/4 pink; exterior surface partly burnt to 10YR 6/2 light brownish grey. Mostly vegetable inclusions (with very sparse grits). Rather well made. Heavily salt incrusted on exterior (shown on drawing).

466 Curved bowl 6G86:299 in AbS 2238 Fig. 4:6
Batch 1906, context G (Ash-Tip Phase 3).
Ext. height: 17 mm Rim diameter: *c.* 80 mm
Ext. length at rim: 14 mm
Sherd: 19 x 28 x (max. thickness) 5 mm.

Rim sherd, with some of profile; lower body and base missing. Apparently lightly fired pottery. Fabric and interior surface 7.5YR 7/6 reddish yellow; exterior surface 7.5YR 7/4 pink. Mostly vegetable inclusions. Comparatively well made. Heavily salt incrusted on exterior.

467 Curved bowl 6G67:75 in site store Fig. 4:6
Batch 6409(P), context A (surface).
Ext. height: *c.* 30 mm Rim diameter: *c.* 80 or 90 mm
Sherd: 43 x 36 x (max thickness) 6 mm.

Rim sherd, with most of profile; base missing. Unbaked clay. Fabric 7.5YR 7/6 reddish yellow; exterior and interior surfaces 2.5Y 8/4 pale yellow; much of interior fire-blackened. Grit inclusions.

467a Curved bowl 6G66:64 AbS 453B Fig. 4:6
Batch 406, context P (Ash-Tip, mixed).
Height: 21 mm Rim diameter: 70 mm
Ext. length: 44 mm

Complete profile, restored from two joining sherds. Unbaked clay. Fabric 7.5YR 6/4 light brown; exterior and interior surface burnt to 10YR 4/1 dark grey. Grit and grog inclusions. Slightly serrated rim, possibly in imitation of stone bowls.

468 Stemmed dish 6G67:99 in site store Fig. 4:6
Batch 6409(P), context A (surface).
Ext. height: 14 mm Rim diameter: 90 mm
Sherd: 25 x 27 x (max. thickness at rim) 5 mm
Max. thickness of body: 4 mm.

Rim sherd, with some of profile. Pottery. Fabric 10YR 5/1 grey; exterior surface varying between 5Y 6/4 pale olive and 5/2 olive grey; interior surface 5Y 6/4 pale olive. Sparse vegetable inclusions. Thickened rim, carination. Incised curved line preserved on exterior.

A very similar example, from the fill of Grave 38 (No. 23: *ASE* 2, p. 94), preserves the top of the stem (rim diameter: 70 mm; fabric 5YR 7/6 reddish yellow; exterior and interior surfaces 10YR 8/3 very pale brown).

469 Stemmed dish 6G76:900 in AbS 2238 Fig. 4:6
Batch 2633, context J (fill of Grave 146 in Ash-Tip Phase 3).
Height 13 mm Diameter: *c.* 9-10 mm.

Rim sherd, with profile of dish; top of rim damaged. Pottery. Fabric pink; exterior and interior surface cream. Grit inclusions. Everted rim, sharply waisted just below. Attachment for stem just visible near base.

470 Stemmed dish 6G76:1033 in site store Fig. 4:6
Batch 2685, context B (Ash-Tip Phase 2).
Ext. height: 7 mm Base diameter: *c.* 50 mm(?)
Sherd: 24 x 29 mm.

Fragment of base of dish; rim and stem missing. Pottery. Fabric and interior surface 7.5YR 7/6 reddish yellow; exterior surface cream (not represented on Munsell chart). Grit inclusions.

471 Beaker (or solid-footed goblet ?)
6G76:742 AbS 1946 Fig. 4:6
Batch 2655(S), context G (Ash-Tip Phase 3).
Height: 54 mm Rim diameter: 32 mm
Base 19 x 21 mm.

Open vessel, intact and complete but for half of rim. Unbaked clay, fabric 5YR 6/4 light reddish brown, much of exterior and interior surface burnt to 10YR 4/1 dark grey. Sparse, sandy inclusions. A crudely hand-made thumb-pot, formed by inserting finger (probably the forefinger) into a lump of clay and moulding the exterior with the thumb. Base pinched into rectangle, producing four corner 'feet'.

472 Globular jar 6G86:289 in AbS 2238 Fig. 4:6
Batch 1917, context G (Ash-Tip Phase 3).
Ext. height: 17 mm Rim diameter: 30 or 40 mm
Sherd: 18 x 23 x (max. thickness) 5 mm.

Rim sherd, with neck and shoulder. Pottery. Fabric and interior surface between 2.5YR 5/6 red and 6/6 light red; exterior surface and inside rim 10YR 8/3 very pale brown. Mostly calcareous grit inclusions, with some other grits and vegetable matter. Comparatively well made. On shoulder, incised cross-hatching or pattern with oblique and crossed lines (as **474**?), of which only the uppermost part remains. Rim slightly broken in the middle.

473 Globular jar 6G76:77 AbS 1583 Fig. 4:7
Batch 2606, context J (fill of Grave 130 in Ash-Tip Phase 3).
Ext. height: 93 mm Rim diameter: 35 mm.
Max. width: 62 mm.

Rim sherd, with neck and shoulder. Pottery. Fabric and surface red. Fine grit inclusions. Hand-made or hand-finished.

ASE 3, No. 802.

474 Globular jar 6G76:670c + in AbS 1836
6G76:689 Figs. 4:1a, 4:6
Batches 2623 and 2637, context G (K+T) (Ash-Tip Phase 3).
Max. thickness: 8 mm Sherds: 45 x 58; 66 x 65 mm.

Two body sherds, non-joining but probably from the same vessel. Shoulder fragments, with carination, each the base of neck, one with profile of body below carination; in both cases rim, most of neck and base missing. For the form, cf. **477**. Well hardened unbaked clay or lightly fired pottery. Fabric and interior surface 10YR 5/3 brown; exterior surface 10YR 6/4 light yellowish brown and 6/3 pale brown. Sparse grit and 'mica' inclusions. Shoulder decorated with rough incisions; banded between a pair of parallel horizontal lines marking the base of neck and carination, a pattern of slightly oblique vertical and criss-cross lines.

475 Globular(?) jar
6G86:288 in AbS 2238 Figs. 4:1b, 4:6
Batch 1908, context H (Ash-Tip Phase 3).
Ext. height: 24 mm Rim diameter: 80 or 90 mm
Sherd: 25 x 29 x (max. thickness) 7 mm.

Rim sherd, with neck and shoulder. Pottery. Fabric orange; interior and exterior surface cream. Grit inclusions. Slightly everted plain neck, rounded shoulder. Incised vertical nicks at base of neck on exterior.

476 Round-based globular jar
6G76:707 in AbS 1836 Figs. 4:1c, 4:7
Batch 2645, context G (Ash-Tip Phase 3).
Ext. height: 55 mm; Rim diameter: 50 mm
Max. diameter: *c.* 65 mm.

Most of profile, restored from three joining sherds. Lightly fired pottery(?). Fabric and interior surface 2.5Y 7/2 light grey; exterior surface 2.5Y 8/2 white. Grit inclusions.

477 Globular jar 6G76:681b,c in AbS 1836 Fig. 4:6
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Profile sherd: 51 x 75 x (max. thickness) 8 mm
Second sherd: 40 x 59 x (max. thickness) 7 mm.

Sherd with much of profile, including shoulder, carination and lower body; rim, most of neck and base missing. A second sherd, non-joining but almost certainly from the same vessel, preserves part of the carination. Pottery/unbaked clay. Brown. Vegetable and 'micaceous' grit inclusions, together with very sparse calcareous grits. Cf. on form **474**.

478 Globular jar (bottle)
6G76:232 in AbS 1836 Fig. 4:6
Batch 2601, context A (surface).
Orig. max. diameter: prob. *c.* 40 mm
Sherd: 31 x 41 x (max. thickness) 6.5 mm.

Fragment with sharp carination; rim and base missing. Unbaked clay or lightly fired pottery. Fabric and interior surface 7.5YR 6/4 light brown; exterior surface refired(?) to 10YR 7/4 very pale brown. No visible inclusions. The colour and gloss of the exterior is probably due to secondary refiring in the rubbish burning that produced the ash of the tip rather than to an original burnish.

479 Globular jar 6G76:537a in AbS 1836 Fig. 4:7
Batch 2620, context T (Ash-Tip Phase 3).
Ext. height: 52 mm Rim diameter: 40 mm
Max. diameter: 61 mm Max. thickness: 7 mm.

Rim sherd, with most of profile. Unbaked clay or lightly fired pottery. Fabric and surfaces 10YR 7/3 very pale brown. Sparse grit inclusions.

480 Globular jar 6G66:158 in AbS 1041 Fig. 4:7
Batch 406, context P (Ash-Tip, mixed).
Ext. height: 46 mm Rim diameter: 31 mm
Sherd: 45 x 58 x (max. thickness) 7 mm.

Rim sherd, with much of profile. Pottery. Fabric 7.5YR 6/4 light brown; exterior and interior surface 10YR 7/3 very pale brown. Sparse grit inclusions. Comparatively well made.

481 Round-based globular jar
6G76:665a in AbS 1836 Figs. 4:1c, 4:7
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Ext. height: 40 mm Rim diameter: 30 mm
Max. diameter: 43 mm.

Rim sherd, with most of profile. Pottery. Fabric and surfaces 10YR 6/3 pale brown. Grit inclusions.

482 Round-based globular jar
6G86:298 in AbS 2238 Fig. 4:7
Batch 1902, context G (Ash-Tip Phase 3).
Ext. height: *c.* 30
Sherd: 34 x 32 x (max. thickness) 5 mm.

Rim sherd, with much of profile. Pottery. Dark orange, in places less well fired yellow or buff. Sparse grit inclusions. Rather well made. Slightly salt incrusted on exterior.

483 Round-based globular jar
6G86:286 in AbS 2238 Figs. 4:1b, 4:7
Batch 1904, context G (Ash-Tip Phase 3).
Rim diameter: poss. *c.* 20 mm(??)
Sherd: 39 x 28 x (max. thickness) 6 mm.

Rim sherd, with much of profile; lower part and base missing. Unbaked. Dark grey. Sparse grit inclusions. Crudely made, with shallow finger impressions on surface.

484 Round-based globular jar
6G67:76 in site store Fig. 4:7
Batch 6411(W), context G (Ash-Tip Phase 3).
Ext. height: 29 mm Rim diameter: 40 mm
Sherd length: 33 mm Max. thickness: 4 mm.

Rim sherd, with much of profile. Unbaked clay. Exterior (20%) and interior (40%) of fabric and exterior surface 7.5YR 7/6 reddish yellow; fabric core (40%) 7.5YR 5/0 grey; interior surface 10YR 6/4 light yellowish brown. Fine sand and sparse vegetable inclusions.

485 Round-based globular jar
6G77:105 in AbS 2238 Fig. 4:7
Batch 3904, context G (Ash-Tip Phase 3).
Ext. height: 25 mm Rim diameter: *c.* 40 mm
Sherd: 27 x 17 x (max. thickness at rim) 3 mm
Max. thickness of body 5 mm.

Rim sherd, with much of profile. Unbaked clay (or possibly very lightly fired pottery). Fabric approximately 5Y 7/2 (slightly greenish) light grey; exterior and interior surface 7.5YR 5/4 brown and

10YR 5/2 greyish brown. Mostly vegetable inclusions. Rather well made.

486 **Globular jar** 6G67:49 in site store Fig. 4:7
Batch 6413(P), context G (Ash-Tip Phase 3).
Ext. height: 29 mm Rim diameter: 20 mm
Sherd length: 24 mm Max. diameter: 34 mm
Max. thickness: 5 mm.

Rim sherd, with most of profile; lower part and base missing. Unbaked clay. Fabric and interior surface 10YR 5/1 grey; exterior surface 5YR 7/2 light grey. Grit, sparse vegetable and very sparse shell(?) inclusions.

487 **Globular jar** 6G76:700 in AbS 1836 Fig. 4:7
Batch 2635, context A (surface).
Ext. height: 24 mm Rim diameter: 60 mm
Sherd: 28 x 34 x (max. thickness) 6 mm.

Rim sherd, with neck and shoulder. Pottery. 5YR 6/4 light reddish brown. Grit inclusions.

488 **Globular jar** 6G76:423a in AbS 1836 Fig. 4:7
Batch 2610, context G (Ash-Tip Phase 3).
Ext. height: 23 mm Rim diameter: 40 mm
Max. thickness: 4 mm
Sherds: 28 x 27; 25 x 21 mm.

Two rim sherds, with neck profile, non-joining but apparently from the same vessel. Pottery/unbaked clay. Colour and inclusions not recorded.

489 **Globular jar** 6G76:666 in AbS 1836 Fig. 4:7
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Ext. height: 19 mm Rim diameter: 50
Sherd: 20 x 28 x (max. thickness) 5 mm.

Rim sherd, with neck. Pottery(?). 7.5YR 6/4 light brown. Grit inclusions.

490 **Globular jar** 6G76:668a in AbS 1836 Fig. 4:7
Batch 2625, context T (Ash-Tip Phase 3).
Ext. height: 15 mm Rim diameter: 40 mm
Sherd: 17 x 25 x (max. thickness) 5 mm.

Rim sherd, with neck. Pottery(?). Colour and inclusions not recorded.

491 **Jar** 6G76:676b in AbS 1836 Fig. 4:8
Batch 2638, context K (?Ash-Tip Phase 3).
Ext. height: 14 mm Rim diameter: 40 mm
Sherd: 18 x 17 x (max. thickness) 4 mm.

Rim sherd. Unbaked clay. Brown. No visible inclusions.

492 **Jar** 6G76:670a in AbS 1836 Figs. 4:1a, 4:7
Batch 2637, context K (?Ash-Tip Phase 3).
Ext. height: 22 mm Rim diameter: 40 mm
Sherd: 24 x 39 x (max. thickness) 4 mm.

Rim sherd, with neck and shoulder. Pottery(?). 10YR 7/4 very pale brown. Grit inclusions. A single oblique line preserved of incised decoration on shoulder.

493 **Globular jar** 6G77:19 in AbS 2238 Fig. 4:7
Batch 3904, context G (Ash-Tip Phase 3).
Ext. height: 24 mm Diameter: *c.* 40 mm(?)
Ext. rim length: 10 mm
Sherd: 28 x 22 x (max. thickness) 8 mm.

Rim sherd, with much of profile. Almost certainly of unbaked clay. Dark brown. Mostly vegetable inclusions, with sparse grits. Fairly crudely made. Finger impressions on exterior and interior surface.

494 **Jar** 6G66:195 in AbS 2238 Fig. 4:7
Batch 406, context P (Ash-Tip, mixed).
Ext. height: 20 mm
Sherd: 22 x 32 x (max. thickness) 5 mm.

Rim sherd. Lightly fired pottery. Fabric 10YR 6/4 light yellowish brown; exterior and interior surface 6/3 pale brown. Mostly vegetable inclusions. Comparatively well made. Finger impressions on surface.

495 **Jar** 6G76:734 in AbS 2238 Fig. 4:8
Batch 2652, context L (fill of Pit i in Ash-Tip Phase 3).
Ext. height: 14 mm
Sherd: 16 x 15 x (max. thickness) 4 mm.

Rim sherd. Lightly fired pottery. Fabric ranging between 5YR 7/3 and 7/4 pink; exterior and interior surface 10YR 7/3 very pale brown. Sparse vegetable inclusions. Comparatively well made.

496 **Jar** 6G76:537b in AbS 1836 Figs. 4:1c, 4:8
Batch 2620, context T (Ash-Tip Phase 3).
Ext. height: 13 mm Rim diameter: 30 mm
Max. thickness: 6 mm.

Two conjoining rim sherds. Unbaked clay or lightly fired pottery. Fabric and surfaces 7.5YR 6/4 light brown. Grit inclusions.

497 **Jar** 6G76:418a in AbS 1836 Fig. 4:8
Batch 2605, context G (Ash-Tip Phase 3).
Ext. height: 28 mm Rim diameter: 50 mm
Sherd: 34 x 26 x (max. thickness) 6 mm.

Rim sherd, with some of profile. Unbaked(?) clay. Fabric and surfaces 7.5YR 6/4 light brown. Grit inclusions. A row of light, roughly incised oblique strokes just below the shoulder.

498 **Jar** 6G86:297 in AbS 2238 Figs. 4:1b, 4:8
Batch 1904, context G (Ash-Tip Phase 3).
Ext. height: 8 mm Rim diameter: *c.* 50 mm
Ext. rim length: 21 mm
Sherd: 29 x 25 x (max. thickness) 6 mm.

Rim sherd. Lightly fired pottery. 10YR 6/4 light yellowish brown. Mostly vegetable inclusions. Wheel-made.

499 **Jar** 6G76:880 in AbS 2238 Fig. 4:8
Batch 2667, context G (Ash-Tip Phase 3).
Ext. height: 14 mm Rim diameter: 30 mm
Sherd length: 26 mm Max. thickness at rim: 3-4 mm
Max. thickness of body 5 mm.

Rim sherd, with neck and shoulder. Unbaked clay (or possibly very lightly fired pottery). Fabric light brown. Sparse grit inclusions. Comparatively well made.

500 **Jar** 6G76:668b in AbS 1836 Fig. 4:8
Batch 2625, context T (Ash-Tip Phase 3).
Ext. height: 28 mm Rim diameter indeterminable
Sherd: 33 x 25 x (max. thickness) 6 mm.

Rim sherd, with neck and shoulder. Pottery. Brown. Inclusions not recorded. Cf. **501**, of unbaked clay.

501 **Jar** 6G76:420b in AbS 1836 Fig. 4:8
Batch 2613, context H (Ash-Tip Phase 3).
Ext. height: Rim diameter undeterminable
Sherd: 34 x 18 x (max. thickness) 7 mm.

Rim sherd, with neck and shoulder. Unbaked clay. Fabric and surfaces 10YR 6/3 pale brown. Grit inclusions. Cf. **500**, of pottery.

502 Jar(?) 6G76:420c in AbS 1836 Figs. 4:1c, 4:8
Batch 2613, context H (Ash-Tip Phase 3).
Ext. height: Rim diameter indeterminable
Sherd: 30 x 24 x (max. thickness) 6 mm.

Collar rim from miniature vessel (possibly, on the basis of fabric and findspot, from the same vessel as **501**), or possibly from a full-sized vessel spout, about one third preserved. Unbaked clay. Fabric and interior surface 10YR 8/3 very pale brown; exterior surface 10YR 8/2 white. Grit inclusions.

503 Jar 6G76:420d in AbS 1836 Fig. 4:8
Batch 2613, context H (Ash-Tip Phase 3).
Sherd: 39 x 38 x (max. thickness) 7 mm.

Sherd, possibly (on the basis of fabric and findspot) from the same vessel as **502**. A fragment from the shoulder and lower neck. Fabric and interior surface 10YR 6/3 pale brown; exterior surface 10YR 8/2 white. Grit inclusions.

504 Jar 6G77:58 in AbS 2238 Fig. 4:8
Batch 3904, context G (Ash-Tip Phase 3).
Ext. height: 10 mm Rim diameter: *c.* 70 mm
Sherd: 14 x 18 x (max. thickness) 4 mm.

Rim sherd. Lightly fired pottery or heavily burnt and hardened unbaked clay. 10YR 6/4 light yellowish brown. Virtually without inclusions (some very fine and sparse vegetable and grit). Comparatively well made.

505 Base 6G76:676d in AbS 1836 Fig. 4:8
Batch 2638, context K (?Ash-Tip Phase 3).
Ext. height: 46 mm Base diameter: poss. 40 mm(?).

Base sherd, with profile of lower body. Flat base. Unbaked clay. Fabric and most of exterior and interior surface buff; interior surface of base fire-blackened. No visible inclusions. Interior smoothed by horizontal cuts with a knife. Base poorly preserved.

506 Base 6G76:951 in site store Fig. 4:8
Batch 2679, context B (Ash-Tip Phase 2), 6G76 North Baulk, at 0.51 m from N, 1.93 m from W, 0.54 m below surface.
Ext. height: 22 mm Base diameter: 23 mm.

Complete base. Flat base. Unbaked clay. Fabric and surfaces 10YR 7/4 very pale brown. Sparse fine sand and vegetable inclusions.

507 Base 6G76:681a in AbS 1836 Figs. 4:1d, 4:8
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Ext. height: 30 mm Base diameter: 20 mm.

Complete ring-base, with lower body profile. Unbaked clay. Buff. Sparse grit inclusions.

508 Base 6G76:420a in AbS 1836 Figs. 4:1d, 4:9
Batch 2613, context H (Ash-Tip Phase 3).
Ext. height: 42 mm Base diameter: 25 mm
Max. ext. diameter: 45 mm.

Complete base, with lower profile. Flat base, tending to ring-base. Unbaked(?) clay. Fabric and interior surface 10YR 6/4 light yellowish brown. Exterior surface 10YR 7/3 very pale brown. Grit inclusions.

509 Base 6G76:228 in AbS 1836 Fig. 4:9
Batch 2616, context G (Ash-Tip Phase 3).
Ext. height: 31 mm Base diameter: 40 mm
Max. thickness of body: 9 mm.

Complete ring-base. Unbaked clay. Fabric and surfaces 5YR 4/1 dark grey. No visible inclusions. Exterior surface crudely burnished with multiple strokes of what seems to have been a spoon-ended instrument. One break is a knife-cut.

510 Base 6G76:703 in AbS 1836 Figs. 4:1d, 4:9
Batch 2646, context G (Ash-Tip Phase 3).
Ext. height: 29 mm Base diameter: *c.* 50-60 mm
Max. thickness of body 9 mm. (irregular)

Base and lower body, restored from two conjoining sherds. Pinched ring-base, more oval than round.Pottery(?). Fabric and surfaces 7.5YR 6/4 light brown. Grit inclusions.

511 Base 6G76:423c in AbS 1836 Fig. 4:9
Batch 2610, context G (Ash-Tip Phase 3).
Ext. height: 21 mm Base diameter: 40 mm.

Complete ring-base. Unbaked clay or lightly fired pottery (?). Fabric and surfaces buff-brown. Grit inclusions. Incised line around circumference at top of base, where it joins the lower body.

512 Base 6G76:423d in AbS 1836 Fig. 4:9
Batch 2610, context G (Ash-Tip Phase 3).
Ext. height: 13 mm Base diameter: 3 mm.

Complete ring-base. Unbaked clay or lightly fired pottery (?). Fabric and surfaces buff-brown. Grit inclusions.

513 Base 6G86:284 in AbS 2238 Figs. 4:1b, 4:9
Batch 1912, context G (Ash-Tip Phase 3).
Ext. height: 21 mm Base diameter: 40 mm
Sherd: 23 x 20 mm.
Max. thickness of base: 12 mm
Max. thickness of body 5 mm.

Base fragment. Pottery. Light brown. Grit inclusions. Reasonably well made. Slightly salt incrusted.

514 Base 6G76:446 in AbS 1836 Figs. 4:1d, 4:9
Batch 2623, context T (Ash-Tip Phase 3).
Ext. height: 17 mm Base diameter: 23 mm.

Complete ring-base. Unbaked clay. Fabric and surfaces 5YR 3/1 very dark grey. Grit inclusions.

515 Base 6G76:668c in AbS 1836
Batch 2625, context T (Ash-Tip Phase 3).
Ext. height: 24 mm
Base diameter indeterminable
Sherd: 23 x 32 x (max. thickness of body) 6 mm.

Sherd of lower body and part of ring-base. Pottery(?). Fabric and surfaces buff-brown. Grit inclusions.

516 Incised jar sherd
6G86:290 in AbS 2238 Figs. 4:1b, 4:8
Batch 1917, context G (Ash-Tip Phase 3).
Sherd: 25 x 16 x (max. thickness) 7 mm.

Shoulder fragment of jar. Pottery. Fabric and interior surface pink; exterior surface cream. Sparse grit inclusions. Upper part, above a single horizontal incised line, patterned by vertical incised lines (six preserved), up to the base of the neck.

517 Incised jar sherd 6G66:160 in AbS 1041 Fig. 4:8
Batch 406, context P (Ash-Tip, mixed).
Sherd: 45 x 31 mm.

Neck and shoulder fragment, with incised linear decoration. Unbaked clay or lightly fired pottery (?). Colour and inclusions not recorded.

518 Incised jar sherd 6G76:676e in AbS 1836 Fig. 4:8
Batch 2638, context K (?Ash-Tip Phase 3).
Sherd: 25 x 24 x (max. thickness) 8 mm.

Body sherd preserving the edge of a pattern of cross-hatched incised lines. Unbaked clay. Fabric and surfaces buff. Grit inclusions.

519 Jar sherd(?)
6G76:708 in AbS 1836 Figs. 4:1a, 4:8
Batch 2645, context G (Ash-Tip Phase 3).
Sherd: 34 x 34 x (max. thickness) 7 mm.

Shoulder fragment (or possibly a fragment of a hollow figurine ?). Pottery. A slightly lighter version of 5YR 6/6 reddish yellow. Grit inclusions. On exterior surface, near to one edge, the ends of two incised lines.

520 Upright handle(?) 6G77:82 in AbS 2067
Batch 3912, context G (Ash-Tip Phase 3).
Height: 17 mm Width: 18 mm
Thickness: 11 mm.

See **702**.

521 Upright handle(?) 6G76:840 in AbS 2067 Fig. 4:9
Batch 2669, context G (Ash-Tip Phase 3).
Ext. height: 27 mm Width: 18 mm
Thickness: 11 mm.

Loaf-shaped object, possibly a detached handle from a miniature upright-handled jar (?). Unbaked clay (or possibly very lightly fired pottery). 10YR 7/4 very pale brown. Mostly vegetable and grog inclusions. One end (base ?) broken. Slightly salt incrusted on one face.

522 Upright handle(?) 6G77:101 in AbS 2238 Fig. 4:9
Batch 3914, context G (Ash-Tip Phase 3).
Height: 15 mm Width: 11 mm
Thickness: 8 mm.

Detached handle from miniature upright-handled jar? Unbaked clay. Light brown. No visible inclusions. Undecorated. Concave on underside (where it was pressed onto the vessel rim ?).

523 Upright handle 6G76:439 in AbS 1833 Fig. 4:9
Batch 2616, context G (Ash-Tip Phase 3).
Height: 19 mm Width: 12 mm
Thickness: 8 mm.

Detached handle from miniature upright-handled jar. Unbaked clay. 10YR 4/1 dark grey. No visible inclusions. Well modelled. Concavity at base on reverse where it was pressed onto the vessel shoulder.

524 Upright handle 6G77:31 in AbS 2238 Fig. 4:9
Batch 3904, context G (Ash-Tip Phase 3).
Height: 16 mm Width: 17 mm
Thickness: 11 mm.

Detached handle from miniature upright-handled jar. Unbaked clay. Dark brown. Virtually no visible inclusions (very sparse vegetable impressions). Crudely made, squashed cylindrical piece of clay. On obverse, three circles. On reverse, two larger circular indentations, apparently the impressions of the tips of the forefinger and thumb pressed into the wet clay.

525 Upright handle 6G76:303 AbS 1553 Fig. 4:9
Batch 2610, context G (Ash-Tip Phase 3).
Height: 40 mm Width: 21 mm
Thickness: 16 mm.

Modelled shape, probably a (comparatively large) detached handle from a miniature upright-handled jar (or possibly an embryonic figurine ?). Unbaked clay. 10YR 4/2 dark greyish brown. Mostly fine vegetable inclusions. Three rows of incised dots. Slightly concave break at one end, probably where it has been broken from the vessel shoulder.

526 Upright handle 6G76:226 AbS 1578 Fig. 4:9
Batch 2608, context G (Ash-Tip Phase 3).
Height: 26 mm Width: 18 mm
Thickness: 7 mm.

Detached handle from a miniature upright-handled jar. Unbaked clay. 10YR 7/3 very pale brown, with much of surface of obverse burnt to 10YR 7/1 light grey or 6/1, 5/1 grey. Mixed vegetable and grit inclusions. Obverse covered in short vertical and oblique incisions. Finger impression on lower obverse and many on reverse.

527 Upright handle 6G76:796 in AbS 2238 Fig. 4:9
Batch 2661, context G (Ash-Tip Phase 3).
Height: 26 mm Width: 21 mm
Thickness: 12 mm

Detached handle from a miniature upright-handled jar. Apparently not pottery, but sun-baked or incinerated to quite a hard fabric. Orange-brown/buff. No visible inclusions. Obverse has a rather irregular (criss-crossed) pattern of lightly incised continuous and broken lines, the latter, also on the sides, possibly string impressions. The reverse has a series of short vertical incised lines at the top. Sides and part of obverse damaged.

528 Upright handle (or bowl sherd ?)
6G86:200 in AbS 2238 Fig. 4:9
Batch 1927, context H (Ash-Tip Phase 3).
Height: 14 mm Width: 18 mm
Thickness: 3 mm.

Single sherd, possibly miniature upright handle (or ?fragment of miniature bowl; or just possibly a sealing fragment with an impression of string-netting: cf. **227**). Unbaked clay. Fabric buff, exterior and interior surface burnt black. No visible inclusions. Fairly crudely made. Very thin. Obverse/exterior patterned with deeply incised vertical and horizontal cross-hatched lines. Chipped on this face. Reverse/interior covered in light finger impressions.

529 Upright handle 6G86:143 AbS 1944 Fig. 4:9
Batch 1927, context H (Ash-Tip Phase 3).
Height: 25 mm Width: 21 mm
Thickness: 11 mm.

Detached handle from a miniature upright-handled jar. Unbaked clay. Fabric 7.5YR 5/4 brown; surface of obverse and most of reverse 10YR 8/3 very pale brown; reverse surface within depression 10YR 5/1 grey. No visible inclusions. Flat, solid handle. On obverse, human face with incised vertical lines for fringe and beard, moulded nose and applied discs for eyes. Clay folded over the top of the head onto

reverse. On reverse, large depression from moulding onto the vessel rim. Base of handle broken from original vessel.

530 Spouted(?) bowl 6G76:964 in site store Fig. 4:9
Batch 2683, context B (Ash-Tip Phase 2), 6G76 North Baulk, at 0.53 m from N, 1.69 m from E, 0.94 below surface, in brown ash, sitting directly upon the top of the next tipline.
Height: 12 mm Rim diameter: 30 mm
Base diameter: 32 mm.

Spouted(?) straight-sided flat-based open bowl, intact and complete but for abraded rim and chipped base. Unbaked clay. Fabric 10YR 6/4 light yellowish brown; exterior and interior surfaces 10YR 6/3 pale brown. Sand and sparse vegetable inclusions. Roughly vertically pinched-up sides, with finger impressions so marked as to give a "fluted" effect. On one side, perforation probably for spout, now broken away (cf. **534**, not from this vessel).

531 Spouted(?) bowl 6G76:246 AbS 1529 Fig. 4:9
Batch 2605, context G (Ash-Tip Phase 3).
Height: 15 mm Max diameter: 27 mm
Diameter of perforation: 2 mm.

Spouted(?) straight-sided flat-based open bowl, intact and almost complete. Unbaked clay. Fabric 5YR 4/1 dark grey. Grit and grog inclusions. A crudely made 'thumb-pot', with roughly vertical pinched-up sides, flat exterior base and rounded interior. Many finger impressions on surface. Perforated on one wall just beneath the rim, apparently for attachment of spout, now broken away (cf. **534**, not from this vessel). Broken rim on one side and three small chips.

532 Spouted jar 6G76:692 in AbS 1836 Figs. 4:1a, 4:10
Batch 2642, context L (fill of Pit i in Ash-Tip Phase 3).
Rim diameter indeterminable
Sherd: 49 x 36 x (max. thickness of body) 7 mm
Spout: 6 x 9 x 9 mm Internal diameter of spout 2 mm.

Rim sherd, with most of profile; base missing. Well hardened unbaked clay or lightly fired pottery. Fabric and interior surface 7.5YR 6/4 light brown; exterior surface 10YR 7/4 very pale brown. Sparse grit inclusions.

533 Spouted jar 6G76:788 in AbS 2238 Fig. 4:10
Batch 2661, context G (Ash-Tip Phase 3).
Sherd: 23 x 25 x (max. thickness) 5 mm.

Base sherd, with part of body, broken where the spout fitted (cf. spout **534**, not from this vessel). Unbaked clay. Buff, burnt to grey on interior. Grit inclusions.

534 Spout (?) 6G77:27 in AbS 2238 Fig. 4:10
Batch 3904, context G (Ash-Tip Phase 3).
Exterior diameter: 14 mm Interior diameter: 6 mm
Ext. length: 17 mm.

Hollow cylinder, probably a detached spout (cf. **532**, not the same vessel; just possibly a fragment of the axle-holder of a model chariot — cf. **401** — but unlikely as it is unbaked). Unbaked clay. Dark brown. Grit inclusions. Crudely modelled.

535 Lugged bowl 6G76:780 in AbS 2238 Fig. 4:10
Batch 2660, context G (Ash-Tip Phase 3).
Ext. height: 42 mm Rim diameter: perhs. *c.* 75 mm(?)
Ext. rim length: 14 mm
Sherd: 47 x 40 x (max. thickness) 7 mm
Lug: 13 x 13 x 3 mm
Diameter of lug perforation: 2 mm.

Rim sherd, with most of profile. Pottery. Fabric 7.5YR 7/4 pink; interior surface as fabric or burnt to 5YR 4/1 dark grey; exterior surface unevenly fired to bands of various tones, (above lug) 5YR 8/3 pink, (upper surface below lug) between 5YR 7/4 pink and 7/6 reddish yellow, (lower body) 10YR 8/2 white, (near base) 5YR 7/1 light grey. Mostly vegetable inclusions, with sparse calcareous and black grits. Comparatively well made. Lug separately attached, vertically pierced, presumably for suspension. Heavily salt incrusted on interior.

536 Lugged vessel 6G76:423b in AbS 1836 Fig. 4:10
Batch 2610, context G (Ash-Tip Phase 3).
Rim diameter indeterminable
Sherd: 24 x 19 x (max. thickness, excl. lug.) 6 mm
Lug 17 x 12 x 6 Diameter of lug perforation: 2.5 mm.

Rim sherd, with vertically perforated applied lug, presumably for suspension. Pottery. Colour and inclusions not recorded.

537 Lugged vessel 6G76:1022 in site store Fig. 4:10
Batch 2680, context F (fill of Pit m in Ash-Tip Phase 2).
Rim diameter indeterminable
Sherd: 18 x 31 x (max. thickness) 4 mm
Lug 9 x 9 x 5 Diameter of lug perforation: 2 mm.

Rim sherd, with vertically perforated lug. Pottery. Fabric and exterior surface 10YR 6/4 light yellowish brown; interior surface abraded. Sand inclusions.

538 Sieve(?) 6G76:650b in AbS 1836 Fig. 4:10
Batch 2646, context G (Ash-Tip Phase 3).
Sherd: 24 x 32 x (max. thickness) 5 mm
Max. diameter of perforation: 4 mm.

Body sherd of curved vessel with remains of three evenly spaced perforations. Pottery(?). 10YR 6/4 light yellowish brown. Grit inclusions.

539 Bowl(?) 6G76:580 in AbS 1833 Fig. 4:10
Batch 2616, context G (Ash-Tip Phase 3).
Ext. height: 14 mm "Diameter": 27 mm
Max. thickness of body: 6 mm.

Shaped fragment of clay, possibly part of the base of a miniature straight-sided, flat-based, shallow open bowl (or perhaps a fragment of a model boat, cf. **744**, also of unbaked clay). Unbaked clay. Fabric and surfaces dark brown. Virtually no visible inclusions (very sparse grits). On the interior a very clear (small) finger impression.

540 Globular jar 6G76:663 in AbS 1836 Fig. 4:10
Batch 2631, context L (fill of Pit h in Ash-Tip Phase 3).
Sherd: 22 x 26 x (max. thickness) 6 mm.

Neck and shoulder fragment. Pottery. Fabric and interior surface 2.5Y 7/2 light grey; exterior surface approximately 2.5Y 8/2 white. Grit inclusions.

541 Globular jar 6G76:418b in AbS 1836 Fig. 4:10
Batch 2605, context G (Ash-Tip Phase 3).
Sherd: 30 x 30 x (max. thickness) 5 mm.

Shoulder fragment, with some of profile. Unbaked(?) clay. 10YR 7/4 very pale brown. Grit inclusions.

542 Globular jar 6G76:676f, g in AbS 1836 Fig. 4:10
Batch 2638, context K (?Ash-Tip Phase 3).
Sherds: 26 x 21 x 5 mm; 26 x 27 x 4 mm.

Two non-joining sherds, of similar fabric, one with part of the neck, the other a shoulder fragment. Unbaked clay. Buff. No visible inclusions.

543 Jar 6G76:714 in AbS 1836
Batch 2645, context G (Ash-Tip Phase 3).
Sherd: 35 x 39 x (max. thickness) 7 mm.

Shoulder fragment(?). Pottery. 10YR 6/4 light yellowish brown. Grit inclusions.

544 Round-based globular jar
6G76:423e in AbS 1836 Fig. 4:10
Batch 2610, context G (Ash-Tip Phase 3).
Sherd: 18 x 20 x (max. thickness) 8 mm.

Base fragment. Pottery/unbaked clay (?). Colour and inclusions not recorded.

545 Globular jar 6G76:668e in AbS 1836 Fig. 4:10
Batch 2625, context T (Ash-Tip Phase 3).
Sherd: 25 x 28 x (max. thickness) 7 mm.

Body fragment. Pottery. Colour and inclusions not recorded.

546 Rim sherd 6G76:797 in AbS 2238 Fig. 4:10
Batch 2661, context G (Ash-Tip Phase 3).
Ext. height: 20 mm Rim diameter indeterminable
Sherd: 27 x 23 x (max. thickness) 4 mm.

Undiagnostic plain rim, unclear if from a bowl or a jar. Pottery. Fabric and surfaces very light brown. Grit inclusions. Salt incrusted on interior. Comparatively well made.

547 Body sherds (3) 6G76:676f in AbS 1836
Batch 2638, context K (?Ash-Tip Phase 3).
Sherds: 35 x 24 x 8; 25 x 32 x 7; 27 x 36 x 9 mm.

Three undiagnostic body sherds. Unbaked clay. Buff. Grit inclusions.

548 Body sherd 6G76:422b in AbS 1836
Batch 2616, context G (Ash-Tip Phase 3).
Sherd: 41 x 34 x (max. thickness) 6 mm.

Undiagnostic body sherd. Unbaked clay or lightly fired pottery. Fabric and interior surface 10YR 6/4 light yellowish brown; exterior surface 10YR 7/3 very pale brown. Dense grit inclusions.

549 Body sherd 6G76:418c in AbS 1836
Batch 2605, context G (Ash-Tip Phase 3).
Sherd: 29 x 40 x (max. thickness) 6 mm.

Single body sherd. Unbaked(?) clay. Fabric and surfaces 10YR 6/4 light yellowish brown. Grit inclusions.

550 Body sherd(?) 6G76:805 in AbS 2238
Batch 2663, context L (fill of Pit 1 in Ash-Tip Phase 3).
Sherd: 29 x 20 x (max. thickness) 7 mm.

Shaped curved piece, apparently hand-made and presumably from a miniature vessel, although this is uncertain. Pottery. Fabric and interior(?) surface orange; exterior(?) surface cream. Grit inclusions.

551 Body sherd 6G76:668f in AbS 1836
Batch 2625, context T (Ash-Tip Phase 3).
Sherd: 20 x 20 x (max. thickness) 6 mm.

Undiagnostic body sherd. Pottery. Colour and inclusions not recorded.

552 Base 6G76:668d in AbS 1836
Batch 2625, context T (Ash-Tip Phase 3).
Sherd: 35 x 30 x (max. thickness) 12 mm.

Fragment from centre of flat base; no profile. Pottery. Colour and inclusions not recorded.

5

Pottery Discs (553-647)

Anthony Green

5.1 *Introduction*

Reused sherds of pottery with roughly filed down edges to form crude discs are found in varying numbers on many sites of the ancient Near East dating from prehistoric times to at least the first millennium BC.[1] As with figurines and miniature vessels, it would probably be over simplified to suppose a single purpose for them all, and the shape would be a convenient one for a number of quite different uses. One such use is evidenced by a complete jar from a Halaf period level at Arpachiyah: bitumened into the neck of the vessel was a filed down sherd, sealing the contents (Mallowan & Rose 1935, fig. 49:23)[2]. When they are found in relatively large quantities, pot-discs probably had some other function, either as gaming-pieces of some kind or an administrative or economic use related to the 'tokens' (ch. 6).

A minimum of 95 has been recovered from the Ash-Tip at Abu Salabikh.[3] They range from 19 to 43 mm in diameter, averaging 30 mm. As for their place within the Ash-Tip assemblage, we cannot improve upon that already proposed by Nicholas Postgate (1980a, 92):

If we are right in reconstructing commercial activities within the buildings, the easiest explanation of these discs is that they were simply counters.

Textual sources refer to the use of counters in Mesopotamia at a later period, in the second millennium BC (Postgate & Moon 1984a, 736).

5.2 *Catalogue* (553-647)

This list includes only those sherds whose edges were clearly filed. All the discs are stored in the Iraq Museum under the number AbS 1832, except **647** which is in AbS 2067. The fabric/surface colours and fabric inclusions were individually recorded. Fabric colours were mostly in the Munsell (1975) range 10YR 7/3 very pale brown to 5YR 5/3 reddish brown, with occasional 2.5Y 8/4 pale yellow; interior and exterior surface colours mostly in the range 10YR 8/3 very pale brown to 5YR 7/3 pink, with occasional 2.5Y 8/4 pale yellow to 2.5Y 8/2 white. Most of the sherds had principally grit inclusions, only a few principally vegetable.

553	6G76:134	Batch 2610, context G	Diameter: 35 mm; Thickness: 8 mm.	
554	6G76:134	Batch 2610, context G	Diameter: 35 mm; Thickness: 7 mm.	Fig. 5:2
555	6G76:134	Batch 2610, context G	Diameter: 34 mm; Thickness: 9 mm.	
556	6G76:134	Batch 2610, context G	Diameter: 33 mm; Thickness: 9 mm.	
557	6G76:134	Batch 2610, context G	Diameter: 31 mm; Thickness: 7 mm.	
558	6G76:134	Batch 2610, context G	Diameter: 29 mm; Thickness: 7 mm.	Fig. 5:2
559	6G76:138	Batch 2610, context G	Diameter: 34 mm; Thickness: 10 mm.	
560	6G76:138	Batch 2610, context G	Diameter: 30 mm; Thickness: 8 mm.	
561	6G76:138	Batch 2610, context G	Diameter: 25 mm; Thickness: 8 mm.	
562	6G76:160	Batch 2612(S), context G	Diameter: 27 mm; Thickness: 8 mm.	
563	6G76:160	Batch 2612(S), context G	Diameter: 28 mm; Thickness: 7 mm.	
564	6G76:244	Batch 2612(S), context G	Diameter: 40 mm; Thickness: 7 mm.	
565	6G76:251	Batch 2618, context J (fill of Grave 130)	Diameter: 31 mm; Thickness: 8 mm.	

1 Although they have been seldom published, or even mentioned in print, so that precise distributions are difficult to quantify, the almost ubiquitous nature of such discs is apparent from conversations with numerous excavators working on sites widely dispersed in periods and location.

2 I am grateful to Dr Stuart Campbell for this reference.

3 Postgate 1980a, 92, and Postgate & Moon 1984a, 736, refer to "over 100" such discs from the 1978-79 season alone, but some examples registered during the excavations have been omitted here because on further study their shape and size appeared to be fortuitous rather than due to deliberate shaping of the broken sherds. Of course, potsherds which happened to be of approximately the right shape and size might nevertheless sometimes have been used in a similar way to the rubbed down discs, but without reworking.

566	6G76:251	Batch 2618, context J (fill of Grave 130)	Diameter: 25 mm; Thickness: 7 mm.	
567	6G76:292	Batch 2619, context J (fill of Grave 130)	Diameter: 35 mm; Thickness: 8 mm.	
568	6G76:292	Batch 2619, context J (fill of Grave 130)	Diameter: 32 mm; Thickness: 9 mm.	
569	6G76:292	Batch 2619, context J (fill of Grave 130)	Diameter: 30 mm; Thickness: 7 mm.	
570	6G76:292	Batch 2619, context J (fill of Grave 130)	Diameter: 33 mm; Thickness: 7 mm.	
571	6G76:292	Batch 2619, context J (fill of Grave 130)	Diameter: 29 mm; Thickness: 9 mm.	
572	6G76:292	Batch 2619, context J (fill of Grave 130)	Diameter: 29 mm; Thickness: 8 mm.	
573	6G76:292	Batch 2619, context J (fill of Grave 130)	Diameter: 28 mm; Thickness: 8 mm.	
574	6G76:305	Batch 2605, context G	Diameter: 34 mm; Thickness: 13 mm.	
575	6G76:305	Batch 2605, context G	Diameter: 33 mm; Thickness: 6 mm.	
576	6G76:305	Batch 2605, context G	Diameter: 31 mm; Thickness: 7 mm.[4]	
577	6G76:305	Batch 2605, context G	Diameter: 28 mm; Thickness: 6 mm.	
578	6G76:305	Batch 2605, context G	Diameter: 22 mm; Thickness: 8 mm.	
579	6G76:305	Batch 2605, context G	Diameter: 23 mm; Thickness: 6 mm.	
580	6G76:305	Batch 2605, context G	Diameter: 21 mm; Thickness: 5 mm.	Fig. 5:2
581	6G76:316	Batch 2616, context G	Diameter: 37 mm; Thickness: 10 mm.	
582	6G76:316	Batch 2616, context G	Diameter: 33 mm; Thickness: 8 mm.	
583	6G76:316	Batch 2616, context G	Diameter: 32 mm; Thickness: 7 mm.	
584	6G76:316	Batch 2616, context G	Diameter: 31 mm; Thickness: 8 mm.	
585	6G76:316	Batch 2616, context G	Diameter: 27 mm; Thickness: 8 mm.	
586	6G76:316	Batch 2616, context G	Diameter: 28 mm; Thickness: 7 mm.	
587	6G76:316	Batch 2616, context G	Diameter: 25 mm; Thickness: 7 mm.	
588	6G76:316	Batch 2616, context G	Diameter: 25 mm; Thickness: 8 mm.	
589	6G76:339	Batch 2613, context G	Diameter: 32 mm; Thickness: 7 mm.	
590	6G76:352	Batch 2621, context L (fill of Pit f)	Diameter: 37 mm; Thickness: 8 mm.	
591	6G76:352	Batch 2621, context L (fill of Pit f)	Diameter: 39 mm; Thickness: 7 mm.	
592	6G76:352	Batch 2621, context L (fill of Pit f)	Diameter: 30 mm; Thickness: 8 mm.	
593	6G76:352	Batch 2621, context L (fill of Pit f)	Diameter: 30 mm; Thickness: 8 mm.	
594	6G76:352	Batch 2621, context L (fill of Pit f)	Diameter: 30 mm; Thickness: 7 mm.	
595	6G76:352	Batch 2620, context T	Diameter: 28 mm; Thickness: 6 mm.	
596	6G76:352	Batch 2620, context T	Diameter: 29 mm; Thickness: 5 mm.	
597	6G76:352	Batch 2620, context T	Diameter: 27 mm; Thickness: 7 mm.	
598	6G76:352	Batch 2620, context T	Diameter: 24 mm; Thickness: 5 mm.	
599	6G76:352	Batch 2620, context T	Diameter: 21 mm; Thickness: 8 mm.	
600	6G76:394	Batch 2603(S), context G	Diameter: 31 mm; Thickness: 8 mm.	Fig. 5:2
601	6G76:398	Batch 2617, context G	Diameter: 28 mm; Thickness: 6 mm.	
602	6G76:398	Batch 2617, context G	Diameter: 22 mm; Thickness: 7 mm.	
603	6G76:398	Batch 2617, context G	Diameter: 19 mm; Thickness: 4 mm.	
604	6G76:432	Batch 2620, context T	Diameter: 43 mm; Thickness: 9 mm.	
605	6G76:432	Batch 2620, context T	Diameter: 37 mm; Thickness: 7 mm.[5]	
606	6G76:432	Batch 2620, context T	Diameter: 34 mm; Thickness: 7 mm.	
607	6G76:432	Batch 2620, context T	Diameter: 35 mm; Thickness: 9 mm.	
608	6G76:432	Batch 2620, context T	Diameter: 35 mm; Thickness: 8 mm.	
609	6G76:432	Batch 2620, context T	Diameter: 32 mm; Thickness: 9 mm.	
610	6G76:432	Batch 2620, context T	Diameter: 32 mm; Thickness: 8 mm.	
611	6G76:432	Batch 2620, context T	Diameter: 30 mm; Thickness: 8 mm.	
612	6G76:432	Batch 2620, context T	Diameter: 28 mm; Thickness: 7 mm.	
613	6G76:432	Batch 2620, context T	Diameter: 29 mm; Thickness: 6 mm.	
614	6G76:432	Batch 2620, context T	Diameter: 26 mm; Thickness: 7 mm.	
615	6G76:432	Batch 2620, context T	Diameter: 26 mm; Thickness: 6 mm.	
616	6G76:432	Batch 2620, context T	Diameter: 26 mm; Thickness: 6 mm.	
617	6G76:432	Batch 2620, context T	Diameter: 23 mm; Thickness: 6 mm.	
618	6G76:487	Batch 2625, context T	Diameter: 34 mm; Thickness: 7 mm.	
619	6G76:487	Batch 2625, context T	Diameter: 34 mm; Thickness: 7 mm.	
620	6G76:487	Batch 2625, context T	Diameter: 36 mm; Thickness: 9 mm.	

4 Fragment from shoulder of vessel.
5 Fragment from rim of vessel.

621	6G76:487	Batch 2625, context T	Diameter: 31 mm; Thickness: 9 mm.	
622	6G76:487	Batch 2625, context T	Diameter: 29 mm; Thickness: 8 mm.	
623	6G76:487	Batch 2625, context T	Diameter: 31 mm; Thickness: 6 mm.	
624	6G76:487	Batch 2625, context T	Diameter: 26 mm; Thickness: 7 mm.	Fig. 5:2
625	6G76:487	Batch 2625, context T	Diameter: 31 mm; Thickness: 8 mm.	
626	6G76:487	Batch 2625, context T	Diameter: 30 mm; Thickness: 6 mm.	
627	6G76:487	Batch 2625, context T	Diameter: 29 mm; Thickness: 6 mm.	
628	6G76:487	Batch 2625, context T	Diameter: 29 mm; Thickness: 8 mm.	
629	6G76:487	Batch 2625, context T	Diameter: 33 mm; Thickness: 6 mm.[6]	
630	6G76:487	Batch 2625, context T	Diameter: 27 mm; Thickness: 7 mm.	
631	6G76:487	Batch 2625, context T	Diameter: 29 mm; Thickness: 8 mm.	
632	6G76:487	Batch 2625, context T	Diameter: 28 mm; Thickness: 7 mm.	
633	6G76:487	Batch 2625, context T	Diameter: 28 mm; Thickness: 8 mm.	
634	6G76:664	Batch 2638, context K	Diameter: 35 mm; Thickness: 7 mm.	
635	6G76:664	Batch 2638, context K	Diameter: 31 mm; Thickness: 9 mm.	
636	6G76:664	Batch 2638, context K	Diameter: 33 mm; Thickness: 7 mm.	
637	6G76:664	Batch 2638, context K	Diameter: 31 mm; Thickness: 8 mm.	
638	6G76:664	Batch 2638, context K	Diameter: 29 mm; Thickness: 7 mm.	
639	6G76:664	Batch 2638, context K	Diameter: 29 mm; Thickness: 8 mm.	
640	6G76:673	Batch 2628, context L (fill of Pit g)	Diameter: 33 mm; Thickness: 7 mm.	
641	6G76:673	Batch 2628, context L (fill of Pit g)	Diameter: 32 mm; Thickness: 8 mm.	
642	6G76:673	Batch 2628, context L (fill of Pit g)	Diameter: 28 mm; Thickness: 8 mm.	
643	6G76:673	Batch 2628, context L (fill of Pit g)	Diameter: 28 mm; Thickness: 7 mm.	
644	6G76:699	Batch 2638, context K	Diameter: 29 mm; Thickness: 7 mm.	
645	6G76:709	Batch 2646, context G	Diameter: 38 mm; Thickness: 8 mm.	
646	6G76:709	Batch 2646, context G	Diameter: 31 mm; Thickness: 8 mm.	
647	6G77:96	Batch 3914, context G	Diameter: 27 mm; Thickness: 11 mm.	

6 One edge broken.

6

Clay Tokens(?) (648-721)

Anthony Green

6.1 *Introduction*

Small shaped clay items of various kinds are common on prehistoric and early historic sites and have recently received a growing interest, in view of the prolific publications of Denise Schmandt-Besserat developing an original idea by Pierre Amiet that many of these forms represent ancient accounting devices, in use before, giving much impetus to and finally used alongside writing (Schmandt-Besserat 1974, 1977a-d, 1978, 1979a-b, 1980, 1981a-b, 1982a-b, 1983, 1984, 1985, 1986a-c, 1988, in press; Jakob-Rost & Schmandt-Besserat 1989; cf. also Brandes 1980, Green 1981, Jasim & Oates 1986). Whether or not the graphological thesis is accepted (cf. the scathing attacks of Lieberman 1978, 1980, but stout defence by Powell 1981), there can be no doubt that these clay forms represent some kind of material group connected, in the broadest sense, with administration. In a society with an advanced literacy, as Early Dynastic Sumer, the precise rôle of such 'tokens' must surely have undergone some modification, yet along with the sealings (ch. 2) and pottery discs (ch. 5), they doubtless represent an indication of the kind of administrative and accounting practices that were going on within the walls of the building for which the Ash-Tip was the dump.

Of course, it is not easy to distinguish genuine 'tokens' from other tiny clay items of different purposes, so the succeeding catalogue will certainly include certain pieces which did not, in reality, serve such a function. It is also possible that certain of the discs (**648-679**) were simple counters, just as the pottery discs, rather than, in the strict sense, tokens, although in that case their function would be closely related.

A number of recurrent forms known for tokens from other sites can be recognised, for example discs, cylinders, ovoids, rectangles (or quadrangles), crescents (sometimes grouped with the triangles) and triangles (cf. esp. Schmandt-Besserat 1988, 39-40, Abbn. 1-2).

6.2 *Catalogue* (**648-721**)

6.2.1 *Discs* (**648-679**)

648 **Disc** 6G76:828d in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Maximum diameter: 17.5 mm. Thickness: 2.5 mm.
Unbaked clay.
Colour: 5YR 7/4 pink.[1]

Complete. Many finger impressions on both faces.

649 **Disc** 6G76:442 in AbS 1833 Fig. 6:1
Batch 2616, context G (Ash-Tip Phase 3).
Diameter: 19 mm. Thickness: 5 mm.
Unbaked clay, with sparse fine grit inclusions.
Colour: grey-brown.

Complete.

650 **Disc** 6G76:424 in AbS 1833 Fig. 6:1
Batch 2614, context G (Ash-Tip Phase 3).
Diameter: 20 mm. Thickness: 4 mm.
Unbaked clay, with sparse fine grit inclusions.
Colour: dark brown.

1 Colour references, when given, are to Munsell 1975.

One edge broken. Surfaces show finger and ?reed impressions.

651 **Disc** 6G76:754 in AbS 2067 Fig. 6:1
Batch 2652, context L (fill of Pit i in Ash-Tip Phase 3).
Maximum diameter: 22 mm. Thickness: 7 mm.
Unbaked clay. Some salt crystals on surface.
Colour: 7.5YR 6/4 light brown.

Complete.

652 **Disc** 6G76:471 in AbS 1833 Fig. 6:1
Batch 2616, context G (Ash-Tip Phase 3).
Diameter: 24 mm. Thickness: 12 mm.
Unbaked clay, with medium to fine grit and straw inclusions.
Colour: dark brown.

Complete. Rather irregular shape and thickness, slightly raised on one face, where there are shallow finger impressions.

653 **Disc** 6G86:165 in AbS 2067 Fig. 6:1
Batch 1936, context G (Ash-Tip Phase 3).
Diameter: 26 mm. Thickness: 12 mm.
Lightly baked clay. Partly broken.
Colour: 5YR 6/6 reddish yellow.

Complete.

654 **Disc** 6G86:234 in AbS 2067 Fig. 6:1
Batch 1956, context H (Ash-Tip Phase 3).
Maximum diameter: 28 mm. Thickness: 10 mm.
Unbaked clay.
Colour: 10YR 6/3 pale brown.

Complete.

655 **Disc** 6G86:171 in AbS 2067 Fig. 6:1
Batch 1940, context L (fill of Pit p in Ash-Tip Phase 3).
Maximum diameter: 29 mm. Thickness: 6 mm.
Unbaked clay.
Colour: 7.5YR 7/4 pink.

Complete.

656 **Disc** 6G76:472 in AbS 1833 Fig. 6:1
Batch 2625, context T (Ash-Tip Phase 3).
Diameter: 30 mm. Thickness: 6 mm.
Possibly lightly baked clay, with sparse fine grit inclusions.
Colour: ranges from light, slightly orangey, to dark brown.

Complete. Marked finger impressions forming a slight ridge on one surface.

657 **Disc** 6G76:256c in AbS 1833 Fig. 6:1
Batch 2620, context T (Ash-Tip Phase 3).
Diameter: 31 mm. Thickness: 6 mm.
Unbaked clay, heat hardened, with dense fine grit inclusions.
Colour: dark brown, yellow and orange on most of both faces.

Complete. Both faces reasonably flat, one rougher than the other.

658 **Disc** 6G76:68a in AbS 1833 Fig. 6:1
Batch 2603(S), context G (Ash-Tip Phase 3).
Diameter: 33 mm. Thickness: 5 mm.
Unbaked clay, with sparse fine grit inclusions.
Colour: fabric dark brown, some of surface pinkish.

Complete. Both faces flat; edge smoothed off; part of edge broken.

659 **Disc** 6G76:68f in AbS 1833 Fig. 6:1
Batch 2603(S), context G (Ash-Tip Phase 3).
Diameter: 25 mm. Thickness: 6 mm.
Unbaked clay, with comparatively dense fine grit inclusions.
Colour: dark brown.

Approximately half of disc. Flat faces, one side with many shallow finger impressions, smoothed original outer edge.

660 **Disc** 6G76:68e in AbS 1833 Fig. 6:1
Batch 2603(S), context G (Ash-Tip Phase 3).
Maximum extant dimension (= slightly less than original radius): 21 mm.
Thickness: 6 mm.
Unbaked clay, with virtually no visible inclusions (very sparse fine grits).
Colour: light orange.

Approximately one third of disc. Flat faces, smoothed original outer edge.

661 **Disc** 6G76:68d in AbS 1833
Batch 2603(S), context G (Ash-Tip Phase 3).
Maximum extant dimension (= slightly more than original radius): 29mm.
Thickness: 8 mm.
Unbaked clay, with comparatively dense medium grit inclusions.
Colour: light orange-brown, some of surface burnt to grey.

Approximately one eighth of disc. Flat faces, smoothed original outer edge.

662 **Disc** 6G76:68c in AbS 1833 Fig. 6:1
Batch 2603(S), context G (Ash-Tip Phase 3).
Maximum extant dimension (= approx. original radius): 31 mm.
Thickness: 8 mm.
Unbaked clay, with sparse fine grit inclusions.
Colour: dark brown.

Approximately one eighth of disc. Flat faces, smoothed original outer edge.

663 **Disc** 6G76:814a in AbS 2067
Batch 2667, context G (Ash-Tip Phase 3).
Size: (as extant) 38 x 27 x (thickness) 11 mm.
Unbaked clay.
Colour: 7.5YR 6/2 pinkish grey.

Fragment.

664 **Perforated disc** 6G76:473 in AbS 1833 Fig. 6:1
Batch 2617, context G (Ash-Tip Phase 3).
Diameter: 28 mm. Thickness: 7 mm.
Diameter of perforation: 7 mm.
Unbaked clay, hardened by burning (or very lightly fired), apparently without visible inclusions (although the absence of any breaks makes this difficult to determine).
Colour: dark brown, surface partly fire-blackened.

Complete.

665 **Disc** 6G76:135 in AbS 1833 Fig. 6:1
Batch 2610, context G (Ash-Tip Phase 3).
Diameter: 18 mm. Thickness: 8 mm.
Unbaked clay, apparently (to judge from unbroken surface) with sparse fine grit inclusions.

Colour: yellow on surface (no breaks to determine fabric colour).

Button-shaped disc. Slightly conical on one face. Complete.

666 **Disc** 6G76:947a in AbS 1833 Fig. 6:1
Batch 2605(S-2), context G (Ash-Tip Phase 3).
Diameter: 22 mm. Thickness: 10 mm.
Unbaked clay, hardened by burning (or very lightly fired), with few visible inclusions (possibly very sparse fine grits).
Colour: light brown, most of surface burnt to orange-black.

Button-shaped disc. Complete. Badly cracked through the action of salts.

667 **Disc** 6G76:39 in AbS 1833 Fig. 6:1
Batch 2601, context A (surface).
Diameter: 24 mm. Thickness: 9 mm.
Unbaked clay, with mainly fine grit (and sparse vegetable) inclusions.
Colour: fabric light brown, surface dark brown.

Button-shaped disc. Complete. Finger impressions on one face.

668 **Disc** 6G76:753a in AbS 2067 Fig. 6:1
Batch 2653, context L (fill of Pit i in Ash-Tip Phase 3).
Maximum diameter: 20 mm. Thickness: 8 mm.
Unbaked clay. Some salts adhering on convex face.
Colour: 7.5YR 4/2 dark brown/ brown.

Convex disc. Complete.

669 **Disc** 6G86:145a in AbS 2067 Fig. 6:1
Batch 1932, context G (Ash-Tip Phase 3).
Maximum diameter: 21 mm. Thickness: 9 mm.
Unbaked clay.
Colour: 10YR 7/4 very pale brown.

Convex disc. Complete. Some concretion on upper surface.

670 **Disc** 6G76:947c in AbS 1833
Batch 2605(S-2), context G (Ash-Tip Phase 3).
Diameter: 22 mm. Thickness: 5 mm.
Unbaked clay, with sparse fine grit and vegetable inclusions.
Colour: dark brown.

Convex upper(?) face, with faint finger impressions. Complete.

671 **Disc** 6G76:214 in AbS 1833 Fig. 6:2
Batch 2616, context G (Ash-Tip Phase 3).
Diameter: 24 mm. Thickness: 7 mm.
Unbaked clay, with mainly medium to fine vegetable (and sparse grog) inclusions.
Colour: orange-brown.

One convex face, with shallow finger impressions; other face more flat. Complete.

672 **Disc** 6G76:256a in AbS 1833 Fig. 6:2
Batch 2620, context T (Ash-Tip Phase 3).
Diameter: 27 mm. Thickness: 7 mm.
Unbaked clay, with sparse fine grit inclusions.
Colour: light orange brown, burnt to dark brown on flat surface.

One convex face, with shallow finger impressions; one flat face, with possible ?reed impressions. Complete.

673 **Disc** 6G76:841 in AbS 2067 Fig. 6:2
Batch 2669, context G (Ash-Tip Phase 3).
Maximum diameter: 29 mm. Thickness: 11 mm.
Unbaked clay, probably sun-hardened.
Colour: 7.5YR 5/2 brown.

Convex disc. Complete. Incised lines on one edge.

674 **Disc** 6G76:68g in AbS 1833
Batch 2603(S), context G (Ash-Tip Phase 3).
Extant dimensions: 34 x 14 mm.
Thickness: 6 mm.
Unbaked clay, with sparse grit and vegetable inclusions.
Colour: dark brown.

Approximately one third of disc. One face slightly convex, the other flat. Smoothed original outer edge.

675 **Disc** 6G76:146 in AbS 1833 Fig. 6:2
Batch 2610, context G (Ash-Tip Phase 3).
Diameter: 39 mm. Thickness: 9 mm.
Unbaked (or possibly very lightly fired) clay, with sparse fine grit inclusions.
Colour: fabric dark brown; slightly pinkish on surface.

Complete. Rather rough surface, convex on one face, concave on the other, possibly slightly broken during manufacture. Irregular outer edge.

676 **Disc** 6G76:55 in AbS 1833 Fig. 6:2
Batch 2603, context G (Ash-Tip Phase 3).
Diameter: 42 mm. Thickness: 4 mm.
Heat-hardened unbaked or lightly fired clay, with fine to coarse grit inclusions.
Colour: fabric dark brown, concave surface light orange-brown, convex surface burnt lustrous black.

Complete. One face mildly concave, the other more markedly convex.

677 **Disc** 6G76:68b in AbS 1833
Batch 2603(S), context G (Ash-Tip Phase 3).
Diameter: 34 mm (x 26 mm). Thickness: 10 mm.
Unbaked clay, with sparse medium grit and vegetable inclusions.
Colour: fabric light orange-brown, surface light brown tending to pink.

Rough "disc", slightly broken on a small part of the edge, but always very irregular in outline. Some shallow finger impressions on the surfaces.

678 **Disc** 6G76:205 in AbS 1833 Fig. 6:2
Batch 2615, context G (Ash-Tip Phase 3).
Diameter: 38 mm. Thickness: 13 mm.
Unbaked clay (or possibly very lightly fired), with very sparse fine grit inclusions.
Colour: dark brown.

Thick disc, with two holes roughly perforated near the edge and pierced in two further places on one face. Hand-modelled; surface covered in finger impressions.

679 **Disc** 6G76:313 in AbS 1833 Fig. 6:2
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Diameter: 41 mm (x 35 mm). Thickness: 16 mm.
Unbaked clay, with fine grit inclusions.
Colour: light brown, surface burnt to lustrous black.

Disc-shaped fragment of clay, token or perhaps a waste piece from figurine making(?). Flat ?underside, irregular ?upper face with partly bevelled edge, covered in finger-prints and finger-nail impressions.

6.2.2 *Spheres* (**680-683**)

680 Sphere 6G76:101 in AbS 1833 Fig. 6:2
Batch: 2605(S-2), context G (Ash-Tip Phase 3).
Maximum diameter: 23 mm.
Unbaked clay.
Colour: 7.5YR 5/2 brown.

Complete ball.

681 Sphere 6G76:139 in AbS 1833 Fig. 6:2
Batch 2610, context G (Ash-Tip Phase 3).
Diameter: 23 mm.
Unbaked clay.
Colour: dark brown.

Complete ball.

682 Sphere 6G76:45 in AbS 1833 Fig. 6:2
Batch 2603, context G (Ash-Tip Phase 3).
Diameter: 25 mm.
Unbaked clay.
Colour: dark brown.

Complete ball.

683 Sphere 6G76:757 in AbS 2067 Fig. 6:2
Batch 2657, context J. Grave 178 (in Ash-Tip Phase 3), within small jar 6G76:739.
Size: 44 (maximum diameter) x 26 mm.
Unbaked clay. Slight concretion.
Colour: 7.5YR 3/2 dark brown, surface burnt to 10YR 4/1 dark grey.

Complete ball.

6.2.3 *Cylinders* (**684-691**)

684 Cylinder 6G86:145b in AbS 2067 Fig. 6:2
Batch 1932, context G (Ash-Tip Phase 3).
Maximum diameter: 13 mm. Thickness: 11 mm.
Unbaked clay.
Colour: 10YR 4/3 dark brown/ brown.

Cylindrical piece. Small perforation at one end.

685 Cylinder 6G76:820b in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Height: 21 mm. Diameter: 14 mm.
Unbaked clay.
Colour: 7.5YR 6/2 pinkish grey.

Cylindrical piece.

686 Cylinder 6G76:634 in AbS 1834
Batch 2644, context J (fill of Grave 146 in Ash-Tip Phase 3).
Height: 22 mm. Diameter: 14 mm.
Unbaked clay.
Colour: not recorded.

Rough cylindrical piece of clay.

687 Cylinder 6G76:820e in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Length: 22 mm. Diameter: 10 mm.
Unbaked clay.
Colour: 7.5YR 6/2 pinkish grey.

Cylindrical piece.

688 Cylinder 6G76:828g in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Extant length: 24 mm. Diameter: 8 mm.
Unbaked clay.
Colour: 10YR 7/3 very pale brown.

Cylindrical piece.

689 Cylinder 6G76:218 in AbS 1834 Fig. 6:2
Batch: 2616, context G (Ash-Tip Phase 3).
Extant length: 35 mm. Base diameter: 25 mm.
Unbaked clay.
Colour: not recorded.

Cylindrically shaped object, slightly splayed at the base.

690 Cylinder 6G76:374 in AbS 1834 Fig. 6:2
Batch 2620, context T (Ash-Tip Phase 3).
Height: 45 mm. Thickness: 28 mm.
Unbaked clay.
Colour: not recorded.

Flattened cylindrical piece.

691 Semi-cylinder 6G76:344 in AbS 1834
Batch 2619, context J (fill of Grave 130 in Ash-Tip Phase 3).
Extant length: 25 mm. Thickness: 13 mm.
Unbaked clay.
Colour: not recorded.

Small piece, shaped roughly like half a longitudinally sectioned cylinder.

6.2.4 *Ovoids* (**692-696**)

692 Ovoid 6G76:947b in AbS 1833
Batch 2605(S-2), context G (Ash-Tip Phase 3).
Diameter: 8 mm. Thickness: 9 mm.
Unbaked or lightly fired clay, without visible inclusions.
Colour: light brown, surface burnt (or fired) to a lustrous dark brown.

Bean-shaped. Very smooth surfaces. Complete.

693 Ovoid 6G76:256d in AbS 1833 Fig. 6:2
Batch 2620, context T (Ash-Tip Phase 3).
Diameter: 25 mm (x 9 mm). Thickness: 4 mm.
Unbaked clay, apparently with sparse fine grit inclusions (although the absence of breaks makes this difficult to determine).
Colour: orange-brown on surface (no breaks to determine fabric colour).

Rather oval shape. Complete.

694 Ovoid 6G76:753b in AbS 2067 Fig. 6:2
Batch 2653, context L (fill of Pit i in Ash-Tip Phase 3).
Length: 29 mm. Width: 14 mm.
Thickness: 8 mm.
Lightly baked clay.
Colour: fabric 10YR 8/4 very pale brown; surface partly the same, partly 10YR 7/4 very pale brown.

Ovoid. Complete.

695 Ovoid 6G76:256b in AbS 1833 Fig. 6:2
Batch 2620, context T (Ash-Tip Phase 3).
Diameter: 39 mm (x 24 mm). Thickness: 11 mm.
Apparently unbaked clay, hardened by heavy burning.
Medium and fine grit and grog inclusions.
Colour: dark brown, with orange patches especially near convex face.

Oval fragment. One convex face, one flat. Complete.

696 Ovoid 6G86:114 in AbS 2067 Fig. 6:2
Batch 1919, context G (Ash-Tip Phase 3).
Size: 54 x 46 x 9 mm.
Baked clay. Fine to medium vegetable inclusions.
Colour: fabric 10YR 6/3 pale brown; surface 10YR 8/4 very pale brown.

Large ovoid. Finger impressions on convex surface. Some concretion on flat surface. Complete.

6.2.5 *Cones* (**697-703**)

697 Cone 6G76:828f in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Height: 6 mm. Maximum diameter: 5 mm.
Unbaked clay.
Colour: 10YR 7/3 very pale brown.

Truncated cone. Complete.

698 Cone 6G76:207 in AbS 1833 Fig. 6:3
Batch 2616, context G (Ash-Tip Phase 3).
Height: 15 mm. Diameter: 5 — 13 mm.
Unbaked clay, apparently with fine grit inclusions (to judge from surface).
Colour: on surface, pinkish orange, earth-stained (or burnt ?) black on one side.

Apparently complete, conical piece.

699 Cone 6G76:513 in AbS 1833 Fig. 6:3
Batch 2608(S-3), context G (Ash-Tip Phase 3).
Length: 19 mm. Maximum diameter: 12 mm.
Unbaked clay.
Colour: not recorded.

Small conical piece with convex end.

700 Cone 6G76:43 in AbS 1833 Fig. 6:2
Batch 2603, context G (Ash-Tip Phase 3).
Size: 23 x 15 x 20 mm.
Unbaked clay.
Colour: dark brown.

Conical lump.

701 Cone 6G76:947d in AbS 1833
Batch 2605(S-2), context G (Ash-Tip Phase 3).
Diameter: 28 mm. Thickness: 13 mm.
Unbaked clay, with sparse fine grit inclusions.
Colour: dark brown, with lighter brown on and close to surfaces.

A disc-shaped fragment with raised centre, one edge broken. Token(?) or possibly the base of a reject human figurine(?).

702 Cone 6G77:82 in AbS 2067
Batch 3912, context G (Ash-Tip Phase 3).
Size: 18 x 17 x 11 mm.
Unbaked clay, with sparse vegetable inclusions.
Colour: 7.5YR 4/4 dark brown/brown — 10YR 5/3 brown.

Cone. Token(?) or possibly a miniature upright-handle, from a miniature upright-handled jar(?) (520).

703 Cone 6G86:167 in AbS 2067 Fig. 6:3
Batch 1932, context G (Ash-Tip Phase 3).
Height: 26 mm. Base diameter: 21 mm.
Diameter of vertex: 9 mm.
Unbaked clay. Concretion on one side.
Colour: at vertex 7.5YR 5/2 brown, much burnt to 7.5YR N2/ black.

Cone. Token(?) or possibly a jar stopper(?).

6.2.6 *Pyramid* (**704**)

704 Pyramid 6G76:438 in AbS 1833 Fig. 6:3
Batch 2616, context G (Ash-Tip Phase 3).
Size: 31 (extant) x 18 x 15 mm.
Unbaked clay, with medium grog inclusions.
Colour: light brown.

Pyramid shaped fragment, three smooth faces meeting at a point. At the 'base' was a projection, now broken.

6.2.7 *Crescent* (**705**)

705 Crescent 6G86:50 AbS 1896 Fig. 6:3
Batch 1906, context G (Ash-Tip Phase 3).
Length: 30 mm. Width: 13 mm.
Thickness: 10.5 mm.
Diameters of bores: 15, 20 and 20 mm.
Unbaked clay. Vegetable and grit inclusions. Some concretions.
Colour: fabric 7.5YR 6/2 pinkish grey; surface 5YR 5/3 reddish brown.

Crescentic lump, with three borings, one completely perforating. Complete. Cf. Uruk type VIII subtype 3 (Schmandt-Besserat 1988, Nos. 574-577).

6.2.8 *Triangles* (**706-708**)

706 Triangle 6G76:219 in AbS 1834 Fig. 6:3
Batch 2616, context G (Ash-Tip Phase 3).
Size: 41 x 23 mm (extant).
Unbaked clay.
Colour: not recorded.

Shaped piece of clay, roughly triangular. Possibly slightly broken.

707 Triangle 6G76:113 AbS 1508 Fig. 6:3
Batch: 2608, context G (Ash-Tip Phase 3).
Size: 36 x 25 x 16 mm.
Unbaked clay. Mixed fine vegetable and fine grit inclusions, with a few medium-size vegetable impressions and grits.
Colour: 5YR 5/3 reddish brown, much of surface burnt to 10YR 4/1 dark grey.

Curved triangular lump, certainly shaped but not recognisable as any specific item. If it is not a token(?) it might be waste clay from the fashioning of a figurine(?); it does not seem itself to be a figurine fragment. At one end the thumb has been pressed into the wet clay, while at the other end the clay has been stretched between the thumb and forefinger. There are a number of clear finger impressions.

708 Triangle 6G76:820d in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Size: 25 x 12 x 10.5 mm.
Unbaked clay.
Colour: 7.5YR 6/2 pinkish grey.

Triangular shaped piece. Complete.

6.2.9 *Rectangle* (**709**)

709 Rectangle 6G76:544 in AbS 1833 Fig. 6:3
Batch 2625, context T (Ash-Tip Phase 3).
Size: 33 (extant) x 36 x 22 mm.
Unbaked clay, with fine vegetable inclusions.
Colour: fire-blackened.

Roughly rectangular lump, broken. Smooth faces. Possible hole on one side and on one edge.

6.2.10 *Cuboids* (**710-712**)

710 Cuboid 6G76:310 in AbS 1833 Fig. 6:3
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Size: 38 (extant) x 28 (extant) x 22 mm.
Unbaked clay.
Colour: burnt to grey on surface.

Corner fragment of cuboid. Unbroken faces smoothed flat and with finger impressions.

711 Cuboid 6G76:828c in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Size: (as extant) 36 x 15 x 5 mm.
Unbaked clay.
Colour: 10YR 7/4 very pale brown.

Cuboid.

712 Cuboid 6G76:638 in AbS 1833 Fig. 6:3
Batch 2638, context K (?Ash-Tip Phase 3).
Size: 26 x 16 x 16 mm.
Unbaked clay, apparently with medium to fine grit inclusions.
Colour: burnt light grey on surface (no breaks to determine fabric colour).

Cuboid, one surface slightly concave.

6.2.11 *Bulb-shapes* (**713-714**)

713 Bulb 6G76:828h in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Size: 24 x 12 x 9.5 mm.
Unbaked clay.
Colour: fabric 5YR 5/3 reddish brown, surface mainly burnt to 10YR 4/1 dark grey.

Bulbous lump.

714 Bulb 6G76:497 in AbS 1833 Fig. 6:3
Batch 2625, context T (Ash-Tip Phase 3).
Extant length: 23 mm. Central diameter: 15 mm.
Unbaked clay.
Colour: not recorded.

Toggle-shaped piece, broken at one end. A fragmentary token(?) or possibly a kiln-spacer(?).

6.2.12 *T-shape* (**715**)

715 T-shape 6G76:234 in AbS 1834 Fig. 6:3
Batch 2616, context G (Ash-Tip Phase 3).
Height: 30 mm. Length of 'T-bar': 29 mm.
Unbaked clay.
Colour: not recorded.

T-shaped piece of clay.

6.2.13 *Miscellaneous forms* (**716-721**)

716 Token(?) 6G76:195 in AbS 1834
Batch: 2614, context G (Ash-Tip Phase 3).
Extant height: 12 mm. Base diameter: 20 mm.
Unbaked clay.
Colour: not recorded.

717 Token(?) 6G77:87 in AbS 2067 Fig. 6:3
Batch 3909, context J (fill of Grave 186 in Ash-Tip Phase 3).
Size: 20 x 13 mm.
Unbaked clay.
Colour: not recorded.

Hand-made piece.

718 Token(?) 6G76:560 in AbS 1834
Batch 2623, context T (Ash-Tip Phase 3).
Size: 18 x 19 mm.
Unbaked clay.
Colour: not recorded.

719 Token(?) 6G76:522 in AbS 1834
Batch 2628, context L (fill of Pit g in Ash-Tip Phase 3).
Size: 20 x 18 mm.
Unbaked clay.
Colour: not recorded.

720 Token(?) 6G76:437 in AbS 1834
Batch 2616, context G (Ash-Tip Phase 3).
Extant height: 23 mm. Width: 29 mm.
Unbaked clay.
Colour: not recorded.

721 Token(?) 6G76:178 AbS 1507
Batch: 2610, context G (Ash-Tip Phase 3).
Size: 31 x 21 x 19 mm.
Unbaked clay. Mainly fine vegetable inclusions.
Colour: fabric 7.5YR 3/2 dark brown; surface 7.5YR 5/2 brown.

Shaped fragment, not recognisable as a figurine fragment; if not a token(?) perhaps a waster(?). Many finger impressions.

7

Tablets
(722-725)

J.N. Postgate

7.1 *Introduction*

Only one significant piece of cuneiform writing came from the Ash-Tip, the remainder being useless fragments or uninscribed. **722** and **723** will be included with the other cuneiform texts found at the site since 1975 in the next supplement to the "Inscriptions from Abu Salabikh", which will be published in our journal *Iraq*.

7.2 *Catalogue* (722-725)

722 **Tablet** 6G76:83 AbS 1739 Fig. 7:1
Batch 2605, context G (Ash-Tip Phase 3).
Height (maximum extant): 56 mm.
Width (maximum extant): 57 mm.
Thickness: 38 mm.

Unbaked clay, with blackened surface. Fragment from right-hand side of a large administrative tablet, originally with several columns. The obverse (identified as such because flatter than the reverse, which is quite noticeably convex) has parts of 4, the reverse parts of 2 columns surviving.

List of personal names. The parts of the text preserved seem to be arranged in 2 line sections along the pattern PN_1/PN_2: "PN_1, man of PN_2". The names include Dada, Ištup-il and Išlul-il, all familiar in Pre-Sargonic texts from Abu Salabikh and elsewhere.

There is nothing in the palaeography of the tablet to differentiate it from the main body of the Abu Salabikh tablets, so that an ED III date for the fragment (though not, of course, necessarily for its provenance) is reasonably certain; at present neither palaeography nor prosopography allow of more precision.

Postgate 1980a, 93, 104, Pl. XI*a* [photo. of obv.].

723 **Tablet** 6G76:465 AbS 1740
Batch 2623, context T (Ash-Tip Phase 3).
Height (maximum extant): 26 mm.
Width (maximum extant): 21 mm.
Thickness: 27 mm.

Unbaked clay. Small fragment from left-hand edge of a big, well-formed tablet, straight-sided (i.e., not a rounded tablet). Probably from near the top.

Only traces of 2 cases of accomplished cuneiform script survive. The only signs preserved are probably: *i-x[....] e^2[....].*

724 **Tablet** 6G86:35 AbS 1885
Batch 1902, context G (Ash-Tip Phase 3).
Size (extant): 12 x 12 cm.

Unbaked clay fragment from upper right-hand corner of a rounded tablet.

Only the slightest traces of cuneiform wedges visible.

725 **Tablet(?)** 6G86:204
Batch 1948, context P (not necesarily from the Ash-Tip).
Size (extant): 26 x 18 x (thickness) 13 mm.

Unbaked clay. Fragment from upper right-hand corner of a tablet(?).

No traces of inscription preserved.

8
BAKED CLAY CONES
(726-742)

Anthony Green

8.1 *Introduction*

Baked clay cones are common on pre- and early historic sites in south Mesopotamia. They are especially common at Uruk in the Late Uruk/Jemdet Nasr period, when they are known to have been used as mural decoration, the tips being fixed into the plaster, the painted heads providing a mosaic effect (cf. e.g. Frankfort 1970, 24-25, with Figs. 8-9); Adams & Nissen (1972, 211) also note a site in their survey (WS 245) where "a part of a wall with clay cones in situ still stood above the surface". At Uruk the cones were found in major buildings, although Adams and Nissen note that they found such cones on a number of quite small sites, suggesting that "this kind of decoration was not confined to large sacred or public buildings". Certainly, at Abu Salabikh a large number has been found in the 6H82 House (see below).

In the Warka Survey such cones were recovered from 18 sites of 'Ubaid to ED I date (Adams & Nissen 1972, 211). At Abu Salabikh 43 of "Uruk" (pre-ED) and ED I date were found in surface clearance on the West Mound (cf. J. Eidem in *ASE* 1, 87-88, Pl. IX*a*),[1] and another 39 (and 2 hand-made hollow cones) were retrieved in excavations on the West Mound in 1981 (for these excavations, cf. for now Postgate & Moon 1982, 104-105; 1984a, 741-742). Numbers of such cones have also been recovered from the excavations on the Uruk Mound. Two cones were retrieved in 1977 in the "rescue" work on the site of the channel clearance through the ED I deposits of the North-East Mound (cf. Postgate 1978, 80; Postgate & Moon 1984a, 733; for the dating cf. Postgate 1980a, 96).

Such cones, however, are also quite common in ED III contexts at the site. They have not yet been discovered, though, in situ as wall decoration, if indeed that remained their function and the excavator would adhere to a pre-Early Dynastic date (Postgate 1984a, 108). The presence of quite a significant number (18) in the Ash-Tip would make attractive some interpretation linking these cones directly to the main material assemblage. However, they cannot be the door pegs whose impressions are so common on the clay sealings (cf. R. Matthews, above, p. 36, § 2.2.2.1.1). Nor are the cones in any sense peculiar to the Ash-Tip; unlike the sealings, figurines, model chariot fragments, miniature vessels, pottery discs and 'tokens' (chs. 2-6), they occur in far greater numbers elsewhere. They are known from almost all investigated areas of the Main Mound. In Area A some 50 come from the North-West Building, about 230 from the Southern Building, and over 40 from the 4I Industrial Area. More than 800 come from the southern (ED III) sector of the residential area between Areas A and E, over 600 of them from the 6H82 House. In Area E, about 120 have been found in and around the Central Complex, about 50 in the area of the South-East Complex, and some 50 also in the so-called "Eastern Houses". I assume, however, that those present in the Ash-Tip come from the building, perhaps a temple, for which the Ash-Tip was the rubbish dump (cf. above, p. 7, § 1.3.8) and they may represent occasional broken, damaged or loosened cones from the mural decoration of that building. Alternatively, or as well, they might derive from the cutting back of Level 2 walls in the initial excavation of the Tip, in which case they would pre-date the main Ash-Tip material assemblage.

6G86:266 (Fig. 8:2)[2] is not from the Ash-Tip, but from the brickwork of a surviving wall on the extreme east side of the South-East Complex, enclosing the Ash-Tip on its west side (batch 1972; cf. p. 8 and Fig. 1:9, grid-square 6G86). This suggests that it may have been in its original position, set into the wall, which may account for its state of preservation (including possible paint) and for the salt-crystals covering its surface (since accumulation of salts often mark out the faces of walls).

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1 The object numbers are: 2GS:24a, 24b, 34, 36, 44, 50, 53b, 63, 74, 81, 88 (*ASE* 1, 87 Fig. 300, Pl. IX*a* middle column top), 112, 170 (*ASE* 1, 87 Fig. 302, Pl. IX*a* right column bottom), 197, 201, 227 (*ASE* 1, Pl. IX*a* right column middle), 245 (*ASE* 1, Pl. IX*a*, middle column bottom), 252, 253, 264, 265, 275, 289 (*ASE* 1, 87 Fig. 298, Pl. IX*a* left column middle), 295, 296, 297; 3GS:1b, 4 (*ASE* 1, 87 Fig. 301, Pl. IX*a* left column top), 8, 11, 20, 21a, 21b, 21c, 21d, 24a (*ASE* 1, 87 Fig. 299, Pl. IX*a* left column bottom), 24b, 26, 38, 41, 45, 47 (*ASE* 1, 87 Fig. 297, Pl. IX*a* right column top) and 108.

2 Length: 53 mm; diameter: 10-14 mm. Almost complete. Slightly abraded at head, which was probably originally more pointed. Broken at dorsal end, making an indentation. Baked clay, with mainly fine vegetable inclusions. Surface covered in salt-crystals. Colour: fabric 10YR 8/4 very pale brown; surface 10YR 8/3 very pale brown; some possible traces of black paint(?) on surface.

Although it may be somehat different in date from some of the pieces from the Ash-Tip, earlier (if the latter derive from the later rebuild) or later (if they come from disturbed Level 2 structures), it may indicate that baked clay cones did indeed adorn the walls of this building in rooms close to the Tip. A further slight indication of the function of these cones in the ED III period is provided by the context of two from the 6H82 House (cf. on this building p. 113, § 4.4.2), each of which was affixed into a plano-convex mud-brick (6H82:136, 6H83:81). Another find from this building (6H82:650) shows something further of how the cones were used: it is a plug shaped from bitumen to fit into the head of a cone (diameter: 17 mm).

8.2 *Catalogue* (726-742)

726 **Cone** 6G86:119 in site store Fig. 8:1
Batch 1923, context G (Ash-Tip Phase 3).
Length: 77 mm. Diameter: 3 - 14 mm.

Complete (restored from two fragments). Chipped at head and dorsal end.

Baked clay, with mainly fine vegetable (and sparse fine grit) inclusions

Colour: fabric 10YR 7/4 very pale brown; surface 10YR 8/3 very pale brown, with traces of original paint 10YR 6/1 grey/light grey.[1]

727 **Cone** 6G76:808 in site store
Batch 2664, context H (not certainly from the Ash-Tip).
Length: 60 mm. Maximum extant diameter: 17 mm.
Original dorsal diameter: c. 17-18 mm.
Diameter of head: 15 mm.

One edge broken off along long axis.

Baked clay, with mainly fine vegetable inclusions.

Colour: fabric apparently refired to 7.5YR 6/4 light brown; original surface 10YR 8/3 very pale brown, now for the most part abraded to 7.5YR 6/2 pinkish grey, partly burned to slight variations on 10YR 4/1 dark grey.

728 **Cone** 6G86:4 in site store
Batch 1900, context A (surface).
Length: 57 mm. Diameter: 12 - 15 mm.

Baked clay, with mainly fine vegetable inclusions.

Colour: fabric 10YR 7/4 very pale brown; surface 10YR 8/2 white.

729 **Cone** 6G86:108 in site store
Batch 1912, context G (Ash-Tip Phase 3).
Length: 56 mm. Diameter: 17 -18 mm.

Baked clay, with mainly fine to medium vegetable inclusions. Surface concretions, including burnt clay.

Colour: fabric mostly 5YR 7/6 reddish yellow; core 5YR 7/8 reddish yellow; fabric close to surface 7.5YR 7/4 pink; surface 10YR 8/3 very pale brown.

730 **Cone** 6G76:556 in site store
Batch 2631, context L (fill of Pit h in Ash-Tip Phase 3).
Length 54 mm. Diameter: 9 - 14 mm.

Baked clay, with fine vegetable (and some grog) inclusions. Light finger impressions on surface.

Colour: fabric 10YR 7/3 very pale brown; powdery surface 10YR 8/3 very pale brown, with traces of paint 10YR 4/1 dark grey.

731 **Cone** 6G86:241 in site store
Batch 1949, context H (not certainly from the Ash-Tip).
Length: 50 mm. Diameter: 13 - 14 mm.

Baked clay, with mainly fine to medium vegetable inclusions.

Colour: fabric 7.5YR 7/4 pink; powdery surface 10YR 8/3 very pale brown.

732 **Cone** 6G76:855 in site store
Batch 2669, context G (Ash-Tip Phase 3).
Length: 49 mm. Diameter: 10 - 15 mm.

Baked clay, with fine vegetable inclusions.

Colour: fabric 5Y 8/3 pale yellow; surface 10YR 8/3 very pale brown.

Crude pointed head.

733 **Cone** 6G96:7b in site store
Batch 3800, context A (surface).
Length: 44 mm. Diameter: 11 - 15 mm.

Baked clay, with fine vegetable and calcareous grit inclusions. Surface badly chipped and weathered, and affected by the action of salts.

Colour: fabric 7.5YR 8/6 reddish yellow; surface 7.5YR 7/4 pink with occasional 2.5YR 6/6 light red.

734 **Cone** 6G86:232 in site store
Batch 1959, context U (fill of pit to west of Tip, not necessarily from the Ash-Tip).
Length: 43 mm. Diameter: 11 - 14 mm.

Baked clay, with mainly fine vegetable (and sparse fine grit and grog) inclusions.

Colour: fabric 2.5Y 8/4 pale yellow; surface 10YR 8/2 white.

735 **Cone** 6G76:771 in site store Fig. 8:1
Batch 2655, context G (Ash-Tip Phase 3).
Length: 42 mm. External diameter: 18 - 20 mm.
Internal dorsal diameter: 8 - 14 mm.
Depth of dorsal cavity: 8 mm.

Baked clay, with mainly fine vegetable inclusions. Some salt on surface.

Colour: fabric 2.5Y 8/4 pale yellow; surface 10YR 8/3 very pale brown.

736 **Cone** 6G76:397 in site store Fig. 8:1
Batch 2611, context G (Ash-Tip Phase 3).
Extant length: 36 mm. Diameter: 12 - 14 mm.

Baked clay, with fine vegetable and grog inclusions.

Colour: fabric and some of surface 5Y 7/3 pale yellow; most of surface burnt to 7.5YR 5/2 brown, with variations.

1 Colour references are to Munsell 1975.

737 Cone 6G76:871a in site store
Surface (no batch number), context A.
Extant length: 48 mm. Diameter: 17 - 19 mm.

Broken at head.

Baked clay, with mainly fine vegetable inclusions. Surface badly eroded and affected by the action of salts.

Colour: fabric and surface 2.5Y 8/4 pale yellow.

738 Cone 6G96:3 in site store
Batch 3801, context A (surface).
Length: 43 mm. Diameter: 16 - 19 mm.

Broken at head.

Baked clay, with mainly fine vegetable inclusions. Surface covered in salt-crystals.

Colour: fabric 5Y 8/3 pale yellow; surface 2.5Y 8/4 pale yellow.

739 Cone 6G76:417 in site store
Batch 2625, context T (Ash-Tip Phase 3).
Length: 23 mm. Diameter: 12 - 13 mm.

Broken at head.

Baked clay, with mainly fine vegetable inclusions, some grog and sand.

Colour: fabric 5Y 7/3 - 7/4 pale yellow; surface burnt to variations between 7.5YR 4/2 brown/dark brown and 7.5YR 7/4 pink.

740 Cone 6G96:7a in site store
Batch 3800, context A (surface).
Length: 48 mm. Maximum extant diameter: 16 mm.
Diameter at head: 13 mm.

Dorsal end broken.

Baked clay, with mainly fine to medium vegetable inclusions. Surface affected by the action of salts.

Colour: fabric 10YR 7/4 very pale brown; surface 10YR 8/3 very pale brown.

741 Cone 6G76:871b in site store
Surface (no batch number), context A.
Length: 31 mm. Diameter: 17 - 19 mm.

Broken at dorsal end.

Baked clay, with mixed fine grit (including calcareous) and vegetable inclusions.

Colour: fabric 2.5Y 7/2 light grey; surface 5Y 8/4 pale yellow and slightly lighter version of 10YR 7/3 very pale brown.

742 Cone 6G77:91 in site store
Batch 3903, context H (not certainly from the Ash-Tip).
Extant length: 42 mm. Extant diameter: 15 - 16 mm.

Fragment from stem, broken at both ends.

Baked clay, with mainly fine vegetable inclusions.

Colour: fabric 2.5Y 8/2 white; surface 10YR 8/3 very pale brown.

9

MISCELLANEOUS CLAY OBJECTS (743-769)

Anthony Green

9.1 *Introduction*

The following section comprises catalogue entries for a number of clay items recovered from the Ash-Tip which could not appropriately be included in previous chapters. They are all uncommon finds which, though some may derive from the building associated with the Tip, are apparently not part of the essential material assemblage, or are apparently meaningless unidentified forms. As will be seen from the recorded contexts, the majority in fact do not certainly come from the Ash-Tip.

The model boat fragments **743** and **744** (also possibly **536**?) perhaps belong with the other figurines, and may, as an alternative symbol of transport, be comparable to the model chariot parts. Crawford (1972, 17) mentions from the ED IIIb Area C burnt building at Al-Hiba an "assortment of miniature clay chariot parts – wheels and bodies – and model boats and fragments of the same also in clay". Possibly the (apparently) greater number of model boats in this assemblage, otherwise very close to that of the Ash-Tip (cf. above, p. 20, § 1.9), was due merely to the location and local cult practices of Al-Hiba as compared with more inland Abu Salabikh. Nevertheless, the model boats cannot be regarded as a essential component in the material assemblage from the Ash-Tip – nor even, given the mixed nature of their excavation units, are they definitely from the Tip. They have therefore been included here in preference to chapter 3.

747-752 are fragmentary baked clay sickles. Such sickles are commonly found on southern Mesopotamian sites dating back to the 'Ubaid period. The Warka Survey found examples on sites of the 'Ubaid, Early Uruk, Late Uruk and Jemdet Nasr periods (Adams & Nissen 1972, 208). They are also common in the Early Dynastic. They are found widely in all investigated areas at Abu Salabikh.[1] Apart from some 'Ubaid painted examples (Hall & Woolley 1927, 48, Pl. XV 4), such sickles are virtually identical over the long period of their existence, although Adams and Nissen (1972, 208) thought that there might be an increase in size after the 'Ubaid. In all periods they are made of heavily fired and therefore greenish coloured clay.

Jesper Eidem (in *ASE* 1, 88) has touched upon the question of the reported predominance of left-handed sickles:

> A special problem is presented by the shape of the sickles: they all have one flat and one curving surface, and granted that the curving surface would be face-up, they were probably made for use in the left hand (cf. Adams & Nissen 1972, p. 208). Unfortunately we have no pictures of people actually using sickles, but it would seem highly impractical to hold it with the left hand. More important, the wearing of the blade points to use with the right hand.

It seems to me that the confusion arises because Adams and Nissen had assumed that the use of a sickle involved drawing it towards the body, whereas an arm action away from the person would be almost as easy and less dangerous, and is the most usual method employed today. In that case, with the curved face still uppermost, the majority of clay sickles would be for right-handed use.[2] On these criteria, two of the sickles below are right-handed (**747** and **748**), one for use in the left-hand (**749**) and one too fragmentary to decide (**750**); the two remaining I have not been able to see (**751-752**).

A hint that the presence of clay sickles in the Ash-Tip would not be entirely fortuitous is provided by the fact that in the collection of flaked stone from the Tip, sickle blades were the only tool present and accounted for approximately one third of the total flints recovered (cf. R. Miller & J. Rees Miller, below,

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1 For example, at the time of writing, on the Main Mound 45 have been found in the area of the Area A Southern Building, 5 from the North-West Building, 12 from the 4I Industrial Area, 11 from the northern (ED II) sector of the residential quarter between Areas A and E, 33 from the southern sector, including at least 9 from the 6H82 House, 35 from Area E, including 18 from the Central Complex and at least 6 from the South-East Complex, and 4 from the so-called Eastern Houses.

On the West Mound, 187 clay sickles or sickle fragments were retrieved in the surface clearance operations (cf. J. Eidem in *ASE* 1, 88, 89 Fig. 313, Pl. IXb) and a further 19 in the subsequent West Mound excavations.

One clay sickle fragment was found in the North-East Mound 'rescue' excavation.

2 Cf. above, R. Matthews, p. 37, § 2.2.2.1.2, on the evidence from the clay sealings for "predominantly right-handed cord workers"

p. 170, § 13.4). In this context, the botanical remains from the Tip may also be of interest (ch. 16). However, the archaeological situations in which the clay sickles were found (surface clearance and a pit) do not allow us be be certain that *any* of them actually does come from the Ash-Tip.

9.2 *Catalogue (743-769)*

743 Model boat 6G76:883 AbS 2476 Fig. 9:1
Batch 2664, context H (Ash-Tip Phase 3 or other deposit).
Extant height at prow: 56 mm.
Minimum extant height at gunwale: 39mm.
Extant length: 48mm.
Maximum extant width: 20 mm.
Thickness of wall: 6 mm.

Baked clay, slightly overfired. Fine grit and grog inclusions. Hand-modelled.

Colour: fabric greenish orange, fired to greenish cream on internal and external surfaces.

Fragment. Flat base, with sides rising sharply to curved high peak prow.

744 Model boat 6G76:328 AbS 1555 Fig. 9:1
Batch 2620, context T (Ash-Tip Phase 3 or Akkadian/ Ur III drain-cut packing).
Extant height at prow: 17 mm.
Minimum extant height at gunwale: 11 mm.
Extant length: 25 mm.
Maximum extant width: 27 mm.
Thickness at base: 5.5 mm.

Unbaked clay, with vegetable inclusions. Hand-modelled.

Colour: 10YR 5/2 greyish brown.

Fragment. Flat base, with sides rising sharply to curved high peak prow.

745 Model furniture(?) 6G76:685 in AbS 1833 Fig. 9:1
Batch 2620, context T (Ash-Tip Phase 3 or Akkadian/ Ur III drain-cut packing).
Extant height: 11 mm. Extant length: 36 mm.
Width: 54 mm.

Baked clay, with medium to fine grit inclusions. Hand-modelled.

Colour: fabric light orange, surfaces cream.

Thin, flat fragment, curving upwards and smoothed off at the sides, probably originally rectangular. An incised lattice pattern decorates the ?upper face, a meandering row of dots is preserved ?beneath. Covered in numerous shallow finger impressions. Possibly part of a piece of model furniture, such as a bed, couch or chair?

746 Object 6G76:182 in AbS 1833 Fig. 9:1
Batch 2613(S), context H (Ash-Tip Phase 3 or other deposit).
Size: 52 x 33 (extant) x 26 mm.
Maximum diameter of perforation: 7 mm (narrows).

Unbaked clay, with fine grit inclusions.

Colour: light brown.

Roughly rectangular object, with parts broken off. Perforated through the centre. Possibly a reused fragment of an animal (quadruped) figurine (head broken off, small protrusion at one end as tail)? It is unlikely to be a 'token'.

747 Sickle 6G76:872a in AbS 2236
Subsurface (no batch number), context A.
Extant length: 94 mm. Width: 53 mm.
Thickness: 17 mm.

Baked clay, hard and overfired. Mainly medium to coarse vegetable inclusions, with a few fine calcareous grits and lumps of orange and white grog. Some air bubbles and interstices.

Colour: fabric core 5Y 3/1 very dark grey and 3/2 dark olive grey; surface and exterior fabric fired to 2.5Y 6/4 light yellowish brown.

Fragment of right-handed(?) sickle.

748 Sickle 6G76:872b in AbS 2236
Subsurface (no batch number), context A.
Length: 52 mm. Maximum width: 33 mm.
Thickness: 12 mm.

Baked clay. Mainly medium vegetable temper, with some fine calcareous grits. Many air-bubbles and interstices. Concave face badly abraded.

Colour: fabric core 5Y 5/3 olive; surface and exterior fabric fired to 2.5Y 6/4 light yellowish brown.

Fragment of right-handed(?) sickle.

749 Sickle 6G76:694 Fig. 9:1
Batch 2640, context L (fill of Pit i in Ash-Tip Phase 3).
Length: 91 mm. Width: 29 mm.
Thickness: 16 mm.

Baked clay. Mainly fine to medium vegetable inclusions, with a few fine grits of differing kinds.

Colour: fabric 5Y 7/4 pale yellow; surface, probably originally as fabric, now a slightly greenish version of 2.5Y 7/2 light grey.

Left-handed (?) sickle.

750 Sickle 6G86:294 Fig. 9:1
Surface (no batch number), context A.
Extant length: 51 mm. Width: 47 mm.
Maximum thickness: 10 mm.

Baked clay. Mainly fine vegetable inclusions, together with sparse fine calcareous grits. Badly affected by the action of salts.

Colour: fabric 2.5Y 7/4 pale yellow; surface a slightly paler version of 5Y 6/3 pale olive.

Too small a fragment is preserved to determine whether this was a right- or left-handed example.

751 Sickle 6G86S:2 (Discarded)
Surface (no batch number), context A.
Extant length: 53 mm. Width: 42 mm.
Thickness: not recorded.

Baked clay. No details.

752 Sickle 6G76:872c Fig. 9:1
Surface (no batch number), context A.
Extant length: 50 mm. Width: 29 mm.
Maximum thickness: 10 mm.

Baked clay. No details.

753 Drill(?)-disc 6G76:312 in AbS 1833
Batch 2618, context J (fill of Grave 130 in Ash-Tip Phase 3).
Maximum diameter: 49 mm. Thickness: 20 mm.

Baked clay, rather overfired, with fine to medium grit inclusions. Colour: fabric dark orange, surface burnt black.

Roughly circular piece of clay, one side truncated (apparently so moulded during production, not a later break). Rather rough surface. One face impressed near centre twice with the little finger; on the other face a small (diameter: 2 mm) hole. Possibly a reject model chariot wheel, but perhaps a protector for the palm of the hand and fingers used with the bow-drill (cf. the drill bits from Abu Salabikh: Unger-Hamilton, Grace, Miller & Bergman 1987).

754 Drill(?)-disc 6G76:151 in AbS 1833 Fig. 9:1
Batch 2610, context G (Ash-Tip Phase 3).
Maximum diameter: 62 mm.
Thickness: c. 17 mm [salt incrusted]

Baked clay, rather overfired, with fine to medium grit and sparse vegetable inclusions.

Colour: dark brown.

Roughly circular piece of clay, one side truncated in moulding. Rather rough surface. Partly broken. One face smooth, the other salt-encrusted. Possibly intended for use with the bow-drill, although in this case there is no central perforation.

755 Large disc 6G76:538 in AbS 1833 Fig. 9:1
Batch 2623, context T (Ash-Tip Phase 3 or Akkadian/ Ur III drain-cut packing).
Diameter: 50 mm. Thickness: 6 – 9 mm.

Unbaked clay, hardened by heat, with sparse fine and medium grit inclusions.

Colour: dark brown, with orange patches on undulating surface, light brown on flat surface.

Broken disc, just over a half preserved. One surface undulating, with smooth convex area and concave area covered in ?reed or ?wood-grain impressions, other face flat and completely covered in similar impressions.

756 Fragment 6G76:820c in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Height: 17 mm. Length: 13 mm.
Thickness: 8 mm.

Unbaked clay.

Colour: 7.5YR 4/2 dark brown/ brown.

Incurved fragment (possibly a miniature bowl body sherd ?).

757 Cylinder 6G76:154 Fig. 9:1
Batch: 2611, context G (Ash-Tip Phase 3).
Extant length: 51 mm. Diameter: 31 mm.

Coarse baked clay. Grog and straw inclusions. Many interstices. Burnished surface, one side now abraded. Colour: fabric 5YR 6/6 reddish yellow; surface 5YR 5/3 reddish brown.

Incomplete; broken at least at one end. Possibly a wall-cone (cf. ch. 8, 726-742), but with uniform diameter and larger than usual.[3]

758 Toggle(?) 6G76:301 in AbS 1833 Fig. 9:1
Batch 2616, context G (Ash-Tip Phase 3).
Length: 47 mm. Width: 16 mm.
Thickness: 20 mm.
Diameters of perforations: (ends) 3 mm, 3 mm, (centre) 4 mm.

Unbaked clay, with sparse fine grit inclusions.

Colour: light brown, one surface pink.

Toggle-shaped object, symmetrically perforated at the ends; also with a drilling in the centre, only partially through. Part of one rounded end and part of centre broken. A fixture or fitting?

759 Kiln spacer(?) 6G76:882
Batch 2655, context G (Ash-Tip Phase 3).
Distance end to end: 39 mm.
Length of each leg: 29 mm.
Maximum diameter: 16 mm.

Baked clay, apparently with fine grit inclusions (difficult to see because of absence of breaks).

Colour: orange, burnt to brown/grey on surface.

Complete and intact.

760 Object 6G86:278 in AbS 2067
Batch 1928, context J (fill of Grave 175 in Ash-Tip Phase 3).
Size: 53 x 21 x 16 mm.

Lightly baked clay. Virtually no inclusions (very sparse calcareous grits).

Colour: fabric 10YR 7/3 very pale brown, surface partly the same, partly fired to 10YR 8/4 very pale brown.

Folded over length of clay (waste fragment ?). Cf. 759 (not joining).

761 Object 6G86:277 in AbS 2067
Batch 1928, context J (fill of Grave 175 in Ash-Tip Phase 3).
Size: 42 x 19 x 22 mm.

Lightly baked clay. Virtually no inclusions (very sparse calcareous grits).

Colour: fabric 10YR 7/3 very pale brown, surface partly the same, partly fired to 10YR 8/4 very pale brown.

Folded over length of clay (waste fragment ?). Cf. 758 (not joining).

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3 Another possibility is that it is a cylinder seal blank, but although Early Dynastic clay cylinder seals are known (Gailani 1988, 2-3; from Abu Salabikh: Postgate & Moon 1982, Pl. V*a*), such seals seem to have been fired only after their designs had been cut and it is unlikely that this cylinder could have become as hard baked as it is from secondary incineration, since most of the clay items found in the Tip remained unbaked.

762 Fragment 6G76:828c in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Size: 27 x 17 x 9 mm.

Unbaked clay.

Colour: 10YR 8/4 very pale brown, surface rather darker at 10YR 7/3 very pale brown.

Folded over piece of clay with wood(?) impressions.

763 Fragment 6G76:561 in AbS 1833 Fig. 9:1
Batch 2623, context T (Ash-Tip Phase 3 or Akkadian/Ur III drain-cut packing).
Size: 39 (extant) x 27 x 18 mm.

Unbaked clay.

Colour: not recorded.

Broken piece without distinguishing features.

764 Fragment 6G76:820a in AbS 2067
Batch 2669, context G (Ash-Tip Phase 3).
Size: 29 x 29 x 20 mm.

Unbaked clay.

Colour: 7.5YR 6/2 pinkish grey.

Irregular lump (possibly waste product of figurine manufacture ?).

765 Fragment 6G77:102 in AbS 2234
Batch 3914, context G (Ash-Tip Phase 3).
Size: 19 x 19 x 12 mm.

Unbaked clay. Some surface concretion.

Colour: burnt to 10YR 3/1 very dark grey.

Irregular lump.

766 Fragment 6G86:27 in AbS 1879 Fig. 9:1
Batch 1904, context G (Ash-Tip Phase 3).
Size: 16 x 13 mm.

Unbaked clay.

Colour: not recorded.

Irregular flattened shape.

767 Fragment 6G77:103 in AbS 2234
Batch 3914, context G (Ash-Tip Phase 3).
Size: 15 x 14 x 13 mm.

Unbaked clay.

Colour: 5YR 5/3 reddish brown, with some of exterior surface 5YR 4/2 dark reddish brown.

Irregular lump. Possible light finger impressions on surface.

768 Fragments (4) 6G76:814b in AbS 2067
Batch 2667, context G (Ash-Tip Phase 3).
Size: (as extant) a. 31 x 25 x 10 mm.
b. 21 x 18 x 10 mm.
c. 25 x 19 x 21 mm.
d. 22 x 13 x 11 mm.

Unbaked clay.

Colour: 7.5YR 6/2 pinkish grey.

Irregular lumps. Finger impressions on surface of fragment a.

769 Amorphous lumps 6G76:870 in AbS 2067
Batch 2670, context J (fill of Grave 178 in Ash-Tip Phase 3).

25 featureless clay lumps.

10

POTTERY[1] (770-837)

Jane Moon

10.1 *Introduction*

The first impression gained from an inspection of material from the Ash-Tip is that it is 'different' from other Early Dynastic material at Abu Salabikh. The ceramic evidence is obviously an important component of the assemblage, and in the following pages the pottery will be examined and 'differences' pointed out. The description of a late Early Dynastic III assemblage is important in itself, for virtually none is published. Accounting for its composition is a more exacting and potentially interesting exercise, but by no means a straightforward one. The excavations at Abu Salabikh are ongoing, and most of the sherd material is as yet unpublished. So while it is possible to make informal remarks based on the field notes, many cannot yet be supported by rigorous arrays of hard statistics. Secondly, the acute shortage of comparable pottery from other sites tends to beg questions as to which features of the assemblage are determined by chronology and which by function. The concentration of 'counters' and sealings and the presence of figurines and miniature vessels in the Ash-Tip are indications that specialised activity is represented here, and it is hard to be patient in the pursuit of evidence for it. Also, since excavation of the Ash-Tip has been continuing from the time the British Expedition began work at Abu Salabikh, it has suffered a little from uneven recording. Exact details are available in the appendix to this chapter (pp. 156-7, § 10.6). Notwithstanding these obstacles, a good deal of information is available, and is divided below into three major sections.

According to our conviction that sherds and whole pots constitute largely distinct categories of ceramic evidence (*ASE* 3, p. 1), they are treated separately here. A catalogue of 'whole' pots comes

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[1] Miniature vessels are dealt with in ch. 4. Jar sealings and stoppers are catalogued in ch. 2. For general details of vessels which can be 'reconstructed' from sealings, see R. Matthews, above p. 39, § 2.2.3.1.1, and §§ 2.2.3.2-3.

first, then broad categories of sherd types from the two major phases of the Ash-Tip[2] will be looked at to see if their relative frequencies have any significance. Notes on fabric follow, and finally rim sherds from a wider selection of contexts will be presented in detail. There are no theoretical reasons for treating and organising the material thus: it is simply a way of presenting maximum coherent and accurate information.

In the interests of consistency with the rest of this volume, catalogue numbers in the running sequence are employed (for this chapter **770** to **837**), whether they apply to individual vessels or to composite entries for 'types' from the sherd material. However, the treatment of the material does not lend itself to an overall self-contained 'catalogue section' as with some of the other chapters.

Miniature vessels, which are certainly part of the essential material assemblage of the Ash-Tip building and in many respects have more in common with the figurines, are treated in chapter 4.

10.2 *Registered pottery*

All registered pots that can with reasonable certainty be ascribed to the Ash-Tip are mentioned below. Those which have been published before are referred to accordingly and not described again unless extra information, such as a Munsell (1975) colour chart reference, has become available. The order of types is the same as in *ASE* 3.

10.2.1 *Catalogue of registered pottery* (**770-798**)

10.2.1.1 *Conical bowls* (**770-780**)

770 **Conical bowl** 6G66:20 AbS 415
Batch 406, context P (Ash-Tip, mixed), near surface.

See *ASE* 3, No. 10 [not illustrated].

771 **Conical bowl** 6G66:196
Batch 433, context B (Ash-Tip Phase 2).

See *ASE* 3, No. 1.

772 **Conical bowl** 6G66:197 Fig. 10:1
Batch 433, context B (Ash-Tip Phase 2).
Height: 62 mm.
Rim diameter (reconstructed): 122 mm.
Base diameter (reconstructed): 42 mm.

Base intact, less than half of rest.

Pink clay, smokey surface, grit temper.

773 **Conical bowl** 6G76:876 Fig. 10:1
Batch 2665, context H (Ash-Tip Phase 3 or other deposit).
Height: 55 mm.
Rim diameter (reconstructed): 120 mm.
Base diameter (reconstructed): 45 mm.

Less than half extant.

Yellow clay, brown surface out, grit temper.

774 **Conical bowl** 6G76:877 Fig. 10:1
Batch 2637, context K (Ash-Tip Phase 3 *or* grave fill).
Height: 63 mm. Rim diameter: *c.* 120 mm.
Base diameter: 38-40 mm.

Base intact, little of rest.

Pink clay, grit and vegetable temper.

775 **Conical bowl** 6G76:878 Fig. 10:1
Batch 2668, context G (Ash-Tip Phase 3).
Height: 105 mm.
Rim diameter (reconstructed): 120 mm.
Base diameter: 40-42 mm.

Base intact, little of rest.

Pink clay, cream surface, sandy temper.

776 **Conical bowl** 6G76:879 Fig. 10:1
Batch 2668, context G (Ash-Tip Phase 3).
Height: 64 mm.
Rim diameter (reconstructed): 110 mm.
Base diameter: 47 mm.

Condition unrecorded.

Pink clay, cream surface, grit temper.

777 **Conical bowl** 6G86:192 Fig. 10:1
Batch 1926, context H (Ash-Tip Phase 3 or other deposit).
Height: 65 mm.
Rim diameter (reconstructed): 120 mm.
Base diameter: 46 mm.

Base intact, little of rest.

Pink clay, grit temper.

778 **Conical bowl** 6G86:301 Fig. 10:1
Batch 1904, context G (Ash-Tip Phase 3).
Height: 45 mm. Rim diameter: 100 mm.
Base diameter: 30 mm.

Scant profile. Brown clay (burnt).

779 **Conical bowl** 6G86:302 Fig. 10:1
Batch 1932, context G (Ash-Tip Phase 3).
Height: 50 mm. Rim diameter: 120 mm.
Base diameter: 38 mm.

Half of base extant, little of rest.

Brown clay, greyish surface (burnt), grit temper.

780 **Conical bowl** 6G86:303 Fig. 10:1
Batch 1935, context G (Ash-Tip Phase 3).
Height: 55 mm. Rim diameter: 110 mm.
Base diameter: 28 mm.

Less than half extant.

Pink clay, brown surface, grit temper.

Other conical bowl profiles were found in the following batches, but were not well enough preserved to provide reliable dimensions: 2608, 2612, 2616 (6G76:875), 2638 (6G76:877), 2645.

2 For the Ash-Tip phasing, see above, p. 5, §§ 1.3.3-4. The 'context' references (A-P) are summarily listed on p. x and explained on pp. 223-4

10.2.1.2 *Moulded bowl* (**781**)

781 Moulded bowl 6G76:679 AbS 1771 Fig. 10:2
Batches 2637 + 2638, context K (Ash-Tip Phase 3 *or* grave fill).

See for description *ASE* 3, No. 147 [not there illustrated]. Also: paste 10YR 7/4 very pale brown (buff); surfaces 10YR 8/3 very pale brown (cream);[3] principally fine to medium vegetable temper with a few calcareous grits.

10.2.1.3 *Coarse vessel* (**782**)

782 Coarse plate 6G76:874 Fig. 10:3
Batch 2616, context G (Ash-Tip Phase 3).
Height: 38 mm. Rim diameter: *c.* 460 mm.

Fragment only.

Burnt brown clay, grog and vegetable temper.

10.2.1.4 *Pot stand* (**783**)[4]

783 Pot stand 6G77:89
Batch 3906, context G (Ash-Tip Phase 3).

See *ASE* 3, No. 283.

10.2.1.5 *Miscellaneous open forms* (**784-785**)

784 Ribbed bowl 6G86:283
Batch 1975, context A (surface).

See *ASE* 3, No. 191.

785 Lugged bowl 6G76:780 Fig. 10:2
Batch 2660, context G (Ash-Tip Phase 3).
Extant height: 47 mm.

Sherd only.

Pink to buff clay, possible cream slip (surface burnt).

[**786** Number omitted]

10.2.1.6 *Other jar forms* (**787-789**)

787 Flat-based jar 6G77:46 AbS 2012
Batch 3904, context H (Ash-Tip Phase 3 *or* other deposit).

See *ASE* 3, No. 496.

788 Flat-based jar 6G86:250
Batch 1959, context U (fill of pit to west of Tip, not necessarily from the Ash-Tip).

See *ASE* 3, No. 454 (provenance given as certainly Ash-Tip).

789 Small lugged jar 6G66:194 Fig. 10:2
Batch 415, context D(?) (?fill of Grave 5 in Ash-Tip Phase 2).
Extant Height: 30 mm. Rim diameter: 42 mm.

Rim sherd only. One lug preserved.

Clay 5Y 7/3 pale yellow, surface 2.5Y 8/4 pale yellow, fine to medium vegetable temper.

Very faded red painted horizontal striped bands (perhaps *c.* 10R 6/6 light red).

Heavy wheel marks internally.

10.2.1.7 *Upright-handled jars* (**790-793**)

No complete vessels survive from the Ash-Tip.

790 Upright handle 6G66:114 AbS 709
Batch 431, context B (Ash-Tip Phase 2).

See *ASE* 3, No. 783; illustrated Moon 1981, 57 Fig. 4, No. 27.

791 Upright handle 6G66:161 AbS 940
Batch 431, context B (Ash-Tip Phase 2).

See *ASE* 3, No. 767.

792 Upright handle 6G66:162 AbS 938
Batch 431, context B (Ash-Tip Phase 2).

See *ASE* 3, No. 758; illustrated Moon 1981, 57 Fig. 4, No. 25.

793 Upright handle 6G76:454 AbS 1792
Batch 2609, context L (fill of Pit e in Ash-Tip Phase 3).

See *ASE* 3, No. 755.

10.2.1.8 *Miscellaneous decorated fragments* (**794-798**)

794 Decorated sherd 6G66:183 AbS 1478 Fig. 10:2
Batch 446, context E (Ash-Tip Phase 2, possibly associated with Grave 105, a burial within the Ash-Tip).
Extant Height: *c.* 15 mm.

From shoulder of large jar.

Red clay, grit temper.

Cross-hatched pattern of shallow grooves over which is an applied snake, decorated with pin-prick holes.

795 Incised sherd 6G76:581 Fig. 10:2
Batch 2633, context J (fill of Grave 146 in Ash-Tip Phase 3).
Overall size: 89 x 49 mm.

Orange clay, cream slip, grit temper. Interior salt-encrusted.

796 Incised sherd 6G86:292 Fig. 10:2
Surface (no batch number), context A.
Overall size: 78 x 12 mm.

Part of jar shoulder.

Greenish overfired clay.

On the inside a piece of clay has been attached by hand to plug a hollow, and bears a thumbprint.

797 Decorated sherd 6G76:678 Fig. 10:2
Batches 2637 + 2638, context K (Ash-Tip Phase 3 *or* grave fill).
Overall size: 60 x 41 mm.

Sherd only.

Buff to pink clay, cream slip.

798 Impressed sherd 6G76:850
Batch 2667, context G (Ash-Tip Phase 3).

See *ASE* 3, No. 818.

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3 Colour references, when given, are to Munsell 1975.

4 In *ASE* 3, stemmed dishes are considered between coarse vessels and stands (pp. 46-56), and one rim sherd from a stemmed dish (No. 264) is given an Ash-Tip provenance. This, however, is incorrect, as the piece comes from the ash fill *beneath* the eastern wall of the surviving South-East Complex, in Level 2 (batch 1973).

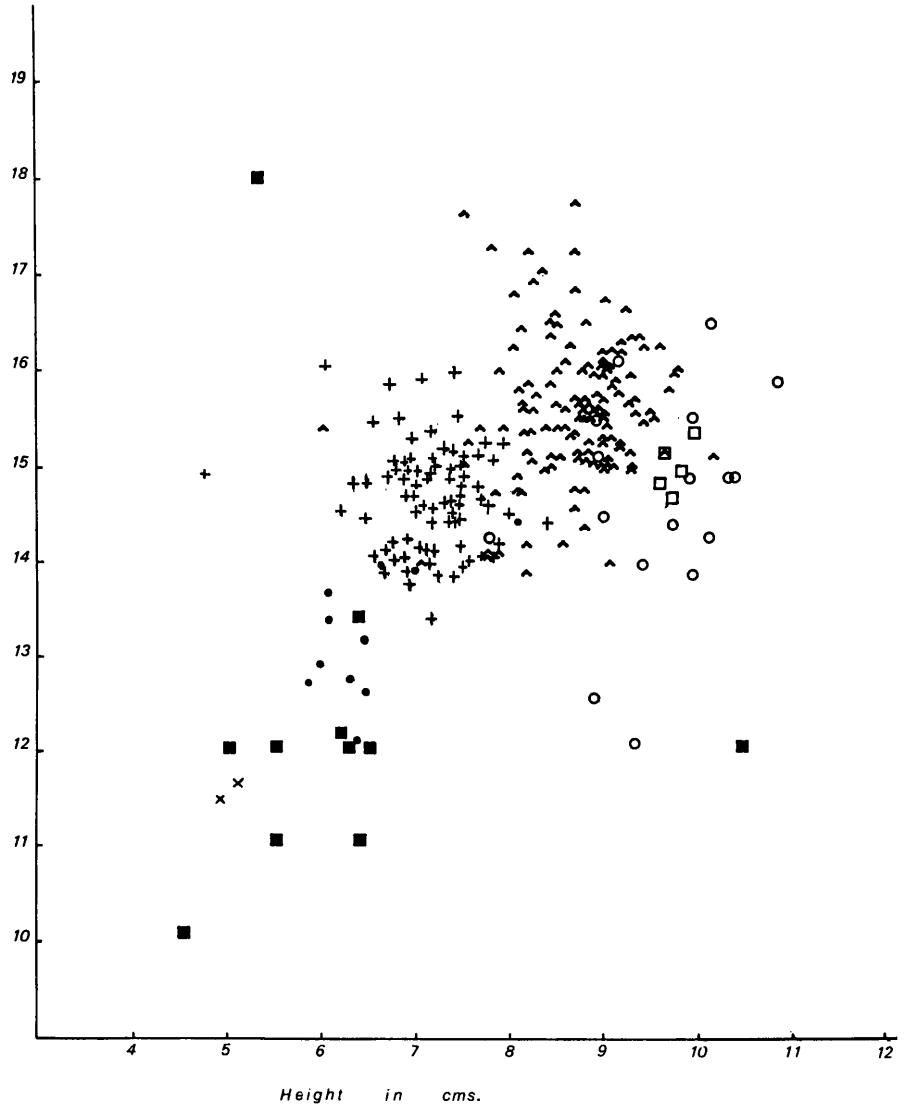

Table 10.1: Comparative proportions of conical bowls
(NB the rim diameters here correct those shown in *ASE* 2, p.8, Fig. 3, which are consistently 3 cm too large.)

10.2.2 *Conclusions*
What can be deduced from these pots?

The conical bowls are all comparatively wide and shallow, in accordance with their late ED date. The relationship of their proportions to other groups of conical bowls is summarised in Table 10:1 (*NB*. the rim diameters on this chart correct those published in *ASE* 2, p. 8, Fig. 3).

Other open forms are not especially informative. The moulded bowl **781** is distinguished from others found on the site by its design of concentric circles. The ribbed bowl with scratched wavy lines on the rim (**784**) is unusual-looking, but there are a couple of sherds from similar vessels (see **821** below). They may be derived from earlier levels as a similar piece was found in Level 2 of the 6G64 sounding.

Among the closed forms is a small flat-based jar (**788**) with holes presumably for attaching a lid. These do not seem to occur much before ED IIIb (*ASE* 3, Nos. 455, 506, 507). The painted striped vessel with lug(s), 789, is unique on the site.

Decorated snakes occur sporadically at Abu Salabikh throughout the time sequence (*ASE* 3, No. 175).

None of the upright handles is distinctively late ED III: in fact all but **793** are stylistically earlier. Detached handles are remarkably durable, especially solid ones, but it is possible that they were being deliberately kept for some special purpose. There is one known case of a handle being used apart from its jar (Woolley 1934, 388) but that was at Ur where it would have been a rarity in itself.

In summary, the registered pottery provides enough evidence of the assumed late ED III date for the Ash-Tip, and contains a perhaps surprising number of oddities.

10.3 *Sherds*

10.3.1 *Analysis of broad categories of sherd types*
Tables 10:2 and 10:3 show the relative quantities of major sherd types found in the two best-stratified deposits of the Ash-Tip. The calculations have been restricted in this way at this elementary experimental stage in order to minimise errors which could be caused by using batches with possible contamination. There are no startling differences to be observed between the two main Ash-Tip phases (Phases 2 and 3; cf. above, p. 5, §§ 1.3.3-4). This is in line with the probability that the activities and time-spans represented by the two deposits are not very different either. In the absence of comparable data, it is not easy to know what to make of the figures. What little ED IIIb pottery is published was found before it became fashionable to count sherds, and those who do now collect and count sherds seem to have great difficulty in bringing their labours to fruit in publication. This much-observed phenomenon is not really surprising in view of the immense amount of time and labour required for such an operation, even with the assistance of computers. The incentive to go to so much trouble is substantially reduced when there are no figures for comparison, which is, after all, the interesting bit. It is important, therefore, to make a start, and to experiment with ways of questioning this kind of information.

Immediately remarkable is the low overall percentage of feature sherds: about 25% of collected sherds is usual for most parts of Abu Salabikh, and the only other area which produced such a small proportion of diagnostics was the excavation of ED II private houses in grid-square 5I (cf. Postgate 1984a, 100-103), where most of the sherds collected came from conical bowls. What factors govern these proportions? Varying standards of efficiency at the sorting stage might be suspected, but are unlikely to create such a difference as this, and the Ash-Tip sherds have, if anything, been more carefully sorted, not less.

Are there fewer decorative and added elements, such as spouts and ribs, keeping the number of feature sherds down? There are certainly fewer spouts: 0.24% of feature sherds for Phase 3, none in Phase 2. This compares with 4.62% for the ED IIIa scraped area just north of Area E and 1.28% for the ED II houses in 5I. Plain ribs, on the other hand, come out at 1.3% and 0.4% for Ash-Tip Phases 3 and 2 respectively, and 0.43% and 0.49% for the relevant ED IIIa and ED II contexts – so not less for the Ash-Tip. Occurrences of incised decoration make up 0.8% and 1.06% in the Ash-Tip, as opposed to 0.96% (ED IIIa) and 0.49% (ED II). Again, no fewer.

Is the Ash-Tip assemblage dominated by large storage vessels which produce more body sherds when they break? The rims described in the following section do not suggest so, but then few complete storage vessels have been found on the site as yet so we do not have a range of rims that can definitely be attributed to them.

Conical bowl fragments (rims and bases taken together) amount to 11.9% of feature sherds for Phase 3, 13.18% for Phase 2. This is a much lower proportion than for any other Early Dynastic part of the site. Only the Akkadian/Ur III rubbish deposit outside the town wall in 5I79 (Postgate & Moon

	6G66 (400s)	6G76 (2600s)	6G96 (6400s)	Total
Conical Bowl Rims	170	137	66	373
Fine Conical Bowl Rims	6			6
Sfg Rims				
Brb Rims				
Stemmed Dish Rims	6	1		7
Other Bowl Rims	39	16	26	81
Total Bowl Rims	221	154	92	467
Band Rims of Jars	6		1	7
Other Jar Rims	36	41	9	86
Total Jar Rims	42	41	10	93
Conical Bowl Bases	43	25	13	81
Long sfg Bases	6	1		7
Squat sfg Bases				
Other Str. Cut Bases	2		1	3
Brb Bases				
Flat Bases		8	2	10
Rounded Bases			1	1
Pinched Ring Bases		1		1
Low Ring Bases	?	8	3	11
	22			22
High Ring Bases	?	3		3
Added High Ring Bases	6			6
Stemmed Dish Bases	10	4		14
Other Bases	3	1		4
Total Bases	92	51	20	163
Spouts				
Plain Ribs		2	1	3
Ribs w. Large Incision				
Ribs w. Small Incision				
Coarse Cable		1		1
Ridges	1			1
Upright Handles				
Other Handles	2	1		3
Combing			1	1
Impressed Dec.				
Applied Dec.		1		1
Incised Dec.	2	4	2	8
Horiz. Res. Slip		3	2	5
Diag. Res. Slip				
Painted		1		1
Burnished		3		3
Perforated	3	1		4
Other Dec.		1		1
Batches w. Coarse Ware	?/7	6/8	3/5	9/20
Batches w. Cooking Ware	?/7	2/8	3/5	5/20
Total Feature Sherds	363	264	128	755
Discarded Body Sherds	1845 (est.)	1351	245	3445
Total Sherds Collected	2212 (est.)	1615	373	4200

Table 10.2: Potsherd analysis, Ash Tip Phase 2

1984b, 72) contained fewer: 9%. In ED II areas the conical bowls form up to 83% of feature sherds, and provisional figures for some ED IIIa areas are between 45% and 55%.

Open shapes generally greatly outnumber closed forms. Jar rims are 12.32% of feature sherds in Phase 3, bowl rims 64.64%; in Phase 2 the figures are 12.32% and 61.85% respectively. (Bases are not used for these calculations as there is a small overlap between the vessel shapes which can be assumed from the sherds: jars very occasionally have string-cut bases, and bowls can have ring-bases.) For the

	G86 (1900s)	6G76 (2600s)	6G77 (3900s)	6G96 (6400s)	Total
Conical Bowl Rims	749	1640	506	401	3296
Fine Conical Bowl Rims	7	1	1	6	15
Sfg Rims					
Brb Rims	1	1	2		4
Stemmed Dish Rims	12	18	6	4	40
Other Bowl Rims	74	231	56	29	390
Total Bowl Rims	843	1891	571	440	3745
Band Rims of Jars	10	25	9	10	54
Other Jar Rims	139	353	123	45	660
Total Jar Rims	149	378	132	55	714
Conical Bowl Bases	90	302	73	52	517
Long sfg Bases		6	3		9
Squat sfg Bases	1		1	2	
Other Str. Cut Bases	1	3	5		9
Brb Bases					
Flat Bases	31	52	21	6	110
Rounded Bases			1		1
Pinched Ring Bases	6	2	3	1	12
Low Ring Bases	9	22	22	11	64
High Ring Bases	2	1	4	2	9
Added High Ring Bases	37	66	18		121
Stemmed Dish Bases	14	25	5	2	46
Other Bases	5	110	3	5	123
Total Bases	195	590	158	80	1023
Spouts	3	5	3	3	14
Plain Ribs	16	27	17	6	66
Ribs w. Large Incision	2	7	3	7	19
Ribs w. Small Incision		5			5
Coarse Cable		8	1	2	11
Ridges		1		2	3
Upright Handles		1			1
Other Handles	2	10	1	2	15
Combing		5	3	1	9
Impressed Dec.		1	5		6
Applied Dec.		2		1	3
Incised Dec.	13	20	9	7	49
Horiz. Res. Slip	11	8	5	16	40
Diag. Res. Slip	1				1
Painted	2	4	1	1	8
Burnished		3			3
Perforated	1	11	3	4	19
Other Dec.	5	33	2		40
Batches w. Coarse Ware	6/31	8/14	3/8	4/8	21/61
Batches w. Cooking Ware	3/31	5/14	2/8	9/8	15/61
Total Feature Sherds	1243	3018	914	627	5794
Discarded Body Sherds	9936	14761	4656	2522	31875
Total Sherds Collected	11179	17771	5570	3149	37669

Table 10.3: Potsherd analysis, Ash Tip Phase 3

moment the only comparable data come from the Akkadian/Ur III rubbish tip in 5179, where jar rims formed 22.14% of feature sherds and bowls 24.5%: in other words about equal. Was something going on near the Ash-Tip which required large numbers of bowls, but not many conical bowls? Or is this preponderance of open forms normal for ED contexts, with the conical bowls simply becoming less fashionable towards the end of the period? Further evidence is awaited with impatience.

The ring-base is the most popular base for jars: 3.56% of feature sherds for Phase 3, 5.83% for Phase 2, compared with 1.92% and 1.46% respectively for round and flat bases. It is easy to see this as a

chronological phenomenon, being part of the process by which ring bases become gradually more popular from the time of their first appearance in ED I: in the ED II houses in 51 ring-bases and round/flat ones were equally popular, each sort accounting for 4.44% of feature sherds, while in one ED IIIa surface-scraped area ring-bases begin to outnumber the others slightly: 5.07% as opposed to 4.24%. Of the Ash-Tip ring-bases, added high bases are clearly more popular than low or pinched ones for Phase 3 – again, an accepted late ED III indicator. The picture is less clear for Phase 2, as the distinctions were not made in the early days of processing, and criteria for recording the different types not yet well standardised.

10.3.2 *Fabric*

Fabric has not been systematically recorded at Abu Salabikh. For the most part the necessary expertise has been lacking, and the writer has always felt reluctant to expend limited time and resources on the study of fabric when this would have had to be at the expense of other attributes. This attitude is fuelled by the high degree of apparent homogeneity observed in the fabric from the ED I pottery through to that from the Ash-Tip and late ED III graves. Petrographic analysis of a sample of the pottery has been carried out by Siriol Mynors (Kaiss & Mynors 1978) and shows a number of differences in the types of inclusions found. Most of these are not readily detectable to the naked eye, and have not been recorded for the reasons given above. The only obviously distinctive wares are coarse ware and cooking ware. The latter is exclusively associated with round-bodied hole-mouthed vessels (*ASE* 3, p. 71) with rims like **824** below. Sherds from the Ash-Tip are very frequently discoloured to grey or brown, this being presumably a post-depositional effect resulting from lying so long in ash.

Paste colours range from pink to buff, and occasionally a pot is overfired to yellow/green. Cooking ware is purple or orange, sometimes with reduced inner core.

Surface colours are sometimes the same as the core, sometimes paler, either as a result of wet-smoothing or deliberate slip. We are not sure how to tell the difference. Jars have surface colour different from core colour more often than bowls. Where no surface colour is mentioned in the descriptions, it is the same as the core.

Inclusions are usually sand (perhaps not deliberate), some coarser grits and fine vegetable matter. Conical bowls usually have slightly coarser vegetable in the temper than other types, often resulting in bubbles in the paste. They do not normally contain obviously added grit. This goes for Ash-Tip conical bowls as well as others. Cooking ware, on the other hand, is extremely gritty and contains no vegetable matter.

Coarse ware is tempered with grog (ground-up pottery) and comparatively large pieces of vegetable matter. It is generally much less frequent in the Ash-Tip than in other contexts on the site, even allowing for coarse sherds not being systematically recorded in early seasons. Broken pieces of coarse vessels were obviously disposed of without much care or attention all over the city – but not thrown on the Ash-Tip.

10.3.3 *Bowl and jar rims* (799-837)

In the following section individual rim types are illustrated, described and commented upon. The list is comprehensive, but not totally exhaustive. Sometimes a rim is too badly battered to be able to assign it with confidence to any category. Occasionally the records can be ambiguous. Every major rim type found in the Ash-Tip is represented below, and every batch which definitely contained one is listed. Sometimes the example chosen for illustration is taken from a different context if it was not possible to find a well-preserved one from the Ash-Tip.

10.3.3.1 *Bowl rims* (799-821)

799 Bowl rim type 1 Fig. 10:4

Batches 433, 435 (x 2), 1904, 1908, 1910 (x 3), 1915, 1917 (x 2), 1919 (x 4), 1922 (x 3), 1940, 2601, 2605, 2661, 2665, 2669, 2675, 3906, 6416.

Contexts A, B, C, G, H, and L (Ash-Tip Phases 2 *and* 3).

Plain rim of shallow bowl. Essentially similar to conical bowl but shallower. Also known from ED II and ED III.

This example batch 433, pink clay, buff surface, fine grit temper.

800 Bowl rim type 2 Fig. 10:4

Batches 432, 1906, 1912 (x 2), 1926, 1931, 1932, 1938, 1951, 1952, 2623, 2638, 2649, 2650, 2661 (x 2), 2667.

Contexts B, G, H, K and T (Ash-Tip Phases 2 *and* 3).

Large bowl with slightly curved sides and plain rim. Most of these are tempered with grog and vegetable matter. Also found in other ED II and ED III contexts.

These examples (a) batch 2650, pink clay, greeny surface, heavy grit temper, (b) batch 432, no further details.

801 Bowl rim type 3 Fig. 10:4

Batch 1926.

Context H (Ash-Tip Phase 3 *or* other deposit).

Bowl rim pinched at very top with bulge just below. Included in spite of apparently isolated occurrence because it is so distinctive.

Batch 1926, burnt clay, fine sandy temper.

802 Bowl rim type 4 Fig. 10:4
Batches 1927 (x 2), 1955, 2615, 2652, 2655, 2667, 2669, 3903, 3906.
Contexts G, L and H (Ash-Tip Phase 3).

Bowl rim pulled back near top, top edge flattened. Not noticed in earlier contexts, so perhaps peculiar to ED IIIb?

This example batch 8247 (Ash-Pit,[5] *not* Ash-Tip), pink clay, buff surface, grit and vegetable temper.

803 Bowl rim type 5 Fig. 10:4
Batches 1902, 1906, 1940, 2666, 2676 (x 2).
Contexts G and L (Ash-Tip Phase 3).

Rim of sinuous-sided bowl, top edge flattened horizontally. Not noticed in earlier contexts.

This example batch 8276 (Ash-Pit,[3] *not* Ash-Tip), pink clay, buff surface, hard grit temper.

804 Bowl rim type 6 Fig. 10:4
Batches 432 (x 6), 1910, 1926, 1930, 2605, 2608 (x 2), 2655, 2660, 2662, 2669, 3905 (x 2).
Contexts B, E, G, H and L (Ash-Tip Phases 2 *and* 3).

Plain bowl rim, pulled in at top. Occasional similar fragments occur throughout the ED levels.

These examples (a) batch 2660, hard red clay, grit temper, diameter 150 mm, (b) batch 6418, pink clay, grit and some vegetable in temper.

805 Bowl rim type 7 Fig. 10:4
Batches 1908, 1910 (x 2), 1917, 1921, 1927, 2638.
Contexts G, H and K (Ash-Tip Phase 3).

Bowl rim bevelled to inside. Not noticed in earlier contexts.

This example batch 2638, pink clay, buff slip, grit and vegetable temper.

806 Bowl rim type 8 Fig. 10:4
Batches 1917, 3906.
Context G (Ash-Tip Phase 3).

Bowl rim flat on top with notch on outside just below.

This example batch 1917, brown clay, grit temper, diameter *c.* 270 mm.

807 Bowl rim type 9 Fig. 10:4
Batches 1914 (x 2), 1916, 2661, 2667, 2669, 6414.
Context G (Ash-Tip Phase 3).

Bowl rim flat on top, slight protrusion to inside. Not found earlier?

This example batch 6414, no further details.

808 Bowl rim type 10 Fig. 10:4
Batches 432, 1901, 1927, 3904.
Contexts B, G and H (Ash-Tip Phases 2 *and* 3).

Bowl rim slightly swollen at top and bevelled to inside. Although this and the similar bowl types 11 and 12 (**808** and **809**) are noticeable newcomers in the Ash-Tip and Ash-Pit[3] assemblages this particular variant is difficult to distinguish from an earlier type found in ED II contexts.

This example batch 432, orange clay, grit and white grit temper.

809 Bowl rim type 11 Fig. 10:4
Batches 401, 1902, 1906, 1907, 1947, 2627, 2638, 2645, 3903, 3912, 3904 (x 2), 3905.
Contexts A, G, H, K and L (Ash-Tip Phase 3).

Bowl rim bevelled both to inside and outside, slightly indented top edge. The indentation is especially characteristic (cf. the ridge on bowl type 12, **810**). It will be interesting to discover eventually whether this is just a local manufacturing quirk or can be counted as distinctive of ED IIIb.

These examples (a) batch 2660, pink clay, buff surface, grit temper, diamter 200 mm, (b) batch 2638, pink clay, buff slip, grit temper, diameter 190 mm.

810 Bowl rim type 12 Fig. 10:4
Batches 401, 432, 2638, 2661, 2662, 3904.
Contexts A, B, G, H, K and L (Ash-Tip Phases 2 *and* 3).

Bowl rim bevelled both to inside and outside, slight ridge on top edge. The ridge is as characteristic as the indentation on bowl type 11 (**809**).

These examples (a) batch 2638, buff clay, grit and vegetable temper, diameter 190 mm, (b) batch 432, burnt clay, gritty temper.

811 Bowl rim type 13 Fig. 10:4
Batches 404 (x 7), 432 (x 2), 433 (x 2), 1910 (x 4), 1911, 1915 (x 3), 1916, 1917, 1926, 1940, 1941, 1947, 1968, 1975, 2601, 2655, 2660, 2661 (x 2), 2663, 2665 (x 2), 2666, 2667, 2669 (x 2), 2675, 2676, 6411 (x 2), 6413, 6414, 6415 (x 2).
Contexts A, B, G, H and L (Ash-Tip Phases 2 *and* 3).

Bowl rim bevelled to outside. It is not possible to say how many examples have a slight ridge on the top surface, nor how many are from sinuous-sided bowls. Bowl rims of this general kind do occur in earlier contexts but not with such frequency.

These examples (a) batch 432, pink clay, surface burnt, grit temper, (b) batch 433, pink clay, buff surface, grit temper, diameter 190 mm.

812 Bowl rim type 14 Fig. 10:4
Batches 1901, 1902 (x 2), 1904, 1906, 1910 (x 2), 1912, 1915, 1917, 1919, 1926, 1927 (x 4), 1948, 1955, 2608 (x 2), 2661, 2669, 3903, 3904 (x 4), 3905, 3906, 6415, 6416.
Contexts G and H (Ash-Tip Phase 3).

Rim of curved-sided bowl, bevelled to outside. It is not possible to say how many have the slight indentation on the outside edge, but all are definitely from curved-sided bowls. Though superficially similar to bowl type 13 (**810**) this could easily belong to a completely different shape of vessel.

This example batch 6416, burnt clay, gritty temper.

813 Bowl rim type 15 Fig. 10:4
Batches 432 (x 4), 1910 (x 2), 1915, 1919, 2665 (x 2).
Contexts B, G and H (Ash-Tip Phases 2 *and* 3).

Bowl rim bevelled to outside with rounded top edge.

This example batch 432, pink clay, buff surface, grit temper, diameter 150 mm.

5 For the Ash-Pit, cf. Postgate & Moorey 1976, 143.

814 Bowl rim type 16 Fig. 10:4
Batches 404 (x 4), 1906, 1948, 1955, 1956 (x 2), 2605, 2655, 2660, 2664, 2669, 2674, 2675, 2677, 3905 (x 2), 3912, 6414, 6416, 6418.
Contexts B, G, and H (Ash-Tip Phases 2 *and* 3).

Bowl rim bevelled to outside, bevelled face rounded.

This example batch 2674, burnt clay, gritty temper.

815 Bowl rim type 17 Fig. 10:4
Batches 1904 (x 4), 1906, 1910 (x 2), 1912 (x 5), 1915, 1917 (x 5), 1919, 1927 (x 4), 1931, 1932, 2601, 2653, 2655, 2660, 2661, 2662, 2664, 2665 (x 3), 2667 (x 4), 2669 (x 3), 2677, 3905, 3906 (x 6).
Contexts A, G, H and L (Ash-Tip Phase 3).

Bowl rim thickened at top with indentation on horizontal top edge. This easily recognisable rim first alerted observers to the differences between sherds from the Ash-Tip and those from other ED contexts. It definitely does not occur earlier.

These examples (a) batch 2638, pink clay, buff surface out, grit temper, diameter 230 mm, (b) batch 2612, red clay, grit temper, diameter *c.* 210 mm, (c) batch 2677, burnt clay, gritty temper.

816 Bowl rim type 18 Fig. 10:4
Batches 1908, 2613.
Context H (Ash-Tip Phase 3 *or* other deposit).

Rim of carinated bowl of the kind found in quantity in Akkadian/ Ur III deposits. These two sherds are among a handful of mainly incised fragments from the Ash-Tip which look like second millennium material. Being so few, they are assumed to be intrusive rather than significant.

This example batch 2613, pink clay, buff surface, grit temper.

817 Bowl rim type 19 Fig. 10:4
Batches 1910, 2666, 2669, 6410.
Context G (Ash-Tip Phase 3).

Rim of small stemmed dish. Less elaborately shaped and decorated than standard ED IIIa types, these stemmed dishes are also found in late ED III graves such as Grave 93 (*ASE* 2, pp. 173-174; p. 211 Fig. 139).

These examples (a) batch 6410, pink clay, cream slip, fine sandy temper, diameter 150 mm (outer), (b) batch 2669, pink, fine grit temper, diameter 100 mm.

818 Bowl rim type 20 Fig. 10:4
Batches 404 (x 4), 432, 433, 1902, 1904, 1907, 1910, 1911 (x 2), 1914, 1927, 1944, 2601 (x 2), 2655 (x 3), 2660, 2666, 3903 (x 3), 3904, 3905 (x 3).
Contexts A, B, G and H (Ash-Tip Phases 2 *and* 3).

Rim of large stemmed dish. These are easy to distinguish from their earlier counterparts (such as Moon 1981, 67 Fig. 11, No. 66).

These examples (a) batch 3903, pink clay, cream surface, grit temper, diameter 320 mm, (b) batch 432, pink clay, yellow slip, fine sandy grit temper, diameter 270 mm, (c) batch 433, buff clay, sandy temper, diameter 180 mm.

819 Bowl rim type 21 Fig. 10:4
Batches 401 (x 2), 432 (x 2), 1916, 1968, 2600, 2617, 2621, 2660 (x 2), 2661, 3903, 3905.
Contexts A, B, G, H and L (Ash-Tip Phases 2 *and* 3).

Bowl rim bevelled to outside with rib below. Pieces of ribbed bowl do occur in ED II and IIIa batches, but probably less frequently.

These examples (a) batch 2660, pink clay, buff surface out, grit temper, (b) batch 2660, burnt clay, grit and vegetable temper, (c) batch 1916, orange clay, fine sandy temper.

820 Bowl rim type 22 Fig. 10:4
Batches 2676, 6418.
Context G (Ash-Tip Phase 3).

Bowl rim bevelled to outside, decorated rib below.

This example batch 6418, pink clay, cream surface, grit temper.

821 Bowl rim type 23 Fig. 10:4
Batches 1908, 2623.
Contexts H and T (?Ash-Tip Phase 3).

Bowl rim turned out and flattened horizontally, rib below. Generally similar to **784**.

This example batch 2623, pink clay, buff slip out, sandy temper.

10.3.3.2 *Jar rims* **(822-837)**

822 Jar rim type 1 Fig. 10:5
Batches 1902 (x 2), 1904 (x 2), 1917, 1919 (x 2), 1926, 1927, 1948, 2614, 2654, 2665 (x 2), 3903, 6415.
Contexts G and H (Ash-Tip Phase 3).

Swollen, pulled-back rim of neckless jar. Not peculiar to Ash-Tip.

This example batch 6415, pink clay, white surface, grit temper, diameter 100 mm.

823 Jar rim type 2 Fig. 10:5
Batches 1906, 1930, 1955, 2601, 2638, 2665.
Contexts A, H, L, and K (?Ash-Tip Phase 3).

Short, plain rim of neckless jar. Also found in earlier contexts.

This example batch 7905 (*not* Ash-Tip, from surface clearance in grid-square 5J81), brown clay, buff slip, sandy temper, diameter 100 mm.

824 Jar rim type 3 Fig. 10:5
Batches 1952, 2661, 2669, 6418 (cooking ware).
Contexts G and H (Ash-Tip Phase 3).

Short, swollen rim of neckless jar. Common throughout ED levels.

This example batch 6418, dark pink clay, much sand and grit (i.e., cooking ware), diameter 130 mm.

825 Jar rim type 4 Fig. 10:5
Batch 2665.
Context H (Ash-Tip Phase 3 *or* other deposit).

Swollen rim of neckless jar, top edge bevelled. Possible second millennium stray?

Batch 2665, pink clay, grit temper, diameter 120 mm.

826 Jar rim type 5 Fig. 10:5
Batches 404 (x 7), 405, 432 (x 4), 433, 1902, 1904, 1907, 1908, 1910 (x 2), 1912, 1915 (x 2), 1917 (x 4), 1926 (x 2), 1927 (x 2), 1930, 1932 (x 2), 1939, 1944 (x 2), 1952, 1956 (x 3), 2605 (x 5), 2613 (x 2), 2615, 2622, 2652, 2662 (x 2), 2664, 2665 (x 6), 2667 (x 6), 2668, 2669 (x 9), 2674, 2675, 2677, 3903 (x 3), 3904

(x 15), 3905, 3906 (x 7), 3912, 6410, 6411. 6412 (x 3), 6414, 6415 (x 3), 6416 (x 5), 6418.
Contexts B, G, H and L (Ash-Tip Phases 2 *and* 3).

Plain jar rim, upright or slightly flaring. One of the commonest jar rims from ED II and ED III contexts. Spouted jars usually have this kind of rim, but many other jar forms can have it too.

These examples (a) batch 433, green clay, hard grit temper, diameter 100 mm; (b) batch 6418, buff clay, burnt surface, grit temper.

827 Jar rim type 6 Fig. 10:5
Batches 404 (x 2), 1906, 1911 (x 2), 1919, 1951, 2611 (x 3), 2612 (x 4), 2614 (x 2), 2615 (x 2), 2617 (x 3), 2631, 2635, 2638 (x 7), 2650, 2653, 2659, 2666, 2677, 3903 (x 2), 3905 (x 3), 3906 (x 3), 3912, 6418.
Contexts A, B, G, H, K and L (Ash-Tip Phases 2 *and* 3).

Plain jar rim, flaring and thick. The thickness, particularly at the base of the neck, is characteristic and distinguishes this rim type from jar type 5 (**826**). Jar rim type 6, by contrast, is not normally found in earlier contexts.

These examples (a) batch 2650, pink clay, yellow slip, grit temper, diameter 170 mm, (b) batch 2635, pink clay, cream slip, grit and vegetable temper, diameter 130 mm.

828 Jar rim type 7 Fig. 10:5
Batches 1906, 1912, 1952, 2638 (x 2), 2666, 3903, 3904, 6416.
Contexts G, H and K (Ash-Tip Phase 3).

Plain jar rim, slightly swollen and pulled back at top. Not noticed in earlier contexts.

This example batch 6416, yellow clay, grit temper, diameter 120 mm.

829 Jar rim type 8 Fig. 10:5
Batches 1955, 6410.
Contexts G and H (Ash-Tip Phase 3).

Jar rim with top edge flattened then indented. Included because very distinctive.

This example batch 6410, pink clay, white slip, grit and vegetable temper, diameter 130 mm.

830 Jar rim type 9 Fig. 10:5
Batches 1902 (x 2), 1912, 1927, 2653, 2665 (x 2), 2666, 3904 (x 3), 3905.
Contexts G, H and L (Ash-Tip Phase 3).

Jar rim slightly in-sloping, top edge bevelled.

This example batch 1902, brown clay, burnt surface, grit and vegetable temper, diameter 120 mm.

831 Jar rim type 10 Fig. 10:5
Batches 404, 1917, 1951, 2605, 2661, 2668, 3904 (x 2).
Contexts B, G and H (Ash-Tip Phases 2 *and* 3).

Jar rim on straight neck, turned out horizontal at top. This particular example is obviously from a Footed Goblet, but there is not always enough preserved to be sure.

This example batch 2661, brown clay, burnt grey surface, fine sparse sandy temper, diameter 80 mm.

832 Jar rim type 11 Fig. 10:5
Batches 404 (x 5), 405 (x 2), 432 (x 2), 433 (x 3), 435, 1904 (x 3), 1906 (x 3), 1907, 1908 (x 3), 1910 (x 6), 1911 (x 2), 1912, 1915 (x 6), 1917 (x 6), 1919 (x 4), 1922 (x 3), 1926 (x 2), 1927 (x 8), 1930 (x 4), 1932 (x 3), 1939, 1944, 1948, 1950 (x 2), 1951, 1954, 1955 (x 2), 1956, 2601 (x 3), 2605 (x 8), 2608 (x 2), 2611 (x 3), 2613 (x 4), 2614 (x 3), 2615(x 2), 2617 (x 4), 2638 (x 6), 2653 (x 6), 2654 (x 2), 2660, 2661 (x 13), 2662 (x 2), 2663 (x 6), 2665 (x 2), 2666 (x 2), 2667 (x 6), 2669 (x 15), 2675 (x 3), 2676 (x 2), 2677 (x 2).
Contexts A, B, C, G, H, K and L.

Jar rim on straight or flaring neck, bevelled at top. As with jar type 6 (**827**), the thickness of the neck distinguishes this type from the bevelled jar rims found throughout ED levels.

These examples (a) batch 2638, buff clay, grit and vegetable temper, diameter 150 mm, (b) batch 2654, yellow clay, fine grit temper, diameter 160 mm, (c) batch 2617, pink clay, cream slip, grit and vegetable temper, diameter 150 mm.

833 Jar rim type 12 Fig. 10:5
Batches 433, 1904, 1908 (x 2), 1948, 1955.
Contexts B, G and H (Ash-Tip Phases 2 *and* 3).

Jar rim with bevelled top and bulge just below. This treatment of the neck under a bevelled rim can be seen on jars from mid ED IIIa onwards: *ASE* 3, Nos. 579, 581.

These examples (a) batch 1904, pink clay, buff slip, grit temper, diameter *c.* 140 mm, (b) batch 433, green clay, grit and vegetable temper, diameter 190 mm.

834 Jar rim type 13 Fig. 10:5
Batches 404 (x 7), 1902, 1904, 1906 (x 2), 1915, 1931, 2615, 3905, 3906.
Contexts B and G (Ash-Tip Phases 2 *and* 3).

Bevelled rim on short jar neck. Not typical in earlier contexts, but occurs with Akkadian/ Ur III material (Postgate & Moon 1984b, 73).

These examples (a) batch 7904 (*not* Ash-Tip, from surface clearance in grid-square 5J80), buff clay, grit and vegetable temper, (b) batch 9222 (*not* Ash-Tip, from a floor deposit in Room 69 of the 6H82 House), pink clay, grit and vegetable temper, (c) batch 8257 (*not* Ash-Tip, from the fill of Grave 234 in the 6H82 House), pink clay, cream surface, vegetable temper, diameter 100-110 mm.

835 Jar rim type 14 Fig. 10:5
Batch 3903.
Context H (Ash-Tip Phase 3 *or* other deposit).

Band rim on neckless jar. Probably intrusive, as other Akkadian/ Ur III types found in batch.

Batch 3903, pink clay, cream slip, grit temper, diameter 140 mm.

836 Jar rim type 15 Fig. 10:5
Batches 404, 445, 1904, 1906, 1910, 1919, 1953, 2601 (x 3), 2605, 2638 (x 2), 2660, 2661, 2663, 2664, 2665, 2669, 3904, 3906, 6411, 6412, 6414, 6415 (x 2), 6416 (x 2), 6418.
Contexts A, B, G, H, K and L (Ash-Tip Phases 2 *and* 3).

Band rim, on straight or slightly flaring jar neck. Common throughout ED contexts and with no apparent distinction from earlier ones.

These examples (a) batch 445, pink clay, cream surface, grit temper, diameter 140 mm, (b) batch 2638, buff clay, grit and vegetable temper, (c) batch 1919, pink clay, grit temper, diameter 80 mm.

837 Jar rim type 16 Fig. 10:5
Batches 1901, 1956, 2665, 3903 (x 2), 3905, 3906 (x 2), 6412, 6414.
Contexts G and H (Ash-Tip Phase 3).

Slightly swollen jar rim with bulge just below top. The same remarks apply as to jar type 12 (**833**).

This example batch 3655 (*not* Ash-Tip, from a floor deposit in Room 58 of the South-East Complex), pink clay, buff surface, grit temper.

10.4 *General conclusions*

There are a number of features of the Ash-Tip pottery corpus which mark it out from other ED III pottery on the site. They can be divided into 'late', 'unique' and 'odd'. The only 'unique' vessel type is the small striped painted vessel **789**, and that could well be derived from an earlier level; then there is bowl rim type 3 (**801**), but a single bowl rim is hardly worth extensive comment. 'Late' indicators are: the presence of small, squat flat-based jars; the small numbers of conical bowl fragments and the shallow shape of those that can be measured; the high frequency of ring-bases; and perhaps the relatively high proportion of open forms to closed. That leaves the small proportion of feature sherds as a general oddity, and a number of sherd types which appear in the Ash-Tip but not normally elsewhere on the site: **802, 803, 805, ?807, 808, 809, 810, 811, 815, 817, 818, 819, 827, 828** and **832**.

We conclude that the Ash-Tip is 'late ED III', or more specifically 'ED IIIb', but on what basis? The latter term is derived from the Diyala excavations, at which Khafaje Houses 1 and Oval III, and Asmar Houses VB, were assigned this date (Delougaz 1952, Table III). These contexts were not rich in pottery, and for comparative purposes the 'A' Cemetery at Kish and the Royal Cemetery at Ur provide more to exercise the imagination, though the contexts are less satisfactory. Of course not all the pottery from these two provenances is ED IIIb. Clearly there are not enough whole pots from the Ash-Tip itself to compare convincingly with those from these other sites, and they do not have surviving sherd material. What about internal evidence?

The Ash-Tip is stratigraphically later than the adjacent surviving buildings and contemporary levels, which are demonstrably ED IIIa. There are enough differences between the sherd assemblages of the two areas to merit distinction. Late Agade/ Ur III pottery from Abu Salabikh is quite different again, and the Ash-Tip certainly does not belong as late as that. Why not Early Agade? Naturally it is not possible to pinpoint the accession of Sargon in the pottery record, and any changes which took place as a result of this event are likely to have been gradual rather than instantaneous. But in ceramic, rather than political, terms, Agade is not the right date for the Ash-Tip. There are no affinities with the types defined as Early Agade at the Diyala sites, and even mere sherds of some of the more diagnostic types should be recognisable. Also, graves dug into the Ash-Tip (cf. above, pp. 11-18, § 1.5) contain pottery which compares well with standard ED IIIb types and not with any published Agade assemblage.

In conclusion, the Ash-Tip provides a new ED IIIb sherd assemblage which should be a useful reference for future research. Only when comparative data has been found and published will it be possible to evaluate to what extent it is the date which makes the Ash-Tip pottery 'different', or special purposes for which the vessels were used.

10.5 *Appendix*

10.5.1 *General working methods*

Workmen and supervisors were instructed to keep every sherd noticed in excavation. All these were subsequently washed[6] and featureless body sherds 'counted'[7] then discarded. Feature sherds were noted according to various systems (see below), counted accurately, and their diameters taken if possible. When appropriate, items were extracted from the sherd batches and registered (for instance if a number of sherds made up into a profile). They then joined the rest of the registered pots, normally numbered by supervisors on the site, and were cleaned, mended, described and usually drawn and/or photographed.

When a new excavation begins, it is not easy to decide how best to deal with the pottery. It is, however, essential to make a decision at a very early stage, in order to avoid a back-log of unmanageable proportions and the accompanying loss of feedback from ceramic evidence into the excavation. Whatever method is devised, improvements to it suggest themselves as processing takes place. Then one must tackle the temptation to leave the system alone because it is easier that way. The illusion of an easy life rarely tempts archaeologists for long, and the recording is duly changed to accommodate the previously unexpected. When the final reckoning comes, and the accumulated information has to be digested and presented, adjustments to the recording system are no longer an irritation but more akin to a nightmare. Thus it is impossible, in the present instance, to produce a neat

6 By very junior local workers. No doubt some sherds have gone astray in this process, but the vast majority have been recovered and looked at. 'Total recovery' can be claimed for batches from which the earth was sieved (see pp. 2-3).

7 'Counting' body sherds means dividing into two or more heaps of roughly equal size, counting the sherds in one then multiplying accordingly. It is only meant to be a rough guide to total quantity. Feature sherds have been counted accurately.

calculation of the percentage of Ash-Tip batches that included cooking ware, as it was counted for some batches, recorded as present or absent for others, and not recorded at all for others. At this point another, more forceful temptation occurs: to ignore cooking ware altogether. Alas, the avoidance of inconvenience or even embarrassment cannot serve as an excuse for concealing information, so we must make the best of it. For the purposes of this report the pottery records for the Ash-Tip have been distilled and standardised as far as we thought feasible but not beyond that. Remaining intractable inconsistencies and omissions perhaps serve to remind us that the investigation of human remains by humans will always be wanting in precision.

10.5.2 *Numbering, storage and current disposition*

Registered items have individual numbers (see *ASE* 3, p. 180, for explanation of numbering systems) and are currently stored at Abu Salabikh, except for pieces in exceptionally good state of preservation, which are in the Iraq Museum, Baghdad. The latter have a number prefixed 'AbS' in addition to the number assigned in the field. Sherds, on the other hand, are identified only by the number of the batch they were found in. Most feature sherds have been kept and are stored on the site. Those from the first two seasons (1975 and 1976) were discarded after recording, and since 1985 duplicate material from poor contexts has also been discarded.

10.5.3 *Details of treatment of specific Ash-Tip batches*

10.5.3.1 *6G66, batches 400-448*

Feature sherds noted as a series of codes which referred them to a type series. This system subsequently abandoned as too many types to refer to easily in field conditions, and recording seen to be not well standardised between different recorders. As yet no body sherd counts, no note of cooking or coarse wares, no distinction between high and low bases, no individual note of ribs. Number of body sherds in Table 1 estimated by using median proportion of feature sherds to body sherds for all Phase 2 and Phase 3 batches.

No pottery[K] from batches 407, 418, 421, 422, 424, 425, 428, 429, 434, 437, 449, 450.

10.5.3.2 *6G86, batches 1900-1978*

Feature sherds recorded on loose-leaf sheets on which depictions of well-attested types were printed and could be ticked off. Anything new or dubious sketched/described on same sheets. It is possible, when reading back through these records, to gain an accurate impression of what the batch contained, and standards of consistency have proved satisfactory. This method was introduced in 1981 and with minor modifications is the one still in use.

No pottery from batches 1900, 1913, 1925, 1933, 1937.

10.5.3.3 *6G76, batches 2600-2650*

Feature sherds sketched and described individually. No body sherd counts, no cooking or coarse ware counts. Some recording inadequate for bowl and jar rims. It has been possible to go back to the material and re-record so that about 85% of these batches have accurate counts of bowl and jar rims. For the remainder there will be an excess of rims consigned to 'other' and a corresponding shortage of specific rim types which should have been in § 10.3. Total for discarded body sherds calculated by using mean proportion of feature sherds to body sherds for batches 2651-2689.

No pottery from batches 2603, 2630, 2639, 2641. In addition the following batches have been excluded from consideration here for the reasons given:

2623 contains Akkadian/ Ur III material – spilled from drain?

2638 looks suspiciously like the contents of a badly smashed grave.

10.5.3.4 *6G76, batches 2651-2689*

Feature sherds recorded as for 6G86 (§ 10.5.3.2).

No pottery from batches 2686, 2688.

10.5.3.5 *6G surface, batches 6335 and 6336*

These have no recorded pottery.

10.5.3.6 *6G76, batches 6400-6418*

Feature sherds recorded as for 6G86 (§ 10.5.3.2).

No pottery from batches 6400, 6407, 6408, 6409.

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8 Some batches contained no recorded pottery. That is to say, they probably never produced any in the first place, but as all the sherd-processing was done in the open, wind, rain and straying animals occasionally caused casualties such as lost labels.

11

STONE VESSELS (838-852)

T.F. Potts

11.1 *Materials*

Fifteen fragments, all apparently from different vessels, were recovered from the Ash-Tip deposits. None of the vessels has been geologically identified but in most cases a reliable general classification has been possible on the basis of visual inspection. With the exception of a sandstone bowl (**843**), all the vessels are carved from light coloured,[1] calcium-based sedimentary stones, varying from soft, chalky limestone to a hard marble-like material. These stones were available near Ur and Uruk (Woolley 1956, 31; Williams in Safar, Mustafa & Lloyd 1981, 311; Wright in Adams 1981, 300; Boehmer 1984) and along the banks of the Tigris and Euphrates Rivers north of Baghdad (Ainsworth 1838, 49-92, end plate 3) and the bowls made from them were almost certainly manufactured in southern Mesopotamia, if not necessarily at Abu Salabikh itself. One vessel (not able to be inspected by the author) is registered as "yellowish translucent stone, banded orange" (**851**). This sounds very like the banded calcite which first appears in quantity in the lowlands among vessels of the Early Dynastic III period. Their distinctive shapes and material are best paralleled in south-central and eastern Iran (Amiet 1986, 26-27; D.T. Potts 1986, 282-284; T.F. Potts 1989, 129-130). An example of one such type was recovered at Abu Salabikh in Grave 1 (*ASE* 2, Gr. 1 No. 48, p. 30, p. 213 Fig. 141, Pl. XXVIII*a*).

It is notable that there are none of the hard, dark igneous and metamorphic stones (principally "(basic) diorite") of which so many bowls in the Jamdat Nasr to Early Dynastic II burials at Ur, Kish and Khafaje were made. This parallels the trend away from these stones in the "Royal Cemetery" at Ur (Woolley 1934, 379). Nor is there any steatite/chlorite. Thus, with the possible exception of the banded calcite(?) vessel 851, the materials of the Ash-Tip stone vessels give the impression of an entirely local repertory.

11.2 *Shapes*

Most of the fragments are from simple bowls with a slightly convex profile and flat base. These are easily paralleled elsewhere in Sumer-Akkad (e.g., Mackay 1929, Pls. LVI:1, 2, 5, 8-10; XXXVIII:10; Woolley 1934, Pl. 178c: U.7647; Pls. 242-243, types 16, 19, 20, 22-25; 1956, Pl. 32: U.19436; Pl. 65 [cf. stone types listed pp. 153-154]). There are also four fragments from larger vessels. Two are from heavy bowls (**841**, **849**); a third from a large vessel of indeterminable shape with a convex profile (**848**). More interesting is the fourth piece (**852**), the only decorated sherd in the corpus. It seems to be a fragment from the stand of a limestone 'offering-table' similar to those recovered by Woolley at Ur (Woolley 1934, 378-381; Pl. 180c: U.8217; Pl. 221: U.8223, U. 9914; Pl. 250:101). The filed motif on **852** resembles the 'tree' or 'palm-leaf' design which forms the standard decoration on 'tables' at that site (ibid., 381). But unlike most of them, which are solid (ibid., 388), the Abu Salabikh stand has been drilled hollow.

There is nothing in the evidence at Abu Salabikh itself to indicate how or for what purpose these vessels were used. Pictorial and other evidence suggests that 'offering-stands' played some role in cultic ceremonies, but the other stone vessels from the Ash-Tip are not manifestly sacral types; on the contrary, the simple bowls which dominate the corpus occur regularly in ordinary graves and domestic contexts. If they had been used in temple services or dedicated as offerings (as such humble vessels sometimes were) it is less likely that they would have been casually discarded as rubbish. As is illustrated by the inscribed vessel fragments of many different periods found together in the Enunmah at Ur (Woolley 1974), there was a tendency for the property of a deity to be kept within the temple, even if only as floor packing, long after it had been irreparably broken.

1 Colours are given by reference to Munsell 1975.

11.3 *Catalogue* (838-852)

838 Bowl 6G66:1 in AbS 1039 Fig. 11:1
Batch 401, context A (surface).
70 x 61 mm.
Material: marbly limestone; fine grained.
Colour: ranges between 10YR 8/3 and 7/3 very pale brown.

Rim fragment. Interior polished very smooth, still semi-lustrous. Slight carination below rim on interior. Exterior polished smooth but vestiges of irregular horizontal finishing abrasions; lightly pitted and fractured. Rim slightly squared off. Wall thickness regular.

839 Bowl 6G66:13 (in AbS 1039)[2] Fig. 11:1
Batch 406, context P (Ash-Tip, mixed).
Height: 41 mm. Maximum thickness: 6 mm.
Material: marbly limestone.
Colour: 10YR 8/3 and 7/3 very pale brown.

Rim fragment.

840 Bowl 6G66:153 in AbS 1039 Fig. 11:1
Batch 430, context E (Ash-Tip Phase 2, including Grave 34 within tiplines).
Height: 50 mm.
Material: marbly limestone; fine grained.
Colour: light toffee-colour, ranging between 10YR 7/3 very pale brown and 7.5YR 7/4 pink.

Rim fragment. Interior and exterior polished smooth with a slight lustre remaining. Slight undulations from drilling on interior. Few superficial abrasions on interior and exterior from finishing and/or wear. Fine tapering rim.

841 Bowl 6G67:79 in site store Fig. 11:1
Batch 6415, context G (Ash-Tip Phase 3).
125 x 60 x (maximum thickness) 30 mm.
Diameter: *c.* 500 mm.
Material: Coarse whitish stone (limestone?).
Colour: whitish, rather paler than 10YR 8/3 very pale brown.

Rim fragment. Rouletting decoration adhering to interior.

842 Bowl 6G67:93 in site store Fig. 11:1
Batch 6409, context A (surface).
Maximum thickness: 7 mm. Diameter: *c.* 180 mm.
Material: greyish stone (limestone?).
Colour: 10YR 7/3 very pale brown.

Rim fragment.

843 Bowl 6G76:395 in AbS 1830 Fig. 11:1
Batch 2617, context G (Ash-Tip Phase 3).
Height: 16 mm. Length: 25 mm.
Diameter: *c.* 180 mm.
Material: limestone; fine grained.
Colour: pale brown, approximating to 7.5YR 6/2 pinkish grey.

Rim fragment. Interior and exterior ground smooth. Rim chipped.

844 Bowl 6G76:695 in AbS 1830 Fig. 11:1
Batch 2629, context A (surface).
34 x 27 mm. Diameter: *c.* 160 mm.
Material: limestone; fine grained.
Colour: interior surface and section 10YR 8/2 white; exterior surface 10YR 7/3 very pale brown.

Rim fragment. Ground smooth. Vestigial finishing abrasions on exterior. Interior pitted.

845 Bowl 6G77:59 in AbS 2063 Fig. 11:1
Batch 3904, context H (not certainly Ash-Tip).
Total height: 30 mm. Length: 32 mm.
Maximum thickness: 7 mm.
Material: marbly limestone.
Colour: 10YR 7/4 very pale brown (yellowish), veined 10R 4/8 red.

Three joining rim and body fragments.

846 Bowl 6G86:237 in AbS 2063 Fig. 11:2
Batch 1941, context H (not certainly Ash-Tip).
Height: 29 mm. Length: 37 mm.
Maximum thickness: 8 mm. Diameter: *c.* 120 mm.
Material: limestone; soft.
Colour: 10YR 8/2 white.

Rim fragment.

847 Bowl 6G76:675 in AbS 1830 Fig. 11:2
Batch 2621, context L (fill of Pit f in Ash-Tip Phase 3).
Height: 36 mm. Length: 59 mm.
Base diameter: *c.* 85 mm.
Material: sandstone; fairly coarse grained.
Colour: 5YR 5/4 reddish brown. Burnt in patches to 7.7YR 5/0 grey.

Base and body fragment. Slightly convex base. Worn and slightly pitted all over, especially on interior. Rim lost through re-grinding; re-used as a rubbing stone?

848 Bowl(?) 6G76:758 in AbS 2063 Fig. 11:2
Batch 2655, context G (Ash-Tip Phase 3).
43 x 37 x (thickness) 18 mm.
Material: limestone.
Colour: 10YR 8/3 very pale brown (yellowed white), mostly stained to 10YR 7/3 very pale brown.

Body sherd from near base of bowl(?). Much concretion.

849 Bowl(?) 6G86:101 in AbS 2063 Fig. 11:2
Batch 1911, context G (Ash-Tip Phase 3).
Height: 23 mm. Length: 103 mm.
Maximum thickness: 13 mm.
Material: limestone.
Colour: very pale greenish grey, slightly paler than 10YR 6/3 pale brown.

Base fragment from bowl(?). Much concretion on interior.

850 Bowl 6GS:199 in site store
Batch 6337, context R (Ash-Tip, 6G97 trench, probably Phase 3).
Maximum thickness: 20 mm.
Material: limestone(?); coarse.
Colour: whitish (not represented on Munsell chart).

Body fragment.

851 Vessel 6GS:155 in site store
Batch 6335, context A (6G97 trench, surface).
35 x 30 x (thickness) 13 mm.

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2 But exported for analysis and presently housed in Cambridge.

Material: calcite(?); translucent.
Colour: 2.5Y 7/4 pale yellow, with darker bands.

Body fragment.

852 **'Offering table'** 6G76:690 in AbS 1830 Fig. 11:2 (or bowl?)
Batch 2638, context K (Ash-Tip Phase 3 or grave fill).
37 x 66 x (maximum thickness) 16 mm.
Material: limestone; coarse grained, chalky white.
Colour: 10YR 8/2 white.

Fragment from stand of 'offering table' (or bowl?). Interior and exterior surfaces ground smooth, now slightly pitted. Three filed grooves on exterior (part of palm-leaf design?).

12

GRINDING STONES (853-887)

H.D. Baker

12.1 *Introduction*

All finds in this category are of black, or occasionally reddish, basalt, with the exception of **856**, which is of a hard reddish stone, and **869**, which is of coarse conglomerate. Only one item, **880**, was intact. Many stones had traces of bitumen on one or more surfaces, and occasionally a thick layer of the substance suggested deliberate application (e.g., **859**), the purpose of which is unknown.

Two principal forms of implement are attested. Group A consists of thirteen items with flat or slightly convex grinding surface and a domed or roughly-shaped back, often plano-convex in appearance. Their shape and size suggest that they were used as rubbers, with the grinding surface at the bottom.

Group B, comprising some twelve examples, consists typically of thin stones, with two flat and more-or-less parallel grinding surfaces, the use of both faces implying maximum utilisation of the available material. They were presumably used flat.

Other grinding stones included a fragment of a concave quern-stone (**879**) and a complete rubbing stone with two ground surfaces (**880**).

It seems unlikely that the grinding stones should be considered as an essential component in the Ash-Tip material assemblage. An unusual number of the pieces recovered were surface clearance finds (context A).[1]

12.2 *Catalogue* (853-887)

12.2.1 *Group A: rubbers(?)* (853-865)

853 Stone rubber(?) 6GS:173 in site store Fig. 12:2
Batch 6337, context R (Ash-Tip, 6G97 trench, probably Phase 3).
Size: 103 x 55 x 34 mm. Weight: 211.0 g.

Fragment in black vesicular basalt. One flat, well-worn face; other face irregular, with slight traces of wear; slight traces of bitumen on both faces; part of curved edge extant.

854 Stone rubber(?)
6G66:182 in site store Figs. 12:1, 12:2
Batch 446, context E (Ash-Tip Phase 2, including Grave 105 within tip lines).
Size: 137 x 94 x 33 mm. Weight: 575.4 g.

Fragment in black vesicular basalt. One flat, very well-worn face; other face irregular, convex, with traces of wear; curved edge suggests end fragment of oval grindstone.

855 Stone rubber(?) 6G67:91 in site store
Batch 6409, context A (surface).
Size: 77 x 63 x 35 mm. Weight: 203.7 g.

Fragment in black vesicular basalt. One flat, well-worn face; other face irregular, slightly convex; no extant edges.

856 Stone rubber(?) 6G76:902 in site store
Batch 2671, context D (fill of shaft of Grave 6, in Ash-Tip Phase 2).
Size: 55 x 47 x 34 mm. Weight: not recorded.
[= p. 13, § 1.5.2, No. 19]

Fragment in hard reddish stone; one flat face, fire-blackened; other face has pronounced convex curvature; all faces well polished; edges partly extant.

857 Stone rubber(?)
6G76:979 in site store Figs. 12:1, 12:2
Batch 2688, context A (surface).
Size: 105 x 85 x 76 mm. Weight: 288.0 g.

Fragment in black vesicular basalt. One flat, worn face with bitumen adhering; other face convex, with traces of wear; curved edge partly extant.

858 Stone rubber(?)
6G76:980 in site store Figs. 12:1, 12:2
Batch 2688, context A (surface).
Size: 90 x 89 x 36 mm. Weight: 355.1 g.

Fragment in black vesicular basalt. One flat, well-worn face; wedge-shaped section, with quite even upper faces; curved edge suggesting end fragment of oval grindstone.

859 Stone rubber(?) 6G76:992 in site store
Batch 2667(W), context G (Ash-Tip Phase 3).
Size: 45 x 29 x 20 mm.
Weight: 34.2 g (stone) + 7.4 g (bitumen)

1 For the Ash-Tip "contexts codes", see pp. 223-4.

Fragment in black vesicular basalt. One flat, worn face; other face convex, traces of wear; bitumen (now detached) originally adhered to flat surface.

860 Stone rubber(?)
6G77:88 in site store Figs. 12:1, 12:2
Batch 3907, context J (fill of Grave 186 in Ash-Tip Phase 3).
Size: 98 x 85 x 52 mm. Weight: 685.5 g.

Fragment in black vesicular basalt. Roughly square fragment; one flat, well-worn face; other face even, convex, with traces of wear; traces of bitumen on both faces; rounded edge extant on one side.

861 Stone rubber(?)
6G86:111 in site store Figs. 12:1, 12:2
Batch 1917, context G (Ash-Tip Phase 3).
Size: 80 x 70 x 33 mm. Weight: 225.8 g.

Fragment in black vesicular basalt. One well-worn, very slightly convex face; other face irregular, with traces of wear; curved edge suggesting end fragment of oval grindstone.

862 Stone rubber(?)
6G86:243 in site store Figs. 12:1; 12:2
Batch 1965, context U (fill of pit to west of Ash-Tip, not necessarily from Ash-Tip).
Size: 129 x 67 x 48 mm. Weight: 405.5 g.

Fragment in black vesicular basalt. One flat, well-worn face; other face even, convex, with traces of wear; traces of bitumen on both faces; curved edge indicates end fragment of oval grindstone.

863 Stone rubber(?)
6G86:330 in site store Figs. 12:1, 12:2
Batch 1985, context A (surface).
Size: 105 x 71 x 49 mm. Weight: 418.7 g.

Fragment in black vesicular basalt. One face worn, slightly convex across width; other face even, convex; traces of bitumen on both faces; part of one edge extant.

864 Stone rubber(?)
6G86:332 in site store Figs. 12:1, 12:2
Batch 1985, context A (surface).
Size: 54 x 39 x 27 mm. Weight: 68.5 g.

Fragment in black vesicular basalt. One flat, worn face; other face irregular; no extant edge.

865 Stone rubber(?)
6G86:333 in site store Figs. 12:1, 12:3
Batch 1985, context A (surface).
Size: 90 x 73 x 39 mm. Weight: 311.7 g.

Fragment in purple vesicular basalt; one flat, worn face; other face quite even; no extant edge.

12.2.2 *Group B: flat forms* (**866-877**)

866 Grinding stone 6G67:38 in site store Fig. 12:3
Batch 6411, context G (Ash-Tip Phase 3).
Size: 31 x 25 x 19 mm. Weight: 20.4 g.

Fragment in black vesicular basalt. Parallel, flat faces, both worn, one heavily so; no extant edge.

867 Grinding stone 6G67:58 in site store Fig. 12:3
Batch 6418, context G (Ash-Tip Phase 3).
Size: 98 x 75 x 15 mm. Weight: 147.8 g.

Fragment in black vesicular basalt. Two well-worn faces, one flat, the other very slightly concave; part of curved edge extant.

868 Grinding stone 6G67:91 in site store Fig. 12:3
Batch 6409, context A (surface).
Size: 77 x 63 x 35 mm. Weight: not recorded.

Fragment in black vesicular basalt. Parallel flat faces, both well-worn; no extant edge.

869 Grinding stone
6G76:693b in site store Figs. 12:1, 12:3
Batch 2640, context L (fill of Pit i in Ash-Tip Phase 3).
Size: 69 x 69 x 36 mm. Weight: 255.7 g.

Fragment of coarse conglomerate; two flat, well-worn faces; part of rounded edge extant.

870 Grinding stone 6G76:784a in site store Fig. 12:1
Batch 2661, context G (Ash-Tip Phase 3).
Size: 55 x 43 x 28 mm. Weight: 85.2 g.

Fragment in reddish vesicular basalt; parallel flat faces, one well-worn, the other encrusted with vegetable-tempered bitumen; no extant edge.

871 Grinding stone
6G76:784b in site store Figs. 12:1, 12:3
Batch 2661, context G (Ash-Tip Phase 3).
Size: 67 x 40 x 21 mm. Weight: 48.7 g.

Fragment in reddish vesicular basalt; two flat faces, both worn, one heavily so; edge partly extant, with a smooth facet attesting use.

872 Grinding stone
6G76:806 in site store Figs. 12:1, 12:3
Batch 2664, context H (Ash-Tip Phase 3 or other deposit).
Size: 86 x 71 x 28 mm. Weight: 185.0 g.

Fragment in black vesicular basalt. Two flat faces, one well-worn; traces of bitumen on both; no extant edge.

873 Grinding stone 6G76:908 in site store Fig. 12:3
Batch 2672, context D (fill of Grave 6 in Ash-Tip Phase 2).
Size: 70 x 62 x 18 mm. Weight: 113.0 g.
[= p. 12, § 1.5.2, No. 14]

Fragment in black vesicular basalt. Parallel flat faces, both well-worn and with traces of bitumen adhering; no extant edge.

874 Grinding stone 6G76:969 in site store Fig. 12:3
Batch 2686, context B (Ash-Tip Phase 2).
Size: 24 x 21 x 13 mm. Weight: 9.0 g.

Fragment in black vesicular basalt. Parallel flat faces, both worn; no extant edge.

875 Grinding stone 6G76:1017 in site store Fig. 12:3
Batch 2680(P), context F (fill of Pit m in Ash-Tip Phase 2).
Size: 59 x 37 x 21 mm. Weight: 50.1 g.

Fragment in black vesicular basalt. Parallel flat faces, both well-worn; no extant edge.

876 Grinding stone
6G86:77 in site store Figs. 12:1, 12:3
Batch 1901, context G (Ash-Tip Phase 3).
Size: 78 x 75 x 34 mm. Weight: 270.8 g.

Fragment in black vesicular basalt. Two flat, well-worn faces; part of rounded edge extant.

877 Grinding stone
6G96:6 in site store Figs. 12:1, 12:3
Batch 3800, context A (surface).
Size: 90 x 89 x 23 mm. Weight: 212.5 g.

Fragment in black vesicular basalt. Two flat, worn faces; wedge-shaped section; no extant edge.

12.2.3 *Miscellaneous* (**878-887**)

878 Grinding stone 6G76:693a discarded
Batch 2640, context L (fill of Pit i in Ash-Tip Phase 3).
Size: 75 x 70 x 25 mm. Weight: not recorded.

"Fragment of ordinary volcanic grindstone. Discarded."

879 Grinding stone
6G86:329 in site store Figs. 12:1, 12:3
Batch 1985, context A (surface).
Size: 143 x 122 x 29 mm. Weight: 719.4 g.

Fragment in black vesicular basalt. End fragment of oval(?) grindstone.

880 Grinding stone
6G86:331 in site store Figs. 12:1, 12:3
Batch 1985, context A (surface).
Size: 77 x 57 x 53 mm. Weight: 910.8 g.

Black vesicular basalt. Intact grindstone; two adjacent worn faces; high convex back, with rounded edges; bitumen traces on all surfaces.

881 Grinding stone 6G76:798
Batch 2652, context L (fill of Pit i in Ash-Tip Phase 3).
Size: 110 x 95 x 91 mm. Weight: not recorded.

Fragment of black vesicular basalt; no extant worked face.

882 Grinding stone 6G76:986 in site store
Batch 2671(W), context D (fill of shaft of Grave 6 in Ash-Tip Phase 2).
Tiny fragment (from water-sieving).

Fragment of black vesicular basalt; no extant worked face.

883 Grinding stone 6G77:11a in site store Fig. 12:3
Batch 3904, context H (Ash-Tip Phase 3 or other deposit).
Size: 36 x 25 x 25 mm. Weight: 20.9 g.

Fragment of black vesicular basalt; no extant worked face.

884 Grinding stone 6G77:11b in site store Fig. 12:3
Batch 3904, context H (Ash-Tip Phase 3 or other deposit).
Size: 42 x 23 x 15 mm. Weight: 17.09 g.

Fragment of black vesicular basalt; no extant worked face.

885 Grinding stone 6G77:11c in site store Fig. 12:3
Batch 3904, context H (Ash-Tip Phase 3 or other deposit).
Size: 26 x 17 x 14 mm. Weight: 7.1 g.

Fragment of black vesicular basalt; no extant worked face.

886 Grinding stone 6G86:238
Batch 1959, context U (fill of pit to west of Ash-Tip, not necessarily from Ash-Tip).
Size: 95 x 44 x 44 mm. Weight: not recorded.

Fragment of black vesicular basalt; no extant worked face.

887 Grinding stone 6G67:78
Batch 6411(W), context G (Ash-Tip Phase 3).
Tiny fragment (from water-sieving).

Fragment of black vesicular basalt; no extant worked face.

13

FLAKED STONE (888-894)

R.L. Miller & J. Rees Miller

13.1 *Introduction*

The mid 3rd millennium BC flaked stone assemblage available for study from the Abu Salabikh Ash-Tip consists of 85 pieces of flint and one obsidian pressure bladelet butt from Phases 2 and 3, together with 30 pieces of flint and silicified chert from graves and pits dug into these levels which will not be dealt with in detail here.[1] The stratified material from undisturbed Phase 2 and 3 contexts provides some interesting data on the design and maintenance of one important type of Sumerian agricultural tool, a sickle or reaping knife with a cutting edge composed of flint blade segments set in a bitumen haft. A total of 26 sickle elements with characteristic sickle polish on one or both edges and 4 denticulates were found in Phases 2 and 3. No other tool types were identified in the admittedly restricted sample of well-stratified flints from the site which were available for study, although a hammerstone fragment used as a core after it split and a resharpening flake from a stone adze were recovered from the mixed contexts of the graves and pits dug into Phases 2 and 3. Metal appears to have been scarce during the period of occupation on the site represented by the Ash-Tip deposits, and fragments of clay sickles were also found (cf. above, p. 141, § 9.1 and 747-752). Both flint and clay sickles could have been used to harvest cereals as well as to cut reeds and plants needed for matting, basketry, construction and other industries.

Although the flints were found in association with an ashy layer, this ash is unlikely to be related to the use of heat treatment in modifying and improving the working qualities of the stone used for flaking. Evidence was lacking for the stages of manufacture related to this technique which have been identified in an Uruk assemblage from Tell Rubeidheh where kilns in which flint was heated have been excavated (R.L. Miller 1989). The Abu Salabikh Ash-Tip assemblage does not have the cores, flakes and blades with matte flake scars from flake removals before heat treatment which can be identified at Mesopotamian sites where a mixture of ash and flints is associated with evidence of deliberate heat treatment, as at Rubeidheh and Hadidi (R.L. Miller 1985).

When flint is exposed in open air to the temperatures of 500°C which an open fire can easily reach, it immediately shatters and spalls. There is heat spalling and cracking on the surface of more than half of the flints found in the Ash-Tip, 48/85 (55.8%), showing that the ashes were still hot when the flints came into contact with them. Since bitumen was the adhesive used to set the denticulates and sickles in their hafts, it is interesting to note that the bitumen appears to have burnt off almost half of the tools from the Ash-Tip (14/30, 46.7%).

	no bitumen unburnt	bitumen unburnt	no bitumen burnt	bitumen burnt
sickle elements	1	11	13	1
denticulates	2		1	1
total tools	3	11	14	2
percent tools	10%	36.7%	46.7%	6.7%

What could explain the occurrence of flint in the Ash-Tip contexts? Flaked stone is apparently present here in quantities somewhat greater than that encountered elsewhere on the site (observation by A. Green). At the same time, the significant assemblage of sealings, figurines and miniature vessels (chs. 2-4) suggests some official, even cultic institution was involved in the activities which led to the accumulation of the rubbish here. The role of Sumerian temples in the administration and organisation of food production has often been noted (Adams 1960; Oates & Oates 1976, 134-135; Postgate 1984c, 3)

1 For the 'Phases' and other Ash-Tip contexts, cf. pp. 5-18, §§ 1.3.3-6, 1.5-6.

and the tools needed for agricultural production could also have been produced and maintained in institutional workshops.

This might help to account for the uniformity of design found in the sickle elements, which are always denticulated by direct retouch along the working edge and usually trimmed on one or both ends by regular, squared direct retouch truncation (Fig. 13:1); this standard design, which is characteristic of ED III sickle elements generally (Crowfoot Payne, *ASE* 1, 100) is in stark contrast to the idiosyncratic modification of Uruk and ED I flint sickle elements (Crowfoot Payne, *ASE* 1, 99-103; Miller & Rees Miller 1984). Exhausted cutting edges of composite flint sickles frequently needed to be replaced, and new sickle elements were trimmed to fit their slot on the bitumen haft whenever flints had been broken, or worn out. The standardised retouch and truncation of the Abu Salabikh Ash-Tip sickle elements suggests that a single workshop or closely integrated specialist tradition might have produced them. Regularity in output is associated with family specialisation in stoneworking known from Australia, East Anglian gunflint makers and Circassian threshing sledge makers in Jordan, and a small circle of interrelated ED III knappers producing 10 kg of finished blanks per capita daily could have supplied enough for regional and even interregional demand for tool elements. In contrast, the variety of retouch styles and attributes found on flint sickle elements in earlier periods suggests individual farmers modifying standardised tool blanks in unspecialised ways.

However this still leaves unanswered the question of what the flints were doing in a very large ash deposit, and the answer to this depends in part upon what the ash itself represents. Both archaeological and ethnological analogies may provide some testable hypotheses to consider.

Does the Ash-Tip contain material derived from a periodic, perhaps annual, cleaning out and renewal of temple silos? The architectural remains of the level which produced the Tip have probably been lost through erosion (cf. above, p. 7, § 1.3.8). Fortunately the mixture of flint and ash at Abu Salabikh can now be paralleled elsewhere in Mesopotamia in an original architectural context. A similar association of flint tools and thick ash deposits up to 2.5 m thick is found in a large grain storage silo from a roughly contemporary Khabur site, Tell 'Atij in Syria, dated to the Early Bronze Age/ 3rd millennium BC (Fortin 1988, 162-170, Figs. 27-29). If ash was used in grain storage at Abu Salabikh – and it is an effective desiccant insecticide widely used in hot, dry climates to prevent post-harvest losses (cf. R.L. Miller 1987a) – the Abu Salabikh Ash-Tip could be expected to include categories of rubbish including harvesting tools, sealings, cult objects and accounting devices associated with the activities of the institution responsible for them.

A number of other institutional activities which could lead to the production of ash in large quantities can also be envisaged, including baking and cooking. Whatever the origin of the ash deposits in the Ash-Tip, it is possible that the shortage of fuel endemic in the Mesopotamian region noted by N.F. Miller (1984) led to the economical use of the fires needed to produce the ash. These fires could also have been used to heat and soften bitumen hafts so sickle elements which had worn out during harvesting could be replaced. This could explain the presence of burnt flint which fell into the fire being used to soften the bitumen so that new flints could be set or old flints removed. As Wright (1981, 267) has noted, exhausted sickle elements set in bitumen could not always be replaced in the field, but would be discarded with rubbish from occupation areas where the sources of heat and bitumen needed to repair sickles were available.

13.2 *Raw material used in flaking*

Flint was used almost exclusively in the flaked stone industry represented in the Ash-Tip, comprising the raw material of 99% of the pieces (85/86) studied from Phases 2 and 3. Only one piece of obsidian was found (batch 2613, Phase 3, context H[2]), a pressure flaked bladelet butt 25 x 8 x 3 mm, which could have been brought onto the site with other flakes and blades of obsidian from a workshop located elsewhere, either in Anatolia or at some point in between its source and Abu Salabikh.

13.3 *Core preparation and flaking techniques*

While it is often possible to make inferences about earlier stages of production from the flake scars and surface topography of pieces of flaked stone, it should be noted that the earliest stages of flaking are not represented in the Abu Salabikh Ash-Tip assemblage.

No primary cortical flakes completely covered with natural surface were found among the 15 flints from Phase 2, and the five primary cortical flakes found among the 70 flints from Phase 3 could have come from knappers setting up new angles of flaking for subsidiary striking platforms needed to maintain the convex flaking surface of pressure cores. Roughed out cores from the areas of the upper Euphrates valley which could have supplied semi-finished cores ready for pressure flaking in workshops in southern Mesopotamia (R.L. Miller 1987b) typically have large areas of pebble cortex remaining on

2 For context codes, see pp. 223-4.

the sides and base of the core. These cortex-covered surfaces of the core would tend to be removed as flaking proceeded, resulting in primary flakes which sometimes, but not in this case, indicate early stages of production. Similar considerations account for the presence of 18 flakes with both flake scars and cortex on their dorsal surface. These too would be struck off the sides of pressure cores as they were worked carefully to keep them in shape for the blade and bladelet removals needed for sickle elements and denticulates.

	Primary Cx	Flake scars + Cx	total Cx	total flaked	%Cx
Phase 2	0	4	4	15	26.7%
Phase 3	5	9	14	70	20.0%
Total	5	13	18	85	21.2%

Table 13:1. Cortical flakes

Although no cores were found in the flaked stone assemblage from the Ash-Tip, there were a number of pieces which provided information on the techniques used to flake stone. Several blade butts were clearly produced by pressure, and the straight lines of the ridges between flake scars on the dorsal surfaces of the sickle elements also indicate that the blade blanks were levered off the core by a flaking tool with a tip of copper or antler.

A glimpse of this process can be seen in the drawing of the core tablet from Phase 2, 894 (Fig. 13:1), where the stippled areas on both edges represent the cortex-covered sides of the core. This flake came from the top of a core, the striking platform from which pressure was applied to remove a blade, whose flake scar can still be seen at the top of the drawing. To the right side of this scar we can see the remains of the facetting needed to strengthen the striking platform and isolate the point to which pressure was applied and prevent the force transmitted through the flaking tool from crushing the edge of the core. Although the blade removal was clearly successful in this case, the area of core from which blades could be taken off by pressure was extremely limited, and both sides of the thin, flat pebble used as a core would have been completely covered with cortex.

Such a flat pebble would have been well suited to blade production. The first step would have been to strike off a series of alternate flake removals down one edge of the pebble, by a series of blows similar to that needed to start a biface or make the edge of a chopping tool. This flaking, or cresting, helped to define a guide ridge down the back of the first blade removal, allowing the flaking force to travel the greatest possible distance down the edge of the pebble core. Evidence of such flaking is preserved on the dorsal surface of the first flake or blade struck off the renewal. Such crested flakes or blades have a distinctive pattern of flake scars on their dorsal surface which still shows the negative flake scars of the bulbs of percussion of the series of flakes used to define the ridge needed for successful blade removal. The tip of a crested flake and the midsection of a crested blade were found in Phase 3 of the Ash-Tip. Two core trimming flakes and one of the crested blades were also found in a single batch, 2625, in Phase 3 (context H).

	Phase 2	Phase 3	Total	%
Cores	0	0	0	
Core preparation & renewal				
core tablets	1	1	2	
core trimming flake	0	2	2	
crested flake or blade	0	2	2	
cross-flaking	1	1	2	
Total core preparation & renewal	2	6	8	9.3%

Table 13:2. Core preparation and removal

As can be seen from Table 13:2, the percentage of waste flakes from working cores is low in the Ash-Tip flaked stone assemblage, and there were only two plunging blade tips found. The plunging of flakes and blades is a common knapping accident which occurs when the flake removal overshoots, plunges down the flaking face and takes the base of the core with it. More of these plunging, overshot flake and blade tips would be expected if a significant activity in the area from which the Ash-Tip rubbish came had been the manufacture of tools from cores, although some flaking of cores did occur

This is partly a matter of urban waste disposal; it would be a waste of time to find the space and workforce to dispose of the metric tonne of raw material which a skilled knapper works through in a week and a half, with only a 10% efficiency in converting raw material to finished blade tools. Cores could have been roughed out in places with good flint where the tons of wastage inevitable in the early stages of flaking would be easily disposed of in less densely populated areas of the countryside, with only semi-finished cores or even the blades needed for tool blanks having to be brought into the urban specialists' workshops (Miller 1987b). These roughed out cores would have had good guide ridges for pressure flaked blade removals such as were taken off the ED III cores found elsewhere at Abu Salabikh (Crowfoot Payne 1980, 114-115 Figs. 4-5). The absence at Abu Salabikh of flaking waste from roughing

out cores may also be due to the need to import flint from other areas of Mesopotamia. There is an acute scarcity of good flint in the southern Mesopotamian alluvium, although flint and chert are found in outcrops and gravels in the Zagros, in the Iraqi desert to the west, and in the Jezireh, and cores could have been exported to the alluvium from worshops in these areas (cf. Wright 1981, 265).

13.4 *Tools*[3]

Sickle elements were almost the only tool type represented in the stratified deposits of Ash-Tip Phases 2 and 3, and comprised about one third of the flaked stone assemblage itself, 26 out of 86 pieces (30.2%). Even the denticulates, which are the next most frequent tool type, 4/86 (4.7%) are of identical design and may represent sickle elements which were not used long enough to develop sickle sheen. It is interesting to note that both of the denticulates found in Phase 3 contexts were burnt, and it is possible that these were unused sickle elements which fell into the hot ashes during the process of heating the bitumen haft to set a new flint.

	Phase 2	Phase 3	Total	%
Tools				
sickle elements	3	23	26	30.2%
denticulates	2	2	4	4.7%
Total tools	5	25	30	34.9%
Waste flakes	2	15	17	19.8%
Waste blades	7	22	29	33.7%
Fragments, heat spalls	1	9	10	11.6%
Total flaked stone	15	71	86	100%

Table 13:3. Tools

One striking characteristic of the Ash-Tip flaked stone assemblage is its typological uniformity. Other tool types noted in ED III assemblages on the site, notably the microborers (Crowfoot Payne 1980, 112; Unger-Hamilton, Grace, Miller & Bergman 1987),[4] are distinguished by their absence. Nevertheless, the used and unused sickle elements which are found in the Ash-Tip assemblage show a number of interesting technological features.

	Phase 2	Phase 3	Total	%
part of blade				
all	0	0	0	-
butt	0	0	0	
midsection	3	23	26	100%
tip	0	0	0	
truncation				
inverse retouch	0	0	0	
direct retouch				
one end	3	12	15	58%
both ends	0	5	5	19%
unmodified breaks				
one end	3	12	15	58%
both ends	0	6	6	20%
denticulated cutting edge				
inverse retouch	0	0	0	-
direct retouch				
one edge	2	15	17	65%
both edges	1	8	9	35%
unretouched cutting edge	0	0	0	
sickle sheen				
one edge	2	18	20	77%
both edges	1	5	6	23%

Table 13:4. Design and technology of sickle elements

One interesting feature of the design of ED III sickle elements is also related to the core tablet **894**, discussed above (§ 13.3). Sickle elements from this period are typically denticulated. Without chipping a continuous, regular series of teeth along both edges of the blade blank produced from this core, the blade

3 For baked clay sickles, see above, pp. 141-3, § 9.1 and **749-752**.

4 Although **753-754** (ch. 9) might represent clay discs used in connexion with the bow-drill.

as it came from the core would have had no cutting edge. The cortex which would have been present on both edges of the blank struck off the core could not cut the crop and had to be trimmed off before the sickle element could be used.

The design template for flint sickle elements present in the Ash-Tip rubbish is extremely standardised. All sickle elements were made on blade midsections, which allowed them to fit into the haft better than would have been the case if blade butts, tips or complete blades had been used. Midsections represent the optimum design for elements of a composite cutting edge, as they are of a uniform width and thickness which enables them to be fixed firmly in the bitumen haft of the sickle. Problems arise if other parts of flakes and blades are used, as any irregularity means that the edge may break during use, or work free if it is not firmly set in its place in the sickle haft. If complete blades or blade butts had been used, extra time would have been needed to thin the bulb of percussion so that the blank would have a uniform thickness. The proximal end of the butt nearest the striking platform would also have been somewhat narrower than the rest of the blade, as can be seen from the negative of the blade removal on the tip of the Phase 2 core tablet 894, already discussed (Fig. 13:1). Blade tips also have disadvantages as cutting edges; if they were slightly plunging or twisted, they would work loose from the haft or give a curved rather than straight cutting edge which would tend to chip and break during use.

The design standards which the sickle elements had to meet can be seen by comparing them with the overall blade and flake assemblage from the Ash-Tip.

	Phase 2	Phase 3	Total	%
part of flake				
all	2	9	11	65%
butt	0	3	3	18%
midsection	0	0	0	
tip	0	3	3	18%
part of blade				
all	1	0	1	2%
butt	4	11	15	25%
midsection	7	30	37	63%
tip	0	6	6	10%
total flakes and blades				
all	3	9	12	16%
butt	4	14	18	24%
midsection	7	30	37	49%
tip	0	9	9	12%

Table 13:5. Flakes and blades

There were no tools on flakes. There were also no tools on complete blades, and no tools on blade butts or tips. The 37 blade midsections represent almost half of the flakes and blades found in the stratified material from the Ash-Tip (37/76, 49%) and the tools, both denticulates and sickle elements, were invariably made on these. Thus although the tools represent a little over a third of the whole flaked stone assemblage (30/86, 35%), more than four fifths of blade midsections were made into tools (30/37, 81%). This strongly suggests that much of the rest of the flaked stone assemblage is the waste left over after trimming blade blanks to make sickle elements. Irregular pieces, which included the butts and tips which were unsuitable for making sickle elements, were discarded, and most of the available midsections were modified and trimmed to make sickles from them.

13.5 *Illustrated Pieces* (**888-894**, Fig. 13:1)

888 Sickle-blade 6G66:41 in AbS 443H Fig. 13:1
Batch 404, context B (Phase 2).
Size: 26 x 14 x 4 mm.

Sickle-blade, brown banded flint. One edge with sickle sheen and denticulated by direct retouch. Midsection of blade, traces of bitumen, one end truncated by squared direct retouch.

889 Sickle-blade 6G76:103 in AbS 1831 Fig. 13:1
Batch 2605, context H (Phase 3).
Size: 20 x 12 x 3 mm.

Sickle-blade, grey-brown flint. One edge with sickle sheen and denticulated by direct retouch. Midsection of blade, traces of bitumen show 3-5 mm of cutting edge exposed. One end truncated by direct retouch; other end shows slight cone of percussion and radiating fracture lines on intentional break facet, features from blow struck against blade blank to remove blade butt.

890 Sickle-blade 6G76:611 in AbS 1831 Fig. 13:1
Batch 2638, context ?H/?K (Phase 3, or just possibly from fill of grave cutting Phase 3).
Size: 23 x 14 x 3 mm.

Sickle-blade, brown flint. Both edges with sickle sheen and denticulated by direct retouch. Midsection of blade, traces of bitumen, one end truncated by squared direct retouch.

891 **Sickle-blade** 6G67:33 in AbS 2392 Fig. 13:1
Batch 6409, context A (surface).
Size: 35 x 19 x 4 mm.

Sickle-blade, flint. Both edges with sickle sheen and denticulated by direct retouch. Midsection of blade, traces of bitumen, one end truncated by squared inverse retouch.

892 **Sickle-blade** 6G67:41 in AbS 2392 Fig. 13:1
Batch 6412, context H (Phase 3).
Size: 45 x 11 x 3 mm.

Sickle-blade, flint. One edge with sickle sheen and denticulated by direct retouch. Midsection of blade, curved in profile, traces of bitumen, both ends truncated by squared direct retouch.

893 **Core-tablet** 6G76:119 in AbS 1831 Fig. 13:1
Batch 2608, context H (Phase 3).
Size: 31 x 34 x 7 mm.

Core-tablet, grey-brown banded flint with red flecks, black pebble cortex on plain cortical butt. Broken distally. Undercut axial hinge scars on dorsal surface. Top of core this was struck off measured 31 x 34 mm.

894 **Core-tablet** 6G76:975 in site store Fig. 13:1
Batch 2685, context B (Phase 2).
Size: 44 x 20 x 21 mm.

Core-tablet, flint. See text for discussion (pp. 169-171).

13.6 *Appendix 1: Flaking technology – recognising and recording*

Batches of flints from the Ash-Tip available for study:[5]

Phase 2: batches 404, 431, 2679, 2681, 2683, 2684, 2685, 2686, 2689.

Phase 3: 2603, 2605, 2608, 2610, 2612, 2613, 2614, 2616, 2617, 2620, 2623, 2625, 2637, 2638, 2650, 2675, 2676, 6411, 6412.

Mixed (pits and graves cut into Phases 2 and 3): 406, 411, 415, 430, 444, 448, 2602, 2618, 2622, 2624, 2627, 2631, 2632, 2634, 2672.

Only about half the flints recovered from the Ash-Tip were available for the authors' study. Although notes were made in the field by others, only the comments of colleagues with previous experience in the analysis and publication of flint industries in the Near East were useful. If made by those inexperienced in flint technology who do not know what they are looking at and what to look for, records have little or no value.

The categories needed for describing the flaking waste and tools of an industry are based on recognising the sequence of manufacture, modification, use and post-depositional damage which can be reconstructed from the flake scars, retouch and surface condition of each piece. At a minimum, field recording needs to note a number of technologically significant features of the principal tool category. In the case of sickles and denticulates, at the very least, four questions need to be answered:

(1) Are bitumen stains (**888-891**) or traces of hafting material present?
(2) Is sickle sheen present on one (**888-889, 892**) or both (**890-891**) edges?
(3) Is regular denticulation present on one (**888-889, 892**) or both (**890-891**) edges?
(4) Are the ends of the blade segment used as a tool blank
  (a) unretouched (**889**, top edge in Fig. 13:1).or were they trimmed to fit the sickle element into its place in the haft and either
  (b) truncated by direct retouch which appears on the same surface as the long parallel ridges on the dorsal surface (**888, 890, 892**), or
  (c) truncated by inverse retouch which appears on the smooth underbelly of the piece (**891**)?

A field record which does not provide this information is not very useful.

Where field recording must be done by excavation staff without previous experience in flaked stone technology of the area, use should be made of publications such as this or articles by Mrs Crowfoot Payne (1978 – regrettably unavailable to those without a microfiche reader in the field, 1980 and in *ASE* 1, 99-103), Ohnuma (1981) or Inizan and Tixier (1982). If this assistance is not available (and such resources should be included in the planning of a field season), cataloguing should be limited to an entry "flint", "obsidian", "flaked/ground stone", which gives the number of pieces, the stratigraphy and a brief description of the layer and its architectural context. For the purpose of later study and analysis, access to all pieces should then be assured.

13.7 *Appendix 2: List of flints from the Ash-Tip (Ed.)*

With the Ash-Tip flaked stone assemblage we have been exceptionally unlucky in our efforts to retrieve and make available to our specialists material after the excavation seasons, and in preparing their report Drs Miller and Rees Miller have been able to make personal study of only a half of the total excavated corpus. As a record of the total material excavated, more of which may again become available in the course of time, the following check-list of Ash-Tip flints has been appended by the Editor. For the reasons outlined in Appendix 1, there has been no attempt to write proper catalogue entries for this material on the basis of available field records, but in some cases notes upon individual pieces have been made in the field by Joan Crowfoot Payne and in those cases some detailed information is provided by way of footnotes. Although this makes for a rather patchy and inconsistent record, it seems preferable to simply ignoring reliable information when it exists.

5 For contexts see pp.223-4

Obj. No.	*AbS No.*	*Batch*	*Context*	*Quantity*	*Cat.*
6GS:153	in site store	6335	A	?	
6GS:159	in site store	6336	A	1	
6GS:172	in site store	6337	R	1	
6GS:196	in site store	6335	A	3	
6G66:23	in 443A	406	P	3	
6G66:23	in 443B	406	P	2	
6G66:23	443E	406	P	1	
6G66:23	443F	406	P	1	
6G66:23	in 1037	406	P	11[6]	
6G66:28	in 1037	415	?F	3[7]	
6G66:31	in 1037	411	F	2[8]	
6G66:38	443G	417	F	1	
6G66:38	in 1037	417	F	1	
6G66:38	in 443H	404	B	1	
6G66:41	in 1037	404	B	4[9]	**888**
6G66:53	443D	404	B	1	
6G66:98	in 1037	400	A	2[10]	
6G66:112	in 1037	431	B	2[11]	
6G66:119	in 1037	430	E	4[12]	
6G66:120	in 1037	431	B	1	
6G66:179	in 1431	444	F	1[13]	
6G66:192	in 1431	448	F	1[14]	
6G66:193	in 1431	448	F	1[15]	
6G67:4	in 2392	6400	A	1	
6G67:5	in 2392	6400	A	1	
6G67:6	in 2392	6400	A	1	
6G67:7	in 2392	6400	A	1	
6G67:21	in 2392	6406	B	1	
6G67:23	in 2392	6406	B	6	
6G67:29	in 2392	6406	B	?	
6G67:33	in 2392	6409	A	1	**891**
6G67:41	in 2392	6412	G	1	**892**
6G67:64	in 2392	6411W	G	1	
6G67:77	in 2392	6411W	G	1	
6G67:109	in 2392	6409	A	1	
6G76:(S)	in 2240		A	2[16]	

6 Sickle blade, banded flint; ends squared by direct retouch; edges lustrous and coarsely denticulated by direct retouch; one edge with wider band of lustre; traces of bitumen on both faces; 34 x 13 x 2 mm.
Sickle blade, brown flint; one end snapped, one squared by direct retouch; edges lustrous and coarsely denticulated by direct retouch; one edge has wider band of lustre and deeper, more regular denticulation; 28 x 7 x 2 mm.
Sickle blade fragment, calcined flint; ends lost; edges lustrous and coarsely denticulated by direct retouch; 28 x 13 x 3 mm.
Sickle blade fragment, calcined flint; one end lost, one squared by direct retouch; edges lustrous and coarsely denticulated by direct retouch, one with wider band of lustre; 18 x 17 x 2 mm.
Blade (tip) fragment, light brown banded flint.
Blade (butt) fragment, calcined flint; plain striking platform, despurred.
Borer, banded brown flint; on core trimming flake, bulbar end lost; distal end steeply retouched on upper surface for half of length to make a strong point; 75 x 26 x 12 mm; published by Crowfoot Payne 1980, 119 Fig. 9, No. 3; p. 109.
Flake fragment, bulbar end lost.
Two fragments of calcined flint.

7 Sickle blade fragment, banded brown flint; one end lost, one squared by direct retouch; one edge lustrous and coarsely denticulated by direct retouch; 45 x 13 x 3 mm.
Blade (butt) fragment, brown flint; punctiform striking platform despurred; edges abraded.
Flake, brown flint with cortex; plain striking platform; 38 x 35 x 15 mm.

8 2 flakes, pale mauve flint; plain striking platform; abraded edges; 70 x 40 x 12 mm, 58 x 33 x 15 mm.

9 Include blade, brown flint with cortex; small plain striking platform despurred; edges abraded; 47 x 9 x 3 mm.
See also **889**.

10 Blade (butt) fragment, banded brown flint; small plain striking platform despurred.
Fragment of banded brown flint with cortex.

11 Sickle blade, light brown flint; one end squared by direct retouch, the other snapped; one edge lustrous and coarsely denticulated by direct retouch; bitumen remains; 38 x 16 x 2 mm.
Blade (tip) fragment, calcined flint.

12 Sickle blade fragment, brown flint; one end squared by direct retouch, the other snapped; one edge coarsely denticulated by direct retouch and lustrous; 22 x 12 x 2 mm.
Blade (butt) fragment, calcined flint; punctiform striking platform, despurred; use-retouch along one edge.
Blade (midsection) fragment, calcined flint.

13 Chunk of calcined flint.

14 Blade (midsection) fragment, light brown banded flint; edges abraded.

15 Flake, brown flint; plain striking platform, despurred; edges abraded; 60 x 20 x 7 mm.

16 Fragment of flake, brown flint with cortex.
Fragment of calcinated flint, brown.

6G76:10	in 1831	2600	A	1[17]	
6G76:14	in 1831	2601	A	1[18]	
6G76:16a	in 1831	2601	A	1[19]	
6G76:16b	in 1831	2612	G	4[20]	
6G76:24	in 1831	2601	A	1[21]	
6G76:29	in 1831	2602	L	1[22]	
6G76:40	in 1831	2601	A	1[23]	
6G76:67	in 1831	2603	G	2[24]	
6G76:78	in 1831	2603	G	1[25]	
6G76:96	in 1831	2605	G	1[26]	
6G76:103	in 1831	2605	G	1	**889**
6G76:119	in 1831	2608	G	3[27]	**893**
6G76:127	in 1831	2601	G	1[28]	
6G76:137	in 1831	2610	G	9[29]	
6G76:165	in 1831	2613	H	4	
6G76:171	in 1831	2613	H	5[30]	
6G76:177	in 1831	2601	A	1[31]	
6G76:179	in 1831	2613	H	1[32]	
6G76:194	in 1831	2614	G	3[33]	
6G76:194	in 1831	2614(S)	G	4[34]	
6G76:213	in 1831	2616	G	4[35]	
6G76:215	in 1831	2616	G	1[36]	
6G76:237	in 1831	2617	G	9[37]	

17 Flake, pinky brown flint, rolled black cortex; punciform striking platform; 21 x 18 x 2 mm.

18 Flake, in 2 fragments, calcined flint.

19 Flake, banded brown flint; plain striking platform; 27 x 25 x 4 mm.

20 Blade (tip) fragment, calcined flint.
Flake, calcined flint; 26 x 21 x 3 mm.
Flake fracture, brown flint; plain striking platform.
Fragment of calcined flint, thermal fracture.

21 Fragment of calcined flint.

22 Flake, banded brown flint, rolled black cortex; cortex over striking platform; 47 x 33 x 10.

23 Flake, banded brown flint; plain striking platform; 43 x 40 x 15 mm.

24 Blade (butt) fragment, calcined flint; punctiform striking platform, despurred.

25 Fragment of calcined flint, rolled black cortex.

26 Fragment of calcined flint.

27 Sickle blade fragment, calcined flint; ends lost; edges coarsely denticulated by direct retouch, one lustrous; 18 x 13 x 3 mm.
Blade (midsection) fragment, calcined flint; edges abraded.
See also **894**.

28 Fragment of calcined flint.

29 Sickle blade, brown flint; one end snapped, one squared by direct retouch; one edge lustrous and coarsely denticulated by direct retouch; 38 x 14 x 2 mm.
Sickle blade fragment, calcined flint; one end lost, one snapped; one edge lustrous and coarsely denticulated by direct retouch; 28 x 17 x 2 mm.
Sickle blade fragment, calcined flint; one end lost, one squared by direct retouch; edges lustrous and coarsely denticulated by direct retouch; 18 x 11 x 2 mm.
Sickle blade fragment, calcined flint; one end lost, one snapped; edges lustrous and coarsely denticulated by direct retouch; 13 x 15 x 3 mm.
Blade (butt) fragment, calcined flint; small plain striking platform, despurred; edges abraded.
Four fragments of calcined flint.

30 Sickle blade, calcined flint; one end snapped, one squared by direct retouch; edges lustrous and coarsely denticulated by direct retouch; 27 x 12 x 2 mm.
Sickle blade fragment, calcined flint; one end lost, one snapped; one edge lustrous and coarsely denticulated by direct retouch; 21 x 16 x 3 mm.
Blade (butt) fragment, calcined flint; punctiform striking platform, despurred.
Flake, calcined flint; plain striking platform; 37 x 12 x 4 mm.
Fragment of calcined flint.

31 Core trimming flake, brown flint; crest flaked from one side only.

32 Blade (midsection) fragment, obsidian.

33 Sickle blade, calcined flint; one end snapped, one squared by direct retouch; one edge lustrous and coarsely denticulated by direct retouch; 37 x 12 x 3 mm.
Sickle blade fragment, calcined flint; one end lost, one snapped; one edge lustrous and coarsely denticulated by direct retouch; 22 x 10 x 2 mm.
Blade (midsection) fragment, brown flint; edges abraded.

34 Fragments of calcined flint.

35 Sickle blade, banded brown flint; one end snapped, one squared by direct retouch; one edge lustrous and coarsely denticulated by direct retouch; 30 x 12 x 2 mm.
Flake, calcined flint; plain striking platform; edges abraded; 62 x 30 x 8 mm.
Flake, calcined flint; plain striking platform; 25 x 21 x 5 mm.
Fragment of calcined flint.

36 Sickle blade fragment, calcined flint; ends lost; one edge lustrous and coarsely denticulated by direct retouch; 20 x 18 x 2mm.

37 Sickle blade, calcined flint; one end snapped, one squared by direct retouch; one edge lustrous and coarsely denticulated by direct retouch; 28 x 15 x 4 mm.

6G76:249	in 1831	2618	J	5[38]	
6G76:327	in 1831	2612	G	2[39]	
6G76:330	in 1831	2620	T	5[40]	
6G76:347	in 1831	2621	L	4[41]	
6G76:350	in 1831	2622	L	1[42]	
6G76:415	in 1831	2625	T	1[43]	
6G76:449	in 1831	2625	T	1[44]	
6G76:453	in 1831	2624	J	1[45]	
6G76:455	in 1831	2625	T	1[46]	
6G76:484	in 1831	2625	T	1[47]	
6G76:492	in 1831	2627	L	1[48]	
6G76:531	in 1831	2625	T	1[49]	
6G76:532	in 1831	2625	T	1[50]	
6G76:533	in 1831	2625	T	1[51]	
6G76:540	in 1831	2623	T	1[52]	
6G76:555	in 1831	2631	L	1[53]	
6G76:558	in 1831	2632	L	1[54]	
6G76:589	in 1831	2634	J	1[55]	
6G76:608	in 1831	2637	K	1	
6G76:611	in 1831	2638	K	1	**890**
6G76:612	in 1831	2638	K	1[56]	
6G76:655	in 1831	2650	G	1[57]	
6G76:718	in site store		A	2	
6G76:727	in 2065	2653	L	1	
6G76:738	in 2065	2655	G	1	
6G76:744	in 2065	2655	G	1	
6G76:749	in 2065	2655	G	1	

Sickle blade fragment, calcined flint; one end lost, one squared by direct retouch; one edge lustrous and coarsely denticulated by direct retouch; 35 x 15 x 4 mm.
Sickle blade fragment, calcined flint; one end lost, one snapped; one edge lustrous and coarsely denticulated by direct retouch; 28 x 13 x 3 mm.
Blade (butt) fragment, calcined flint; small plain striking platform, despurred; edges abraded.
Blade (tip) fragment; calcined flint; edges abraded.
Four fragments of calcined flint.

38 Sickle blade fragment, calcined flint; one end lost, one squared by direct retouch; one edge lustrous and coarsely denticulated by direct retouch; 30 x 12 x 3 mm.
Sickle blade fragment, brown flint; one end lost, one squared by direct retouch; one edge lustrous and coarsely denticulated by direct retouch; traces of bitumen; 16 x 15 x 2 mm.
Blade (butt) fragment, banded brown flint; small plain striking platform, despurred; edges abraded.
Blade (butt) fragment, banded brown flint; punctiform striking platform, despurred; edges abraded.
Blade (butt) fragment, banded brown flint; small plain striking platform, despurred.

39 Include a fragment of calcined flint with pieces of bitumen adhering.

40 Sickle blade, calcined flint; one end snapped, one squared by direct retouch; 28 x 8 x 3 mm.
Blade (butt) fragment, banded brown flint; plain striking platform, despurred; abraded.
Blade (butt) fragment, banded brown flint; punctiform striking platform, despurred; abraded.
Flake, calcined flint; plain striking platform; 28 x 20 x 5 mm.
Flake, calcined flint; cortex over striking platform; 20 x 11 x 2 mm.

41 Sickle blade, calcined flint; ends snapped; edges lustrous and coarsely denticulated by direct retouch; 28 x 8 x 3 mm; published by Crowfoot Payne 1980, 118 Fig. 8, No. 9; pp. 108-109.
Sickle blade, calcined flint; ends squared by direct retouch; edges coarsely denticulated by direct retouch; 1 edge lustrous; 32 x 13 x 3 mm.
Sickle blade, fagment; calcined flint; ends lost; edges lustrous and coarsely denticulated by direct retouch; 23 x 8 x 2 mm.
Sickle blade, calcined flint; ends squared by direct retouch; edges lustrous and coarsely denticulated by direct retouch; 18 x 10 x 2 mm.

42 Fragment of calcined flint.

43 Core-trimming flake fragment, banded brown flint; rough crest flaked from both sides.

44 Sickle blade, calcined flint; ends squared by direct retouch; edges lustrous and coarsely denticulated by direct retouch; 30 x 12 x 2 mm.

45 Fragment of calcined flint.

46 Sickle blade fragment, calcined flint; ends lost; one edge lustrous and coarsely denticulated by direct retouch; 22 x 11 x 2mm.

47 Blade (butt) fragment, light brown banded flint; plain striking platform, despurred; edges abraded.

48 Blade, brown flint; plain striking platform, despurred; edges abraded; 48 x 10 x 3 mm.

49 Flake, calcined flint; punctiform striking platform, despurred; 16 x 12 x 4 mm.

50 Fragment of core-trimming blade, calcined flint; crest flaked from one side only.

51 Flake, calcined flint; 17 x 23 x 4 mm.

52 Fragment of calcined flint.

53 Flake, calcined flint with rolled black cortex; 92 x 36 x 11.

54 Flake, calcined flint; plain striking platform; 42 x 22 x 7 mm.

55 Flake, banded brown flint; 30 x 24 x 3 mm.

56 Flake, calcined flint; punctiform striking platform; 38 x 38 x 6 mm.

57 Sickle blade, banded brown flint; ends squared by direct retouch; one edge lustrous and coarsely denticulated by direct retouch; remains of bitumen; 40 x 14 x 2 mm.

6G76:755	in 2065	2652	L	1	
6G76:769	in 2065	2655	G	1	
6G76:783	in 2065	2661	G	2	
6G76:815	in 2065	2667	G	2	
6G76:827	in 2065	2669	G	5	
6G76:846	in 2240	2654	G	1	
6G76:865	in 2065	2670	J	3	
6G76:866	in 2065	2670	J	1	
6G76:905	in site store	2672	D	1	Grave 6 No. 6 (p. 12)
6G76:924	in site store	2675	G	1	
6G76:937	in site store	2676	G	1	
6G76:967	in site store	2684	B	1	
6G76:968	in site store	2683	B	1	
6G76:975	in site store	2685	B	1	**894**
6G76:977	in site store	2685	B	1	
6G76:978	in site store	2686	B	1	
6G76:982	in site store	2685	B	1	
6G76:996	in site store	2689	B	1	
6G76:1006	in site store	2675(W)	G	1	
6G76:1031	in site store	2685	B	1	
6G76:1044	in site store	2679	B	1	
6G77:9	in 2065	3904	H	4	
6G77:51	in 2065	3904	H	6	
6G77:61	in 2065	3904	H	?	
6G86:(S)1	in 2240		A	3[58]	
6G86:(S)3	in 2240		A	1[59]	
6G86:11	in 2065	1902	G	4	
6G86:15	in 2065	1904	G	1	
6G86:18	in 2065	1904	G	2	
6G86:25	in 2065	1906	G	3	
6G86:55	in 2240	1907	H	1	
6G86:75	in 2065	1910	G	2	
6G86:93	in 2065	1908	H	1	
6G86:105	in 2240	1912	G	2	
6G86:107	in 2065	1912	G	2	
6G86:134	in 2065	1927	H	2	
6G86:150	in 2065	1932	G	2	
6G86:174	in 2065	1940	L	1	
6G86:179	in 2065	1944	G	2	
6G86:182	in 2065	1949	H	1	
6G86:205	in 2065	1948	H	1	
6G86:214	in 2065	1928	J	1	
6G86:216	in 2065	1931	G	1	
6G86:217	in 2065	1951	H	1	
6G86:221	?	1952	H	1	
6G86:222	in 2065	1954	H	2	
6G86:263	?	1970	H	1	
6G86:314	in 2240	1977	U	1	
6G86:315	in 2240	1917	G	2	

58 Sickle blade, banded brown flint; one end snapped, one squared by direct retouch; one edge lustrous and coarsely denticulated by direct retouch; 24 x 14 x 4 mm.
Sickle blade fragment, dark grey/brown flint; ends lost; coarse denticulation made by direct retouch and slight lustre along one edge; 32 x 13 x 2 mm.
Blade (tip) fragment, brown flint.

59 Flake fragment, light brown flint; plain striking platform.

14

FAUNAL REMAINS[1]

Gillian Clark

14.1 *Introduction*

A sample of 7,502 animal bones was studied from the Abu Salabikh Ash-Tip in the spring of 1982. A small amount of additional material from this area had been studied by Juliet Clutton-Brock and Richard Burleigh in 1977. Whenever possible this information has been integrated into the analysis and interpretation of the material. I have concentrated on the remains of the larger mammalian species. The bones were often in a fragmentary state due to taphonomic processes at the biostratinomic and diagenetic levels. All of the material that I studied has remained in Iraq.[2]

In Table 14:1 the composition of the sample is detailed. The context codes are those employed throughout this volume (cf. pp. 223-4) but for convenience are listed here as Table 14:2. The samples can be divided into two major chronological phases – Phase 2 (contexts B to F) and Phase 3 (contexts G to L and T).[3] The total number of bones in each context is stated, together with the percentages of the bones that could be identified to the level of the species and of the bone. The portion of the sample that was unidentifiable to the species level has, whenever possible, been divided into small (that is, probably attributable to pig, sheep/goat, gazelle or canid) and large (that is, probably attributable to a larger bovid or equid). The proportion of the sample that was not identifiable with certainty was extremely variable. Overall, approximately half the sample could not be attributed to a particular species. A further tenth of the sample was composed of ribs and vertebrae (the former being more common than the latter) which could only be divided into broad size categories.

A total of 3,171 bones was identified to a mammalian species or non-mammalian sub-group. Of mammals, 2,238 bone fragments were identified. A somewhat limited range of species was present: pig, sheep/goat, cattle, equid, canid, gazelle, lion and, possibly, oryx. In terms of the number of fragments, over 90% of the sample consists of pig and sheep/goat bones, pig bones being slightly more numerous than sheep/goat bones. Cattle bones, present in small amounts, were twice as numerous as equid bones. However, slight differences may be seen between different contexts. The relationship between pigs and sheep/goats varies comparatively little between contexts. They are usually present in broadly similar amounts. The number of bovid bones fluctuates. In many Phase 2 contexts they exceed 10% of the total. However, in the later units their presence was less; in several cases no bones of this species were found. Equid bones were found in most contexts in low amounts. The bones of canid, gazelle, lion and oryx occurred sporadically in low frequencies in various excavation batches. Only one fragment of lion (a medial phalanx in context P) and one of oryx (a humerus in context J) were found.

This method of quantifying faunal material has been subject to much criticism and attack (Grayson 1973; 1979; Daly 1969). A major problem is that as animals vary in size, there are different possible

1 Manuscript completed 1982.
2 It is presently housed in the on-site store.
3 For discussion of the stratigraphy of these two phases, cf. A. Green, above, pp. 5-6, §§ 1.3.3-4.

Context	Pig	Sheep/ goat	Cattle	Equid	Canid	Gazelle	Lion	Oryx	Bird	Fish	Rodent	Tortoise	Total	RIBS S	RIBS L	RIBS I	VERTEBRAE S	VERTEBRAE L	UNIDENTIFIABLE S	UNIDENTIFIABLE L	UNIDENTIFIABLE I	TOTAL	%IS	%IB
A	20	12	4	1		3				1			41	10		1	2	1	59		8	122	33.6	45.1
	50.0	30.0	10.0	2.5		7.5																		
B	68	42	15		1	1							127	9	2		2	7	31	3	10	191	66.5	77.0
	53.5	33.1	11.8		0.8	0.8																		
C	5	3	1	+									9	1			2			2		14	64.3	85.7
	55.6	33.3	11.1																					
D	35	35	4	3	1								78	4		5	5	1	29		76	198	39.4	47.0
	44.9	44.9	5.1	3.8	1.3																			
E	17	17	6	1+		2+							43	5	1		2	3	6	4	11	75	57.3	72.0
	39.5	39.5	14.0	2.3		4.7																		
F	1												1									1	100.0	100.
	100.0																							
G&K	529	508	31	33	2	1			4	773	85	46	2012	216	16	5	156	19	546	26	1605	4601	43.7	52.7
	47.9	46.0	2.8	3.0	0.2	0.1																		
H	29	33	2	2		1						1	68	7		1	5	1	34	1	21	138	49.3	59.4
	43.3	49.3	3.0	3.0		1.4																		
J	96	97	4	2				1	1	8	5	1	215	51	1	1	27	2	73	3	530	903	23.8	32.9
	48.0	48.5	2.0	1.0				0.5																
L	135	115	18	8	6					4		1	287	24			40	4	75	18	109	557	51.5	63.7
	47.9	40.8	6.4	2.8	2.1																			
M	2	1								2			5									5	100.0	100.
	66.7	33.3																						
P	70	91	33	7+	4	5	1		1				212	35	5	3			29	22	250	556	38.1	45.9
	33.2	43.1	15.6	3.3	1.9	2.4	0.5																	
S&T	2			1									3									3	100.0	100.
	66.7			33.3																				
U	24	40	5	1									70	2	5		3		22	6	30	138	50.7	58.0
	34.3	57.2	7.1	1.4																				
TAL	1033	994	123	59	14	13	1	1	6	788	90	49	3171	364	30	16	244	38	904	85	2650	7502	42.3	51.5
	46.2	44.4	5.5	2.6	0.6	0.6	0.05	0.05																

: + - additional material from study by Clutton-Brock and Burleigh (1978); precise figures not known.

S - small; L - large; I - indeterminate; %IS - percentage identifiable to the species; %IB - percentage identifiable to the bone.

The first line for each context gives the number of fragments. The second expresses, for the mammalian species, these as a percentage of the mammalian identified sample.

Table 14.1: Faunal remains fragment count

For convenience, explanations of the codes for contexts from which animal bone was analysed for this report are listed below. A list with page references from more complete explanations of the contexts is given on pp. 223-4. Other contexts there listed either contained no animal bones (N, Q) or were excavated after this report was prepared (R, the 1 x 1 m test-trench in 6G97). For Ash-Tip 'Phases' 2 and 3, see pp. 5-6, §1.3.3-4.

context A	Surface clearance
context B	Ash-Tip Phase 2
context C	Ash-Tip Phase 2 and other deposits
context D	Graves cut into Ash-Tip Phase 2
context E	Ash-Tip Phase 2 with infant burials in Tip
context F	Pits cut into Ash-Tip Phase 2
context G + K	Ash-Tip Phase 3 (includes possible slight contamination from an unrecognised grave)
context H	Ash-Tip Phase 3 and other deposits
context J	Graves cut into Ash-Tip Phase 3
context L	Pits cut into Ash-Tip Phase 3
context M	Mud-brick feature within Ash-Tip Phase 3
context P	Ash-Tip Phases 2 and 3 with possible grave fill
context S + T	Packing for Akkadian/Ur III drain cut into Ash-Tip Phase 3 and surrounding Tip deposits
context U	Pits west of Ash-Tip Phase 3, disturbing Tip

Table 14.2: Context codes

levels of fragmentation. In addition, the number of bones of each species varies, different bone types of different animals may be affected by differential preservation and, perhaps most importantly, the manner of exploitation of an animal can seriously affect the fragmentation patterns. Therefore an alternative, and often preferred, method of calculating the proportional and absolute numerical presence of each species is to determine the minimum number of individuals represented by the bones present. This is done by taking each bone, or diagnostic part of a bone, and calculating the number of individuals which, on the basis of each bone, must be present. To this is added information from other bones which must, on the basis of criteria such as sex, age and size, be of different animals. The highest figure obtained is the minimum number of individuals present. A major drawback of this technique is that the significance of less common animals is exaggerated at the expense of the major species present. The minimum number of individuals present in the Ash-Tip sample is given for each species in Table 14:3. The pattern which emerges is similar to that noted for the number of fragments. Pigs are again slightly more numerous than sheep/goats. Cattle and equids are present in lesser but similar amounts. Few gazelle and canid were present.

A further method for assessing the relative importance of different species to the economy is to postulate the amount of meat which the remains of each species represents. This is done by using a constant multiplication factor, multiplying this by the number of fragments and the minimum number of individuals, and expressing the values for each species as a percentage of the total meat weight potentially represented by the sample. The multiplication factors used are, as absolute figures, somewhat unsatisfactory as they are those produced by Cram (1967) for the meat weight of Roman animals. However, if treated as relative indicators they may be of some use. The results of these analyses are given in Table 14:4. It will be noted that the importance of the sheep/goat decreased and that of cattle increased.

The more precise composition of the sample is shown in Tables 14:5-8. For pigs there is an enormous number of cranial and dental elements (Table 14:5). The bones of the limb extremities and of the axial skeleton are rather scarce. For sheep/goats also there are many cranial and dental elements in the sample (Table 14:6). The bones of the upper (and in particular the fore) limb are well represented. Bones of the lower limbs are present in reasonable amounts. A limited range of bones of cattle was identified (Table 14:7). A large amount was skull and mandibular fragments. The axial skeleton was poorly represented. No particular consistencies can be seen in the anatomical elements present of the other mammalian species (Table 14:8).

Animals can, of course, be exploited for products other than their meat. Cattle and sheep/goats can provide milk for cheese production. In addition, wool can be obtained from sheep and, after death, hides from cows and goats. The major indicator of such stock management is the mortality evidence, as the different strategies result in different killing patterns. The age at death of an animal can be calculated in two main ways: on the state of the epiphyseal fusion in the long bones and on the stage in the tooth eruption and wear sequence. These can be compared with the sequence for modern stock. Even though the precise ages may not be the same, the general pattern is valid. Therefore although precise figures are given, these should be regarded as relative rather than absolute values. The major drawback, in particular with the fusion data, is that animals can only be said to be over or under a certain age and there is little, if any, idea of how much over or under they may be. I have used the figures quoted by Silver (1969) for the

fusion and the eruption sequence. I have also recorded the wear of teeth using for sheep/goats the system presented by Payne (1973) and for pigs and cattle the charts illustrated by Grant (1975; 1982). The data are given in Tables 14:9-13. For pigs it appears that the majority was culled before reaching two years of age (Table 14:9). A small proportion died at less than a year of age. Relatively few survived beyond two years of age although occasional examples were recorded (for example, in context G+K three fragments indicate animals being beyond 3½ years). In contrast, the majority of sheep/goats died after having reached 2 years of age (Table 14:10). Although most had died before reaching 3-3½ years, some extremely old individuals are present. On the basis of the tooth wear it appeared that five animals died somewhere between 6 and 8 years, and one between 8 and 10 years of age. It seems that the majority of cattle died between 2½ and 4 years of age (Table 14:11). For equid (Table 14:12) and canid (Table 14:13) the data are few. Although a few equids died before reaching 3-3½ years, others exceeded 4½-5 years. One canid died before reaching a year but at least one survived beyond 1½ years.

In Appendix 1 (pp. 191ff.) I have listed those measurements that could be taken, basically following the proposals of von den Driesch (1976). These will be compared to those noted by Clutton-Brock and Burleigh (1978) below. I have also calculated the withers height following the suggestions of Teichert (1969; 1975) (Table 14:14). Unfortunately the majority of the figures is based upon the measurement of the astragalus and calcaneum with which the greatest error factors are associated. There is for sheep/goats quite considerable variation (from 582.9 mm to 691.7 mm). However, for pigs the range is even wider (from 576.4 mm to 708.8 mm).

The sexual composition of the herd can be indicative of the economic system. There are, however, many problems in distinguishing sex on the basis of bones. For this sample I have recorded for pigs the nature of the upper and lower canines. Five were from females and eight were from males. The analysis for sheep/goats has been based upon the astragalus using the characteristics noted by Boessneck (1969). Six were of females and four of males.

This far I have considered sheep and goats as one because of the major problems encountered in distinguishing between the two. The main works on the subject are those of Boessneck and his colleagues (Boessneck, Müller & Teichert 1964; Boessneck 1969) and that of Payne (1969). On the basis of the characteristics of the skull, horn core, scapula, humerus, radius, ulna, metapodials, astragalus, proximal, medial and distal phalanges, 35 fragments were definitely attributable to sheep. Goats could be identified from the horn core, scapula, metacarpal and proximal phalanx: 5 fragments could positively be attributed to goat.

A few bones showed pathological conditions. In context E a sheep/goat mandible had a sharp protuberance on the oral part of the angle. There appeared to have been a lowering of the alveoli of the ramus and a swelling, in particular on the buccal side although also on the lingual side, of the ramus. In context P a pig mandible had an extremely ridged and warped angle associated with a low ramus. No sockets for the lower second and third premolars were present in a sheep/goat mandible in context J. In one sheep/goat mandible in context L there was a marked difference in the height of the teeth, being much higher on the lingual than on the buccal side.

Traces of burning were noted upon fragments in contexts A, B, D, G+K, J, L and P. A significant number of bones in contexts E and G were burnt, but in all other contexts such fragments were rare. Few pieces of worked bone were noted. These included a piece of bovid long bone with file marks upon it (context P), a bone spatula made from a fragment of the angle of a sheep/goat mandible (context D, an item probably originally forming part of grave goods) and a fragment of a sheep/goat femur that had been highly polished (context G+K).[4] Clear evidence of butchery markings was noted on two bones only. A bovid humerus (context G+K) was extremely marked. There had been a sharp cutting action across the dorsal shaft and articulation (that is, no articulation remained) and a further cut across the medial epicondyle. A pig astragalus had two cut marks at the mid-point on the medial side. Weathering and eroded surfaces were noted in particular on bones in contexts G+K, L and U, although examples were also observed in B and E. In one context, P, the bones were rather brittle and the colour was extremely variable. This latter point was also noted for context D.

14.2 *Discussion*

It should be recalled that the material discussed in this paper is only a small part of a much larger faunal assemblage (at present only partially studied) from a site, only a small part of which has been excavated. Any conclusions reached here are therefore not necessarily indicative of the site as a whole. Indeed, given the peculiar status of the Ash-Tip as reflected in other aspects of its material assemblage, the pattern here is perhaps unlikely to be typical.

4 Cf. 914-916.

14.2.1 *Pig*[5]

Pig was numerically the dominant species. This is in contrast to the situation noted by Clutton-Brock and Burleigh (1978, 93) who stated that pigs were the second most common species. The two measurements that could be taken of the length of the lower third molar are both within the lower part of the range previously recorded (ibid., 93). The statistical values of the data for the width of the distal humerus are:

n	Range	Mean	s.d.
13	27.5-35.8 mm	32.2 mm	2.39

The main point to emerge from these data is that the small size of the pigs at this site is confirmed. In Fig. 14:1 are compared the measurements for the breadth of the distal end and the breadth of the trochlea and, secondly, the breadth of the trochlea and the height of the trochlea for the humerus. Two groups may be distinguished. It does not seem likely that two different pig populations (that is a wild and a domestic) are indicated. It is more easily interpreted in terms of age and sex differences.

This animal may have made an extremely valuable contribution to the meat supply of this site (cf. Matthews 1985). Certainly the mortality data indicate an intensive pig raising regime with most animals being culled before reaching two years of age. This would be a logical time for killing them as they would have reached a reasonable bodyweight whilst further raising would not necessarily have justified the energy and resource investment required. A range of bone elements was present. Although cranial and dental elements were very common, the bones of the limb extremities and axial skeleton were scarce. This pattern is not easily interpreted. It would seem probable that animals were actually butchered at the site, or at least that whole carcases were brought to the site.

14.2.2 *Sheep/goat*[6]

Sheep/goats were present in large numbers in the material from the Ash-Tip, although not being quite as frequent as pigs. The measurements obtained were comparable with those noted by Clutton-Brock and Burleigh (1978, 97-98). No particular anomalies can be seen in the data (as is illustrated in Fig. 14:2).

This animal may have been considered as a secondary source of meat. However, in the mortality data it was seen that most animals died after having reached two years of age. The majority was culled prior to attaining 3-3½ years of age although older individuals were present. This patterning stresses the importance of sheep/goats for wool and, in all probability, dairy products. The maintenance of flocks for both these purposes is recorded in the textual evidence and is supported by the evidence of the population structure of the flock. Wool, it seems, was a vital commodity, both in long-distance trade (Adams 1966, 49) and in more localised but regular distribution (Gelb 1965). The importance of wool is emphasised by the predominance of sheep over goats (in proportion of seven to one). Goat hair may also have been used in weaving (Kramer 1963, 110). The milk yields of sheep/goats were probably low, such commodities being redistributed in a haphazard and occasional way (Gelb 1965, 237). There were many cranial and dental elements in the sample. However, the bones of the upper limbs were also well represented. No bone type was noticeably absent. This would imply that the butchery of animals took place at, or in the close vicinity of, the site, the complete carcase being present within the settlement area. In view of the possibility that the Ash-Tip was the rubbish dump of a temple (cf. above, p. 18, § 1.8), this also raises the question of the role of animal sacrifice.

14.2.3 *Cattle*

Relatively few cattle bones were present in the Ash-Tip material. Those that were present tended to be of a fragmentary nature. It is possible that wild and domestic animals are included in the sample. The measurements of a calcaneum are comparable to those recorded by Clutton-Brock and Burleigh (1978, 94) and interpreted as belonging to *Bos primigenius*. The measurements of the proximal phalanx are, however, comparable to those interpreted as being from domestic cattle (ibid., 94). It seems probable that all the other bones from which measurements could be taken were also of *Bos taurus*, given their small values. A limited range of anatomical elements was found, the majority of fragments being cranial or dental elements. However, no coherent patterning can otherwise be seen. From the mortality data it seemed that most cattle died between 2½ and 4 years of age. This would indicate that cattle were kept for their primary and secondary products. As was noted previously by Clutton-Brock and Burleigh (1978, 94), no excess bone growth was found on the proximal phalanges.

5 For clay figurines of pigs from the Ash-Tip, cf. above, pp. 85-6, § 3.3.1, and **309-317, 744.**

6 For clay figurines of sheep/goats from the Ash-Tip, cf. above, p. 87, § 3.3.3, and **334-344.**

14.2.4 *Equid*[7]
Few equid bones were found amongst the Ash-Tip material at Abu Salabikh. This evidence has already been discussed by Clutton-Brock and Burleigh (1978, 91) and in a separate article by Clutton-Brock (1986). For a complete skeleton of an equid found within the Ash-Tip, cf. above, p. 10, § 1.4.

14.2.5 *Canid*
Canid bones were rare in this faunal sample. This indicates that this animal was of little, if any, economic importance.

14.2.6 *Gazelle*
Only a small amount of material attributable to gazelle was noted. Five of the thirteen identified fragments were horn cores and a further three metatarsal fragments. It is possible that the number of fragments positively identified as gazelle is too low, due to the problem of distinguishing, on the basis of small shaft fragments, between sheep/goat and gazelle. Therefore, a few of the fragments attributed to sheep/goat may in fact be from gazelle bones. The measurements of the horn cores are comparable to those previously recorded (Clutton-Brock & Burleigh 1978, 96).

14.2.7 *Lion*
The single bone found in the Ash-Tip material is that one discussed in the preliminary report on the Abu Salabikh fauna (Clutton-Brock & Burleigh 1978, 90). This is a medial phalanx from a right foot. It is suggested that this bone may have been left in a skin that was used for clothing or as a floor or bed covering, for it is most unlikely that the lion was eaten (ibid., 91).

14.2.8 *Oryx(?)*
A humerus found in the sample was of a size intermediate between sheep/goat and cattle. The measurements of this bone are shown in Appendix 1 (p. 200). This remains a tentative identification as further detailed research is required upon the skeletal remains of the various family members of the subfamily *Hippotraginae*.

14.3 *Conclusions*
A major issue which has not yet been investigated in any detail is the extent to which variation, whether chronological or contextual, can be seen in the Ash-Tip material. It can been seen in Table 14:1 that the majority of the fauna was found in context G+K, that is Ash-Tip Phase 3. Therefore it may be difficult to identify positive and real variation because of the small size of other samples.

In terms of the species present and their proportional relationship, few differences can be observed between Phases 2 and 3. Those that can be seen are probably of little economic significance. The number of bovid bones varies. In many Phase 2 contexts they exceeded 10% of the total. However, in Phase 3 their presence was less, in several cases being completely absent. The actual numbers of equid bones recovered were greater in Phase 3, whilst those of gazelle were greater in Phase 2. A marked difference, it is worth noting, exists in the number of bird, fish, rodent and tortoise bones. They are found almost exclusively in Phase 3 contexts (doubtless due primarily to sieving being done mainly in Phase 3 contexts). No distinctions could be made between the two periods either in terms of anatomical portions of the skeleton represented or in terms of the age at death of the animals. Similarly no changes in the size and stature can be seen to be chronologically determined. Therefore it appears that no economically significant changes occurred in the composition of the faunal sample of the Ash-Tip diachronically.

The major contextual division that can be made is between burial and non-burial units. Contexts D and J are definitely grave fills whilst contexts E and P include contamination from grave fills. It might be expected that the faunal samples would differ. However, this is not the case. This is almost certainly because the deposits that were cut into and removed to form a grave were subsequently used as back-filling; all the Ash-Tip graves were themselves filled with ash (cf. on these burials above, pp. 11ff, § 1.5). A further specific context which can be distinguished is the pit: contexts F, L and U (cf. above, p. 18, § 1.6). These samples in no respect seem to differ from all the other contexts.

In brief, no variation in the faunal assemblage within the Ash-Tip deposits seems to be caused by differences in the contexts of the samples.

To summarise, the faunal sample from the Ash-Tip at Abu Salabikh is uniform in both time and space. It is dominated by the bones of pigs and sheep/goats (sheep outnumbering goats in a ratio of about 7:1). Various other mammalian species were present but in low amounts: bovid (two species), equid, canid, gazelle, lion and possibly oryx. Pigs may have formed an extremely important basis for the meat supply. There was no evidence in this sample for the presence of wild individuals. Sheep/goats were

7 For clay figurines of equids from the Ash-Tip, cf. above, pp. 86-7, § 3.3.2, and **318-333**.

raised primarily for wool and dairy products although, ultimately, representing a subsidiary meat resource. The exploitation of animals for these purposes is amply recorded in the documentary evidence. It appeared that both *Bos primigenius* and domestic cattle were present at the site. The domestic animals were raised for their primary and secondary products. No other species can have had any economic significance. The sample is of a very generalised nature: that is, it is made up of a wide range of disarticulated bone elements. The sample does not appear to be the result of particular activities taking place at this location. However, it has to be recalled that this sample is extremely small in relation to the sample potentially available from the site of Abu Salabikh. Only when a far larger corpus of data has been examined and analysed in detail will it be feasible to reconstruct the total economic system of this settlement and therefore present a more reliable interpretation of the Ash-Tip material.

Context	Pig		Sheep/goat		Cattle		Equid		Canid		Gazelle	
A	1	16.7%	2	33.3%	1	16.7%	1	16.7%			1	16.7%
B	3	33.3%	3	33.3%	1	11.1%			1	11.1%	1	11.1%
C	1	33.3%	1	33.3%	1	33.3%						
D	2	28.6%	2	28.6%	1	14.3%	1	14.3%	1	14.3%		
E	2	33.3%	1	16.7%	1	16.7%	1	16.7%			1	16.7%
F	1	100.00%										
G&K	11	42.3%	9	34.6%	2	7.7%	2	7.7%	1	3.8%	1	3.8%
H	2	28.6%	2	28.6%	1	14.3%	1	14.3%			1	14.3%
J	3	37.5%	3	37.5%	1	12.5%	1	12.5%				
L	8	57.1%	3	21.4%	1	7.1%	1	7.1%	1	7.1%		
M	1	50.0%	1	50.0%								
P	5	25.0%	6	30.0%	2	10.0%	2	10.0%	2	10.0%	3	15.0%
S&T	1	50.0%					1	50.0%				
U	1	16.7%	3	50.0%	1	16.7%	1	16.7%				
TOTAL	**42**		**36**		**13**		**12**		**6**		**8**	
	35.9%		**30.8%**		**11.1%**		**10.3%**		**5.1%**		**6.8%**	

Table 14.3: Minimum number of individuals

Context	Pig (45kg)		Sheep/Goat (27kg)		Cattle (226kg)	
	F	MNI	F	MNI	F	MNI
A	42.3%	13.9%	15.2%	16.6%	42.5%	69.5%
B	40.3%	30.5%	15.0%	18.3%	44.7%	51.2%
C	42.3%	15.1%	15.2%	9.1%	42.5%	75.8%
D	46.1%	24.3%	27.6%	14.6%	26.3%	61.1%
E	29.6%	26.2%	17.8%	7.9%	52.6%	65.9%
F	100.0%	100.0%				
G&K	53.5%	41.6%	30.8%	20.4%	15.7%	30.8%
H	49.2%	24.3%	33.6%	14.6%	17.2%	61.1%
J	55.1%	30.5%	33.4%	18.3%	11.5%	51.2%
L	45.8%	54.1%	23.4%	12.2%	30.8%	33.7%
M	76.9%	62.5%	23.1%	37.5%		
P	24.2%	26.8%	18.8%	19.3%	57.0%	53.9%
S&T	100.0%	100.0%				
U	32.9%	12.8%	32.9%	23.0%	34.2%	64.2%
TOTAL	**46.0%**	**32.6%**	**26.5%**	**16.8%**	**27.5%**	**50.6%**

Key: F - calculation based on the number of fragments
MNI - calculation based on the minimum number of individuals

Table 14.4: Meat weight represented (in proportional terms for each context)

Bone Type	A	B	C	D	E	F	G&K	H	J	L	M	P	S&T	U	TOTAL
mandible	2	15		4	1		71	3	12	12		14	1	1	136
maxilla		6		3		1	29	3	7	7		4			60
tooth-upper		5					11		4	6		2		2	30
tooth-lower	3	7		7	3		38	2	3	12		2		1	78
skull	1	5	1	5	1		62	4	6	22		1		14	122
scapula		4	1		2		19	3	6	6		3		3	47
humerus	3	3	2	3	1		30		5	19		11			77
radius		5		1	3		8	1	1	2		8			29
ulna			1		1		30		10	6		2		1	51
carpal								1							1
metacarpal	1	1					22		6	3			1		34
atlas	1						2	1	1	1					6
axis							1		1	1					3
sacrum							1			1					2
pelvis	2	4					33	2	7	5		6		2	61
femur	1	3		3			15		2	3		3			30
patella							1		2						3
tibia	4	4		3	2		52		7	10		10			92
fibula							4			2					6
astragalus		2		1			7		2	1		2			15
calcaneum	1	1		1			28	1	6	5		1			44
metatarsal		2		1	2		13	1	3	1					23
prox. phal.	1	1		2	1		18	4	3	5	1	1			37
med. phal.							9	2		1					12
dist. phal.							7								7
metapodial				1			18	1	2	4	1				27
TOTAL	**20**	**68**	**5**	**35**	**17**	**1**	**529**	**29**	**96**	**135**	**2**	**70**	**2**	**24**	**1033**

Table 14.5: Anatomical elements of pig

Bone type	A	B	C	D	E	F	G&K	H	J	L	M	P	S&T	U	TOTAL
horn core		1					4		1			2			8
mandible	1	2		6	1		44	4	6	16		10		6	96
maxilla		1		1			8			4		1			15
tooth-upper		1		1			24	2		13		5			46
tooth-lower		4		10	2		26	1	2	12		10		1	68
skull	2	4			3		50	2	4	3		2		2	72
scapula		1		4	4		40	5	8	8		16		11	97
humerus		1					38	5	9	7		6		2	68
radius	2	10		2			38	2	7	10		9		5	85
ulna		1					20		3	7		3		4	38
carpal				1			4			1					6
metacarpal		2	1	2	2		12	3	5	5		7		2	41
atlas							2		3	1		1			7
axis							1		3	1					5
sacrum							1								1
pelvis		2		2			36	1	8			2		2	53
femur	3		2	1	1		36	1	8	8		6			66
patella							1								1
tibia		7		1	1		40	2	9	11		6		2	79
astragalus		1			2		14		4	2		1		1	25
calcanuem	1						7		2		1				11
nav. cuboid							3								3
metatarsal	2	3			1		24	4	6	3		3			46
prox. phal.		1		3			18		5	2		1		2	32
med. phal.	1			1			7		1						10
dist. phal.							3		2						5
metapodial							5	1	1	1					8
os malleolare							1								1
distal sesamoid						1								1	
TOTAL	**12**	**42**	**3**	**35**	**17**		**508**	**33**	**97**	**115**	**1**	**91**	**0**	**40**	**994**

Table 14.6: Anatomical elements of sheep/goat

Bone type	A	B	C	D	E	F	G&K	H	J	L	M	P	S&T	U	TOTAL
horn core		1													1
mandible		2	1				9		1	2		3			18
maxilla												2			2
tooth-upper							2		1						3
tooth-lower							4		1	3		1		1	10
skull		8		1	5		3			1		8			26
scapula		3							1	3		7			14
humerus	1	1					1	1				1			5
radius				2			1	1				1			6
ulna							1					4			5
carpal							2			1					3
metacarpal							2								2
pelvis										3		2		2	7
femur	1			1						2		1			5
tibia	2				1					1					4
astragalus							2								2
calcaneum							1					2			3
metatarsal							2					1			3
prox. phal.										1					1
dist. phal.							1							1	2
distal sesamoid										1					1
TOTAL	**4**	**15**	**1**	**4**	**6**	**0**	**31**	**2**	**4**	**18**	**0**	**33**	**0**	**5**	**123**

Table 14.7: Anatomical elements of cattle

Bone	Equid	Canid	Gazelle	Lion	?Oryx
antler/horn			5		
mandible	2	4	2		
tooth-upper	12		1		
tooth-lower	9		1		
skull	2		1		
humerus	4	3			1
radius		3			
metacarpal	3	1			
pelvis	2				
femur	4	1			
tibia	4		1		
tarsal	1				
metatarsal	4		3		
prox. phal.	2	1			
med. phal.	5	1		1	
dist. phal.	2				
metapodial	2				
TOTAL	**59**	**14**	**13**	**1**	**1**

Table 14.8: Anatomical elements of the minor species

	Dentition						Fusion						
Context	**4-6m**	**7-13m**	**12-16m**	**17-22m**	**2-3y**	**3-4y**	**1y**	**2y**	**2-2½y**	**2¼y**	**3-3½y**	**3½y**	**less/more**
A			1	1			1	1	1			1	less
	1	1					1	1					more
B		1 3	1	2				1	1	1		6	less
	1 1	2	11	2			5	2					more
D				1				3	1	1		3	less
		1	1				2					1	more
E												1 1	less
	1	1	2				5	1		1	1		more
F			1										more
G&K	1	1 2	1 3	2 1			10	20	11	1	1	17	less
	4 1 1	5 2	18	5	c.1	c.1	24	4	3	6	1	3	more
H	2						3						less
		1					3						more
J			1 2	1			1	1		1		3	less
	1	3 1	6				4		1	2			more
L		1	1 7	1			7	1	1	4		4	less
	5 1 1	5 1	8				11	2	1		1		more
M										2			less
							1						more
P				2			3	2				4	less
		2 2	3	1			8	1				1	more

Key: m-month.

y-years.

c.-circa.

Table 14.9: Pig mortality

	Dentition							Fusion								
Context	3-5m	9-12m	18-24m	24-36m	4-6y	6-8y	8-10y	6-8m	10m	13-16m	18-24m	20-28m	2½y	2½-3y	3y	3-3½y	less/more
A														2			less
														1			more
B											2				1		less
	1	3	1						3		2		1		1		more
D																	less
	3	3	8		c.1					2	2						more
E																	less
	1		1		c.1						1						more
G&K									1	2	9			2	3	16	less
	11	15	23		c.1	c.3			14	16	18	3	3	7	6	3	more
H			1														less
			2			c.1											more
J																	less
		1	1	c.1						2	2						more
L			1								2				1	2	less
	4	6	11			c.1			5	2	4	1	3	2		1	more
M														1			more
P									1								
	2		7					8	3	1	2		2		1	3	less
U										1						1	more
		1	1		c.1		c.1		3								less
																	more

Key: m-months.
y-years.
c. - circa.

Table 14.10: Sheep/goat mortality

	less than	more than
5-6 months		1
7-10		1
1-1½ years		3
1½		1
2½-3	1	2
3-3½	1	1
3½-4	4	1

Table 14.11: Cattle mortality

	less than	more than
9-12 months		4
15-18		1
16-20		1
2-2½ years		2
2½		4
2½-3		2
3		1
3-3½	2	5
3½		1
3½-4½		5
4½-5		2

Table 14.12: Equid mortality

	less than	more than
5-6 months		2
7		1
8-9		1
11-12	1	
15		2
18		1

Table 14.13: Canid mortality

	Context	Bone	Height
Sheep/Goat	B	astragalus	587.4mm
	E	astragalus	682.7mm
	G&K	astragalus	623.7mm
		astragalus	589.7mm
		astragalus	691.7mm
		astragalus	623.7mm
		astragalus	582.9mm
		astragalus	641.8mm
		calcaneum	665.8mm
		calcaneum	638.4mm
	J	astragalus	644.0mm
		astragalus	675.9mm
	M	calcaneum	615.6mm
	P	radius	630.3mm
	U	astragalus	644.1mm
Pig	B	astragalus	612.2mm
	D	astragalus	599.7mm
	G&K	astragalus	658.7mm
		astragalus	597.9mm
		astragalus	596.1mm
	J	astragalus	708.8mm
	L	astragalus	619.3mm
	P	astragalus	576.4mm

Table 14.14: Withers height calculation

14.4 *Appendix 1: Tables of metrical data*

Cranial

All measurements are given in millimetres

Abbreviations:

Mandible:
1. length of M3 measured near the biting surface for ruminants and near the base of the crown for pig.
2. breadth of M3 measured as above.
3. length of the molar row, measured along the alveoli on the buccal side.
4. length of the premolar row (P4-P2), measured along the alveoli on the buccal side.
5. length of the premolar row (P4-P1), measured along the alveoli on the buccal side.
6. length from the oral border of the alveolus of P2 to the aboral border of the alveolus of I3.
7. length of the median section of the body of the mandible from the mental prominence to the infradentale.
8. greatest diameter of the canine alveolus.

Maxilla:
1. length of M3 measured near the biting surface for ruminants and near the base of the crown for pigs.
2. breadth of M3 measured as above.

Cranium:
1. parietal length from the Akrokranion to the Bregma.
2. greatest breadth of the occipital condyles.
3. greatest breadth of the foramen magnum.
4. greatest breadth of the squamous part of the occipital bone.
5. least breadth of the parietal.

Horn core:
1. basal circumference
2. greatest diameter at base
3. least diameter at base
4. length.

	1.	2.	3.	4.	5.	6.	7.	8.	Context
Sheep/goat									
mandible	22.1	8.9							E
	23.0	8.7							D
	22.9	9.0							G + K
	18.4	7.2							H
			21.4						L
	23.2	9.1							L
		8.1							L
				24.2					P
				29.2					P
	24.5	8.8	49.6	21.0					U
	24.8	8.6	52.1						U
maxilla	20.9	12.0							B
	20.0	13.2							D
	19.8	14.5							G + K
	17.1	11.4							G + K
	20.3	12.0							G+ K
	19.4	12.2							H
	19.6	12.6							L
Pig									
mandible				36.7	51.0	37.3	47.8	13.5	B
						38.6	64.1	12.1	B
	27.0	13.3							G + K
				35.0					J
				30.7					P
	29.4	14.1							U
maxilla	26.1	15.6							B
	26.8	15.2							G + K
	27.4	15.2							U
cranium		53.6	18.6	48.9	30.0				G + K
	44.8				39.2				P

	1.	2.	3.	4.	5.	6.	7.	8.	Context
Equid									
mandible	31.3	14.1							E
	30.9	20.7							G + K
maxilla	19.7	19.0							L
Gazelle									
mandible				23.1					P
				22.4					P
horn core	106.5	36.7	25.4						A
	94.0	32.5	22.0						G + K
	97.0	32.0	23.6	165.0					H

Post-cranial

All measurements are given in millimetres. GL = greatest length of a bone. The abbreviations in brackets at the end of the abbreviations are the corresponding coding in von den Driesch (1976).

Abbreviations

Scapula:
1. length of the glenoid process (GLp)
2. length of the glenoid cavity (LG)
3. breadth of the glenoid cavity (BG)
4. smallest length of the neck of the scapula (SLC)

Humerus:
1. breadth of the proximal end (Bp)
2. depth of the proximal end (Dp)
3. smallest breadth of the diaphysis (SD)
4. breadth of the distal end (Bd)
5. breadth of the trochlea (Bt)
6. height of the trachlea (Ht)

Radius:
1. breadth of the proximal end (Bp)
2. depth of the proximal end (Dp)
3. breadth of the proximal articular surface (Bfp)
4. smallest breadth of the diaphysis (SD)
5. breadth of the distal end (Bd)
6. depth of the distal end (Dd)
7. breadth of the distal articular surface (Bfd)

Ulna:
1. breadth of the proximal articular surface (BPC)
2. length of the olecranon (LO)
3. smallest depth of the olecranon (SDO)
4. depth across the Processus anconaeus (DPA)

Pelvis:
1. length of the acetabulum including the lip (LA)
2. length of the acetabulum on the rim (LAR)
3. smallest breadth of the shaft of the ilium (SB)

Femur:
1. breadth of the proximal end (Bp)
2. depth of the Caput femoris (DC)
3. breadth of the distal end (Bd)

Patella:
1. greatest breadth (GB)

Tibia:
1. breadth of the proximal end (Bp)
2. smallest breadth of the diaphysis (SD)
3. breadth of the distal end (Bd)
4. depth of the distal end (Dd)

Os malleolare:
1. greatest depth (GD)

Astragalus:
1. greatest length of the lateral half (GLl)
2. greatest length of the medial side (GLm)
3. depth of the lateral half (Dl)
4. depth of the medial half (Dm)
5. breadth of the distal end (Bd)

Calcaneum:
1. greatest breadth (GB)

Metapodial:
1. breadth of the proximal end (Bp)
2. depth of the proximal end (Dp)
3. smallest breadth of the diaphysis (SD)
4. smallest depth of the shaft (DD)
5. breadth of the distal fusion point (Bdp) or, for the equid, breadth of the distal end (Bd)
6. breadth of the trochlea (Bdt)
7. depth of the distal fusion point (Ddp) or, for equid, depth at the distal end (Dd)

Prox. phal.:
1. breadth of the proximal end (Bp)
2. depth of the proximal end (Dp)
3. smallest breadth of the diaphysis (SD)
4. breadth of the distal end (Bd)

Med. phal.:
Non-equid
1. breadth of the proximal end (Bp)
2. depth of the proximal end (Dp)
3. smallest breadth of the diaphysis (SD)
4. breadth of the distal end

Equid
1. breadth of the proximal end (Bp)
2. breadth of the proximal articular surface (Bfp)
3. depth of the proximal end (Dp)
4. smallest breadth of the diaphysis (SD)
5. breadth of the distal end (Bd)

Dist. phal.:
Non-equid
1. diagonal length of the sole (DLS)
2. length of the dorsal sole (Ld)
3. middle breadth of the sole (MBS)

Equid
1. length of the articular surface (LF)
2. length of the dorsal surface (Ld)
3. height in the region of the extensor process (HP)

	1.	2.	3.	4.	5.	6.	7.	GL	Unit
Sheep/goat									
scapula			17.6	15.9					G + K
	29.5	23.6	17.5	16.5					G + K
				12.5					G + K
	30.4	24.2	18.6	17.5					G + K
				18.3					L
	29.6	24.5	19.5	16.7					P
	29.4	24.2	17.8	17.4					P
	33.4	26.3	20.2	19.0					P
	30.9	25.9	19.2	17.4					P
	29.0	26.0	16.9						P
				16.2					P
humerus			15.9						B
				28.8	26.6	17.6			G + K
				29.3	28.0	18.4			G + K
				30.0		18.0			G + K
					28.5	16.9			G + K
			16.0	29.1	27.7	17.5			G + K
				30.5	30.4	18.6			J
				30.2	29.2	19.5			J

	1.	2.	3.	4.	5.	6.	7.	GL	Unit
				30.0	26.5	16.9			L
				30.4	29.0	18.8			P
			10.6						P
radius	30.0	15.0	27.6						B
					26.5	19.0	25.0		B
	28.2		27.1						B
	30.9	15.3	27.4						G+K
					27.0	17.5	28.0		G+K
	32.7	15.4	29.3						G+K
					30.1	19.3	25.1		G+K
					26.6	18.2	23.8		G+K
	32.4	15.6	30.1						G+K
					28.4	16.4	25.9		G+K
	29.6	14.6	27.6						J
			27.0						L
	36.2	16.3	31.0						L
	30.2	14.5	27.4	14.1	25.7	17.6	22.8	156.8	P
	35.2	17.0	30.3						P
	27.8		26.6						U
ulna	19.1	24.1	19.7	22.7					B
			21.6						G+K
	17.1		22.7	26.0					G+K
	17.1								G+K
	15.9								G+K
	14.7								G+K
	16.7		24.3						G+K
	18.7								G+K
	19.0	37.1	20.0	23.8					J
	12.1								J
		39.3	22.1						L
			21.0						L
	17.1	36.3	19.2	22.5					L
	16.7	37.5	20.2	24.6					P
	16.7	39.3	21.3	24.9					P
			19.6	22.5					U
metacarpal				8.6	22.2	23.4	12.9		B
	21.8	15.3							D
	21.7	15.8							D
				8.8	23.1	22.6	11.8		G+K
					21.8	21.5	12.1		G+K
					22.6	22.5	13.2		G+K
					26.3	25.5	14.9		G+K
	22.6	15.9							G+K
	22.2	15.9							H
	21.4	16.0							J
	23.7	16.2							P
				9.3	25.4	25.0	13.2		P
pelvis	25.2	21.1							B
	29.8	23.5							D
	26.0	22.3							G+K
	26.1	20.5							P
femur			32.2						P
patella	17.0								B
tibia			27.1	20.2					B
			28.8	22.0					D

	1.	2.	3.	4.	5.	6.	7.	GL	Unit
			27.0	20.9					E
			25.9	18.4					G + K
			25.7	19.1					G + K
			26.4	21.9					G + K
	37.3								G + K
			26.6	20.3					G + K
			25.7	18.4					G + K
			24.1	18.1					L
				20.6					L
			24.3	18.7					L
			25.1	19.3					L
			26.4	20.2					P
os malleolaris	13.7								
astragalus	25.9	24.5	14.7	14.6	15.7				B
		26.9	14.8	13.9	16.3				E
	30.1	29.3	15.8	17.0	18.8				E
					18.3				G + K
					17.2				G + K
		26.9	15.4	16.0	17.8				G + K
	27.5	25.5	14.3	16.0	17.5				G + K
			13.5		16.3				G + K
	26.3	24.7	14.3	13.6	15.7				G + K
	26.0		13.6						G + K
		26.5		15.1					G + K
	30.5	28.8		17.4	19.1				G + K
	27.5	25.6	14.6	14.7	16.1				G + K
	25.7		13.6						G + K
	28.3		15.8						G + K
	28.4	26.8	15.8	15.5	17.5				J
				14.3	16.3				J
	29.8	29.5	18.1	19.1	19.4				J
					16.8				J
		26.0		14.7					L
		27.7		16.2					P
	28.4	27.2	16.4	17.8	19.5				U
calcaneum	18.4							58.4	G + K
	19.2							56.0	G + K
	19.0							54.0	M
navicular cuboid	20.1								G + K
	20.3								G + K
	18.6								G + K
metatarsal				9.5	22.2	23.5	12.1		G + K
	20.0	19.3							G + K
	21.1								G + K
	20.1								G + K
	18.8	17.6	10.5	8.4					H
	19.4	19.6							J
prox. phal.			10.2						B
			9.4	12.2					D
	12.4	15.0							D
	12.7	15.4	9.5	12.1				38.7	D
	12.8	13.4	11.0	12.2				36.3	G + K
	11.2	13.0	9.3	11.1				34.1	G + K
	11.2	14.1	8.7	10.5				34.6	G + K
	12.1	15.3	9.4	11.7				36.7	G + K
	12.3		10.5	11.5				37.4	G + K

	1.	2.	3.	4.	5.	6.	7.	GL	Unit
	11.6	13.7	8.3	10.4				35.0	G + K
	12.3	16.5	10.0	13.4				36.6	G + K
			7.1	8.5					G + K
	12.5	14.9	10.4	13.6				38.5	G + K
	10.5	13.2							G + K
			7.6	9.5					G + K
				9.7					G + K
			6.7	8.5					G + K
				9.1					G + K
	10.3	13.2	7.9	10.1				32.5	J
	12.2	14.4	10.1	12.3				26.6	J
				9.8					J
	11.6	13.6	9.5	11.1				34.7	J
	11.4	14.8	9.1					36.6	J
	11.1	13.6	8.6	11.2				34.6	L
	11.6	13.5	8.8	11.1				35.9	L
	37.7	12.4	9.8	11.5					P
	11.5	15.0	8.7	11.1				40.8	U
med. phal.	12.1	11.7	8.4	8.9				25.5	D
	11.0	11.7	7.3	8.9				21.4	G + K
	10.8	12.3	8.7	7.8				21.0	G + K
	11.5	13.7	8.0	9.0				22.6	G + K
	10.4	10.7	7.2	8.0				21.0	G + K
	11.0	11.9	7.9	8.8				21.1	G + K
	10.9	11.4	8.6	8.6				23.8	G + K
	11.5	13.5							G + K
	11.6	12.6	9.3	9.3				22.5	J
dist. phal.	28.8		5.0						G + K
	29.4	23.9	5.2						G + K
			5.2						G + K
	35.3	29.5	4.4						J
Pig									
scapula	25.3	22.4	16.9	15.1					B
	28.2	23.1	17.8	16.7					B
		19.1	14.4						B
	32.1	28.3	21.2						C
	29.6	24.1	19.3	18.9					E
			16.9						E
	29.5	25.1	20.2	19.3					G + K
	32.6	25.1	21.7	19.6					G + K
				11.4					G + K
				18.4					G + K
				20.6					G + K
	30.3	25.0	18.6	17.6					J
				15.3					J
				20.0					L
				15.8					P
	31.5	26.9	20.6	22.0					U
humerus			12.6	33.1	24.8	21.8			A
				33.2	24.5	23.2			B
				33.1	29.4	24.0			D
				32.6	24.2	21.0			G + K
				32.2	23.6	21.3			G + K
				28.2	23.3	21.3			J
				27.5	21.7	19.9			L
				35.8	26.7				L
				31.0	23.8	21.2			L

	1.	2.	3.	4.	5.	6.	7.	GL	Unit
				35.0	27.5	23.5			L
				34.0	27.8	22.3			L
				31.1	24.5	22.8			L
			13.1	32.1	24.4	22.1			L
				31.3	24.1	21.8			P
radius	27.2	18.3							D
	23.6	15.0							E
	24.2	16.9		13.9					E
	23.2	15.9							E
	25.6	17.4							G + K
	25.2	16.3							G + K
	26.6	17.0							G + K
	25.2	17.5							P
	25.2	16.5							P
	23.9	16.3							P
ulna	17.4		22.4	28.1					E
	13.2								G + K
	20.1								G + K
	17.6								G + K
	17.5								G + K
	16.6								G + K
	13.4								G + K
	13.5								G + K
	15.4								G + K
	15.1								G + K
	16.0								G + K
	15.0			31.1					G + K
	16.2	32.6	23.6	27.2					G + K
	16.8								G + K
	14.2			27.6					G + K
	15.3								J
	14.0		20.4	27.2					L
	16.2								L
	16.9								L
	18.0			30.9					L
	17.2								P
	14.3								P
pelvis	30.4	23.6	110.6						B
	29.5	23.8							G + K
	32.0	25.4							G + K
	28.6	24.3							J
	27.9	22.0							J
	26.4	22.1							P
	28.5	21.8							P
	30.5	21.6							P
patella	18.2								G + K
	18.2							34.0	J
	17.0							31.2	J
tibia			25.1	22.3					A
			21.9	18.2	16.8				B
			25.1	20.6					G + K
			22.7	19.5					G + K
			24.4	21.5					G + K
			23.3	20.8					L
			20.7	16.7					L
			25.7	22.4					P

	1.	2.	3.	4.	5.	6.	7.	GL	Unit
astragalus	34.2	30.6	17.4	16.0	19.3				B
	33.5	30.7	16.9	18.1	19.2				D
			19.5		21.2				G + K
	36.8	33.4	17.7	12.2	22.4				G + K
	33.4	30.2	16.5	17.3					G + K
					21.4				G + K
	33.3	29.6	16.1	16.9	19.8				G + K
	39.6	35.3	17.4	20.0	22.6				J
		34.0	18.2	20.6	21.4				J
	34.6	31.9	16.5	18.6	20.5				L
	32.2	29.7	15.5	17.7	19.0				P
calcaneum	19.5								G + K
	16.2								J
	17.6								L
metacarpal III	14.9	14.3							G + K
	13.6	13.0							G + K
	14.3	11.8							J
	18.0	17.0							J
		14.1							J
	16.4	15.7							L
metacarpal IV	13.1	12.8							A
	14.7	14.2							G + K
	12.5	11.6							G + K
	13.1	13.4							G + K
	12.5	12.5							G + K
	14.6	13.8							G + K
	13.3	12.6							J
	15.7	14.8							S + T
metatarsal III	14.6	17.8							D
	10.6	15.5		7.3	12.1	10.8	12.1	64.1	G + K
	13.4	19.1							G + K
	13.2	19.9							G + K
	13.7	19.6							G + K
		13.3							J
	13.6	21.0							J
metatarsal IV	11.5	13.5							G + K
	13.0	19.4							G + K
	14.7	19.7							J
prox. phal.			12.7	14.5					A
	14.8	13.9	11.3	13.7				31.7	B
	13.9	13.6	9.4	11.8				28.1	D
			10.0	12.4					D
				13.5					D
	14.6	13.7	10.4	12.3				29.5	G + K
			12.2	14.3					G + K
			10.9	12.6					G + K
			10.2	12.4					G + K
				14.3					G + K
			11.0	13.5					G + K
	13.8	13.1	9.5	11.8				27.5	G + K
	13.3	13.8	11.0	13.1				30.0	G + K
	14.6	14.5	10.5	13.3				32.3	G + K
	14.0	13.9	10.5	12.3				28.6	G + K
				12.5					G + K
			9.1	11.2					G + K
			12.6	14.3					G + K

	1.	2.	3.	4.	5.	6.	7.	GL	Unit
	13.6	16.3	11.1	12.4				36.7	G + K
				13.7					G + K
	15.2	14.3	11.0	13.3				30.1	G + K
	14.4	14.4	11.1	12.6				27.9	H
			11.1	14.0					H
				13.6					H
			12.2	14.7					H
	12.8	12.2	8.8	11.1				25.8	J
				14.9					J
	14.1	14.8	12.3	13.5				38.8	L
			10.6	13.0					L
	14.6	14.6	10.8	12.9				29.5	M
	15.3		11.4	13.1				31.2	P
med. phal.	12.3	13.7	9.8	10.5				19.0	G + K
	13.3	13.4	11.5	11.8					G + K
	15.0	15.4	11.7	13.7				26.4	G + K
			11.8	11.9					G + K
	13.8	14.8	11.3	12.8				21.9	G + K
	13.3	12.7	11.0	12.4				21.2	H
			10.0	11.0					H
	13.4	13.1							L
dist. phal.	26.3	25.5	8.7						G + K
	24.3	22.8	7.7						G + K
	20.4	19.7	6.7						G + K
	24.4	25.4	8.8						G + K
	23.3		9.1						G + K
	25.3	23.1	9.7						G + K
	23.3	21.3	7.5						G + K
	22.4	22.5	8.4						G + K
Cattle									
scapula		46.4	43.6						B
		42.2	34.3	36.6					P
radius	71.8	36.0	66.1						H
	73.1	36.9	69.7						U
ulna	39.2								P
astragalus	44.0	41.8	23.2	24.3	25.9				G + K
calcaneum	40.2							132.1	P
prox. phal.	32.0	38.7	25.1						L
dist. phal.	58.1	52.2	20.3						U
Equid									
humerus	66.0								P
metacarpal		29.8							L
pelvis	52.3	46.1							G + K
metatarsal 3				17.2	31.9		24.1		G + K
med. phal.	38.4	35.1	24.0	33.7	35.3			37.8	G + K
	33.1	30.2	23.6	29.8	31.0			33.6	G + K
	36.1	31.2	24.7	28.4	30.9			37.7	U
dist. phal.	15.6	27.8	16.8					28.1	G + K

	1.	2.	3.	4.	5.	6.	7.	GL	Unit
Canid									
humerus	25.9	36.4							P
			13.0	36.3	22.4	20.2			P
	32.1	40.7							P
femur	38.9	19.3							L
prox. phal.	10.3	10.4	5.4	8.4				25.0	G + K
med. phal.	10.0	10.3	6.4	7.4				19.8	D
Oryx									
humerus				35.0	33.1	20.1			J

14.5 *Appendix 2: List of burnt fragments of animal bone*

Obj. no.	Batch	Context	Identification
6G66:6	404	B	1 sheep/goat vertebra; 1 sheep/goat astragalus
6G66:12	406	P	Pig: humerus, astragalus, prox. phal. Sheep/goat: femur, metacarpal. Unidentified ribs and vertebrae, c. 90.
6G66:17	411	D	Sheep/goat radius
6G66:27	415	D	Sheep/goat pelvis
6G66:76	427	D	Pig prox. phal.
6G66:84	426	D	1 unidentified small long bone fragment
6G66:108	431	B	A few (c. 20) unidentifiable + pig scapula and sheep/goat radius
6G66:123	430	E	A few (c. 5) burnt pieces
6G76:4	2600	A	1 rib (small)
6G76:9	2600	A	1 fragment
6G76:196	2615	G	1 sheep/goat bone
6G76:412	2625	T	c. 10
6G76:490	2627	L	1 small long bone fragment; 1 unidentified
6G76:517	2628	L	c. 12
6G76:617	2646	G	Sheep/goat metapodial
6G76:618	2645	G	Pig tibia, metapodial
6G76:643	2640	L	c. 10
6G76:724	2652	L	1 small vertebra
6G76:728	2655	G	c. 8 fragments
6G76:735	2654	G	4 (completely burnt) bones
6G76:745	2656	J	Pig lateral metapodial; 1 unidentified
6G76:818	2669	G	1 pig metapodial fragment
6G76:826	2669	G	Sheep/goat ulna, scapula Pig scapula, femur.
6G77:69	3906	G	c. 25, including sheep/goat scapula
6G86:14	1902	G	1 pig bone
6G86:16	1904	G	Sheep/goat mandible, tooth
6G86:23	1906	G	Sheep/goat skull
6G86:57	1907	H	Pig ulna; 1 unidentified
6G86:72	1910	G	Pig calcaneum
6G86:90	1918	G	7 small unidentified
6G86:128	1924	J	1 small vertebra
6G86:152	1934	G	Sheep/goat astragalus

14.6 *Appendix 3: Mollusca (Ed.)*

The shell remains from the site as a whole, with their potentially important implications for environment, as a source of food and for the ancient river course, have yet to receive specialist treatment, so this section is intended merely as a basic and preliminary record of the material available from the Ash-Tip. The material has been listed, therefore, simply by object number, with the batch numbers also recorded (in parentheses) as a general record of provenance (for batch numbers, see pp. 223-4.). Since, however, no quantitative analysis has been attempted, and a single object number may represent varying amounts of shells or shell fragments, arrangement of the lists by 'context groups' has been considered unnecessary at this stage. The numbers listed merely serve as a record of material available for further study. Except where an AbS-prefixed number is also cited, shell material is presently housed at the site.

14.6.1 *Unio Tigridis*

The majority of the shell was of the *Unio Tigridis* variety, either grey/black or (pinkish) white (often with brown tones); some of the black shell had been burnt that colour.

6G66:128 (435); **6G76**:2 (2600), 22 (2602), 33 (2601), 42 (2603), 47 (2603), 74 (2605), 81 (2605), 110 (2608), 132 (2610), 162 (2612), 173 (2613), 190 (2614), 200 (2615), 210 (2616), 236 (2617), 249 (2618), 253 (2618), 263 (2603S), 269 (2605S), 274 (2605S), 283 (2608S), 290 (2616), 320 (2612S), 337 (2620), 351 (2621), 361 (2614S), 379 (2613S), 384 (2613S), 414 (2625), 429 (2624), 447 (2623), 491 (2627), 516 (2628), 554 (2631), 583 (2631), 593 (2634), 598 (2639), 607 (2637), 610 (2638), 716 (2645), 726 (2653), 729 (2655), 732 (2652), 778 (2660), 816 (2667), 819 (2669), 822 (2669), 864 (2670); 907 (2672), 985 (2671), **6G77**:6 (3904), 18 (3904), 50 (3904), 70 (3906); **6G86**:7 (1902), 17 (1904), 24 (1906), 47 (1908), 74 (1910), 79 (1908), 99 (1917), 104 (1912), 113 (1919), 116 (1921), 118 (1923), 133 (1927), 137 (1930), 142 (1931), 149 (1932), 159 (1946), 162 (1939), 173 (1940), 176 (1942), 178 (1944), 185 (1950), 207 (1952), 212 (1928), 213 (1928), 215 (1954), 226 (1956), 235 (1956), 244 (1964), 248 (1960), 256 (1966), 275 (1924), 312 [in AbS 2239] (1982).

14.6.2 *Other species*

Melanopsis tuberculatus (4 examples): 6G76:245 (2613), 6G76:469 (2620), 6G76:674 (2634), 6G77:18a (3904).

Melanopsis nodosa (2 examples): 6G76:404 (2619), 6G77:18b (3904).

Corbicula fluminalis (5 or 6 examples): 6G76:230 (2610), 6G76:263 (2603S), 6G76:283 (2608S), 6G76:421 (2601) (?), 6G76:677 (2637), 6G86:99 (1917).

Helicopsis vertalis (one example): 6G76:271 (2605S).

Bulinus tuncatus: 6G76:274 (2605S) (?) (2 examples), some of 6G76:323 (2612S) (?).

Strombus decorvus (fragment of interior spiral): 6G76:641 (2639).

Unidentified small shells: 6G76:64 (2603S), 6G76:282 (2608S), 6G76:468 (2625).

See also chaper 16 for rings carved from shell (**903-907**) and for cockle shells (*Cardium* species) used for cosmetics (**908-912**).

15

BOTANICAL REMAINS

M. Charles

15.1 *The "virtual absence" of plant remains in 1978*

Excavation of the Ash-Tip (in the north half of grid-quadrant 6G76b) in the 1978 season at Abu Salabikh was avowedly aimed at the retrieval of archeobotanical remains and represented the first fledgling steps in what has developed into the expedition's sampling and flotation programme (cf. p. 2, § 1.2). After the removal of the upper few centimetres of surface soil and the clearance (or avoidance) of evident pits or other intrusive features, the operation, supervised by Dr Rosemary Ellison, involved the removal of the tiplines in arbitrary strips, and the dry sieving of the excavated soil through a 10 mm mesh. Altogether 200 bucketfuls, or about 2,000 litres, of soil was sieved in this way, subdivided into six batches (2603, 2605, 2608, 2612, 2613 and 2614)[1] of respectively 30, 30, 40, 30, 40 and 30 bucketfuls). 10% (one bucketful in ten, about 200 litres) of this dry sieved soil was then wet sieved and 70% of this tenth (14 bucketfuls or approximately 140 litres) was floated. For this process a metal drum was used, connected by hose to the top of a larger water-supply tank. The soil was added by hand and gradually separated with a stick; the floating particles were then scooped off with a three-sided 0.3 mm mesh sieve; this material was then transferred to a tray for drying and sorting. The water was then poured through a 1 mm mesh to catch any low floating seeds. The residues were water sieved again and also laid out and sorted.

"The entire process", as Postgate (1980a, 91) has explained,

> is extremely time-consuming, and for the 6G76 area the total quantity treated by water-sieving was only twenty ten-litre bucketfuls; this should, however, have given a fair sample of the smaller items present in the deposit, not merely the seeds but also flints, fish-bones, charred twigs and small shells. Unfortunately, it emerged with clarity that seeds were virtually absent: neither water-sieving nor flotation yielded plant seeds in any quantity, although we know from seeds recovered from Room 119 in 6G36, for instance, that the method in use was not seriously at fault.

The writer was not present during the 1978 season and has only been able to look at three of the flotation residues recovered, so cannot comment in any detail upon this allegedly poor recovery rate. The overall density of charred plant remains at Abu Salabikh is low compared with many other sites, Mesopotamian and European, and the size of the individual samples taken in 1978 (30-40 litres) is smaller than the 50-100 litres that we now consider as the minimum at the site (wherever achievable) for machine flotation; as we shall see, small samples taken from other parts of the Ash-Tip lack certain groups of material common in the others so the sample sizes may be partly responsible for the *impression* that there were few plant remains in the Ash-Tip, though large quantities of seeds had been recovered from one other part of the site using the same methods. The samples floated in 1985 and 1986 were 10-100 litres in volume: the method used was somewhat different — with a through flow of water and the floating material being collected as the water discharged over the side of the tank through a funnel[2] — but would not be expected to give greatly differing results. In one of the 1978 samples (batch 2613) there were a few fragments of barley, some unidentifiable vesicular cereal fragments and a few poorly preserved weeds; the other two seen by the writer (batches 2608 and 2605) had no identifiable remains. From this and the small sample sizes it would seem that there were plant remains present in the 6G76 area but at low frequencies and poorly preserved.

At this point we should distinguish between the different phases of the Ash-Tip under consideration here as it may help to explain the variation observed in the frequency of plant remains. The group of batches processed in 1978 are from Phase 3 (context G) of the Tip;[3] the layers are orange and cream or light to medium grey and resemble the ash residue of open fires, kilns or charcoal burning, *i.e.*, light

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1 For explanation of the excavation batches, see p. ix.
2 The method will be described in detail in the final archeobotanical report for the Abu Salabikh excavations (Charles, forthcoming). See for now Matthews & Postgate 1987, 102-104.
3 For the phasing of the Ash-Tip, cf. above, p. 5, § 1.3.3-4; for the context codes see pp. 223-4.

BATCH NO.		6413	6416	6417	2682	2683	6401	6406	Total
litres/sample		20	100	60	60	50	10	10	310
CEREAL REMAINS									
H.sativum	grain	8.50	3.49	4.49	1.38	0.40	5.31	7.56	31.13
	rachis	3.13	1.58	1.34	0.67	0.20	3.00	-	9.97
T. mon./dic.	grain	0.03	-	-		1.70	1.00	-	2.70
	glume	3.50	0.45	1.00	0.27		1.50	0.50	7.22
indet. cereal	grain	1.00	0.36	0.50	0.80	2.44	0.56		5.66
cereal culm nodes			0.40	0.50	-	-	-	-	0.90
OTHER CULTIV. PLANTS									
Ficus sp.	seed	1.00		-			2.00	4.00	7.00
Linum sp.	seed			0.25		-	-		0.25
Sesamum sp.	seed	1.00		0.67	0.42	1.75	-		3.84
TOTALS									
all grain		9.53	3.85	4.99	2.18	2.10	8.75	8.06	39.52
all chaff		6.63	2.04	2.34	0.94	0.20	4.50	0.50	17.20
"other" cultiv. plants		2.00		0.92	0.42	1.75	2.00	4.00	11.09
RATIOS									
barley:wheat grain		283.3	-	-	-	0.24	5.31	-	11.04
wheat glume:grain		116.7	-		-	-	1.50	-	2.65
barley rachis:grain		0.37	0.45	0.30	0.49	0.50	0.57	-	0.32
other cult:barley grain		0.24	-	0.21	0.30	4.38	0.38	0.53	0.36
Prosopis sp.	seed	0.60	0.01	0.20	0.20	0.01	-	-	1.02
tuber		1.19		0.24	0.01		0.13		1.57
reed culm nodes		1.72	0.11	0.23			-	-	2.06
dung material		0.26	-	-		0.33	-	-	0.59
vesicular frags.		1.25		-	-		0.03	-	1.28

Table 15.1: Ash Tip plant remains
(no. of items per 10 litres of deposit)

BATCH NO.	6413	6416	6417	2682	2683	6401	6406	Total
LARGE WEEDS								
H. spontaneum	0.13	0.10	-		0.40	-	-	0.63
T. boeoticum	0.50	-	-	-	-		-	0.50
Aegil. / Triticum				0.04			-	0.04
Galium sp. gr	-	-	0.17		0.20			0.37
Malva sp. gr	-	0.10		0.17	0.80	-		1.07
**Scirpus* sp. gr	0.50	0.23	0.33		0.08	-		1.14
large legumes	-			0.34	0.20		-	0.54
SMALL WEEDS								
**Amaranthus* sp.	1.00	-	0.04	-	-	-		1.04
Arenaria sp.	-	0.20	-		-	-		0.20
**Cyperus* sp. 1		-		0.17	0.20			0.37
**Cyperus* sp. 3		0.10	0.17	-	-	-		0.27
small Gramineae	4.01	2.30	3.87	1.72	5.80	1.50	-	19.20
Gramin. culm frg.			0.17	0.18				0.35
**Salsola* sp.	0.50	0.40	0.33	0.17	0.80			2.20
Rumex sp.	-	-	0.50			-	-	0.50
**Polygonum corrig.*	-	0.30	0.33		-			0.63
**Polygonum* type	-	0.10		-			-	0.10
Sisymbrium type	0.50	-	0.67	-			-	1.17
small legumes	-	1.01	2.00	0.17	1.20	3.00		7.38
**Suaeda* sp.		0.50	2.33	0.67	0.20		-	3.80
WEED TOTALS								
winter large	0.63	0.20	0.17	0.55	1.60	-		3.15
small	4.51	3.51	7.21	2.27	7.00	4.50		29.00
summer large	0.60	0.01	0.20	0.20	0.01			1.02
RATIOS								
winter weeds, small:large	7.16	17.55	42.41	4.13	4.38		-	9.21
winter:summer	3.21	2.63	2.16	2.33	7.11			3.63
winter weeds: barley grain	0.61	1.06	1.64	2.04	21.5	0.85	-	1.03
winter weeds: wheat glumes	1.47	5.33	7.21	9.04		3.00		4.33
TOTAL identifiable items	27.1	10.8	19.0	6.78	14.2	17.4	12.1	107.4
AVERAGE no. of items per sample								15.29

* = summer fruiting weeds

Table 15.1: Ash Tip plant remains (cont.)
(no. of items per 10 litres of deposit)

coloured, soft, fine powder where the wood or organic material has been reduced to an undistinguishable highly friable mass. This occurs when the material is exposed to temperatures in excess of 350-400°C for several hours. Where a fire has been allowed to burn itself out it is unlikely that any cereal or weed material would survive in the main body of the fire, though material around the edges will not have been completely burnt. The samples from the orange/cream tiplines have few inclusions of partly charred material and it may be that these layers of the Ash-Tip represent material burnt at fairly high temperatures, either the spent fuel from kilns or furnaces rather than open fires, or the end product of material deliberately burnt to reduce its bulk or nuisance value, eg. rotting waste (cf. above, p. 6, § 1.3.7). In both cases a low frequency of identifiable plant remains, such as that in batch 2613, would not be surprising. This sort of light coloured ashy material is found in other parts of the site in a range of context types but the concentration witnessed here is unusual and suggests that there was some form of specialised dumping being carried out though its precise origin can only be guessed at for the moment.

15.2 *1985 and 1986 seasons* (Table 1)
The samples from batches 6416, 6417 and 6413 are also from Phase 3 (context G) and in this case batches 6416 and 6417 were dark grey tiplines, while batch 6413 was more like the 1978 season deposits, being a light and dark grey ash with orange striations, which may well explain why of the three samples, it has yielded the lowest number of identifiable items per litre. The composition of the samples is similar.

The remaining samples are from Phase 2 (context B) and are described thus:-

batch	2682	dark brown tipline
	2683	light yellow/grey/brown layer
	6401	mainly brown ash
	6406	mainly orange-brown and grey brown.

There is no marked division between the overall composition of the two sample groups (save, perhaps, for the reed culm node fragments present in all three of the Phase 3 samples but absent from the Phase 2 ones — but whether this can be put forward as an indication of the dumping of reed matting in this part of the site is open to debate!). For the purpose of this discussion, therefore, the sample scores have been amalgamated and are considered as a whole.

The density of identifiable material in the group is a third of the average for contexts at Abu Salabikh. Barley is the most abundant grain and occurs in every sample (about half the Abu Salabikh average), while its rachis remains are found in six of the seven samples (slightly below the average for the site). There are fewer glume wheat grains (a third of the average) and four of the seven samples lack them entirely; wheat glume bases (a quarter of the average), were found in all but one sample. These ratios of grain to chaff are a repetition of the pattern seen in a wide range of context types at the site. The ratio of barley rachis to grain is lower than would be expected in an unprocessed crop while the wheat remains show the opposite tendency with the number of glume bases generally exceeding grain, *i.e.*, a higher glume to grain ration than expected. So whereas the barley remains suggest that this is a product of processing, with some chaff removed, the wheat material is decidedly poor in grain and rich in chaff, thus a by-product of crop processing.

If the two crops, one free threshing and the other a glume wheat (which require different processing strategies to produce cleaned grain), were grown and processed then it would be anticipated that the ratio of chaff to grain would be more or less the same, and not diametrically opposite as we have in the Ash-Tip material. One reason for this mixing of crop product and by-product would be for feeding to livestock, with the barley crop perhaps being grown deliberately for this purpose and the wheat fraction a waste residue from grain processing presumably for human consumption. The material would become a part of the archeobotanical record when the animal dung is used as fuel (see Charles, forthcoming).

Once the use of animal dung as fuel is accepted as likely the problem of interpreting the plant remains becomes a much more formidable task as weed seeds and other plant material, from a wide range of habitats – natural and artificial – around the settlement may have become included. Most of the samples contain a mix of large and small seeds, some winter and some summer growing. If it is not possible to establish which of the plants were in the cultivated fields then it is very difficult to determine what crop processing residues are represented and subsequently to reconstruct the field conditions, in terms of soil quality, salinity, moisture, etc., of the time. Instead the discussion is restricted to identifying the type of crops present in the samples that may have been grown in the vicinity of the site, and to considering the uses to which those crops were put with particular reference to their role as animal feed.

15.3 *An atypical sample*

Batch 2683 has wheat grains but no glume bases, the amounts of barley grain and rachis are the lowest for the Ash-Tip. There is a comparatively large number of small and large winter weed seeds, although the ratio of small to large is quite low; the ratio of winter weeds to barley grains is by far the highest. "Other" cultivated plants show a high ratio against barley grain. This is the closest we have come to a pure grain product, although again the relative abundance of small weed seeds, when it would be expected that large would be the most common, may imply the presence of some dung derived material (and there actually are some dung fragments in the sample).

16

MISCELLANEOUS MATERIAL (895-942)

Anthony Green

16.1 *Introduction*

A number of objects of stone, shell, bone and metal (copper alloy) was discovered in the Ash-Tip excavations. They do not in the main appear to be part of the essential material assemblage of the Tip (an exception may be the shell rings, **903-907**). Some may represent chance inclusions in the rubbish from the building associated with the Tip, others (such as **898, 908, 912-915, 925** and **929**) may be intrusive features from burials. Shell rings similar to **903-907** are known from the Central Complex (3 examples) and the so-called Eastern Houses (1 example). They may therefore have belonged with the later building associated with the Ash-Tip.

16.2 *Catalogue* (**895-931**)

16.2.1 *Stone beads* (**895-897**)[1]

895 **Stone bead** 6G76:981 + 982 AbS 2496 + 2497 Fig. 16:1
Batch 2685, context B (Ash-Tip Phase 2).
Diameter: 11 (9) mm
Thickness: 11.5 (20) mm Diameter of bore: 2 mm.

Two fragments, non-joining but almost certainly from the same bead. Fine grained yellow/brown stone. Disc bead, polished to a fine gloss brown surface on one side, which is slightly convex, and on the edges, but with a matt finish on the slightly concave side.

896 **Stone bead** 6G86:59 AbS 1871 Fig. 16:1
Batch 1910, context G (Ash-Tip Phase 3).
Length: 37 mm. Width: 28 mm.
Thickness: 8.5 mm. Diameter of bore: 4 mm.

White translucent stone, 10YR 7/1 light grey – 6/1 grey/light grey.[2] Smooth polished surface.

16.2.2 *Other stone objects/ natural stones* (**897-902**)

897 **Burnishing(?) stone**
6G67:31 in site store Fig. 16:1
Batch 6410, context G (Ash-Tip Phase 3).
Size: 21 x 13 x 9 mm.

Circular beige-coloured stone (10YR 7/3 very pale brown) with rounded edges, forming about two-thirds of a circle, the other edge truncated. All surfaces are extremely smooth. There are slight marks of very fine abrasion on the flat, truncated edge.

898 **Worked stone** 6G76:917 in site store
Batch 2672, context D (fill of Grave 6 in Ash-Tip Phase 2).
Size: 47 x 40 x 35 mm. Weight: 66.5 g.
[= p. 12, § 1.5.2, No. 15.]

Slightly yellowish white colour (not represented in Munsell 1975). Many small interstices.

899 **Stone tool(?)** 6G76:166 in site store
Batch 2613, context H (Ash-Tip Phase 3 or other deposit).
Size: 96 x 73 x 34 mm.

900 **Polished stone** 6G76:481 in site store
Batch 2625, context T (Ash-Tip Phase 3 or Akkadian/ Ur III drain-cut packing).
Size: 61 x 63 x 15 mm.

901 **Pebble** 6G76:970 in site store
Batch 2683, context B (Ash-Tip Phase 2).

902 **Pebble** 6G76:1040 in site store
Batch 2672, context D (fill of Grave 6 in Ash-Tip Phase 2).
[= p. 13, § 1.5.2, No. 16.]

16.2.3 *Shell rings* (**903-907**)

903 **Shell ring** 6G76:117 in AbS 1837 Fig. 16:2
Batch 2608(S-6), context G (Ash-Tip Phase 3).
External size: 24 x 15.5 (extant) x (thickness) 3.5 mm.

Brilliant gloss. 10YR 7/6 yellow.

1 Cf. also p. 12, No. 5, Fig. 1:26.
2 Colour references are to Munsell 1975.

904 **Shell ring** 6G76:129 in AbS 1837 Fig. 16:2
Batch 2610, context G (Ash-Tip Phase 3).
External size: 19 x 8 (extant) x (thickness) 2.5 mm.

Gloss. 10YR 8/4 very pale brown (pale yellow).

905 **Shell ring** 6G76:185 in AbS 1837 Fig. 16:2
Batch 2613(S-5), context H (?Ash-Tip Phase 3).
External size: 20 x 12 (extant) x (thickness) 2.5 mm.

Gloss. 10YR 7/4 very pale brown.

906 **Shell ring** 6G76:447 in AbS 1837 Fig. 16:2
Batch 2623, context T (?Ash-Tip Phase 3).
External size: 23.5 x 15 (extant) x (thickness) 3 mm.

Gloss. Banded 10YR 6/1 light grey/grey and 3/1 very dark grey.

907 **Shell ring** 6G76:477 in AbS 1837 Fig. 16:2
Batch 2623, context H (?Ash-Tip Phase 3).
External size: 20 x 12.5 (extant) x (thickness) 3 mm.

Convex side matt, concave side with heavy gloss, both 10YR 8/3 very pale brown.

16.2.4 *Cosmetic shells* (908-912)

908 **Cosmetic shell** 6G66:14 AbS 436E
Batch 407, context N (fill of shaft of Grave 10 in Ash-Tip Phases 2/3).
Size: 45 x 39 mm.
[= *ASE* 2, p. 50, Grave 10: No. 2.]

Cockle shell (*Cardium* sp.). Traces of red pigment. No signs of bitumen on exterior.

909 **Cosmetic shell** 6G76:466 in site store
Batch 2621, context L (fill of Pit f in Ash-Tip Phase 3).
Size: fragment only.

Cockle shell (*Cardium* sp.).

910 **Cosmetic shell** 6G76:536 in site store
Batch 2625, context T (?Ash-Tip Phase 3).
Size: fragment only.

Cockle shell (*Cardium* sp.). Black and some rusty brown pigment. Traces of bitumen on exterior.

911 **Cosmetic shell** 6G76:534 in site store
Batch 2623, context T (?Ash-Tip Phase 3).
Size: fragment only.

Cockle shell (*Cardium* sp.).

912 **Cosmetic shell** 6G76:640 in site store
Batch 2637, context K (Ash-Tip Phase 3 or grave).
Size: 53 x 43 mm.

Cockle shell (*Cardium* sp.). Traces of white ?pigment. No signs of bitumen on exterior.

16.2.5 *Bone objects* (913-916)

913 **Bone spatula(?)** 6G66:55 AbS 777 Fig. 16:2
Batch 406, context P (Ash-Tip Phase 2/3 or grave).
Length: 66 mm. Width: 8 mm.
Maximum thickness: 5 mm.

Piece of worked bone, pointed at one end, rounded at the other. Probably a spatula, although it could be a paddle for a model boat.

Cf. *ASE* 2, 104, Grave 48: No. 25: "Bone spatula, one end flat, the other pointed"

914 **Bone spatula(?)** 6G66:62 in site store
Batch 412, context D (fill of Grave 9 in Ash-Tip Phase 2).
[= *ASE* 2, 49, Grave 9: No. 3.]

Carved from a fragment of a sheep or goat mandible. Cf. p. 180, § 14.1.

915 **Worked bone** 6G66:46 in site store
Batch 406, context P (Ash-Tip Phase 2/3 or grave fill).

Piece of bovid long bone with file marks cut upon it. Cf. p. 180, § 14.1.

916 **Worked bone** in site store
Batch ?, context G (Ash-Tip Phase 3).

Highly polished fragment of sheep or goat femur. Cf. p. 180, § 14.1.

16.2.6 *Copper alloy objects* (917-931)[3]

917 **Pin** 6G76:489 AbS 1735 Fig. 16:3
Batch 2627, context L (fill of Pit g in Ash-Tip Phase 3).
Length: 132 mm. Maximum diameter: 5 mm.
Diameter of bore: 2 mm. Weight: 11.0 g

Straight toggle pin, complete. Shank circular in section, pierced close to the head for a toggle. The head is pointed and was perhaps originally capped with a bead. **917** and **918** are toggle pins of a kind common in Mesopotamia and Syria from the ED II period into the second millennium BC (H.P. Martin in *ASE* 2, 11, with p. 17 n. 8).

918 **Pin** 6G76:488 AbS 1734 Fig. 16:3
Batch 2627, context L (fill of Pit g in Ash-Tip Phase 3).
Length: 90 mm extant. Maximum width: 8 mm.
Maximum thickness: 3 mm. Diameter of bore: 2 mm.
Weight: 6.85 g.

Curved toggle pin, about three-quarters complete, shaft tip lost. Shank rectangular in section, and pierced for a toggle at a point close to the head where the section is relatively flattened (common for curved pins: cf. H.P. Martin in *ASE* 2, 11, with p. 17 n. 7). Cf. *ASE* 2, Grave 32: No. 4, p. 84 (with references to comparable pieces from Kish and Ur), p. 216 Fig. 144. See also **917** above.

919 **Pin** 6G67:48 in site store
Batch 6416, context G (Ash-Tip Phase 3).
Length: 59 mm extant. Original diameter: *c.* 2 mm.
Present diameter (including corrosion products): 3-5 mm.
Weight: 2.55 g.

Two joining fragments of shank, circular in section. Heavily corroded.

920 **Pin** 6G76:61 in AbS 1829 Fig. 16:3
Batch 2602, context L (fill of Pit d in Ash-Tip Phase 3).
Length: 31 mm. Maximum diameter: 5 mm.

Tip of shank, circular in section.

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3 The term 'copper alloy' is employed here as signifying copper or bronze. None of the items has been analysed.
The pin fragment 6G76:252 is assumed to belong with the burial goods of Grave 130 (batch 2618) and is therefore omitted here.

921 Pin 6G76:118 in AbS 1829 Fig. 16:3
Batch 2608(S-3), context G (Ash-Tip Phase 3).
Length: 35 mm extant. Original diameter: *c.* 5 mm.
Present diameter (including corrosion products): 7 mm.

Fragment of shank, circular in section.

922 Pin 6G76:493 in AbS 1829
Batch 2623, context T (Ash-Tip Phase 3 or Akkadian/ Ur III drain-cut packing).
Length: 32 mm extant. Diameter: 4 mm.

Two joining fragments, tip end of shank, circular in section. Slightly corroded.

923 Pin 6G76:148 in AbS 1829 Fig. 16:3
Batch 2610, context G (Ash-Tip Phase 3).
Length: 30 mm extant. Original diameter: 3 mm.
Present diameter (including corrosion products): 5 mm.
Internal diameter: 2 mm.

Fragment of shank, circular and hollow in section.

924 Pin 6G76:448 in AbS 1829
Batch 2625, context T (Ash-Tip Phase 3 or Akkadian/ Ur III drain-cut packing).
Length: 24 mm extant.
Original diameter indeterminable.
Present diameter (including corrosion products): 9 mm.
Internal diameter: 3 mm.

Fragment of shank, possibly from tip end, circular(?) in section. Very heavily corroded.

925 Pin 6G66:63 in AbS 1040
Batch 406, context P (Ash-Tip Phase 2/3 or grave).
Length: 17 mm extant. Original diameter: *c.* 3.5 mm.
Present diameter (including corrosion products): 5-6 mm.

Fragment of shank, possibly from tip end, circular in section. Much corroded.

926 Pin 6G86:76 AbS 1874 Fig. 16:3
Batch 1916, context G (Ash-Tip Phase 3).
Length: 66 mm extant. Width: 5 mm.
Maximum thickness: 2 mm.
Diameter of rolled end: 7 mm.

Pin with flattened head with rolled end. Badly corroded when found, but now cleaned.

Pins of this type, which have variously been regarded as hair pins or as belt clasps or as tools suspended from the waist, have been found in graves at Abu Salabikh, Kish, Khafaje, Ur, Tell Brak and Tell Aswad (H.P. Martin in *ASE* 2, 10-11).

927 Bead(?) 6G76:3 in AbS 1829 Fig. 16:3
Batch 2600, context A (surface).
Size: 4 x 4 x 3 mm. Central hole now filled with corrosion products and unmeasurable.

Spherical ?bead. Badly corroded.

928 Clasp(?) 6G76:348 in AbS 1829
Batch 2621, context L (fill of Pit f in Ash-Tip Phase 3).
Length: 17 mm. Diameter: 6 mm.

Twisted length of copper alloy; possibly part of a clasp?

929 Wire 6G76:496 in AbS 1829
Batch 2626, context J (fill of Grave 134 in Ash-Tip Phase 3).
Length: 16 mm extant. Original diameter: *c.* 2 mm.
Present diameter (including corrosion products): 3 mm.

930 Bident 6G86:73 AbS 2053 Fig. 16:3
Batch 1910, context G (Ash-Tip Phase 3).
Length: 41 mm extant. Width: 9 mm.
Thickness: 7 mm. Diameter of shank: 6 mm.
Diameter of prongs: 4 mm.

Forked implement, heavily corroded.

For such 'bidents', common in the ED period, see H.P. Martin in *ASE* 2, 13-14, § 3.2.3.

931 Awl/chisel(?) 6G66:10 AbS 463
Batch 405, context B (Ash-Tip Phase 2).
Length: 19 mm. Width: 7 mm.
Thickness: 5.5 mm. Weight: 1.5 g

16.2.7. *Samples and waste products* (932-942)

16.2.7.1 *Metal* (932-935)

932 Copper alloy lump[4] 6G76:529 in AbS 1829
Batch 2623, context T (Ash-Tip Phase 3 or Akkadian/ Ur III drain-cut packing).
Diameter: 7 mm.

Spherical lump.

933 Copper alloy lump 6G76:413 in AbS 1829
Batch 2625, context T (Ash-Tip Phase 3 or Akkadian/ Ur III drain-cut packing).
Size: 7 x 5 x 5 mm.

Globular lump.

934 Copper alloy lump 6G66:111 in AbS 1040
Batch 431, context B (Ash-Tip Phase 2).
Size: 18 x 15 x 5 mm.

Irregular lump.

935 Ferrous lump 6G66:185 in site store
Batch 446, context E (Ash-Tip Phase 2, ?associated with Grave 105).
Size: 37 x 27 x 19 mm. Weight: 24.0 g.

16.2.7.2 *Bitumen* (936-938)

936 Bitumen lump 6G76:919 in site store
Batch 2672, context D (fill of Grave 6 in Ash-Tip Phase 2).
Size: not recorded.
[= p. 13, § 1.5.2, No. 18.]

937 Bitumen lump 6G66:85 in site store
Batch 407, context N (fill of Grave 10 in Ash-Tip Phase 2/3).
Length: 41 mm.
[= *ASE* 2, p. 50, Grave 10: No. 3]

938 Bitumen lump 6G67:36 in site store
Batch 6411, context G (Ash-Tip Phase 3).
Size: 69 x 45 x 19 mm.

Lump of bitumen with vegetal impressions.

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4 The term 'copper alloy' is employed here as signifying copper or bronze.

16.2.7.3 *Clinker* (939-942)

939 **Clinker** 6G76:957 in site store
Batch 2681, context B (Ash-Tip Phase 2).
Size: 43 x 22 x 16 mm. Weight: 5.2 g.

940 **Clinker** 6G76:972 in site store
Batch 2683, context B (Ash-Tip Phase 2).

941 **Clinker** 6G67:50 in site store
Batch 6414(P), context G (Ash-Tip Phase 3).
Size: 58 x 44 x 27 mm. Weight: 34.2 g.

942 **Clinker** 6G76:915 in site store
Batch 2674, context G (Ash-Tip Phase 3).
Size: 30 x 21 x 13 mm. Weight: 6.1 g.

ASH-TIP MATERIAL PUBLISHED ELSEWHERE

Material republished in this work

References to previous publication are given in the text and catalogue only where it is felt that they contribute something further and are worth consulting; in most cases they can be regarded as superseded by the present work and are listed only in the list below. In the interests of completeness, however, this contains *all* references to previous publication of material in this volume.

1. Introduction

Equid *In situ* photo.: Postgate 1986, 202-204, Pl. 2; Postgate & Moorey 1976. Pl. XXIV*a*

Drain *In situ* photo.: Postgate & Moon 1984b, 69-79, with Fig. b.

2. Seals and sealings

2 Photo.: Postgate 1982, 57, Fig. 44 bottom right.

4c/69c Obv. photo.: Postgate 1980a, Pl. XI*c*, pp. 91, 104.

13 Rev. photo.: ibid., Pl. XI*h*, pp. 92, 104.

14 Obv. photo.: Postgate 1982, 54, Fig. 41 right.

15/115 Obv. photo.: Postgate 1982, 54, Fig. 41 left.

64b Obv. photo.: Postgate 1980a, Pl. XI*f*, pp. 91, 104.

71 Obv. photo.: Postgate 1980a, Pl. XI*b*, pp. 91, 104.

106 Obv. photo.: Postgate 1980a, Pl. XI*e*, pp. 91, 104.

3. Clay figurines

301 Photo.: Postgate 1980a, 104; Pl. X*d* (opp. p. 94) [= Postgate & Moon 1984a, 737, Fig. 5], top row right.

309 Photo.: ibid., middle row left.

318 Photo.: ibid., top row left.

327 Photo.: ibid., bottom row extreme right.

338 Photo.: ibid., bottom row extreme left.

344 Photo.: ibid., bottom row middle right.

347 Photo.: ibid., bottom row middle left.

349 Photo.: ibid., top row middle.

4. Miniature vessels

471 Noted: *ASE* 3, No. 139.

473 Drawn: *ASE* 3, No. 802.

7. Tablets

722 Note and obv. photo.: Postgate 1980a, 93, 104, Pl. XI*a*.

10. Pottery

770 Noted: *ASE* 3, No. 10.

771 Drawn: *ASE* 3, No. 1.

781 Noted: *ASE* 3, No. 147.

783 Drawn: *ASE* 3, No. 283.

784 Drawn: *ASE* 3, No. 191.

787 Drawn: *ASE* 3, No. 496.

789 Drawn: *ASE* 3, No. 454.

790 Noted: *ASE* 3, No. 783.
Drawn: Moon 1981, 57, Fig. 4, No. 27.

791 Drawn: *ASE* 3, No. 767.

792 Drawn: Moon 1981, 57, Fig. 4, No. 25.
Noted: *ASE* 3, No. 758.

793 Drawn: *ASE* 3, No. 755.

798 Drawn: *ASE* 3, No. 818.

13. Flaked stone

6G76:905 Listed: *ASE* 2, p. 47, Grave 6: No. 6

16. Miscellaneous material

908 Listed: *ASE* 2, p. 50, Grave 10: No. 2.

914 Listed: *ASE* 2, p. 49, Grave 9: No. 3.

937 Listed: *ASE* 2,, p. 50, Grave 10: No. 3.

Material not in this work (mainly from graves)

ASE 2

pp. 46-47, Grave 5: No. 1 (6G66:17)
No. 2 (6G66:140, AbS 810)
No. 3 (6G66:141, AbS 645)
No. 4 (6G66:29, AbS 416)

No. 5 (6G66:26 in AbS 1041)
No. 6 (6G66:24, AbS 418)
No. 7 (6G66:32, AbS 417)
No. 8 (6G66:30)
No. 9 (6G66:25, AbS 413)
No. 10 (6G66:51 in AbS 1039)
No. 11 (6G66:31 in AbS 1037)
No. 12 (6G66:34)
No. 13 (6G66:18 in AbS 1038)

p. 48, Grave 6: No. 1 (6G66:15+37)

p. 48, Grave 7: No. 1 (6G66:36)
No. 2 (6G66:38)

pp. 49-50, Grave 10: No. 1 (6G66:39)
No. 2 (6G66:14, AbS 436E)
No. 3 (6G66:85)

pp. 54-56, Grave 14: No. 1 (6G66:67)
No. 2 (6G66:44, AbS 405)(= *ASE* 3, No. 152)
No. 3 (6G66:66, AbS 875)
No. 4 (6G66:69 in AbS 1040)
No. 5 (6G66:68 in AbS 1040)
No. 6 (6G66:73 in AbS 873)
No. 7 (6G66:74, AbS 478)
No. 8 (6G66:78, AbS 1011)
No. 9 (6G66:83, AbS 685)
No. 10 (6G66:75, AbS 686)
No. 11 (6G66:70, AbS 683)
No. 12 (6G66:88 AbS 750)
No. 13 (6G66:82, AbS 482)
No. 14 (6G66:84)
No. 15 (6G66:81)

p. 57, Grave 15: No. 1 (6G66:76)
No. 2 (6G66:76)
No. 3 (6G66:72)
No. 4 (6G66:65)
No. 5 (6G66:71)
No. 6 (6G66:77, AbS 533)
No. 7 (6G66:86)
No. 8 (6G66:89 in AbS 1041)

p. 60, Grave 18: No. 1 (6G66:90)

p. 87, Grave 34: No. 1, Pl. IX*d* (6G66:123)
No. 2 (6G66:123)

p. 96, Grave 39: No. 1 (6G66:130)
No. 2 (6G66:129)

ASE 3

p. 3, No. 3 (6G76:602)
p. 29, No. 152 (6G66:44, AbS 405)
p. 29, No. 152 (6G76: 604, AbS 1754)
p. 55, No. 264 (6G86:274)
p. 56, No. 273 (6G66:140, AbS 810)
p. 60, No. 338 (6G86:91, AbS 1938)
p. 112, No. 546 (6G66:25, AbS 413)
p. 112, No. 561 (6G76:601, AbS 1754)
p. 112, No. 598 (6G86:271, AbS 1967)
p. 124, No. 603 (6G66:77, AbS 533)
p. 124, No. 604 (6G66:144, AbS 645)
p. 124, No. 606 (6G66:29, AbS 416)
p. 124, No. 607 (6G66:32, AbS 417)
p. 158, No. 738 (6G76:551+552+697, handle AbS 1793) (Surface in area of Ash-Tip)
p. 159, No. 744 (6G66:24, AbS 418)
p. 170, No. 802 (6G66:77, AbS 1583)

NB. ASE 3, p. 55, No. 264 (6G86:274) is there wrongly attributed to the Ash-Tip; it in fact derives from the ashy fill beneath the South-East Complex.

Clutton-Brock 1978
pp. 91-92, Table 1

Clutton-Brock & Burleigh 1986
pp. 207, 209, 211, Pls. 3*b-d*, 4, 5, 7*a*; Table 1a, b.

Moon 1981
pp. 61-62, No. 37 (6G66:24, AbS 418)
pp. 69-70, No. 74 (6G66:140, AbS 810)

Postgate & Moorey 1976
pp. 148, 168 (6G66:77)
Pl. XXVII*c* (6G66:70, AbS 683)
Pl. XXV*a* (6G66:94)
Pl. XXV*b* (6G66:24, AbS 418)

CONCORDANCE OF REGISTRATION NUMBERS

Note on Numbers: In the on-site recording system, all items (objects, samples, etc.) are given an 'object number' in a running series for the 10 x 10 grid-square, e.g. 6G66:159 (or in some cases in a separate running series for the 100 x 100 m grid-square, e.g. 6GS:147, where 'S' originally stood for 'surface', but such numbers are now also used, as here, for very limited excavations not warranting their own series of numbers). Items selected for the museum are entered into the Expedition's catalogue with AbS numbers; sometimes items are grouped together under a single number (for a box of miscellaneous clay material, etc.), when we refer here to such items as '*in* AbS ...' Some items with AbS numbers are subsequently registered by the Iraq Museum, Baghdad, with IM numbers. However, the material is presently stored by AbS number. The catalogue numbers in this volume (referred to in bold, e.g. **474**) are for the convenience of reference to individual entries; an entry is not necessarily a single object, nor does every object necessarily have a single entry. For instance, sealings with impressions of the same seal are catalogued together, while the impressions of different seals on the same sealing are catalogued separately.

AbS (Abu Salabikh) and IM (Iraq Museum) Numbers (Expedition Catalogue and Museum Register)

AbS	IM	Cat. No.	Object	AbS	IM	Cat. No.	Object
415		**770**	pot	1508		**707**	token(?)
419		**312**	figurine	1509		**278**	figurine
422		**351**	figurine	1511		**13**	sealing
436E		**908**	cosmetic shell	1512		**48a**	sealing
437		**15, 115**	sealing	1513		**79b**	sealing
443H		**888**	flint	1514		**83**	sealing
453B		**467**	miniature vessel	1515		**53**	sealing
463		**931**	metal tool	1516		**120**	sealing
480		**11**	sealing	1517		**84**	sealing
481		**26**	sealing	1518		**73**	sealing
498		**80**	sealing	1519		**37**	sealing
527		**1**	stamp seal	1520		**57**	sealing
709		**790**	pot	1521		**23**	sealing
777		**913**	bone spatula(?)	1522		**92a**	sealing
852		**334**	figurine	1523		**4a, 69a**	sealing
938		**792**	pot	1524		**34**	sealing
940		**791**	pot	1526		**354**	figurine
1040		**925**	metal pin	1525		**356**	figurine
		934	metal pin	1527		**313**	figurine
1041		**262**	figurine	1528		**438**	miniature vessel
		267	figurine			**531**	miniature vessel
		460	miniature vessel	1530	84183	**282**	figurine
		461	miniature vessel	1531		**363**	figurine
		480	miniature vessel	1532		**328**	figurine
		517	miniature vessel	1533		**276**	figurine
1478		**794**	pot	1538		**357**	figurine
1489		**327**	figurine	1539		**329**	figurine
1490		**371**	figurine	1540		**176**	sealing
1491		**330**	figurine	1541		**35a**	sealing
1492		**349**	figurine	1542		**298**	figurine
1493	84178	263	figurine	1543		**117b**	sealing
1494		**352**	figurine	1544		**21**	sealing
1495		**371**	figurine	1545		**118a**	sealing
1496		**353**	figurine	1546		**4b, 69b**	sealing
1497		**326**	figurine	1547		**117**	sealing
1498		**387**	figurine	1549		**48b**	sealing
1499		**369**	figurine	1551		**336**	figurine
1500		**325**	figurine	1552		**268**	sealing
1501		**301**	figurine	1553		**525**	miniature vessel
1502		**373**	figurine	1555		**744**	model boat
1503	84180	**318**	figurine	1556		**189**	sealing
1504		**335**	figurine	1564		**4c, 69c, 4c**	sealing
1505		**302**	figurine	1565		**90**	sealing
1506		**291**	figurine	1566		**121**	sealing
1507		**721**	token(?)	1567		**46**	sealing

AbS	IM	Cat. No.	Object
1568		**122**	sealing
1569		**22a**	sealing
1570		**30**	sealing
1571		**106**	sealing
1572		**49**	sealing
1573		**114a**	sealing
1574		**79c**	sealing
1575		**64b**	sealing
1576		**92b**	sealing
1577		**273**	figurine
1578		**526**	miniature vessel
1579		**264**	figurine
1583		**473**	miniature vessel
1628		**35b**	sealing
1629		**224**	sealing
1631		**123**	sealing
1632		**76a**	sealing
1633		**124**	sealing
1634		**6, 50**	sealing
1635		**125**	sealing
1636		**126**	sealing
1637		**4e, 69e**	sealing
1639		**36a**	sealing
1640		**108**	sealing
1641		**67**	sealing
1642		**63a**	sealing
1643		**18**	sealing
1644		**116**	sealing
1645		**55**	sealing
1646		**127**	sealing
1647		**79d**	sealing
1648		**128**	sealing
1649		**68**	sealing
1650		**33**	sealing
1651		**177**	sealing
1652		**129**	sealing
1653		**114b**	sealing
1654		**130**	sealing
1655		**131**	sealing
1656		**71**	sealing
1657		**70**	sealing
1658		**118b**	sealing
1659		**42**	sealing
1660		**132**	sealing
1661		**64a**	sealing
1662		**64a**	sealing
1663		**4d, 51a, 69d**	sealing
1664		**4f, 51b**	sealing
1665		**347**	figurine
1666		**344**	figurine
1667		**338**	figurine
1668	84175	**309**	figurine
1669		**359**	figurine
1670		**358**	figurine
1671		**321**	figurine
1672		**275**	figurine
1673		**323**	figurine
1674		**324**	figurine
1677		**66**	sealing
1678		**88**	sealing
1679		**63b**	sealing
1680		**31**	sealing
1681		**76b**	sealing
1723		**723**	tablet
1734		**918**	metal pin
1735		**917**	metal pin
1739		**722**	tablet
1771		**781**	pot
1792		**793**	pot
1806		**3**	cylinder seal
1807		**41**	sealing
1808		**36b**	sealing
1809		**82a**	sealing
1810		**44**	sealing
1811		**4g, 69f**	sealing
1812		**36c**	sealing
1813		**61**	sealing
1814		**114c**	sealing
1817		**133**	sealing
1819		**314**	figurine
1824		**9, 134**	sealing
1825		**135**	sealing
1826		**103**	sealing
1827		**19**	sealing
1828		**69g**	sealing
1829		**921**	metal pin
		922	metal pin
		923	metal pin
		924	metal pin
		927	metal pin
		928	metal pin
		929	metal pin
		932	metal lump
		933	metal lump
1830		**843**	stone vessel
		844	stone vessel
		847	stone vessel
		852	stone vessel
1831		**889**	flint
		890	flint
1832		**553-646**	pottery discs
1833		**523**	miniature vessel
		539	miniature vessel
		649	token(?)
		650	token(?)
		652	token(?)
		656	token(?)
		657	token(?)
		658	token(?)
		659	token(?)
		660	token(?)
		661	token(?)
		662	token(?)
		664	token(?)
		665	token(?)
		666	token(?)
		667	token(?)
		670	token(?)
		671	token(?)
		672	token(?)
		674	token(?)
		675	token(?)
		676	token(?)
		677	token(?)
		678	token(?)
		679	token(?)
		680	token(?)
		681	token(?)

AbS	IM	Cat. No.	Object
		682	token(?)
		692	token(?)
		693	token(?)
		695	token(?)
		698	token(?)
		699	token(?)
		700	token(?)
		701	token(?)
		704	token(?)
		709	token(?)
		710	token(?)
		712	token(?)
		714	token(?)
		745	model furniture(?)
		746	clay object
		753	clay disc
		754	clay disc
		755	clay disc
		758	clay toggle(?)
		763	clay fragment
1834		265	figurine
		274	figurine
		271	figurine
		272	figurine
		284	figurine
		284	figurine
		285	figurine
		288	figurine
		289	figurine
		292	figurine
		293	figurine
		295	figurine
		296	figurine
		297	figurine
		299	figurine
		300	figurine
		303	figurine
		304	figurine
		305	figurine
		306	figurine
		307	figurine
		315	figurine
		316	figurine
		333	figurine
		337	figurine
		346	figurine
		348	figurine
		355	figurine
		361	figurine
		364	figurine
		367	figurine
		368	figurine
		374	figurine
		375	figurine
		376	figurine
		377	figurine
		378	figurine
		379	figurine
		380	figurine
		382	figurine
		388	figurine
		389	figurine
		390	figurine
		391	figurine
		392	figurine
		393	figurine
		400	model chariot
		402	model chariot
		404	model chariot
		405	model chariot
		689	token(?)
		690	token(?)
		691	token(?)
		706	token(?)
		715	token(?)
		716	token(?)
		718	token(?)
		719	token(?)
		720	token(?)
1835		394	model chariot
		395	model chariot
		396	model chariot
		397	model chariot
		398	model chariot
		399	model chariot
		401	model chariot
		406	model chariot
		407	model chariot
		408	model chariot
		414	model chariot
		416	model chariot
		418	model chariot
		421	model chariot
		422	model chariot
		423	model chariot
		425	model chariot
		426	model chariot
		427	model chariot
		428	model chariot
		429	model chariot
		430	model chariot
		431	model chariot
1836		432	miniature vessel
		435	miniature vessel
		436	miniature vessel
		440	miniature vessel
		441	miniature vessel
		447	miniature vessel
		450	miniature vessel
		451	miniature vessel
		452	miniature vessel
		457	miniature vessel
		458	miniature vessel
		463	miniature vessel
		474	miniature vessel
		476	miniature vessel
		477	miniature vessel
		478	miniature vessel
		479	miniature vessel
		481	miniature vessel
		487	miniature vessel
		488	miniature vessel
		489	miniature vessel
		490	miniature vessel
		491	miniature vessel
		492	miniature vessel
		496	miniature vessel

AbS	IM	Cat. No.	Object
		497	miniature vessel
		500	miniature vessel
		501	miniature vessel
		502	miniature vessel
		503	miniature vessel
		505	miniature vessel
		507	miniature vessel
		508	miniature vessel
		509	miniature vessel
		510	miniature vessel
		511	miniature vessel
		512	miniature vessel
		514	miniature vessel
		515	miniature vessel
		518	miniature vessel
		519	miniature vessel
		532	miniature vessel
		536	miniature vessel
		538	miniature vessel
		540	miniature vessel
		541	miniature vessel
		542	miniature vessel
		543	miniature vessel
		544	miniature vessel
		545	miniature vessel
		547	miniature vessel
		548	miniature vessel
		549	miniature vessel
		551	miniature vessel
		552	miniature vessel
1837		**903**	shell ring
		904	shell ring
		905	shell ring
		906	shell ring
		907	shell ring
1839		**838**	stone vessel
		(839)	stone vessel
		840	stone vessel
1871		**896**	bead
1872		**2**	cylinder seal
1874		**926**	metal pin
1875		**40n**	sealing
1876		**323**	figurine
1877		**281**	figurine
1878		**283**	figurine
1879		**766**	clay fragment
1880		**136**	sealing
1881		**137**	sealing
1882		**40m**	sealing
1883		**437**	miniature vessel
1884		**119**	sealing
1885		**724**	tablet
1886		**7**	sealing
1887		**138**	sealing
1888		**10, 139**	sealing
1889		**85a**	sealing
1891		**85b**	sealing
1892		**140**	sealing
1893		**345**	figurine
1894	91168	**340**	figurine
1895		**12**	sealing
1896	91169	**705**	token(?)
1897		**179**	sealing
1898		**141**	sealing
1899		**350**	figurine
1900		**366**	figurine
1901		**365**	figurine
1902		**14**	sealing
1903		**65**	sealing
1907		**40p**	sealing
1908		**319**	figurine
1944		**529**	miniature vessel
1946		**469**	miniature vessel
		471	miniature vessel
1951		**38**	sealing
1952		**74**	sealing
2012		**787**	pot
2029		**4 l, 69j**	sealing
2030		**101**	sealing
2063		**845**	stone vessel
		846	stone vessel
		848	stone vessel
		849	stone vessel
2067		**266**	figurine
		269	figurine
		270	figurine
		277	figurine
		279	figurine
		280	figurine
		286	figurine
		287	figurine
		290	figurine
		294	figurine
		308	figurine
		310	figurine
		311	figurine
		317	figurine
		320	figurine
		331	figurine
		332	figurine
		339	figurine
		341	figurine
		342	figurine
		343	figurine
		360	figurine
		362	figurine
		372	figurine
		381	figurine
		383	figurine
		384	figurine
		385	figurine
		386	figurine
		403	model chariot
		409	model chariot
		410	model chariot
		411	model chariot
		412	model chariot
		413	model chariot
		415	model chariot
		417	model chariot
		419	model chariot
		420	model chariot
		424	model chariot
		520/702	miniature vessel or token(?)
		521	miniature vessel
		522	miniature vessel

AbS	IM	Cat. No.	Object
		647	pottery disc
		648	token(?)
		651	token(?)
		653	token(?)
		654	token(?)
		655	token(?)
		663	token(?)
		668	token(?)
		669	token(?)
		673	token(?)
		683	token(?)
		684	token(?)
		685	token(?)
		687	token(?)
		688	token(?)
		694	token(?)
		696	token(?)
		697	token(?)
		702	token(?)
		703	token(?)
		708	token(?)
		711	token(?)
		717	token(?)
		713	token(?)
		756	clay fragment
		760	clay object
		761	clay object
		762	clay object
		764	clay fragment
		768	clay fragments
		769	clay lumps
2234		**765**	clay fragment
		767	clay fragment
2236		**747**	clay sickle
		748	clay sickle
2238		**433**	miniature vessel
		434	miniature vessel
		439	miniature vessel
		442	miniature vessel
		443	miniature vessel
		444	miniature vessel
		445	miniature vessel
		446	miniature vessel
		448	miniature vessel
		449	miniature vessel
		454	miniature vessel
		455	miniature vessel
		459	miniature vessel
		462	miniature vessel
		464	miniature vessel
		465	miniature vessel
		469	miniature vessel
		472	miniature vessel
		475	miniature vessel
		482	miniature vessel
		483	miniature vessel
		485	miniature vessel
		493	miniature vessel
		494	miniature vessel
		495	miniature vessel
		498	miniature vessel
		499	miniature vessel
		504	miniature vessel
		513	miniature vessel
		516	miniature vessel
		524	miniature vessel
		527	miniature vessel
		528	miniature vessel
		533	miniature vessel
		534	miniature vessel
		535	miniature vessel
		546	miniature vessel
		550	miniature vessel
2392		**891**	flint
		892	flint
		893	flint
2463		p. 12, Grave 6: No. 5 (Fig. 1:26)	bead
2464		**113**	sealing
2466		**52**	sealing
2469		**79a**	sealing
2474		**743**	model boat
2484		**246**	sealing
2496		**895**	bead
2511		**22b**	sealing
2512		**174**	sealing

LIST OF 'CONTEXTS' AND BATCHES

A Surface clearance

400, 401, 421, 428, 450
1900, 1975, 1984, 1985
2600, 2601, 2629 (incl. Gr. 146), 2630 (incl. Gr. 146?), 2635, 2687, 2688
3800, 3801
3900, 3901, 3902
6335, 6336
6400, 6408, 6409

B Ash-Tip Phase 2 (p. 5)

402, 404, 405, 418, 422, 425, 431, 432, 433, 437, 445, 449
2679, 2681, 2682, 2683, 2684, 2685, 2686, 2689
6401, 6402, 6403, 6405, 6406, 6407

C Ash-Tip Phase 2 and other deposits

435

D Graves cut into Ash-Tip Phase 2

Grave 5 (p. 11): 411, 415(?)
Grave 6 (pp. 11-13): 409, 410, 2671, 2672, 2678
Grave 7 (p. 13): 417
Grave 9 (p. 13): 412, 420
Grave 14 (p. 13): 426
Grave 15 (p. 14): 423, 424, 427
Grave 18 (p. 14): 429
Grave 39 (p. 14): 434

E Ash-Tip Phase 2 with infant burials in Tip

Ash-Tip including Grave 34 (p. 14): 430
Ash-Tip including Grave 105 (p. 14): 446

F Pits cut into Ash-Tip Phase 2 (p. 18)

408, 414(?), 416(?), 444, 448
2680

G Ash-Tip Phase 3 (p. 5)

1901, 1902, 1903, 1904, 1905, 1906, 1909, 1910, 1911, 1912, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1943, 1944
2603, 2605, 2608, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2636, 2645, 2646, 2649, 2650, 2654, 2655, 2660, 2661, 2664, 2665, 2666, 2667, 2668, 2669, 2674, 2675, 2676, 2677
3905, 3906, 3911, 3912, 3913, 3914
6410, 6411, 6412, 6413, 6414, 6415, 6416, 6417, 6418

H Ash-Tip Phase 3 and other deposits

1907, 1908, 1926, 1927, 1941, 1942, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1968, 1970
2613, 2664, 2665
3903, 3904

J Graves cut into Ash-Tip Phase 3 (pp.14-17)

Grave 175: 1924, 1925, 1928, 1958,
Grave 177: 1974
Grave 130: 2606, 2607, 2618, 2619
Grave 133: 2624
Grave 134: 2626
Grave 146: 2633, 2634, 2643, 2644
Grave 178: 2656, 2657, 2670
Grave 186: 3907, 3909

K Ash-Tip Phase 3 with possible grave fill

2637, 2638

L Pits cut into Ash-Tip Phase 3 (p. 18)

1913, 1929, 1930, 1939, 1940
2602, 2604, 2609, 2621, 2622, 2627, 2628, 2631, 2632, 2639, 2640, 2641, 2642, 2647, 2652, 2653, 2658, 2659, 2662, 2663
3908, 3910

M Mud-brick feature within Ash-Tip Phase 3

1945, 1946

N Grave cut into Ash-Tip Phases 2 and 3

Grave 10 (p. 13): 407, 419, 425

P Ash-Tip Phases 2 and 3 with possible grave fill

406

Q Pit cut into Ash-Tip Phases 2 and 3

2673

R 6G97 test trench (probably Ash-Tip Phase 3)

6337

S Packing for Akkadian/Ur III drain cut into Ash-Tip Phase 3 (p. 18)

2651

T Ash-Tip Phase 3 and packing for Akkadian/Ur III drain

2620, 2623, 2625

U Pits in area west of Ash-Tip Phase 3, which disturb the Tip and may contain Ash-Tip material

1959, 1960, 1961, 1965, 1966, 1967, 1976, 1977, 1978

NB. Not Ash-Tip

403, 413, 436, 438, 439, 440, 441, 442, 443, 447
1957, 1962, 1963, 1964, 1965(?), 1969, 1971, 1972, 1973, 1979, 1980, 1981
6404

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