

Central Arabia during the early Hellenistic period,
with particular reference to the site of al-'Ayun in the area
of al-Mudaj in Saudi Arabia

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Abdullah Saud al-Saud

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I hereby declare that the work contained within this thesis was entirely composed by myself

to my wife

Andullah S. al-Sand

Abstract

This thesis deals with the site of al-'Ayun in the area of al-Aflaj in Central Arabia as one of the Early Hellenistic sites in the region. The specific objectives of this work are: 1- identifying more precisely the date

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of the site, 2- identifying the site's location in relation to the ancient trading route between the Yemen in the south, Arabia and Gerrha on the eastern coast of Arabia, and 3- trying to find the site's function within the three components of the irrigation system, and the tumulus field.

Abdullah S. al-Saud

In order to achieve our objectives, and because of the rarity of information about the site, two field excavations were necessary. The first excavation took place between March and May 1988, and the second excavation took place between April and May 1989. The core of this study relies on the information gathered from the excavations.

To put the research in context, the thesis begins with a general introduction to the whole work. It continues with an historical survey of the ancient Kingdoms of Southern Arabia, the beginning of the eastern Hellenistic world and its relation with Arabia, and the ancient inland trading routes in Arabia during the 2nd half of the 1st millennium BC. Then it looks in detail at the Hellenistic sites in eastern Arabia and those in Central Arabia. At this stage the thesis introduces the area of al-Aflaj, its geography and history, before reporting the archaeological excavations at the site of al-'Ayun. The study is completed by an analysis of the objects found at the site i.e. pottery shards, incense burners, stone artifacts, coins, and a seal with south Arabian script. Finally, after a general discussion and analysis of the results of the excavation, there is a discussion and the general conclusion of this thesis, which is that the settlement at al-'Ayun was an early and short-lived response to the Hellenistic stimulus to Arabian trade between the incense-producing area of the South-west and the port of Gerrha on the Gulf coast.

Abstract

This thesis deals with the site of al-'Ayun in the area of al-Aflaj in Central Arabia as one of the Early Hellenistic sites in the region. The specific objectives of this work are; 1- identifying more precisely the date of the settlement, 2- exposing the nature and position of the al-'Ayun settlement in relation to the ancient trading route between the Yemen in south Arabia and Gerrha on the eastern coast of Arabia, and 3- trying to find any evidence of the relationship between the three components of the site; that is the settlement, the irrigation system, and the tumulus field.

In order to achieve our objectives, and because of the rarity of information about the site, two field excavations were necessary. The first excavation took place between March and May 1988, and the second excavation took place between April and May 1989. The core of this study relies on the information gathered from the excavations.

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contents

Abstract.	i
Acknowledgment.	ii-iii
List of figures	iv-viii
List of plates	ix-xi
Chapter I	
Introduction	1-5
Chapter II	6
Arabia during the second half of the First Millennium BC, General Introduction.	6
Part 1: Southern Arabia (Yemen and Hadramaut).	6
1.1 Geology, Geography, and Climate.	6-9
1.2 Historical Background.	9-11
1.3 The South Arabian Kingdoms.	11
1.3.1 The problem of chronology.	11-17
1.3.2 The Kingdom of Saba'.	17-19
1.3.3 The Kingdom of Ma'in.	19-20
1.3.4 The Kingdom of Qataban.	20-21
1.3.5 The Kingdom of Hadramaut.	21-22
1.3.6 The Kingdom of 'Ausan.	22-24
1.3.7 Summary.	24
Part 2: Arabia during the Hellenistic period.	24
2.1 Alexander and Arabia.	24-28
2.2 Selucids and Arabia.	28
2.2.1 Seleucids policy in the Arabian Gulf.	29-31
Part 3: The ancient inland trading routes in Arabia.	31
3.1 The domestication of camel and the great trading revolution in Arabia.	31-32
3.2 South Arabia and early trading activity.	32-33

3.3 The major routes.	33-34
3.3.1 Ma'rib-Najran-Gaza route.	34-35
3.3.2 The Nejran-Gerrha route.	35-36
3.4 The decline of trade in Arabia.	37-38
3.5 Summary.	38-39
Chapter III.	
Hellenistic sites in Eastern Arabia.	40
1.0 Introduction.	40-42
2.0 Geography.	42-44
3.0 Thaj.	44-45
3.1 Chronology.	45-47
4.0 The Salt Mine site.	47-48
4.1 Material of the site.	48
4.1.1 coins.	48
4.1.2 Pottery.	48-49
4.1.3 Seals.	49-50
4.2 Chronology.	50
5.0 Failaka.	51-52
5.1 Chronology.	52-53
6.0 Qala'at al-Bahrain.	53-54
6.1 Chronology.	54-55
7.0 Junassan.	55-57
7.1 Chronology.	57-58
8.0 Mleihah.	58-60
Chronology.	60-62
9.0 ed-Dour.	62-64
10.0 Summary.	64-69
11.0 Conclusion	69
Chapter IV	
Hellenistic sites in Central Arabia.	70
1.0 Introduction.	70-71

2.0 Geography.	71-72
3.0 The site of Qaryat al-Fau.	72-73
3.1 The archaeology.	73-78
3.2 The finds.	78-82
3.3 The chronology.	82-84
4.0 The site of Zubaidah.	84
4.1 The excavation.	85-88
4.2 Chronology.	88-89
5.0 The site of al-Kharj.	89
5.1 The archaeological work.	89
5.1.1 Site 207-24.	90
5.1.2 Site 207-30.	90
5.1.2.1 Chronology.	94-97
6.0 Conclusion.	97-99
Chapter V.	
The region of al-Aflaj and the archaeological site of al-'Ayun.	100
1.0 Introduction.	100-101
2.0 Geography.	101-104
3.0 Historical background.	104-109
4.0 Discussion.	109-111
5.0 The site of al-'Ayun.	111-112
5.1 The settlement.	112
5.2 The tumulus field.	112
5.3 The irrigation system.	113-114
6.0 Conclusion.	114-115
Chapter VI.	
The archaeological work at the area of al-'Ayun.	116
1.0 Previous work.	116
1.1 Tumuli/Cairns.	116
1.2 Subterranean Tombs.	116-117

1.3 The settlement.	117-118
1.4 The irrigation system.	118
2.0 The latest fieldwork at the area.	118
2.1 The settlement.	118-119
2.1.1 Trench I.	119-122
2.1.2 Trench II.	122-125
2.1.3 Trench III.	125-126
2.1.4 Trench IIIA.	126-132
2.1.5 Trench V.	132-134
2.2 The irrigation system.	134
2.2.1 Trench IV.	134-136
2.2.2 Trench VI.	136-137
2.2.3 Trench VII.	137-138
2.2.4 Trench VIII.	138
2.3 Tumulus field.	139
2.3.1 Tomb I.	139-140
2.3.2 Tomb II.	140
2.3.3 Tomb III.	140-141
2.3.4 Tomb IV.	141
2.3.5 Tomb V.	141-143
2.3.6 Tomb VI.	143
2.3.7 Tomb VII.	143-144
2.3.8 Tomb VIII.	144
2.3.9 Tomb IX.	144-145
2.3.10 Tomb X.	145
2.3.11 Discussion of the tombs.	146-147
Chapter VII.	
The classification and comparative study of different objects from the site.	148
1.0 Pottery.	148
1.1 Unglazed pottery.	148-175
1.2 Glazed pottery.	175-189
1.3 Tumuli/Cairns pottery.	189-191
1.4 Discussion.	191-194
1.5 Parallels for the al-'Ayun pottery.	194
1.5.1 Unglazed corpus.	194-199
1.5.2 Glazed corpus.	199-202
Pottery from the tumuli.	202
2.0 Incense burners.	203
2.1 Discussion and comparison.	203-204
2.1.1 Central region.	204-205

2.1.2 Eastern region.	205
3.0 Stone artifacts.	205-207
4.0 Coins.	207
4.1 Description of coins	208
4.1.1 Coin no.1.	208
4.1.2 Coin no.2.	208
4.1.3 Coin no.3.	209
4.1.4 Coin no.4.	209
4.1.5 Coin no.5.	210
4.1.6 Coin no.6.	210
4.1.7 Coin no.7.	211
4.1.8 Coin no.8.	211
4.1.9 Coin no.9.	211-212
4.1.10 Coin no.10.	212
4.1.11 Coin no.11.	212-213
4.1.12 Coin no.12.	213
4.1.13 Coin no.13	213
4.2 Discussion of coins.	214-216
5.0 South Arabian seal.	216-217
Chapter VIII.	
1.0 General discussion of the site of al-'Ayun.	218
1.1 The settlement.	218-223
1.2 The irrigation system.	223-225
1.3 The tombs.	225-227
Chapter IX	
Conclusion.	228-233
Appendix I.	234-240
Appendix II.	241-242
Illustrations.	243-424
Appendix III.	424a
Appendix IV.	424b.
Bibliography.	425-431
Fig. 23: An early morning photograph showing wall traces on the surface of the settlement.	269
Fig. 24: West section of trench III.	270
Fig. 25: North section of trench III.	271

List of figures

Figure no.	page no.
Fig. 1: Geographical map of Arabia.	244
Fig. 2: Ancient kingdoms of Southern Arabia.	245
Fig. 3: Ancient trading routes in Arabia.	246
Fig. 4: Hellenistic sites in the Arabian Gulf.	247
Fig. 5: Hellenistic sites in central province of Saudi Arabia.	248
Fig. 6: Location of the al-Aflaj region.	249
Fig. 7: al-Aflaj contour map, showing the main towns of the region.	250
Fig. 8: Location of the site of al-'Ayun.	251
Fig. 9: A contour map of the prominent hillocks at the settlement of al-'Ayun.	252
Fig. 10: Two of the al-'Ayun irrigation systems, 1- An abandoned channel cut in the surface. 2- An abandoned subterranean channel.	253
Fig. 11: A sketch plan of the ancient irrigation system at al-'Ayun area.	254
Fig. 12: A grid-square plan of the settlement of al-'Ayun showing the excavated trenches.	255
Fig. 13: A- Trench no. I of the settlement. B- An overall plan of trench no. I.	256 257
Fig. 14: South section of trench no. I.	258
Fig. 15: East section of trench no. I.	259
Fig. 16: West section of trench no. I.	260
Fig. 17: Northern wall of trench no. I.	261
Fig. 18: North section of trench no. I.	262
Fig. 19: A- Trench no. 2 of the settlement. B- An overall plan of trench no. II.	263 264
Fig. 20: East section of trench no. II.	265
Fig. 21: West section of trench no. II.	266
Fig. 22: A- 1 & 2 Trench no. III. B- An overall plan of trench no. III.	267 268
Fig. 23: An early morning photograph showing wall traces on the surface of the settlement.	269
Fig. 24: West section of trench III.	270
Fig. 25: North section of trench III.	271

Fig. 26: A- Trench IIIA.	272
B- An overall plan of trench IIIA.	273
Fig. 27: Room 3A1 of trench IIIA appears on the right side of the picture.	274
Fig. 28: Room 3A2 of trench IIIA appears on top of the picture.	275
Fig. 29: A- Room 3A3 of trench IIIA appears on the middle of the picture.	276
B- A plan of room 3A3.	277
Fig. 30: A- A doorway in the south wall of room 3A3	278
B- A section of the south wall of room 3A3 showing a doorway.	279
Fig. 31: A- An alcove built into the west wall of room 3A3 of trench IIIA.	280
B- A section of the west wall of room 3A3 showing the alcove.	281
Fig. 32: A- The northern wall of room 3A3 where eight niches spread across the upper half of it.	282
B- A plan of the northern wall showing the eight niches.	283
Fig. 33: Room 3A4 of trench IIIA appears on the upper right corner of the picture.	284
Fig. 34: Room 3A5 of trench IIIA appears on the lower left corner of the picture.	285
Fig. 35: Rooms 3A6 & 3A7 of trench IIIA appear on the middle of the picture.	286
Fig. 36: Rooms 3A8 & 3A9 appear on the right side of the picture.	287
Fig. 37: Trench V before excavation where a stone wall appears on the surface.	288
Fig. 38: A- Trench V after excavation.	289
B- An overall plan of trench V.	290
Fig. 39: A- An internal view of the circular construction in trench V.	291
B- Section A-'A of trench V.	292
Fig. 40: A- 1 Trench IV as it is appear after excavation.	
2 A tomb which excavated below trench IV.	293

B- A plan of the tomb excavated below trench IV.	294
Fig. 41: A section of trench IV.	295
Fig. 42: A view of trench VI on subsidiary channel no. 4 before excavation.	296
Fig. 43: A- Trench VI after excavation where the depth and size of the channel appears.	297
B- Section A-'A of trench VI.	298
Fig. 44: A view of trench VII before excavation.	299
Fig. 45: A contour plan of the pool in trench VI.	300
Fig. 46: A feeder channel which comes from the east side of the pool	301
Fig. 47: A distribution channel at the north side of the pool.	302
Fig. 48: A carrier channel at the west side of the pool.	303
Fig. 49: Trench VIII after excavation.	304
Fig. 50: 1- Section A-'A of a rectangular construction in trench VIII.	305
2- A plan of the construction.	305
Fig. 51: A grid-square plan of the tumulus field.	306
Fig. 52: A- Tomb 1 before excavation.	307
B- A plan of tomb 1.	308
Fig. 53: North section of tomb 1.	309
Fig. 54: A view of tomb II after excavation.	310
Fig. 55: 1- A plan of tomb II.	311
2- North section of the tomb.	311
Fig. 56: A one-half of a pottery ware with a human skull found inside tomb II.	312
Fig. 57: A- A view of tomb III after partly excavated.	313
B- 1 Section A-'A of tomb III.	314
2 A plan of the tomb.	314
Fig. 58: A- A single skeleton found in tomb III.	315
B- A drawing of the skeleton.	316
Fig. 59: A plan of tomb IV.	317
Fig. 60: North section of tomb IV.	318
Fig. 61: A- The three chambers of tomb V after excavation.	319
B- 1 A plan of the tomb.	320
2 East section of the tomb.	320
Fig. 62: A- Tomb VI after excavation.	321

B- 1 A plan of the tomb.	322
2 South-west section of the tomb.	322
Fig. 63: A- A plan of tomb VII.	
B- Section A-'A of the tomb.	323
Fig. 64: A- A plan of tomb VIII.	
B- Section A-'A of the tomb.	324
Fig. 65: Tomb IX after excavation.	325
Fig. 66: A- A plan of tomb IX.	
B- 1 A plan of the chamber.	
2 Section A-'A of the chamber.	326
Fig. 67: A- A plan of tomb X.	
B- Section A-'A of the tomb.	327
Fig. 68: A marble composite vessel.	393
Fig. 69: Beads from the tumulus field.	394
Fig. 70: Beads from the surface of the tumulus field.	395
Fig. 71: Coins found in trench I of the settlement.	396
Fig. 72: A- Coin no. 1.	397
B- A drawing of coin no.1.	398
Fig. 73: A- Coin no. 2.	399
B- A drawing of coin no. 2.	400
Fig. 74: A- Coin no. 3.	401
B- A drawing of coin no. 3.	402
Fig. 75: A- Coin no. 4.	403
B- Coin no. 4.	404
Fig. 76: A- Coin no. 5.	405
B- A drawing of coin no. 5.	406
Fig. 77: A- Coin no. 6.	407
B- A drawing of coin no. 6.	408
Fig. 78: A- Coin no. 7.	409
B- A drawing of coin no. 7.	410
Fig. 79: A- Coin no. 8.	411
B- A drawing of coin no. 8.	412
Fig. 80: A- Coin no. 9.	413
B- A drawing of coin no. 9.	414
Fig. 81: A- Coin no. 10.	415
B- A drawing of coin no. 10.	416
Fig. 82: A- Coin no. 11.	417

B- A drawing of coin no. 11.	418
Fig. 83: A- Coin no. 12.	419
B- A drawing of coin no. 12.	420
Fig. 84: A- Coin no. 13.	421
B- A drawing of coin no. 13.	422
Fig. 85: A- A south Arabian seal.	423
B- A drawing of the seal.	424
Plate 3: Type 1 of unglazed pottery.	330
Plate 4: Type 1 of unglazed pottery.	331
Plate 5: Type 2 of unglazed pottery.	332
Plate 6: Type 2 of unglazed pottery.	333
Plate 7: Type 2 of unglazed pottery.	334
Plate 8: Type 3 of unglazed pottery.	335
Plate 9: Type 3 of unglazed pottery.	336
Plate 10: Type 3 of unglazed pottery.	337
Plate 11: Type 3 of unglazed pottery.	338
Plate 12: Type 4 of unglazed pottery.	339
Plate 13: Type 4 of unglazed pottery.	340
Plate 14: Type 4 of unglazed pottery.	341
Plate 15: Type 4 of unglazed pottery.	342
Plate 16: Type 4 of unglazed pottery.	343
Plate 17: Type 4 of unglazed pottery.	344
Plate 18: Type 4 of unglazed pottery.	345
Plate 19: Type 4 of unglazed pottery.	346
Plate 20: Type 4 of unglazed pottery.	347
Plate 21: Type 4 of unglazed pottery, surface collection.	348
Plate 22: Type 5 of unglazed pottery.	349
Plate 23: Type 5 of unglazed pottery.	350
Plate 24: Type 5 of unglazed pottery.	351
Plate 25: Type 6 of unglazed pottery.	352
Plate 26: Type 6 of unglazed pottery, surface collection.	353
Plate 27: Type 7 of unglazed pottery.	354
Plate 28: Type 7 of unglazed pottery, surface collection.	355
Plate 29: Type 8 of unglazed pottery.	356
Plate 30: Type 8 of unglazed pottery, surface collection.	357
Plate 31: Type 9 of unglazed pottery.	358
Plate 32: Type 9 of unglazed pottery.	359
Plate 33: Type 9 of unglazed pottery, surface collection.	360

List of plates

Note. The types of pottery sherds from as-Asyh illustrated in plates 54-62 are following the same types from al-'Ayun.

Plate no.	Page no.
Plate 1: Type 1 of unglazed pottery.	328
Plate 2: Type 1 of unglazed pottery.	329
Plate 3: Type 1 of unglazed pottery.	330
Plate 4: Type 1 of unglazed pottery.	331
Plate 5: Type 2 of unglazed pottery.	332
Plate 6: Type 2 of unglazed pottery.	333
Plate 7: Type 2 of unglazed pottery.	334
Plate 8: Type 3 of unglazed pottery.	335
Plate 9: Type 3 of unglazed pottery.	336
Plate 10: Type 3 of unglazed pottery.	337
Plate 11: Type 3 of unglazed pottery.	338
Plate 12: Type 4 of unglazed pottery.	339
Plate 13: Type 4 of unglazed pottery.	340
Plate 14: Type 4 of unglazed pottery.	341
Plate 15: Type 4 of unglazed pottery.	342
Plate 16: Type 4 of unglazed pottery.	343
Plate 17: Type 4 of unglazed pottery.	344
Plate 18: Type 4 of unglazed pottery.	345
Plate 19: Type 4 of unglazed pottery.	346
Plate 20: Type 4 of unglazed pottery.	347
Plate 21: Type 4 of unglazed pottery, surface collection.	348
Plate 22: Type 5 of unglazed pottery.	349
Plate 23: Type 5 of unglazed pottery.	350
Plate 24: Type 5 of unglazed pottery.	351
Plate 25: Type 6 of unglazed pottery.	352
Plate 26: Type 6 of unglazed pottery, surface collection.	353
Plate 27: Type 7 of unglazed pottery.	354
Plate 28: Type 7 of unglazed pottery, surface collection.	355
Plate 29: Type 8 of unglazed pottery.	356
Plate 30: Type 8 of unglazed pottery, surface collection.	357
Plate 31: Type 9 of unglazed pottery.	358
Plate 32: Type 9 of unglazed pottery.	359
Plate 33: Type 9 of unglazed pottery, surface collection.	360

Plate 34: Type 10 of unglazed pottery.	361
Plate 35: Type 11 of unglazed pottery.	362
Plate 36: Type 1 of glazed pottery.	363
Plate 37: Type 1 of glazed pottery, surface collection.	364
Plate 38: Type 2 of glazed pottery.	365
Plate 39: Type 2 of glazed pottery.	366
Plate 40: Type 2 of glazed pottery.	367
Plate 41: Type 3 of glazed pottery.	368
Plate 42: Type 3 of glazed pottery.	369
Plate 43: Type 3 of glazed pottery.	370
Plate 44: Type 3 of glazed pottery.	371
Plate 45: Type 3 of glazed pottery, surface collection.	372
Plate 46: Sub-type 3/1 of glazed pottery.	373
Plate 47: Sub-type 3/1 of glazed pottery.	374
Plate 48: Sub-type 3/1 of glazed pottery.	375
Plate 49: Sub-type 3/1 of glazed pottery.	376
Plate 50: Sub-type 3/1 of glazed pottery, surface collection.	377
Plate 51: Sub-type 3/1 of glazed pottery, surface collection.	378
Plate 52: Type 1 of tumulus field pottery.	379
Plate 53: Type 2 of tumulus field pottery.	380
Plate 54: Type 2 of unglazed pottery collected from the surface of the as-Sayh settlement.	381
Plate 55: Type 2 of unglazed pottery collected from the surface of the as-Sayh settlement.	382
Plate 56: Type 3 of unglazed pottery collected from the surface of the as-Sayh settlement.	383
Plate 57: Type 4 of unglazed pottery collected from the surface of the as-Sayh settlement.	384
Plate 58: Type 4 of unglazed pottery collected from the surface of the as-Sayh settlement.	385
Plate 59: Type 4 of unglazed pottery collected from the surface of the as-Sayh settlement.	386
Plate 60: Type 1 of glazed pottery collected from the surface of the as-Sayh settlement.	387
Plate 61: Type 3 of glazed pottery collected from the surface of the as-Sayh settlement.	388
Plate 62: Type 3 of glazed pottery collected from the surface of the as-Sayh settlement.	389

Plate 63: Incense burners.	390
Plate 64: Incense burners.	391
Plate 65: Stone artifacts.	392

Introduction

From central Syria to the shores of the Indian Ocean, and from the Red Sea to the Arabian Gulf, there extends the Arabian Peninsula, the original homeland of the Arab race (fig 1). It covers well over three million square kilometres. The whole area is a block of ancient rocks that appears as a massive detached fragment of an even larger continental mass which included Africa (Fisher 1971, 441). Topographically speaking, Arabia slopes from west to east. In the extreme west, along the Red Sea, there is a coastal plain (Tihamah), flat and usually very narrow. Immediately to the east is a formidable succession of high plateaux with steep scarp edges dominating the Tihamah below. Here are the highest peaks of Arabia. East again of this highland zone is an extensive region of irregular plateaux and upland basins, where collection of sub-surface water allows human settlement on a larger scale. Farther east, altitude gradually declines, but there occurs a whole succession of younger, sedimentary rocks—sandstones, limestones and marls. The harder series stand out as scarps or isolated ridges, with lower, flatter valleys formed in between the less resistant strata. The most important of these scarps is the Jabal Tuwayq, which extends in a sinuous curve north-west and south-west of Riyadh, which has a gap breaking through the Jabal. Gradually, altitude diminishes eastwards, until one of the last of these scarps occurs near Hofuf, after

Chapter I

Introduction

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which the surface drops to form the low-lying coastal plain of eastern Arabia. Oman is an exception in that as the lands of most of the coast slope low along the Arabian Gulf, that of Oman (The Green Mound) rises upland (Stacey International 1977, 14-17; Fisher 1971, 461).

The hard nature of the interior or the heart of Arabia and the lack of stability between the inhabitants since medieval times until the last century was the main reason for its isolation from the rest of the world. Travellers and researchers did not dare to enter this anonymous and mysterious world. This situation has created a gap in Near Eastern studies where this part of Arabia was excluded until the recent past. In the early decades of this century most of Arabia has been united under what is known today as The Kingdom of Saudi Arabia. Since then the land has become more secure and stable, which has allowed some travellers such as Palgrave, and Philby, to start exploring this part of Arabia. From these travellers' records we have learned amazing things about the land of central Arabia, its inhabitants, and its ancient ruins.

Apart from these reports presented by travellers, very little else was done until the mid-seventies. In 1975 an organized survey programme began on a large scale in which all the provinces of Saudi Arabia were included. In the central province of Saudi Arabia many sites with Hellenistic material were reported. Al-'Ayun area (sites 212-63, 64, and 65) was mentioned in Atlat Journal vol. 3 as one of the most important Hellenistic sites in the province on the basis of its pottery (Zarins, *et al.* 1979, 27, 33). The site is situated near a group of natural water reservoirs, has a remarkable irrigation system, a tumulus field, and a prominent tell. The encouraging preliminary dating which was given to

the site was based on the survey and a very small trench only. We chose to study this particular site for the following reasons: firstly, we were interested in the Hellenistic period especially the earlier part i.e. BC rather than the AD; secondly, our study background at university concentrated on pre-Islamic Arabia; and finally, the site at al-'Ayun offered an opportunity to begin to investigate this period in central Saudi Arabia where very little was known other than the site of Qaryat al-Fau. Thus a decision to investigate this site by carrying out our own excavation was made.

It was both an honour and a challenge at the same time for us to carry out the first planned excavation in the site of al-'Ayun. Two seasons of excavations were carried out from March-May 1988, and April-May 1989.

Our general aim in this research is to highlight the Hellenistic period in central Arabia i.e. the 2nd half of the 1st Millennium BC in the light of the excavation of the site of al-'Ayun. The specific objectives of the excavation itself were as follows:

- 1- Identifying more precisely the date of the settlement.
- 2- Exposing the nature and position of this settlement on the ancient trading route between Yemen in south Arabia and Gerrha on the eastern coast of Arabia.
- 3- Trying to find any evidence of the relationships between the three components of the site; that is the settlement, the irrigation system, and the tumulus field.

Chapters V, VI, VII, and VIII, deal with the site of al-'Ayun itself.

4- Collecting any evidence that could lead to the identity of the people of al-'Ayun and their activities.

In order to reach the above objectives this thesis has been divided into eight chapters.

Chapters II, III, and IV deal with Southern, Eastern, and Central Arabia during the 2nd half of the 1st millennium BC in general. Chapter II consists of three parts. Part I deals with south-western Arabia i.e. Yemen; its geography and climate, its Ancient kingdoms of Saba', Ma'in, Qataban, Hadramaut, and 'Ausan, and deals also with the problem of the chronology of those kingdoms. Part II deals with the Hellenistic world which emerged in the second half of the first millennium BC and its relation with Arabia. Part III deals with the ancient inland trading route which linked Yemen with its markets in east and north-east of Arabia and the eastern coast of the Mediterranean Sea.

Chapter III deals with the Hellenistic sites in eastern Arabia. The discussion in this chapter is focused only on those sites which have excavation results. From the eastern province of Saudi Arabia we will discuss the sites of Thaj and Salt Mine, from Kuwait the site of Failaka, from Bahrain the sites of Qala'at al-Bahrain and Junassan tumuli, and from the United Arab Emirates the sites of ed-Dour and Mleihah.

Chapter IV deals with Hellenistic sites in central Arabia. As in Chapter III the focus is on the excavated sites. Three sites are discussed: al-Fau in the south-west of the province, al-Kharj to the east of the province, and Zudaidah in al-Qasim to the north of the province.

Chapters V, VI, VII, and VIII, deal with the site of al-'Ayun itself.

Chapter V is divided into two parts. Part I deals with the region of al-Aflaj, its geography, and history as reported by early Moslem travellers and by European travellers during the early decades of this century. Part two is a description of the site of al-'Ayun; the settlement, the tumulus field, and the irrigation system.

Chapter VI deals with the archaeological work at the site of al-'Ayun. The discussion involves the previous survey of the area by the Saudi Department of Antiquities and Museums, and the latest excavations which were carried out by the author on the three parts of the site i.e. the settlement, the tumulus field, and the irrigation system.

Chapter VII deals with the various types of object from the excavations. A classification, discussion, and comparative study is provided for the pottery, incense-burners, stone artifacts, coins, and a South Arabian seal.

Chapter VIII is devoted to a general discussion of the site of al-'Ayun. The aim of this chapter is to bring together all the evidence from the site, discuss the architecture of the settlement, evaluate the reliability of the dating evidence for the site, and offer a brief comparative study of the irrigation system and the tombs.

Chapter IX is the conclusion of the thesis. It includes a review of what has been said above, the final results and achievement of our work, and some suggestions for future work at the site of al-'Ayun and in Saudi Arabia in general.

Chapter II

Arabia During the Second half of the First Millennium BC,

General Introduction.

Part 1: Southern Arabia (Yemen and Hadramaut)

1.1 Geology, Geography, and Climate.

The area which is subject to investigation is that land which occupies the South-West corner of the Arabian Peninsula, known to the present time as Yemen. The country now is divided politically between the Yemen Arab Republic in the north and the People's Democratic Republic in the south.

There are no direct studies of the climate of South-West Arabia. Yet, there is already some evidence which suggests that in that part of the Peninsula, both climate and conditions may have changed noticeably within the period that man has lived there (Groom 1981,221).

An important study was done by Butzer and Twidale in the Sahara which shares a similar climate with Arabia. The ancient rock drawings found in Sahara show animals and vegetation which can no longer exist in the regions concerned. Supporting this view are the pollen grains that have been found in the western Sahara rock

shelters of cypress, pine and oak trees which have a radio carbon dating of between 3450 and 2730 BC. Their evidence leads to a general conclusion that between 5500 BC and 2350 BC the climate was very moist and that between 2350 to 800 BC it became intensely dry before settling down to a more average level (Butzer and Twedale 1966,135-137). In another study about climate in the Near East (Fisher 1971,73-74) Butzer concluded that from 850 BC to AD 700 the climate was extensively similar to that of today, but with marked temporary drought cycles towards the end of the period. Thereafter until the present day it has remained similar but with many short term fluctuations.

The following information about geography, geology, and climate of the Yemen was collected from different sources i.e. O'leary, Arabia before Mohammad 1927, 8-9, Naval intelligence Division, Western Arabia and the Red Sea 1946, 153-191, Doe, Southern Arabia 1971, 15-21, al-Sayari, Zotl, Quaternary Period in Saudi Arabia 1978, 4-34, Matthews, Building in the Yemen 1979, 11, and Doe, Monuments of South Arabia 1983, 4-7.

The geography and topography of general Yemen can be distributed into; the southern part of Tihama coast, the coastal plain of the Gulf of Aden, the Highlands which contain the southern end of the Arabian Shield, and to the east of the Highlands there is the foothills which border the great desert of Arabia or the Empty Quarter (the Rub) al-Khali).

Tihama is a long plain belt of sand which extends along the Red Sea coast from Bab al-Mandab in the Yemen to al-Lith in Saudi

Arabia. Tihama has a hot and humid climate most of the year. During the fiery midday heat turbulent wind eddies raise sand-spouts and dust which shroud the whole Tihama. Rain fall and clouds are rare, but with increasing distance from the sea, the amount of mist and dew increases due to the nightly cooling.

The southern coast line of Yemen extends from the Red Sea to the Dhufar region. The terrain along this coast consists generally of varying widths of sandy plains along the eastern front backed by massive rock outcrops and ranges of mountains. Many of the rock outcrops are the remains of ancient volcanos.

The central and southern Yemen Highlands form the massive corner-stone of Arabia, with one face looking west to the Red Sea, the other nearly south to the Gulf of Aden. In their interior they consist of extensive tablelands, at altitudes from under 2433 to over 3650 m. There are two volcanic harras, with cones some of which rise to over 2743 m, in the Arhab district north of San'a and near Dhamar in central Yemen. The rocks of Aden are the remains of smaller volcanos. The southern Arabia Highlands enjoy a climate strongly differentiated from that prevailing in most parts of Arabia because it is everywhere, except on the coast, dominated by high mountains. These ramify into the Asir territory of the Saudi Arabian Kingdom to the north, and into Aden to the south.

East of the mountainous area lies the vast desert sea called the Ramlat Sabatain which extends as far east as the mouth of the great Wadi of Hadramaut. The northern side of this desert extends into the Rub' al-Khali, which lies beyond into the centre of Arabia.

Temperature in this region is the same as the rest of the Arabian desert; on summer days it is very hot and dry, at night it is cool and breezy. In winter days, it is warm but at night it is very cold.

Agricultural areas are to be found in the tablelands of the Highlands where rainfall is abundant, and in the wadis (valleys) wherever the seasonal floods can be controlled and the fresh silt collected. The wadis of the coastal area of western Yemen which range between 1219 and 2133 m, comprise the most fertile country in all Arabia, with a flora and fauna characteristic of the moist tropics and every kind of tropical produce.

1.2 Historical Background

The first knowledge of the history of Southern Arabia (fig. 2) comes to us from the records and chronicles of early historians and geographers. Relevant classical authors are; Herodotus (born about 485 BC), Strabo (born about 63 BC), Pliny (born about AD 23), and Claudius Ptolemy who wrote in the mid-second century AD (Doe 1971, 60). There are also allusions to the pre-Islamic period in the Old Testament, the Bible, and the Qur'an. One of the most reliable of numerous Arabic authors is al-Hamadhani, who wrote his book *al-Ekleel* in the tenth century AD. Apart from these early histories, very much more of pre-Islamic Southern Arabia has been revealed by inscriptions on stone slabs and rock faces found in the country itself.

The first European traveller to notice south Arabian inscriptions was C. Niebuhr, who was shown copies, in the Yemen in 1863 but he did not see the originals, J.R. Wellsted published part of

an inscription from Naqab al- Hajar (in Wadi Meifa'a, Eastern Aden) in 1843; Louis Arnaud examined the ruins at Ma'rib and copied many inscriptions in 1843; in 1869-70 Joseph Halevy collected about 700 copies from the north-eastern Yemen; Eduard Glaser during twelve years from 1882 obtained copies of some 2000 (Naval Intelligence Division 1946, 218), (Doe 1971, 60). E.Glaser was among the first to draw attention to the early Kingdoms of Southern Arabia in the Yemen.

Since Glaser's time, remarkable work by scholars specializing in South Arabian epigraphy has greatly increased our knowledge of the names of the ancient kingdoms and tribes, the relationship of ruling families, the deities worshipped and the prevailing customs. The sequence of events, however, often remains a matter for conjecture, because most of the inscriptions are very short and uninformative.

The study of inscriptions is nevertheless only one side of the research. Excavations at sites in Southern Arabia have not been numerous but each has added to our knowledge and understanding of the past. These include the expedition of H. Von Wissman and C. Rathjens, who excavated the temple of Huqqa, north of San'a in the Yemen, in 1932; Gertrude Caton-Thompson who excavated the moon temple and tombs at Huraidah, in the Hadramawt, in 1937 (Doe 1971, 62); and the American Foundation for the Study of Man under W.F. Albright and Wendell Phillips in 1950-52, excavated a portion of Timna' in Baihan, notably the temple and the South gate and buildings nearby, together with several other adjacent sites. Work was

also started by this expedition at the temple of 'Awwam, dedicated to the moon-god 'Almuquh at Ma'rib, the old capital of the Kingdom of Saba'. This expedition also dug in Hajar bin Humayd, the second largest city in Qataban. This expedition was under supervision of W.F. Albright. During the period 1975-1977 a French expedition under the supervision of J. Pirenne carried out some excavations in Yemen. The areas concentrated upon included Shabwa, ancient capital of Hadramaut, Baihan ancient Qataban, and in Ma'rib the capital of Saba' (Doe 1983;9). There are also the Germans who did some remarkable works in Yemen especially in Ma'rib .

1.3 The South Arabian Kingdoms

1.3.1 The problem of chronology

The information which is presently available records that there were five principal kingdoms in ancient Southern Arabia. These were: Saba), Ma'in, Qataban, Hadramawt, and Ausan. However, in reference to the history and chronology of those kingdoms we must consider the arguments which have been presented by scholars of ancient South Arabian studies. The best arguments are presented by J.Pirenne (1987-88, 116-120), where she divided the chronology of the Kingdoms into three datings; the long chronology, the short chronology, and the intermediate chronology. The discussion of each is as follows;

¹ These two references were published in German, so the reference has been made to an English text which is mentioned above to discuss their theory.

a- The Long Chronology

Edward Glaser (1879-97) and Fritz Hommel (1927)¹ were the first pioneers who reconstructed the history of Southern Arabia. They based the chronology on the kingdom of Sabá² by pairing the Sabaeans mentioned by the Assyrian Kings, with the Mukarribs referred to in the inscriptions. The Assyrian inscriptions mentioned that the Assyrian king Tiglath Pileser III received a tribute of gold, camels and spices from the Sabaeans in 745-727 BC; also Sargon II 722-705 BC, reports that in 751 BC, he received gifts from Yitha^(O)mar, a Sabaeen ruler (O'Leary 1927, 87; Doe 1971, 75; Muller 1987-88, 49). Thus, were assigned Sabaeen rulers, and Saba's monumental culture and its inscriptions to the 8th century BC.

Meanwhile other ancient Southern Arabian Kingdoms had been discovered and Glaser and Hommel dated them even earlier based on the fact that the Mukarribs were also mentioned in Qatabanian inscriptions. Since one of the kings of Qataban and a king of Ma⁽ⁱⁿ⁾ ruled simultaneously, they presumed that the kingdoms of Qataban and Ma⁽ⁱⁿ⁾ began earlier than 1000 BC According to this theory, Ma⁽ⁱⁿ⁾ ceased to exist in the 7th century BC, whilst Qataban existed side by side with Saba until the 2nd century BC. Then, around 115 BC, the Himyarites established themselves and styled themselves "Kings of Saba' and Dhu-Raydan". At the beginning of the 4th century AD, they had extended their power over Hadramawt and added to their title accordingly "Kings of Saba' and Dhu-Raydan and

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Hadramawt and Yamnan". These are the kings to whom Arab historians traditionally referred to as "Tababi'a, a plural of "Tuba(" (Beeston 1984, 5; Pirenne 1987-88, 116).

b- The short chronology

Jacqueline Pirenne is credited with being the first to exploit systematically the palaeographic evidence of the Minaean texts and the earlier Sabaeen and Qatabanian. She introduced and developed her arguments in her book La Grece et Saba' in 1955, and in her article 'The chronology of ancient South Arabia diversity of opinion' Yemen in 1987-88. This reconstruction is also supported by A.F.L. Beeston (1984, 5-6).

In her argument, Pirenne mentioned that the study of the inscriptions by Hommel (1927, 57-108) was based only on hand written copies made by Halevy, which give no idea of the true palaeographic characteristics. Pirenne's researches, based on photographs of all ancient Southern Arabian inscriptions kept in museums, found that the Minaean and Sabaeen inscriptions showed geometrically arranged monumental characters. This same pattern was also to be found for the oldest inscriptions, which were written bostrophedon, that is from left to right and right to left, and so on alternately. Pirenne believes that this is crucial evidence against the long chronology for the Southern Arabic script which is alphabetical.

In order to date the South Arabian alphabet, Pirenne gave an example of the development of alphabetic script starting from the Phoenician. As a historical fact, the alphabet originated in Phoenicia

and came into regular use about the 10th century BC. This is a persuasive historical argument. Pirenne illustrated a basic division of the alphabets which developed out of the Phoenician i.e. Hebraic, Ancient Arabic, Aramaic, and Greek. Hebraic and Aramaic date from the 8th century BC. The Greek also started from the 8th century BC, with the Corinthian example (Pirenne 1987-88, pl. I, 117). In the subsequent examples we can follow the development of the Greek alphabet from the 7th to 5th centuries, when a geometric style was adopted in which all the diagonal strokes that had been inherited from the Phoenician alphabet had been eliminated. The final stage consisted of styles from the 6th and 5th centuries.

Continuing her argument, Pirenne said that the characters used in Dedan in north-western Arabia present an important parallel of the ancient Arabian alphabets. This alphabet, which can be dated to the 6th century BC, shows a style clearly comparable with the Greek alphabet of the same century. The north Arabian script must have moved to South Arabia through a direct relation between the Arabs of the south and the Arabs of the north, mainly by the inland trade route from South Arabia and the Mediterranean. Of course there must be a short transitional phase between the 6th and 5th century BC, that allowed the script to take its South Arabian style. In a comparison between the Mukarrib inscription which Hommel regarded as the oldest of its kind (ibid. pl. IIc, 119) with its developed style, its geometric letters, its balanced shapes and distinct right angles, with the script in her plate I, Pirenne finds it logical to place this alphabet in the 5th century BC, together with the classical Greek alphabet which developed in the same style. According to this

argument, Pirenne believes that the oldest monumental Sabaeen inscriptions cannot be dated before the 5th century BC. She includes the Minaean inscriptions, which palaeographic evidence suggests existed roughly at the same time as the Sabaeen inscriptions. The same applies to the Qatabanian inscriptions, the oldest forms of which are in fact distinctly younger than the oldest forms of the Sabaeo-Minaean style.

Pirenne's second argument is that the Greek and Latin sources mention the southern Arabian Kingdoms only from the 4th century BC, and they mention them in conjunction. For this reason it will have to be accepted that the monumental culture of Saba', Ma'in, and Qataban did not exist prior to the 5th century BC.

Pirenne's third argument is the study of the oldest Sabaeen coins. They contain a depiction of an owl in imitation of the Athenian drachme (ibid. pl. III). With the cessation of the Athenian hegemony in 412 BC, Athenian coinage became rare. Local coinage in the east as far as India from the middle of the 4th century copied the Athenian model. If we accept that the monumental culture of the Sabaeans prevailed for the most part in the 4th century BC, then this fits fairly well with the economic history of the Near East. It is impossible for the Mukarribs to have minted the Athenian-type coins three centuries before the original was made. Equally, Pirenne suggests that it seems quite inconceivable that a great civilization of the kind demonstrated by the Mukarrib monuments existed without the use of coins, and then suddenly copied Athenian coinage.

The final argument of Pirenne is a comparison of the huge

architectural monuments at Ma'rib with monuments elsewhere dating from the 8th to 5th centuries BC. She found that Sabaeen architecture does not compare with the architecture of the 8th or 6th BC elsewhere. However, the general appearance of the massive construction of the Sabaeen Mukarribs can be compared with Persian and Phoenician architecture of the 5th century BC. Pirenne therefore suggests that the monumental culture of Saba' and Ma'in should be dated no earlier than the 5th century BC.

c- The Intermediate chronology

This theory was developed by the archaeologists of the American Foundation for the Study of Man. They excavated at Timna, the capital of Qataban; Hayd bin Aqil, the cemetery of Timna; Hajar bin Humayd, the second largest city in Qataban, and finally in Ma'rib (Bowen, Albright, *et al.* 1958). Their findings were published in several articles and at the Orientalists Congress in 1954. They proved that Qataban and Ma'in could not be dated prior to the Kingdom of Saba', and that they were at the height of their prosperity in the mid-Hellenic period. In view of this the Americans were in agreement with Pirenne. However, following Glaser and Hommel they dated the Sabaeen empire to the 8th century BC (Pirenne 1987-88, 118).

Concerning the Long Chronology, it is not very convincing to base a chronology on one single document which is a hand written copy of the inscriptions which give no idea of the true palaeographic characteristics (GL 1703), and moreover is of uncertain interpretation. It seems acceptable and logical to support Pirenne's

theory of the Short Chronology for the time being, where we do not have any new archaeological evidence which could change this theory. The arguments against the Long Chronology remain valid; the development of the alphabet, the coinage, the references to Greek and Latin authors, and finally the comparison of the developments in art and architecture, which likewise place the civilization of the Mukarribs of Saba' in the 5th century BC. For the intermediary chronology theory, the first part of which proved that Qataban and Ma'in could not be dated prior to the kingdom of Saba' is acceptable. It can be fit under the same evidences of the short chronology theory.

1.3.2 The Kingdom of Saba'

This was the oldest and most powerful state in ancient Southern Arabia. Pliny described the land of Sabá as extending from shore to shore and so having part of the Red Sea coast curving round the whole of the land frontier of the Qatabaneans (O'leary 1927, 86). Ma'rib was the capital. it lay on the edge of the desert in the dry delta of the Adana wadi, about 100 km east of San'a (now the capital of the Yemen Arab Republic), and about 1200 m above the sea level. It was the nodal point on the trade routes connecting the frankincense lands with the Mediterranean ports, and the north-east of Arabia. The title of the Sabaeen kings which is found in their inscriptions was "Mukarrib Saba" (the priest-king of Saba'), (Hitti 1953, 54). A report of royal deeds, probably relating to the Sabaeen ruler Yita'amar Bayyin indicates that the Sabaeen empire extended from Najran to the Indian Ocean. In this inscription the Minaeans are mentioned for the first time. Other inscriptions of Sabaeen rulers mention the

extention of Saba' by establishing colonies across the sea in Abyssinia (Muller 1987-88, 49).

Saba' was the oldest and most powerful and wealthy state in ancient Southern Arabia. The economy of Saba' as described by Pliny in his Natural history (Doe 1971,74) was based on agriculture, the producing of frankincense and myrrh, gold, honey and wax. However, the Sabaeans owed their enormous wealth to trade with distant nations, including, the transit of all goods shipped westwards from India. This trade passed through the Southern Arabian ports of Qana and Aden, from where it went by caravans along the frankincense routes to the Mediterranean (Daum 1987-88,12). While the Short Chronology (as mentioned above) places the beginning of Saba as a kingdom no earlier than the 5th century BC, the end of the Sabaeon era could be fixed when the Himyarites had established themselves in about 115 BC (Hitti 1953, 55; Doe 1971, 78; Pirenne 1987-88, 116).

The great dam of Ma'rib (*Sadd Ma'rib*) is a massive indication of the strength and power of the Sabaeon kingdom. It is the greatest technical structure of Arabian antiquity and the wonder of Arabia. This dam figures prominently in Arabic tradition. Its actual remains exist a few miles south of Ma'rib. The final collapse probably happened around 600 A.D (Daum 1987-88, 10). That collapse is described in the Qur'an (Surah 'Saba' no. 34 verses 14-15), when God sent a great flood (Sail al-Arim) as a punishment to Saba', which destroyed the dam and then the tribes of Saba' scattered in Arabia. The dam wall was first just a huge bank of earth about 500 m long, faced later with stones set in mortar on the upstream side. The great

dam controlled the largest of the water courses of the Yemeni uplands (where the two rainy seasons allowed irrigation twice a year) as it entered the eastern desert, thus providing irrigation for an area of about 25,000 acres.

1.3.3 The Kingdom of Ma'in

The centre of Minaean territory was the large river oasis extending to the north-west of Ma'rib and known since the Islamic period as al-Jauf. Karna or Qarnawa in the southern al-Jauf was the capital of the Minaeans.

Strabo (trans. by Jones 1930) quoting Erasthones, mentioned that the Minaeans were contemporaries of the Sabaeans, Qatabanians, and Hadramis. In that description Ma'in was in the north, Saba' lay to its south, Qataban still further south, and Hadramaut lay to their east. Ma'in became completely independent towards the end of the 5th century BC. Inscriptions found on the west gate at Karna dates the beginning of the early Royal Minaean dynasty at about 400 BC (Doe 1971, 69). In the following century Ma'in entered a long period of economic prosperity. During this period the Minaean empire controlled most of the long trade route which the caravans took on their way to the Mediterranean. To protect this route the Minaeans established a colony far out in the north-west of Arabia, in an area called al-'Ula in the oasis of Dedan. In that area many Lihyanite (i.e. the local script) and Minaean inscriptions have been found (Winnett, 1939). The Minaean trading colony in Dedan must have been in control of the northern part of the incense route at that time. It seems that Ma'in reached the height of its power in the

first half of the third century BC, and lost its independence in the last quarter of the second century BC, when a shift of power took place. The Minaean empire and parts of western Qataban had been conquered by the kingdom of Himyar. For when Strabo described the expedition of the Roman leader Aelius Gallus in 25-24 BC (Doe 1971, 70; Muller 1987-88, 50) he did not mention the city of Karna the capital of Ma'in.

1.3.4 The Kingdom of Qataban

The Qatabanian Kingdom was for centuries a neighbour to the south-west of Saba'. The capital city was Timna', now also known as Hajar Qulan (Kulan) in the wadi Baihan. Strabo described this kingdom as occupying the extreme south-west corner of Arabia by the narrow strait which forms the entrance to the Arabian Sea (Bab al-Mandab).

At about the same time as Ma'in, around 400 BC, Qataban was able to become an independent state and to free itself from the Sabaean bond (Muller 1987-88, 50). Qataban reached the height of its power in the third and second centuries BC where it extended its territory as far as the Indian Ocean in the south. That expansion gave Qataban the chance to control the coastal trade (Doe 1971, 70; Muller 1987-88, 50).

In his translation of some Qatabanian inscriptions collected from Aden and its vicinity, Glaser found the names of eighteen rulers, whose title was Mukarib (Doe 1971, 70-71). It seems that Qataban also lost its supremacy about 115 BC when most of its territory was

taken over by the Kingdom of Himyar. However, the date of the end of Qataban as a kingdom is not clearly defined. It is interesting in this context to note what Doe (1971) said about that:

“The date of the end of Qataban as independent kingdom and the destruction of Timna’ have not been decided finally. On the basis of postsherds at Timna’ its destruction has been placed at around AD 10.

H. Von Wissman says that the destruction must have taken place between AD 90 and 100, in the time of Sahr Hilal Yuhagbid, and Timna’ was mentioned as a capital city of the Gebbanitae (Qatabanians) in the first century AD by Pliny.

Timna’ was certainly destroyed when the capital of Qataban seems to have been moved south to the site of Hajar bin-Humaid. Here the Royal palace of nabat Yuhan(in, son of Sahr Hilal, was called Harib; but the ancient name of the site is not yet known”.

1.3.5 The Kingdom of Hadramaut

The Kingdom of Hadramaut was situated to the east of Qataban in the land which is still known until the present time as Hadramaut in Southern Yemen. The earliest references in Sabaean inscriptions around the 5th century B.C described Hadramaut as an ally or vassal of the mighty Sabaean empire (Breton 1987-88,114). In about the 4th century BC, Hadramaut became an independent kingdom, and its full extent seems to have included the frankincense growing Dhufar (Zafar) region (Muller 1987-88,50). Then Hadramaut became the main supply for the trade caravans which ran directly through Shabwa, the capital city, through Qarnaw (Karna) the capital city of Ma’in as well as through Ma’rib the capital of Saba’.

Shabwa is situated at the mouth of the Wadi Hadramaut on the edge of the Saihad desert. According to Pliny the town was built on a

high hill, a march of eight days away from the incense-producing region of Sariba. He says it held sixty temples within its walls (Breton 1987-88,111).

Shabwa's position as a capital and a caravanning centre also required it to supply food for its inhabitants as well as for the visiting merchants and their animals. However, Shabwa is a desert settlement with no natural water resources. So the town depended for its existence on artificial irrigation controlling the waters from Wadi Irma. The water from the tributary canals was channelled into the fields through a system of successive distributors and small stone steps. The water which was not needed at any particular time was collected in stone basins or reservoirs in the upper regions of the wadi (Breton 1987-88,114).

As a result of an archaeological expeditions held by the French at Shabwa in 1974 Breton (1987-88,115) suggests that Hadramaut reached its real wealth in the 1st century AD, when Indian and Roman ships landed at Qana bringing their goods to Shabwa. He also mentions that Ryckmans considers the reign of Il'azz Yalut (first quarter of the 3rd century AD) as the peak as well as the end of the realm of Hadramaut.

1.3.6 The Kingdom of 'Ausan

The country of 'Ausan was extended by Bab al-Mandab along the coast to Ahwar and inland as far as the borders of Qataban south of Bihan.

The kingdom of 'Ausan was described as being a client

kingdom held by Qataban from the end of the fifth century BC (Ali 1952,93; Doe 1971,73). The capital city of 'Ausan was Miswara (mentioned in the inscription RES 3945, Glaser 1000A) south of Wadi Baihan.

'Ausan was one of the great trading kingdoms which rivalled Saba'. It was probably built on an extensive trade with the east coast of Africa as far south as Pemba and Zanzibar.

How long 'Ausan had been trading to built up such a reputation is not known. It is suggested that whereas Saba' had been primarily concerned with the land routes for trade to the north and north-east, 'Ausan may have been the supplier to this route from the sea trade with Africa. But from a client position it had grown to power and independence, and Saba' could not ignore this threat (Ali 1952, 95-99).

The last king of 'Ausan as an independent kingdom was Martawa. He was the ruler of 'Ausan and all its dependent states at the time of the conquest of his kingdom by Karib'il Watar, the king of Saba' in about 410 BC. In his expedition on 'Ausan Karib'il Watar destroyed the temples of Miswara, and the towns were burnt and sacked; about 16,000 people were killed, and 40,000 captured (ibid).

This small kingdom did not give us a great deal of inscriptions; it is known to us almost entirely from its alabaster statuettes. The alabaster statuettes are of members of the royal family who ruled 'Ausan and their names which were written on the base of the statue show the possibility of a dynastic series (ibid; with Doe 1971,74).

1.3.7 Summary

The chronology of the South Arabian kingdoms as a powerful and independent states could be fixed in a frame work that started from the 5th to the 1st centuries BC. It seems that the Sabaeans, Mīnaeans, Qatabanians, and Hadramis were contemporaries. The first three kingdoms lost their independence in about 115 BC when the Himyarites established themselves as a new power in the area. The Kingdom of Hadramaut had maintained on its independence up to the 3rd century AD. For the kingdom of 'Ausan it was different; this kingdom had managed to live independently only for a short time. That time could be fixed between the 5th and the 3rd centuries BC.

Part 2: Arabia during the Hellenistic period

2.1 Alexander and Arabia.

The term Hellenistic is used by Arabian Gulf (Persian Gulf) archaeologists to determine a long time-period which began in the time of Alexander's conquest of the east, although there is some disagreement in determining the end of that period. Some archaeologists see its termination at the beginning of the Parthian influence over the Gulf area early in the 2nd century BC (Potts *et al.* 1978, 10-13). Other archaeologists are inclined to end the period with the rise of Islam (Salles 1987, 76).

The first suggestion is more acceptable here since both the Parthian and Persian period were two major eras in Persia and the

Gulf: they had their own culture and civilization and could not be classified under the term Hellenistic.

The first contact between Arabia and the Greek world was in 323 BC the final year of Alexander's reign. After his great victory over the Persians and their king Darius at Gaugamela, north of Iraq, in 331 B.C, (Bosworth 1988, 74-84) Alexander went to Babylon which became his new capital.

Babylon's location (the Babylonian capital) by the Euphrates gave it the advantage of being a communication centre with other countries; India, Arabia, and Persia in the south by sea, and Asia Minor and Phoenicia in the north by the river Euphrates. Alexander was probably aware of its advantageous position when he chose Babylon as his Eastern capital.

On his return journey from India to Persia, Alexander wanted to explore the Persian coast of the Gulf. He sent one of his commanders, Nearchus, as an admiral of that voyage (Arrian, II, 1814, 220-43). Nearchus sailed from the river Indus to the Arabian sea, the gulf of Oman, and then the Persian coast of the Gulf until he reached Susania (Susa) in Persia. The mission of Nearchus was to reconnoitre the coast, the inhabitants of the coast, its anchorages, water supplies, and the manner and customs of the people, and to discover if any part of the coast was fertile or not. The success of Nearchus's voyage turned Alexander's attention to the Gulf and this time towards Arabia. He took steps to ensure better communication between Babylonia and the sea by removing the Persian barriers to free navigation of the Tigris and he found an Alexandria on the

Arabian Gulf, which is known later as Charax-Mesene and became an important trade centre. As a conqueror, Alexander's ambitions did not stop on what he had already achieved. He started looking towards Arabia. Arabia was a large market which produced and sold the frankincense and myrrh which were important to the ancient world. Alexander may have heard about the wealth of Arabia from traders who were coming to Gaza (on the Mediterranean Sea) after its fall in the hand of his army, so he decided to conquest Arabia. It seems that Alexander plan was constructed with two aims; 1- to complete the sea-route from India to Egypt by exploring the section between Babylon and Egypt, since he had already explored the sea-route between India and Babylon. 2- Alexander may have known that most of the wealth of Arabia, in addition to its own production of frankincense and myrrh from its southern parts, was coming from trade with India and Africa. It seems that Alexander and his commanders must have heard of the difficulty of penetration of Arabia overland because of seas of deserts which could destroy any army that dared to enter it. So he decided to attack Arabia from the sea where he could control strategic points easily with a minimum cost and loss of his army (Ali, II, 1969, 10-11).

For those purposes Alexander planned an expedition under his command along the Arabian coasts. He ordered a few larger warships including qiqueremes to be built in sections in Phoenicia², which were carried to Thapsacus³, and floated down the Euphrates. During

² Since Phoenicia was famous of its sea-ship-builders.

³ A city on the Euphrates in the far north of Syria.

the preparation of the expedition Alexander attempted a preliminary circumnavigation from both sides; he sent a ship south from the Gulf of Suez down the Red Sea which reached the incense land of Yemen and heard of the Hadramaut. Three triaconters were sent down the Arabian Gulf, one under the command of Archias and one under the command of Androstenes (Arrian II 1983, 495-525). Alexander was informed of two islands out at sea near the mouth of Euphrates, Icarus which is now known as Faylakah Island in Kuwait, and Tylus which is now known as Bahrain Island (Bibby 1984, 335). This was told to Alexander by Archias who reached the island Tylus, though he did not venture further. Androstenes sailed round part of the Arabian peninsula until he reached Ras Musandam in Oman; but of all those sent off, it was Hieron of Soli, the steerman, who went further, even, though his sailing orders were to travel round the whole Arabian peninsula to Suez, following the Arabian coast of the Arabian Sea until he reached the Red Sea on the Egyptian side at Heroonpolis. He did not dare to go further, though he had sailed around the greater part of Arabia, but turned about and reported to Alexander that the peninsula was great in size and nearly as large as India and that a headland ran far into the great sea.

In the midst of his preparations for the Arabian expedition Alexander was struck down by a fever, which his constitution, weakened by over-exertion and wounds, could not throw off. For some days he continued his preparations and discussed the coming expedition with his generals, until he became too ill to move. A few days later Alexander died. He died in the month of June 323 B.C; he was about 33 years old. The project was then cancelled (Bury, *et*

*al.*1927, 22).

2.2 Selucids and Arabia.

The catastrophe of Alexander's early death exposed the weakness of the political structure of his great empire. There was no heir competent to take the throne nor any will or personal testament.

Soon after Alexander's death at Babylon those of his generals who were with him there formed themselves into a council of state to decide on the succession to the throne. They had chosen Perdiccas to be a successor of Alexander. Perdiccas did not last long since he was assassinated by some of Alexander's generals, amongst whom were Ptolemy son of Lagus, founder of the Ptolemaic dynasty of Egypt, Antigonus the One-Eyed, founder of the Antigonid dynasty in Macedonia, and Seleucus founder of the Seleucid dynasty of Syria (Davis *et al.*1973, 137-38) who at his death was the ruler of an empire reaching from Macedonia and Thrace across Asia to the confines of India. He and his successors conquered and built the so called the Seleucid Kingdom or empire in the east i.e. Syria, Asia Minor, Mesopotamia, and Persia. That was a long a period from 312 BC when Seleucus became a ruler of Babylon to 68 BC when Antiochus VIII had been defeated by the Romans at Nicropolis in Pontus.

The relations towards Arabia remained indifferent until the reign of Antiochus II, the seventh Seleucid king. In 205 BC Antiochus II decided to conquer Gerrha on the Eastern coast of Arabia, and to

⁴ Satrapy: one of the administrative units of the Achaemenid empire, eg., Lydia, Media, Bactria.

2.2.1 Seleucids policy in the Arabian Gulf.

The economic and trading interests appear to have decided the policies of the Seleucid monarchs in the Gulf, far more than either the memories of Alexander's glorious eastern campaigns or any genuine plans to colonize. During the Seleucid period, many colonies were founded in different parts of the Seleucid Kingdom. Tarn (1929, 11) identified a deliberate policy of colonization by drawing on the evidence of Seleucid foundations at Larisa, Chalcia, and Arethusa on the Arabian side of the Gulf, Seleucia, and Antioch-Persis on the Persian side of the Gulf (Salles 1987, 89-90).

Seleucids had noticed the importance of the trade routes to and from India and the Arabian peninsula especially the sea-routes. They gave great concern to the maintenance of the sea-routes, which could explain the policy to found those colonies in the Gulf. That could be the reason of the choice of Seleucia-Tigris as the Mesopotamian capital by Seleucus I: not only the strategic location of the province at the centre of the empire, but also its role as the terminus of the Indian trade routes which Alexander wanted to conquer. The city was located at the cross roads of important overland routes leading east to the upper satrapies⁴ and west to the Eastern Mediterranean (Antioch), and was also a redistribution centre for merchandise imported through the Gulf.

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⁴ Satrapy: one of the administration units of the Achaemenid empire, eg., Ionia, Media, Bactria.

secure control of the Gulf trade (Potts *et al.* 1978, 10-11). The town of Gerrha is described by Strabo and mentioned several times by classical authors; its wealth was legendary and derived from the caravan-trade along which South Arabian products were brought from Ma'rib to the east coast (see section III below). However, Antiochus II seems to have been unimpressed with the barrenness of the territory surrounding the town. He decided to exact tribute instead. Thus the people of Gerrha bought their freedom in exchange for an insubstantial partnership with the Seleucids, who in turn precluded Greek merchants from sailing the Gulf as Competitors (Cook, *et al.* 1930, 142). According to Salles (1987, 96), the Gerrhaeans had relations or worked in some way with both, the Seleucids, and the Ptolemies. Their frankincense is mentioned as being present in Ptolemaic ports of Syria as early as 261 BC and the Gerrhaeans enriched the Syria of the Ptolemies. Salles also reported that Rostovtzeff (1951, 458) supposed that Antiochus III's visit to Gerrha could be regarded as a renewal of friendly relations and it could be an attempt to impose a Seleucid alliance on the Gerrhaeans and also to draw them away from the Ptolemaic trade.

It seems that Gerrha reached its culmination of development during the third century BC when all east-west trade was diverted through it (Doe 1971, 50,67). The town was by no means the only one to flourish under those thriving conditions, as construction increased and population expanded. There is no doubt that it was the capital of a large province, utilizing its influence along the coast, and probably also inland.

Part 3: The ancient inland trading routes in Arabia

3.1 The domestication of camel and the great trading revolution in Arabia.

By the first millennium B.C the peoples of Southern Arabia were no longer nomads in the true sense and tribes had already achieved and developed a sedentary culture. The domestication of the camel was one of the most significant economic developments of the ancient Middle East. It enabled tribal groups to move into and pass through arid areas. Likewise raiding and warfare were undertaken over previously impossible distances. However, most importantly the domestication of camels enabled heavy loads of goods to be carried for long distances through waterless and hard tracts: camels can remain without water for days in hot summer and several weeks in winter (Groom 1981,33).

The camel was used in Oman peninsula during the 2nd half of the 4th millennium B.C and it effectively domesticated there by the 2nd millennium B.C (Groom 1981,34). Professor W.F. Albright (1949,206-7) noted that the first historical evidence for the camel, as a significant influence in the biblical lands was to be found in reports of the raids of the camel-riding Midianites from north Arabia into Palestine around 1100 B.C. Also he found that the earliest reference to the Arabian camel in a cuneiform text from Mesopotamia dates to the ninth century B.C (Groom 1981,33-5).

In his conclusion Groom (1981,36-7) suggests that at the end of the third millennium B.C, camels from South-East Arabia found

their way through the east border of the Empty Quarter desert to East and North-East Arabia. Also they may have travelled through the south and west borders of that great desert to South-West Arabia, West Arabia, and North-West Arabia.

As a consequence of camel domestication a great camel caravan system was created which revolutionized the trade and communications between Arabia and the civilized world (Doe 1971,50).

3.2 South Arabia and early trading activity

The south Arabian civilization owes a great deal to the caravan trade. This trade linked the South Arabian centres of incense production with its markets around the Mediterranean Sea and its markets in the east, Gerrha, and Mesopotamia. A large network of direct routes, which did not meander from water hole to water hole was established and the pace of trade quickened (Audouin, *et.al.* 1987-88,63; Doe 1971,51). In addition to frankincense and myrrh, the caravans from South Arabia carried luxury goods from the countries further east; spices including cinnamon from India, silk, fine cloths, and precious stones from China were brought to South Arabian ports (Doe 1971,52).

The South Arabian inscriptions which mention this trade are rare. An inscription belonging to the 4th/3rd century B.C, on a straight section of the city wall of Baraqish mentioned this:

(Amisadiq...and Sa'id..., leaders of the caravans, and the Minaean caravans who had set off in order to trade with them in Egypt, Syria and beyond the river...at the time

when (Athtar dhu-Qabd, Wadd and Nakrah protected them and their property and had warned them of the attacks which Saba' and Khawlan had planned against their persons, their property and their animals when they were on their way between Ma'in and Rajma (Nejran), and of the war which was raging between north and south, and at the time when (Athtar dhu-Qabd, Wadd, and Nakrah protected them and their property when they found themselves in the heart of Egypt during the war between the Medes and the Egyptians, and (Ahtar dhu-Qabd guaranteed to them and their property peace and indemnity until they returned to their town Qarnaw...) (Audouin *et. al.* 1987-88,63).

In the early stages of their existence camel caravans were threatened along the routes by nomadic tribes who constantly attacked them. However, with an increase in caravan numbers and the value of the trade, the tribes changed their tactics and determined a regular toll system. The toll system enabled the caravans to pass through their territory safely. As a result, towns and cities along the trade routes were fed by the wealth of the commerce that passed through their gates. In some places along the routes a number of cities were large enough to form a city state linking themselves together in a protective federation as a security against the nomadic groups which continued to dwell in the desert (Doe 1971,51).

3.3 The major routes

We are concerned here with two major routes (fig. 3) which are repeatedly referred to in the works of the ancient geographers such as Strabo (Jones, trans.1930), the Arab geographer al-Hamadani (Faris, trans.1938), and the geographers and travellers of the last one hundred years such as Hogarth (1904,1908), Amer (1925), Philby (1920;49;50), O'Leary (1927), and Thesiger (1959). The first route is Ma'rib-Nejran-Gaza, the second is that which connects Ma'rib-Nejran with Gerrha on the East coast of Arabia.

3.3.1 Ma'rib-Nejran-Gaza route

The caravan trails depended as much on the political situation and trading connections as on the geography of the area. In order to make one's way from the main centres of production to the markets (Mediterranean Sea), one had to avoid the mountains as far as possible and, at the same time find enough water and food for men and animals. There was in effect only one trail in South Arabia which achieved all these requirements: from Shabwa, the route passes through the desert, following the Yemenite Mountain ridge to Timna). From Timna) via Ma'rib, and Baraqish, to Nejran⁵. The incense route from Nejran seems likely to have been closer to the eastern edge of the central desert where it was less rocky and hence more suitable for camels. North-east of Nejran the route reached Tabala in the modern region of Bishah in Saudi Arabia. From Tabala the route reached Yathrib (which is now al-Madinah al-Monawarah) after skirting round the great lava fields of Central Arabia. Groom suggests that the incense route seems unlikely to have gone through Makkah which lies near the coastal side of the northern tip of the mountain range stretching upwards from Yemen (1981,192-93). He also suggests that there was access from the present day town of Turabah to Makkah for the local trade. We know from the Quran (Surah Quraish 106) that the tribe of Quraish, who lived in Makkah, had two annual trading trips before the Islamic period; one in winter to Yemen, and one in summer to the Sham (Syria). From Yathrib the

⁵ Being on the trade route could be the strongest reason why those capitals were situated in the rather arid lower land instead of the rich and fertile Highlands of the Yemen.

main route seems likely to have followed what was to become the Islamic Pilgrim route as far as the Lihyanite capital of Dedan, (now al-'Ula) and the town of Hijra (now Mada'in Saleh) close by (Groom 1981,193). Because of extensive lava fields, the route from Hijra to Petra seems likely to have been that followed by the Hijaz railway through Muazzan, Tabuk, and Mudawarah in north-west Saudi Arabia. The route then went from Petra to Gaza on the Mediterranean Sea (Groom 1981;194,204).

3.3.2 The Nejran-Gerrha route

Strabo (Geog. xvi 4,4) mentions that (the Gerrhaeans arrive at Chatramotitis in forty days), but he did not give any indication of the route taken. Hogarth (1908,551) considered the exploration of this route to be (the biggest feat left for a traveller to perform in Arabia perhaps in all Asia). After Hogarth, Philby passed through that route in 1917-18 (Philby 1920). In a trip from Riyadh to al-Fau, Philby followed closely the same route. Following Philby, Amer (1925;5,133) suggests that the route which came from Ma'rib to Gerrha followed a natural line of oases beginning in Ma'rib and including Wadi Nejran, Wadi ad-Dawasir, al-Aflaj, and al-Kharj (al-Yamanmah), at which point the route turned eastwards, crossing to the Arabian Gulf and Gerrha. According to him this follows a route used at the beginning of this century by Yemeni and Nejd coffee traders. Philby (1949, 86-92) mentioned that the route from Nejran was passed through a set of wells called Hima, al-Fau, Ain al-Hisy (a water hole), and Sulayel before heading to al-Aflaj, al-Kharj, and Gerrha. Philby also interpreted Qaryat al-Fau as (evidence of Sabaeen penetration into

the interior of Arabia, presumably for the protection of trade routes and communications with the eastern settlements). However, the results of the excavations at Qaryat al-Fau suggest that this important site can be dated from the 1st to the 5th centuries A.D (al-Ansary 1982,28-9). So those Sabaeans that Philby referred to could be the Himyarites who did exist by the last quarter of the 2nd century B.C and styled themselves as (kings of Saba' and dhu-Riydan and Hadramaut and Yemen) (Pirenne 1987-88,116). Philby supported his evidence of that penetration by Sabaean inscriptions found in Wadi Masil, south-west of Riyadh in the very heart of Arabia (Philby 1950,214).

It seems that the Gerrhaeans were wealthy and well-known people to the ancient writers. Pliny in his description of the Arabian Gulf in Natural History (book 6 ch.32,sec.147) refers to Gerrha by saying;

(the bay of Gerra and the town of that name, which measures five miles round and has towns made of square blocks of salt).

Strabo in his Geography (book 16 ch.4 sec.19) quoting Artemidorus (1st century B.C ?) described the wealth of the Sabaeans and Gerrhaeans by saying;

(from their trafficking both the Sabaeans and the Gerrhaeans have become richest of all; and they have a vast equipment of both gold and silver articles, such as couches and tripods and bowls, together with drinking-vessels and very costly houses; for doors and walls and ceilings are variegated with ivory and gold and silver set with precious stones).

Although Artemidorus could be exaggerating in his description of their wealth, but at least it reflects how important and

wealthy were those two nations in Ancient Arabia. In spite of what was said about Gerrha, its site remains unknown at the present time⁶. From Gerrha a sea route was taken to the head of the Gulf and thence to Babylon and the upper Euphrates.

There would seem to be no need to question the authenticity of the route posited by Amer and others, as it finds verification not only in the writings of the early geographers, but in the experiences of more recent travellers who made journeys in Arabia. For the Southern half there is effectively one choice of route; the Empty Quarter and the mountains leave only a narrow channel, and there is a chain of widely spaced water sources along that channel. Yet a careful tracking of the entire route from South Arabia via Nejran to the Arabian Gulf coast, and archaeological excavations at those major settlements on the route would undoubtedly reveal much more evidence about the nature of the route. This would be a major contribution to understanding the history of the route, and the history of Central Arabia in particular, during the latter half of the 1st millennium B.C. In this context the work at al-Fau and the new excavations at al-Ayun site in al-Aflaj area represent a beginning of the historical investigation of this vital artery of trade and cultural interchange.

3.4 The decline of trade in Arabia

As witnessed by the ancient sources such as inscriptions and ancient writers, incense was used widely in the ancient world as an

⁶ see appendix 1.

important part of religious ceremonies; in temples, holy places, palaces, and even in people's houses. The unique source of incense was South Arabia. So incense became the main source for trade with the world and it gave South Arabia the wealth that it had for centuries. But as early as the fourth century AD incense markets began to collapse. There are three reasons that could be the cause of the collapse. One reason was the spread of Christianity in the Roman Empire, and the conversion of the Emperor himself. Until about the middle of the fourth century AD no incense was used at all in the ceremonies of the church and by the end of the century the Roman Emperor Theodosius had forbidden pagan practices. The second reason for the collapse was the weakening of the Roman power, which led to insecurity along the incense route to the Mediterranean Sea. The third reason was the wars between the South Arabian States. However, the over-land trading routes continued only on a very much reduced scale (Groom 1981,162).

3.5 Summary

It seems that the domestication of camels invented a great revolution in trade caravans between South Arabia and its markets in the ancient world. The wealth of the commerce which the trade caravans brought with them, formed city states along the trading routes through Arabia. There were two major routes which linked the South Arabian ancient centres with its markets in the north and the east. The first route was that from Ma'rib via Nejran to Gaza on the Mediterranean Sea. The second route was that from Ma'rib via Nejran to Gerrha on the Arabian Gulf. There were three reasons for

the collapse of the incense trade in Arabia. One was the spread of Christianity in the Roman Empire in the 4th century AD and the prohibition of the use of incense in churches by the Emperor Theodosius. The second was the insecurity along the route which caused by the weakening of the Roman Empire. The third was the wars between the South Arabian States themselves.

1.0 Introduction

We know relatively more about the chronology of human settlement in Eastern Arabia than in any other part of Arabia. Several factors are responsible for this, not least among them being the strategic location of this region that is the early centres of civilization to the north and east. Accumulating archaeological evidence suggests that Eastern Arabia played a decisive role in cross-cultural contacts during the third millennium BC (Masry 1977, 11), a period in which the growth of civilization in Mesopotamia and the east was at its height. Overlooking nearly 1200 km of coastline along the Arabian Gulf, Eastern Arabia could well have controlled the traffic in long distance trade among those civilizations which existed 5000 years ago.

In a preliminary report on the first phase of the comprehensive archaeological survey programme of the Eastern province in Saudi Arabia in 1976 (Adams *et al.* 1977, 26), and a further study in a second phase of the same province in 1977 (Potts *et al.* 1978, 7-14) the chronology of Eastern Arabia in general was divided into four major periods:

The first period corresponding to the Ubaid civilization as recognized in Mesopotamia, probably coincides with at least the latter

Chapter III

Hellenistic sites in Eastern Arabia

1.0 Introduction

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- The first period corresponding to the Ubaid civilization as recognized in Mesopotamia, probably coincides with at least the latter

part of the fifth millennium BC. More or less permanent settlements of this age are found in widely scattered locations such as Abu-Khamis, Dawsariyya, and Ayn Qannas (Potts *et al.* 1978, 8). Some of those settlements are of considerable size and with denticulated flint sickle blades suggesting to an extent reliance on cultivation. They occupy a broad band between the al-Dahna desert and the Gulf coast, extending southeast to the margins of the Empty Quarter.

- The second period is the third millennium occupation in the area which witnessed the growth of coastal trading network. Towns in Eastern Arabia communicated closely not only with Mesopotamia but with regions perhaps as remote as the Indus valley. Many sites of this period were located such as Bahrain tumuli, Dhahran tumuli, Abqayg, Hufuf, and Yabrin (Potts 1978, 8-9).

- The third period witnessed the intensification of Indian ocean trade in Hellenistic (Seleucid)-Parthian-Sasanian times. During the Hellenistic and Seleucid times at the end of the first millennium BC a regular and substantial caravan traffic was established between a still unlocated Arabian port at Gerrha on the Gulf coast and South Arabia, and the circum-Mediterranean world (see ch.II part III). There are a few sites of that period such as Thaj, Salt mines, Ayn Jawan in Saudi Arabia, Failaka in Kuwait, ed-Dour and Mleihah in United Arab Emirates, and Qala'at al-Bahrain city V and Janussan in Bahrain (Potts *et al.* 1978, 10; Salls 1987, 78-9). In the Parthian period (164 BC - 224 AD) archaeological evidence is meagre. According to Colledge (1967, 18) and Cook *et al.* (1932, 578 ff) the Parthians during the second century BC began to exercise control over the Seleucid kingdom. By the first century

BC the Parthians had consolidated all former Seleucid territory as they did with the other minor kingdoms in the region. This new and dramatic impulse directly affected the settlements in the Eastern Arabia. Colledge also suggests that although there is no record of Parthian attacks on Arabia, the Parthian sphere of influence clearly included both Gulf coasts.

By the year 224 AD a new power appeared on the Gulf when the Sassanian empire displaced the Parthian. There was an attempt by Ardashir I (224-241 AD) to control Gulf trade when he crossed from Iran and subdued the Arabian coast and Bahrain (Potts *et al.* 1978, 12). Shapur II and in a retaliation for Arab raids on the Persian coast invaded Arabia in the early fourth century AD where he landed in Eastern Arabia before he marched across the whole Arabia (Potts *et al.* 1978, 12).

- The fourth period started when the area was significantly involved in the stirring events during and immediately following the rise of Islam in the late 7th century AD.

In the following parts of this chapter we will be dealing only with the third period of this chronological division where Eastern Arabia was involved in relations with Hellenistic and Seleucid period during the late 4th to the late 1st centuries BC. The discussion in this chapter will focus on those sites (fig. 4) which have excavation results. Those which only have survey materials will not be dealt with.

2.0 Geography

Eastern Arabia in general is a low-lying coastal plain with no mountains (except the Green Mound in Oman). It rises gradually

westwards from the shallow waters of the Arabian Gulf towards the Tuwaiq escarpment with some 400 km in land where the high lands of Central Arabia begin. Along the coast there is a discontinuous belt of sand dunes, within which there lies a broad extent of salt-flats which is locally called *sabkha*. To the west of those dunes and salt-flats there exists a band of small rocky hills on which the oil city of Dhahran and the city of Dammam are situated (Bibby 1973, 8). To the west of those rocky hills lies a higher open rolling landscape which is covered by a thin mantle of sand in which many bushes have taken root. Further to the west lies the Summan plateau, a hard rocky plain about 80-140 km wide. In the west, beyond the Summan plateau lies the Dahna, a strip of sand reaching about 1300 km from the Great Nafud in the north to the Empty Quarter in the south forming the boundary between Najd and the Eastern Arabia. The Dahna ranges from 40 to 100 km wide (Kelly and Schnadelbach 1976, 15). There are a few oases in the region but the most important one is al-Hasa. It is in fact more than an oasis in its general meaning. It is a large area of vegetation with a huge number of water pools and springs. There are two major cities and many towns and villages with a population estimate of three quarter of a million.

During the summer months temperatures rarely exceed 48°C in the shade. Mean monthly temperatures along the Arabian Gulf range from 30.6° to 36.8°C during the summer months. In the winter months temperatures range from 11° to 22.2°C along the coast, but this is usually lower in the inland area e.g. al-Hasa (al-Sayari and Zotl 1978, 33). The average annual rain fall which has been recorded by ARAMCO for 40 years between the AsSafaniyah area and Abqiq area is considered a reliable figure of about 84 mm (al-Sayari and Zotle 1978,38).

3.0 Thaj

The site of Thaj lies about 180 km from Dhahran and about 90 km from the nearest point on the coast of the Arabian Gulf. The site occupies a shallow valley of about 800 m². The archaeological remains are very visible. On all sides of the recent village the tops of squared stone walls appear at surface level extending out to an obvious fortification wall enclosing the house-remains. In addition to the walled area there are a number of large mounds in the lower rolling ground to east and west of the walled area. The whole area is covered with potsherds, scraps of steatite and alabaster vessels, and fragments of small terracotta of anthropomorphic and zoomorphic figurines (Bibby 1973, 10).

Thaj was first brought to the notice of the world in 1865 (Pelly 1865, 169-91), in 1908 (Lorimer 1908, 1234), and visited by captain W.H.I. Shakespear in 1911 (Carruthers 1922,321-34). Colonel Dickson visited Thaj in 1942 and later published the first description and sketch of the site, with photographs of some typical potsherds (Dickson 1948, 1-8; 1956, 471-75). The Danish expedition in the Gulf visited the site in 1962 (Bibby 1964, 84-111; 1965, 133-52). In 1968 some trenches and survey were made by the Danish expedition for three weeks (Bibby 1973, 13). The site has since been visited by members of the comprehensive survey of the Department of Antiquities and Museums of Riyadh (Adams *et al.* 1977, 23 ff); Potts *et al.* 1978, 7 ff).

In 1983 a team of the Department of Antiquities and Museums of Riyadh carried out the first excavation in Thaj. The excavation was directed by Dr. M.S.Gazdar with assistance of D.T.Potts, and

A.Livingston. Excavations were carried out on the city wall, within a building structure inside the city wall, and in three distinct areas outside the city wall (Gazdar *et al.* 1984, 55).

3.1 Chronology

In the light of the previous surveys and investigations (Bibby 1973, 24), along with the results of the excavations, the team of the 1983 excavation suggested a chronology of pre-Islamic Thaj within the last three centuries of the first millennium BC and the first three centuries AD. They divided the last three centuries BC which we are going to discuss here into three phases which are; the third, second, and the first century BC (Gazdar *et al.* 1984, 55 ff).

a- Third century BC.

The archaeological phase corresponding to the Seleucid period is characterised as follows;

1- A stamped Rhodian amphora handle with the name of Diogenes/Disthyos written on it from the surface of the site. It has been dated to between 250 and 225 BC (Jamme 1966, 83; Borker 1974, 45).

2- A bronze tetradrachm of Aby'ata⁷, king of Hagar around 220 BC, found on the surface of the site (Robin 1974,96). Morkholm has dated this coin prior to 245 BC (Morkholm 1973, 200).

3- Eighteen inscriptions in a south Arabian dialect called Hasaeen found in Thaj on the surface and from the 1983 excavation (Gazdar *et al.*

⁷ see appendix 2.

1983, 86). The personal names mentioned on these funerary texts are of north Arabian origin (Boucharlat and Salles 1981, 78). These inscriptions have been dated by Robin (1974, 112-8) to between 300 BC and 130 BC.

4- Attic black glazed sherds from the surface of Thaj (Bibby 1973, 16). On the basis of their forms which display a late fabric from a transition between the true Attic production and the Hellenistic pottery from c.300 BC, these can be dated to the first half of the 3rd century BC (Boucharlat and Salles 1981, 77; Gazdar *et al.* 1984, 79).

b- Second century BC.

According to Gazdar *et al.* (1984, 79) the only firm second century datum found so far is the coins from the king Abi'el series king of Hagar. Those coins have been dated by Robin to c. 150-140 BC (Robin 1974, 97-99).

c- First century BC.

1- An Aramaic inscription, painted on the exterior of a jar found in a cist grave by Bibby (Bibby 1973, 25) can be assigned on palaeographic grounds to the first century BC (Gazdar *et al.* 1984, 79).

2- A fine red bowl which imitates Roman or Nabatean productions (Bibby 1973, 23). These bowls are usually found between the 1st century BC and the 1st century AD (Boucharlat and Salles 1981, 78).

The excavation expedition of 1983 at Thaj (Gazdar *et al.* 1984, 80-81) revealed five principal occupation phases. Phase one and two are dated to the early Seleucid period on the basis of the eggshell ware. In

Failaka, this is the second most popular ware found. Phases three and four are also of the Seleucid period, as testified by the presence of Attic pottery. Phase five is dated to the later Seleucid period by the presence of Attic pottery and Roman type rouletted wares.

4.0 The Salt Mine site

The site of the Salt mine is situated about 25 km north of al-Uqair port. It is not a proper settlement in the true sense of the word. Structures are rare but various traces of human activity are spread over an exceptionally wide area (more than 10 km²). To the east is an irregular belt of *sabka*, several kilometres wide, which separates the archaeological area from the sea. To the west are the al-Jafurah sands which covered parts of the site. There is no settlement in the area at the present time but the salt mines around it are mined commercially for local consumption.

The site was first recorded by P.B. Cornwall during his survey of al-Hasa (Cornwall 1946, 33). He described the site as having pieces of crude pottery, polished stone implements and small chip of opal, some beads, part of a copper object and an oblong limestone trough (Lombard 1988, 120). Twenty years later the site was aerial photographed by Aero Service Corporation (ASC) for the benefit of ARAMCO as a part of a search for oil. The aerial photograph revealed an irrigation or draining system (Lombard 1988, 120). Since then the site has attracted the attention of many amateur archaeologists. In 1968 a Danish expedition visited the site and draw a map of the irrigation system and the visible archaeological structures (Bibby 1973, 42, fig.37). In addition to the irrigation area, the site consists of two forts, a village site, and a tumulus

field (Lombard 1988, 121).

4.1 Material of the site.

The materials which were collected from the site are scarce due to limited archaeological excavation. Most of materials from the site came from the surface collecting of ARAMCO amateurs and the Danish trenches (Lombard 1988,121).

4.1.1 Coins

Three coins were found in the site and belong to the Hellenistic period; one is known as the 'Arados coin', mentioned in passing by Altheim and Stiehl (Lombard 1988, 124). It is one of two Archaic staters from the site showing the head of a male deity on the obverse, facing right, and a Phoenician galley on the reverse. This coin is dated to the early 4th century BC (Lombard 1988, 124). The second coin is a silver tetradrachm now in the Morris collection (Lombard 1988, 124). It is probably as Lombard suggested a regular Alexander issue from Byblos. The third coin from the site is presently housed at Moesgard Museum in Denmark. It is probably a pseudo-Alexander silver drachma which bears a legend written in Aramaic (Golding 1984, 166). It suggests an issue of Ab'iel, one of the supposed kings of Hagar (Robin 1974, 88-90) placed by Robin (1974, 97-99) between 150-140 BC.

4.1.2 Pottery

Bibby (1973, 43) dated the pottery of this site according to pottery from Thaj and city V in Qala'at al-Bahrain. However, Lombard (1988, 121) suggests an earlier date of the site. A study of a bowl with strong

carinated profile published by Burkholder (1984, fig.35b) suggested to Lombard a 6th century BC date for the material. He compares the shape and fabric (olive-green paste) with a type represented in the snake-bowl series from city IV at Qala'at al-Bahrain published by Bibby in 1984 (fig. p.180).

4.1.3 Seals

A number of seals were found in an area approximately 150 m in diameter and completely devoid of structural remains named by the Danish as a Seal flat. According to M.Golding, most of these seals are in private hands except for one example which is in Moesgard Museum in Denmark (no. 325 AS) (Golding 1984, 166). On the seal is a South Arabian inscription and reads 'Kalbum'; as suggested by Jamme in personal communication with M.Golding (1984, 166). A.Jamme also indicates that the seal may have been made in the 9-8th century BC and that name is of South Arabian origin (Saba, Qataban, and Hadramaut) but the scorpion which is underneath the name is not in the same tradition. It may have been borrowed from some northern sources (Golding 1984, 166). However, J.Ryckmans also in a personal communication with M.Golding suggests a 4th century BC date for the seal (Golding 1984, 166). It would seem that J.Ryckmans assigned this date to the seal according to the short chronology of the South Arabian kingdoms, while A.Jamme follows the long chronology (see ch.II sec. I). Lombard also suggests the same date as Ryckmans :

(in my opinion, the 9th-8th century BC date suggested by Jamme, which reflected an early chronology for the Sabaean civilization, should be considered cautiously today) (1988, 125).

The other two seals will be discussed below within a review of the chronology of the site.

4.2 Chronology

In an analysis of the finds from the Salt mine site, Lombard proposed a chronological outline of three phases of the pre-Islamic period (1988, 129-131). Those phases are represented as follows:

a- an early Hasaeen occupation (800-300 BC). Evidence of this period is very limited. Only two cylinder seals can be considered to belong to this period. The first seal is made of white chalcedony with the winged griffin chasing two gazelles (Lombard 1988, fig.7). Lombard dates this seal to the Neo-Assyrian period 8th/7th century B.C (1988, 127). The second seal (Lombard 1988, fig.9) is made of carnelian with two left-facing winged goats. This is dated to the Neo-Babylonian period, mid-6th century BC (Lombard 1988, 128).

b- the soundings carried out by the Danish team seem to indicate that several of the structures can be assigned to the Middle Hasaeen phase (the Seleucid period 300-0 BC). This is notably so in the case of the two forts where occupation layers yielded Hellenistic pottery. In this phase two silver coins were also found, along with the south Arabian stamp seal (Lombard 1988, 129).

c- Lombard named this phase Late Hasaeen (0-400 AD) and according to him this period is not attested in the material that was actually recorded from the site, but a comprehensive survey of the site in future may reveal material from this phase (Lombard 1988, 129).

5.0 Failaka

The small island of Failaka (11.5 x 5 km) is situated at the opening of the Kuwait Gulf, 13 km off the coast of Kuwait. It occupies a strategic position in relation to Kuwait, situated as it is on the trade route to Mesopotamia.

The first excavation at Failaka was done by the Danish expedition from 1958-63. In 1974 an American expedition directed by Mrs. Howard Carter, from Johns Hopkins University, excavated the site for one season. Since 1983 there has been an annual archaeological excavation season by a Franco-Kuwaiti team led by Jean-François Salles.

The Danish expedition had excavated parts of four tells. Two of tells are Hellenistic while the others belonging to the second millennium BC are of the Barbar period (Boucharlat and Salles 1981, 73). The Hellenistic tells are of main concern here.

The Danish excavations at the two Hellenistic sites, F4 and F5, during five campaigns on the island, uncovered the following remains:

a- a square fortress (58 m²) flanked by square towers on the corners (Albrechtsen 1958, 172-91).

b- two sanctuaries inside the fortress. One is typically a Greek temple built with well-dressed stone blocks. The layout consists of one square *Cella* and in front a portico with two columns *in antis*. The bases of the columns show Achaemenid influence while the capitals are Ionic in style (Jeppesen 1960, 187-194; Boucharlat and Salles 1981, 73).

c- houses built inside the fortress at a later date.



d- a building located outside the fortress, situated on the beach to the west. This building consists of a block of rooms containing a remarkable number of moulds for the manufacture of terracottas workshop or the Emporion (Roussel 1958, 191-200; Salles 1987, 84).

Since 1983 the French excavations have revealed two new Hellenistic sanctuaries:

a- b6 which is located on the beach to the east of the fortress. It has been partly destroyed by sea erosion. The sanctuary was dedicated to Artemis and can be dated to the first half of the second century BC (Callot *et al.* 1987, 37-45).

b- the other sanctuary is located at Tell Khaznah. Its architectural remains are almost completely destroyed by continuous looting. This Hellenistic sanctuary was built over an existing neo-Babylonian/ or Achaemenid sanctuary (Roueché and White 1985, 2; Salles 1987, 84).

5.1 Chronology

As a result of their excavations in the F5 fortress, the French divided the history of the Hellenistic settlement into three periods:

a- Level I (stages I and II)

The material recovered from inside the fortress confirms a foundation date at the end of the 4th century BC, or during the reign of Seleucus I (Callot *et al.* 1987, 37). Two bronze coins were identified, one from the 4th century BC with Alexander's name, and the other belonging to the reign of Seleucus I 311-281 BC (Morkholm 1972, 205-7). A fragmentary inscription found in 1986 reveals the name of Soteles

Athenaios (Salles 1984-85, 128-35). A hoard of tetradrachms was dated to the early 3rd century BC (Callot 1984-85, 291-92).

b- Level II (stages III and IV).

This level is dated from the beginning of the 3rd century BC to the beginning of the 2nd century BC, ie. that is the reign of Antiochus III (223-187 BC) (Callot *et al.* 1987, 39-40). A hoard of tetradrachms and drachms of Alexander type (Morkholm 1979, 230-35) was found in this level. The hoard is dated to the very beginning of the reign of Antiochus III (Callot *et al.* 1987, 39).

c- Level III (stage V).

After the reign of Antiochus IV (175-164 B.C) the site does not show evidence of any major occupation. Around 100 BC the dating remains uncertain, the fortress and the surrounding sites were abandoned (Salles 1987, 85).

6.0 Qala'at al-Bahrain

Qala'at al-Bahrain or the Portuguese fort lies to the east of Barbar at a bend in the coast known as Ras-al-Qala'at (Gazdar 1982, 239-40). According to Salles (1987, 80) this is the only Hellenistic settlement which has been found in Bahrain while all other remains of Hellenistic date are either cemeteries or single tombs.

The Danish expedition, excavating over a considerable time revealed four pre-Islamic super-imposed cities (city II,III,IV,V). Each city of those four contains more than one phase (Hojlund 1986, 217-24; Lombard 1986, 225-32; Bucharlat 1986, 435-43). In city V a short lived

but identical, Hellenistic level was found. In view of comparative material from Failaka, Eastern and south Eastern Arabia, Babylonia, and Susiana, Salles (1987, 81) has dated the material from city V to the third and second centuries BC. The chronology of city V of Qala'at al-Bahrain is based on the following objects:

a- sherds of black-glazed (Attic) pottery which are dated to 330 BC (Gazdar 1982, 25; Salles 1987, 81).

b- a hoard of silver coins, probably buried between 245 and 215 B.C (Salles 1987, 81), which contains two series of coins. Series I shows Zeus on the reverse seated on a throne holding a sceptre in his left hand and an eagle in his outstretched right hand. The Greek legend reads Alexandrou, while some South Arabian letters (among them Shin) perhaps rendered the name of the divinity Shamash. The mint was probably located at Gerrha and issued between 280-210 BC. Although the legend and weight are consistent with the Attic standard, there is nothing to indicate that the series was produced by a royal Seleucid mint. Series II of the hoard consists of imitation silver Arabian tetradrachms bearing the names of local rulers, probably of the Hagar kingdom in Eastern Arabia, whose capital may have been Gerrha (Robin 1974, 84-125; Salles 1987, 81).

c- several fragments of terracotta figurines in the orientalisising Greek style. These are very similar to the figurines produced in the Seleucid period at Babylon, Uruk, Seleucia, and Susa (Salles 1987, 82).

6.1 Chronology.

On the basis of the finds from city V in Qala'at al-Bahrain, and the

cemeteries on the island a chronology of four phases was suggested by Salles (1987, 82) for the Hellenistic period. Those phases which are named after the supposed Greek island-name Tylus are as follows:

a- Tylus Va, c. 300-100 BC: this is well-attested in city V at Qala'at al-Bahrain but less well represented in the cemeteries. The material shows a Seleucid influence.

b- Tylus Vb1, c.100 BC - AD 100: absent from the stratified levels at Qala'at al-Bahrain, but strongly attested in the cemeteries. The material shows a Parthian influence (Early and Middle Parthian periods).

c- Tylus Vb2, c.100 - AD 250: late Parthian.

d- Tylus Vc, c.250 - Islamic conquest: scarcely attested in the cemeteries and absent on the site. The material shows Sassanian influence.

7.0 Junassan.

The site is a line-up of high sandy hills situated to the north of Awal, the largest island of Bahrain. The Junassan mounds are unique in their height and in their straight linear orientation; the highest mound is more than 14m high. Three main groups can be distinguished. They are separated from each other by narrow stream-beds; each group includes several mounds (Salles 1984, 11; 1986, 445-46).

The Junassan Mounds were mentioned by Captain Durand (1879, 62), and visited by Prideaux (1912, 66). They have been surveyed many times by the Danes (Bibby 1984, 85). In 1969 a rescue excavation was

undertaken by the Department of Antiquities of Bahrain where Mound IIIC was excavated (McNicoll and Roaf 1976, note 21). Two seasons of excavation were carried out in 1980 and 1981 by a French expedition. Three Mounds were excavated during these seasons: Mound IIA (consisting of eight tombs) in 1980, Mounds IIIA (one tomb) and IIIB (eight tombs) were excavated in 1981 (Lombard and Salles 1984, 27-93).

The tombs within these three mounds were classified by the French team (Lombard and Salles 1984, 55) into four groups which are discussed below.

a- Built Tombs

One example of this group is T.1, discovered in 1980 on Mound IIA (Salles 1986, fig.153). It is a monumental tomb; the inside chamber is rectangular and carefully built with dressed blocks. The roof covering is made from a very large slab of grey shell limestone. The floor of the chamber is paved with irregular slabstones which are not strictly joined. Two similar tombs have been found in Bahrain, one in the Sar area and one in Barbar village (Lombard and Salles 1984, 29; Salles 1986, 447-450).

This tomb has been looted but some material was recovered: a tubular gold bead, several iron or bronze arrowheads, an iron spearhead, and remains of scaled piece of armour. This kind of tombs as Salles (1986, 451) suggests could be intended for high personages (may be foreign military local ruler?).

b- Cist Graves

T.4 which was discovered on Mound IIA is a rectangular cist, made with eight roughly dressed white limestones. The inside faces are smooth, and the exterior rough (Lombard and Salles 1984, 40-42). The funeral offerings in these graves are scarce: ceramic vases, common or glazed wares, personal ornaments (eg beads, pins, ivory combs), some small glass bottles, and some weapons (Salles 1986, 455).

c- Burial Jar

Many Burial jars were found at Junassan, on Mound IIA and Mound IIIB. According to Salles (1986, 457) this custom of Burial jar occurs during the Hellenistic period, mainly for child burials.

Funeral offerings are rare in these jars and do not include any pottery vessels for life after death. Only personal ornaments were found such as bronze and iron bracelets or rings, beads, and one real pearl (Salles 1986, 457).

d- Plain Burials

Several simple burials (a body buried in the sand) have been discovered on Mound IIA and on Mound IIIB at Junassan. Other similar burials were found in other Bahrain cemeteries (Budayiah Road, Shakoura, Jidd Hafs, and Qala'at al-Bahrain). All are pre-Islamic burials (Salles 1986, 458).

7.1 Chronology

In his conclusion, Salles (1986, 458-59) provides information on the general chronology of these burial Mounds.

The burial Jars at Junassan can be dated from the end of sixth century BC (the Bahrain Iron Age). There are no remains from the fifth and fourth centuries BC, nor are these centuries represented in the finds at Qala'at al-Bahrain, nor indeed at any other necropolis in Bahrain. Salles suggests that there is no gap between the prosperous Iron Age and the Hellenistic period, and the end of the Iron Age in Bahrain could extend down to the end of fourth century BC (1986, 458-59).

Pottery is by far the most abundant type of material from the Hellenistic tombs i.e. the built, and the cist tombs at Junassan. Salles (1986, 459) dates the pottery (green-glazed Seleucid pottery) to the third century BC, and (Thaj-type bowls) to the 1st century AD. He also indicates that the Junassan necropolis exemplifies phase Va and the beginning of phase Vb in the archaeological sequence of the Hellenistic period in Bahrain (1986, 459).

8.0 Mleihah

The site of Mleihah lies c. 50 km south of Sharjah in U.A.E. Mleihah is a semi-desert region. It has many sand dunes and valley furrows, created by rain floods in antiquity. The area of Mleihah and the surroundings to the north and south are part of an extensive plain ideal for palm dates farming (Madhloom 1973, 171-72).

The archaeological site of Mleihah extends over more than 4 km² (approx. 2.5 km E-W x 1.5 km N-S) on both sides of the Dhaid al-Madam road (Boucharlat and Garzynski 1988, 41). It consists of many tells and hills. The surface is covered by many potsherds and iron pieces along with spearheads and arrowheads.

In 1973 the Iraqi expedition in the U.A.E. excavated four different areas of the site. Briefly, the excavation could be described as follows:

a- A 10 x 10 m tell is Area 1. Some rectangular rooms built of mud-bricks were uncovered.

b- Area 2 is a hill, 14m in diameter. Nothing was found here except layers of tamped limestone. The Iraqis noticed more of this type of limestone in the hills around the site. The exact nature^{of} this limestone formation is unknown. However, the Iraqis suspected that these hills could be man-made constructed for defence, since in Mleihah there are no naturally occurring hills or mounds, which could act as protection for the settlement (Madhloom 1973, 173).

c- Area 3, small hill, rises about 60 cm above the surface level. The excavation revealed a square building, built of plaster-bricks (Madhloom 1973, 174).

d- Area 4, is the largest excavation area in Mleihah. It is a large hill, situated between Area 1 and Area 3. A substantial building was discovered in this area, and called 'the palace' by the Iraqis. The excavated section of this palace contained eight rooms with plastered floors (ibid, 182, fig.5).

The French archaeological team started work at the site in 1986 and they continued their work in 1988 and 1989. The first report of the French excavation was published by Boucharlat and Mouton in 1986. The second report was published by Boucharlat and Garczynski in 1988. The last report about excavation in Mleihah was published by Mouton,

Boucharlat, and Garczynski 1989.

The work of the French mission at Mleihah during its three seasons had three purposes:

- 1- to survey the whole archaeological site.
- 2- to study the tombs area.
- 3- to continue excavating the settlement area, in order to have an idea of the lay-out of the buildings, the depth, and to get a stratigraphic view as complete as possible.

During those three seasons of excavation the French were able to reveal a large part of the site which will not be included here where it is going to be difficult to fit in this section. However, The French in their last report (Mouton *et al.* 1989, 32-33) were able to define an archaeological sequence of Mleihah. That archaeological sequence will be discuss below.

8.1 Chronology

The excavation in Area 3 has produced fragments of a storage jar, sherds of a dark-green-glazed bowl with two handles, and three jar handles fragments. On one of these jar handles there is an impression of a rounded stamp with a lotus flower in the middle surrounded by a Greek inscription (Madhloom 1973, fig.13A). The other two handles each have a rectangular impression of Greek letters (Madhloom 1973, fig. 13B, 13C).

In Area 4 or 'the palace' a fragment of a jar was found, with an

impression of a rounded stamp with two swans in the centre.

On the basis of these objects, Madhloom (1973, 177) place the site within the late 4th to the early 3rd century BC Madhloom did not mention whether the site was a single or multi-period. He did not compare this site with those in Eastern Arabia of the same period. However, the date suggested by Madhloom is the same date as level I (stages I and II) at the Hellenistic fortress of Failaka (Callot *et al.* 1987, 37).

The French have divided the site of Mleihah into three periods:

a- Early period. The main characteristic of this period is the pottery. It is close to the local Iron age assemblage. This period precedes all the necropoles. Considering the Greek pottery from the necropoles dates mainly from from the 2nd century BC, this Early period is placed in the 3rd century BC or even earlier (Mouton *et al.* 1989, 32). This dating of the Early period by the French is corresponding with Madhloom only dating of the site.

b- Main period. According to the French, this is when the occupation of the site extended to its maximum and probably for the longest period of time, standing on the 2nd century BC until the 1st century AD. To this period belong several elements such as; the inscription on a bronze bowl of "Shams" (the Sun) which^{is} probably a local diety, dated to 3rd-2nd century BC, alabaster/calsite vases (3rd-2nd century BC), South Arabic inscription on a large brick (2nd-1st century BC), moulded glass (2nd-1st century BC), and Greek amphora (1st half of the 2nd century BC) (Mouton *et al.* 1989, 33).

c- Late period. This period is represented by the upper levels of area L (according to the French division of the site) and by small structures in other areas to the east of the road, and at present by one single tomb which located in the same area as the most ancient necropoles. Several elements of this period were found such as; glazed skyphos handle (1st century AD), and blown glass vessels (1st century AD) (Mouton *et al.* 1989, 33).

Mouton (1988, 65) in his conclusion believes that Mleihah at the peak of its activity had played a part in the cultural animation spreading all along the Gulf up to the Central Arabia (Qaryat al-Fau), Oman, and may be Yemen as well. He suggests that Mleihah's situation on the northern edge of the Empty Quarter and its nearness of the Gulf of Oman gave it the advantage of trading exchanges between the Mediterranean, South-Western Arabia, and the Iranian coast.

What Mouton suggested could be support by those artifacts found from the excavation such as the South Arabian inscription on a large brick found in the settlement. This inscription give evidence of a possible link between South-Western Arabia and Mleihah. If excavation continued in this important site, we may get a clear idea of the position of Mleihah during the late centuries of the 1st millennium BC and the early centuries of the Christian era.

9.0 ed-Dour

ed-Dour is situated about 50 km from Dubai on the Gulf Coast (U.A.E.) It is a large settlement in comparison to other local sites, and was originally a port. The first investigations were carried out by an Iraqi

expedition in 1973-74 (al-Qaisy 1975, 106-7). The Iraqis cleared a small fort (25x30 m), built of rough stones, the wall thickness of c. 1.4 m. In the corners of this fort there are four hollow round towers (al-Qaisy 1975, 107). Salles (1987, 79) dated the material from the Iraqi sounding to an approximate time-span of five centuries, between c.250 BC, and AD 250. However, al-Qaisy (1975, 106-29) believes that the fort, and all material excavated within, belong to one period of occupation, dated to the Hellenistic period between the 1st century BC and the 2nd AD. Most of the pottery wares and fragments are glazed in green and blue both inside and outside, while some are glazed only on the interior (al-Qaisy 1975, 108-9). Eight coins were recovered from the site. Seven of these coins could not be identified by the Iraqis because of their peculiar shape. The eighth coin belongs to the Seleucid king of Characene Attambelos IV (101 - 104/5 A.D) (al-Qaisy 1975, 125-26).

Since 1985/86 more archaeological work was done in ed-Dour by an international team. The team did not publish yet any thing about their work. However, one of the team members C. Philips (in personal communication) suggested that the date of the site is later than that suggested by al-Qaisy and Salles. C. Philips dated the ceramic and the coins from the Iraqi excavation from the 1st to the early 2nd century AD.

There is no mention of ed-Dour in the Seleucid period nor in the histories of Alexander's explorations. However, Pliny (N.H. 6. 32. 149) mentioned two towns, Hamna and Attana as those ports most frequented in the Persian Gulf. ed-Dour could be one of these ports but as yet no archaeological evidence has come to light to confirm or deny this theory (Salles 1987, 79-80)

10.0 Summary

The historical framework of Eastern Arabia has been divided into four major periods 1- The Ubaid civilization as recognized in Mesopotamia, dated to the latter part of the fifth millennium BC. Widely scattered sites were located: Abu-Khamis, Dawsariyya, and Ayn Qannas. 2- The second period is the third millennium occupation in the area which witnessed the growth of the coastal trading network. Many sites were located: the Bahrain tumuli, Dhahran tumuli, Abqayq, al-Hufuf, and Yabrin. 3- The third period, 500 BC and AD 300, witnessed the intensification of Indian Ocean trade during the Hellenistic (Seleucid)-Parthian- Sassanian times. A regular and substantial caravan traffic was established between the Arabian city Gerrha on the Arabian Gulf Coast and South Arabia. There are a few sites of this period, Thaj, Salt Mine, Ayn Jawan, Failaka, Qala'at al-Bahrain, Junassan tumuli, ed-Dour, and Mleihah. By the first century BC the Parthians had consolidated all former Seleucid territory. Archaeological evidence of the Parthian period is meagre. By the year 224 AD the Sassanian empire had displaced the Parthian. In the early 4th century AD. Shapur II invaded Eastern Arabia and then marched across the whole of Arabia. 4- The fourth period started with the rise of Islam in the late 7th century AD when the whole of Arabia including the eastern part become immediately involved in it.

In this chapter only those sites from the third period of this historical sequence in the Eastern Arabia was discussed specifically the Hellenistic (Seleucid) period. The following paragraphs will summarize the chronology of each site discussed above.

Thaj

The material from Thaj has been divided into three phases. All three phases belong to the Seleucid period (300 - 100 BC).

a- The third century BC or the early Seleucid phase is based on five objects: 1- a stamped Rhodian amphora handle found on the surface. It has the name of Diogenes/Disthyos written on it and has been dated from the century 250 and 225 BC. 2- a bronze tetradrachm of Aby'ata(, king of Hagar, around century 245-220 BC, this coin was also found on the surface of the site. 3- Eighteen inscriptions in a South Arabian dialect called *Hasaeen* were found on the surface and from the excavation. These inscriptions have been dated from between 300 and 130 BC. 4- Attic black glazed sherds from the surface. 5- Eggshell wares and Attic wares from the excavation dated to the early Seleucid period.

b- Second century BC the only material belonging to this phase is a group of coins from the series of King Ab'el, King of Hagar and are dated 150- 140 BC.

c- First century BC this date (late Seleucid period) was based on three objects:- an Aramaic inscription painted on the exterior of a jar found in a cist grave, a fine red bowl which imitates Roman or Nabatean products (these bowls are usually found in the first century BC and the first century AD), and a Roman type rouletted ware from the excavation.

The Salt mine

This site has been given a long chronology (800 BC - AD 400), divided into three phases as follows:

a- an early Hasaeen occupation (800 - 300 BC). Two cylinder seals were considered as belonging to this period. One seal was dated to the Neo-Assyrian period about 8th/7th century BC. The other was dated to the Neo-Babylonian period about mid-6th century BC.

b- a middle Hasaeen phase (the Seleucid period 300-0 BC). This phase is represented by Hellenistic pottery found in layers of the two fortresses, two silver coins found at the site, and a South Arabian seal.

c- the late Hasaeen phase (AD 0-400). This period has not been attested in the material from the site as yet.

Failaka

Failaka has been dated from the late 4th to 1st century BC. Three levels of Hellenistic occupation were discovered:

a- level I (stages I and II). The material found in this level confirms a foundation date for the fortress at the end of the 4th century BC or during the reign of Seleucus I. Amongst the material are two bronze coins, one from the 4th century BC with Alexander's name, the other belongs to Seleucus I (311-281 BC). Fragmentary inscription shows the name of Soteles Athenaios and a hoard of tetradrachms dated to the early 3rd century BC.

b- level II (stages III and IV). This level dates from the beginning of the 3rd to the beginning of the 2nd century BC, i.e. the reign of Antiochus III (223-187 BC). The material from this level, a hoard of tetradrachms and drachms of Alexander type, is dated to the very beginning of Antiochus III's reign.

c- level III (stage V). After the reign of Antiochus IV (175-164 BC) the site did not show any evidence of any major occupation.

Qala'at al-Bahrain

Qala'at al-Bahrain's chronology has been divided into four phases:
 a- Tylus Va, century 300-100 BC. This date is based on, sherds of black-glazed (Attic) pottery dated to 330 BC or early 3rd century BC, a hoard of silver coins consisting of two series dated between 280 to 210 BC, and several fragments of terracota figurines in the orientalizing Greek style.

b- Tylus Vb1, century 100 BC- AD 100. No material from stratified levels at Qala'at al-Bahrain was found but is strongly attested in the cemeteries of Bahrain. The material witnesses an early and middle Parthian periods.

c- Tylus Vb2, AD 100-250 (late Parthian).

d- Tylus Vc, AD 250-Islamic conquest. Attested in the cemeteries and absent on the site. The material shows Sassanian influence.

Junassan Burial Mounds

There are three kinds of burial mounds in Junassan. These burial mounds were classified as follows; The built tombs, the cist graves, the burial jars, and the plain burials. The chronology of these burials mounds is divided into two phases which are; a- the early phase which dated from the end of the sixth century BC. That is represented in the burial-jars. No remains from the fifth and fourth centuries BC have been found in Junassan nor in Qala'at al-Bahrain or in any other Bahrain necropolis. b- the Hellenistic pottery from the built tombs and the cist tombs was dated to the third century BC. Some pottery (Thaj-type bowls) was dated to the first century AD. This phase was contemporaneous with

phase Va and the beginning of phase Vb of Qala'at al-Bahrain.

Mleihah

This site was dated from between the late 4th to the early 3rd century B.C by Madhloom in 1973. This dating was based on the material which found inside the Iraqi excavation at the site consisting of a dark-green-glazed bowl with handles, three jar handle fragments. On one of these handles a stamp of a Greek style. The other two handles each has a rectangular impression of Greek letters. 3- a fragment of a jar which has an impression of a Greek style stamp.

The French (1986-1989) have divided the site into three periods: the Early period which has the same dating of the Iraqis (placed on the 3rd century BC or earlier), the Main period which extended from the 2nd century BC until the 1st century AD, and the Late period which dated to the 1st century AD.

ed-Dour

We do not have enough material from ed-Dour, where only the small soundings of the Iraqi expedition, were excavated dated the site to between the 1st century BC and the 2nd century AD. The dating sequence is based on green and blue-glazed pottery fragments, and a coin belonging to the Seleucid king of Characene Attambelos IV (101-104/5 AD) (al-Qaisy 1975, 125-26).

The most recent dating of the site was presented by Salles (1987, 79) dating the material from the same soundings of the Iraqis to an approximate time-span of five centuries, between century 250 BC and AD 250. C.Philips from the international team who is excavating the area

since 1985/86 has dated the same ceramic and coins from 1st to early 2nd century AD. Philips dating suggest a later occupation and a short lived-period of the site.

11.0 Conclusion

Eastern Arabia since the early ages was one of the most active parts of the Arabian Peninsula. Its strategic location, between the early centres of civilization to the south-east, east and north is very evident, providing the opportunity for this part of Arabia to play a very important role in cross-cultural contact with the civilized world.

Archaeological research either through excavation or survey in Eastern Arabia, has produced information on many sites belonging to the Hellenistic period. However, it is important to remember that the archaeology of this period has only begun to be studied in recent years. At present it relies on a small numbers of scientifically excavated sites such as Failaka, Qala'at al-Bahrain, Thaj, and Mleihah. Most of the other information has come from limited soundings and surface finds in sites such as Salt Mine, Junassan tumuli, ed-Dour.

Although most of the Hellenistic material which found at the sites reveals an occupational period from 300 to 100 BC, i.e. the Seleucid period, but nothing suggests that the region was under the direct control of the Seleucid Kings. It seems that there was a kind of independence in the area. That is supported by the coins from Thaj, Salt mine, and Qala'at al-Bahrain belonging to Aby'ata (245/220 BC) and Ab'iel (150/140 BC), kings of Hagar whom Jerrha was the capital.

Chapter IV

Hellenistic sites in Central Arabia

1.0 Introduction

Within the last twenty years of this century, Central Arabia has received some archaeological attentions by Saudi archaeologists. In spite of the limitation of the archaeological works in this region, but it shows a true sense of how important was this region during the ancient history of the Arabian Peninsula. The best examples of what we mentioned above are; the excavations started by Riyadh University (at present King Saud University) represented by the Department of Archaeology at the site of Qaryat al-Fau since 1970 until now. Then and during the period from 1975 to 1980 Central region was investigated and surveyed under the Comprehensive survey program of Saudi Arabia which organised by the Saudi Department of Antiquities and Museums. These pioneer works urged some archaeologists to look into and excavate some sites in this region as a part of their post graduate studies. One of those archaeologists is M. Gazdar who did his field work in 1979 at the site of Zubaidah in al-Qasim area in order to construct a comparative study of the pottery of this site with others in Arabia. In 1988 A. al-Gazzi carried out his field work at the site 207-30 in al-Yamama area of al-Kharj valley. He also dealt with the pottery of this site as a main issue in his comparative study of the sites of the Central Arabia. Last but not least is the two seasons excavation (1988, 89) which

were done by the writer at the site of al-'Ayun in al-Aflaj area (see the following chapters).

Those three sites of al-Fau, Zubaidah, and 207-30 at al-Kharj (fig. 5) were dated as being fully or partly existed during the period from 500 to 100 BC. So the discussion in this chapter will focus on those three sites.

2.0 Geography

The Central Arabia is situated on the Arabian shelf, the second major geological feature in Arabian peninsula, where the other one is The Arabian shield which lies in the west (Zarins *et al.* 1979, 9). The Arabian shelf lies to east of the Arabian shield where it forms about two thirds of the peninsula. Its foundation is a part of the same Pre-cambrian plate that makes up the shield (al-Sayari and Zotl 1978,9). The inner part of Central Arabia shows a somewhat complex structure, with considerable development of varied sedimentary series of ridges and tableland. The most prominent of these ridges is the limestone formation of Tuwayq mountains or *Jebal Tawayq* which rises as much as 300 m above the plains on both sides. Tuwayq mountains series is extend for approximately 800 kms passing very close to Riyadh at the eastern most point of their arc (Kelly and Schnadelbach 1942, 15). The drainage pattern originally developed on these scarp-lands was complicated, though now all valleys are dry, and often, though by no means always obliterated by sand. Rainfall is very small on the area, but heavier showers occur on the higher mountains of 'Asir and Hijaz and a certain amount of this precipitations ultimately finds its way into the lowlands or else is retained above the occasional impermeable layers

that exist in the uplands. Prevalence of limestone allows the development of underground pools and in certain districts like al-Kharj and al-Aflaj there are considerable solution hollows of up to 50 m in depth that contain water (Fisher 1971, 475-77).

3.0 The site of Qaryat al-Fau

Qaryat al-Fau is situated about 700 kms south-west of Riyadh, 150 kms south-east of al-Khammasin, the central city of Wadi ad-Dawasir. It overlooks the north-western edge of the Empty Quarter and stands at a place where Wadi ad-Dawasir is crossed by the Tuwayq Mountains at the mouth of a dry channel called al-Fau. In recent times this name was added to Qaryat where it is become Qaryat al-Fau (al-Ansary 1982, 15).

Attention was first given to Qaryat as an archaeological site by some officials working for ARAMCO in the forties. After that it was visited by the traveller, H.J. Philby in the late forties, and he returned to the site accompanied by J. Rykmans in 1952 (Philby 1960). During their journey, Philby and Rykmans studied some of Qaryat al-Fau inscriptions referring particularly to its tombs, and they drew a rough sketch of the site. In 1964 Father A. Jamme, visited the site with the help of the Department of Antiquities and Museums. He studied a set of inscriptions he found scattering on the escarpment of the Tuwayq Mountains overlooking Qaryat from the east (Jamme 1973). In 1971, University of Riyadh represented by the Society of history and Archaeology, sent an exploratory expedition to the site under the direction of prof. A. al-Ansary. The work of excavation was started in 1972 and continued annually until 1977. In 1978 the responsibility for the excavation work was transferred to the newly established Department of

Archaeology and Museology. Since then the excavation work continued until the present time under the directory of Prof. A. al-Ansary.

3.1 The archaeology

The long period of excavation revealed a huge area of remains of Qaryat al-Fau; buildings, tombs, and a lot of material. Although these seasons of excavations need many volumes to cover their results, but for the time being there is only one reference to deal with. Our reference here is Qaryat al-Fau, a portrait of Pre-Islamic Civilization in Saudi Arabia by Prof. A.R. al-Ansary. In the following pages a brief discussion of the completed work will be given.

1- The *Suq*

The *Suq* (the market) was the first thing that was excavated in Qaryat al-Fau. It has a length of 30.25 metres from east to west, and 25.20 metres from north to south. It is surrounded with a massive wall consisting of three successive adjoining walls, the middle one being of limestone, and the inner and outer ones of mud-bricks. The *Suq* has one narrow gate on the southern half of the western side. The *Suq* is surrounded by seven towers, the middle ones being square shaped, and the corner ones rectangular. Inside the *Suq* there is a courtyard lined with shops on the northern and southern sides, and a single shop on both the eastern and western sides. Inside the shops themselves there are many compartments for keeping goods. The *Suq* has two storeys and is topped by the roof. Also inside the *Suq* there is a water reservoir lies near the eastern side and linked to a channel which extends along the southern shops in the direction of the *Suq* gate (al-Ansary 1982, 17-

18,34). In addition of the architectural evidence of the existence of the *Suq*, a 4 kilogrammes copper balance weight in a rectangular cubic shape, with a semi-circular handle on top was found inside one of the shops. It stands on four short legs. Its forpart resembling a lion's head. It has inscriptions in Musnad on both sides, together with the symbol of the god *Kahl*. Its bottom is hollow and filled with lead (al-Ansary 1982, 88-89).

2- The Palace

In a *tell* which lies directly to the west of the *Suq* a part of a building (al-Ansary beleives that it is a palace for one of the kings or the ruler of Qaryat al-Fau) was excavated. On the north western part of the *tell*, a rectangular hall of 12.20 metres length and 5.20 metres width was revealed. Along the interior wall of the hall, there is a bench which forms with its projections a fine geometrical shape. The width of this bench is about one metre and more than one metre at the projection points. In the middle of the southern wall, there is a door 2.4 metres wide standing between two pillars. In the centre of the hall there are two pillars of octagonal cross-section. The southern wall comprises four pillars, two of them being at the two ends of the wall and the other two framing the door. Masses of fallen debris covered with layers of plasters were found. On some of these pieces painted scenes were found (al-Ansary 1982, 18-19,41). Although prof. al-Ansary did not give an explanation of his choice to name this building a palace. However, it seems that he relied on two elements for his explanation; the first one is the architectural difference between this building and the rest of the buildings (the residential area, the *Suq*, and the temple), the second element is the

location of this building which is separated from the residential area and lies between two of the most important symbols of every ancient settlement: the temple and the *Suq*.

3- The Temple

This Temple lies on the western side of the Palace and is constructed of sandstone and limestone. In general the Temple has a rectangular shape, with an elevation facing south. The Temple was badly damaged but it was possible to identify the basic architectural elements which make up this temple. These elements are;

- the presence of a holy place or shrine.
- the forms on which offerings were placed.
- the outer courtyard of the temple which was paved with stones, some of which are still in their original position at the northern side of the temple.
- narrow passages.
- square bases built of stone (al-Ansary 1982, 19,42).

A South Arabian inscription which refers to the construction of this temple was found by the entrance. This foundation stone of hard limestone bears three lines in South Arabian Musnad reading (...built for his god *al-Ahwar* (*Hor, Horus?*) this house so He heard him and granted him and his grandsons after him blessing). In this temple No signs of a roof was found (al-Ansary 1982, 146).

4- The Tombs

Three groups of tombs were found in Qaryat al-Fau: the tombs of the Kings, the Nobility tombs, and the Common people tombs.

a- the best example of the Kings tombs is the one was found in the west side of the town. The first thing discovered about this tomb was a square-shaped room with walls of smooth sandstone standing to a height of 90 cms. This room has an entrance facing east. The tomb has a square opening which lead to another narrower opening which about 50 cms below it. Inside this opening a tombstone inscribed in *Musnad* (South Arabian) with the name of the King *Mu'awiya bin Rabi'a*. The entrance shaft (after the removal of sand until the bed rock) was at depth of five metres, one metre wide and six metres long from north to south. On its eastern and western walls small notches or steps to allow a person to get into the tomb. Inside the tomb itself there are four entrances aligned with the points of the compass. Three of these led to vaults hewn out of the soft limestone in a semi-circular form. The western entrance led to a stone-built chamber rendered with white gypsum. the width of this chamber is about 1.15 metre. Prof al-Ansary believe that this is where the King was buried. The chamber lies under the room constructed over the tomb. At the north-western end of the rough chamber a shallow plastered hole, which seems to have been set a side for the placing of funerary items (al-Ansary 1982, 19-20,46).

b- the best example of the Nobility's tombs is the one found near the tomb of King *Mu'awiya bin Rabi'a*. On the surface the remains of eastern and western walls are still clear. Between those two walls a shaft of about 3 metres depth was found. The shaft has notches on its western

and eastern faces providing footholds for interring the tomb. This tomb resembles that of king *Mu'awiya* in its interior details, but it is without a special private chamber for the use of the owner. Inside the entrance a tombstone was found, it was inscribed in *Musnad* and has the name of *'Ijl bin Haf'am* and his family (al-Ansary 1982, 20,47).

c- the tombs of common people lay to the north-east of the town, on the edge of the western valley, in the gypsum-covered area situated north of the *Suq*. Some of these tombs were excavated. They consist of irregular and unplastered shafts with depths averaging between 1 and 5 metres. At the bottom are the coffins, enclosed in mud-bricks of a large size (38 x 38 x 12 cms). In some of these coffins, along with the remains of the dead a quantity of jars were found (al-Ansary 1982, 20,49).

5- The residential area

The selected area of excavation is situated south-west of the *Suq*, south of the temple, and west of the towers. The excavated area before the publication of the first report of Qaryat al-Fau (see al-Ansary, 1982) was about 60 x 48 square metres. Al-Ansary was convinced that the site had passed through three successive stages of habitation. Based on a number of clues, al-Ansary gave a suggestion on what the town had been like (al-Ansary 1982, 20-21). Some of these clues are as follows;

a- existence of streets and lanes between the dwellings-observed in the northern and southern parts of the residential area.

b- existence of significant residential units, some with very large rooms which reach 10 metres in length and 3 metres in width.

c- the discovery of a number of rest-houses or hotels. This is best demonstrated by the unit which is situated on the north-eastern part of the southern sector. The dimensions of this rest-house, or caravanserai, are 28 by 18 metres. It has a main gate on the east side and a small gate at the southern corner.

d- the buildings *consisted* of more than one stage, the thickness of some of the walls was up to 180 cms.

e- existence of channels for clean water, connecting the houses.

f- existence for cesspits for human waste which indicates the existence of lavatories on the upper floors. These cesspits have openings for extraction of the waste and its subsequent use in agriculture.

g- and finally, the existence of partitioned storage units for products in almost all the rooms, some of which were built of two levels.

3.2 The finds

Qaryat al-Fau, through a long period of excavation produced a lot of different kinds of objects. Among those: pottery, stone implements, glass, coins, metalwork, textiles, bones and ivory, woods, statues, and inscriptions.

1- Pottery

There are three kinds of pottery found in Qaryat al-Fau;

a- coarse pottery. It comprises many different types, for different use such as, daily use wares, commercial wares, and religious wares.

b- fine pottery. the most prominent of these being the Nabataean sherds found in the residential area. They are finely executed and made of good quality clay.

c- glazed pottery. This kind of pottery was found in a large quantity in Qaryat al-Fau. The decoration of the ware differs according to the artist. On some sherds decoration motifs are taken from nature, such as a bunch of grapes. Its upper sides are covered with sprays of serrated vine leaves ending in a stem. Between the bunch and the vine leaves there is a round-shaped flower resembling a sunflower. The same decoration was found on some of the murals. According to al-Ansary this means that these decorations were made by a local artist (al-Ansary 1982, 23). The glazed coatings are in a single colour, mostly green or blue.

2- Stone implements

There are two types of stone implements, one is steatite vessels, and the other is vessels made of stone other than steatite such as basalt, marble, limestone, obsidian, and quartz.

3- Glass

Various kinds and colours of glass were found. The pieces which found represent the remnants of glass receptacles, bracelets, ornaments, ring stones, and beads. They were decorated in yellow and white, blue and violet, and brown and green.

4- Coins

A number of coins were discovered at Qaryat al-Fau. Their

importance lies in their being actually struck at Qaryat al-Fau. Most of those found were made of silver.

5- Metalwork

A great number of metal receptacles and implements was found in Qaryat al-Fau such as pots, knives, dagger sheaths, pins, sewing needles, rods for applying cosmetics to the eyelashes, handles, and bracelets. A group of small and large human and animal statues were also found.

6- Textile

Most of the woven pieces found at Qaryat al-Fau are of linen, lambswool, and camel wool. These pieces were parts of dresses for men, women, and camels back cover.

7- Bones and ivory

A quantity of bone and ivory implements were found including fragments of bracelets, seals, earrings, pendants, beads, ornaments, and jewellery. Some of the bones particularly camel bones were used for writing on.

8- Woods

Wood was used by the inhabitants of Qaryat al-Fau in their houses, markets, and tombs as coffins. Also different items of wood were found such as a number of combs with fine teeth on one side and thick ones on the other, a measure found in a shop in the *Suq*, a rectangular piece having two bas-relief circles which are not completely round in shape with a rectangular hole in between.

9- Statues

In Qaryat al-Fau, different types of statues were found. Some of the statues made of metal, some made of stone, and some made of glazed pottery.

a- metal statues

One example of the human metal statues is the bronze statue which was discovered in the temple. It represent a child with wings, wearing a double-crown on his head, and holding in his left hand a 'Horn of Plenty' filled with bunches of grapes. Al-Ansary suggests that this statue is in the Hellenistic or Roman style made by a local crafts man. And this could represent Harpocrates, son of goddess Isis. He also believes that this style of winged human-like creatures was widespread in the ancient Near East, from the beginning of the second millenium BC. And they are of mythical or religious character. The winged child continued to appear widely up to the end of the 1st century AD (al-Ansary 1982, 24-25).

An example of the animal metal statues is a bronze statue also found in the Temple representing a dolphin in the act of swimming. There was a widespread belief at that time that the dolphin protected one from dangers and guarded against terrors. According to al-Ansary, the Nabataeans (who were coexisted with the first centuries of occupation at Qaryat al-Fau) attached particular importance to the dolphin, and the lobster as creatures sacred to the gods (al-Ansary 1982, 25). They founded many temples to worship the dolphin. Since there is evidence of relations between the Nabataeans and the people of Qaryat al-Fau, so they could also practiced some of their beliefs as well.

b- stone statues

Most of the stone statues in Qaryat al-Fau were heads of figurines which found in different places of the site.

c- glazed pottery statues

Among these statues found in qaryat al-Fau, two pieces of glazed pottery of 5 and 3 cms in length of human faces. Both faces are finished in a light green glazed texture.

10- Inscriptions

Inscriptions were found in vast numbers in Qaryat al-fau. They were found in many places; on mountain slopes, in the *Suq*, in the temple, on murals, in the residential quarters, on tombstones, bones, wood, stone and marble vessels, pottery and incense burners, statues, weights, seals, coins, and engraved in colour on plaster-covered walls. *Musnad* was the only writing on those objects, which makes it the official writing of the citizens of qaryat al-Fau (al-Ansary 1982, 28).

3.3 The chronology

In his talking about the importance of Qaryat al-Fau in history prof. al-Ansary said that Qaryat was mentioned in some inscriptions found in Southern Arabia as *Dhat Kahl* (the town of the deity *Kahl*). *Kahl* appears at Qaryat al-Fau in the form of many inscriptions and rock engravings on the slopes of the Tuwayq, on the walls of the *Suq*, in the residential 8houses, and on incense burners. He added that those South

Arabian inscriptions (which can be dated to the first half of the first century AD) also indicated to Qaryat al-Fau as the capital of the state of Kinda⁸ (al-ansary 1982, 15-16).

Prof al-Ansary (1982, 28-29) date the period of occupation of Qaryat al-Fau as being between the 2nd century BC, and the 5th century AD. He reached this conclusion according to the following factors;

1- The inscription of the King *Mu'awiya bin Rabi'a* which by comparing with the al-Namara inscription, it could date to around the 3rd century AD.

2- The stone and metal statues represent a cultural blend which goes back to the 2nd century BC, particularly in the Yemen. Some of the metal statues shows a northern influence (Roman and Parthian) which goes up to the 5th century AD.

3- the coins date somewhere between the first and the beginning of the 4th century AD.

4- pottery of Qaryat al-Fau may be compared with the pottery of the 2nd and 1st centuries BC, found in Hajar bin Humayed in Yemen, and the Greek pottery. and some of the pottery from the 1st to the 5th centuries AD may be compared to the Roman, Nabataean, and Parthian pottery.

5- finally the laboratory results of samples tested by C14 dating,

⁸ A kingdom founded by the south Arabian origin tribe of Kindah. They controlled parts of Central Arabia during the first four centuries AD. According to Hitti (1953, 84-85) they were the only rulers in Arabia at that time to receive the title *Malik* (King).

shows the occupation of the site as being between the 2nd century BC, and the 5th century AD, though al-Ansary has not yet given the precise dating.

4.0 The site of Zubaidah

The site of Zubaidah is within the district of Al-Qasim which itself is a part of Najd, to the north of Riyadh. The site itself lies directly on the banks of the wadi ArRimmah about 1 km west of the modern bridge carrying the road from 'Unayza to Burayda (Parr and Gazdar 1980, 107). The site is fertile and surrounded by date palm groves and gardens. The site is also surrounded by some abandoned palm groves and disused buildings from the west, sand dunes from the north, and a large flat area cut out of the alluvium and forming bays from the north-west (Parr and Gazdar 1980, 107). Most of the site was destroyed because of the bulldozing which was carried out in the area to prepare the ground for farming. So an accurate estimate of the extent of the site can not be determined, but it is probably some 300 m from east to west (Gazdar 1980, 38).

The site was found during the Saudi Arabian comprehensive survey programme in 1977 by the Department of Antiquities and Museums (Parr et al. 1978, 44-46). During this survey two small trenches were dug (trench I and II). More extensive sounding was done in 1979 by the same Department, where three more trenches were dug (trench III, IV, and V) (Parr and Gazdar 1980, 107-21).

The pottery from this site was the main subject of a PH.D thesis which submitted by M. Gazdar to the University of London in 1982.

4.1 The excavation

The following description of trenches is based on the description of M. Gazdar in his Thesis which published in 1982.

1- Trench I.

This trench of 2 x 2 m and 2.5 m deep was dug at the north east side of the main settlement. The stratigraphy of this trench revealed five occupation layers, but with one definite building phase that associated with the mud-brick structure. The other structural stratigraphy is not clear because of the very limited sounding (Gazdar 1982, 39-40).

2- Trench II.

Trench II is 1 x 1 m and 1.6 m deep. It was dug on the northern edge of the site on a slope of sand dune. This trench revealed no building structures. The stratigraphy sequence indicated the presence of two major phases of occupation. The lower phase of the trench which provided a few very coarse pottery sherds of a very different type, that revealed some important evidence of the earlier period of the site of Zubaidah. The upper phase is represented by what was probably a stone-lined grave associated with Hellenistic pottery (Gazdar 1982, 40).

3- Trench III.

This trench is about 8 x 2 m and about 3.6 m deep. It was dug nearby trench II on the upper slopes of the sand dunes overlooking the site from the north. This trench revealed two major phases separated by an intermediate phase. Phase I is consisted of a succession of layers of different coloured. These layers contained many patches of black ash,

pieces of slag and fragments of copper or bronze. This phase was followed by an intermediate phase which was about 1 m in thickness. Phase II is represented by a rectangular structure built of mud-bricks which were erected on the surface of the dunes. The function of this building is unknown (Gazdar 1982, 40-42).

4- Trenches IV-V

These two trenches form together one area of excavation of about 20 x 1.5 m and about 1-3 m deep. This excavation was dug near the southern end of the area levelled in 1977, where the remains of stone walls were visible on the surface. In these two trenches, three main phases were revealed.

a- Phase I

This phase is divided into two sub-phases which are as follows;

- Phase Ia. The lower part of trench IV-V provided some evidence for the earliest history of the site (Gazdar 1982, 24). The excavation did not reach the natural soil. However, phase one is the earliest phase of occupation discovered consisting of walls of unba ked brown mud-bricks.

- Phase Ib. In a later stage after a partial collapse, the walls of I(a) were repaired and strengthened by the addition of a wall of the same type of unba ked brown mud-bricks as the walls of the phase I(a). Gazdar (1982, 43) suggested that in early history of Zubaidah buildings were built entirely of unba ked brown mud-bricks and the walls were erected on the sand without any stone foundations.

This phase was followed by a period of destruction and the site was abandoned and fell into disuse (Gazdar 1982, 43).

b- Phase II

Two sub-phases can also be distinguished within this phase.

- Phase IIa. only one wall of a structure of a distinctive greenish mud-bricks set in brown mud mortar which can be unequivocally assigned to phase II(a). This structure is set into the sand which filled the ruins of the phase I.

- Phase IIb. In a later stage after a partial collapse, the wall of greenish mud-bricks of phase II(a), it was repaired by the addition of a wall, and is therefore to be assigned, not to phase II(a) but to phase II(b) it seems. The other wall of the brown and green mud-bricks also was repaired by addition of this wall. Therefore both additional walls were assigned to phase II(b) and not to phase II(a).

c- Phase III

The architectural remains which found in this phase are the foundations of the walls, consisting of roughly worked stones set in a light brown mud mortar. The foundation cut through the depress resulting from the destruction of walls of the phase II(a). Two walls of the structures seem to form the long sides of a narrow room or courtyard approximately 8 x 2 m in size.

Gazdar (1982, 45) found that only a few layers in trench IV are assigned to definite phase, while a great number of them is uncertain and not assigned. That is due to the difficulties and uncertainties of

interpretation. Gazdar also found that none of the layers of trench V (which is the higher part of trench IV) are assigned to any phase because they mostly appear to be disturbed by the recent agricultural activity in the area. (Gazdar 1982, 130-31).

4.2 Chronology

In his study, M. Gazdar (1982, 115-29) has divided Zubaidah pottery into two distinct categories; the early period production which was entirely primitive pottery, and the late period production which was relatively developed pottery referred to here as "Hellenistic pottery".

The main characteristic of the early category is that it was entirely hand-made, soft, friable, thick and very coarse with large grits, and sometimes with chaff. The other characteristic was that it was all undecorated, except for one example decorated with a raised hand. The amount of excavated sherds is very small in comparison with that of the late period pottery (Gazdar 1982, 115).

All the evidence points to the conviction that in the pottery of the late period new ideas and new techniques had been adopted. The pottery at Zubaidah introduced the use of the wheel at an early stage of this late period. Compared with that of the early period, the pottery shows many signs of development and progress. It shares several familiar features with that of other areas (Gazdar 1982, 115-16).

The C14 dating provided a long span of time of the occupation of the site. M. Gazdar (1982, 130-34) had some difficulties of interpretation which arose when the C14 evidence was compared with the stratigraphic and the pottery evidence. However, with ignoring the difficulties of

interpretation the C14 dating shows a period of occupation of the site started from 1465 BC and lasted to 395 AD. The Hellenistic period is presented in phase III of trench IV-V with a radiocarbon date of 135 q 120 BC. (Gazdar 1982, 130-31).

5.0 The sites of al-Kharj

The oases of al-Kharj lies about 80 kms south-east of Riyadh. It is situated within the Tuwayq escarpment and located at a strategic juncture or confluence where the wadis of Sulayy, Hanifah, and Nisah meet. These wadis are tributaries to one of the major wadis flowing eastward, the wadi Sahaba (Zarins *et al* 1979,12). The oases of al-Kharj is dominated by solutional collapse holes caused by upward sloping of underground caverns which have penetrated the Sulay limestone and the superficial sediments of the Tertiary and Quaternary periods (MacDonald *et al* 1975). There are some major towns in the oases such as Dilam, Sulaimiya, and al-Yamama.

5.1 The archaeological work

The first archaeological work in this area was a survey that took place as a part of the Comprehensive survey program of the Central region of Saudi Arabia which was done by the Saudi Department of Antiquities and Museums in 1978 (Zarins *et al* 1979). The survey team had noted seven sites with pre-Islamic (described as Hellenistic) materials. Those sites were numbered; 207-20, 23, 24, 27, 28, 30, and 207-36 (Zarins *et al* 1979, 27). Only two sites were described as settlements (sites 207-24, and 207-30).

5.1.1 Site 207-24

Site 207-24 is located on a low terrace near a now-dry spring. On the site there is a number of discrete small mounds and walling made of local limestone and mud-bricks. It was noticed by the survey team that these walls formed complexes of long narrow rectangular rooms. A sounding was made in one of the observed buildings complexes and bed-rock reached at 1.2 m. The observed fill appeared to be fairly homogeneous and without any noticeable stratigraphy. On the basis of the survey and the sounding material (pottery) the site was placed within the Hellenistic period (Zarins *et al* 1979, 27-28).

5.1.2 Site 207-30

This site is located in al-Yamama area. This site was a study field for a Ph.D thesis of A. al-Ghazzi in 1988. His study was based on a comparative study on a pottery corpus from the site. In order to reach the aim of the study, the site was divided into five areas termed A, B, C, D, and E. Six soundings were excavated, one at area A, two at area B, one at area C, one at area D, and one at area E (al-Ghazzi 1990, 64).

a- Sounding at area A

This sounding is measuring 2 x 2.60 m, and was dug to a depth of approximately 5 ms. Fourteen successive layers and four walls were distinguished. These layers were suggested by al-Ghazzi (1990, 65-70) to represent seven occupational phases:

- Phase 1, is represented by layers 14, 13, and wall 4.
- Phase 2, is represented by layers 12, 11, 10, and 9.

- Phase 3, is represented by layers 8, 7, and 6.
- Phase 4, is represented by layers 4, 3, and 2.
- Phase 5, is represented by wall 1.
- Phase 6, is represented by walls 2 and 3.
- Phase 7, is represented by surface remains of walls located west of the sounding.

b- Sounding 1 at area B

This sounding was dug in a complete room with visible surface remains of wall. It measures 3.25 x 3.50 ms. After exposing the first floor at depth of 1.50 m below the surface, a smaller sounding was placed at the former's north-western corner and dug to approximately 1 m below the first floor where the virgin soil could be reached. The sounding revealed ten successive layers and five walls (al-Ghazzi 1990, 70-73). According to al-Ghazzi these ten layers and five walls represented four occupational phases and one subphase:

- Phase 1, is represented by layers 10,9,8, and 7.
- Phase 2, is represented by layers 6 and 5.
- Phase 3, is represented by wall 5.
- Phase 4, is represented by layer 4 and walls 1, 2, and 3.
- Subphase 4:1, it is a mud coat renovation of the architectural elements of phase 4.

c- Sounding 2 at area B

It was placed east and next to sounding 1. This sounding occupies a rectangular room measuring 5.40 x 3.36 ms. The sounding was taken down until a depth of 1.50 m, then a smaller sounding was placed at the south-western corner of the larger one. It was dug for another metre where the digging stopped (al-Ghazzi 1990, 73-77). Fourteen layers and four walls were distinguished by al-Ghazzi. He suggested that these layers and the architectural elements represented three occupational phases and one subphase:

- Phase 1, is represented by layers 14,13, and 12.
- Phase 2, is represented by layers 11,10,9,and 8.
- Phase 3, is represented by layer 7 and walls 2, 3, and 4.
- Subphase 3:1, this subphase is represented by a renovation of the architectural elements. A mud coat applied to the floor and the walls of phase 3.

d- Sounding 1 at area C

This sounding was dug in a room with visible tops of surface walls. It measures 3.40 x 2.12 ms. After exposing the upper walls at depth of approximately 20 cm. The depth of the sounding was about 2.70 ms. Eleven successive layers were distinguished by al-Ghazzi, and he suggested that these layers were represented four occupational phases and an abandonment period (al-Ghazzi 1990, 77-80). Those phases are:

- Phase 1, is represented by layers 11,10,9,and 8.

- Phase 2, is represented by layers 7 and 6.
- Abandonment period, is represented by layers 5, and 4.
- Phase 3, is represented by layers 3, and 2.
- Phase 4, is represented by layer 1, and walls 1, 2, 3, and 4.

e- Sounding 1 at area D

This sounding was placed on a north-western corner of an enclosure, measuring 2 x 2 ms. Then the size was reduced to provide a natural support for the sounding. The depth was dug for 3 metres more making the excavated depth about 5 metres.

Seventeen layers and four walls were represented there. Those seventeen layers as suggested by al-Ghazzi formed four occupational phases and an abandonment period (al-Ghazzi 1990, 80-83):

- Phase 1, is represented by layers 17, 16, 15, 14, and 13.
- Abandonment period, is represented by layer 12.
- Phase 2, is represented by layers 11, 10, and 9.
- Phase 3, is represented by layers 8, 7, and 6.
- Phase 4, is represented by layers 5, 4, 3, 2, and 1; and walls 1, 2, and 3.

f- Sounding 1 at area E

The sounding was dug in a room which walls tops are slightly of the surface. It measures 2.98 x 2.50 ms, with depth of nearly 1.22 m. Then the

size of the sounding was reduced to strengthen the sounding sides and sunk to further 2.12 m making the excavated depth 3.40 m.

Twelve successive layers were discovered and five walls were attested. Those layers were suggested by al-Ghazzi (1990, 84-86) to represent four occupational phases and one subphase:

- Phase 1, is represented by layers 12, 11, and 10.
- Phase 2, is represented by layers 9, 8, and 7.
- Phase 3, is represented by wall 5.
- Phase 4, is represented by layer 6 and walls 1, 2, 3, and 4.
- Subphase 4:1, is represented by the renovation of the architectural elements. It seems to have been renovated by elevating the south-western corner of the room, erecting an oven and coating the original walls attributed to phase 4 (al-Ghazzi 1990, 86).

5.1.2.1 Chronology

Due to the fact that the main study of the site 207-30 by al-Ghazzi was based on pottery as a leading source of his comparative study, so his dating of the site mainly framed on pottery. However, his illustrated sherds of the soundings are much less than those of the surface. He illustrated only 78 sherds from the soundings as compared with 652 sherds from the surface (al-Ghazzi 1990, vol.2). Also his other finds: 9 stone tools, 2 sea-shells, 19 beads, 3 coins, 7 metal rings, 21 glass objects, 14 glass bracelets, 3 ceramic pipes, and 8 steatite sherds where from the surface as well.

According to the material mentioned above (objects from the soundings + objects from the surface) al-Ghazzi (1990, 282-83) drawn a long occupational age of the site divided into six major periods. These periods are as follows:

1- a Bronze Age period ca.2300-1700 BC, which is represented by pottery types 1,2 and subtype 7:5.

2- a Late Bronze and Early Iron Age period ca.1300-900 BC, which represented by pottery type 5.

3- a Mid-Iron Age and Pre-Achaemenid period ca. 900-550 BC, which represented by pottery types 3, 6, 8, 9, 12, and subtypes 7:4, and 7:8.

4- a period involving the Achaemenid, Seleucid, Parthian and Sasanian times ca.500 BC-AD 600, which is represented by pottery types 4, 10-16, 24-25, and subtypes 7:1, 3, 6, 9, and the two excavated glazed type.

5- a period involving Sasanian, Byzantine and early Islamic times ca.300-850 AD, which is represented by pottery types 17-23, and 25.

6- a Middle Islamic period ca. 900-1200 AD, which is represented by pottery types 17-18, and 26-29.

Period 4 is the important period for us, and al-Ghazzi's dating must be examined carefully.

In his analysing of the dating of period 4 al-Ghazzi relied on pottery types 4,10-16, 24,25, subtypes 7:1,3,6,9, and two excavated glazed

types. Of all these types, four types (4,11,24,25) and subtypes 7:1,3,6, and 9 were absent in the soundings and only represented on the surface (al-Ghazzi 1990,125,156-64). That means the horizontal distribution of these pottery types and subtypes is not depicted or represented in the vertical distribution of the pottery of the soundings. So we would not accept these types and subtypes as a reliable source of the dating of the occupational phases of the site.

If we look at the rest of the types (10,12-16, and the two glazed types) that al-Ghazzi used for his dating, it will be obvious that the dating is very imprecise. Also he based his dating of each type of those mentioned above on a few sherds that discovered in the soundings as compared with those from the surface. To explain that we will discuss his types below:

- Type 10, al-Ghazzi (1990, 112,120) illustrated only 7 sherds from the soundings. The rest 61 of his sherds came from the surface. Based on that amount he dated this type as representing a very long period started from the 1st half of the 1st millennium BC through up to somewhere in the early centuries AD (al-Ghazzi 1990, 240).

- Type 12, al-Ghazzi illustrated only 6 sherds from the soundings as compared with 30 sherds from the surface. Based on that, al-Ghazzi (1990, 244) has dated this type to the 1st millennium BC.

- Type 13, only 12 sherds from the soundings were illustrated as compared with 60 sherds from the surface. Based on that, al-Ghazzi (1990, 246) has dated this type to the 2nd half of the 1st millennium BC.

- Type 14, 5 sherds were illustrated from the soundings as

compared with 42 sherds from the surface. Based on that, al-Ghazzi (1990, 249) has dated this type from the 2nd half of the 1st millennium BC to somewhere in the early centuries AD.

- Type 15, this is the only type of those mentioned here has more soundings sherds than the surface ones. Twenty four sherds from the soundings were illustrated as compared with 15 from the surface. Based on that, al-Ghazzi (1990, 250) has dated this type from the opening centuries of the 1st millennium BC to the opening centuries of the 1st millennium AD.

- Type 16, 6 sherds were illustrated from the soundings as compared with 68 sherds from the surface. Based on that, al-Ghazzi (1990, 252) has dated this type from the 1st millennium BC to the early Islamic period.

- two glazed sherds found in the soundings, and no date was given to these two sherds (al-Ghazzi 1990, 121).

While it is clear that the settlement was occupied at sometime between the late 1st millennium BC and the early 1st millennium AD, but on the bases of this imprecise evidence it is difficult to accept that the site was occupied throughout.

6.0 Conclusion

All those three sites which have been discussed above are showing a geographical distribution of sites at Central Arabia. From a location stand-point Qaryat al-Fau lies at the extreme south-western side of the region, al-Kharj and its sites lies almost at the centre of the of the

region, and Zubaidah lies at the extreme north side of the region. From another point of view these sites, in spite of the variations between their occupational durations which contrasted in length and shortness, all had passed at least through one common period if not more. As a quick reminder of the chronology of these sites we find it as follows;

1- The occupational period of Qaryat al-Fau as suggested by al-Ansary (1982, 28-29) started during the 2nd century BC, and continued with no disruption until AD 500.

2- In Zubaidah the occupational period as suggested by Gazdar (1982, 130-34) started about 1465 BC until AD 395 with disruption phases between the occupational periods.

3- al-Gazzi (1990, 282-83) suggested a long occupational age of the site 207-30 started from 2300 BC until AD 1200 divided into six major periods with disruption phases.

As a result of that dating, we found that the period which is the cause of our study (500-100 BC) is partly represented in Qaryat al-Fau which was contemporaneous through its early two centuries with the Hellenistic period which existed in the Near east from nearly 320 BC until the end of the 1st century BC.

In Zubaidah the Hellenistic period is partly represented in Phase III of trench IV-V which dated from 255 until 15 BC.

In site 207-30 of al-Kharj it is clear that the site was occupied during the late centuries BC and that is represented in period 4.

However, the imprecise dating of this period (see above, page.94) make it difficult to accept that the site was occupied throughout the long period of 500 BC- AD 600.

The region of al-Aflaj and the archaeological site of al-Ajaj

1.0 Introduction

In recent years some substantial work has been carried out in Saudi Arabian Archaeology. The most significant work is the comprehensive archaeological survey program undertaken by the Saudi Department of Antiquities and Museums.

Al-Aflaj was one of many regions covered by the survey program of the central provinces in 1976 (Zaidi et al. 1978). The survey of the region shows several sites scattered over the area for most of which no plan is available. However, one site called al-Ajaj has attracted the attention of the author because of its archaeological importance. In fact the site is a group of three sites which are located in the south and south-west of 'Ayn Ar-Ras (see description of the site below).

Most of material of the 1976 survey program was collected from the surface and a small amount of items from limited soundings. On the basis of these collections a preliminary historical date was given to the site with no other details (Zaidi et al. 1979, 28). While this material can confirm the preliminary chronology it cannot be used for a reliable, detailed archaeological study. Thus in order to achieve the objectives set out in the previous section (see above ca. 1) it was necessary to carry out a large-scale archaeological field excavation at

Chapter V

The region of al-Aflaj and the archaeological site of al-'Ayun

1.0 Introduction

In recent years more substantial work has been carried out in Saudi Arabian Archaeology. The most significant work is the comprehensive archaeological survey program undertaken by the Saudi Department of Antiquities and Museums.

Al-aflaj was one of those regions covered by the survey program of the central province in 1978 (Zarins *et al.* 1979). The survey of the region shows several sites scattered on the area for tens of kilometres. However, one site named al-'Ayun has attracted the attention of the author because of its unique assemblage. In fact the site is a group of three sites which lie together to the south and south-west of 'Ayn Ar-Ras (see description of the site below).

Most of material of the 1978 survey program was collected from the surface and a small amount came from limited soundings. On the basis of these collections (mainly pottery) a preliminary Hellenistic date was given to the site without any other details (Zarins *et al.* 1979, 28). While this material may suffice for a preliminary chronology it cannot be used for a reliable, significant and genuine study. Thus in order to achieve the objectives set out in this research (see above ch. I) it was necessary to carry out a limited but concentrated trial excavation at

selected places. However, before doing any excavation, the writer arranged two pre-excavation visits to the area. The first visit was done in December 1985 when surface pottery sherds were collected and many photographs taken. The second visit took place in July 1987. During this visit, an intended pilot study, certain areas were designated for trial excavation. In 1988 and during the period between March-May the first excavation was carried out. This excavation was successful and answered many questions. In order to answer more questions another trial excavation was carried out from April-May 1989. These two archaeological excavations will be discussed in detail in the following chapters.

2.0 Geography

In the South-West of the Central Plateau or Najd lies the al-Aflaj region. The region, which rises about 700 m above sea level (fig. 6), is situated between the edge of the Tuwaiq Mountains on the west and the low outer cliff of an extensive gravel-covered plain of sandstone named al-Biyadh on the east (Powers R.W. *et al.* 1966, 74). Layla is the central city of al-Aflaj and it occupies a central position on the western flank of the region. Around Layla there are nine towns and small settlements; Wasailah, as-Sayh, Ammar, al-Kharfah, ar-Rudhah, as-Sughuh, Sowaidan, Marwan, and al-Badii (fig. 7).

As in the other parts of the interior of Saudi Arabia, al-Aflaj has a hot summer where 45° to 50°C is common, while in winter the temperature may drop to 0°C. The rainfall in Najd generally speaking is extremely low and very variable. The average rainfall is about three inches a year, usually occurring in the form of torrential cloud-bursts

(Hauptert J.S. 1966, 1-2). The al-Aflaj Plain receives surface runoff from several wadis with catchment areas in the Tuwaiq Mountains. The largest of these wadis are, from north to south: Wadi al-Ghayl, Wadi al-Ahmar, and Wadi al-Haddar. These wadis join in the al-Aflaj Plain to form one wadi; Wadi al-Jadwal, which drains eastwards a catchment of 13,000 square kilometres (Ministry of Agriculture vol.I 1984, 20). The al-Aflaj Plain itself does not generate any runoff. All wadi runoff is generated in the Tuwaiq Mountains. The average runoff entering the plain is 19.5 million cubic metres per year (Ministry of Agriculture vol.I 1984, 20).

In the al-Aflaj region there are 17 pools which are used to provide essential water for the traditional irrigation and agriculture where the traditional crops were date palms, wheat, and some vegetables. The water from the lakes was drawn from the ground-water close to the lakes and conveyed by gravity through tunnelled channels called *falaj* to some of the oases. Philby (1920, 171-72) described these tunnelled channels in as-Sayh:-

(..and last but not least, the splendid oases of Sayh, east of Layla, whose rich palms are watered by perennial streams issuing from a complicated network of aqueducts, partly open, partly subterranean, and largely in decayed condition.)

In his description of the sources of these channels Philby said:

(The sources of these aqueducts lie in a series of six reputedly bottomless reservoirs, like those of Kharj, and one considerable lake, called *Umm al-Jabal*⁹, the like of which probably exists nowhere else in Arabia.) (Philby 1920, 172).

In another book , Philby (1922, 87) mentioned the importance of

⁹ Now locally known as 'Ain ar-Ras.

this lake in the description of the European visitors to Inner Arabia when he said:

(In bygone times various European visitors to the southern provinces of the peninsula had, on the authority of information supplied by natives, reported the existence somewhere in the interior of Arabia of a great lake, which they called Bahr Salume, and the cartographers, who used their reports, boldly inserted in their maps a lake of prodigious dimensions with a vague suggestion that it owed its existence to the outpouring of the waters of Wadi Dawasir into its vast basin.)

In his description of the *Umm al-Jabal* lake itself Philby (1922, 88) said:

(The *Umm al-Jabal* lake is shaped somewhat like a kite with tapering tail and marked wings projecting on either side at the southern end...At its northern end , but well above the present water-level, I noticed the depression of an eastward-trending channel, which may have been a canal or aqueduct in the days when the water reached a higher level.)

However, since 1979 an upsurge of modern farming has taken place outside the traditional areas. Water abstraction for this type of farming is based on drilled wells and pumping from the lakes. The decline of 3 to 4 m in water level in the lakes is caused both by pumping and the abstraction from the lower aquifer elsewhere (Ministry of Agriculture 1984, 21). Because of this phenomenon all of the *falaj* systems have fallen dry in spite of desperate efforts by the population to deepen them. This is the main reason for the substantial regression of agriculture in some of the traditional cultivated areas, particularly in As-Sayh. The lack of water was the reason that a considerable number of palm trees died off in the as-Sayh oasis.

The *de jure* population in al-Aflaj i.e. the population by right of Arab family and wider kinship relations forming part of the community,

is estimated to be about 28.000 Saudis. About 70% of the population live in Layla, and 30% in the surrounding villages (Ministry of Agriculture 1984, 74).

3.0 Historical background

Unlike other parts of Arabia e.g. al-Hijaz, al-Yaman, East Arabia, and some parts of North Arabia during the pre-Islamic period and within the Islamic empire time in the past centuries, Central Arabia did not get much attention of scholars of history and geography.

Al-Hamadani who was born in 280 H. and died 344 H. (about 860-920 A.D.) was the earliest Arabian traveller to mention al-Aflaj in his book *Sefat Jaziret al-Arab* (Portrait of the Arabian Peninsula). Al-Hamadani in his description of the land and the people (pp.304-07) said that al-Aflaj or al-Falaj is one of *al-'Aroudh*, (singular *'Aridh*) (a locality in east Najd). Its occupants consisted of the tribes of *Ja'adah*, *Koshayr*, and *al-Hariesh Banou Ka'ab*. The last constitutes the minority of all the groups. Al-Falaj was named after the word *infilaj* which literally means the crack through which water spouts out of the ground.

Al-Hamadani continued his description of the land of each tribe. He said that *al-Hariesh* is located in a valley in al-Aflaj called *Wadi al-Haddar* (about 110 km south-west of modern Layla) which contains palm trees and plantations. The main water source is the well and mostly the water is lifted by means of *sawani* (singular *saneyah*) a camel driven water wheel.

Koshayer is located in *al-Madhari'* where there are fortresses,

plantations and palm trees. There are two main water sources: the first are canals running between the rows of palms whose origin is a nearby spring or lake; the second is the wells. Al-Hamadani said that *Koshayer* was a strong tribe with many fortresses. He mentioned 15 fortresses in *al-Madhari'* belonging to *Koshayer* clans (al-Hamadani p.305).

In his description of *Ja'adah* tribe and its land he said that the town of *Ja'adah* was a fortified one with considerably large and high walls (four horses could be led side by side on top of it). *Ja'adah* was noted for its famous *suq* (market) which was called *suq al-Falaj* and was frequently visited for trading between the Yemeni tribes and the local ones. The *suq* of *al-Falaj* had walls that were described to be 30 cubits thick (approximately 13.5 m) with iron doors and was surrounded by a ditch to protect it from any enemy. Inside the *suq* there were 260 wells of potable water (described to be near the taste of rain water), and 400 shops (al-Hamadani p.305-06).

Beside the *suq*, al-Hamadani mentioned that there was a fortress named *Morghem* (literally meaning to enforce i.e. enforce the enemy to abandon ideas of attack). The foundation of this fortress was that of a ruined older fortress belonging to the extinct tribes of *Tusam* and *Judays*. Al-Hamadani describes that there were two canals, the first, named *al-Ruqadi* whose source was the 'Ain of *Umm Asma'* and 'Ain *al-Zaba'* mixed together; and the second named *al-Atlas* whose source was the 'Ain of *al-Naqah*. Al-Hamadani mentioned a story attached to the reason of this naming which was recounted during his time (ninth century AD). The story claims that the name of 'Ain *al-Naqah* was acquired after a bedouin woman and her *naqah* (camel) fell into the

bottomless 'Ain. Her bracelet fell into the water and was recovered in *Mohallam* river in the land of Hajar (al-Hasa today) in Eastern Arabia (al-Hamadani, pp.306-07).

Another traveller named Yakut al-Hamawi (died in 1228 A.D.) mentioned al-Aflaj in his book *Mu'djam al-Buldan* (the obscure countries). In his short description al-Hamawi who was almost quoting al-Hamadani in his description said that *Falaj* is a city in al-Yamamah land which belongs to the tribes of *Ja'adah*, *Kushayr*, and *al-Harishes Banou Ka'ab*. It was named *falaj al-Aflaj* (literally meaning the greatest Falaj). He added that the Wadis of Aridh drain the torrents towards *Falaj al-Aflaj*. al-Hamawi concluded his description by saying that *Falaj al-Aflaj* is a large oasis with considerable plantations and palm trees and *Falaj* was one of 'Ad places (al-Hamawi pp.271-72).

In the second half of the 19th century AD. William Palgrave made a year journey through Central and Eastern Arabia. During his journey in Central Arabia, Palgrave (1865, 80-81) mentioned al-Aflaj. All we can get of Palgrave's description of al-Aflaj is some placenames, the way which people dress, which is different from those in other parts of Najd, their poor condition, and the extensive gardens and palm groves.

Last but not least, a famous English explorer named St.J.B.Philby made a trip through Najd in the second decade of this century. Philby's first publication about his trip in brief was in *The Geographical Journal* (vol.LV no.3 1920, 171-74). In 1922 Philby published his book *The Heart of Arabia*. In his description of Nejd, Philby specified a whole chapter for al-Aflaj region: the geography, the people, the towns, the water resources, the agriculture, and the ancient remains. He

described Layla as being the only important market town in the area with walls and a population of some 4,000 souls (Philby 1922, 75). Philby mentioned that there are six inhabited towns in modern Aflaj: Wusaila, Layla, 'Ammar, al-Kharfa, arRaudha, al-Sughu, al-Badii, as-Sayh, Marwan, and Sowaidan (Philby 1922, 81-84).

In talking about the water resources, Philby described the 'Ayun or reservoirs of al-Aflaj as a repetition of those in al-Kharj area (about 120 km north east of al-Aflaj), but on a larger and more striking scale. Like those of al-Kharj, the al-Aflaj reservoirs are bottomless, fed by secret subterranean springs, and by human intervention they have been provided with outlets into a maze of subterranean canals of the *Khariz* (singular of *kharazah* which literally means a hole on the surface leading to the subterranean canal) which carries water to the corn fields and palm-groves (Philby 1922, 85). Philby portrayed the water reservoirs as ranging from little shafts, about ten yards long and three yards across at the surface, rising in scale to a regular lake about three-quarters of a mile in length and a quarter-mile across at its broadest part; the water-level reaching almost to the rim of the pits (Philby 1922, 86).

In his survey of al-Aflaj, Philby noticed some ruins which spread on the limestone platform laying to the south of as-Sayh, near the 'Ayun. In his description of these ruins, Philby said:

(Here was perhaps the site of some great city or cemetery of the past-of Persian origin if the character of the canal system in its neighbourhood affords a clue to the identity of those who devised it-but, city or cemetery, there is no trace of it in the annals of the Arabs..) (Philby 1922, 99).

After his visit to as-Sayh, Philby moved to the area around 'Ain *Umm al-Jabal* in *Ghadhara* limestone. He discovered the remains of

a complicated network of canals whose parent channel was dependent on the lake of *Umm al-Jabal*. He described the canals as being dug out of the surface of the slope, but one or two appeared to be wholly of masonry on a higher level than the rest, representing perhaps high-level canals to which the others served as distributors (Philby 1922, 101).

Philby then moved to the ancient remains near the Lake of *Umm al-Jabal* where he discovered a field of circular cairns. He described those cairns by saying:

(..almost immediately afterwards we found ourselves in the midst of a vast circular expanse of cairns, whose diameter I estimated, as I surveyed it from the summit of a blackened hillock at its south-west corner, to be close on two miles...Here was undoubtedly some ancient centre of population..) (Philby 1922, 101).

In his final part of al-Aflaj history, Philby made a conclusion about the origin of the civilization of this region when he said:

(Whoever the earlier inhabitants of the Aflaj may have been, the character of the relics of their handiwork which have survived to our times makes it more than probable that they were not of Arab stock, and that the parent stock, from which they broke off to colonise suitable portions of the interior of Arabia, had already made very much greater progress on the path of civilisation than any of the indigenous Arab communities of those times except the Sabaeans of the south-west corner of the peninsula. The persistence in the Aflaj to this day of an 'Adite¹⁰ tradition, and the meagre nature of the data at our disposal, coupled with the knowledge that the south-western Highlands have been for centuries the source of the human stream, which has peopled the deserts of Arabia, must necessarily make us caseous in ascribing to the ancient prosperity of these central provinces an eastern rather than a south-western origin; but the absence of ruins of the type found in Aflaj and Kharj at any point on the road south of the former and particularly in the valley of wadi Dawasir together with the

10 There is a local story which refer these ruins to the time of the civilization of people of 'Ad and there famous king 'Ad ibn Shaddad in times long gone before Islam (see Philby 1922, 100).

remarkable similarity of the canal-systems of the Aflaj, of Kharj, of the Hasa and of the Qatif district, and the knowledge that the east coast of Arabia was in former times, and for a considerable period, under Persian domination, make it only natural to look to the east rather than to the south-west for explanation of the phenomena found in these parts.) (Philby 1922, 104).

4.0 Discussion

Here we have some comments on what has been mentioned, specifically by al-Hamadani and Philby.

In his description of the *Ja'adah* town al-Hamadani spoke of three important places located at one site possibly revealing some of the mystery of the ancient Aflaj. Those places are: the town, the fortress, and the *suq*;

- al-Hamadani described the town of *Ja'adah* as a fortified one with considerably large and high walls where four horses could be led side by side on top of it. The town was connected to the lakes by two canals.

- a fortress which was built over the ruined older fortress belonging to the vanished Arab tribes of *Tusam* and *Judays*.

- The famous *suq* of *al-Falaj* which was frequently visited for trading between the Yemeni tribes and the local ones. The *suq* was surrounded by 30 cubit-thick walls (about 13.5 m) with iron doors. It contained 400 shops and 260 wells.

In his representation, al-Hamadani did not mention whether these places still existed at his time or not. However, we do not have any other indication of these places in the written Arab literature after al-Hamadani i.e. al-Hamawi Y. who said that al-

Falaj is one of 'Ad places, and he did not mention if there was an existing civilization in the area during his time.

It is difficult to identify the exact location of these three places, but from al-Hamadani's description we know that the town was located near the lakes and exactly the 'Ain *al-Nagah* which is the biggest lake in al-Aflaj. This lake is known today by 'Ain *Umm al-Jabal* or 'Ain *ar-Ras*.

Al-Hamadani did not mention if the *suq* was inside the town or outside it. There might be a little exaggeration in his sketch of the *suq* specially the thickness of the walls. However, we may find some truth in it if we look to the south-west of Central Arabia where an archaeological excavation in *al-Fau* (about 400 km away from al-Aflaj) revealed the *suq* of the town. The excavated *suq* is surrounded by a massive wall consisting of three successive adjoining walls (al-Ansary 1982, 17). Like al-Aflaj, al-Fau was one of those regions on the trading route between South and East Arabia (see above ch.II part III). Having such a large *suq* is an indication that al-Aflaj could be one of the distinguished trading centres on the route. For the people who were living there it was important to fortify and protect their market which provide their wealth and prosperity from any external attack.

Philby was clear-sighted in his description of the ancient ruins of al-Aflaj. He spoke about the ancient irrigation canals in as-Sayh and in al-'Ayun area. He noticed the circular cairns which spread over a wide area but he could not recognize whether it was a cemetery or a city because he did not find any material on the surface. It seems that Philby did not pass by the remains of the settlements in as-Asyh and in al-'Ayun

areas. If he did he must have noticed the pottery sherds spread on the surface.

Finally in his discussion about the character of the remains of ancient al-Aflaj, Philby suspected that this handiwork was done by a non Arab stock. He suggested that they colonised the interior of Arabia. Philby added that no Arab community could do much greater progress of civilization in the area. On the other hand, we found Philby excepting the Sabaeans of the south-west Arabia of this. It is not obvious here why Philby denied the idea of the Arab of the interior being the founder of that handiwork while he admitted that the Arab of the south had a remarkable civilization. *Philby did not have* evidence of a settled foreign stock in central Arabia, nor did the ancient written history mention a penetration of a non Arab stock to the region. However, it cannot be denied that more civilized methods and ideas could move from place to place through cross-cultural relations between nations. It is not extraordinary that the ancient inhabitants of al-Aflaj developed their crafts and skills (through a complicated irrigation system, towns, tombs, etc.) because of the location of their land on the famous trade route which linked many great civilizations in the ancient world such as south-west Arabia, India, Persia, and Mesopotamia. Thoughts and ideas of these civilizations could be adopted by the Arabs of al-Aflaj and modified according to their needs and ability.

5.0 The site of al-'Ayun

The site lies about 18 km away from Layla in a south-west direction, on the right and left sides of the road to Sowaidan (fig. 8). The site is also located to the south and south-west side of Ayn Ar-Ras group. On the contour map of the region the site is situated between line 530

and 540 (see fig. 7). The 1978 survey program (Zarins *et al.* 1979) has divided al-'Ayun area into four visible groups; a settlement numbered 212-63, two tumulus fields numbered 212-64 and 212-65, and a huge system of irrigation channels which spreads around and between the surrounding areas.

5.1 The settlement

The settlement is situated to the right of the road to Sowaidan village. The remaining part which is now fenced, is surrounded by farms on three sides and covering about 2 sq. km. This particular site is located about 2.4 km south-west of Ayn Ar-Ras and appears to be connected to a particular irrigation system located in this basin. Referring to the settlement itself it would appear that a large area of ruins exists. Some parts of the site are prominent hillocks whose contour lines vary between 6 to 11 m above surrounding ground level (fig. 9), while the rest is now level. The site is covered by a considerable amount of scattered sherds and many pieces of copper.

5.2 The tumulus field

About half a kilometre from 'Ain *Ar-Ras*, 5 km north of Suwaydan village lies a large tumulus field. This field which covers about 4 sq. km consisting of two areas; area 212-64, which contains a huge number of subterranean tombs, and area 212-65 which lies directly to the south of area 212-64. The latter contains hundreds of burial mound constructions.

5.3 The irrigation system

There are three different irrigation systems in al-'Ayun area. According to the local people of al-Aflaj two of these systems (fig. 10) were in use until the last decade of this century. However, those two irrigation system has no relation with the abandoned settlement of our field study. So we will investigate only the third system which seems to have a direct connection with the settlement.

It is a huge, complex irrigation system, clearly linked to the 'Ayun area, covered the surrounding land. At least 16 channels from the 'Ayun were found heading in all directions.

Large channels built of local limestone blocks were noted with smaller offshoots leading to fields. The vast majority apparently irrigated the area to the north and north-west of al-'Ayun. A very large and clearly laid out surface gravity flow irrigation system linked to the 'Ain *ar-Ras* consisting of three major channels surrounds the settlement area south of al-'Ayun. The larger major feeder channels were ten to fourteen metres wide near the 'Ain. These major channels decreased in size and sloped towards the settlement and fields in a south-west direction. Four major subsidiary channels emanating from the main channel surround the central tell of the settlement. From these subsidiary channels there is a network of small branches spreading over the whole area. In the enclosed sketch plan (fig. 11) which ^{was} presented by the 1978 comprehensive survey of the central province (Zarins *et al* 1979), there is a layout of the irrigation system in the settlement. The system was divided in to 5 parts, showing the major and subsidiary channels. This division *was* done by the writer originally based on a

ground observation, with the help of the plan mentioned above. The approximate measurements¹¹ of the major and subsidiary channels are as follows;

- part 1 was the major feeder channels which heading from N.E. to S.W. direction. The approximate length of it was 911 m.

- part 2 was one of the subsidiary channels which heads from N.E. to S.W. Its approximate length was 1650 m.

- part 3 was one of the subsidiary channels which lies N. to S. The approximate length was 1033 m.

- part 4 was also one of the subsidiary channels in an E. to W. direction. Approximate length was 1550 m.

- part 5 was the last subsidiary channel which heads from the north direction and curves towards the west. The approximate length was 1100 m.

The entire network covered perhaps 5-6 sq. km from its beginning near 'Ain *Ar-Ras* until its end around the fields and settlement.

6.0 Conclusion

From what has been said *before*, it seems that we are not dealing with an ordinary site. In fact all information and references which mentioned here indicate that al-Aflaj had played an effective role in a certain period of the history of Arabian Peninsula. The historical

¹¹ The scale of measurements which is used here by the writer is 1.50 m. It is the same scale of the plan of the irrigation system.

sources in the early Islamic period (al-Hamadani..etc) gave a picture of the al-Aflaj at that time, and also how strong and powerful it was in the earlier times (before Islam).

H. Philby was the first traveller in this century who attracted our attention to the ancient Aflaj and its importance not only for the region of Central Arabia, but in the Arabian Peninsula in general. It was the remarkable remains of the site of al-'Ayun that made him suspect that it was created by the local inhabitants of al-Aflaj at that time and must be done by some none Arab stock.

The region of al-Aflaj was surveyed by the comprehensive survey program of Saudi Arabia during the late seventies. Based on the surface material, the site of al-'Ayun was classified as one of the Hellenistic sites.

With respect of what has mentioned above, the result of the excavation which carried out by the writer is going to be the pillar of this study. It will be included in the following chapters.

1.2 Subterranean Tombs

This site, which is numbered 212-64, is located to the north side of site no. 212-63. A large number of subterranean tombs with structures only slightly elevated above ground level were noted. Two of these tombs were excavated by the survey team.

Chapter VI

The archaeological work at the area of al-'Ayun

1.0 Previous Work

The first archaeological work in this area was carried out by a team from the Saudi Department of Antiquities and Museums in 1978 as a part of the comprehensive survey program of the Central Province (Zarins *et al.* 1979). Four sites with structural remains were noted by the survey team in the al-'Ayun area. These sites were classified as follows.

1.1 Tumuli / Cairns

The team found a great concentration of the circular tumuli in al-'Ayun. The site numbered 212-65 appears to stretch for over four kms. A quick reconnaissance of the area was conducted and over 200 tumuli were estimated to be present in this tomb-field. These tombs were built of limestone. Although the survey team did not excavate any tomb of this type, they suggested that these tombs are probably associated with the large scale settlement at al-'Ayun (Zarins *et al.* 1979, 23).

1.2 Subterranean Tombs

This site, which is numbered 212-64, is located to the north side of site no. 212-65. A large number of subterranean tombs with structures only slightly elevated above ground level were noted. Two of these tombs were excavated by the survey team:

- the first tomb has a vertical shaft 1 x 1.5 m, and almost 2.5 m deep, providing the entrance to the subterranean tomb, cut entirely into the limestone rock. The roof of the tomb appeared to be 1.5 m below ground level. The vertical shaft has carved footholds or steps to assist descent into the chamber's entrance. The one metre high entrance which led to the chambers was choked with sand and this confirmed the fact that the tomb had been robbed previously. Inside the tomb there was a large chamber with an internal partition which divided the chamber into two rooms. Fallen rock from the second room had filled up much of the chamber (Zarins *et al.* 1979, 26-27; pl.15 A).

- The second tomb had a vertical shaft which was 1 x 1.5 m and about 2.3 m deep. The roof of the tomb appeared to be 1.5 m below ground level. The shaft and the entrance were also filled with sand, which proved that the tomb had been robbed previously. The internal partitions are much smaller than those of tomb one and the appearance was one of a single chamber (Ibid; pl. 15 B).

Both tombs contained small, attached buttresses in addition to the chamber dividers. Human bone and pottery were found randomly scattered throughout the structures (Zarins *et al.* 1979, 26-27).

1.3 The settlement

In al-'Ayun area a settlement was located (see chapter V) and numbered 212-63. This settlement, which was surrounded by a large irrigation complex, was identified by the survey team as having Hellenistic material and to be one of the most important Hellenistic site in this area.

A small sounding was dug in this settlement where a small room was selected based on the surface plan of a large mud-brick building. The walls of the room proved to be 60 cm thick and coated with a plaster wash. Excavations were undertaken to bed-rock 2.5 m below the surface. The excavated room contained a doorway with a threshold and the lintel stone had been removed. A triangular-shaped window was built into one wall (Zarins *et al.* 1978, 27; pl.17 A).

1.4 The irrigation system

The survey team had observed and planned the irrigation channels (see chapter V) which surrounded the settlement, but they did not make any soundings on those channels.

2.0 The latest fieldwork at the area

The two seasons of excavation in 1988 and 1989 which was carried out by the author explored these four sites. The work was as follows.

2.1 The Settlement

In order to organize the excavation at the settlement we chose a datum point at the centre of the main tell and named it D.P.1. Then the area was divided into a grid-square covering an area of 695 x 580 m of the settlement and parts of the irrigation channels. Each square of this grid is 10 x 10 m (fig. 12). In addition to the grid-square map we have drawn a contour map of the main tell of the settlement (see fig. 9 above). The grid consists of ten 100 metre columns, each 10 squares wide. The ten metre columns are lettered from A to J, and the 70 rows of ten metre squares are numbered from 1 to 70.

Within the settlement area we dug four trenches, three of them (nos. 1-3) were on the main tell, and the fourth one (no.5) was at the west of the main tell.

2.1.1 Trench I

This 6 x 5.5 m trench is located on a bearing of 257⁰, and 47 m away of the south-west of D.P.1 and occupied squares E - F/23,24 of col.5 (see fig. 12). The work was done in more than one stage which may be described as follows:-

1- at the beginning we started the work by digging a rectangular trench with dimensions of 4 m east-west x 2 m north-south. After removing a 10 cm level of sand we found a level of collapsed buildings consisting of mud-bricks which was mixed with plaster and hard red sand. This level continued until we reached the plastered floor of a building at a depth of 2.2 m from the highest point of the trench. Here some walls appeared at the east and south sides of the trench, and we also noticed parts of small and thin walls at the west side of the trench.

2- in order to uncover more of those walls we started our second stage. Here we extended the trench by 1.5 m on the west side, and kept the same width of 2 m on the north-south side. In this section the same level of rubble was continued and on the same depth. At the western side of this extension we found another substantial wall and parts of more small, and thin walls.

3- As a final stage the trench was extended 4 m on the north side in an attempt to find the rest of the building. So the final size of trench 1 became 6 x 5.5 m. Finally the fourth wall of the building was found as

well as the rest of those small, thin walls inside the building (fig. 13 A, B). Behind the northern wall a dumping place was found, full of many pottery sherds and animal bones mixed with hard red sand.

Description of the architectural features.

By joining rooms 1,2, and 3 together we found that we excavated one room.

- the internal space of this room was full of one thick layer (about 2.2 m) of rubble. It consisted of pieces of mud-brick, plaster, a few sherds of pottery, stones, and hard red sand. The filling of the part behind the northern wall consisted of a thick layer of dump which reached down to the virgin soil at a depth of 3.1 m from the surface. This layer contained of a lot of pottery sherds, animal bones, stones, and hard red sand.

- the second room that we revealed here had a semi-rectangular shape. The outer walls of this room were built of mud-bricks covered with plaster (except the northern wall which was unplastered):

- the southern wall (fig. 14), which was only partly excavated, has two entrances (we left them blocked by mud and dump to support the wall); one was in the middle of the wall and one in the west side of the wall. These two entrances lead to other, unexcavated parts of the building.

- the eastern wall (fig. 15) was also partly excavated. The average thickness of this wall was about 50 cm.

- the western wall (fig. 16) was fully excavated from inside the

room. It had the same thickness of eastern wall.

- the northern wall (fig. 17) was completely excavated. It was built of unplastered mud-bricks. This wall was very thick (about 1.05 m) and was supported by another small wall on the external side, built of stones and mud. It has the same length as the first wall, was about 56 cm thick, and survived about 1.4 m tall. This supporting wall was itself supported by another smaller wall from behind, which was damaged in the middle; it was the same length as the previous walls, about 33 cm thick, and about 60 cm high.

- the interior of this third room was divided into two halves, one on the east side and the other on west side of the room. These two halves were divided by two attached walls. The first wall was small and thin. The other wall was thicker and taller from the first one, but it was broken at the northern end.

- In the eastern half of the room there was a construction lying in front of the door and attached to the southern wall. This construction of unknown function had a rectangular shape with dimensions of about 1.96 x 1m. It was paved on the inside with three rows of square mud-bricks (40 x 40 x 20 cm). However, most of the bricks of the first and second rows were missing. The room also contained four small compartments (numbered 1, 2, 7, and 8). These compartments were divided by partitions built of small, thin, plastered walls. Three of these compartments (1, 7, and 8) had plastered floors, while the fourth had only a tamped mud floor.

- The western half of the room contained four compartments. They

were divided by small partitions built of plaster of the same size as those in the eastern part of the room. Three of these compartments (4, 5, and 6) had plastered floors, while the fourth had a tamped mud floor. In the southern side of this half there were two small holes beside the blocked door.

Architectural analysis

This building consisted of one level of construction which was confirmed by digging a small probe in the floor of compartment no.3. The 1 x 1 m probe reached virgin soil at a depth of 1.2 m. All we found here was a thick layer of tamped mud mixed with stones which we interpret as the foundation of the building.

The number of compartments which we found in this room leave us with no doubt that the room was a storage place for the building. We found no sign that could lead us to the identity of the building itself.

The sections of this trench show the same layer, which consists of a dump containing pot sherds, animal bones, charcoal, and rubble. That layer is interrupted by small layers of clean sand. The best example we have of those sections is the north section (fig. 18).

2.1.2 Trench II

To the north east of trench I, at the north side of the main tell of the settlement we excavated trench II. This 9 x 4 m trench is located on a bearing of 306°, 20 m north-west of D.P.1, and occupied square I/21 of col. 5 of the grid-square plan (see fig. 12). The excavation of this trench revealed a strange and unexplained architectural unit (fig. 19 A, B). The

features of this architectural unit were numbered in sequence from 1 to 6. These features could be described as follows:-

a- feature 1 was part of a huge and very thick wall (about 1.5 m) built of limestone mixed with mud. This wall is L shaped, its base at the north side of the trench.

b- feature 2 was part of a wall which appeared in the north-west corner of the trench and was attached to feature 1. The wall was built of limestone mixed with mud. Its face was slightly battered. The thickness of the excavated part of this wall was about 80 cm.

c- feature 3 was also a wall lying at the middle of the west side of the trench. It was L-shaped with an angle of 90° , and was attached to feature 1. Like the other walls, this wall was built of limestone mixed with mud. Its face was slightly battered. The thickness of this wall was about 60 cm.

d- feature 4 was part of what seemed to be a huge wall with a thickness of about 3.2 m built of limestone mixed with mud. This huge wall was attached to features 1 and 3. The western side of this wall was eroded.

e- feature 5 was a small semi-rectangular compartment or basin with dimensions of 1.1 (E. - W. sides) x 1.0 x 0.8 m. It was located on top of feature 4. The floor was covered by a level of plaster.

f- feature 6 was a group of five steps, partly revealed by excavation. These steps were attached to the east side of feature 1 at the south-east corner of the trench.

Stratigraphy

In the east and west sections of this trench, various layers of filling were noticed. Those layers could be described as follows:-

- east section (fig. 20) contained four layers which were (from the bottom):

1- a layer about 60 cm thick of hard red sand.

2- a layer about 64 cm thick of dump which consisted of stones, dirt, animal bones, and a few sherds of pottery.

3- a layer 8 cm thick charcoal mixed with sand.

4- a layer about 1.0 m thick of soft red sand.

- the west section (fig. 21) contained five layers which were:

1- a layer of hard red sand that reduced in thickness from 82 cm at the right side to 40 cm at the left side.

2- a layer about 50 cm of dump, which consisted of dirt, stones, animal bones, and a few sherds of pottery.

3- a layer about 1.66 m of hard red sand.

4- a layer about 20 cm of gravel.

5- the last layer was a level of about 80 cm of red soft sand.

Architectural analysis

There is little to be said about this construction, except that these

walls with no doubt were a part of a massive construction. This is witnessed by the thickness and the surviving height of the remains walls. However, what kind of building this was, is difficult to answer. The identity of this building could not^{bc} be reached by a small trial excavation, and we hope that more excavations at the settlement in future will answer the question.

2.1.3 Trench III

This 2 x 6 m trench (fig. 22 A, B) was located on a bearing of 95°, 30 m S.E. of D.P.1, and occupied square d/23 of col.6 on the grid-square plan (see fig. 12). This trench, which lies to the east of the first two trenches, was chosen in an area where traces of walls could be noticed on the surface of the tell (fig. 23).

Work in this trench was done in one stage, where the whole deposit was dug in horizontal spits. From the beginning and directly on the surface we faced a hard layer of rubble that contained mud-bricks, sand, some roof material, and pottery. At a depth of 5 cm or less a wall (feature 1) appeared in the western side of the trench. On the north side of feature 1 another wall (feature 2) appeared connected with the first. Feature 3 was a third wall which appeared at the north side of the trench and connected with the first wall. To the north of wall 2 and parallel to it appeared feature 4, which was also a wall attached to wall 1. The deposit of rubble continued until we reached the tamped mud floor of the room, which was named feature 5.

Description of the architectural features

All the walls here had an average thickness of about 70 cm, built

of mud-bricks, and they were (except wall 3) covered by a layer of plaster.

- feature 1 was part of a wall lying at the west side of the trench. At the north end of this wall there was a doorway, which was blocked by mud-bricks (fig. 24). On the face of the wall there was a trace of fire which left a black surface on it.

- feature 2 was also a part of a wall. In the upper part of this wall there was a small window of an oval shape (fig. 25) covered from inside by a filling of mud. This wall also has a trace of fire which left a black surface on its face.

- feature 3 was a small wall which was attached to the first wall at its northern end. This wall was built of unplastered mud-bricks. The thickness (about 40 cm) was smaller than the others.

- feature 4 was also part of a wall; it was covered with plaster only on the external side. It was very close to wall 1 but not attached to it; they were separated by a small space of about 20 cm. We can not offer any explanation for the building of this wall so near to wall 2 while there was a window on wall 2; it is possible to suggest that the window gave ventilation rather than light, but this does not help us to understand the closeness of the two walls.

- feature 5 was a semi-rectangular area of tamped mud floor for which walls 1 and 2 formed the north and west sides.

2.1.4 Trench IIIA

Within the 1988 trial excavation we noticed that the area near and

around trench III showed some visible wall traces which offered the opportunity to obtain a clear picture of at least one complete architectural unit of the settlement. However, due to our time-table of work during that season, we had a limited time to accomplish our work in three different sites (the settlement, the two cemeteries, and the irrigation system). So we could not arrange any more excavation at that time. In order to achieve our aim that we mentioned above a second trial excavation was arranged in 1989 for three weeks only, where it was difficult (financially speaking) to go further.

The 1989 excavation area was located on a bearing of 95° , 23 m S.E. of D.P.1, and occupied squares C/D/E 23-24 of col. 6 (see fig. 12). Because the 1988 trench III was included in this new trench, we named it trench IIIA.

As mentioned above, this excavation was meant to get a conception of the design of the buildings of the settlement. So we followed a strategy of digging only 1.0 m deep across the whole building. But we made exceptions in two rooms (room 3A1, and 3A3) because we needed to reach the floor in order to know the average surviving height of the building.

The excavation revealed a big construction (fig. 26 A, B) built of mud-bricks and covered with plaster. The average thickness of walls was about 1.0 m. The overall size of the building was about 18 x 15 m. In this building, 9 rooms were exposed.

Description of rooms

- Room 3A1 (fig. 27) was a big rectangular room. Excavation

started by removing the first one metre of the filling of this room, which was a layer of soft, red sand. At this stage the top of a doorway in the south-west side of the room was discovered. On the same side of the room two walls were found beside each other, with a distance of only 20 cm between them. These two walls are the same walls 3 and 4 of trench III of 1988. In order to investigate this phenomenon we decided to dig deep beside these two walls. So a small trench of 2 x 1 m was dug. In this trench a stratum of 1 m of hard red sand was found before the floor was reached. Here it was found that wall 4 had no contact with any other constructions, that it was broken and disconnected at its eastern end, and inclined inwards into the room. The only explanation for this disconnected portion of wall being inside the room is that it had perhaps fallen vertically from the first floor of the building when it collapsed. The filling found inside the room contained about 1 m of soft, red sand and another 1 m of hard red sand with no sign of rubble.

- Room 3A2 (fig. 28) was situated to the west of room 3A1. About 1 m of soft, red sand was removed to expose a large rectangular room. In this room were found two blocked doorways on the eastern side. One doorway was blocked with unplastered mud-bricks originally lead to room 3A1, and the other doorway lead to room 3A4, part of which was excavated in 1988. On the west side of the room an open doorway was found which was the only remaining entrance to this room.

- Room 3A3 (fig. 29 A, B). As a first stage of excavation of this part of the building 1 m of soft, red sand was removed to reveal a small, rectangular room. A doorway was discovered on the south side of the room (fig. 30 A, B). It was a surprise to find the top edge of the doorway

still surviving intact. We thought that this room might be the best opportunity to obtain an idea of the approximate height of the building. So we continued our excavation of this room removing another 1.4 m of soft, red sand to reach a plastered floor. In addition to the doorway another two features appeared; one was a rectangular alcove (fig. 31 A, B) built into the west wall of the room, and the other was a series of eight niches (fig. 32 A, B) spread across the upper half of the northern wall.

- Room 3A4 (fig. 33) had a rectangular shape. The north-west corner of the room was unearthed during the 1988 excavation, and was found to have some trace of fire on the western and northern walls. The fill of rubble in this room was so dense that it was hard to dig, and to distinguish the walls from the rubble. There were two doorways on the east side of the room leading to room 3A5.

- Room 3A5 (fig. 34) was a rectangular room situated almost in the middle of the building. As room 3A4, this room was full of hard rubble. There were two rectangular alcoves near the doorway at the south side of the room. The room had six doorways which connected it with the other rooms around it. One doorway was in the south side of the room, and seemed to be an exit to the outside of the building. Two doorways in the west side lead to room IIIA4. One doorway in the north side lead to room IIIA1. There were two doorways in the east side, one leading to room 3A7 and the other leading to room 3A6.

- Room IIIA6 (fig. 35) was a square room with a doorway that connected it with room IIIA5. The upper part of the north-east corner of this room was lost, and a part of the southern wall was also destroyed.

- Room IIIA7 (see fig. 35) was a square room lying at the south-east corner of the building. This room had two doorways; one in the south side seemed to be another exit to the outside of the building, and the other doorway lead to room IIIA5.

- Room IIIA8 (fig. 36) was a rectangular room with two rectangular alcoves, with size of about 200 x 60 cm each, situated beside each other in the eastern side. There was a doorway in the southern side of this room leading to the outside of the building.

- Room IIIA9 (see fig. 36) had a small rectangular shape. The room contained a doorway in the western wall leading to room IIIA8, a small window in the southern wall, a small niche in the eastern wall, and two small niches in the northern wall, all three had an oval shape.

On the western and northern sides of the building we excavated parts of three walls of rooms, while on the southern side we noticed some traces of walls appearing on the surface only a few meters away from the southern wall of our building. On the eastern side no traces of walls were seen which might indicate the location of another building.

Architectural analysis

Examination of the plan of this building shows that this building consisted of three distinct architectural units.

A- The first unit consisted of five rooms, which were IIIA1, 4, 5, 6, and 7, and two main entrances, one leading to room IIIA5 and the other leading to room IIIA7. In this unit, room IIIA5 serves as a corridor or a passage rather than as an ordinary room. Two of the doorways in room

IIIA7, one lead to what was probably a street or a passage between buildings, and the other to the interior of the building. This leads us to suggest that this room was used as the men's sitting room, where the man of the house receive his guests without entering inside the house. This is a kind of privacy within the house which was important in Arab life before Islam, as pre-Islamic literature shows; in Arab custom women should not mix with men except those of the family, and this has become a religious matter in Islam.

The filling of room IIIA1 with layers of soft and hard red sand with no trace of rubble of fallen walls leads us to suggest that it was an open courtyard within the building. That suggestion is also supported by the location of a window in wall 2 of trench III (recalling that wall 4 seems not to be in sits in this room). Usually people have their windows either facing the street or facing an open space in the building where they can get fresh air.

B- The second architectural unit lay to the west of the first one, and consisted of rooms IIIA3, IIIA8, IIIA9, and the two alcoves to the right of the main entrance. Room IIIA8 was the corridor or the passage which lead to the other two rooms. The size of room IIIA3 (3.6 x 1.7 m) and room IIIA9 (2.1 x 1.5 m) is smaller than the other rooms in the building complex. This leads us to suggest that these rooms were not used as sitting or sleeping places.

In room IIIA3 in particular there are two additional features that should be considered here. The alcove in the western wall of the room seems strange to have in such a place and only in this room. We cannot know what was the function of this kind of alcove, but we may suggest

that it could be a place for a small statue which was worshipped as a deity by the occupants of this building. The eight small niches found in the northern wall of the room are also unusual. These niches might have been used as safes within the wall to keep the occupants private things as well as the daily domestic things such as candles, lamps etc. This practice was known in Arabia, especially in the Central and the Eastern regions, until the recent past.

Based on the features found in this unit we may suggest that it was used as a separate warehouse.

C- The third architectural unit consisted of room IIIA2, which was situated at the north-western corner of the excavated building. As mentioned above, there were two blocked doorways at the eastern side of this room, one formerly used to lead to room IIIA1, and the other to lead to room IIIA4. The open doorway of this room lay in the western side. It seems that in an earlier stage the room was a part of unit one and connected with it by those two doorways. However, for one reason or another the room was isolated from unit one, either to be added to another unit, or to be used on its own for some purpose, for example as a guest room.

2.1.5 Trench V

Trench V lay to the west of the main tell and located on a bearing of 275°, 288 m N. W. of D.P.1. It occupied squares A-B/ 21,22 of col. 3 (see fig. 12).

Trench V was dug in order to investigate one of many stony circular constructions (fig. 37) of unknown purpose which appear on the

surface of the site. These constructions are scattered over the level plain surface around the main tell of the settlement. The work was enclosed in an area of 5 x 5 m horizontally by exposing the dirt. At a depth of about 20 cm, three features were identified (fig. 38 A, B). Those features were:-

1- a ring wall built of stone with an average thickness of 40 cm. The diameter varied between 1.88 and 2.04 m.

2- a floor of plaster covering a large part of the south and south-west part of the trench.

3- part of a small channel at the south side of the trench leading in an east-west direction, but with no surviving connection with the ring wall.

With features 1 and 2 it was not difficult for us to realize that we were dealing with a construction in connection with the use of water. To verify this suggestion we decided to dig inside the circle itself. Excavation reached a depth of 1 m (fig. 39 A, B), where we stopped while the circular wall continued downwards. The first 40 cm of the fill was a stratum of soft, red sand. The remaining 60 cm was a level of very hard red sand (harder than on the main tell settlement). The internal face of the stones was smooth and trim.

Architectural analysis

As suggested above, this construction seems to have a connection with water, and we suggest that it could have had one of two purposes: 1- a well, used to provide water for part of the settlement, from which

people used to run water through the small channel to some parts of the settlement, or 2- a reservoir that was used to store water that comes from the 'Ayun through the major channels to the settlement (see chapter V).

The second possibility seems preferable to us, since there was no need to dig wells to get water while plenty of water was accessible through an easy source.

2.2 The Irrigation System

Four trenches (IV, VI, VII, VIII) were dug in various parts of the irrigation system in order to investigate this huge network of channels.

2.2.1 Trench IV

This trench was located on a bearing of 330° , 252 m N.W. of D.P.1 and occupied square F/4 of col. 4 (see fig. 12). The trench was excavated on a hillock across which the subsidiary channel no.2 (see fig. 11) ran. However, the channel itself had been bulldozed by one of the neighbouring farmers. This hillock was the first of many small ones which were standing in a row and heading west along that part of the channel. In order to investigate this hillock we cut a trench which measured 1 x 7 m. The trench was cut through different layers until the bed-rock was reached on 1 m deep. At the middle of the north side of the trench, a hole which had been cut in the limestone bed-rock appeared. As a next stage and in order to find what kind of hole this was, the trench was extended 1.5 x 1.5 m on the north side. Here was found a tomb with a sub-rectangular shaft measuring about 1.0 x 1.5 m. This shaft was cut 66 cm deep to the bed-rock, leading to two steps cut entirely in the rock. These two steps lead to a small single chamber of semi-circular shape

which was also cut entirely in the bed-rock (fig. 40 A, B). The interior of the chamber was full of soft white sand. Nothing was found inside the chamber except one complete bowl.

Stratigraphy

Within the excavation of this trench three layers were identified (fig. 41). They are from the bottom:

1- a layer of about 13 cm of white sand which occurred in the bottom of the trench and also filled the inside of the chamber and the small room as well.

2- a layer of 25 cm of soft red sand which was mixed with black sand and charcoal.

3- a layer of about 62 cm of a very hard red sand. At the top of this layer and near the surface we noticed the remains of small mud-bricks showing what could be a part of a construction. Unfortunately this construction, which could have been related to the water channel, was almost totally destroyed by the bulldozing of the hillock.

There was a hole cut in the roof of the small chamber, filled with black sand and charcoal.

Discussion of trench IV.

As mentioned above, the channel was almost totally bulldozed. However, the trench which was cut through the hillock showed that the bank of the channel was composed of thick layers of very hard sand.

The tomb was not the only one in this area. During our

investigation of the other hillocks along the channel, some human bones were noticed scattering on the surface of two other hillocks (the top of these hillocks were bulldozed by a neighbouring farmer) lay to the west of the excavated one. However, unlike the excavated tomb in trench IV, it seems that these two hillocks were used as above ground burial.

In comparison with tombs found in the cemetery area this chamber is identical with tombs 7, 8, and 9 of the subterranean type which were cut into the limestone bed-rock (see tombs section below). Like almost every tomb in the cemetery area, this tomb had been looted in antiquity.

It seems strange to have tombs here beside the water channel and near the settlement, while hundreds of similar tombs are in the cemetery. Two questions concerning this tomb need to be considered are: what was the distinctive position of these tombs that separated them from the others, and what was the relation between these tombs and the water channel ?.

For the time being we have no answer for the first question in absence of evidence from the graves themselves which could reveal the identity of the person such as tombstone or some personal belonging.

Unfortunately it is also difficult to answer the second question. Due to the severe damage which happened to the channel by bulldozing its entire surface, it is not possible to decide whether the channel crossed a series of tombs or tombs were built into and under the channel.

2.2.2 Trench VI

Trench 6 was located on a bearing of 225° , 605 m S.W. of D.P.1,

and occupied squares I/68 and 69 of col.1 (see fig. 12). The trench was excavated on the subsidiary channel no.4. The aim of this trench was to find the depth of the channel, and to know the materials that were used in building these channels. The size of the trench was 1 x 8 m, and it was placed across the channel (fig. 42).

At the beginning of the excavation we started cleaning the inside of the channel which was full of soft sand and then we exposed its banks (fig. 43 A, B). The result of this excavation was as follows;

- the width of the whole construction is about 8 m. The external part of the banks of the channel was built by heaping small pieces of limestone. The internal part was built of big blocks of limestone set in a very hard mortar.

- the water channel itself had slightly sloping sides. The depth of the channel was about 84 cm.

2.2.3 Trench VII

The trench was located on a bearing of 220^o, 582 m S.W. of D.P.1 and occupied squares J/66, 67 of col.1, and A/66,67 of col.2 (see fig. 12). The size of the trench was 10 x 10 m and it was located at one of many of what were suspected to be pools or places for dividing the flow of water (fig. 44). The work was started by removing the soft red sand inside the pool. The pool was built with sloping sides with maximum height of 1.6 m; the bottom of the pool (fig. 45) was at the same level as the ground surface. It seems that the pool was used to control the access to three channels: 1- a feeder channel which comes from the east side of the pool (fig. 46) and ends in this pool.

2- a distribution channel which has a narrow entrance like a bottle neck (fig. 47), it was running from the north side of the pool where it takes water towards the fields and the settlement.

3- a carrier channel (fig. 48) which takes water to the other parts to the area at the west of the pool, or in another words a continuation of the feeder channel.

2.2.4 Trench VIII

This trench was located on a bearing of 218° , 514 m S.W. of D.P.1 and occupied squares I-J/64 of col. 2 (see fig. 12). During excavation of the channels some previously unnoticed constructions were found beside the subsidiary channel no.4 on both sides. In order to investigate these constructions we decided to excavate one of them (fig. 49). After cleaning the sand inside and around this construction, the full shape appeared. The construction was built of limestone and consisted of two parts (fig. 50) which rise about 38 cm above the ground level. The first part was a small bench, 1.12 x 1.46 m. The second part was a sub-rectangular bench, bigger than the first one, its overall size being 3.0 x 1.65 m. In the middle of this bench there was a rectangular plastered basin 100 x 76 x 40 cm.

The excavation of these two benches did not give us any indication of their function or relationship to the channels. More extensive excavation in the future may allow a better assessment of their context and purpose.

2.3 Tumulus Field

The excavation here involved two cemeteries with two types of tombs (cairns & subterranean chambers), as mentioned at the beginning of this chapter. Those two cemeteries are now sharing one fence which was built by the Saudi Department of Antiquities and Museums in 1984, and they constitute one area named the tumulus field.

As at the settlement before excavating, we chose a place which was approximately in the middle of the field to be our datum point and we named it D.P.2. Then the area was divided into grid-squares 10 x 10 m. The overall measurements of the grid is 760 x 548 m (fig. 51).

Ten tombs of different sizes and shapes were excavated in different parts of both cemeteries.

2.3.1 Tomb I

The tomb was located on a bearing of 350° , 8 m N.E. of D.P.2, and occupied squares J/61,62 of col.4 (see fig. 51).

This tomb was one of the cairns group in area 212-65. It was built of rough limestone in a circular mound shape with a diameter of 7.2 m and height of 1.2 m. At the beginning we cut the southern half of the cairn where we exposed a part of a kerb or ring wall. Inside that kerb and right in the middle there was a part of the chamber. Then we excavated the whole cairn where we exposed the whole kerb and the chamber (fig. 52 A, B). The kerb was built of limestone in a circular shape with a diameter 7.2 m. The chamber, which was about 1.0 m in height, was built of limestone to an oval plan with an average diameter of 1.0 m from the

inside, and 2 m from the outside (fig. 53). Its floor was cut about 16 cm deep into the bed-rock, and its roof was roughly vaulted. The tomb was looted and it was full of sand with only a few fragments of human bones.

2.3.2 Tomb II

Tomb II was located on a bearing of 80° , 58 m N.E. of D.P.2 and occupied squares F-G/61 of col. 5 (see fig. 51).

This was one of the cairn tombs, and was situated to the east of tomb I. We started our excavation of this tomb by removing the loose stone from the whole cairn, thus exposing a kerb and a chamber (fig. 54). The kerb was built of limestone and had a sub-oval shape (the majority part had an oval shape while the west side was linear) with a size of 5 x 4 m. The chamber, which was built of limestone, had a circular plan and a corbelled vault with an average internal diameter of 80 cm at the top to about 1.2 m at the bottom. The external diameter is about 2.2 m (fig. 55). About 40 cm of the bottom part of the chamber was cut in the bed rock. The tomb was looted and the chamber was full of dirt. A piece of human skull and onehalf of a black ware pot (fig. 56) were found inside the chamber.

2.3.3 Tomb III

This tomb was located on a bearing of 150° , 135 m S.E. of D.P.2 and occupied squares G-H/74, and 75 of col.5 (see fig. 51).

The tomb was a large circular cairn with a diameter of about 10.5 m and height of about 1.45 m. After exposing this tomb we found that it has a kerb and a chamber (fig. 57 A, B). The kerb which was built of

limestone had the same diameter of the cairn. Inside the kerb and right in the middle lay the chamber. The chamber was built of limestone with an oval plan and vaulted roof, while the first 20 cm of the bottom part was cut into the bed rock. The internal diameter of the chamber was about 1.0 m at the top, and 1.5 m at the bottom. The external diameter of the chamber was about 1.5 m. As with the two previously tombs described, this one was looted in spite of the good condition of the chamber. The only thing that we found inside the chamber was a human skeleton in a bad condition (fig. 58 A, B). The head was oriented in a north-east direction and the legs in a south-west direction.

2.3.4 Tomb IV

This tomb was located on a bearing of 142° , 61 m N.E. of D.P.2 and occupied square D/57 of col.5 (see fig. 51).

This cairn tomb was looted and badly damaged, and only a few traces of its features survived (fig. 59). The remains of this tomb contained parts of a kerb and parts of the chamber. The kerb which was built of limestone had a circular shape with a diameter of 6 m. The surviving part of the chamber was the lower part which had a sub-rectangular shape cut into the bed-rock (fig. 60). The tomb was full of sand and nothing was found inside the chamber, not even bones.

2.3.5 Tomb V

This tomb was located on a bearing of 95° , 94 m E. of D.P.2 and occupied squares J/62, and 63 of col.5 (see fig. 51).

This tomb was different from the first four. In this tomb there was

nothing visible on the surface except a circular kerb which was paved inside with *farush* limestone (flat stones). The diameter of this kerb was about 6 m. Inside the kerb there were three places which were full of sand with some small plants in them. Upon excavation it was found that these were three subterranean chambers (fig. 61 A, B), which could be described as follows;

- Chamber 1 was cut smooth and fine in the bed rock. It was approached by a rectangular shaft, 80 x 50 cm in plan, and 1.16 m deep. This shaft lead to a single room through an opening at the bottom of the shaft. The single burial chamber which lay to the south of the shaft was cut in a sub-circular shape 1.26 x 1.0 m and 58 cm high.

- Chamber 2 was smaller than chamber 1 and located to the north-west of it. Like chamber 1, this chamber was cut smooth and fine in the bed rock but it is a little smaller than chamber 1. It was approached by a rectangular shaft which was 70 x 58 cm in plan and 78 cm deep. The shaft lead to a single semi-circular burial chamber which was located to the north of it through an opening at the bottom of the shaft. The size of the room was 1.1 x 0.75 m, and the height 61 cm.

- Chamber 3 was located to the south-west of chamber 2, and to the north-west of chamber 1. It was cut in the bed rock, as the first two tombs, but smaller. It consisted of a small rectangular shaft 50 x 30 cm in plan, and 45 cm deep. The shaft lead to a semi-circular single burial chamber lying to the north of it through a small opening at the bottom of the shaft. The size of the room was 79 x 28 cm, and the height 23 cm.

Those three chambers had been completely locted and the shafts

were full of sand; nothing was found, not even bones. From the overall form of the tomb it seems that it may have been used as a family tomb. The size of the first two chambers could be occupied by adults lying probably in a sleeping position. The small chamber seems to be large enough only to accommodate a child.

2.3.4 Tomb VI

The tomb was located on a bearing of 10° , 127 m N.E. of D.P.2 and occupied squares A,B,C /49 and 50 of col.5 (see fig. 51).

This tomb is quite very different from the others. It was clear on the surface and we needed only to clean some of the sand which covered parts of it. The tomb had an elongated pear-shape paved with limestone, which rose about 30 cm of the ground surface (fig. 62 A, B). The size of this tomb was quite big; a length of 25 m and a width of 5 m at its base. There were four holes in this tomb, a small part of each having been cut in the bed rock. We believe that these were the tomb chambers. Unfortunately, all of these four chambers were looted except chamber no.1, where fragments of human bone and some small beads were found.

2.3.7 Tomb VII

This tomb was located on a bearing of 15° , 88 m N.E. of D.P.2 and occupied squares B,C/53 and 54 of col.5 (see fig. 51).

The external part of the tomb consisted of a circle built of *farush* blocks (flat stones) of different shapes which was partly covered with sand. After cleaning the sand from all over the circular structure we found that it rose up 16 cm above the ground surface with a diameter of 8

m. At the middle of this *farush* structure we found the shaft of the tomb which was full of sand (fig. 63 A, B) . It was a rectangular shaft, 1.0 x 0.55 m and a depth of 1.66 m cut in the bed rock. The shaft led to a sub-rectangular single burial chamber lying to the south of it, reached through a big opening at the bottom of the shaft. The size of the chamber was 1.6 x 1.0 m, and the height was 68 cm. The tomb was totally looted and nothing was found.

2.3.8 Tomb VIII

This tomb was located on a bearing of 20⁰, 94 m N.E. of D.P.2 and occupied squares D,E/53 and 54 of col.5 (see fig. 51).

Architecturally speaking, this tomb was similar to tomb VII. The external part of this tomb was a big circular construction paved with *farush* stone. It rose 10 cm above the ground surface with a diameter of 9.5 m (fig. 64 A, B). In the middle lay a rectangular shaft which was cut smooth and fine in the bed rock with dimensions of 86 x 60 cm and 1.62 m in depth. The shaft had a single rectangular step at the bottom with dimensions of 86 x 34 cm and 14 cm in height. The shaft led to a big single burial chamber which lay to the south-east of it. The chamber was kidney shaped with dimensions of 3 x 2.46 m, and a height of 90 cm. As with the previous tombs excavated, this tomb was looted and only fragments of human bones were found mixed with sand and soil.

2.3.9 Tomb IX

The tomb was located on a bearing of 355⁰, 416 m N.W. of D.P.2 and occupied squares H,I,J/20 and 21 of col.4 (see fig. 51).

Before excavation at this tomb a rectangular structure could be noted on the surface (fig. 65). The removing of soil from inside and outside the structure revealed a rectangular kerb built of *farush* blocks cut from limestone (fig. 66 A, B). The overall size of the kerb was about 15.5 x 6 m, and the height about 30 cm. At the south-east of the kerb was a rectangular shaft 48 x 90 cm in plan and 1.5 m deep. At the east side of the shaft there was a small foot hole. At the bottom of the shaft there was a single rectangular step with size of 24 x 90 cm and height of 16 cm. The shaft led to a semi-circular single burial chamber through an opening at the bottom of the shaft. The size of this chamber which lay to the north-east of the shaft was 2 x 1.26 m while the height was 80 cm. This tomb was also looted and nothing was found inside it.

2.3.10 Tomb X

The tomb was located on a bearing of 330^o, 712 m N.W. of D.P.2 and occupied squares B,C / 2 of col.1 (see fig. 51).

The external structure of this tomb was completely bulldozed. The roof (which is a part of the bed rock) had partly collapsed, revealing part of a rectangular chamber inside the tomb. At the south-east side of the tomb was the shaft which had a small semi-circular plan with a diameter of about 1 m and a depth of 80 cm. This shaft provided the entrance to a rectangular chamber which was also cut into the bed rock. This 2.65 x 1.4 m chamber was connected to another room by a small entrance 1 m wide. The second chamber, the roof of which had mostly fallen, was also of a rectangular shape with dimensions of 2.4 x 1.4 m (fig. 67 A, B). The tomb was full of sand and fallen rock. However, nothing was found inside the tomb which had been completely looted.

2.3.11 Discussion Of The Tombs

As mentioned above, all of those tombs were looted and nothing was found (except tomb III) that could lead us to the identity and position of the deceased. However, from an architectural point of view these tombs are classified into two types:

1- The first type is the cairn or burial mound tombs and it is represented here by tombs 1-4. All these four share the same features: they are all built above ground, the shape is similar (cairn), they have the same ring wall or kerb, the filling of stones which covered the area between the kerb and the chamber, and a single chamber which was built in the middle and slightly cut in to the bed rock.

2- Type 2 are the subterranean tombs. It is represented by tombs 5, 7, 8, 9 and 10. Each tomb consisted of an external structure built of one level of stones. They consist of two types: the circular type, which is the common one and represented in tombs 5, 7 and 8, and the rectangular shape, which is represented only in tomb 9. We do not know about the external structure of tomb 10 because it was totally bulldozed. These subterranean types have chambers which were cut entirely into the bed rock with a roof of rock and vertical entrance shafts. Tombs 5, 7, 8 and 9 have similar single burial chambers with only slight differences of shape.

Tomb 10 represents a complex type of the subterranean chamber tombs. It consists of a large chamber with an internal partition which divided the chamber into two rectangular burial rooms. Due to the lack of material from the tomb we are not able to say whether this is a

multiple burial chamber or a single chamber for someone who was important and was buried in one room while his belongings were placed in the other one.

3- Tomb 6, had a completely different shape from the rest of the tombs. It had an elongated pear-shaped superstructure, with a paved kerb which rose no more than 30 cm above the ground. It is apparently unique, and we did not find any other similar shape in the tumulus field. However, the chambers of this tomb have a similarity with those in the burial mound type, which they built above ground level and only slightly cut into the bed rock. But tomb 6 seems to lack any superstructure to contain the tomb chambers, perhaps because its stone was taken to build later cairns.

1.1 Unglazed Pottery

Type 1: Dark red-brown to dark grey ware (Pls. 1-4).

Fabric is reddish-brown with some sand temper, and very occasional white grits, and the surface may vary from red-brown to dark grey.

Twenty sherds of this type were found in the trenches. The best representatives of those are:

1- Finely wheel-made open bowl with an incurving rim, flat base, and a thin body. The external rim has been shaped by

Chapter VII

The Classification and Comparative Study of Different Objects from the Site

1.0 Pottery

A large number of pottery sherds were collected from both the surface and the excavation. In general the pottery is classified into two groups: unglazed pottery which consists of 11 types, and glazed pottery which consists of 3 types and one sub-type. Most of the wares are wheel-made. Wares are defined in terms of their fabric. Surface treatment can vary and is described in terms of individual representative sherds.

1.1 Unglazed Pottery

Type 1: Dark red-brown to dark grey ware (Pls.1-4).

Fabric is reddish brown with some sand temper, and very occasional white grits, and the surface may vary from red-brown to dark grey.

Twenty sherds of this type were found in the trenches. The best representatives of those are:

1- Finely wheel made open bowl with an incurving rim, flat base, and a thin body. The external bottom half has been shaped by

cutting, probably when the clay was in a leather hard state (pl.1).

Surface finish: Smooth brown purple slip on both sides.

H. 6.3 cm.

D. of rim 14.2 cm.

D. of base 3.4 cm.

Find place: Room 2 of trench I.

2- Wheel made, closed mouth jar with a straight neck, simple rounded rim, and a thin body. There is a hole in the neck, near the rim, probably for hanging. There is a horizontal incised line at the junction of the neck and the body (pl.1).

Surface finish: dark brown and black slip on the outside, and light brown slip on the inside.

D. of rim 6.8 cm.

find place: The dump layer of trench I.

3- Finely wheel made, closed mouth cup with a pointed simple rim, and a thin body. There are three horizontal relief lines on the body (pl.2).

Surface finish: Brown slip on both sides.

D. of rim 4.8 cm.

Find place: Room 1 of trench I.

4- Incurving open bowl with a rounded inverted rim. There are two horizontal relief lines on the body (pl.2).

Surface finish: Dark grey smooth slip on both sides. (pl.4). The

D. of rim 19.1 cm.

Find place: The dump layer of trench I.

5- Very finely wheel made, medium rounded bowl with a flat rim, and a thin body. There are two incised lines directly below the rim (pl.3).

Surface finish: A smooth dark grey slip on both sides.

D. of rim 14.5 cm.

Find place: Inside the room of trench III.

6- Finely wheel made, closed mouth jar with an everted rim (pl.3).

Surface finish: Dark brown smooth slip on both sides.

D. of rim 11 cm.

Find place: The dump layer of trench I.

7- Wheel made, open medium bowl with curved walls and a pointed rim (pl.3).

Surface finish: Light to dark brown slip on both sides.

D. of rim 16.5 cm.

Find place: Layer 2 of trench II.

8- Finely wheel made, open medium rounded bowl with a slightly everted pointed rim, thin body, and a flat base (pl.4). The external bottom half of the bowl has been shaped by cutting, probably when the clay was in a leather hard state.

Surface finish: light brown wash on both sides.

D. of rim 13 cm.

D. of base 6.5 cm.

H. 8.6 cm.

Find place: Layer 2 of trench II.

9- Wheel made, large open bowl with a triangular flat rim (pl.4). There are two incised horizontal lines below the rim.

Surface finish: Dark grey slip on outside and reddish brown slip on inside.

D. of rim 23.9 cm

Find place: The dump level of trench I.

10- Finely made bowl with curved walls, thin body, and rounded rim (pl.4).

Find place: Room 6 of trench IIIA.

Find place: Layer 3 of trench II.

Type 2: Dark grey ware with some chaff impressions (Pls. 5-7).

Fabric is light red with some sand temper, and the surface is dark grey.

Sixteen sherds of this type were found in the excavation. The best representatives of those are:

1- Wheel made small cup with thick body and small narrow base (pl.5).

Surface finish: Grey slip with some chaff impressions on both sides.

D. of base 4 cm.

Find place: Room 1 of trench I.

2- Wheel made large plate with a rolled rim and a thick body (pl.5).

Surface finish: Smooth dark grey slip on both sides.

D. of rim 21.3 cm.

Find place: The dump layer of trench I.

3- Closed mouth jar with a rolled rim and thin body (pl.6).

Surface finish: Smooth dark grey slip on both sides.

D. of rim 8 cm.

Find place: Layer 2 of trench II.

4- Wheel made, rounded open bowl with an inverted rim, and slightly thick body. There is an incised wavy line decoration below the rim (pl.6).

Surface finish: Dark grey slip on both sides.

D. of rim 20.2 cm.

Find place: The dump layer of trench I.

5- Wheel made bowl, probably of a rounded shape with a simple flat rim, and slightly thick body. There are two incised horizontal lines below the rim (pl.7).

Surface finish: Dark grey slip on both sides.

D. of rim 14.2 cm.

Find place: Room 5 of trench IIIA.

6- Wheel made large closed neck of a jar with a rolled rim, and slightly thick body (pl.7).

Surface finish: Dark grey slip on both sides.

D. of rim 14.7 cm.

Find place: Room 6 of trench IIIA.

7- Finely wheel made rounded eggshell medium bowl with a pointed rim (pl.7).

Surface finish: Dark grey slip on both sides.

D. of rim 15.8 cm.

Find place: The dump layer of trench I.

Type 3: Reddish brown to grey ware with some chaff impression (Pls. 8-11).

Fabric is pinkish red clay with some sand temper, the surface may vary from reddish brown to grey.

Twenty four sherds of this type were found in the excavation. The best representatives of those are:

1- A plate with thickened interior rim and slightly thick body (pl.8).

Surface finish: Smooth reddish brown slip on both sides.

D. of rim 22 cm.

Find place: The dump layer of trench I.

2- A thick flattened base, probably of a jar (pl.8).

Surface finish: Reddish brown slip on outside and red slip on inside.

D. of base 8 cm.

Find place: Room 7 of trench IIIA.

3- A slightly thin flattened base, probably of a jar (pl.8).

Surface finish: Reddish brown slip on both sides.

D. of base 6 cm.

Find place: Layer 2 of trench II.

4- A slightly thick flattened base. Exterior face of the object has been shaped by cutting, probably when the clay was in a leather hard state (pl.9).

Surface finish: Reddish brown slip on outside and inside.

D. of base 12.8 cm.

Find place: Layer 1 of trench II.

5- Wheel made plate with thickened interior rim and thick body (pl.9).

Surface finish: Reddish brown slip on both sides.

D. of rim 22 cm.

Find place: Room 4 of trench I.

6- Wheel made large rounded open bowl with a triangular rim, and a slightly thin body (pl.9).

Surface finish: Reddish brown slip on both sides.

D. of rim 23.2 cm.

Find place: Room 7 of trench IIIA.

7- Wheel made large deep bowl with an everted rim, and straight thin walls (pl.10).

Surface finish: Reddish grey slip on outside and smooth reddish brown slip on inside.

D. of rim 23.9 cm.

Find place: Inside the room of trench III.

8- Wheel made large rounded bowl with a triangular rim, and slightly thick body (pl.10).

Surface finish: Reddish brown slip on both sides.

D. of rim 23 cm.

Find place: Room 6 of trench I.

9- A large deep bowl with a triangular rim. There is an incised horizontal line directly below the rim, and below that line another incised horizontal line (pl.11).

Surface finish: Reddish brown slip on outside and smooth dark grey on inside.

D. of rim 26.9 cm.

Find place: The dump layer of trench I.

10- A sherd, probably of a bowl with a simple flat rim, and straight thick walls. There are three parallel incised wavy lines on the body as a decoration (pl.11).

Surface finish: Smooth reddish grey slip on both sides.

Find place: Layer 2 of trench II.

Type 4: Black ware with some punctuations and chaff impressions (Pls. 12-20).

Fabric is yellowish red clay with some sand and white grits. Some wares have black core, and the surface is black.

This type which was named by the survey team of 1978 as Layla black ware (Zarins *et al.* 1979) is common in the site where it was found as a large percentage both in the excavation and on the surface.

Two hundred and sixty sherds were found in the excavation. To illustrate the various forms the best representatives are:

1- An incurving bowl with a wavy rim, low ring base, and slightly thin body. On the outside of the bowl there is a decoration of two incised cross-lines, on three angles of those cross-lines there are three incised sub-circular symbols. Inside the bowl there are worn traces of triangular punctuations on the bottom half and a hole in the base. The bowl was probably used for grinding where the hole in the middle was a result of long use (pl.12).

Surface finish: Worn black slip with chaff impressions on outside.

D. of rim 20.6 cm.

D. of base 12 cm.

H. 9.9 cm.

Find place: Inside the subterranean tomb chamber of trench IV on the irrigation system.

2- A large open bowl with a flat wavy rim, slightly thick body and a low ring base. Inside the bowl there is a trace of triangular punctuations where the inner surface is very smooth and most of the punctuations have disappeared, probably because of the long use for grinding (pl.12).

Surface finish: Black slip on both sides, but the slip on the bottom part of the inside has worn.

D. of rim 25.6 cm.

D. of base 11 cm.

H. 8.8 cm.

Find place: The room of trench III.

3- A large closed rounded bowl with an internally bevelled rim, and thick body. There is an incised wavy line decoration on the body (pl.13).

Surface finish: Black slip on both sides.

D. of rim 24.6 cm

Find place: Room 7 of trench IIIA.

4- A large high ring base with a slightly thick body (pl.14).

Surface finish: Black slip on both sides.

D. of base 14.6 cm.

Find place: The dump layer of trench I.

5- A grinding tool made of clay with many triangular punctuations on the head (pl.14).

Surface finish: Black slip all over.

Find place: The dump layer of trench I.

6- A plate with a survey rounded rim, and thin body (pl.15).

Surface finish: Black slip on both sides.

D. of rim 20.5 cm.

Find place: The dump layer of trench I.

7- A closed mouth jar with a rounded rim, and thick body (pl.15).

Surface finish: Black slip on both sides.

D. of rim 7 cm.

Find place: Room 1 of trench IIIA.

8- Wheel made closed mouth jar with a rolled rim, and a black core. There is an incised horizontal line below the rim at the juncture between the neck and the body (pl.16).

Surface finish: Black slip with some white grits of salt on both sides.

D. of rim 9.5 cm.

Find place: Room 7 of trench IIIA.

9- Wheel made closed mouth jar with an everted rim, and slightly thin body. There are three incised horizontal lines on the neck, and three others below them (pl.16).

Surface finish: Black slip on the outside, and smooth black to brown slip on the inside.

D. of rim 11.5 cm.

Find place: Room 5 of trench IIIA.

10- A thick ring base with some triangular punctuations in the inner side (pl.17).

Surface finish: Black slip on both sides.

D. of base 12.5 cm.

Find place: Room 7 of trench IIIA.

11- A thick body sherd with a black core. There is a raised decoration of a pressed thump nail on the body (pl.17).

Surface finish: Black surface on both sides.

Find place: The dump layer of trench I.

12- A large closed neck of a jar with a thickened rim, and black core. There is an incised horizontal line just below the rim, and below this line there is an incised zigzag line decoration (pl.18).

Surface finish: Black slip on both sides.

D. of rim 14.9 cm.

Find place: Layer 2 of trench II.

13- A ring base with a black core (pl.18).

Surface finish: Black slip on both sides.

D. of base 11 cm.

Find place: The dump layer of trench I.

14- A small ring base with a black core (pl.18).

Surface finish: Black slip on both sides.

D. of base 8 cm.

Find place: The dump layer of trench I.

15- An open bowl with curving rim, and a thick body. There are many rounded open holes all over the body which indicates that the bowl may used as a filter (pl.19).

Surface finish: Black slip on both upper sides of the bowl. The slip on the bottom sides is worn.

D. of rim 15.8 cm.

Find place: Room 6 of trench IIIA.

16- A body sherd with many small holes on the outside only. The function of those holes is unknown (pl.19).

Surface finish: Black slip on both sides.

Find place: Room 4 of trench IIIA.

17- A body sherd with three incised horizontal lines (pl.19).

Surface finish: Black slip on the outside, and dark brown on the inside.

Find place: Room 6 of trench IIIA.

18- A body sherd with a black core. Wavy lines decoration on the outside (pl.19).

Surface finish: Black slip on both sides.

Find place: The dump layer of trench I.

19- A large closed neck of a jar with a slightly inverted rim (pl.20).

Surface finish: Black slip on both sides.

D. of rim 17.4 cm.

Find place: Room 1 of trench IIIA.

20- A large low ring base with a black core (pl.20).

Surface finish: Black slip on both sides.

D. of base 18.4 cm.

Find place: Layer 3 of trench II.

21- A cup with curvey walls and a pointed rim, and slightly thick body (pl.20).

Surface finish: Black slip on both sides.

D. of rim 10 cm.

Find place: The dump layer of trench I.

Type 4: From surface collection (Pl. 21)

About 79 sherds of type 4 were collected from the surface of the main tell. The best representatives of those are:

1- A large low and thick ring base with deep triangular punctuations in the inside (pl.21).

Surface finish: Black slip on outside and smooth black slip on inside.

D. of base 15.5 cm.

2- Wheel made open rounded bowl with a flat rim, thin body, and black core. There is an incised horizontal line below the rim (pl.21).

Surface finish: Smooth black slip on both sides.

D. of rim 14.5 cm.

3- A neck of a closed jar with straight walls, a simple flat base, and slightly thin body (pl.21).

Surface finish: Black slip on both sides.

D. of rim 12 cm.

4- A sherd, probably from a bowl (curving walls) with a rounded rim, and a slightly thin body. There is an incised narrow

horizontal line below the rim (pl.21).

Surface finish: Smooth black slip on both sides.

5- A body sherd with a decoration which consists of an incised wavy line framed by parallel horizontal lines (pl.21).

Surface finish: Black slip on outside.

Find place: Room 7 of trench IIIA.

Type 5: Light brown ware with some chaff impressions (Pls. 22-24).

Surface finish: Light brown wash on both sides.

Fabric is red, porous clay with chaff and some tempered black grits, the surface may vary from light brown to light grey.

This type of pottery was found in small amounts in the excavation only. In the excavation 19 sherds were found. The best representatives of this type are:

1- Wheel made, flat base with a thick body (pl.22).

Surface finish: Light grey wash on the outside.

D. of base 10.1 cm.

Find place: Room 6 of trench IIIA.

2- A neck fragment from a closed jar with a thickened rounded rim, and a thin body (pl.22).

Surface finish: Light brown to white wash on both sides.

D. of rim 11.8 cm.

Find place: The dump layer of trench I.

3- A closed mouth jar with a thick body, and black core (pl.23).

Surface finish: Light brown wash on both sides.

D. of rim 12 cm.

Find place: Room 7 of trench IIIA.

4- An open bowl with an incurving rim, and a thick body (pl.23).

Surface finish: Light brown wash on both sides.

D. of rim 14 cm.

Find place: Layer 1 of trench II.

5- A closed mouth, probably of a jar with a thickened rim, and a thin body (pl.23).

Surface finish: Light brown to grey slip on both sides.

D. of rim 12.3 cm.

Find place: The dump layer of trench I.

6- Wheel made, open bowl with an incurving rim, and thin body. There is black painted decoration on the outside surface (pl.23).

Surface finish: Brown slip on both sides.

D. of rim 21.7 cm.

Find place: Room 1 of trench IIIA.

7- A very thick low ring base of a bowl, probably hand made. There are many triangular punctuations in the inside of the bowl (pl.24).

Surface finish: Brown slip on both sides.

D. of base 11.2 cm.

Find place: Room 7 of trench IIIA.

8- A low ring base of a bowl with some worn traces of triangular punctuations on inside (pl.24).

Surface finish: Brown slip on outside.

D. of base 10.1 cm.

Find place: The room of trench III.

9- A body sherd, probably near the base with triangular punctuations on inside (pl.24).

Surface finish: Dark brown slip on both sides.

Find place: Layer 1 of trench II.

Type 6: Grey ware with small black grits, and chaff impressions
(pl. 25).

Fabric is yellowish red, and porous clay with white and dark red inclusions, the surface may vary from grey to dark grey.

This type was found in small amounts from both the excavation and the surface. From the excavation 15 sherds were found and the best representatives are:

1- Wheel made small flat base, probably of a jar with a slightly thin body. The bottom half of the base has been shaped by cutting, probably when the clay was in a leather hard state (pl.25).

Surface finish: Dark grey wash on outside and light brown slip on inside.

D. of base 5.2 cm.

Find place: The dump layer of trench I.

2- An open rounded bowl with a pointed rim, and thin body. There are two incised horizontal lines below the rim (pl.25).

Surface finish: Grey wash on both sides.

D. of rim 18.8 cm.

Find place: The dump layer of trench I.

3- A plate with a thickened rolled rim, and slightly thin body. There is an incised horizontal line below the rim (pl.25).

Surface finish: Light grey wash on both sides.

D. of rim 20.3 cm.

Find place: Room 9 of trench IIIA.

4- A thick rectangular leg (support), probably of a big jar or a

cooking pot. It has been shaped by cutting, probably when the clay was in a leather hard state (pl.25).

Surface finish: Grey wash all over.

H. 10 cm.

Find place: The dump layer of trench I.

5- A small leg (support) with two small teeth at the bottom (pl.25).

Surface finish: Grey wash all over.

H. 3 cm.

Find place: The dump layer of trench I.

Type 6: From surface collection (pl.26).

Only 7 sherds of type 6 were found on the surface. The best representatives of those are:

1- An open rounded bowl with a flat rim, and thin body. There is an incised horizontal line below the rim (pl.26).

Surface finish: Grey wash on both sides.

D. of rim 15.9 cm.

2- A small flat base with slightly thick body (pl.26).

Surface finish: Dark grey wash on the outside.

D. of base 6 cm.

3- An open rounded bowl with a flat base, and thin body. There is an incised horizontal line below the rim (pl.26).

Surface finish: Light grey wash on both sides.

D. of rim 15.9.

Type 7: Red ware with some chaff impressions (pl.27).

Fabric is coarse and porous, black clay mixed with chaff, the surface is red.

This type is rare in the settlement. Only 7 sherds were found in the excavation. The best representatives of those sherds are:

1- A large high ring base with a slightly thin body (pl.27).

Surface finish: White wash on the outside.

D. of base 19.6 cm.

Find place: Room 1 of trench IIIA.

2- A low ring base with a thick body (pl.27).

Surface finish: Red slip on both sides.

D. of base 12.5 cm.

Find place: Room 6 of trench IIIA.

3- A sherd, probably of a bowl with a triangular flat rim (pl.27).

Surface finish: Red slip on both sides.

Find place: Layer 1 of trench II.

Type 7: From the surface collection (pl. 28).

Only two sherds of type 7 were found on the surface, which are:

1- A sherd of a small flat rim and thin body. There are three small holes on top of the rim, an incised horizontal line below the rim, and four incised diagonal parallel lines below the horizontal line (pl.28).

Surface finish: Red slip on both sides.

2- A closed mouth jar with a rolled rim and slightly thin body (pl.28).

Surface finish: Red slip on both sides.

D. of rim 15.7 cm.

Type 8: Finely made, red ware (pl. 29).

Fabric is yellowish red pure clay, the surface is red.

A few sherds of this type were found in the trenches and on the surface as well. From the trenches, 10 sherds were collected. The best representatives of those are:

1- Wheel made, very thin jar with a closed neck (pl.29).

Surface finish: Trace of red slip on both sides.

D. of rim 9.8 cm.

Find place: Room 9 of trench IIIA.

2- Wheel made, slightly thin rounded bowl with a flat rim.
There is an incised horizontal line below the rim (pl.29).

Surface finish: Red slip on both sides.

D. of rim 15.8 cm.

Find place: trench IV.

3- Wheel made, slightly thin sherd, probably of a rounded bowl
with a pointed rim (pl.29).

Surface finish: Red slip on both sides.

Find place: The dump layer of trench I.

4- A body sherd with an excised horizontal line (pl.29).

Surface finish: Yellowish red wash on both sides.

Find place: The Dump layer of trench I.

Find place: Room 5 of trench IIIA.

Type 8: From the surface collection (pl.30).

Two sherds were found on the surface, which are:

Find place: Room 5 of trench IIIA.

1- Wheel made, closed neck jar with an everted flat rim, and a
very thin body (pl.30).

Surface finish: Red slip on both sides.

Find place: Room 7 of trench IIIA.

D. of rim 6.6 cm.

2- A small sherd with an everted pointed rim, and thin body. There is a thin incised horizontal line below the rim (pl.30).

Surface finish: Trace of red slip on both sides.

Type 9: Light green ware with chaff impressions on both sides (Pls.31-32).

Fabric is coarse and porous, pale yellow to black core mixed with chaff, the surface is light green.

A small amount was found in both the trenches and on the surface. From the trenches 12 sherds were found. The best representatives of those are:

1- A sherd, probably of a hand made bowl with an incurving flat rim, slightly thick body, and pale yellow core (pl.31).

Surface finish: Light green slip on both sides.

Find place: Room 5 of trench IIIA.

2- A sherd, probably of a hand made bowl with an everted rim, slightly thick body, and black core (pl.31).

Find place: Room 5 of trench IIIA.

3- A body sherd, probably hand made with a decoration of three parallel incised horizontal wavy lines, and pale yellow core (pl.31).

Find place: Room 7 of trench IIIA.

4- A large bowl, probably hand made with a slightly broad flat rim, thick body, and pale yellow core. There is a decoration of a horizontal incised wavy line below the rim (pl.32).

Surface finish: Light green slip on both sides.

D. of rim 30 cm.

Find place: The dump layer of trench I.

5- A low and thick ring base, probably hand made with a black core (pl.32).

Surface finish: Light green slip on both sides (no.5).

D. of base 18.8 cm.

Find place: Room 3 of trench IIIA.

Type 9: From the surface collection (pl.33).

Only two sherds of type 9 were found on the surface. Those sherds are:

1- A closed neck of a jar with a thickened rim, thin body, and black core (pl.33).

Surface finish: Light green slip on both sides.

D. of rim 13.7 cm.

2- A very thin walled sherd, probably of a bowl or a cup, with a pointed rim and pale yellow core. There are three parallel, horizontal incised lines below the rim (pl.33).

Surface finish: Light green slip on both sides.

Type 10: Pinkish red ware (pl.34).

Fabric is pale buff soft clay, the surface is pinkish red.

Only one sherd of this type was found in the excavation, which is:

1- Large open bowl with a thickened rounded rim, and slightly thick body (pl.34).

Surface finish: Pinkish red slip on both sides.

D. of rim 29 cm.

Find place: The room of trench III.

Type 11: Grey ware with some chaff impressions (pl.35).

Fabric: Soft grey clay mixed with chaff, the surface is also grey.

Only one sherd of this type was found in the excavation, which is:

1- A deep rounded bowl with a pointed rim, and slightly thick body (pl.35).

Surface finish: Grey wash on both sides.

D. of rim 12.1 cm.

Find place: Room 7 of trench IIIA.

1.2 Glazed Pottery

There are three types and 1 subtype of glazed pottery found on the site. Type 1 is an imported Hellenistic ware. Although glazed types 2, 3 and subtype 3/1 have been divided here into three groups based on their fabric and surface finish, together they could be classified as "Layla green ware" as mentioned in Atlal (see Zarins, *et al.* 1979). All the glazed wares (except the imported Hellenistic) compare in general terms with the unglazed *wares*, while their fabrics are different. Therefore, the glazed wares are not unglazed fabrics with added glaze, but distinct wares.

Type 1: Finely wheel made lustrous green to lustrous light olive glazed ware (Pl.36).

Fabric is very fine pale buff clay, the surface may vary from lustrous green to lustrous light olive.

This type which is known as Hellenistic glazed pottery, was found in very small amounts in the trenches and on the surface as well. From the trenches 7 sherds were found. The best representatives of this type are:

1- A finely made open bowl with flaring sides and offset rim with thin lip which pointed on the top and slightly turned outwards. Slightly thin body, and flattened base (pl.36).

Surface finish: Lustrous green glaze on both sides.

D. of rim 15.8 cm.

D. of base 5.8 cm.

H. 6.4 cm.

Find place: The dump layer of trench I.

2- A finely made open bowl with a thin body, and a concave base (pl.36).

Surface finish: Lustrous light olive glaze on both sides.

D. of base 5.8 cm.

Find place: The dump layer of trench I.

3- A finely made bowl with a flattened base, and slightly thick body (pl.36).

Surface finish: Lustrous green glaze on both sides.

D. of base 12.1 cm.

Find place: The room in trench III.

Type 1: From the surface collection (pl.37).

From the surface, 4 sherds were collected. The best representatives of those are:

1- A finely made bowl with an incurving rolled rim. There are two excised horizontal lines below the rim (pl.37).

Surface finish: Lustrous green glaze on both sides.

2- A finely made bowl with a triangular rim, and thin body (pl.37).

Surface finish: Lustrous green glaze on both sides.

Type 2: Pale green glazed ware (pls. 38-40).

Fabric is yellowish red clay with some dark red grits, the surface is pale green.

This type was only found in the trenches. Fifteen sherds were found. The best representatives of those are:

1- A body sherd which is slightly thick with wavy lines incised decoration (pl.38).

Surface finish: Pale green glaze on the outside and grey slip on the inside.

Find place: Layer 2 of trench II.

2- A flat base with a slightly thick body (pl.38).

Surface finish: Pale green glaze on outside and Dark brown slip on inside.

D. of base 10.8 cm.

Find place: The dump layer of trench I.

3- A grinding tool with slightly worn triangular punctuations on the head, and four rows of vertical lines of triangular punctuations on the sides (pl.38).

Surface finish: Pale green glaze all over.

Find place: The dump layer of trench I.

4- A bowl with an offset rim and slightly thin body (pl.39).

Surface finish: Pale green glaze on both sides.

D. of rim 21.5 cm.

Find place: The dump layer of trench I.

5- A body sherd with a thick body, and a decoration of triangular punctuations on the outside (pl.39).

Surface finish: Pale green glaze on outside, while the inside surface is worn.

Find place: Room 1 of trench IIIA.

6- A large closed mouth, probably of a storage jar with a thickened flat rim, and slightly thick body (pl.40).

Surface finish: Pale green glaze on both sides.

D. of rim 25.5 cm.

Find place: Room 7 of trench IIIA.

7- A closed mouth of a small jar with a simple rim and slightly thick body (pl.40).

Surface finish: Pale green glaze on both sides.

D. of rim 7.5 cm.

Find place: Room 4 of trench I.

Type 3: Wheel made, dark green to dark mottled green glazed ware (pls. 41-44).

Fabric is very hard black to grey clay with a high percentage of crushed steatite, the surface may vary from dark green to dark mottled green.

This type is common in the site of al-'Ayun, where a large number of sherds was found in the trenches and on the surface as well. From the trenches 189 sherds were found. The best representatives of those are:

1- An open rounded bowl with a flat simple rim, and slightly thin body (pl.41).

Surface finish: Dark mottled green glaze on both sides.

D. of rim 17.8 cm.

Find place: The dump layer of trench I.

2- An open bowl with a triangular rim, and slightly thin body (pl.41).

Surface finish: Dark mottled green glaze on both sides. The glaze of the internal side of the rim has been effected by an over firing.

D. of rim 16 cm.

Find place: Room 1 of trench I.

3- A high thick ring base with some triangular punctuations on the inside (pl.41).

Surface finish: Dark green glaze on both sides.

D. of base 11.8 cm.

Find place: The dump layer of trench I.

4- A very large closed mouth, probably of a large storage jar or a cooking pot with a broad flat rim, and thick body (pl.42).

Surface finish: Dark mottled green glaze on both sides.

D. of rim 36.5 cm.

Find place: Layer 1 of trench II.

5- A closed mouth, probably of a slightly large storage jar or a cooking pot with a slightly broad flat rim, and thick body. There is a decoration of two incised wavy lines on the body (pl.42).

Surface finish: Dark mottled green glaze on both sides. The glaze on the internal side of the rim has been effected by over-firing.

D. of rim 24.1 cm.

Find place: Room 9 of trench IIIA.

6- A closed mouth jar with an everted and slightly broad rim, and slightly thin body (pl.43).

Surface finish: Dark green glaze on outside, and black wash on inside.

D. of rim 10.8 cm.

Find place: Room 3 of trench IIIA.

7- A rounded bowl with a simple flat rim, and thin body (pl.43).

Surface finish: Dark mottled green glaze on both sides.

D. of rim 15.8 cm.

Find place: The dump layer of trench I.

8- A very thick concave base, probably of a bowl with some triangular punctuations on the inside (pl.43).

Surface finish: Dark mottled green glaze on outside, and black wash on inside.

D. of base 10 cm.

Find place: Trench V.

9- A concave thin base with a thin body, probably of a bowl (pl.43).

Surface finish: Dark green glaze on both sides.

D. of base 10.6 cm.

Find place: Trench 7 of the irrigation channels.

10- A closed mouth jar with an everted thin rim (pl.43).

Surface finish: Dark green glaze on both sides.

Find place: Room 7 of trench IIIA.

11- An open bowl with a thickened rim and straight walls (pl.44).

Surface finish: Dark mottled green glaze on both sides.

D. of rim 19.2 cm.

Find place: Room 5 of trench IIIA.

12- A closed mouth bowl with a thickened flat rim, and slightly thin body (pl.44).

Surface finish: Dark mottled green glaze on outside, and black wash on inside.

D. of rim 9.6 cm.

Find place: Trench 8 of irrigation channels.

13- A small thin flat base (pl.44).

Surface finish: Dark green glaze on outside, and red slip on inside.

D. of base 6.2 cm.

Find place: Room 6 of trench IIIA.

14- A rounded small bowl with a pointed rim, and thin body (pl.44).

Surface finish: Dark mottled green glaze on both sides.

Find place: The dump layer of trench I.

Type 3: From the surface collection (pl.45).

Forty sherds were collected from the surface. However, the best representatives of those are:

1- A closed mouth, probably of a jar with a flat rim, and slightly thick body (pl.45).

Surface finish: Dark mottled green glaze on exterior, and black wash on interior.

D. of rim 15.7 cm.

2- A high ring base, slightly thick (pl.45).

Surface finish: Dark mottled green glaze on outside, and brown slip on inside.

D. of base 13.6 cm.

3- A high thin ring base, with a thin body (pl.45).

Surface finish: Dark green glaze on outside, and black wash with some chaff impressions on inside.

D. of base 11.6 cm.

4- A finely made small bowl with a thin flat base, and a thin body (pl.45).

Surface finish: Dark green glaze on both sides.

Sub-type 3/1 : Wheel made, dark green to dark mottled green glazed ware (pls. 46-49).

Fabric: Yellowish red clay mixed with black grits, the surface may vary from dark green to dark green mottled on outside and brown to black slip or wash on inside.

The main difference between subtype 3/1 and type 3 is the consistency of the fabric and the finish of the interior in some cases (see type 3). Like type 3, this sub-type was also common in the site. It was found in the trenches and on the surface as well. From the trenches 160 sherds were found, and the best representatives of those are:

1- A closed mouth of a jar with a thickened rim, and a thin body (pl.46).

Surface finish: Dark mottled green glaze on outside, and light brown wash on inside.

D. of rim 12.3 cm.

Find place: Layer 2 of trench II.

2- A base, probably had a ring that is missing here with a slightly thin body (pl.46).

Surface finish: Dark mottled green glaze on outside, and light brown wash on inside.

D. of base 12 cm.

Find place: Room 2 of trench IIIA.

3- A high ring base with a thin body (pl.46).

Surface finish: Dark green glaze on outside, and dark brown slip on inside.

D. of base 11.2 cm.

Find place: The dump layer of trench I.

4- A low ring base with a thin body (pl.46).

Surface finish: Dark mottled green glaze in outside, and yellowish brown wash on inside.

D. of base 10.5 cm.

Find place: Trench V.

5- A large closed mouth of a jar with a thickened everted broad rim, and a thin body (pl.47).

Surface finish: Dark to pale green glaze on both sides.

D. of rim 23.2 cm.

Find place: Room 4 of trench IIIA.

6- An open rounded bowl with a simple flat rim, and slightly thin body (pl.47).

Surface finish: Dark mottled green glaze on both sides.

D. of rim 20.1 cm.

Find place: The dump layer of trench I.

7- A high straight ring base with a slightly thick body (pl.47).

Surface finish: Dark mottled green glaze on exterior, and black slip on interior.

D. of base 14.4 cm.

Find place: Trench 7 of the irrigation channels.

8- A small finely made flat thin base with a thin body (pl.47).

Surface finish: Dark green glaze on outside, and dark brown slip on inside.

D. of base 8 cm.

Find place: The room of trench III.

9- A body sherd with diagonal incised short lines as a decoration (pl.47).

Surface finish: Dark mottled green glaze on exterior, and dark brown slip on interior.

Find place: Trench 4 of the irrigation channels.

10- A closed neck of a jar with an everted thin rim, and slightly thick body (pl.48).

Surface finish: Dark mottled green glaze on exterior, and black to green slip on interior.

D. of rim 12 cm.

Find place: Room 3 of trench IIIA.

11- a low ring base (pl.48).

Surface finish: Dark green glaze on exterior.

D. of ring 11.8 cm.

Find place: Room 4 of trench IIIA.

12- A small concave base (pl.48).

Surface finish: Dark green glaze on exterior.

D. of base 6.3 cm.

Find place: The dump layer of trench I.

13- A rounded open bowl with a simple flat rim, and slightly thick body. There is a hole at the top of the bowl, near the rim, probably one of two which was used for hanging the bowl (pl.48).

Surface finish: Dark green glaze on a black surface on both sides.

Find place: Room 1 of trench IIIA.

14- A large closed mouth, probably of a bowl with a broad flat rim, and thick body (pl.49).

Surface finish: Dark to pale mottled green glaze on exterior, and dark brown slip on interior.

D. of rim 25.2 cm.

Find place: Room 6 of trench IIIA.

15- A rounded open bowl with a simple flat rim, and thick body (pl.49).

Surface finish: Dark mottled green glaze on both sides.

D. of rim 19.9 cm.

Find place: Room 6 of trench IIIA.

Sub-type 3/1: From the surface collection (pls.50-51).

From the surface 50 sherds were collected. The best representatives of those are:

1- A low ring base, probably of a bowl with a slightly thick body, and some triangular punctuations on the inside (pl.50).

Surface finish: Dark mottled green glaze on exterior, and black slip on interior.

D. of base 12.5 cm.

2- A sherd with an offset flat rim, and thin body (pl.50).

Surface finish: Dark mottled green glaze on both sides.

3- A body sherd with a decoration of an incised wavy lines on the body (pl.50).

Surface finish: Dark to pale mottled green glaze on exterior, and dark brown slip on interior.

4- A high ring base with a slightly thick body (pl.51).

Surface finish: Dark mottled green glaze on exterior.

D. of base: 12 cm.

5- A finely made rounded open bowl with a pointed rim, and a thin body. There are two incised horizontal lines below the rim (pl.51).

Surface finish: Dark mottled green glaze on both sides.

D. of rim 19.5 cm.

6- A sherd, probably of a jar with an everted rim, and thick body (pl.51).

Surface finish: Dark mottled green glaze on exterior, and light green slip on interior.

1.3 Tumuli/Carns Pottery

As mentioned above (see ch. VI) all the tombs that were excavated were found to be looted. Only 2 vessels were found, one inside a tomb, and the other on the surface. Those two wares are presenting two different types.

1- Wheel made, black ware with large white grits (pl.52).

Fabric is soft black clay mixed with large white grits, the

surface is black wash.

1- An open rounded bowl with a simple pointed rim, and a thin body. There is a hole in the body below the rim, probably used for hanging the bowl (pl.52).

Surface finish: Black wash on both sides.

D. of rim 13.8 cm.

Find place: Inside tomb 2 of the tumulus field.

Type 2: Hand made, grey ware with some chaff impressions (pl.53).

Fabric is porous and coarse, grey clay mixed with chaff and sand temper, the surface is grey slip.

1- An open bowl with an everted and wavy rim, and thin body (pl.53).

Surface finish: Grey slip on both sides.

D. of rim 27.9 cm.

D. of base 15.2 cm.

H. 13.3 cm.

Find place: On the surface near tomb 1 covered by hard soil, probably was taken out of a tomb by the looters in antiquity.

1.4 Discussion

In discussion, there are two motifs that we would like to bring up; a- is the common distinguishing marks between those different types of pottery, and b- is the reliability of each type.

a- As a first motif there are three common distinguishing marks that many of the pottery types (either unglazed or glazed) share. These are:-

1- The existence of the triangular punctuations on the internal surfaces of the open bowls of many types. Those punctuations in most cases appear to be worn; in some cases only traces of them have survived. This confirms that these triangular punctuations seem to be used for a functional purpose, most likely a grinding purpose. These triangular punctuations were found on the following wares:-

Unglazed corpus; ware no. 1, 2, 5, 10, and surface collection no.1 of type 4, and ware no. 7, 8, and 9 of type 5.

Glazed corpus; ware no. 3, and 5 of type 2, ware no.3, and 8 of type 3, and ware no.1 of subtype 3/1.

2- The rarity of the use of decoration on the pottery of al-'Ayun. The only two common decorations¹² are; the incised horizontal lines, and the incised wavy lines on the external surface of the wares. The incised horizontal lines appeared on the following wares:-

¹² Except in ware no. 1 of type 4, and ware no. 6 of type 5 of the unglazed corpus (see pottery description in this chapter).

Unglazed corpus; Type 1, wares no. 2, 3, 4, 5, and 9. Type 3, ware no. 5, 6, and 9. Type 4, ware no. 8, 9, 12, 17, and surface collection no. 2, and 4. Type 6, ware no. 2, 3, and surface collection no. 1, and 3. Type 8, ware no.2, and surface collection no. 1, and 2. Type 9, surface collection ware no. 2. Type 10, ware no. 1.

Glazed corpus; Type 1, surface collection ware no. 1, and 2. Type 3, ware no. 2. Subtype 3/1, surface collection ware no. 2.

3- The incised wavy lines decoration which appeared on the following wares:-

Unglazed corpus; type 2, ware no. 4. Type 3, ware no.10. Type 4, ware no. 3, 12, 18, and the surface collection ware no. 5. Type 9, ware 3, and 4.

Glazed corpus; Type 2, ware no.1. Type 3, ware no. 5. Subtype 3/1, ware no. 3.

b- Reliability

As mentioned above, some of the pottery types that were found in the site had come from both the soundings and the surface, while some types had come from the soundings only, with not even a single sherd coming from the surface only. Those types may be listed as follows;

- Unglazed corpus.

Type 1; 20 sherds from the soundings only.

Type 2; 16 sherds from the soundings only.

Type 3; 24 sherds from the soundings only.

Type 4; 260 sherds from the soundings, and 79 from the surface.

Type 5; 19 sherds from the soundings only.

Type 6; 15 sherds from the soundings, and 7 from the surface.

Type 7; 7 sherds from the soundings, and 2 from the surface.

Type 8; 10 sherds from the soundings, and 2 sherds from the surface.

Type 9; 12 sherds from the soundings, and 2 sherds from the surface.

Type 10; 1 sherd from the soundings only.

Type 11; 1 sherd from the soundings only.

- Glazed corpus.

Type 1; 7 sherds from the soundings, and 4 from the surface.

Type 2; 15 sherds from the soundings only.

Type 3; 189 sherd from the soundings, and 40 from the surface.

Subtype 3/1; 160 sherds from the soundings, and 50 from the surface.

With the exception of types 10, and 11 from the settlement unglazed corpus, and type 1, and 2 from the tumulus field, which is represented only by one sherd each, the rest of types have an

acceptable number to rely on and if possible to help in dating the site.

Hence the horizontal distribution of pottery found on the surface in general coincides with the vertical distribution reported from the stratigraphy of the site where the surface collected pottery has failed to produce any examples of a type, the excavation has shown that that type is a minority ware. This supports the idea that the settlement was occupied only once, and that the occupation was not long enough to see changes in the pottery assemblage.

1.5 Parallels for the al-'Ayun pottery

1.5.1 Unglazed corpus

Type 1.

Central region: Only one sherd of al-'Ayun type 1 was found in Zubaidah (site 206-7), in al-Qasim area; it is almost exactly comparable to sherd no. 6 of our type on the basis of form and fabric (Parr, *et al.* 1978; pl. 36, no. 107). No exact dating was suggested for this sherd.

Eastern region: Three wares comparable to al-'Ayun were found in sites of Eastern Arabia. From Thaj two sherds were found comparable to sherd no. 1 and no. 3 of our type 1 on the basis of form and fabric (Gazdar, *et al.* 1984; pl. 70, no. 12; pl.71, no. 46, 47). The dating of these wares which found in phase I and II of of the first deep sounding in Thaj was suggested to be from "early Seleucid period" (Ibid, 83). From Tarut (site 115) a sherd was found which was comparable to sherd no. 9 of our type on the basis of form only (Potts,

et al. 1978; pl. 12, no. 90). No exact dating was suggested for this sherd.

Type 2.

Central region: Within the al-Aflaj area, and as a result of our survey of the area in 1988, and 1989, sherds belonging to this type were collected from the surface of the neighbouring settlement of as-Sayh (site 212-60), which lies about 10 km north-east of our site. The collection from as-Sayh (see pls. 54-55) are comparable to our type on the basis of fabrics and surface finish. From Zubaidah (site 206-7) a sherd was found during a survey of the area in 1977 (Parr *et al.* 1978; pl.34 no.52) comparable to sherd no. 6 of our type on the basis of form. No exact dating was suggested for this sherd, but it was illustrated with pottery from a suggested Hellenistic site. Another sherd was found in layer 16A/4 in phase III of trench IV, at the same site of Zubaidah (Parr, *et al.* 1980; pl.81 no.14) comparable to sherd no. 5 of our type on the bases of form and fabric. Gazdar (1982, 131) suggested that phase III of trench IV is belong to the Hellenistic period of the site (255 - 15 BC).

Eastern region: From Thaj two sherds were found (Gazdar, *et al.* 1984; pl.71 no. 51; pl.72 no. 56) comparable with sherds no.1 and 4 of our type on the basis of forms. From site 160 near Jubail a sherd was found (Potts, *et al.* 1978; pl.15 no.215) comparable to sherd no.5 of our type on the basis of form. The date of this sherd was suggested to be Hellenistic.

North Eastern region: From Failaka in Kuwait another sherd

was found (Hannestad, 1983; pl.21 no.241) almost exactly comparable with sherd no. 2 of our type on the basis of form. The dating of these wares was suggested to be Hellenistic.

Type 3

It seems that the only site beside al-'Ayun that has produced this type of pottery is the settlement of as-Sayh in the al-Aflaj area. Many sherds were found (see pl.56) comparable to our type on the basis of fabric and surface finish.

Type 4.

Central region: This type, which is known as Layla black ware (see above), is common in al-'Ayun (site 212-63). It was found at 12 other sites (212-58, 59, 67, 74, 66a, 66b, 61, 60, 62, 69, 56, and 70) in the al-Aflaj area (Zarins, *et al.* 1979; pl.18; pl.20 no.31-50; pl.21 no. 51-59). From the area between al-Aflaj and al-Kharj two sites (212-77b, and 75) were reported as having this type. Only one sherd is illustrated from site 77b (Ibid; pl.20 no.46). From the al-Kharj area one sherd was reported to be found in phase 1 of sounding C in site 212-30 (al-Ghazzi, 1990. 93; pl.12 no.2).

During our survey of the al-Aflaj sites in 1988, and 1989 we found that the only other site beside al-'Ayun with a considerable number of sherds is site 212-60 of as-Sayh, and some of them are illustrated here (pls.57-59).

The very distinctive triangular punctuations on the interior of bowls of this and other types (which will be mentioned below) were

found at many sites: in the al-Aflaj area and beside the site of al-'Ayun these bases were found on site 212-60, and 212-66, as well as at Wasit, site 212-69, at al-Fau (Zarins, *et al.* 1979, 33) and at al-Kharj site 207-30 (al-Ghazzi 1990, 237; pl.102 no.54). Zarins (1979, 33) and on a general comparative basis the date suggested is from the first to the fifth centuries AD, while the triangular punctuation bases from al-Fau are dated to about c. 200 BC (A. Khabeir, pers. comm.). However, we suggest an earlier dating of these triangular punctuation motive in al-'Ayun site in particular based on the relation between our different types of pottery and other objects as well. We will discuss the dating further at the conclusion of this chapter.

Type 5.

Central region: One sherd was found in layer 10/8, trench V, site 206-7 of Zubaidah (Parr, *et al.* 1980; pl.78 no.13) which can be compared to sherd no. 5 of our type on the basis of form and surface finish. No exact dating was suggested for this sherd in that publication, and I was unable to trace information on that layer in Gazdar's unpublished Ph.D thesis, where he himself could not assign the layers of trench V to any phase, because they mostly appear to be disturbed by the recent agricultural activity in the area (Gazdar 1982, 45).

North western region: One sherd was found in *Tilymo* (Bowden, *et al.* 1980; pl.66 no.16) compared to sherd no. 5 of our type on the basis of form. No exact dating was suggested to this sherd (Ibid. 97).

Type 6.

Central region: One sherd was found in layer 13/11, trench IV, site 206-7 of Zubaidah (Parr, *et al.* 1980; pl.81 no. 17) almost compared to the surface sherd no. 3 of our type on the basis of form, and the black grits temper which mixed with fabric. The dating of this sherd was suggested to be Hellenistic (250 - 15 BC) (Gazdar 1982, 131).

North Eastern region: From Failaka in Kuwait one sherd was found (Hannestad 1983; pl.15 no.177) comparable to sherd no. 2 of our type on the basis of form. The dating of this sherd was suggested to be Hellenistic.

Type 7.

Central region: One sherd was found at site 206-7 of Zubaidah (Parr, *et al.* 1978; pl. 36 no. 106) comparable to sherd no. 2 on the basis of form. This sherd was classified as belonging to the 'Hellenic' types (Ibid. 42-46).

Eastern region: Two single sherds found in two sites of the Eastern region are comparable to surface sherd no.2 of our type on the basis of form. One came from site 91 near al-Khobar (Potts, *et al.* 1978; pl.10 no.32), which was suggested to be Hellenistic, and the other from site 11, also near al-Khobar (Ibid. pl.14 no.185), of unknown date. From Thaj three sherds were found (Gazdar, *et al.* 1984; pl.73 no. 68, 69, and 72) comparable to the same sherd mentioned above, on the basis of form and surface finish.

Type 8.

Central region: One sherd was found on the surface of site 207-36 at al-Kharj area (Zarins, *et al.* 1979; pl.23 no.136) which is comparable to sherd no.1 of our type on the basis of form and fabric. No exact dating was suggested for this sherd.

Types 9-11.

No comparable sherds related to these types have been found.

1.5.2 Glazed corpus**Type 1.**

Central region: From site 212-60 of as-Sayh, sherds were found during our survey in 1988-89 (see pl.60) which can be compared to our type on the basis of the fabric and the lustrous green glazed on the surface. At al-Fau a large quantity of this type was found (al-Ansary 1982, 64-65) which also can be compared to our type on the basis of fabric and lustrous green glaze on the surface. The dating of this type at al-Fau was suggested to be from the 2nd to 1st century BC (Ibid, 29).

Eastern region: The Eastern region was reported as one of the most important regions in Arabia with many types of Hellenistic pottery including the green/blue glazed, and the black glazed ware, which is known as Attic ware (Potts, *et al.* 1978, 7-27). Only a few sherds of this type are illustrated from the region. At sites 91 and 95 of the Dhahran tumuli four sherds were found (Ibid. pl.10 no.37, 44,

and 46; Zarins, *et al.* 1984; pl.50 no.26); from site 129 in Tarut, from site 142 near 'Ayn Jawan, and from site 149 near Jubail four sherds were found (Potts, *et al.* 1978; pl.10 no. 147-148; pl.14 no.193, and pl.15 no.207). These sherds are closely comparable to our type on the basis of the fabric and the lustrous green glaze on the surface. The dating of these sherds was suggested to be Hellenistic. From city V of Qala'at al-Bahrain, sherds of the same type were found, but they are not illustrated. Bibby (1972, 155 - 170) has dated these glazed wares from 300 BC to 300 AD.

North eastern region: From Failaka in Kuwait a large number of sherds of this type was found in different colours including the green glaze (Hannestad, 1983; pls. 1-36, and 71-72). The general dating of these sherds is Hellenistic.

Type 2.

As mentioned above, this type was classified together with type 3, and subtype 3/1 as one type only, known as Layla green ware, and not mentioned as glazed (Zarins *et al.* 1979, 32). That classification was suggested mainly on the light of surface sherds and a small amount from a very limited sounding. However, based on fabric and glazed finish and the large number which was found in the excavation we have divided this corpus into two types and one subtype.

In this type and for the first time the potter used the triangular punctuations as a decoration on the outer surface of wares (see pl.38, no.3 and pl.39, no.5).

Central region: Only one sherd has been reported to be found

at site 207-30 in the al-Kharj area (Zarins, *et al.* 1979; pl.20. no. 77) which could be compared to our type on the basis of the green surface (though there is no mention of glaze).

Eastern region: From site 91b near the Dhahran tumuli a sherd was found (Potts, *et al.* 1978; pl.10 no.35) which could be compared with sherd no. 4 of our type on the basis of form and the green surface (again, no mention of glaze). The suggested dating was Hellenistic.

Type 3.

Central region: According to the survey team of the Central region (Zarins, *et al.* 1979, 31-35) beside our site, the majority of the mottled green ware type in general was found in one site of the al-Aflaj area, which is 212-60 of as-Sayh¹³. In this site one sherd was found (Ibid. pl.21 no. 68). From the same site and as a result of our survey of the al-Aflaj sites (1988-89) many sherds of the same type were found; according to our survey results that site is the only one beside our excavated site that has produced this mottled green glazed type of pottery (see pls. 61-62).

- From site 212-33 in Wadi ad-Dawaser one sherd was found (Zarins *et al.* 1979; pl. 19 no. 18).

Again in this type we found bases with triangular punctuations either on sherds from our site or from as-Sayh. As mentioned above Zarins by comparing this feature with examples from other sites

¹³ Although, a map was made by the survey team of the central region in 1978 showing a distribution of Layla green ware (Zarins *et al.* 1979, 32; pl.18) on 13 sites of the al-Aflaj area (excluding sites 212-63, and 64 of al-'Ayun), the publication only illustrated sherds from site 212-60 of as-Sayh.

suggested a dating between the first and fifth centuries AD. However, on the basis of evidence from excavation we suggest an earlier dating for our material (see the end of this chapter).

Subtype 3/1.

As mentioned before, the main difference between subtype 3/1 and type 3 is the consistency of the fabric and the inside finish in some cases.

Central region: As in type 3, subtype 3/1 was found only in site 212-60 of as-Sayh where eight sherds were reported to be found (Zarins *et al.* 1979; pl. 21 no. 63, 65, 66, 72, 79, 80, 82, and pl. 22 no. 90).

This subtype also contains triangular punctuations on one base. For the dating the same thing that we said about type 3 above may be said here.

1.5.3 Pottery from the tumuli

As far as we know, and according to the available sources, no comparable sherds were found at the settlement or in the region as a whole. The absence of these two types at the settlement, and at the region as well, suggest that there might be no relation between this type of tomb (the cairn type) and the settlement. And all we can say here is that there is surely an earlier settlement somewhere in the nearby area.

2.0 Incense burners (pls. 63-64).

Four sherds of incense-burners were found at different levels of the dump layer in trench I of the settlement. Those sherds could be described as follows;

1- A cuboid incense-burner made of reddish brown clay. On the outer surface of the surviving part there are four incised horizontal lines; between the lines there are three rows of triangular punctuations. On the corner and the leg there is an incised vertical line and one vertical row of triangular punctuations. And on the flat surface of the rim there are two incised parallel lines (no. 1).

2- Another cuboid incense-burner (no. 2) made of reddish yellow clay with an olive glaze on both interior and exterior sides. There are black traces of burning on the interior.

3- A cuboid incense-burner (no. 3) made of hard dark grey to dark brown clay with dark green glaze on both surfaces.

4- A cuboid incense-burner (no. 4) made of hard dark grey to dark brown clay with dark green glaze on both sides. On the outer surface of the surviving part there are three horizontal rows of triangular punctuations.

2.1 Discussion and comparison.

The cuboid incense-burners main geographic distribution appears to be limited to southern and central Mesopotamia, Arabia, and the southern Levant (Shea 1983, 76). Because of the location of our site which is almost in the centre of Arabia, we are going to frame

our discussion within Arabia only.

The majority of cuboid incense-burners come in fact from southern Arabia (Yemen and Hadramaut). They appear in three shapes: square, squat, and tall, with different decorations. These cuboid burners come from many sites of southern Arabia: Hureidha, Mashgha, Adiat al-Sultan, Makainan, Hajar bin Humaid, Timna' (Hajar Kholan), Timna' Cemetery, and M rib (Shea 1983, 91). It seems that incense-burners from south Arabia were manufactured almost without exception from stone of various kinds (Ibid. 88). Shea (1983, 94) dated the incense-burners with square form as ranging from the late fifth century BC to the first century AD. Knowledge of cuboid incense-burners from the rest of Arabia, i. e. to the north of the Rub' al-Khali, is meagre, but based on some limited sources of excavations from different parts in Arabia we will try to find some parallels for our burners.

2.1.1 Central region

Wadi ad-Dawasir: three cuboid burners made of clay were found in sites 212-1 and 2 of the Wadi (Zarins, *et al.* 1979; pl.24 no. 160-162). Zarins (1979, 32) dated these burners with the assemblage to the late Hellenistic period of the Wadi ad-Dawasir.

Qaryat al-Fau: many cuboid burners made of limestone were found in Qaryat al-Fau, all of those illustrated decorated with south Arabian inscriptions (al-Ansary, 1982, 73; no.7-8). We have no exact dating for these burners, but in common with other materials from the site, they may be dated between 150 BC to 100 AD (ibid. 28-29).

Zubaidah: from site 206-7 of Zubaidah two cuboid burners made of clay were found (Parr, *et al.* 1978; pl.37 no.123-124). The dating of these two burners was included with the dating of the pottery which goes back to the late Hellenistic period (Ibid. 46).

2.1.2 Eastern region

Thaj: three cuboid burners were found in Thaj. Two were found in 1968 by Bibby (1973, 20; fig.11), one made of stone (steatite) and one made of clay. The third was found in 1983 (Eskoubi & Abu al-Aila, 1985; pl. 44) and was made of clay. Bibby (Ibid. 24) dated these burners roughly between 300 BC to 100 AD.

Dhahran tumuli: from the Dhahran tumuli four cuboid burners were found (Zarins, *et al.* 1984; 37 no.8-11). Three of them were made of clay and one was made of soft limestone. The dating was suggested to be Hellenistic.

3.0 Stone artifacts

The excavation at al-'Ayun site had revealed four types of stone artifacts:

A- A complete composite vessel (pl.65, 1; fig. 68) made of marble, found in trench 4 on the irrigation channel at depth of 40 cm from the surface. The vessel has one small handle with a small hole in each end. On each long side of the vessel there are two small raised figures, which could be human or animal faces. The vessel is composed of two linked cylindrical vases.

From al-Fau in Central region, al-Ansary (1982, 23) mentioned

the finding of many stone vessels in different shapes, among which some were made of marble. No complete vessels were found. Vessel lids were found, among them three marble ones (Ibid. 75, no.4). No exact dating was suggested for these marble vessels.

From Tarut in Eastern region a similar vessel was found mentioned to be made from stone (Golding 1984; pl.136). Also no exact dating was suggested for this vessel.

B- Grinding tools in different shapes. They were found in the dump layer of trench 1. The best representatives of those tools are:

1- a rounded grinding tool made of quartz (pl. 65, 2).

2- a flat rectangular grinding tool made of granite (pl. 65, 3).

C- An open bowl with straight walls and simple rim, made of steatite found in room 6 of trench 3A. It was the only steatite sherd that we found in the site (pl.65, 4). D. of rim 24 cm.

Steatite or soapstone is found naturally in the regions of al-Dawadmi in the western part of Central region, Hajlah near Abha and Dhahran al-Janub in the South-western region, in Yemen, and in Oman (al-Ansary 1982, 23). Objects made of this kind of stone are found in almost every archaeological site in Arabia.

D- Beads: From the tumulus field 50 beads were found. From inside tomb 2, 39 beads were found (fig. 69). From the surface around the tombs 11 beads were collected (fig. 70). 38 of those beads from tomb 2 were small and made of stone, with a circular shape and a small hole in the middle. The stone is white or grey. One bead (in the

middle of the picture) was made also of stone with sub-cylindrical shape that has a small hole in the middle. The 11 beads from the surface also come in different shapes; cylindrical, spherical, rounded, and rectangular. All of them were made of stone of grey, white, or blue colour.

Similar beads to those 39 from tomb 2 were found in Dhahran tumuli field in 1983 and had been seen by us (the writer was a member of the 1983 excavation team at Dhahran tumuli in Eastern region). However, simple beadwork is very difficult to date precisely because of the nature of the material, the tendency for loss and disintegration and burial disturbances.

4.0 Coins

The excavation of trench 1 at the settlement area revealed a hoard of 13 silver coins. They were found about 25 cm below the surface and located on top of the western wall of the building (fig. 71). The coins were stuck to each other, but in a good condition. The coins belong to the Hellenistic tetradrachm series. The name of Alexander (ΑΛΕΞΑΝΔΡΟΥ) written in Greek letters appeared on 7 coins of the 13 (1, 2, 8, 9, 10, 12, and 13) while possibly we have a different name written on coin 5. Three coins have no names on them (3, 7, and 11). The names on the remaining three are not clear. The weight of those coins is contrasted between 17.2 to 16 gm, and this suggests that these coins were probably minted according to the Attic standard which was 17.4 gm, and used in Athens around the 4th century BC (Rutter 1983, 13-14).

4.1 Description of coins

4.1.1 Coin no.1 (fig. 72 A, B).

Obverse: Head of Herakles, facing right wearing headdress composed of lion's scalp, with the front paw of the lion knotted around his neck (fair condition).

Reverse: Zeus seated on throne facing left holding sceptre in his left hand and his right hand outstretched with an eagle perched on it. Behind Zeus the remaining four letters (---ΛΕ--ΑΝ---) of the Alexander's name. Underneath Zeus right hand, there is a wreath symbol.

Diameter 27 mm.

Weight 16.7 gm.

4.1.2 Coin no. 2 (fig. 73 A, B).

Obverse: The remains of eroded head of Herakles, facing right wearing headdress of lion's scalp.

Reverse: Zeus seated on throne facing left holding sceptre in his left hand and his right hand outstretched with an eagle perched on it. The remaining two letters (ΑΛ-----) of a name, probably Alexander's, written behind the seated Zeus. There is an ^ torch symbol under his right hand, and Η symbol beneath his seat.

Diameter 25 mm.

Weight 16.7 gm.

4.1.3 Coin no.3 (fig. 74 A, B)

Obverse: Head of Herakles, facing right wearing headdress of lion's scalp.

Reverse: Zeus seated on throne facing left holding sceptre in his left hand and his right hand outstretched with an eagle perched on it. There is an ^ torch symbol under his right hand, and M symbol written horizontally beneath his seat.

Diameter 27 mm.

Weight 17.2 gm.

4.1.4 Coin no.4 (fig. 75 A, B).

Obverse: Head of Herakles facing right wearing headdress of lion's scalp, with the front paw of the lion knotted around his neck.

Reverse: Zeus seated on throne facing left holding sceptre in his left hand and his right hand outstretched with an eagle perched on it. A name is written behind Zeus, probably of Alexander. There is a symbol of W under his right hand, and another symbol of W above the bird.

Diameter 27 mm.

Weight 16.9 gm.

4.1.5 Coin no.5 (fig. 76 A, B).

Obverse: An eroded head, probably of Herakles facing right wearing headdress of lion's scalp.

Reverse: Zeus seated on throne facing left holding sceptre in his left hand and his right hand outstretched with an eagle perched on it. Behind the seated Zeus there are some remaining letters of a name (ΑΛΙ...ΕΧ ΝΕ) which seems not of Alexander because of the third letter (i) which differentiate the name from Alexander's. There is an ^ torch symbol under Zeus right hand, and ♣ symbol written beneath his seat.

Diameter 27 mm.

Weight 16.8 gm.

4.1.6 Coin no.6 (fig. 77 A, B).

Obverse: Head of Herakles facing right wearing headdress of lion's scalp, with the front paw of the lion knotted around his neck.

Reverse: Zeus seated on throne facing left holding sceptre in his left hand and his right hand outstretched but nothing on it. There are some remaining letters (Δ, and possible ΝΧΠ) of a name written behind Zeus, and a symbol of E in a horizontal position underneath his seat.

Diameter 25 mm.

Weight 17.1 gm.

4.1.7 Coin no.7 (fig. 78 A, B).

Obverse: Head of Herakles facing right wearing headdress of lion's scalp, with the front paw of the lion knotted around his neck.

Reverse: Zeus seated on throne facing left holding sceptre in his left hand and his right hand outstretched with an eagle perched on it. No symbols or names appeared on this coin.

Diameter 29 mm. (fig. 81 A, B).

Weight 16.5 gm. of Herakles facing right where the face is

4.1.8 Coin no.8 (fig. 79 A, B).

Obverse: Head of Herakles facing right wearing headdress of lion's scalp, with the front paw of the lion knotted around his neck.

Reverse: Zeus seated on throne facing left, holding sceptre in his left hand and his right hand outstretched with an eagle perched on it. Six clear letters of Alexander's name (ΑΛΕΞΑΝ ---) are written behind Zeus, and a symbol of what could be Λ in front of his face.

Diameter 27 mm.

Weight 16.0 gm.

4.1.9 Coin no.9 (fig. 80 A, B).

Obverse: Head of Herakles facing right wearing headdress of lion's scalp, with the front paw of the lion knotted around his neck.

Reverse: Zeus seated on throne facing left holding sceptre in his left hand and his right hand outstretched with an eagle perched on it. Under the bird there are the first three letters of Alexander name, possible eroded Α, clear Λ, and clear Ε. The rest of the name comes behind Zeus where we can see possible eroded Ν, clear Δ, and possible eroded ΟΥ. Beneath the seat of Zeus there is a symbol of Greek letter ρ which means p in English.

Diameter 25 mm. Weight 16.7 gm.

4.1.10 Coin no.10 (fig. 81 A, B).

Obverse: Head of Herakles facing right where the face is eroded, wearing headdress of lion's scalp.

Reverse: Zeus seated on throne facing left holding sceptre in his left hand and his right hand outstretched with an eagle perched on it. Behind the seated Zeus comes the remaining six letters of Alexander's name which are: clear... ΑΝΔ, and possible eroded ΟΥ. Beneath Zeus seat a symbol of the Greek letter ρ which means p in English.

Diameter 26 mm.

Weight 16.7 mm.

4.1.11 Coin no.11 (fig. 82 A, B).

Obverse: Head of Herakles facing right wearing headdress of lion's scalp, with the front paw of the lion knotted around his neck.

Reverse: Zeus seated on throne facing left holding sceptre in

his left hand and his right hand outstretched, but no bird seems to be perched on it, possibly eroded. Under his right hand there is a symbol of ^ torch.

Diameter 26 mm.

Weight 17.0 gm.

4.1.12 Coin no.12 (fig. 83 A, B).

Obverse: Head of Herakles facing right wearing headdress of lion's scalp, with the front paw of the lion knotted around his neck.

Reverse: Zeus seated on throne facing left holding sceptre in his left hand and his right hand outstretched with an eagle perched on it. Behind the seated Zeus the clear name of Alexander with only the last letter (Y) missing.

Diameter 25 mm.

Weight 17.0 gm.

4.1.13 Coin no.13 (fig. 84 A, B).

Obverse: Slightly eroded head of Herakles facing right wearing headdress of lion's scalp.

Reverse: Zeus seated on throne facing left holding sceptre in his left hand and his right hand outstretched with an eagle perched on it. There is an ^ torch under Zeus right hand. Behind Zeus there are the remaining four letters (AME ...Δ--) of Alexander's name.

Diameter 27 mm.

Weight 16.5 gm.

4.2 Discussion Of Coins.

As mentioned above, the coins in general are identical to those known from the Hellenistic world. During Alexander's time coins were minted on the Attic standard in gold, silver, and sometimes in bronze. Many mints were opened in Asia Minor, the Levant, Egypt, Iran, and Babylon in Mesopotamia (Rutter 1983, 36-38). After Alexander's death in 323 BC Seleucus, who had been one of Alexander's commanders, established his authority in 312/11 over Syria, Mesopotamia, Iran, and parts of Asia Minor. Seleucus began by continuing Alexander's types on his coinage, and then he substituted his name on the reverse after he took the Royal title in 305/4 (Davis & Kraay 1973, 120-125; Jenkins 1965, 41-52).

The coins from our site were shown to Dr. N. K. Rutter from the Classical Studies Department in Edinburgh University, whose kindly recommended that we contact Dr. Martin Price of the Department of Coins and Medals in British Museum. After seeing photographs of the coins, Dr. Price could identify ten coins of the hoard. Those coins are;

- Coin no. 1 of the wreath group, probably imitation mint of the Babylonian coin of 315 BC (Price, pers. comm. 1988; Thompson *et al.* 1973, 234; no. 1664 Demanhur hoard).

- Coins no. 2, 3, 5, and 13 of the ^ torch group, and minted in

Amphipolis around 300 BC (Ibid; Sylloge Nummorum Graecorum 1976; pl. XLIX, no.2631-2642).

- Coins no. 4, and 8 minted in Macedonia around 323 - 320 BC (Price, pers. comm. 1988).

- Coin no. 9, and 10 of pi (π) group, and minted in Macedonia around 320 BC (Price, pers. comm. 1988)

- And coin no. 6 was suggested by Dr. Price to be an imitation of Sardis mint, and no date was suggested for this one. However, a similar coin is registered under the no. 2621 in the Ashmolean Museum (Sylloge Nummorum Graecorum 1976) and suggested to be of Alexander type minted in Amphipolis, probably between 330 to 323 BC.

- Coins no. 7 and 11 were difficult to identify where no name or symbol could be seen on them.

- Coin no. 12. Dr. Price could not identify this coin. However, two similar coins are registered under the nos. 2553 and 2783 in the Ashmolean Museum and are suggested to be of Alexander type and minted in Amphipolis, probably minted between 330 to 323 BC (Sylloge Nummorum Graecorum 1976; pl.XLVII no.2553, and pl.LIII no.2783). These two were found within the Demanhur hoard in Egypt (Thompson *et al.* 1973, 234, Demanhur hoard 1664).

Finally, as a result of our investigation it seems that the dating of our coins is fairly certain, and lies between 330 to 300 BC, or the last quarter of the 4th century BC. That date range witnessed both the

end of Alexander's time and the very beginning of the Hellenistic era in the East.

5.0 South Arabian Seal (fig. 85 A, B).

This seal was found on the surface a few hundred metres to the west of the main tell of the settlement. The seal is made of lead in an oval shape with a hole in each end. Those holes were probably made for the seal to fit into a ring. This type of seal with a ring was found from the kingdom of Ausan in Yemen (Pirenne 1979, 73). The obverse of the seal which contains the inscription is flat, while the reverse is plain with an oval curved shape. The seal has a short inscription in monumental South Arabian; there is an oval frame of line of dots, a small symbol on each side, two animals one in each side (probably horses), and five letters (𐩧𐩣 𐩀 𐩢 - - -) inscribed in the middle where parts of the first and last letters are eroded.

In order to learn more about this seal we made a personal communication with Dr. R. Smith of the University of Manchester, who kindly suggested both A. Macdonald from Burmington Manor, and Prof. A. F. L. Beeston from St. John's College, Oxford. They indicated that the script is Sabaean of a style resembling what J. Pirenne (*Palographie des inscriptions sud-arabes*, vol.1, 1956) calls E3. She assigns this to a date somewhere in the 2nd century BC. The first letter of the centre name (𐩧) is *dhal* in Arabic language (ذ), commonly used in the pre-Islamic inscriptions to introduce a clan-name. The second letter reading down in the middle is very clearly H which is (ح) in Arabic with its three prongs. The third letter which is B, is (ب) in Arabic language. The fourth letter down is (A) which is

equally clearly an *alif* in Arabic language (آ), and the fifth letter is not clear.

Beeston agreed that the reading of the seal by Macdonald is certainly correct, since it produces the name *HB'L*, attested seven times in North Arabian (Safaitic) inscriptions (see G. L. Harding, *Index and Concordance of pre-Islamic Arabian names*, p.172). Although it is not, so far as Beeston can find, attested in South Arabian materials, it would be a perfectly natural form to be found there as well. It is a possibility that it may in reality be Sabaeen. The name would be probably roughly equivalent to *Habibullah* which could be translated as beloved of god or goddess.

Beeston also mentioned that the two symbols on the sides do not appear to be simply alphabetic letters, but perhaps rather a monogram, since there is something inscribed inside both symbols. Unfortunately it was impossible to guess what it would all add up to: the epigraphic monograms are often extremely difficult to elucidate.

Finally, Beeston added that the principal interest of the seal lies in the two animals depicted. He could not identify them and we also could not find any reference that could lead us to the identity of those animals¹⁴. It may well be that the seal is of central Arabian manufacture, including a name not attested in south Arabia and artistic motifs not known to the south or the north.

Although the seal appears to indicate a later date for the settlement, should not be taken as conclusive evidence for dating.

¹⁴ see appendices 3 and 4.

Chapter VIII

1.0 General discussion of the site of al-'Ayun

Before moving to the concluding discussion it would be useful to recapitulate on the information about the site of al-'Ayun, pulling together the evidence discussed in different sections and seeking to review the site as a whole. Our review can be considered under three headings: the settlement, the irrigation system, and the tombs.

1.1 The settlement

The excavation and survey at the settlement have revealed buildings which can be classified into two types. The first type is comparatively larger in height, and detached. The second type is the ordinary buildings, which are poorly preserved and attached.

The first type is represented by the building of the big tell where we dug trench I (see ch. VI, trench I). There are three factors that distinguish this type from the other:

1- The building was intended to be higher than the others, which is the only explanation for the 1.2 m foundation layer of tamped mud and stones which we excavated beneath the building's floor.

2- Likewise, it was intended to be secure and strong. This is witnessed by the two stone walls which supported the mud-brick main wall of the building which we excavated on the north side.

3- The dump behind the northern wall which contains a lot of animal bones, pot sherds (indeed, most of the excavated pottery from the settlement came from this dump), charcoal, and rubble.

Even if the general characteristics mentioned above cannot give us an idea of what kind of building this was (whether it could be the official residence of a governor, a small fort, or a nobleman's or merchant's house), it seems that the inhabitant of this building certainly did enjoy a sort of prosperity and power.

The second type of building, which we could describe as the domestic or residential buildings, is represented by those which are most clearly seen in trench IIIA (see ch. VI, pp. 126-132). There are three criteria which distinguish this type from the first:

1- The buildings are attached to each other to form blocks of houses. This system of attached buildings was used in settlements of the same region such as al-Fau (al-Ansary 1982, 20-21, 50-53), and it is still in use until today.

2- The level of the floors of the rooms which are directly built upon the virgin soil.

3- The poor condition of these buildings is consistent with the few materials and objects which were found, despite the large scale of excavation, especially in trench IIIA.

As is clearly seen, there was only one occupational period in the al-'Ayun settlement. This is confirmed by the distribution of pottery on the surface which is in general the same as the vertical and chronological

distribution reported from the stratigraphy of the settlement. Nowhere in the settlement was any variation in the pottery found.

On the basis of the discussion and comparison of the objects from the settlement we can certainly say that the site is pre-Islamic. It seems that the site was abandoned sometime during the early 3rd century BC, probably a few years later, but we do not know when the settlement was found, or for how long it existed. This dating is based primarily on the coin evidence.

The coins form a closely datable group and have a good archaeological context. Their date of mint lies between 330 and 300 BC (see ch. VII, pp.214-216). As mentioned before, these coins were found within or on top of a wall, so it would be unlikely that they were in the building for a long time before its abandonment. Most likely they were put in the building just before its evacuation (or possibly hidden soon after). If these coins were buried sometime during the middle or the end of the 3rd century BC or later we could expect at least to find alongside some different coins of a later date.

Hence we have clear dating evidence for the settlement based on the above objects, indicating that the site was abandoned by 300 BC or soon after. It will be necessary to assess any other dating evidence, and its relation to the coin material.

1- The Hellenistic glazed bowls which have been dated in general from 300 BC to 300 AD are rare at the site. Comparing this range with the date of the hoard, we can conclude that this type is probably in early the time-range of the Hellenistic glazed bowls occurring in the early 3rd

century BC.

2- All of those pottery wares (except some with unknown dating) found at different sites in Arabia which can be generally compared with our types are dated to the Hellenistic period. And here, applying our dating of the settlement to the pottery from al-'Ayun, we can say that it belongs to the early Hellenistic period. We may add that the distinctive bowl bases with triangular punctuations seem to occur at other sites of central Arabia in later periods, such as those from Wadi ad-Dawasir and the site of Qaryat al-Fau.

3- Likewise we do not have any precise dates for the incense-burners. However, a comparison of incense-burners from al-'Ayun site with others from Arabia was based on the shape only (cuboid shape). This type from south Arabia was dated from the late 5th century BC to 1st century AD, while the same cuboid type from central and eastern Arabia was dated to a later period which is 300 BC to AD 100. It seems that we have a good case for fitting our burners within the suggested date from al-'Ayun where in general they suit the chronological framework of cuboid incense-burners elsewhere in Arabia.

For the tumuli, it seems that the associated cemetery with the settlement was the one with the subterranean type tombs. This conclusion is based on the finding of an open bowl with a triangular punctuations base belonging to type 4 of the unglazed pottery inside one of the single chamber subterranean tombs excavated near one of the irrigation channels within the settlement area (trench IV).

All the evidence suggests that the settlement was relatively short-

lived. There is no trace of stratified building layers. And the pottery assemblage seems uniform and unchanging. According to the dating of the site, as discussed above, it seems that the settlement was evacuated or abandoned during the early 3rd century BC or a few years later. It appears that it was an arranged evacuation and not under an imminent threat. Our suggestion is based on the following factors:

1- All the buildings that were excavated were empty except for a few pottery sherds and little else (except the coin hoard from the room in trench I).

2- As is very well known, al-Aflaj is situated in an arid land where timber is rare. It is possible that this rarity forced the inhabitants of al-'Ayun to remove the timber of their ceilings or roofs before they left the settlement. This could explain the absence of timber traces within the rubble inside the buildings, and it would also explain the sand filled rooms, e.g. rooms 2, 3, and 9 of trench IIIA (see ch. VI, pp.126-132).

Finally, there is the question of the evacuation of the settlement. Actually there are two possible reasons:

1- It seems that the people of al-'Ayun at that time depended on the natural flow of water in the channels without any additional aid such as wheels turned by animals to lift water from the lakes to the channels. Any decline of the water level in the lakes would mean that the channels would fail to provide the essential water for agriculture and human needs. One possibility, therefore, is that, because of a decline in the water level, people decided to move to another place, probably a lower area which could receive water from the new level of water, where they

could build a new channel system.

2- As mentioned before (see ch. II, part III) al-Aflaj as a whole may have been one of the major stations on the trading route between south Arabia and eastern Arabia (Jerrha). Any settlement at al-Aflaj must have had an important role on that route, once trade between south and north-east Arabia began. This is the situation indicated by al-Hamadani (see ch. V, p.105) when he described the area as the *suq* (market) of the Yemeni tribes who traded with the locals.

However, from the excavated evidence a conclusion as to what role this settlement did play could not be reached, but the objects from the settlement (mainly the coin hoard, the Hellenistic pottery, the incense-burners, and the south Arabian seal) show cultural cross-relations between the Hellenistic civilization in the north east and the south Arabian civilization. While the culture of the people of al-'Ayun was for the most part local, as seen in the great majority of the pottery, the easily identified imports perhaps indicate a community which was in regular communication with the major economic powers to north and south. In view of the significant water resources of al-'Ayun, it seems very unlikely that the trade route would have avoided the area. But if the political situation changed it may have become impossible for the people of al-'Ayun to continue to exercise control over the trade in the face of a new and greater power arising either to the north or the south.

1.2 The irrigation system

For obvious reasons, water is the most important factor for life. The ancient world relied on various sources for its water supply such as

rivers, constructing dams, lakes, and wells. Unlike civilizations with rivers flowing all the year round, e g. Egypt and Mesopotamia, civilizations in arid or semi-arid zones like Arabia could never exist without an efficient irrigation system which allows the use of every drop of water.

In Arabia several types of irrigation channel system did exist. However, it seems that al-'Ayun settlement had its own irrigation system which was totally different from those known from other parts of Arabia. As mentioned before (see ch. V, pp. 113-14; with ch. VI, pp. 134-38) the whole system was totally built on the surface where water was carried out from the lakes in major channels and then distributed in subsidiary channels.

The only irrigation system in Arabia that we can compare with our system of al-'Ayun, despite some differences in technique and building, is that of Ma'rib in southern Arabia; all the others known used underground channels.

At Ma'rib a magnificent irrigation system was established. In the last decades of the 6th century BC the Great Dam of Ma'rib was built. At the narrowest point of Wadi Dhanah a 680 m long and 18 m high dam was built (Schmidt 1987-88, 59). From the installations at both ends of the dam the water was channelled through big principal canals which led to the oases. But before it entered these canals water was gathered inside massive structures, which are so-called stilling basins, and so losing its turbulence. Then the water entered a network of distributors. From those distributors water goes to another network of small feeders, which covered the entire oasis in order to distribute the water to the fields

(Schmidt 1987-88, 60; Hehmeyer 1989, 35). However, the canal walls were built from the surrounding soil, just as the field walls. Consequently they were also more vulnerable to erosion than the canal bottom that consists of undisturbed layers of sediment (Hehmeyer 1989, 35).

In spite of the differences between the water resources which supply both systems al-'Ayun and Ma'rib they share some of the same ideas and methods, with one exception, which is that the banks and bottoms of the al-'Ayun irrigation canals were entirely built of limestone and mortar, while the banks of the canals of Ma'rib were built from the surrounding soil with bottoms directly on the surface. We may not be far from the truth if we suggest that the people of the al-'Ayun settlement, which seems to exist later than Ma'rib, had procured and developed their idea of irrigation canals from Ma'rib itself through a cross-cultural relation between them, which could easily move with the trading activity.

1.3 The tombs

As mentioned above (see ch. VI) there are two types of tombs found at al-'Ayun. One is the cairns or burial mounds, and the second is the subterranean tombs.

As suggested above, subterranean tombs were the type associated with the al-'Ayun settlement. As far as we know, no similar type has been recorded from sites in the Central region or other regions of Arabia. However, it seems that this type of subterranean tomb was known outside the Arabian peninsula since the Early Bronze Age, e.g. in the Levant.

In Jericho in Palestine a large number of tombs similar to tombs

no. 5, 7, 8, and 9 of al-'Ayun was found in the Central area of the north Cemetery. Kenyon (1952-54, 186) dated these tombs to the Intermediate Early Bronze - Middle Bronze period. As in al-'Ayun those tombs were cut in the bed-rock. The shaft and chamber are small and smoothly cut. The shaft is ordinarily round, tapering somewhat downwards, and usually under a metre in diameter. The chamber is elliptical in plan, with the entrance usually on the broader side. The roof is dome-shaped, usually sloping down regularly to the flat floor. There is usually a steep vertical step down from the shaft (Kenyon 1952-54, 186; figs. 69, 71, and 73). In another case a small group of the same type was distinguished from most other groups by the fact that the shaft was approximately square in plan (Kenyon 1955-58, 87; figs. 42, 46, 48, and 50). Similar rock-cut chamber tombs existed on the Syrian coast and the custom continued in Cyprus until the late Bronze Age. In Palestine chamber tombs continue throughout the Middle Bronze Age.

It seems strange to have such tombs in Central Arabia in a site which belongs to the Early Hellenistic period, while similar tombs were in existence as far as the Early and Middle Bronze Ages. To establish a link, it could be suggested that these tombs at al-'Ayun originally belonged to an earlier date, long before the settlement itself, and that they may have been reused again, as happened frequently at Jericho. However, it is a very weak suggestion because no evidence of any kind to support it can be put forward. The cultural relations of the subterranean type tombs in Arabia must await further discoveries.

For the second type of tombs (cairns or burial mounds) many parallel tombs were located at Wadi ad-Dawasir region (site 212-20), and al-Kharj region (sites 207-20, 207-27, and 207-29) of central Arabia,

and at Abqaiq in eastern Arabia (Zarins *et al.* 1979, 22-23). However, no exact dating was suggested for those tombs. As far as this type is concerned, no evidence of any kind has been found to suggest a linkage or relation between this type and the settlement of al-'Ayun. All we can say at this time is that this type of tomb belongs perhaps to another earlier or later settlement, probably somewhere near the tumulus field itself. Further discoveries must be awaited to advance our understanding of this type.

Chapter IX

Conclusion

In this chapter we will begin with a summary of the content of the early chapters, where we tried to lay the foundations for a better understanding of the site of al-'Ayun in the light of the historical and archaeological situation of Arabia during the second half of the first millennium BC.

The chronology of the south Arabian kingdoms, as powerful and independent states, could be fixed in a framework that started from the 5th to the 1st centuries BC, on the basis of the short chronology theory for the south Arabian kingdoms represented by J. Pirenne (as discussed in ch. II). It seems that the Sabaeans, M¹naeans, Qatabanians, and Hadramis coexisted. The first three kingdoms lost their independence in about 115 BC, when the Himyarites established themselves as a new power in the area. The kingdom of Hadramaut, however, maintained its independence up to the 3rd century AD. For the kingdom of 'Ausan it was different. This early kingdom managed to live as a self-governing state only for a short time from the 5th to the 3rd century BC.

Arabia had also witnessed some kind of contact with the Greeks since the emergence of Alexander and his conquest of the East during the last decades of the 4th century BC, and the emerging Hellenistic kingdoms which arose after his death. As reported by some Greek

writers such as Arrian, Alexander thought seriously of conquering Arabia. In order to do that Alexander prepared an expedition under his command and ordered the building of some large ships for the mission. However, Alexander died before the finishing of the preparation for the mission. The real contact between the Greeks and Arabia was during the time of the Seleucid king Antiochus II in the last decades of the fourth century BC, he reached Gerrha on the eastern coast of Arabia where he was unimpressed with territory surrounding the town, so he decided not to create a colony but to take tribute instead.

It seems that the spread of the domesticated camel sometime in the early first millennium BC made possible a great revolution in trade caravans between south Arabia and its markets in the ancient world. The wealth of the commerce which the trade caravans brought with them formed city states and stations along the trading routes through Arabia. There were two major routes which linked the south Arabian incense production centres with markets in the north and the north-east. The first route was that from Ma'rib via Najran to Gaza on the Mediterranean Sea. The second route was that from Ma'rib via Najran and then through the southern part of central Arabia to Gerrha on the Arabian Gulf. From Gerrha the trade passed to Mesopotamia. There were three reasons for the collapse of the incense trade in Arabia. The first was the spread of Christianity in the Roman Empire in the 4th century AD where incense was prohibited by the Emperor Theodosius to be used in churches. The second reason was the insecurity along the northern parts of the route, which was caused by the weakening of the Roman Empire. And the third reason can be attributed to the wars between the southern Arabian states themselves.

Eastern Arabia since prehistoric times was one of the most active parts of the Arabian Peninsula. Its strategic location between the early centres of civilization to the south-east, east and north is very evident, providing the opportunity for this part of Arabia to play a very important and quite well documented role in cross-cultural contact with the civilized world.

Archaeological research either through excavation or survey in eastern Arabia has produced information on many sites belonging to the Hellenistic period. However, it is important to remember that the archaeology of this period has only begun to be studied in recent years. At present it relies on a small number of scientifically excavated sites such as Failaka, Qala'at al-Bahrain, Thaj, and Mleihah. Most of the other information has come from limited soundings and surface finds in sites such as Salt Mine, Junassan tumuli, and ed-Dour.

Although most of the Hellenistic material which found at the sites of eastern Arabia suggests an occupational period from 300 to 100 BC, i.e. Seleucid, nothing indicates that the region was under the direct control of the Seleucid kings. It seems that there was a kind of independence in the area. This is supported by the coins from Thaj, Salt Mine, and Qala'at al-Bahrain belonging to Aby'ata (245/220 BC) and Ab'iel (150/140 BC), kings of Hagar, of which Jerrha was the capital (see appendix 2).

The sites of Qaryat al-Fau, al-Kharj, and Zubaidah from central Arabia show a geographical distribution of sites in central Arabia. In spite of the variations between their occupational durations, some long, some short, all of them had passed at least through one common period

if not more. As a quick reminder of the chronology of these sites;

1- the occupational period of Qaryat al-Fau started sometime during the 2nd century BC, and continued with no disruption until AD 500.

2- In Zubaidah the occupational period may have started as early as the 15th century BC and continued until AD 395, but with major disruption phases between the occupational periods.

3- al-Kharj (site 207-30) was given a long period of occupation, from 2300 BC until AD 1200, which was divided into six major periods with disruption phases.

As a result of this dating exercise we found that the period of focus in our study (500-100 BC) is represented only at Qaryat al-Fau, and even then only partly. This site was contemporaneous in its early two centuries with the Hellenistic period which in the Near East spans from about 320 BC to the end of 1st century BC. In Zubaidah the Hellenistic period is partly represented in phase III of trench IV - V which is dated from 255 to 15 BC. At site 207-30 of al-Kharj it is clear that it was occupied during the late centuries BC, represented in period 4.

All authorities which mention al-Aflaj indicate that the area has played an effective role at particular periods in the history of the Arabian Peninsula. The historical sources in the early Islamic period presented a picture of the trading activity of al-Aflaj in the earlier times before Islam, as well as its strength and power (see ch. V).

As a result of our excavation at al-'Ayun, it can be clearly seen that

there was only one occupational period of relatively short duration.

In the previous chapter it was argued that the site was probably abandoned or evacuated sometime during the early 3rd century BC.

On the basis of the limited work at al-'Ayun, as described and discussed in this thesis, we can now attempt to place the settlement in its historical context. Al-'Ayun was a short-lived settlement of the earliest Hellenistic period. It shows cultural relations with southern Arabia on the one hand, and a taste for Hellenistic products (the green-glazed bowls, and the Hellenistic silver currency) on the other hand. Since it is sited on an historically important trade-route, and in view of its date, it seems sensible to suggest that the settlement sprang up to take advantage of the long-distance trade-route between Seleucid Mesopotamia, Gerrha and the south Arabian producers of incense. As was discussed above, the end of the settlement was orderly but its cause is not easily identified. Given the historical context, it is tempting to think that greater political forces than al-'Ayun perhaps eliminated the competition by economic means.

Finally, it is important to explain that the work at al-'Ayun site which is central to this thesis is only the beginning or introduction of what should be a wider programme of fieldwork. More excavations could add more information or change some results that we have already achieved according to the material available.

In the light of the present work at al-'Ayun, the following suggestions may be added as a future project:

1- As a next step we suggest that the work should continue in the

settlement itself in attempt to confirm and extend our dating evidence, the nature, and the people of that part of Arabia at that time. In view of the great size of the site and the small scale of the excavations so far, we need much more extensive exposure of various parts of the settlement.

2- All of the tombs excavated were badly looted and the result was disappointing since the outcome was only an indication of some of the types and shapes of the tombs: in order to maximise our efforts we suggest that no further work be done on these tombs for the time being at least, leaving the highest priority to the excavation of the settlement.

3- As a further step we suggest that the work should be spread to contain the nearest settlement of as-Sayh, where the same pottery of al-'Ayun was found. An excavation there may provide a clearer picture of whether these two settlements relate to one period or not. Investigation of as-Sayh would help very much to form a balanced picture of al-Aflaj in the Hellenistic period.

4- As a final suggestion and as a larger project we think that future work should take place to locate and explore settlements along the ancient inland trading route between south-west and north-East Arabia. That work should be done in order to establish and extend the chronological framework of those settlements on the route and to unfold more of the story of central Arabia as an intermediary between north and south.

Appendix I

The location of Gerrha

What is known about the ancient city of Gerrha has been conveniently summarised by N. St. Groom (Gerrha, a lost city Atlal 6, 1982: 97-107). The significant part of that article is reproduced here.

Quite clearly Gerrha (or Gerra) was a place of great importance. Its merchants, dealers in frankincense and myrrh among other luxuries, traded as far as Babylon, Petra, and the incense lands of South Arabia and their wealth was equated with that of the merchants of Sheba.

An important point which tends to be overlooked is that Gerrha was not just a major town but also, in the loose way in which the term has to be defined in early Arabian history, a state controlling a sizeable area. In the second century AD the geographer Ptolemy listed at least two other coastal towns which belonged to the Gerraeans, while the historian Polybius (208-176 BC) recorded in a surviving fragment of a passage about Gerrha that: "Chattenia in the Persian Gulf is the third district belonging to the Gerraeans. It is a poor district in other respects, but villages and towns have been established in it for the convenience of the Gerraeans who cultivate it". (Histories Bk 13 ch. 9).

For how long before this time the Gerraeans had been a power in the Persian Gulf is not certain. Strabo's reference to them as "Chaldeans, exiles from Babylon" is not enough to date them, although some have read a very early date into this. But Strabo also noted a

statement by Aristobulos that "the Gerraeans import most of their cargoes on rafts to Babylonia and thence sail up the Euphrates with them, and then convey them by land to all parts of the country" (Geography Bk 16 ch.3 sec.3); this puts them firmly back to the time of Alexander the Great since Aristobulos took part in his campaigns.

The earliest topographical description of Gerrha is contained in another passage of Strabo's Geography which was drawn from Eratosthenes (276-196 BC):-

"After sailing along the coast of Arabia for a distance of two thousand four hundred stadia one comes to Gerrha, a city situated on a deep gulf; it is inhabited by Chaldeans, exiles from Babylon; the soil contains salt and the people live in houses made of salt; and since flakes of salt continually scale off, owing to the scorching heat of the rays of the sun, and fall away, the people frequently sprinkle the houses with water and thus keep the walls firm. The city is two hundred stadia distant from the sea; and the Gerraeans traffic by land, for the most part, in Arabian merchandise and aromatics" (Bk 16 ch.3 sec.3). Two hundred stadia, under the measurement used by Eratosthenes, was about 33 km. or 20 English miles.

Pliny (23-79 AD) added briefly but significantly to the information provided by Strabo. In his 'Natural History' his description of the Persian Gulf contained the following passage, in which the information is attributed to a report prepared for Ptolemy Epiphanes (205-181 BC):-

"The Bay of Gerrha and the town of that name, which measures five miles round and has towers made of squared blocks of salt. Fifty

miles inland is the Attene district; and opposite to it and the same number of miles distant from the coast is the island of Tyros, extremely famous for its numerous pearls" (Bk. 6 ch.32 sec.147). Fifty Roman miles were equivalent to approximately 46 English Miles (75 km).

We can be certain that Pliny's island of Tyros was Bahrain because of the further description he gave of it. But the name is corrupt in Pliny's text and should have been 'Tyros', Tyros being the small island off al-Qatif now known as Tarut; Ptolemy listed both these islands. It followed as a plausible deduction that the district of Attene was the oasis now known as al-Hasa and it has hence been assumed that Gerrha must lie on the coast more or less mid-way between Bahrayn and al-Hufuf, is the village and harbour of al-'Uqayr (sometimes spelled Oqeir), with the ruins of a walled Islamic town nearby. The direct distance from al-'Uqayr to al-Hufuf is about 43 miles, although Lorimer puts the travelling distance at about 50 miles (Lorimer, 1908). It was for long held that this site at al-'Uqayr (pronounced in those parts with a soft 'q' like a 'g') must be Gerrha, since there was an acceptable philological as well as a good topographical correlation. Philby, for one, was always convinced of this identification. But in the late 1960s, as Dr. Bibby relates (Bibby, 1970) *sondages* were dug into the Islamic remains and it was established that no pre-Islamic city lay beneath them. Almost certainly, then, the site of Gerrha must lie somewhere else.

At this point some topographical observations may be interpolated. On the coast of the Persian Gulf there have been marked physical changes since the time of Gerrha, say some two thousand years ago. This is in particular because, hinged from its Red Sea side, the land

mass of the Arabian Peninsula has been slowly rising. Traces of barnacles on plaster walls in Ubayed sites of about 5000 BC have been found up to 5.5 m above the present sea level. Although the matter is complicated by other factors such as fluctuations in the sea level, this infers a rise of over five feet during the last two millennia. In the very flat coastal areas of this region a change of this order could substantially alter the coastline, expanding the areas of alter the coastline, expanding the areas of *sabkhah* (or salt marsh) *sabkhah* (or salt marsh), making harbours too shallow and in places leaving the ancient shore-line well inland. The 250 feet contour line lies about 30 miles inland behind al-Qatif, narrowing to about 8 miles behind al-'Uqayr and to even less further south, so it is clear that this effect will have been more prominent in the northern part of the region in which we are interested. Certainly we should not necessarily expect to find the ancient harbour of Gerrha directly on the coast.

Another effect of the rise of the land mass is to stem some of the water flow, so that springs dry up or alter their courses and areas where there was previously an abundant water supply may no longer be able to support any population. This continuing process may be one of the reasons why the Islamic town of al-'Uqayr was abandoned. But water supply is always a problem in the coastal regions, with salt water permeating wells too close to the shore, so that fresh water has to be brought from inland. In consequence the harbours on this coast may be peopled only by persons essential to the conduct of their trade and administration. Modern al-'Uqayr, which in Lorimer's time (1908) was under Turkish control and served as the harbour for the Hasa oasis, is a good example of this-at that time it contained only a fort with a small

garrison and an adjacent caravanserai with three shops: water was drawn from sand-pits southwest of the fort, but if better water was required it had to be fetched from wells at Suwad, about eight miles inland. Some areas, however, have always been well favoured by nature. The region of al-Hasa (or al-Ahsa'), which includes al-Hufuf, is one of these. Its abundance of springs ensures that it must have been one of the richest oases in the whole of Arabia in ancient times as it is today. Palgrave's description of his visit to al-Hufuf in 1863, more accurate than Philby and his other critics have allowed and endorsed in its basic facts by Lorimer, shows a region producing the finest dates, together with fruit and vegetables almost unknown elsewhere in Arabia. Its people were renowned for their craftsmanship, in particular for embroidered cloaks of fine wool interwoven with silk and bordered with gold thread and for elegant working in precious metals and items of copper and brass. For centuries its merchants had traded these and other wares as far as Persia, India, Baghdad and Damascus. Their architecture was distinctive and, with its use of arches, advanced. Their mosque was the largest in eastern Arabia. Evidently conditions in the al-Hasa oases provided all the ingredients necessary to produce a rich, powerful and far-reaching trading community, just such as must have raised Gerrha to its pre-eminence. Indeed, without such conditions it is questionable whether a commercial power such as Gerrha could have developed at all. One wonders whether the commercial activity described by Palgrave does not reflect an ancient trading tradition.

In the whole region in which Gerrha might be found there is only one other oasis of prominence and that is al-Qatif. Here the irrigated area, watered by a number of springs, borders the ocean. It is neither so

large nor so rich as al-Hasa and there is no reason to think it ever has been in the past, although desiccating may have shrunk it considerably since ancient times. Lorimer showed a settled population for the whole oasis in 1908 of about 26,000 persons, to be compared with some 67,000 in al-Hasa, and he described its climate as "damp and unhealthy...the results of malarial fever are manifest in the sallow complexion and poor physique of the inhabitants". Lorimer quotes the route between al-Qatif and al-Hufuf as a direct distance of 85 miles but a travelling distance of 105 miles, usually taking four days. This does not tie in well with Pliny's fifty miles (46 English miles) from Gerrha to Attene and the same distance to Bahrayn (which is in fact only 35 miles from al-Qatif; nor does it fit in well with Strabo's "200 stadia distance from the sea", which may have been another way of saying 'one day's journey'.

Sprenger had no doubts that Ptolomy's Gerrha, which was sited on the coast, must be al-'Uqayr and that the capital city, also called Gerrha, was in al-Hasa, identifiable in his view with Pliny's Attene. He noted that, according to al-Hamadani, there was formerly in al-Hasa an important marketplace on a sandy mound called "al-Jera" (meaning a place where nothing grows). This tied in attractively with Pliny's description of Carra as "the market town of these parts". The derivation of the place-name Gerrha must therefore, Sprenger maintained, be "Al-Jera".

Thus far the reasons given for regarding Gerrha as an inland town in the al-Hasa oasis served by a port of the same name have been circumstantial. A pertinent indicator that Gerrha was the name of both places would be the survival of place-names, both in al-Hasa and at some

point on the coast, compatible with the name Gerrha. Such possibility does in fact exist.

The spelling "Gerrha", which has become the one most commonly used by archaeologists and historians nowadays, is a phonetic version of a name spelt in the classical text as "gerra". The 'h' is in fact simply a sound attached automatically to a double 'r' in Greek. Local pronunciation shows that the initial 'g' may have been either a 'j' or 'q' in the original spelling. Furthermore, the double 'r' in the Greek and Latin translations could indicate either a double 'r' in the original or, possibly, a long 'a' (*alif*) preceding an 'r', the effect of which to foreign ears would be a not dissimilar sound. Well suited on this basis is the toponym "al-Qarah".

The word "qarah" designates an isolated hill or mountain. In al-Hasa the dominating hill near al-Hufuf is called Jabal al-Qarah. But al-Qarah is also the name of a village at its foot which was evidently once of some importance, having at least until recently the largest weekly market in the oasis outside of the two main towns (Vidal, 1955. p.61). Philby noted that the village of al-Markaz in the same area was formerly called Markaz al-Qarah (Philby, 1922, p.21). On the coast the name Qarah becomes more significant, for it is found recurring within a very limited area between 13 and 20 miles south of al-'Uqayr. But, more importantly, the whole coastal strip from this area southwards to the top of the Gulf near Salwah was formerly known as Barr al-Qarah, with the Barr al-'Uqayr bordering it to the north (Lorimer, 1908). (Source: N. J. Groom, 1982: 97-107).


Appendix II

Proposal for the location of the kingdom of Hagar/Agraioi

In attempt to summarize the proposals made by most of the important scholars who have dealt with this question, D. Potts has said (1983: 93-4) that:- C. Robin has, most recently, discussed the matter at great length, and has reached the conclusion that the Hagar of the coins we have been discussing was located in the northern Arabian oasis of Dumat al-Gandal, modern Jouf, in the midst of the Great Nefud. On the contrary, Von Wissman has located the Hagarites in eastern Arabia, the region of al-Hasa, known as Hijjar in medieval times, and probably identical with the A-ga-rum of Kassite inscription from Bahrain, and the Agraioi spoken of by Pliny, Eratosthenes, Ptolemy, and Strabo. The argument is a complex one, and need not concern us here as there can be no assured location in the present state of our knowledge. It may be worthwhile to point out that, from a numismatic perspective, Morkholm has argued that the mint of the coins we have been considering should be located as far to the east of the heart of Hellenism as possible, prompting him to prefer a location in eastern Arabia, not far from Bahrain and Failaka where most of the coins of these types have been found. J. F. Salles, writing on the discovery of a coin of Abi'el in Umm al-Qawayn, U.A.E. has suggested the existence of ...deux branches paralleles de la tribu Agreens, L'une au Nord centree autour de Hagar/al-Jawf...L'autre plus orientale, autour de Hagar/al-Hofuf dans Le Bahrayn/. Indeed, it is well known that place names and tribal names in Arabia can have a wide distribution. Writing on the problem of the

Agreens (a propos of the description given in Strabo, Geog. XVI, 4,2), A. Musil has emphasized how broad the influence of the tribe may have been, on analogy with later tribal distributions in the northern Arabian landmass west of the Euphrates. He writes: The Agraiei might have been masters of the mercantile centres either at Hagara or Gerrha. The classic Hagara (the present al-Hegr) is situated south-southeast of Petra. Gerrha (the Arabic Ger'a) was situated near the medieval city of Hagar in the vicinity of the oasis of al-Hasa. Since, in conformity with the context, the Agraiei of Eratosthenes lived to the east of the Nabataeans, they are to be recognized as the masters of this centre and to be identified with the inhabitants of the city of Gerrha. Having control over the trade roads converging from the southeast and west on Babylonia, they must also have ruled the entire western bank of the Euphrates, and their influence must have extended to Babylon, beyond the confines of Arabia Felix proper. The masters of the oasis of Hagar exercised in the Middle Ages and still possess a certain dominion over all the tribes camping west of the Euphrates between al-Kufa and the Persian Gulf.

It is perfectly imaginable that the geographers upon whose work we must now depend recorded more than one location, and in more than one orthography, for the same tribe, either not realizing that they were one and the same, or else realizing such yet desiring to be faithful to their sources. Historical geographers of our era must take the movements of peoples, and the distribution of their names, into consideration, on analogy with well-documented, more recent cases such as Musil describes, when attempting to press the arguments for one of another location of Hagar. (Source: D. Potts, 1983: 93-94) .



Illustrations

Fig. 1: Geographical map of Arabia.

Source: The Kingdom of Saudi Arabia,

Survey International, London, 1977.

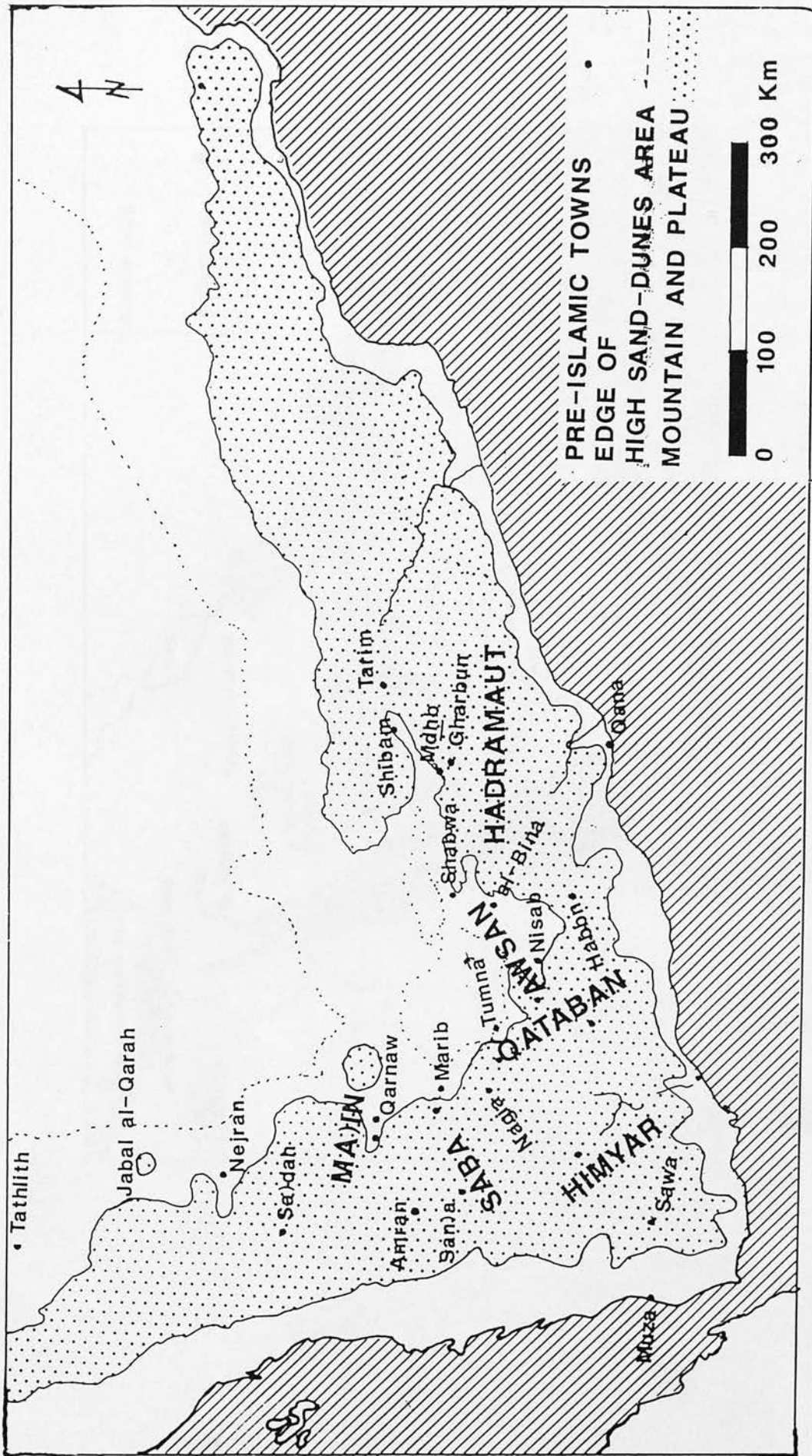


Fig. 2: Ancient kingdoms of Southern Arabia.

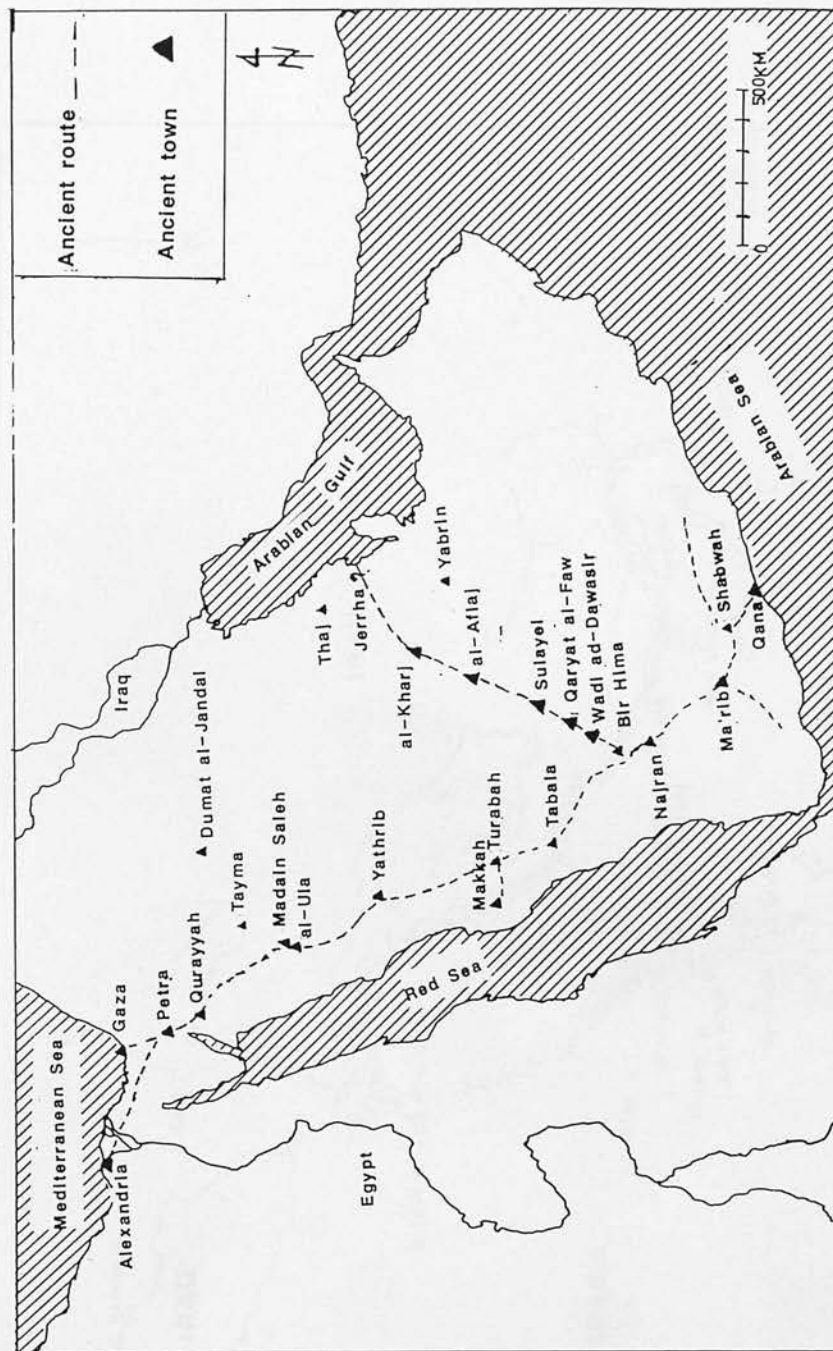


Fig. 3: Ancient trading routes in Arabia.

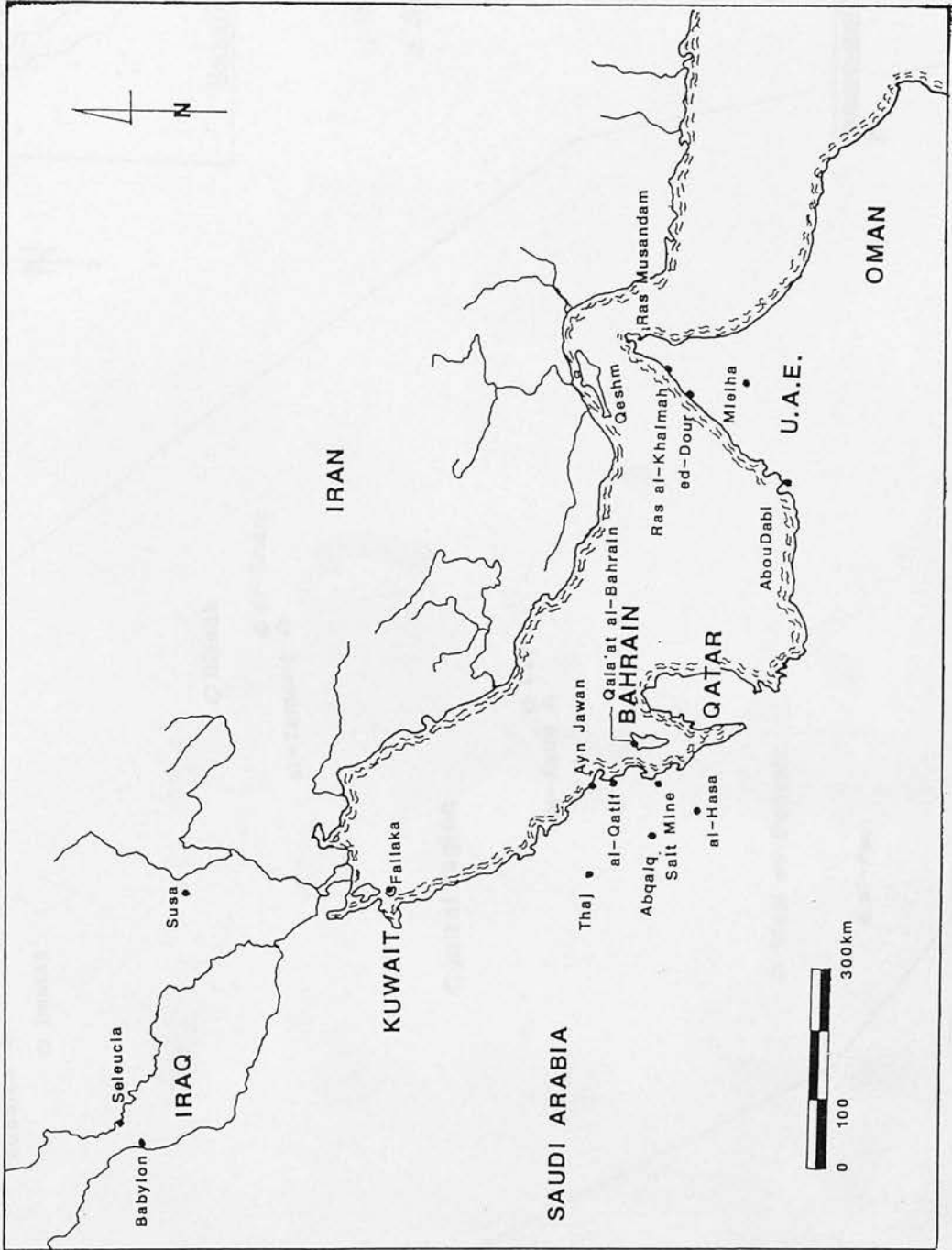


Fig. 4: Hellenistic sites in the Arabian Gulf.

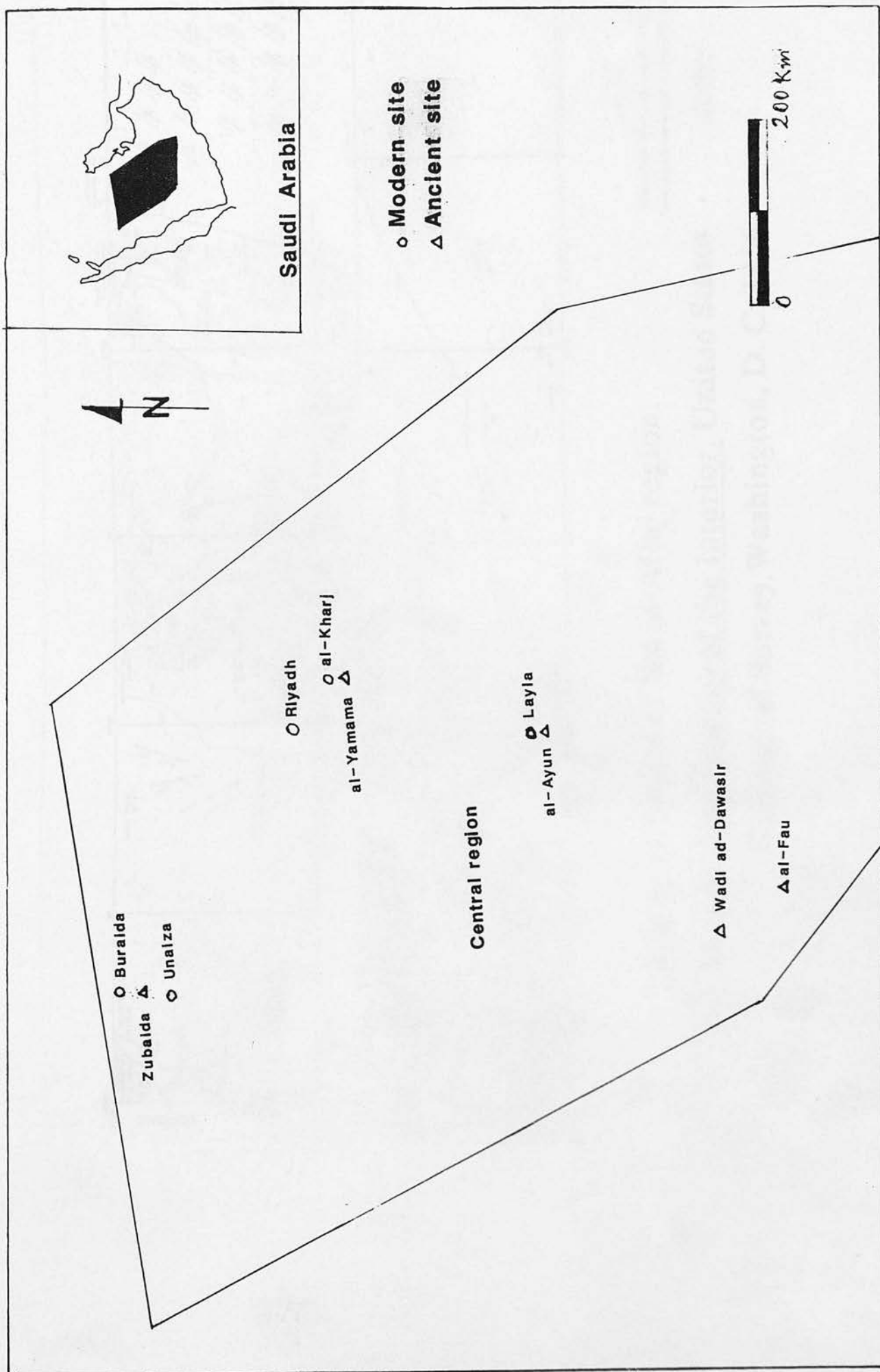


Fig. 5: Hellenistic sites in central province of Saudi Arabia.

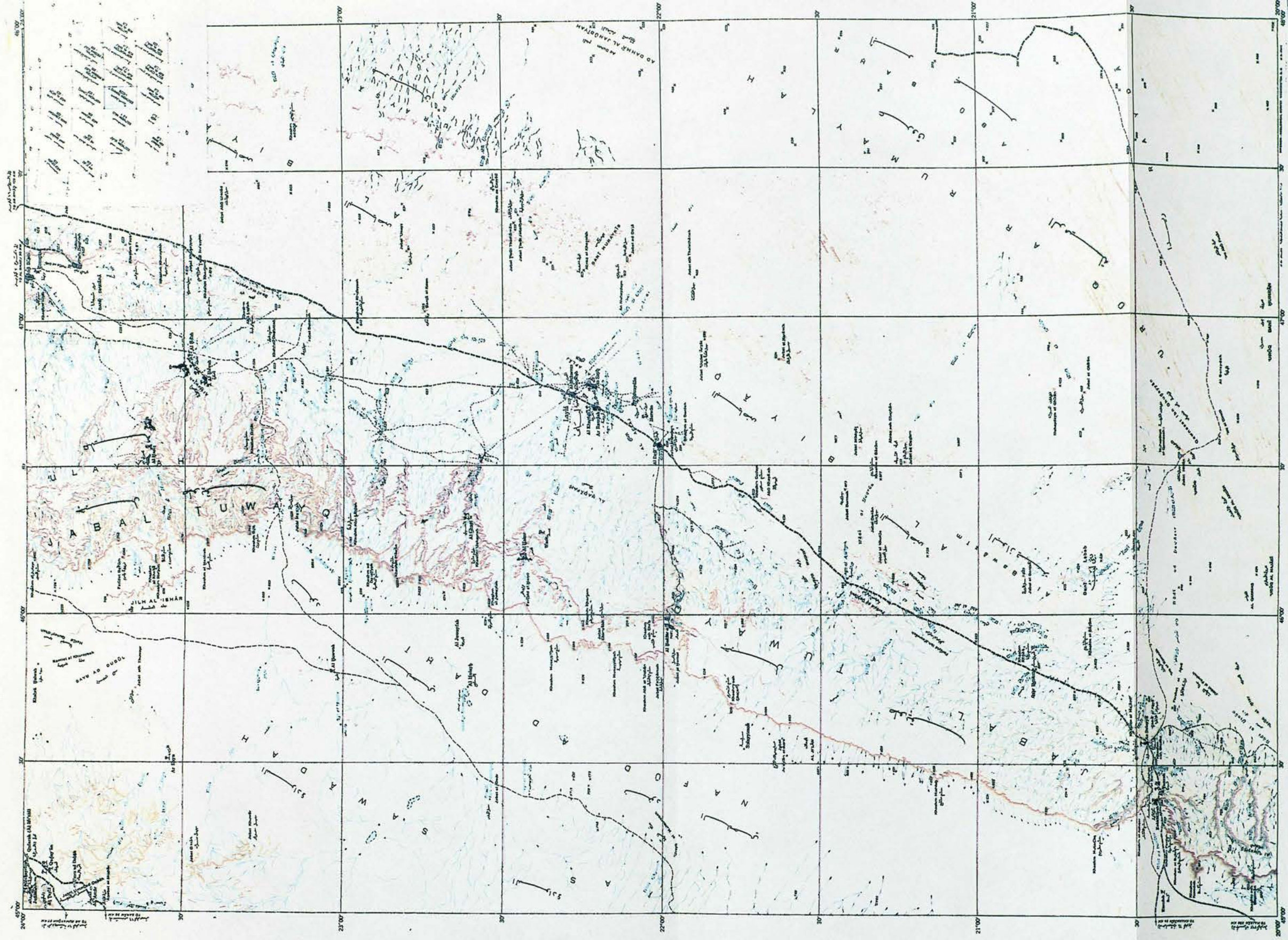


Fig. 6: Location of the al-Aflaj region.

Source: Department of the Interior, United States Geological Survey. Washington, D. C. 1956.



1:500,000
Scale 1:500,000
1956 A.D.
1375 H.

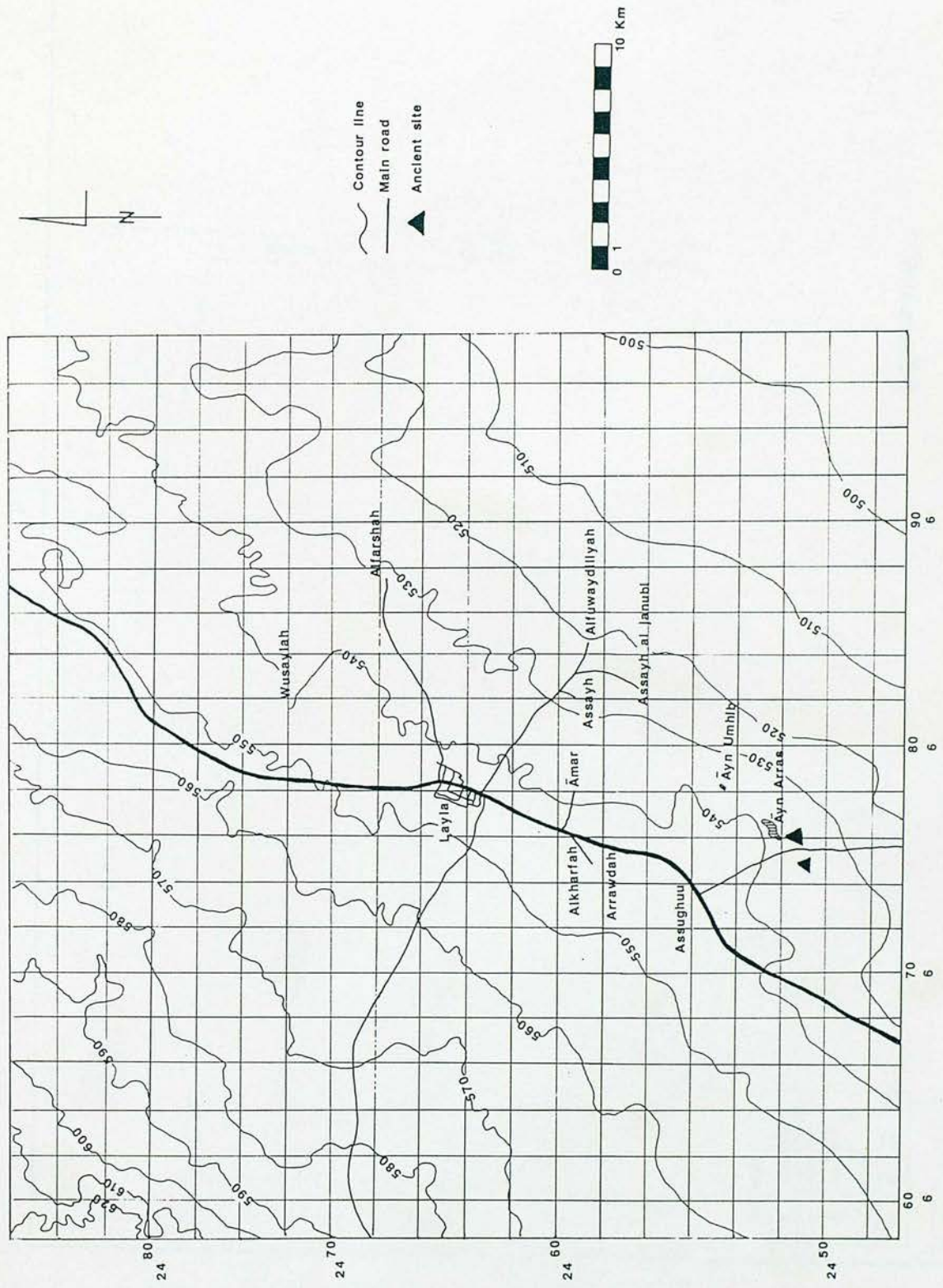


Fig. 7: al-Aflaj contour map, showing the main towns of the region.

Based on Ministry of Agriculture and water in Saudi Arabia.

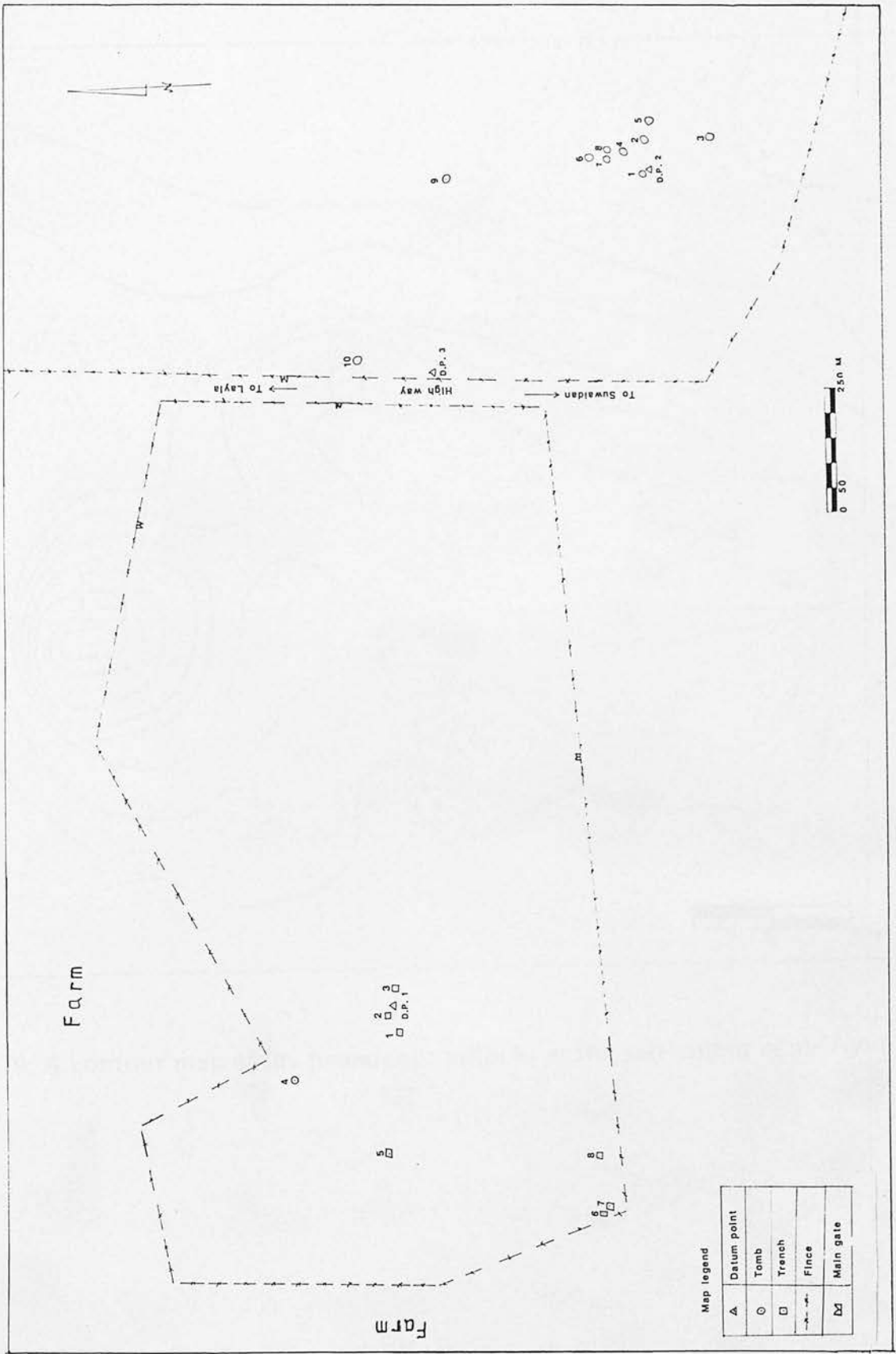


Fig. 8: Location of the site of al-'Ayun.

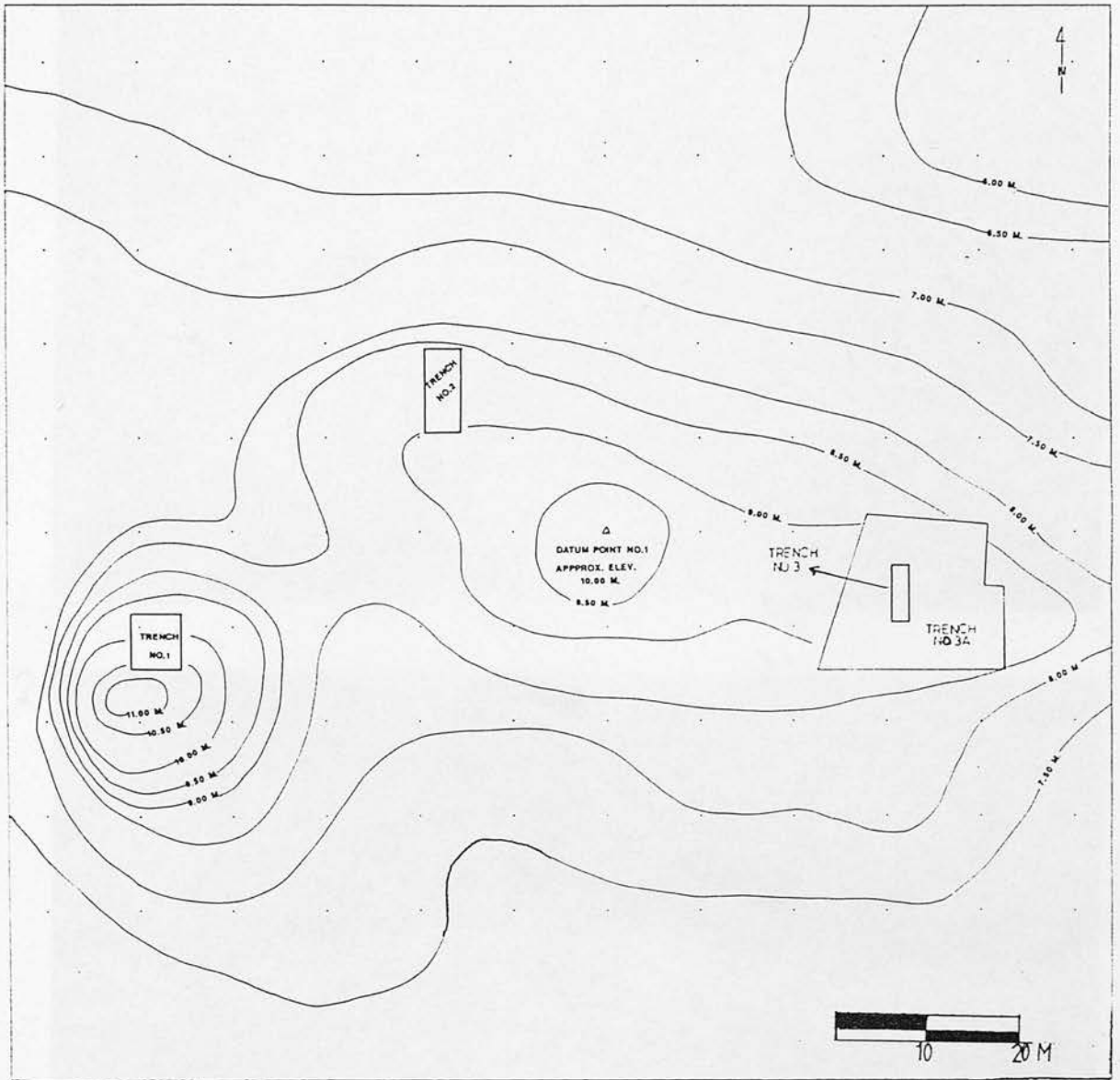


Fig. 9: A contour map of the prominent hillocks at the settlement of al-'Ayun.

1



2



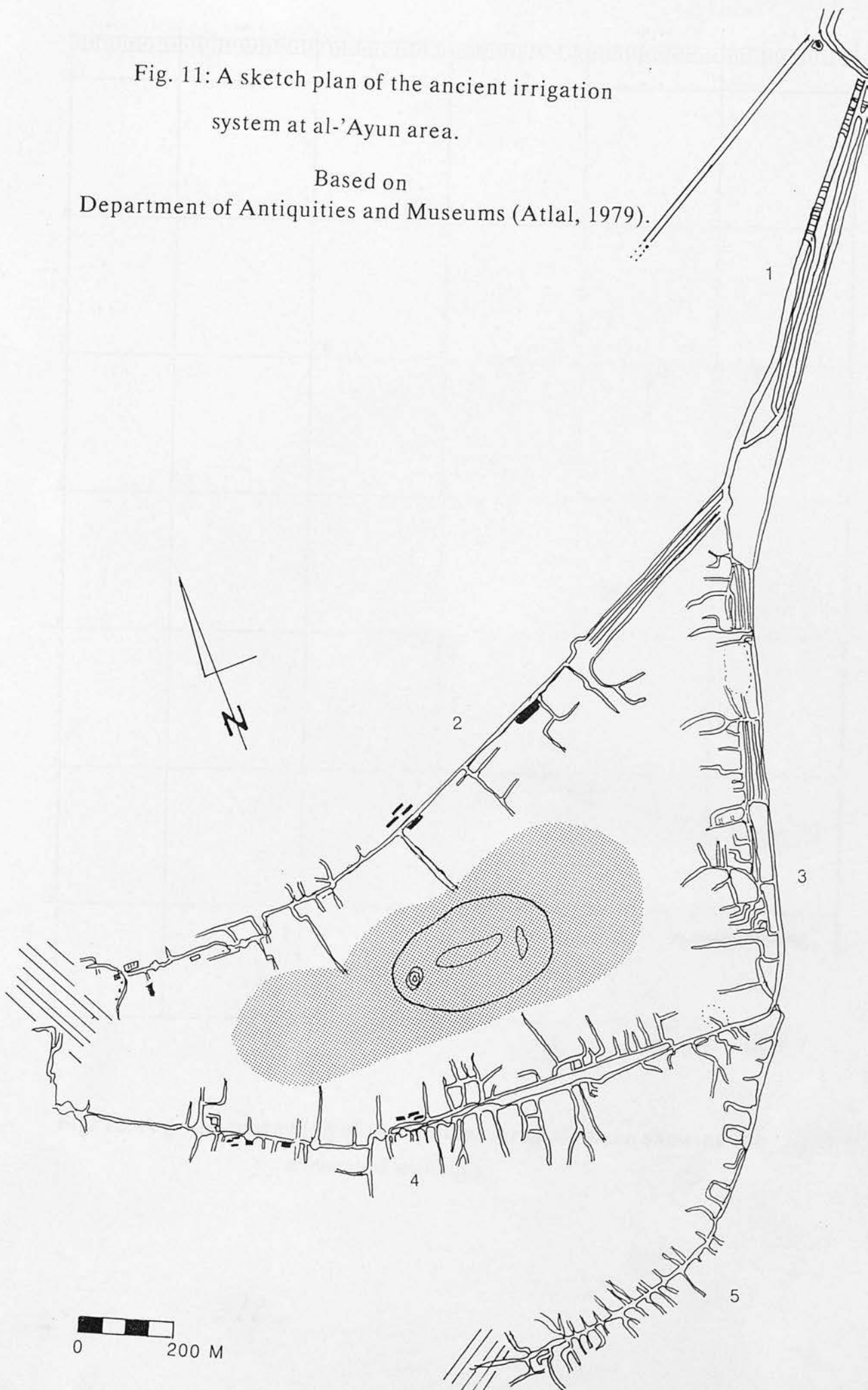
Fig. 10: Two of the al-'Ayun irrigation systems,

1- An abandoned channel cut in the surface.

2- An abandoned subterranean channel.

Fig. 11: A sketch plan of the ancient irrigation system at al-'Ayun area.

Based on
Department of Antiquities and Museums (Atlal, 1979).



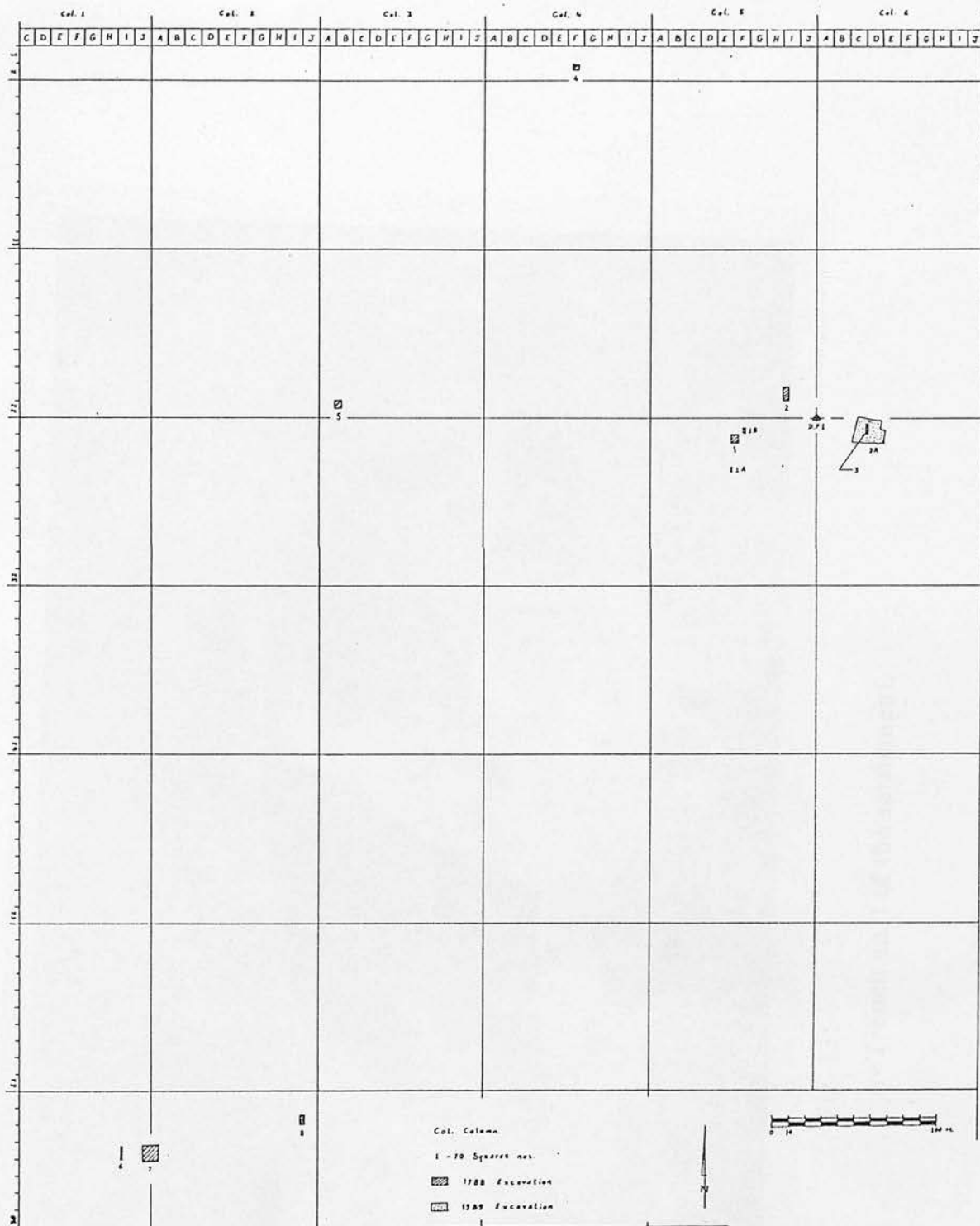


Fig. 12: A grid-square plan of the settlement of al-'Ayun showing the excavated trenches.

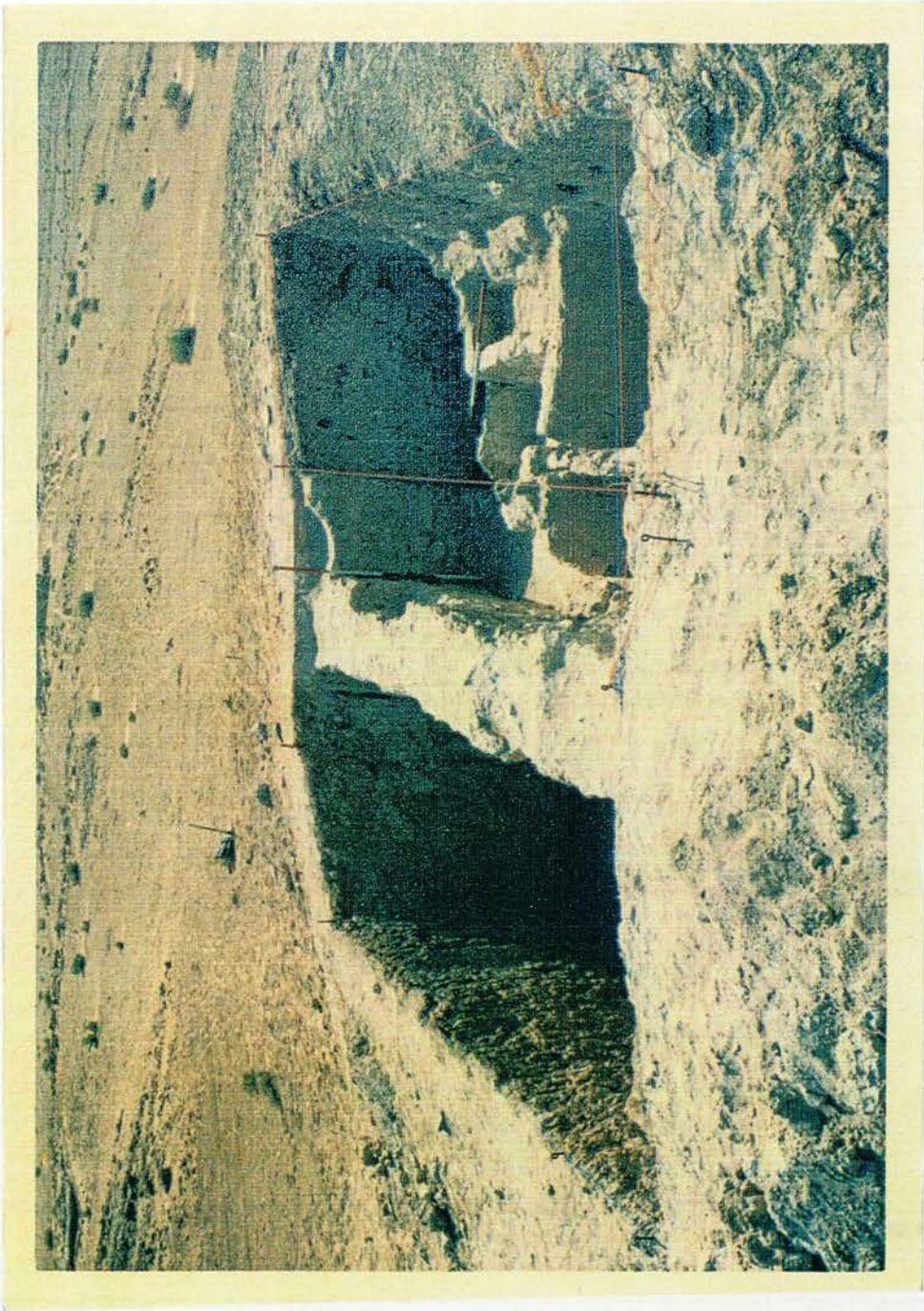
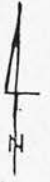


Fig. 13:

A- Trench no. I of the settlement.



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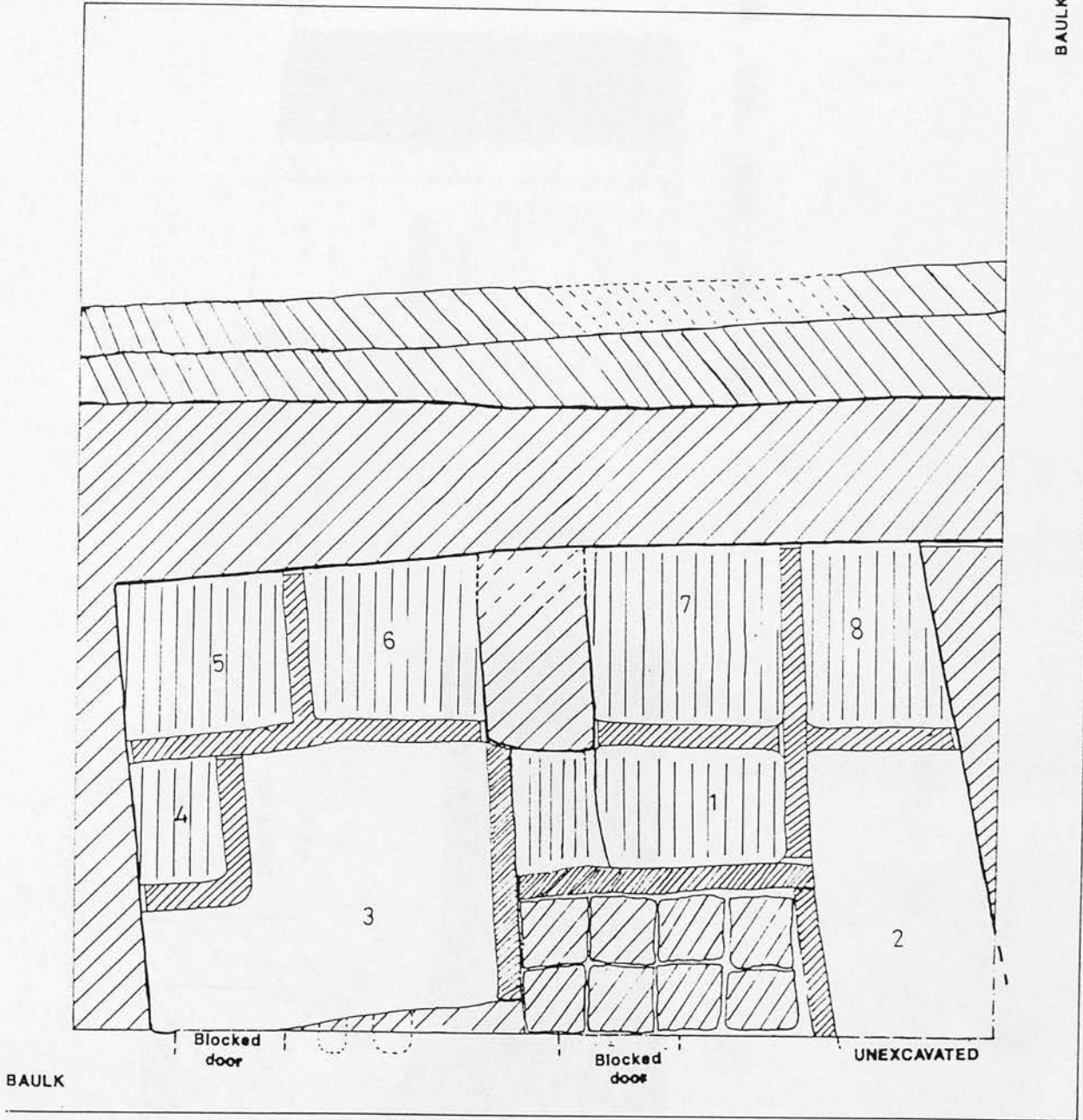


Fig. 13:

B- An overall plan of trench no. I.

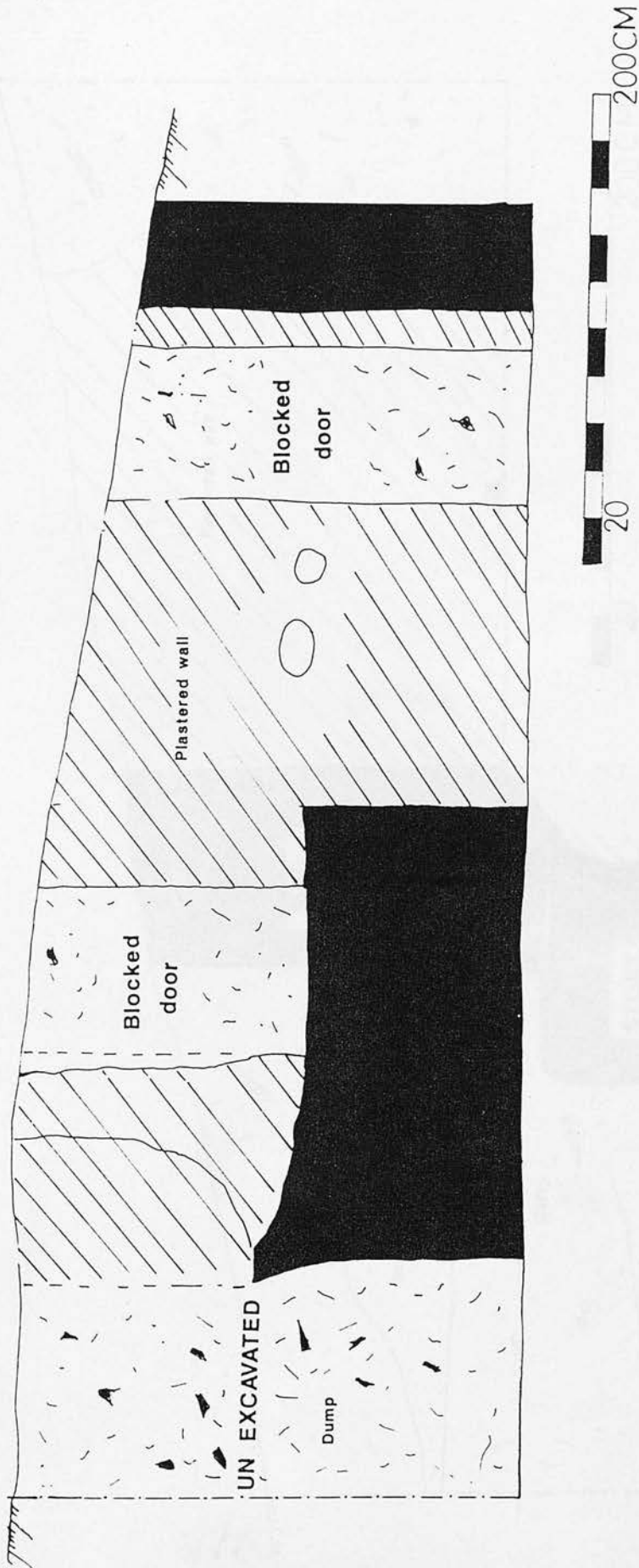


Fig. 14: South section of trench no. I.

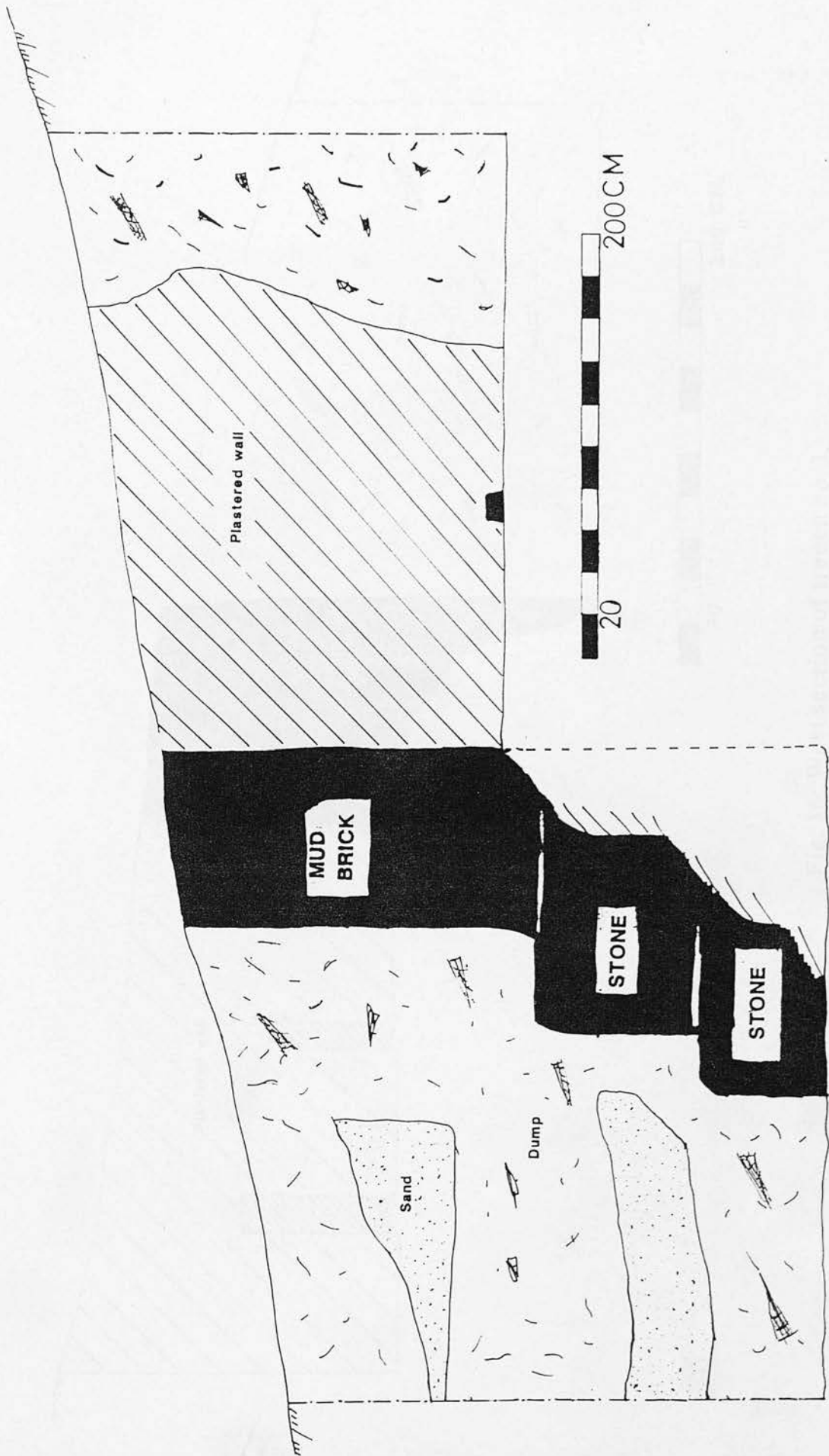


Fig. 15: East section of trench no. I.

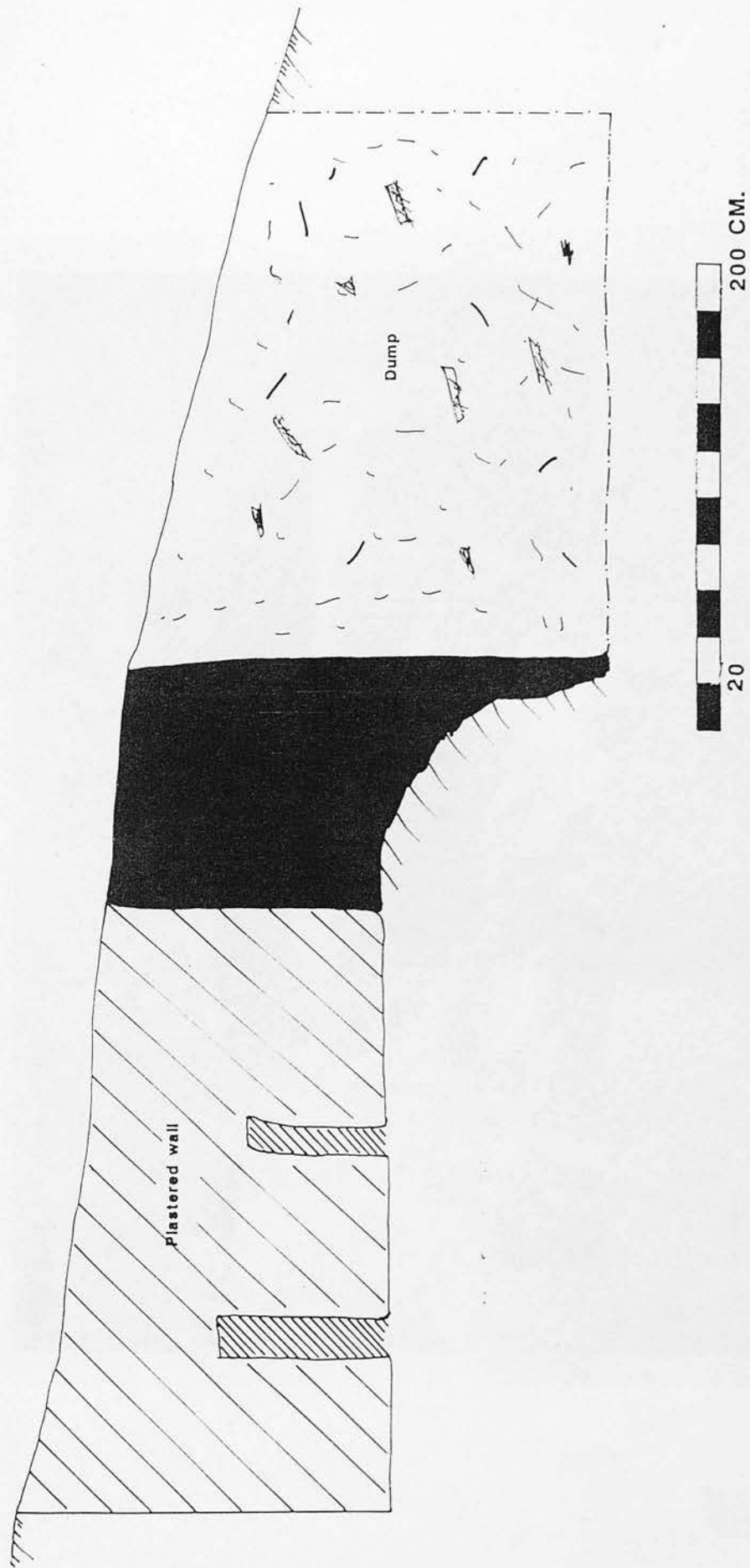


Fig. 16: West section of trench no. I.

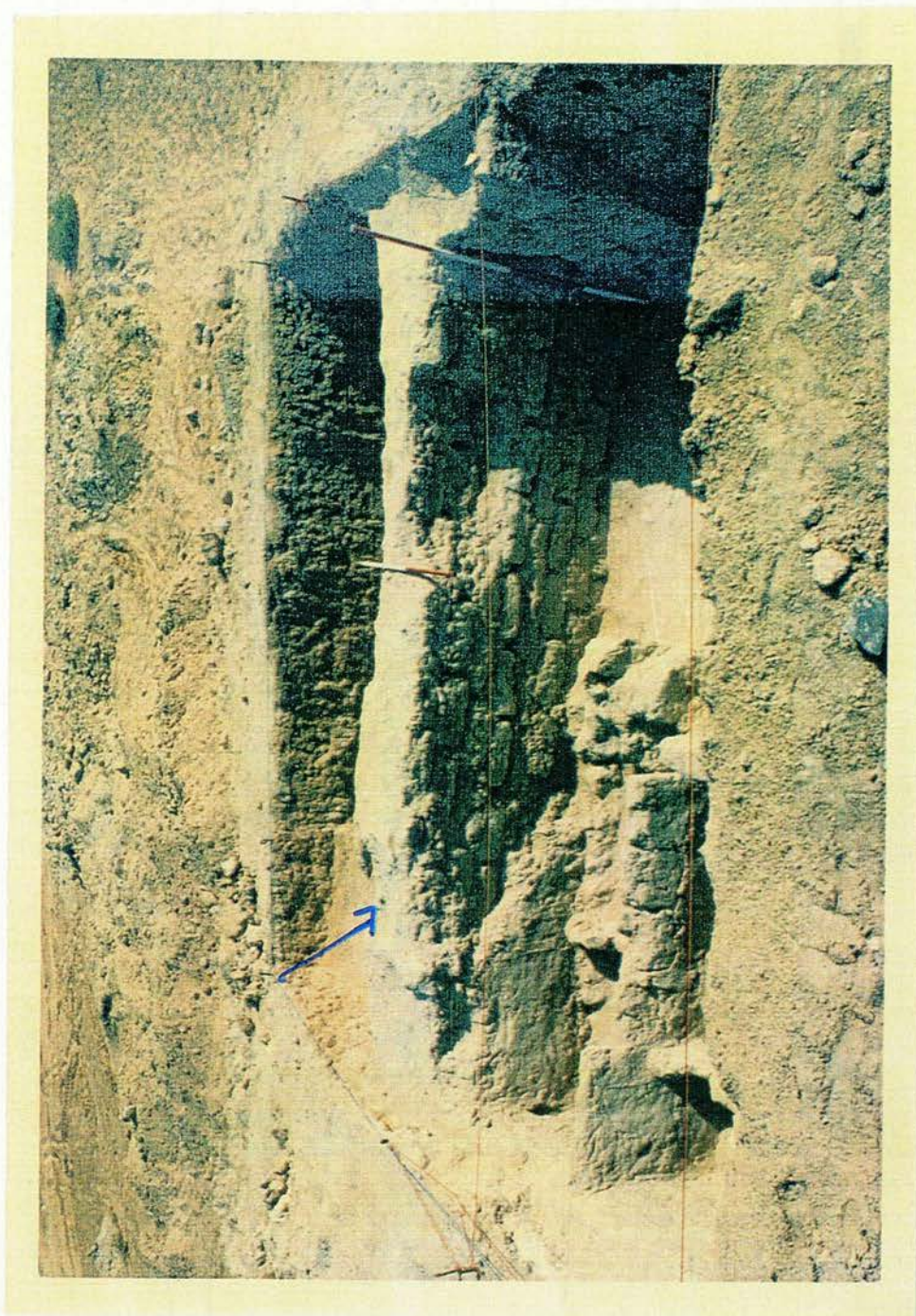


Fig. 17: Northern wall of trench no. I.

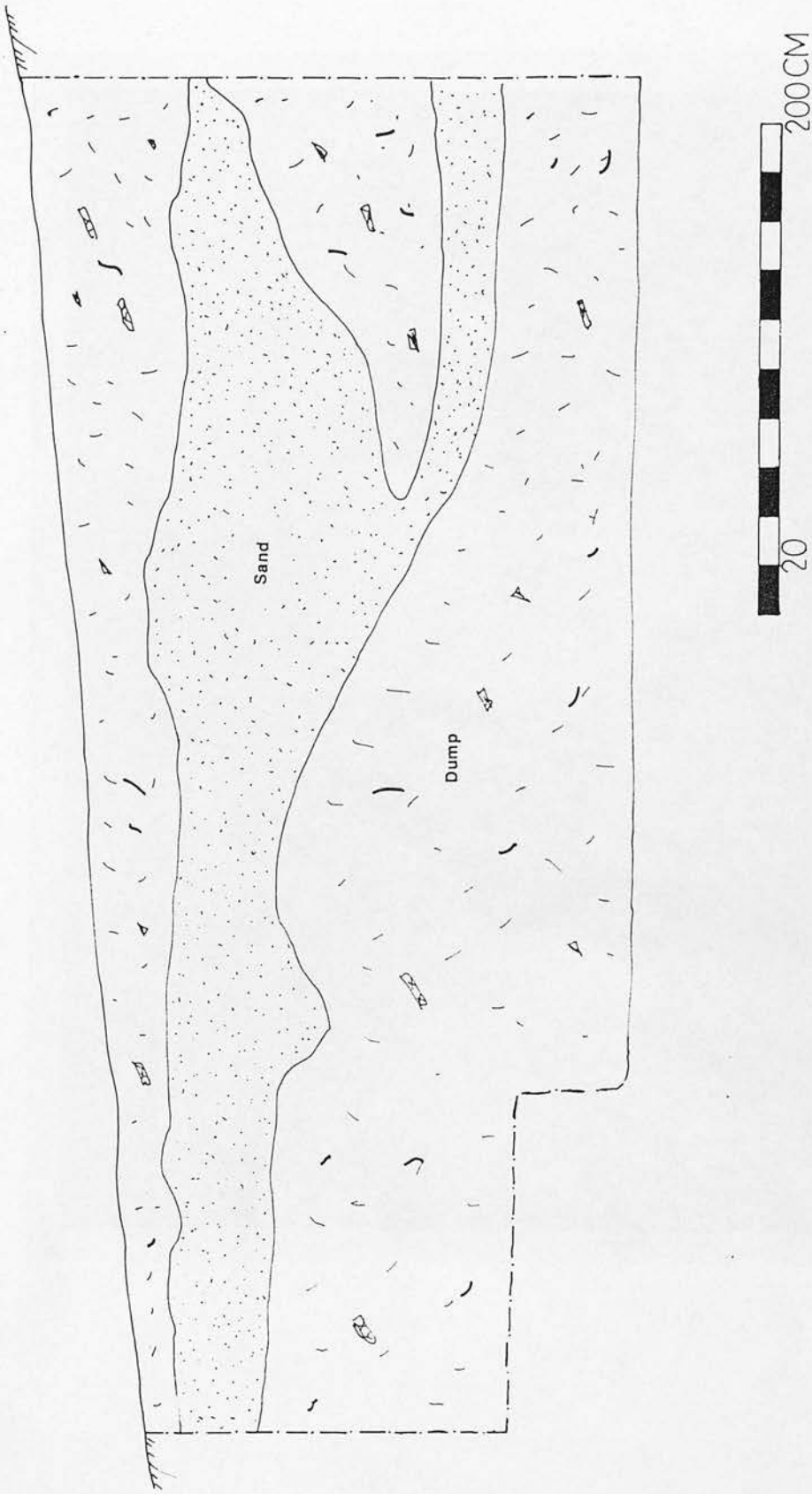


Fig. 18. North section of trench no. I.

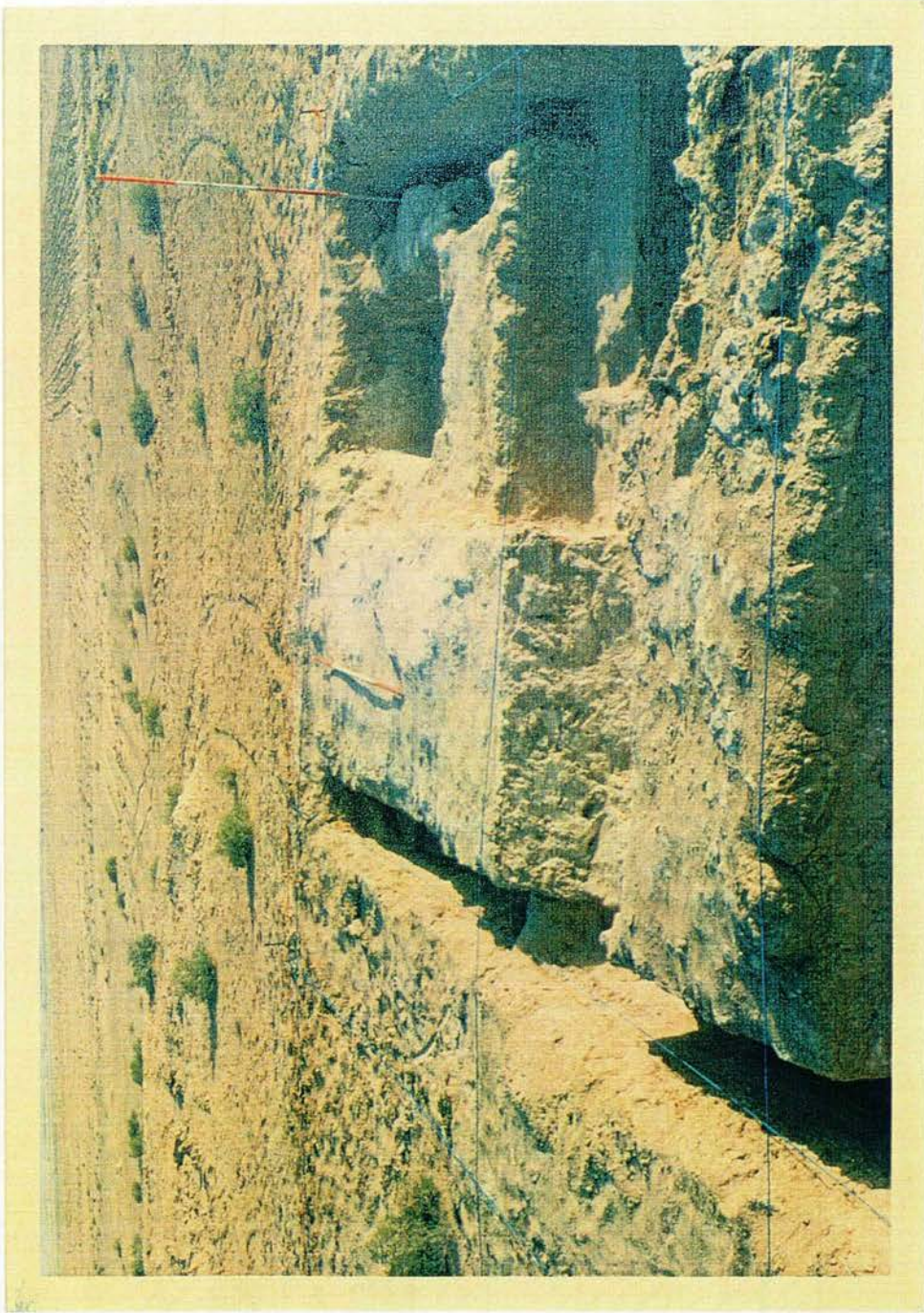


Fig. 19:

A- Trench no. 2 of the settlement.

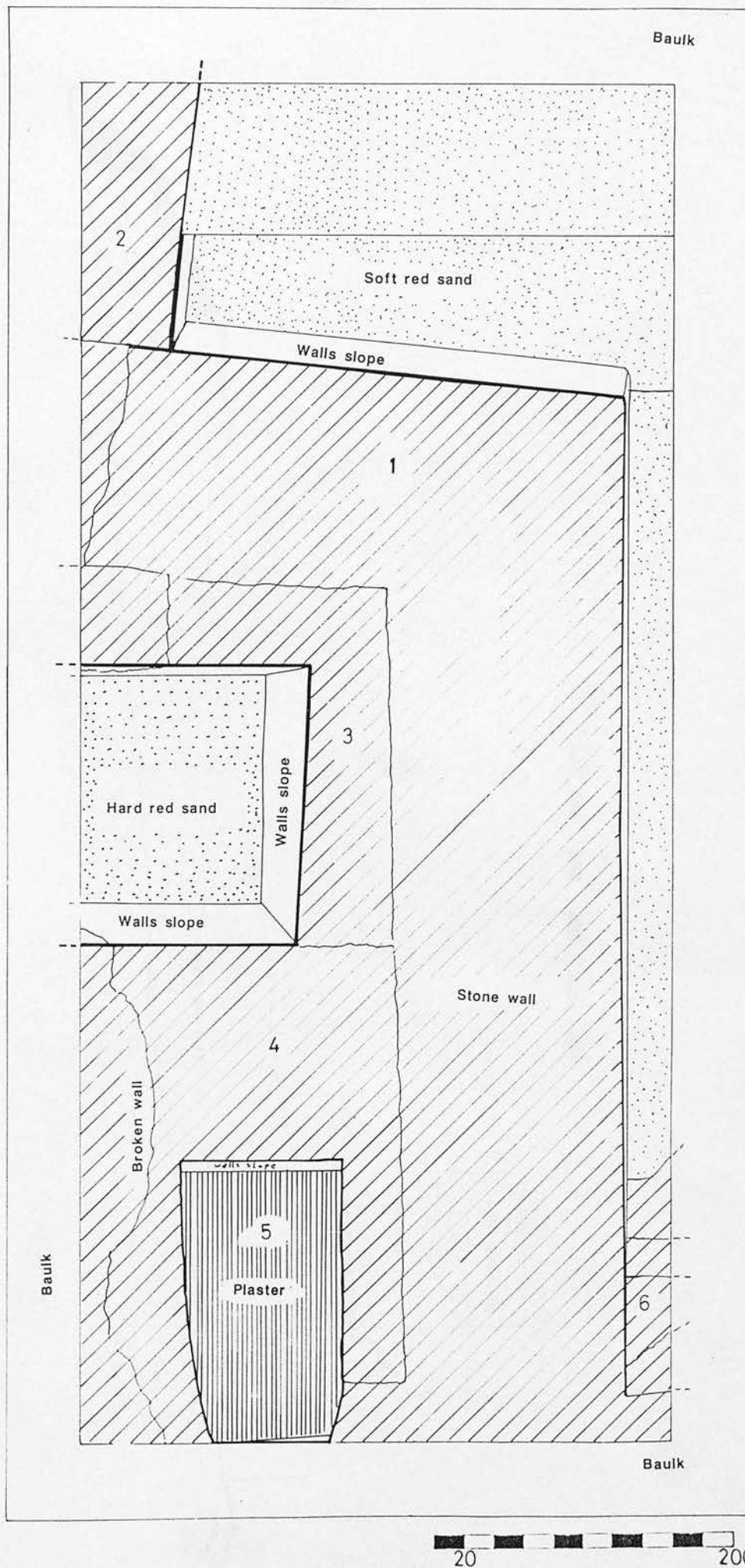


Fig. 19:

B- An overall plan of trench no. II

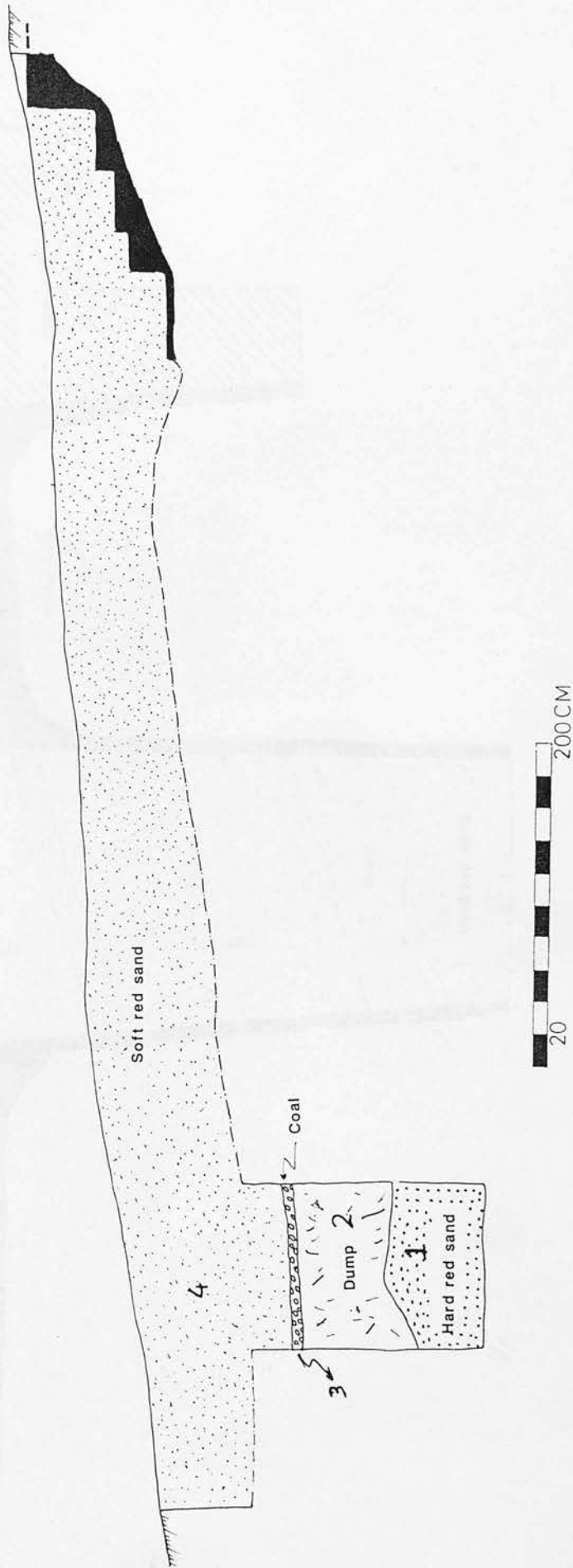


Fig. 20: East section of trench no. II.

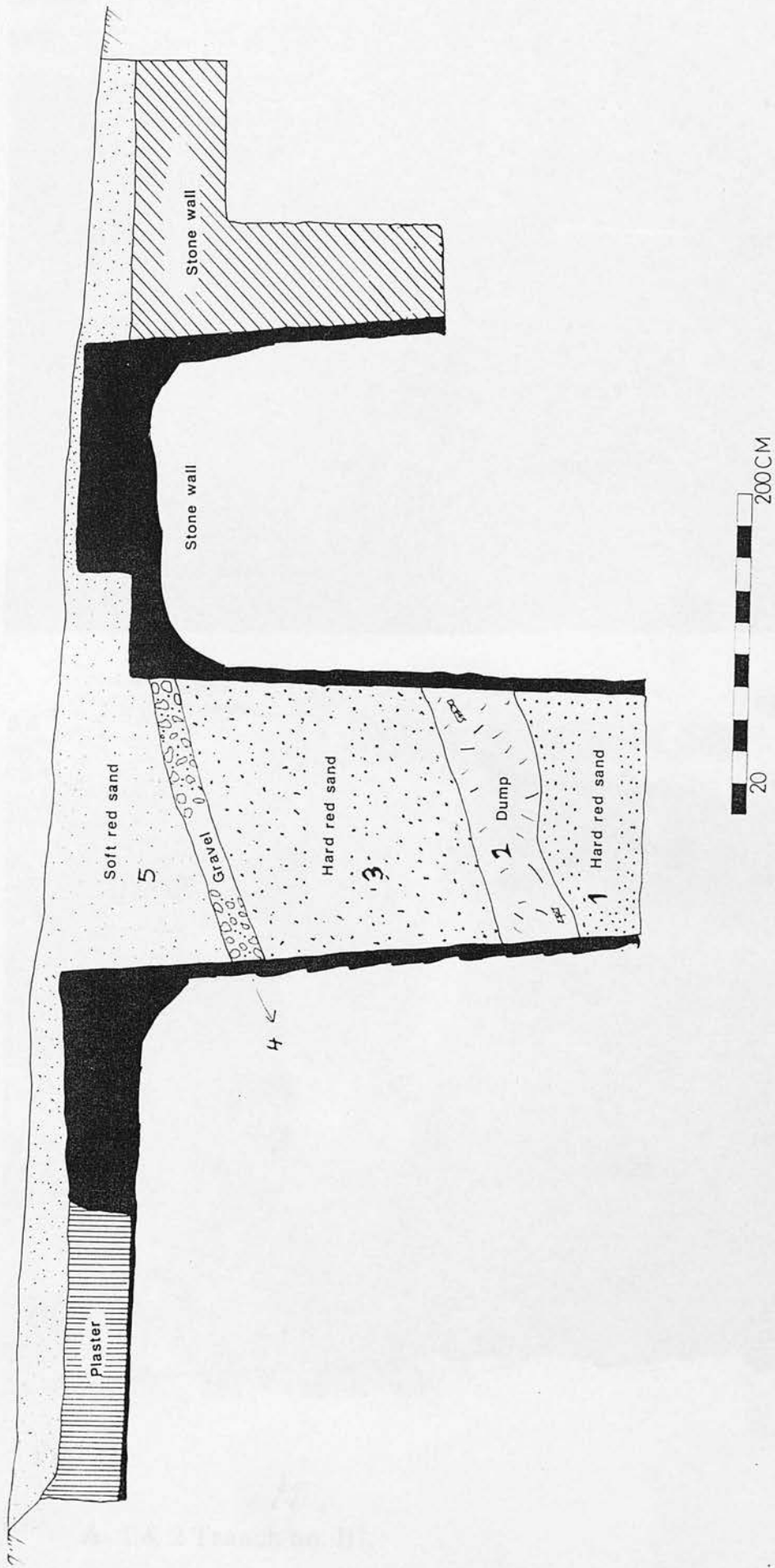


Fig. 21: West section of trench no. II.



Fig. 22:

A- 1 & 2 Trench no. III.

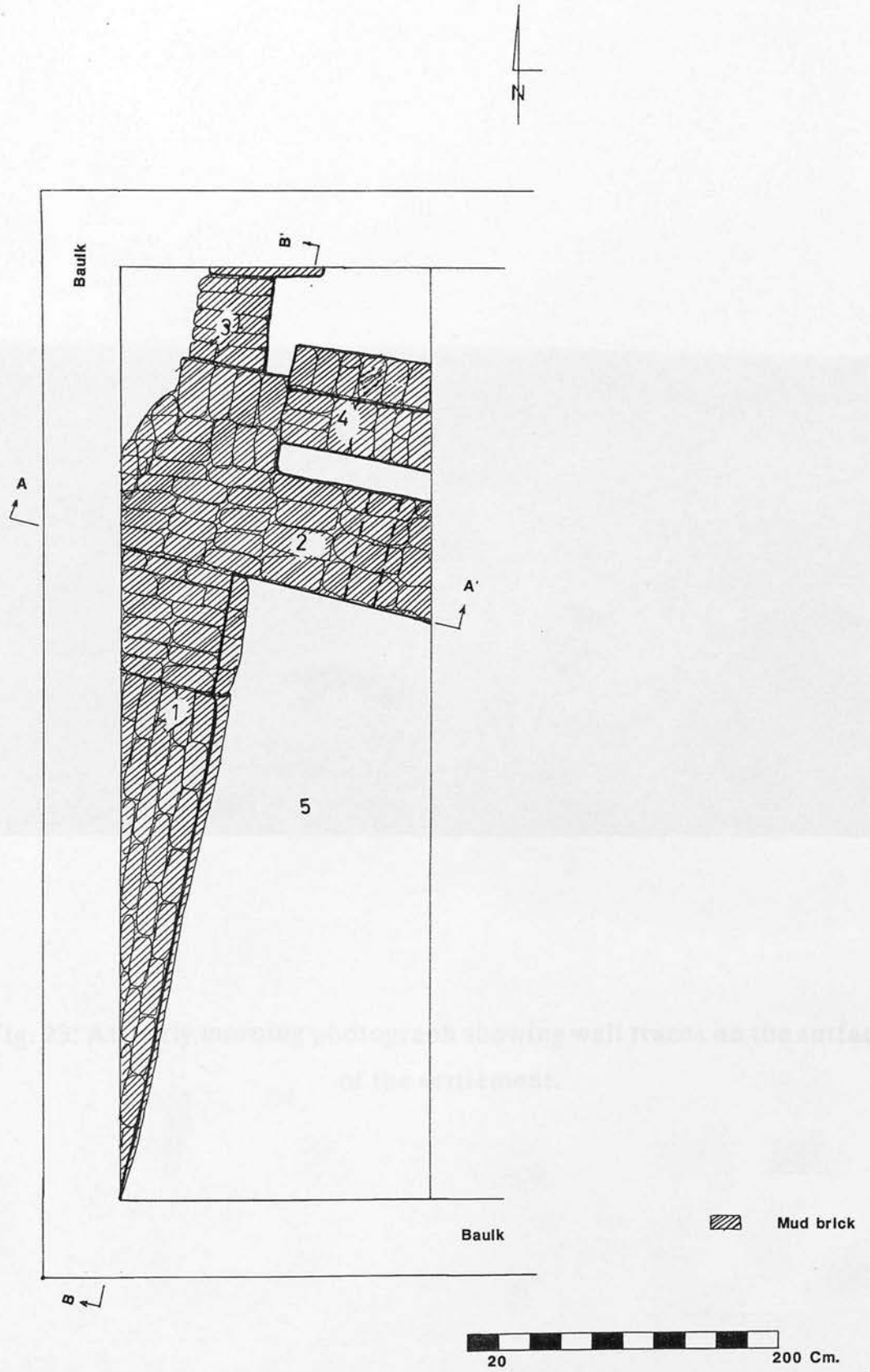


Fig. 22:

B- An overall plan of trench no. III.



Fig. 23: An early morning photograph showing wall traces on the surface of the settlement.

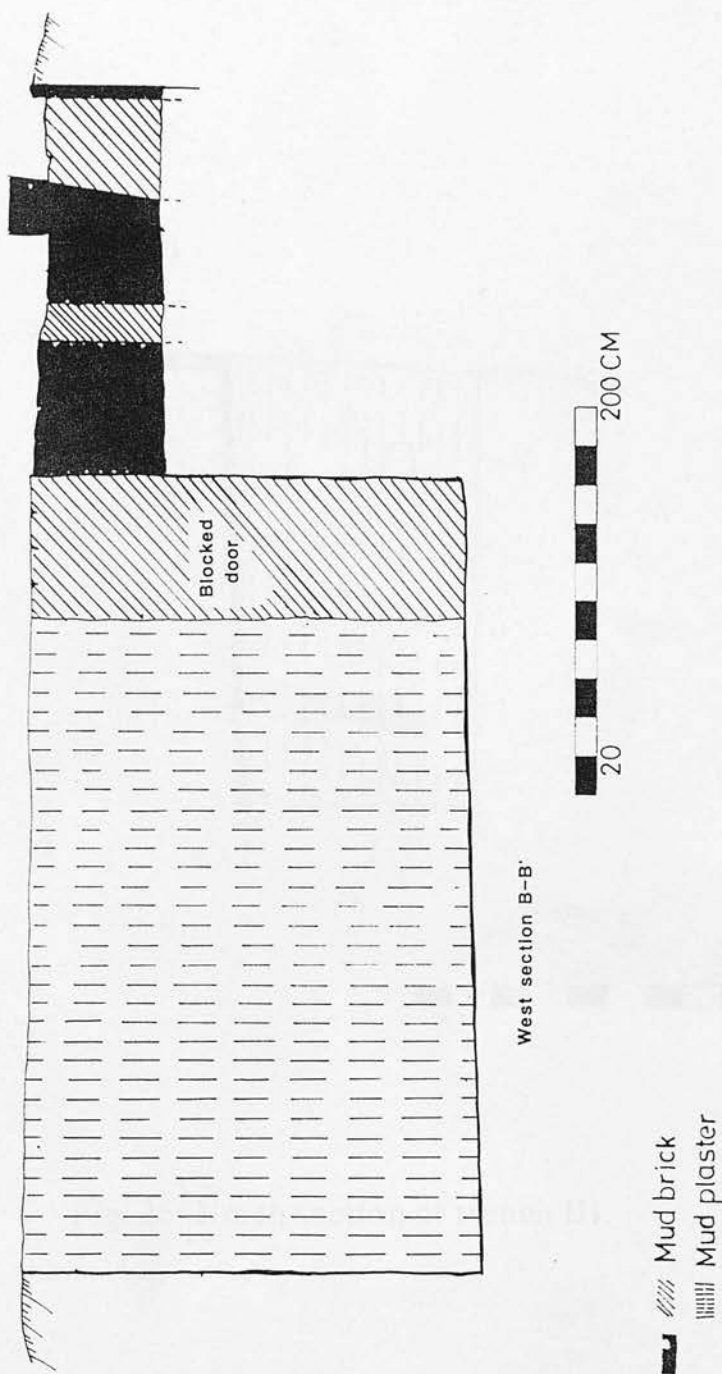


Fig. 24: West section of trench III.

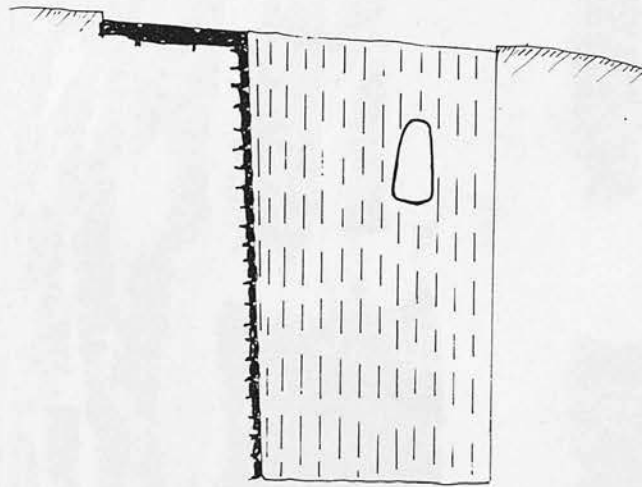


Fig. 25: North section of trench III.

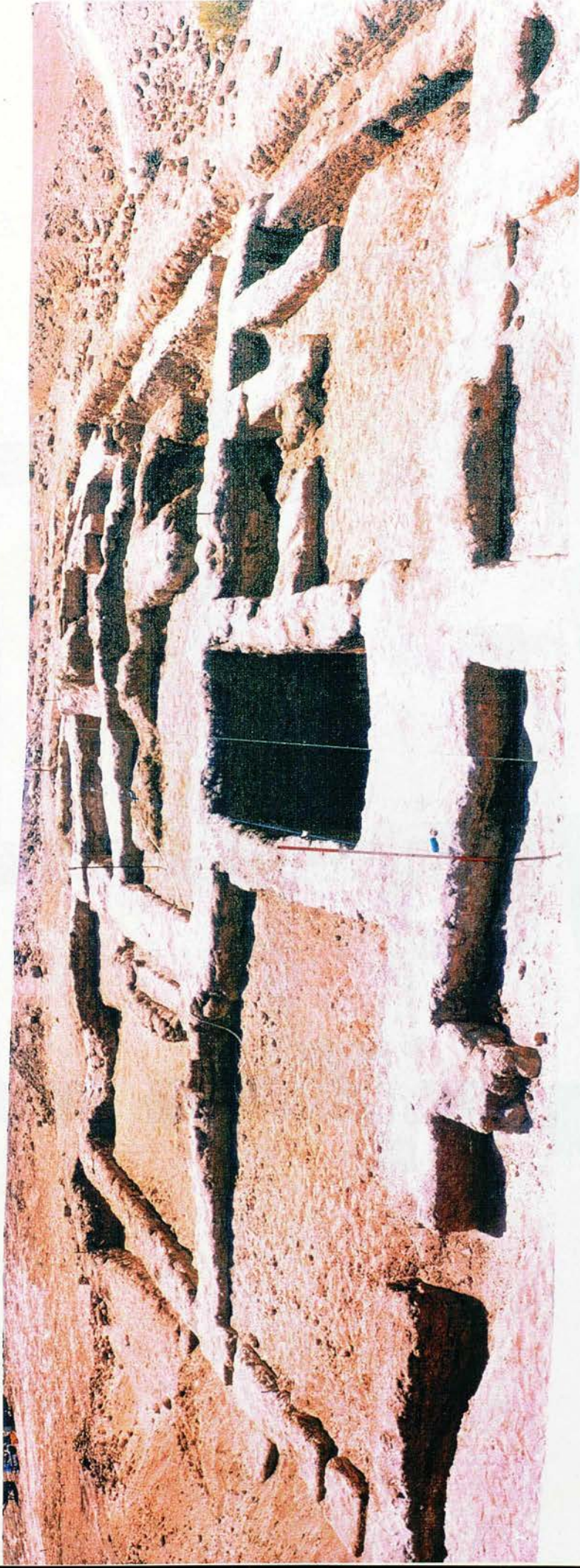


Fig. 26:

A- Trench IIIA.

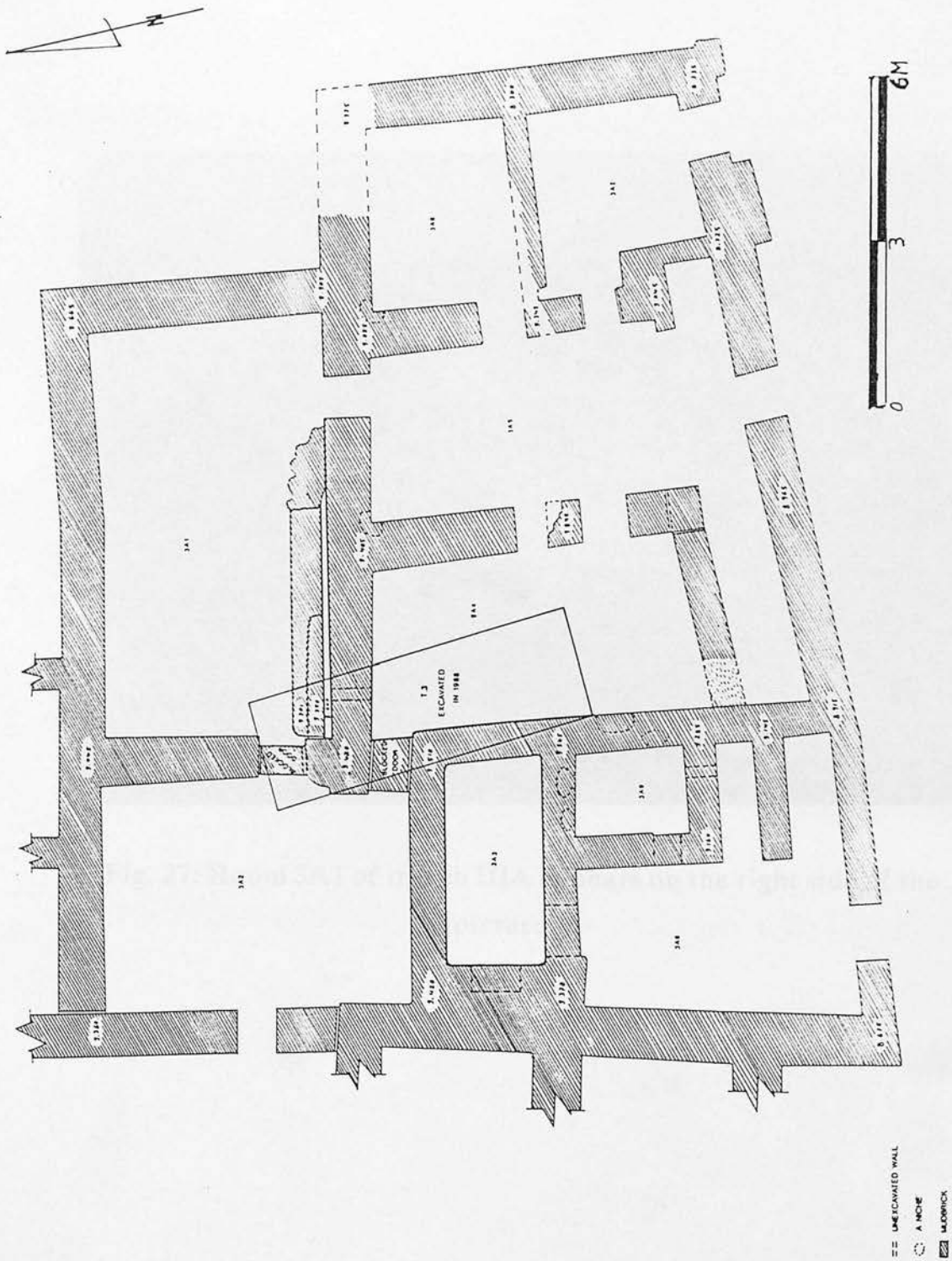


Fig. 26:

B- An overall plan of trench IIIA.



Fig. 27: Room 3A1 of trench IIIA appears on the right side of the picture.

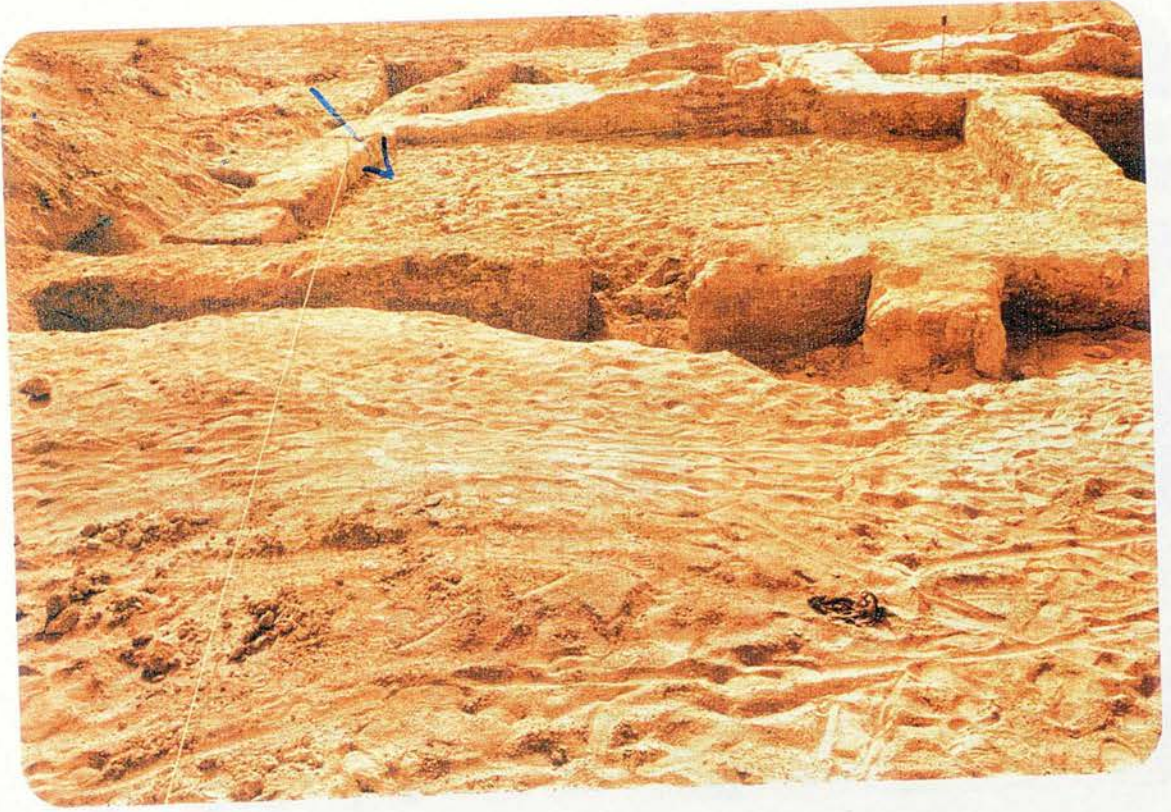


Fig. 28: Room 3A2 of trench IIIA appears on top of the picture.



Fig. 29:

A- Room 3A3 of trench IIIA appears on the middle of the picture.

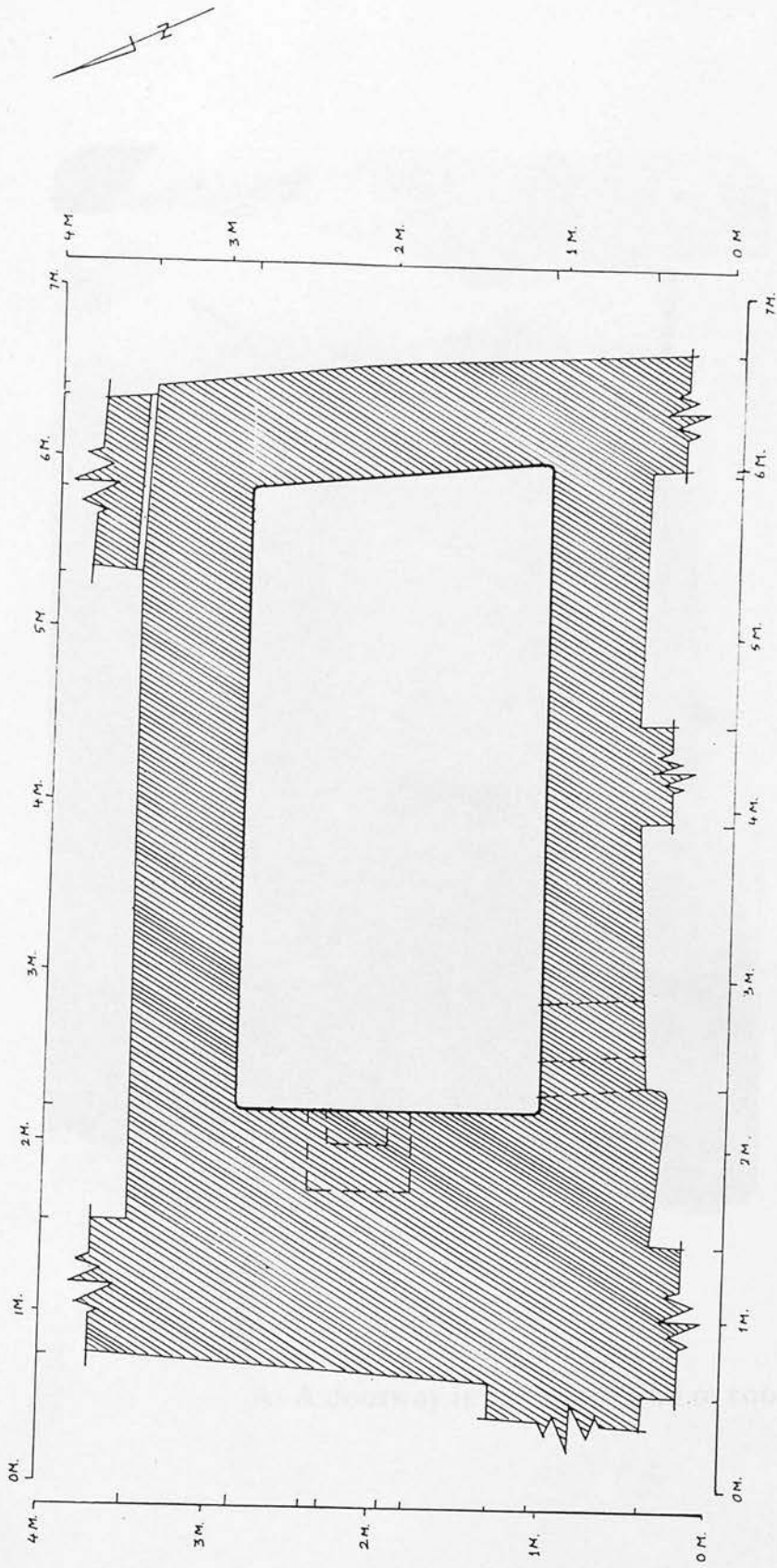


Fig. 29:
B-A plan of room 3A3.



Fig. 30:

A- A doorway in the south wall of room 3A3.

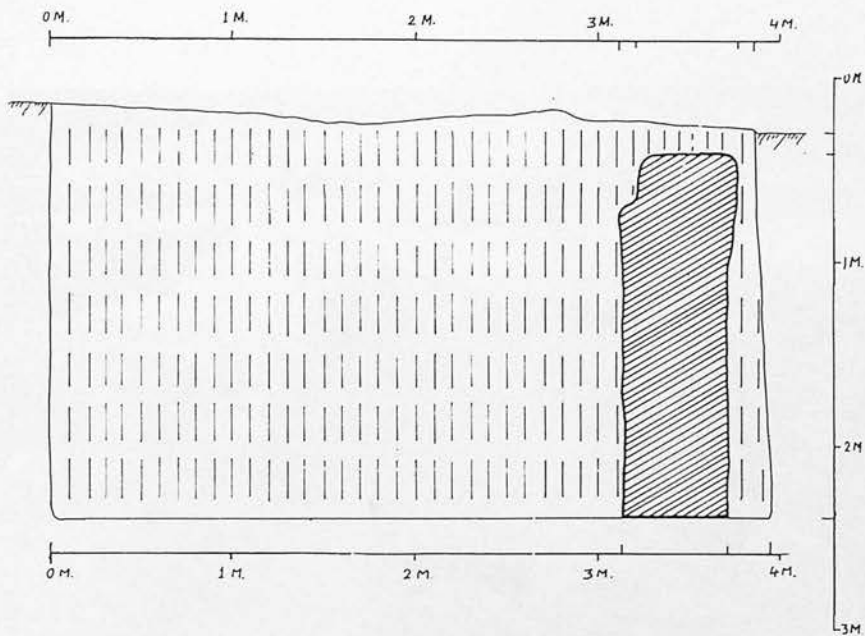


Fig. 30:

B- A section of the south wall of room 3A3 showing a doorway.



Fig. 31:

A- An alcove built into the west wall of room 3A3 of trench IIIA.

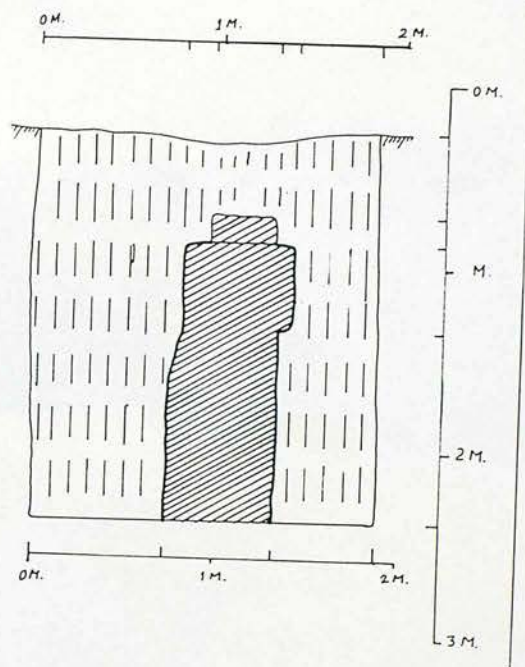


Fig. 31:

B- A section of the west wall of room 3A3 showing the alcove.

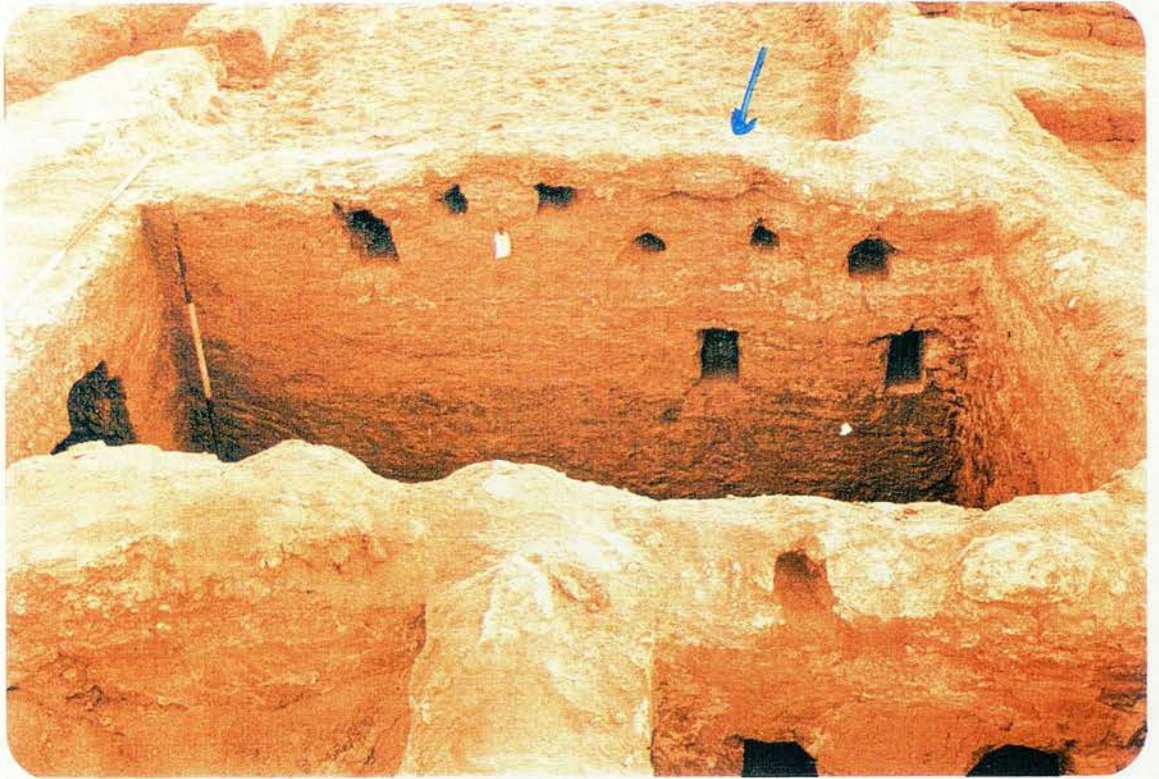


Fig. 32:

A- The northern wall of room 3A3 where eight niches spread across the upper half of it.

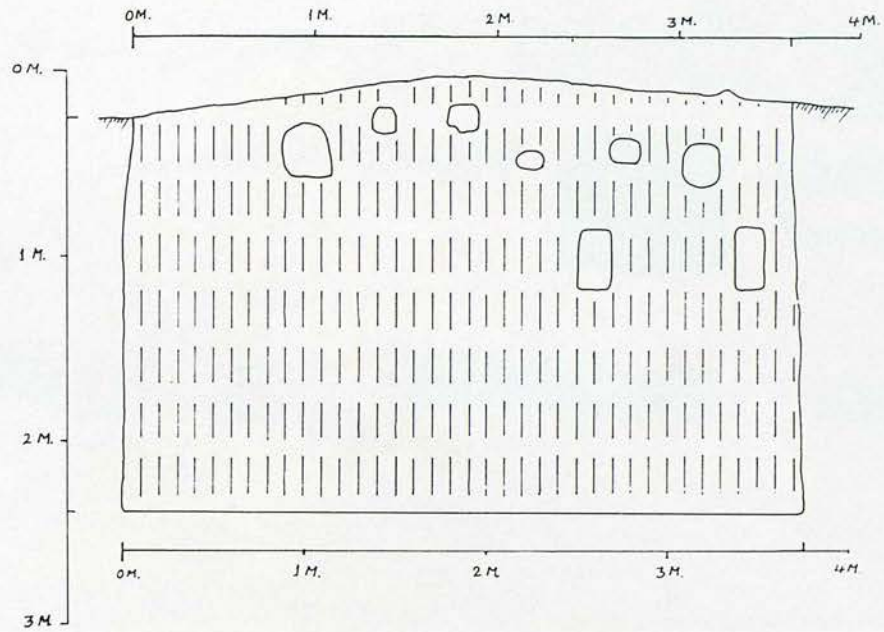


Fig. 32:

B- A plan of the northern wall showing the eight niches.

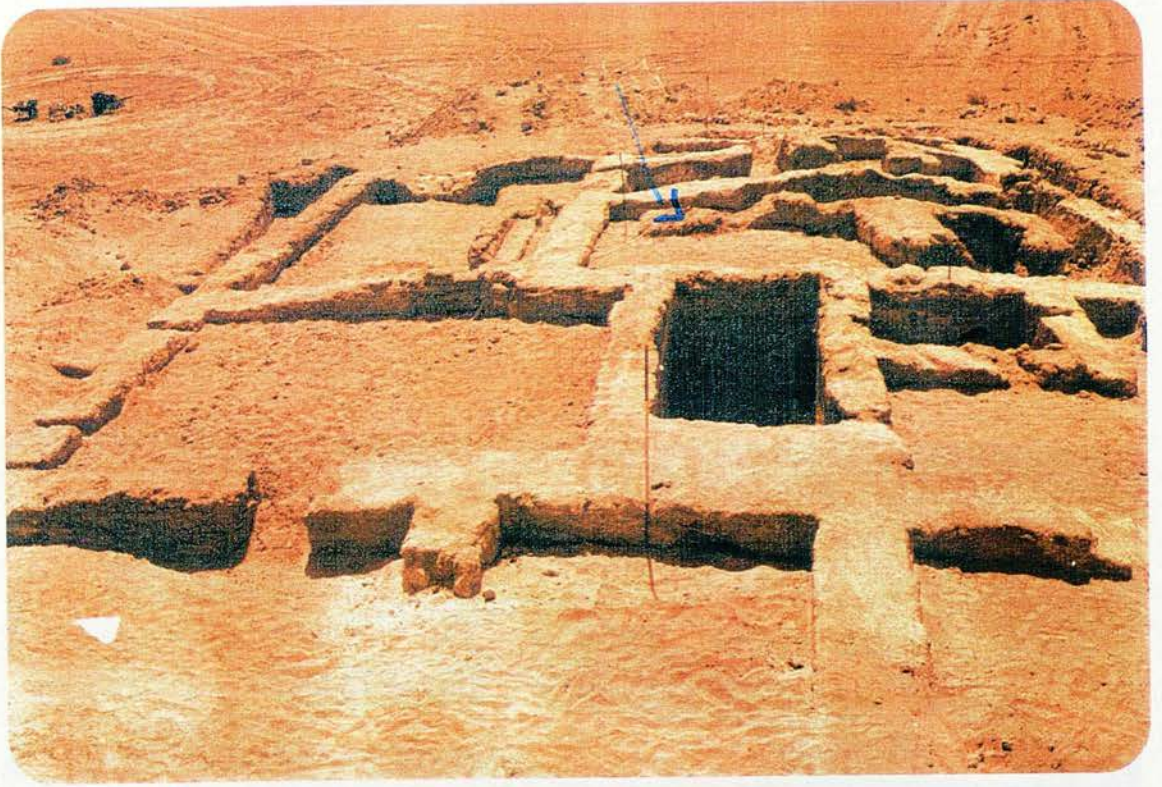


Fig. 33: Room 3A4 of trench IIIA appears on the upper right corner of the picture.



Fig. 34: Room 3A5 of trench IIIA appears on the lower left corner of the picture.

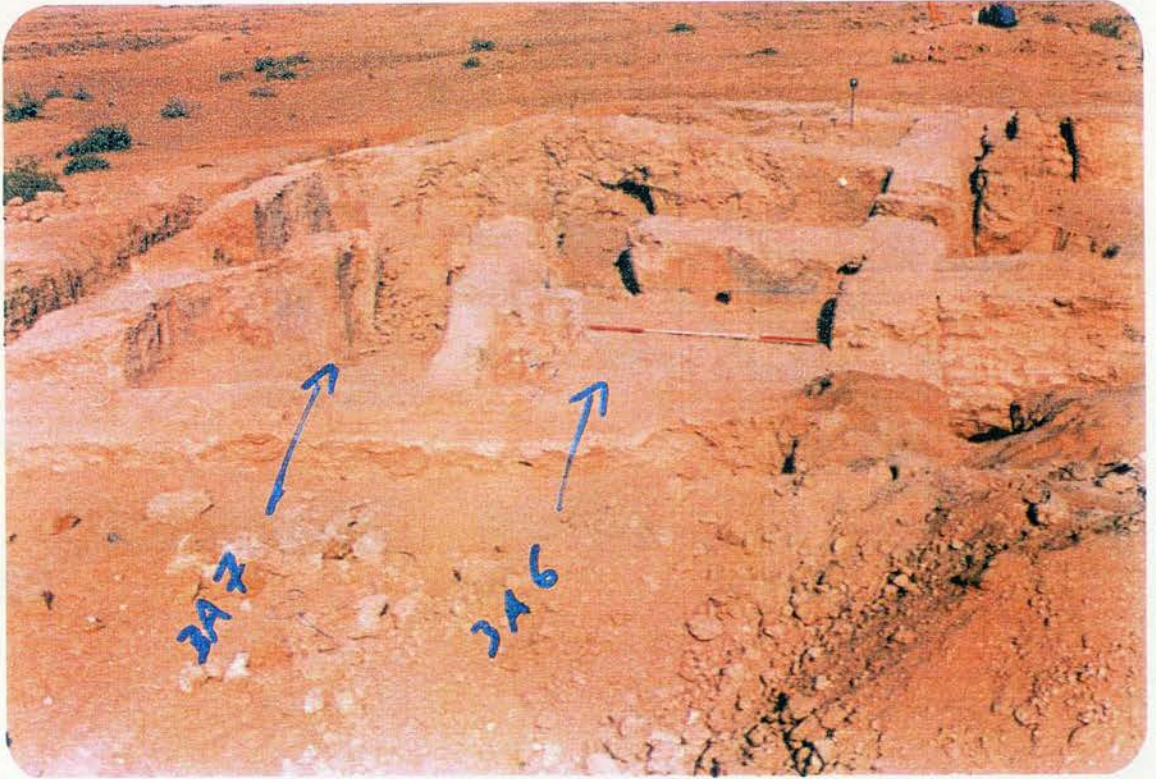


Fig. 35: Rooms 3A6 & 3A7 of trench IIIA appear on the middle of the picture.



Fig. 36: Rooms 3A8 & 3A9 appear on the right side of the picture.



Fig. 37: Trench V before excavation where a stone wall appears on the surface.

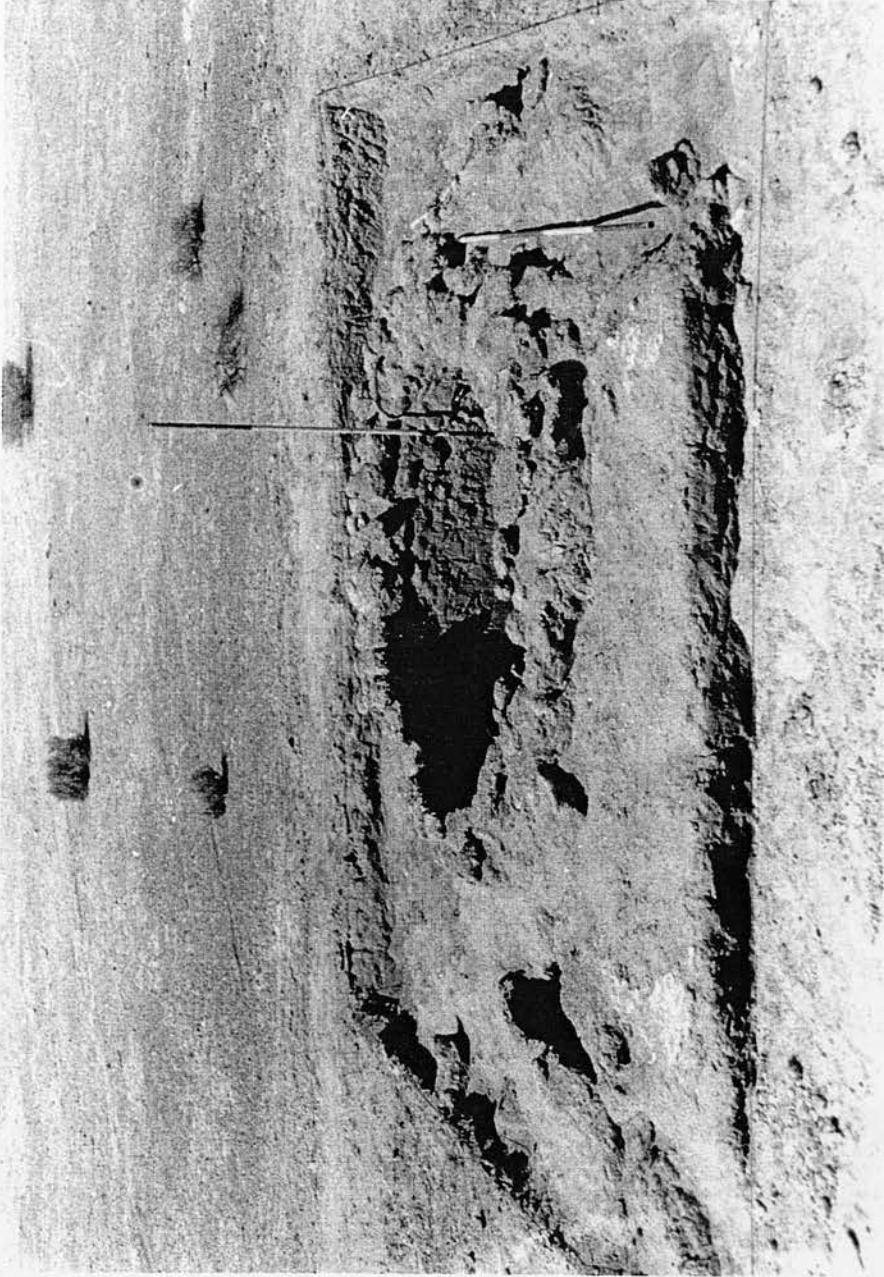


Fig. 38:

A-Trench V after excavation.

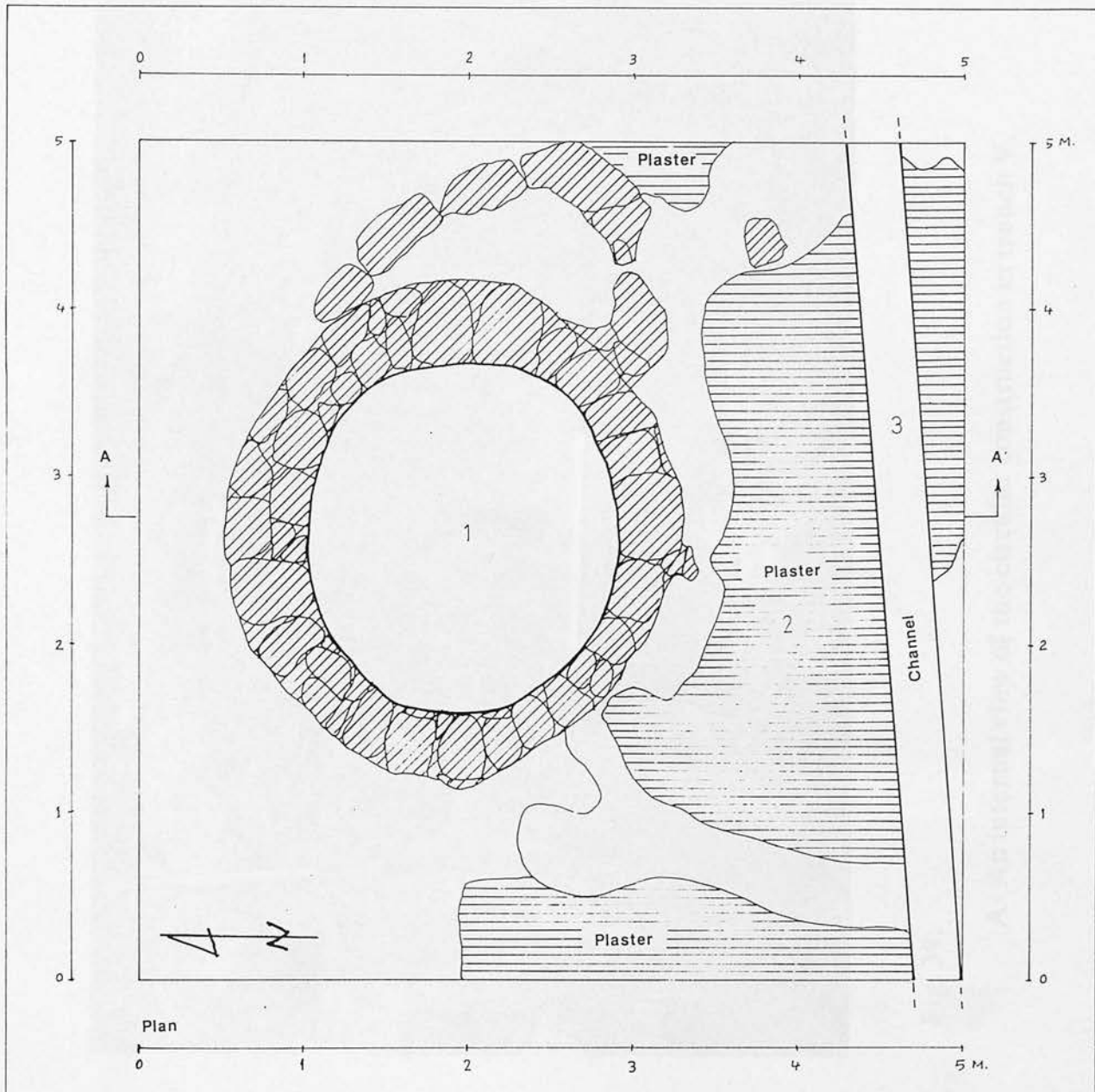


Fig. 38:

B- An overall plan of trench V.

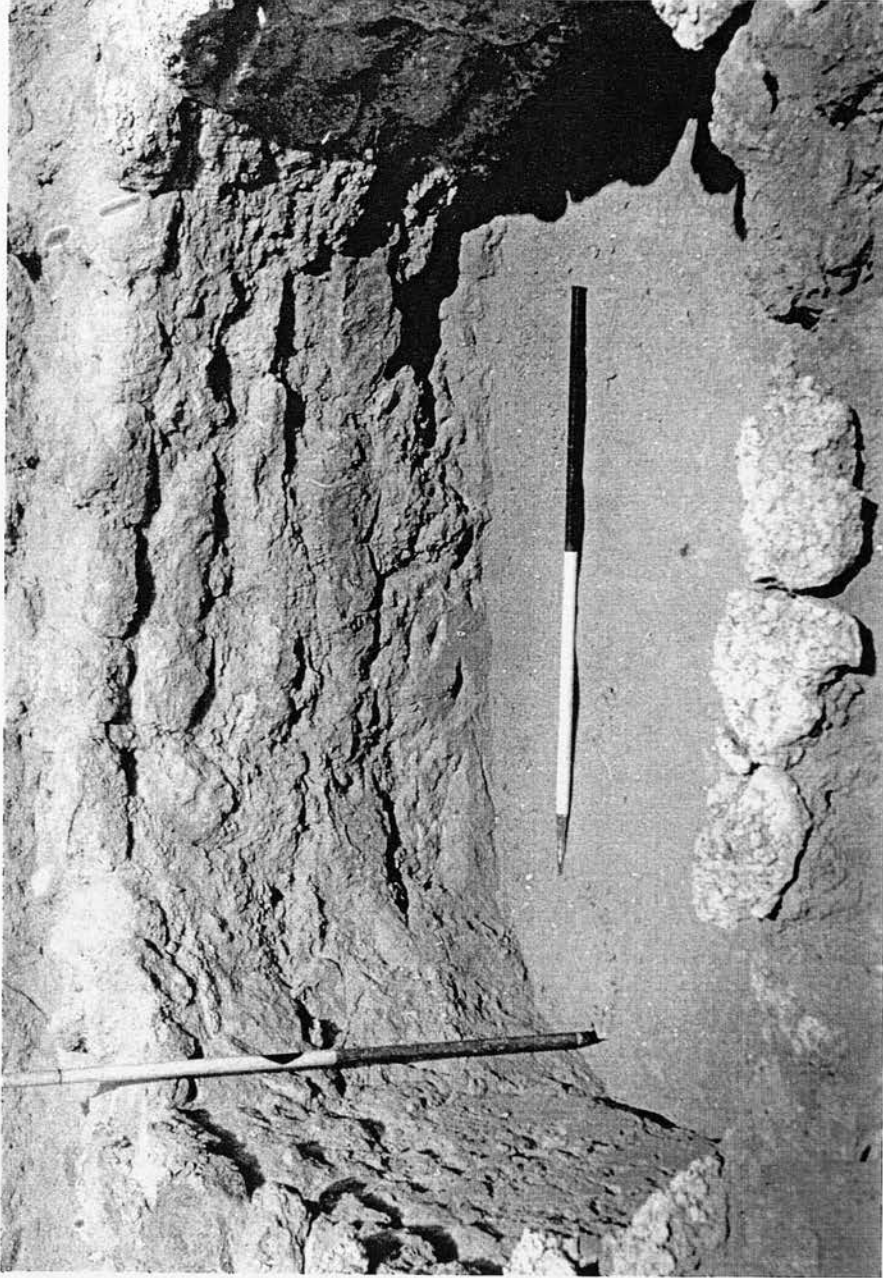


Fig. 39:

A- An internal view of the circular construction in trench V.

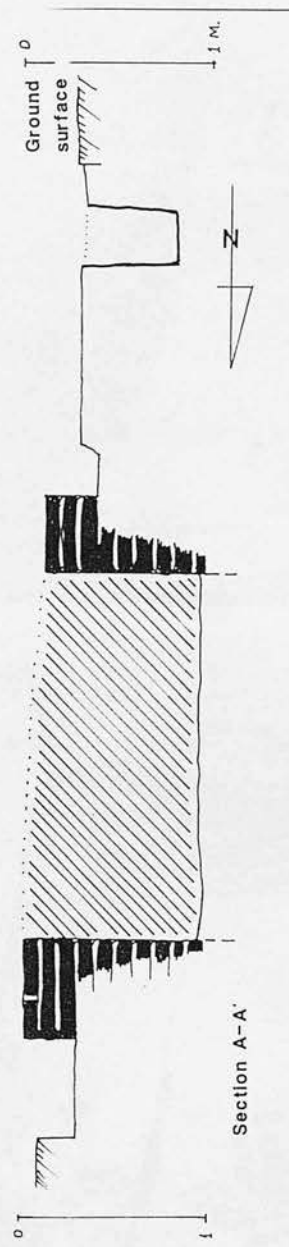


Fig. 39:
B- Section A-A of trench V.

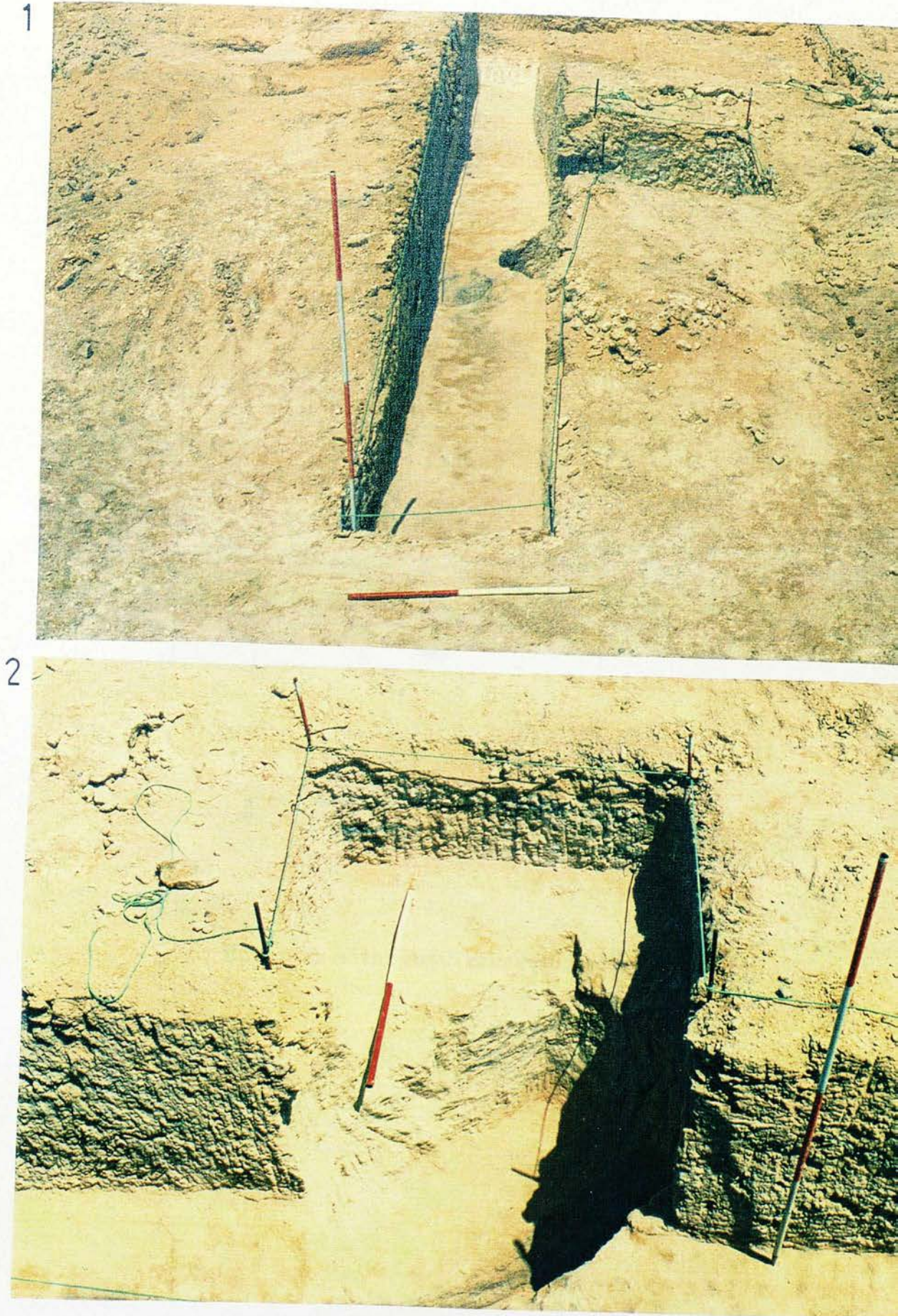


Fig. 40:

A- 1 Trench IV as it is appear after excavation.

2 A tomb which excavated below trench IV

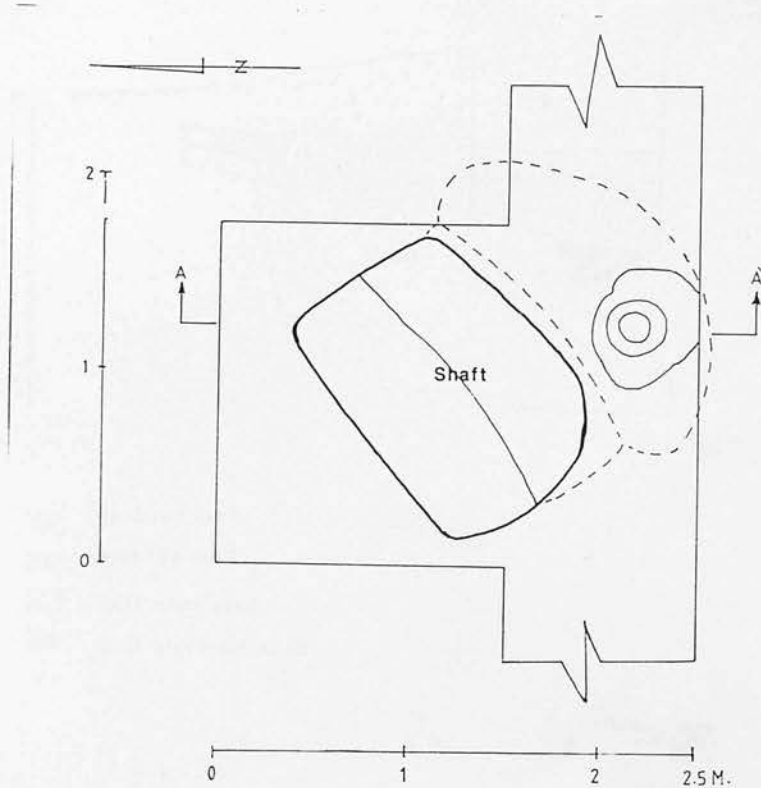


Fig. 40:

B- A plan of the tomb excavated below trench IV.

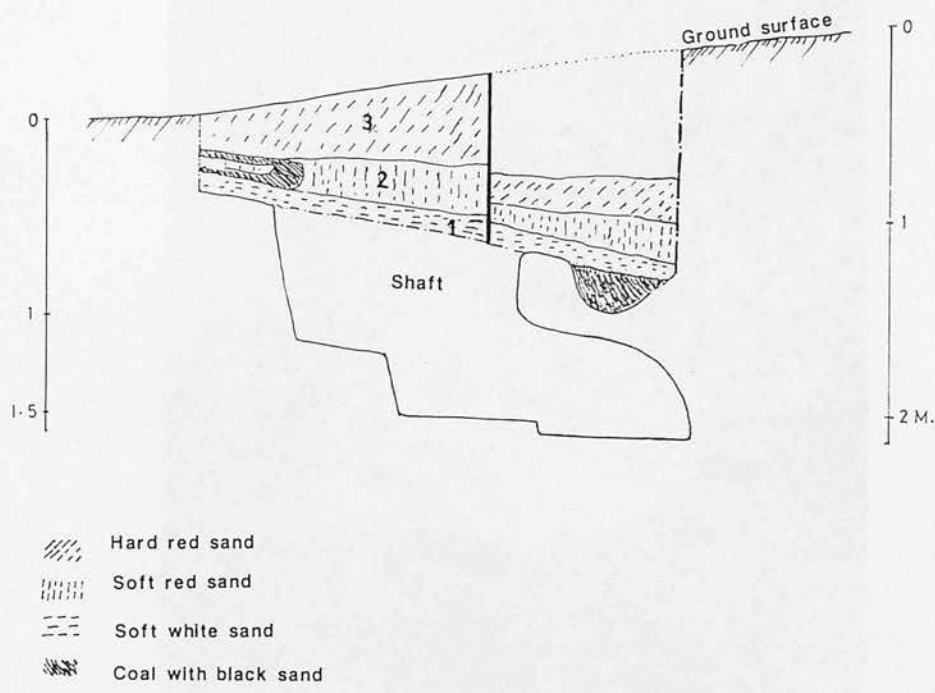


Fig. 41: A section of trench IV.

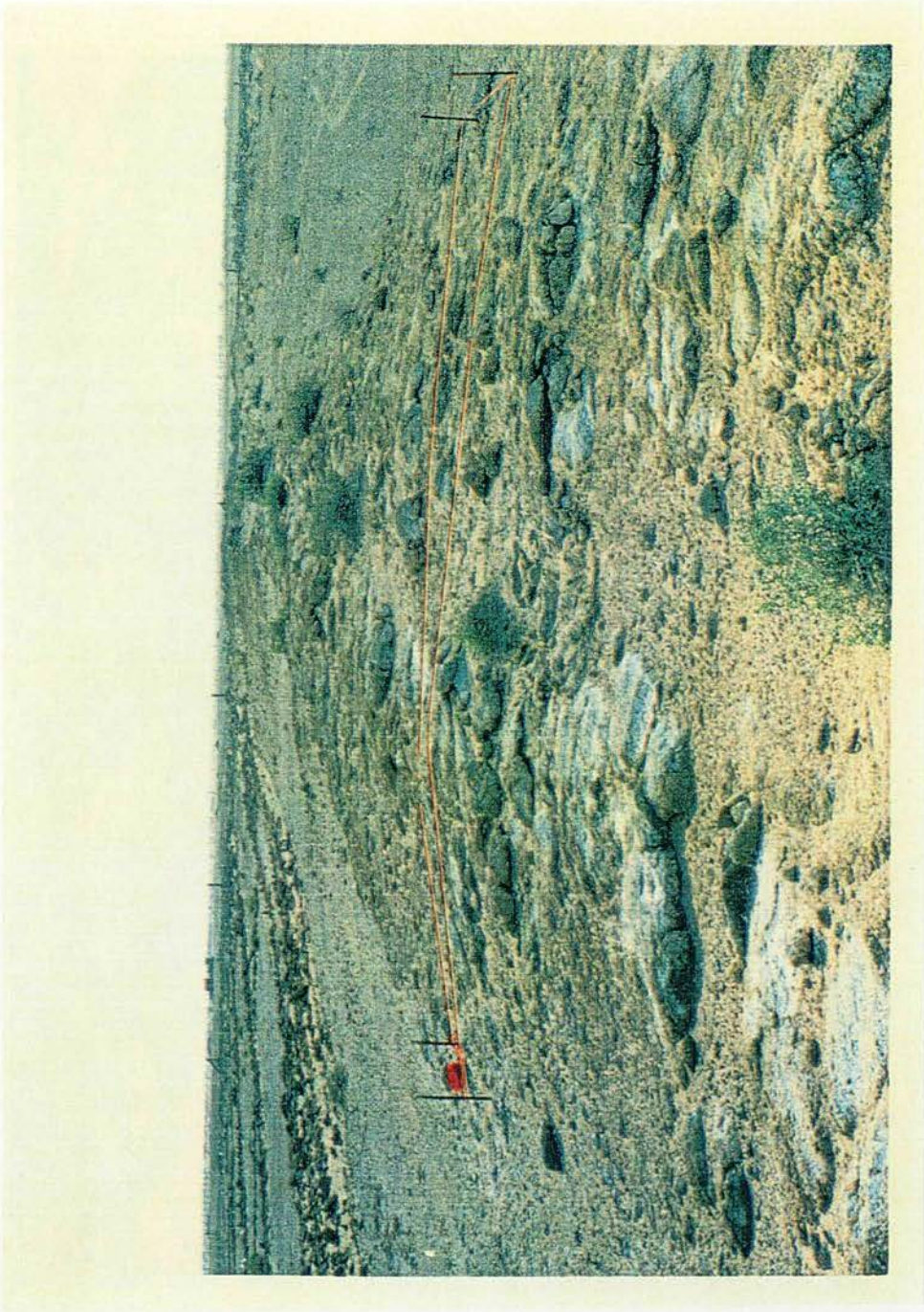


Fig. 42: A view of trench VI on subsidiary channel no. 4 before excavation.

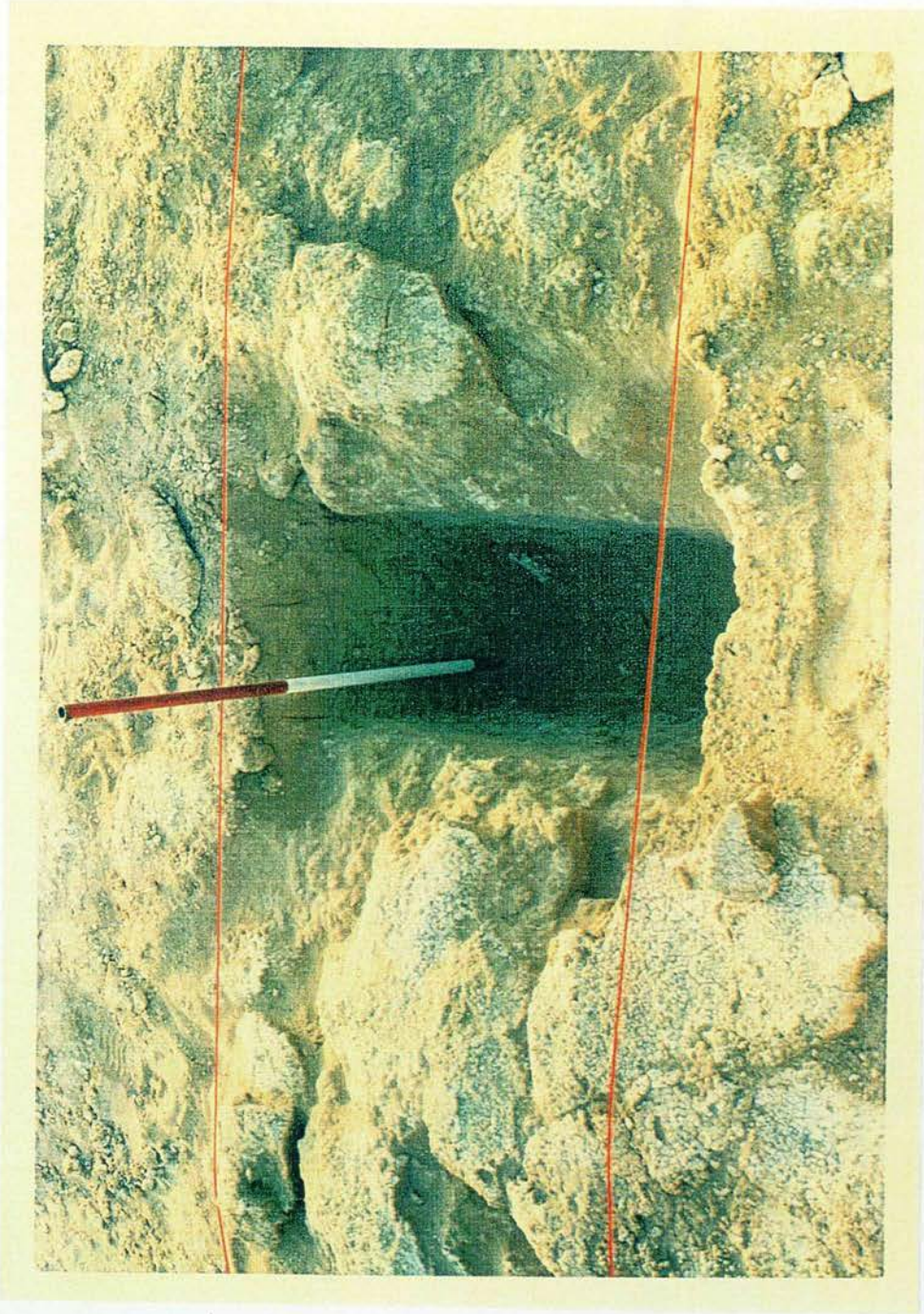


Fig. 43:

A- Trench VI after excavation where the depth and size of the channel appears.

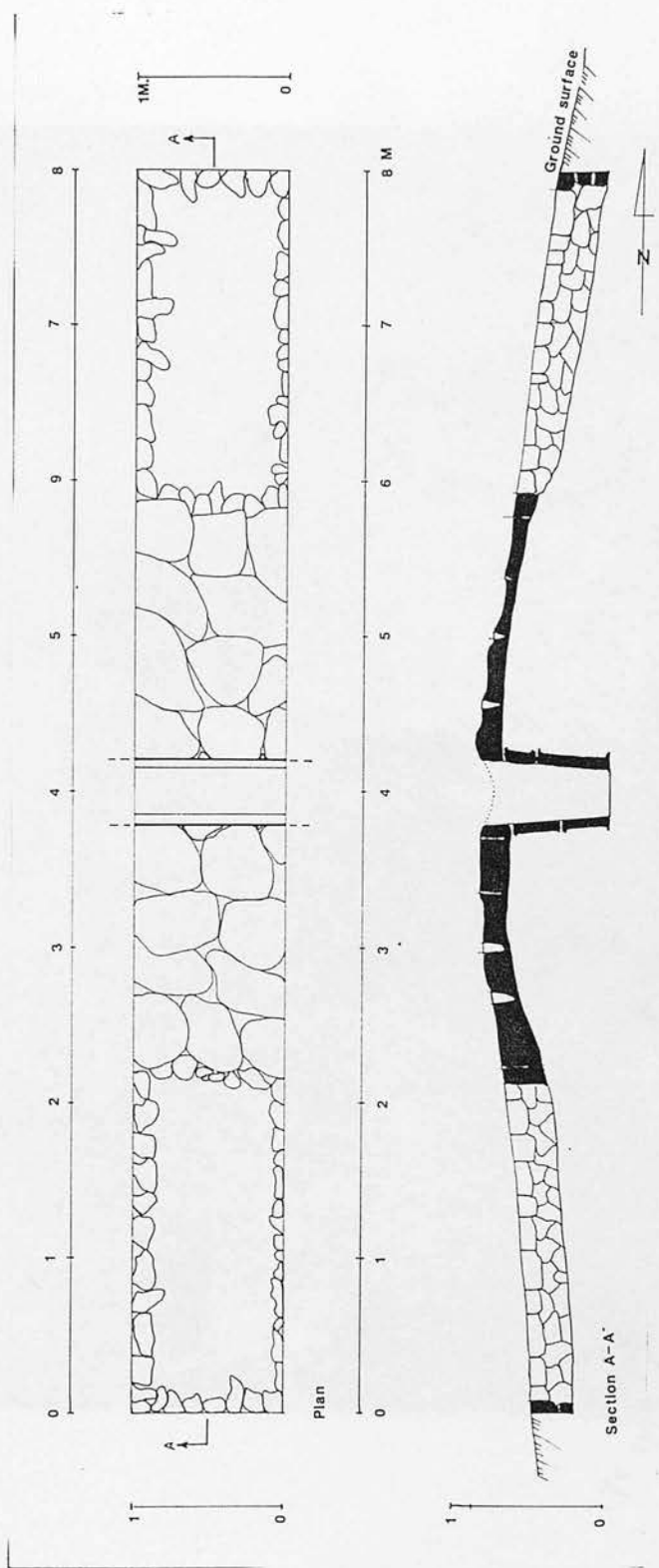


Fig. 43:
B- Section A-'A of trench VI.

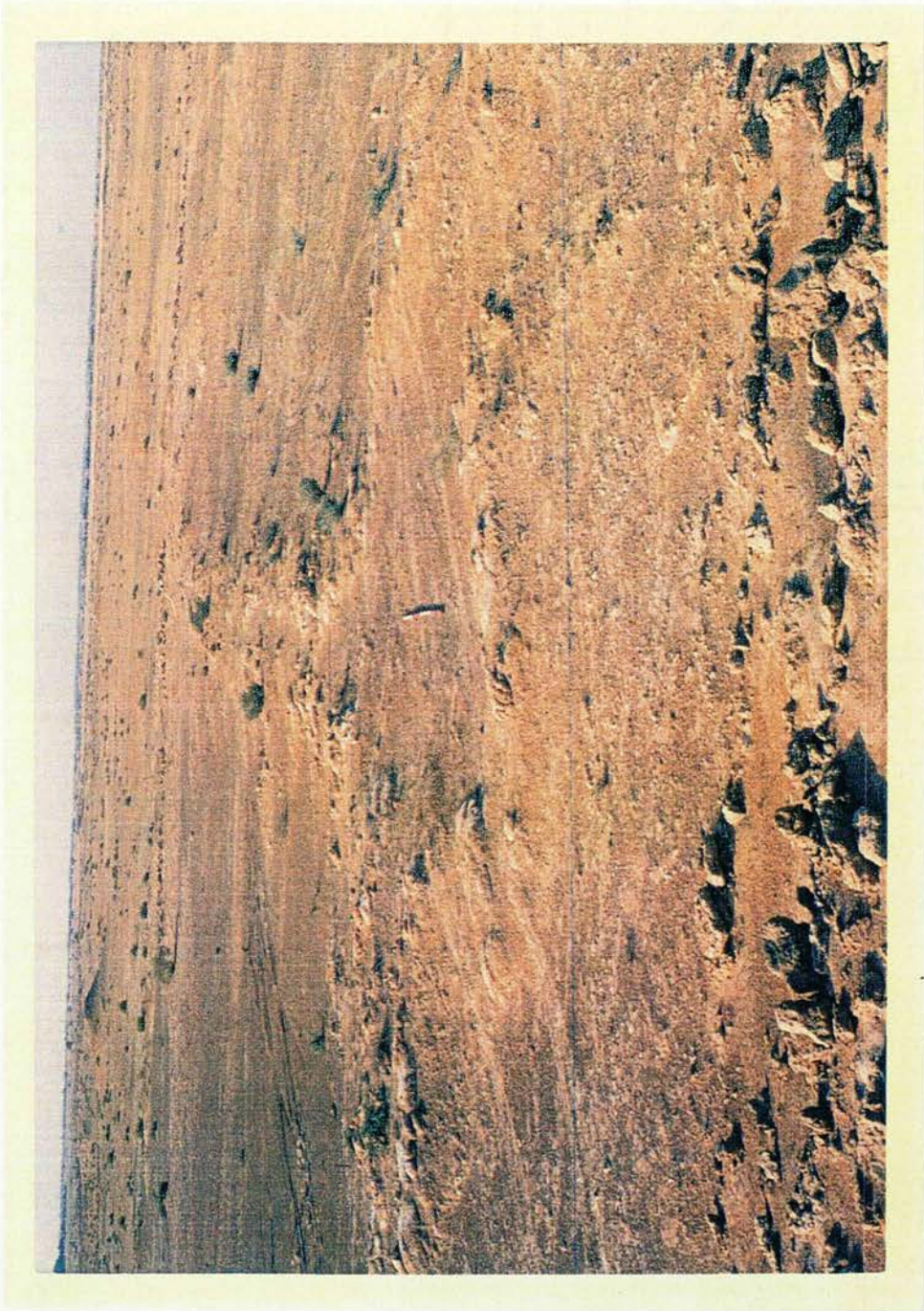


Fig. 44: A view of trench VII before excavation.

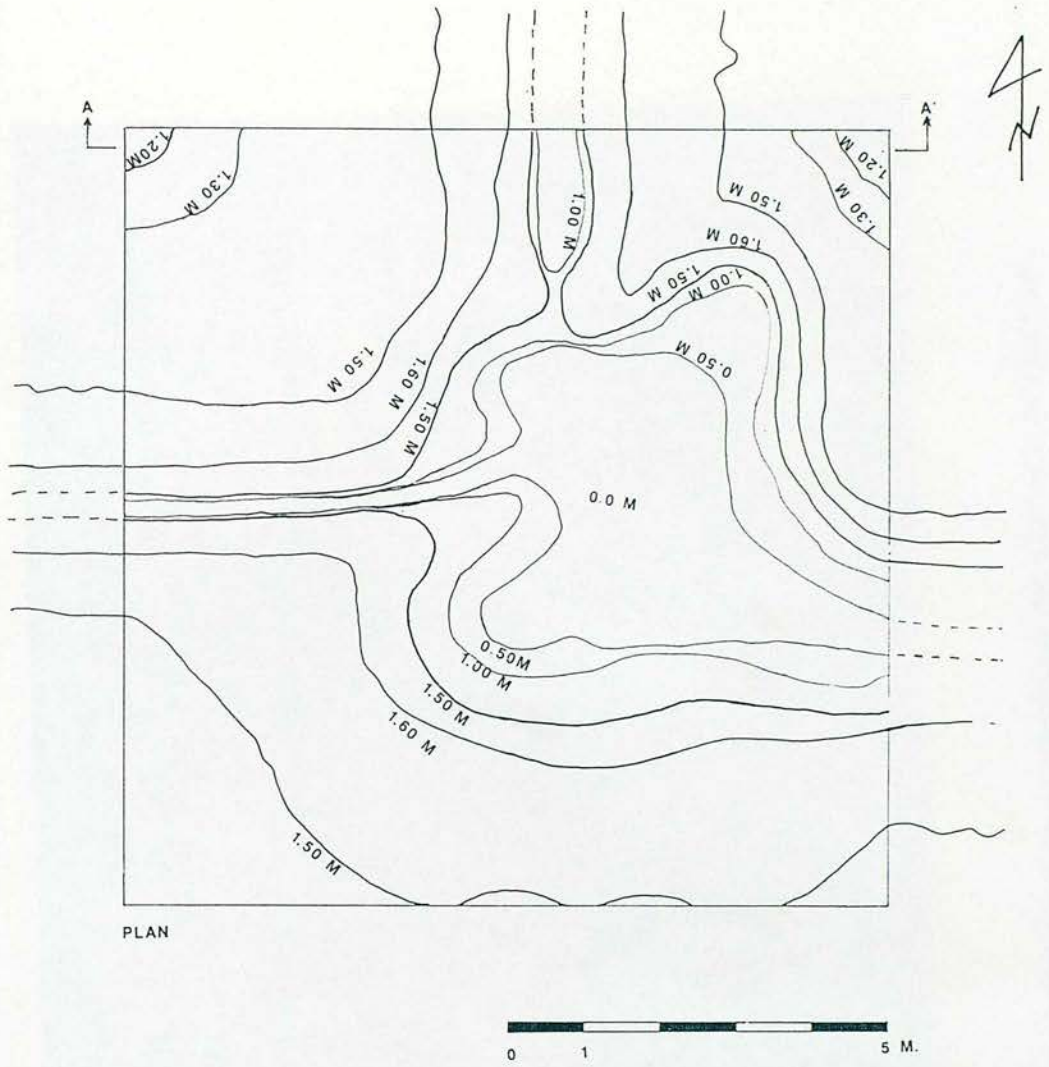


Fig. 45: A contour plan of the pool in trench VI.

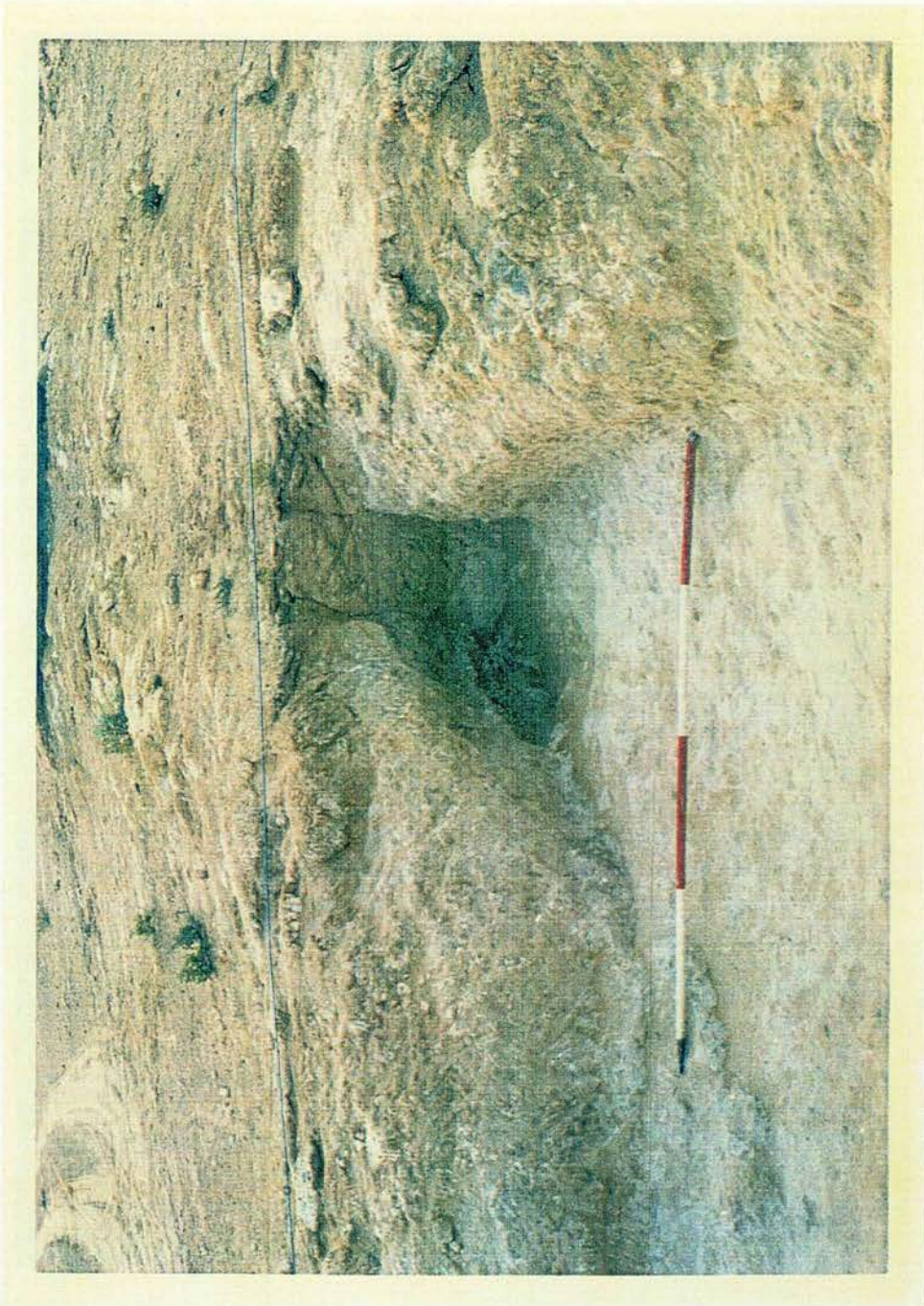


Fig. 46: A feeder channel which comes from the east side of the pool.

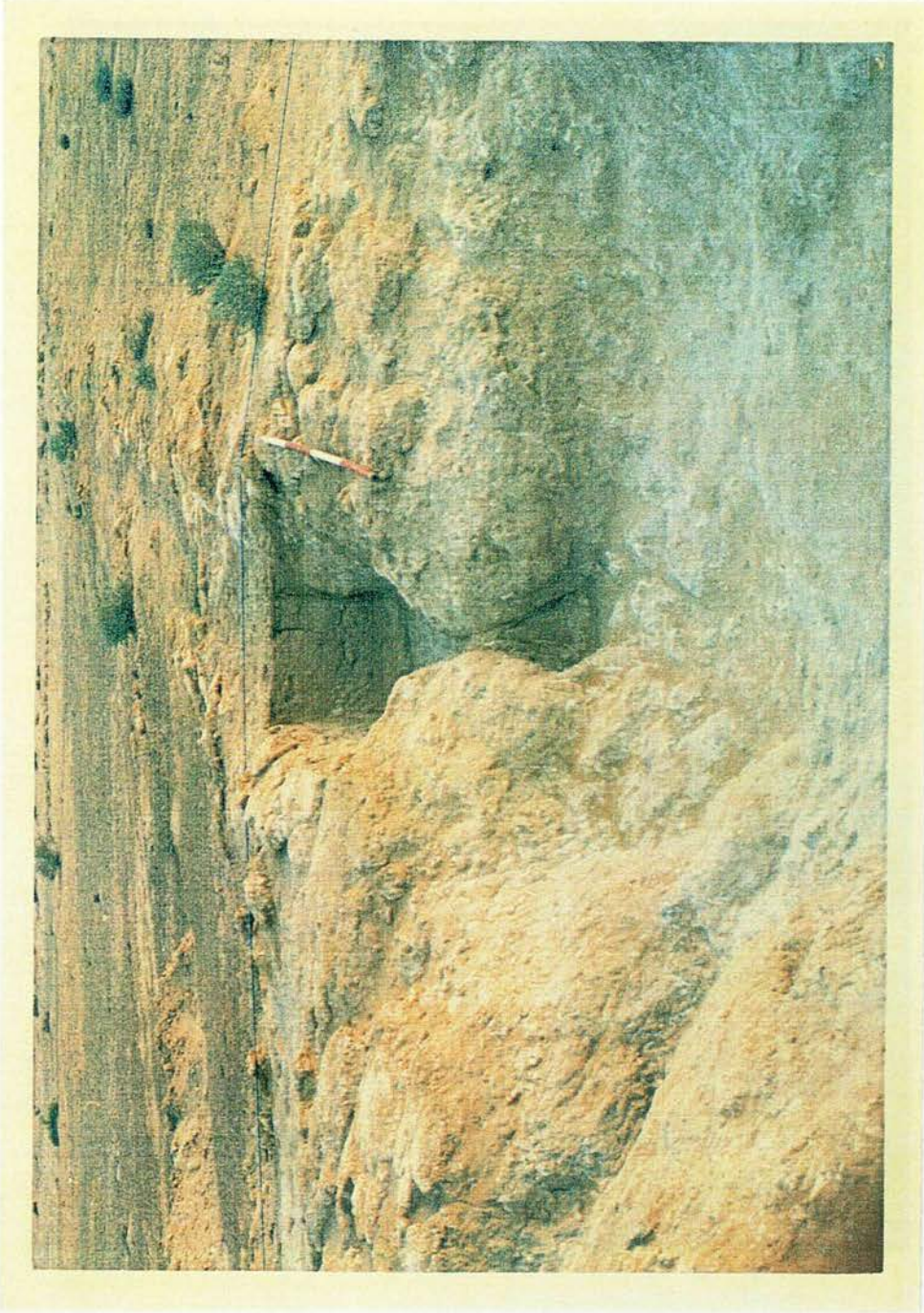


Fig. 47: A distribution channel at the north side of the pool.

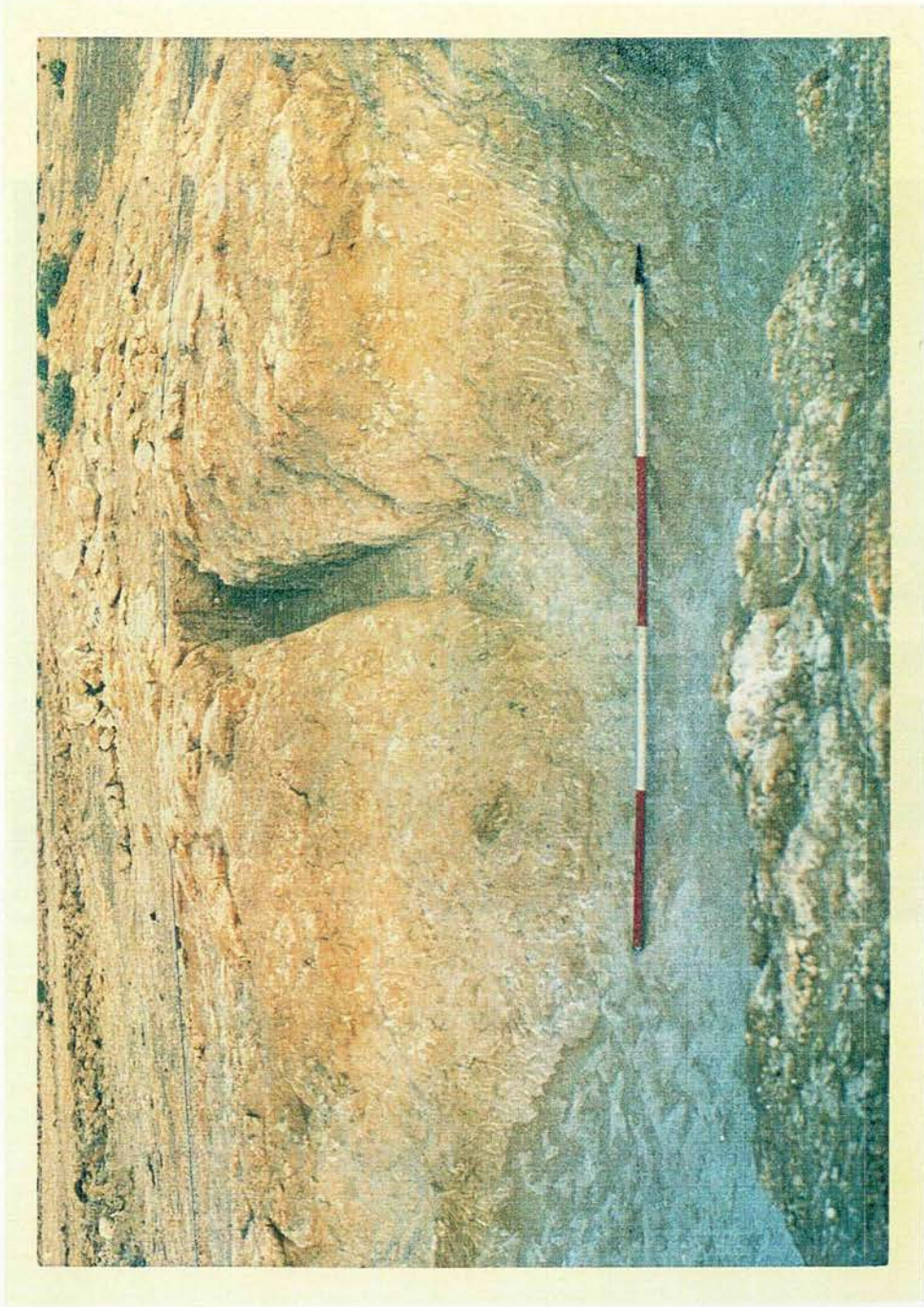


Fig. 48: A carrier channel at the west side of the pool.



Fig. 49: Trench VIII after excavation.

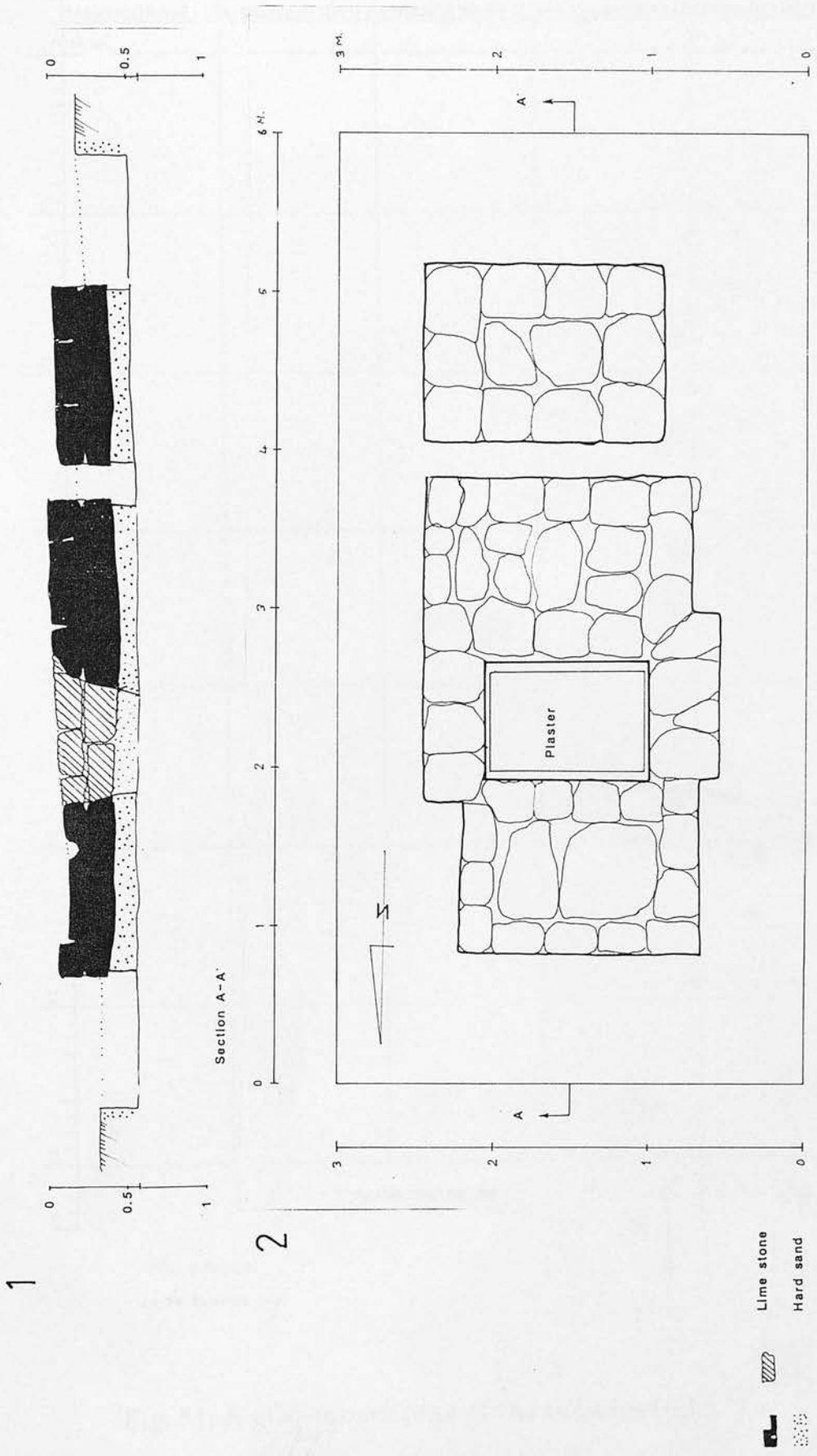


Fig. 50:

1- Section A-A of a rectangular construction in trench VIII.

2- A plan of the construction.

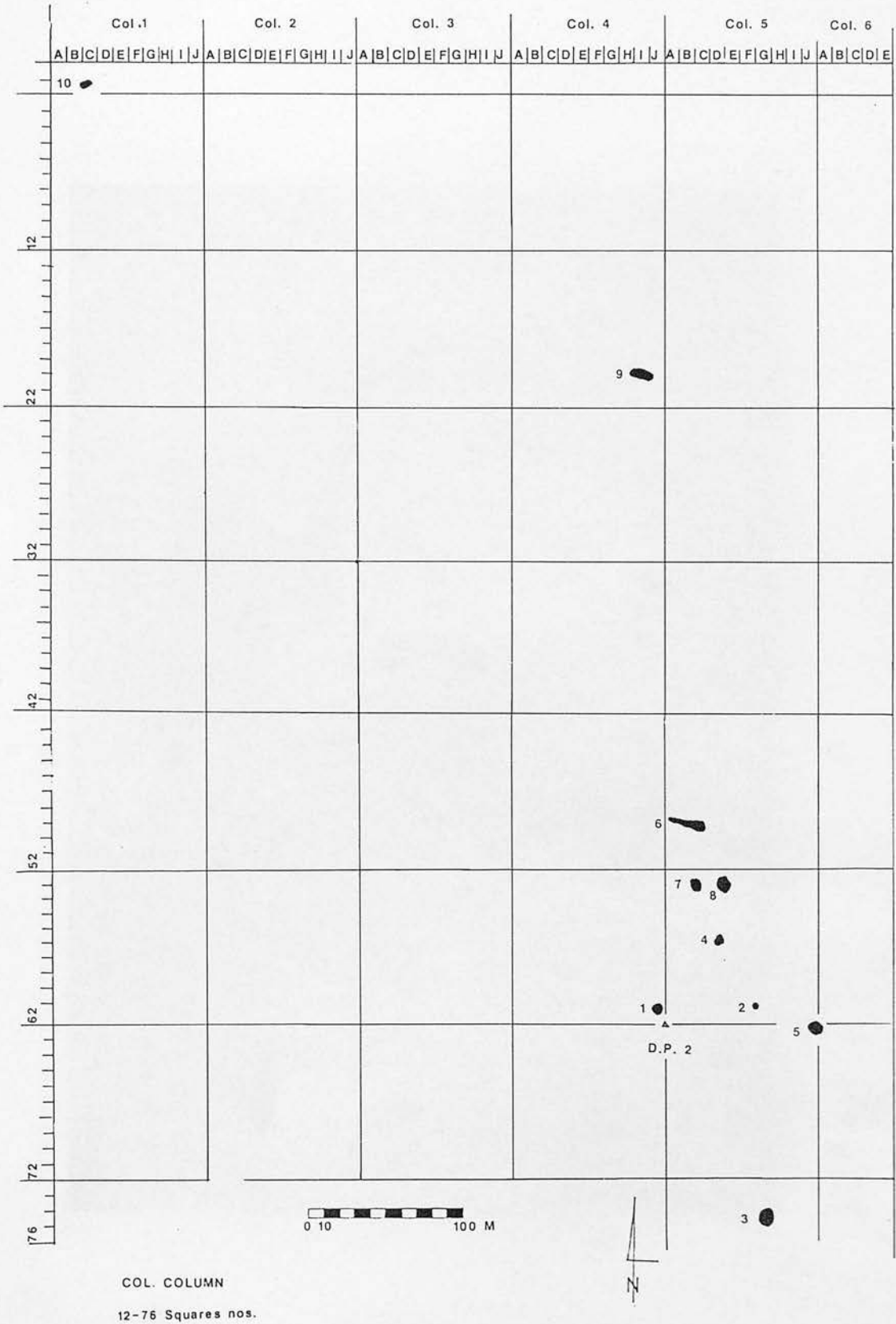


Fig. 51: A grid-square plan of the tumulus field.



Fig. 52:

A- Tomb 1 before excavation.

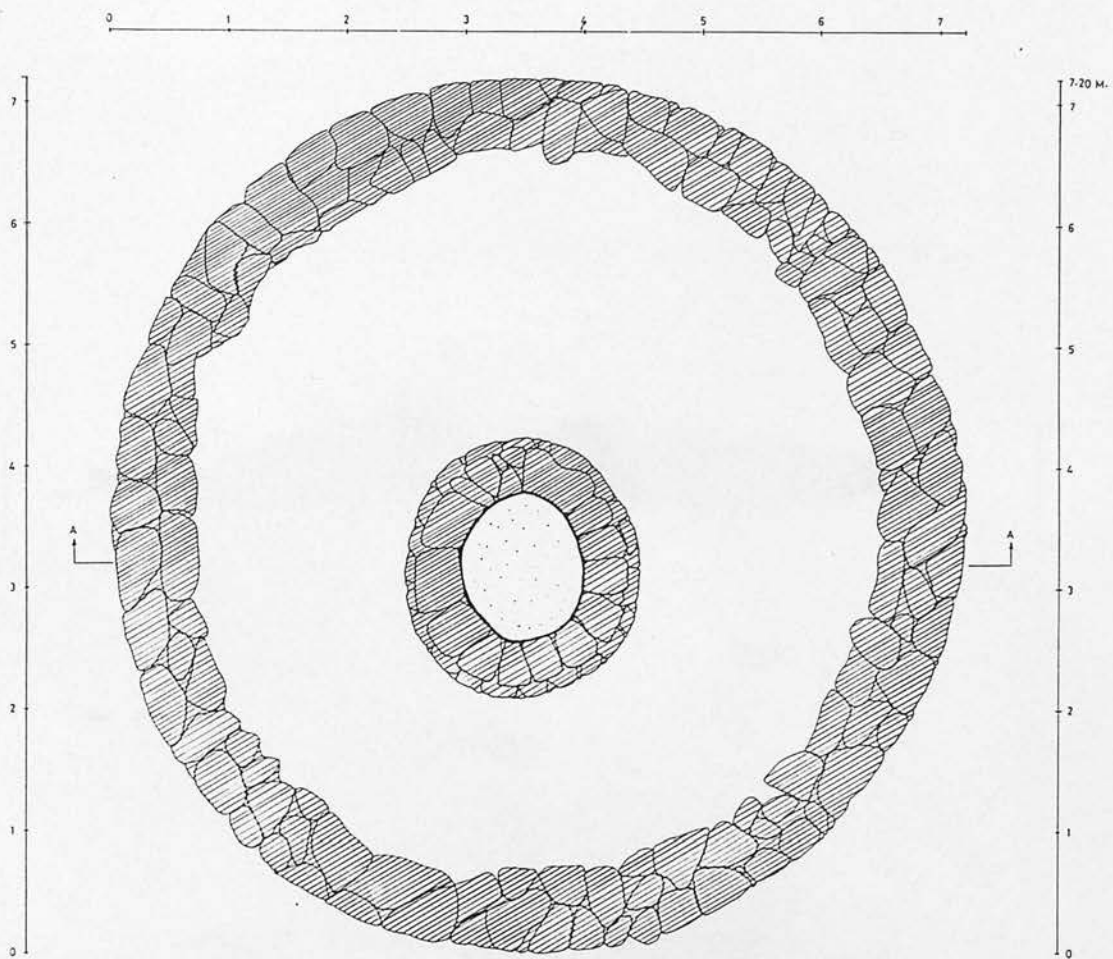


Fig. 52:

B- A plan of tomb 1.

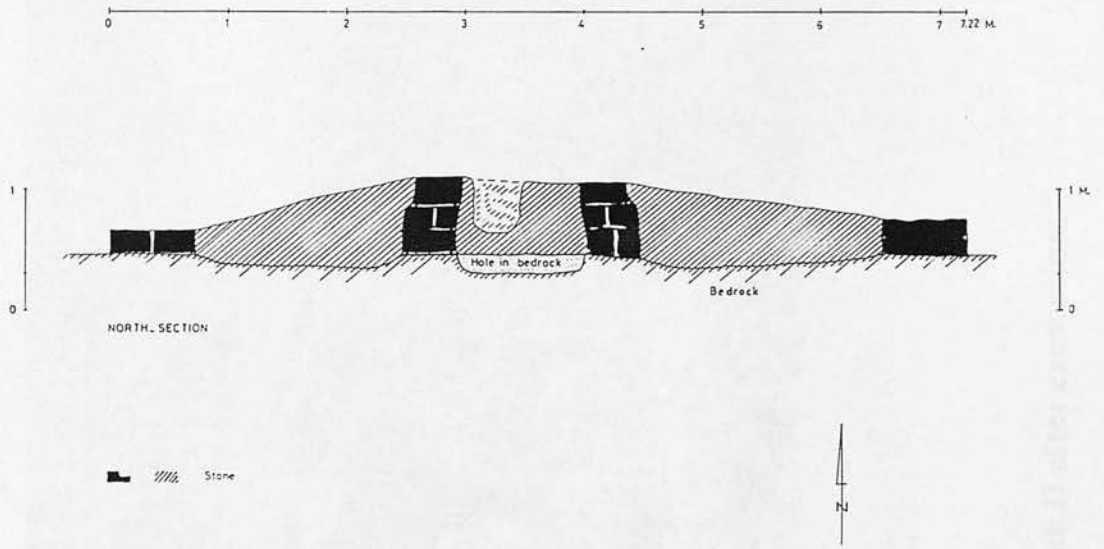


Fig. 53: North section of tomb 1.



Fig. 54: A view of tomb II after excavation.

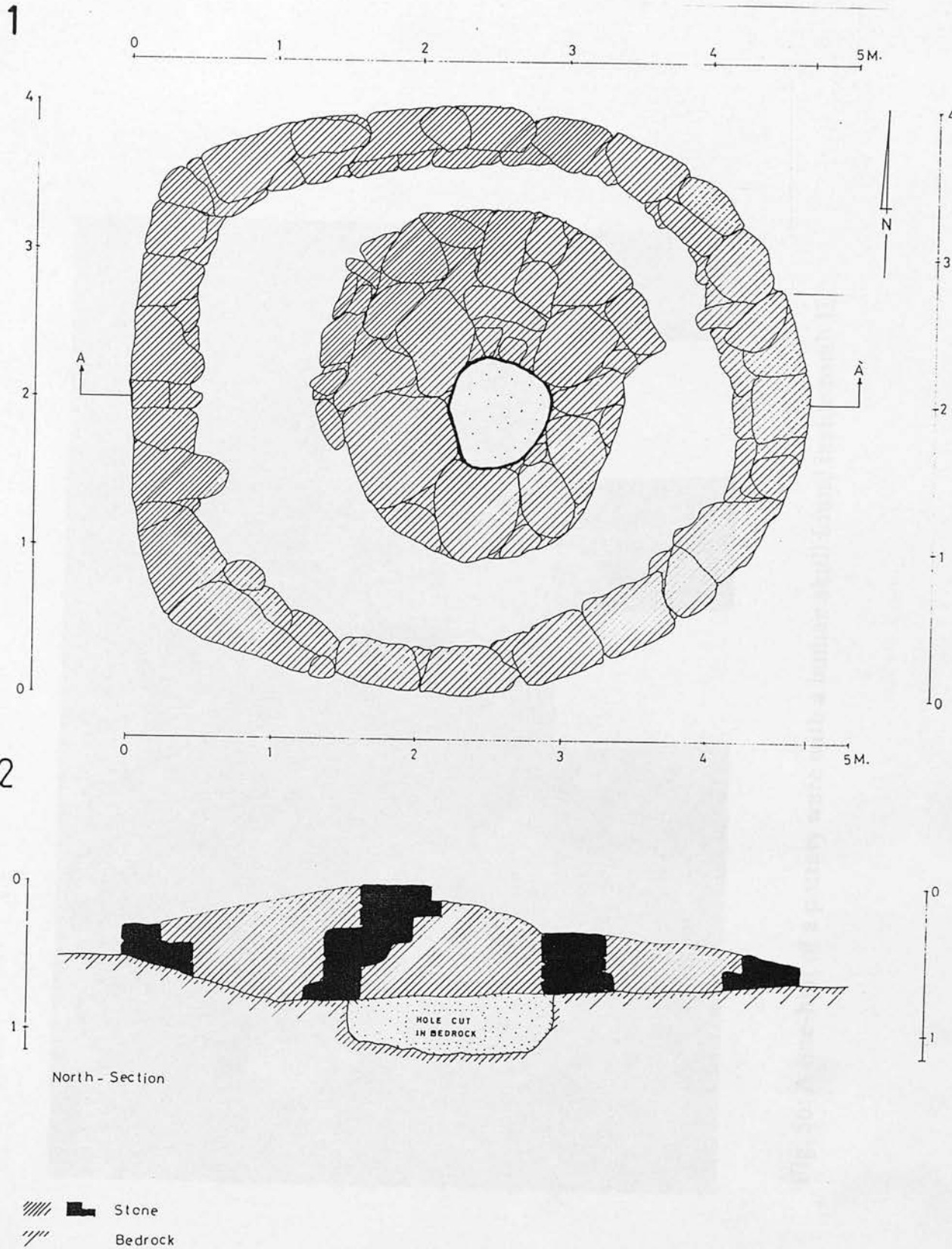


Fig. 55:

1- A plan of tomb II.

2- North section of the tomb.

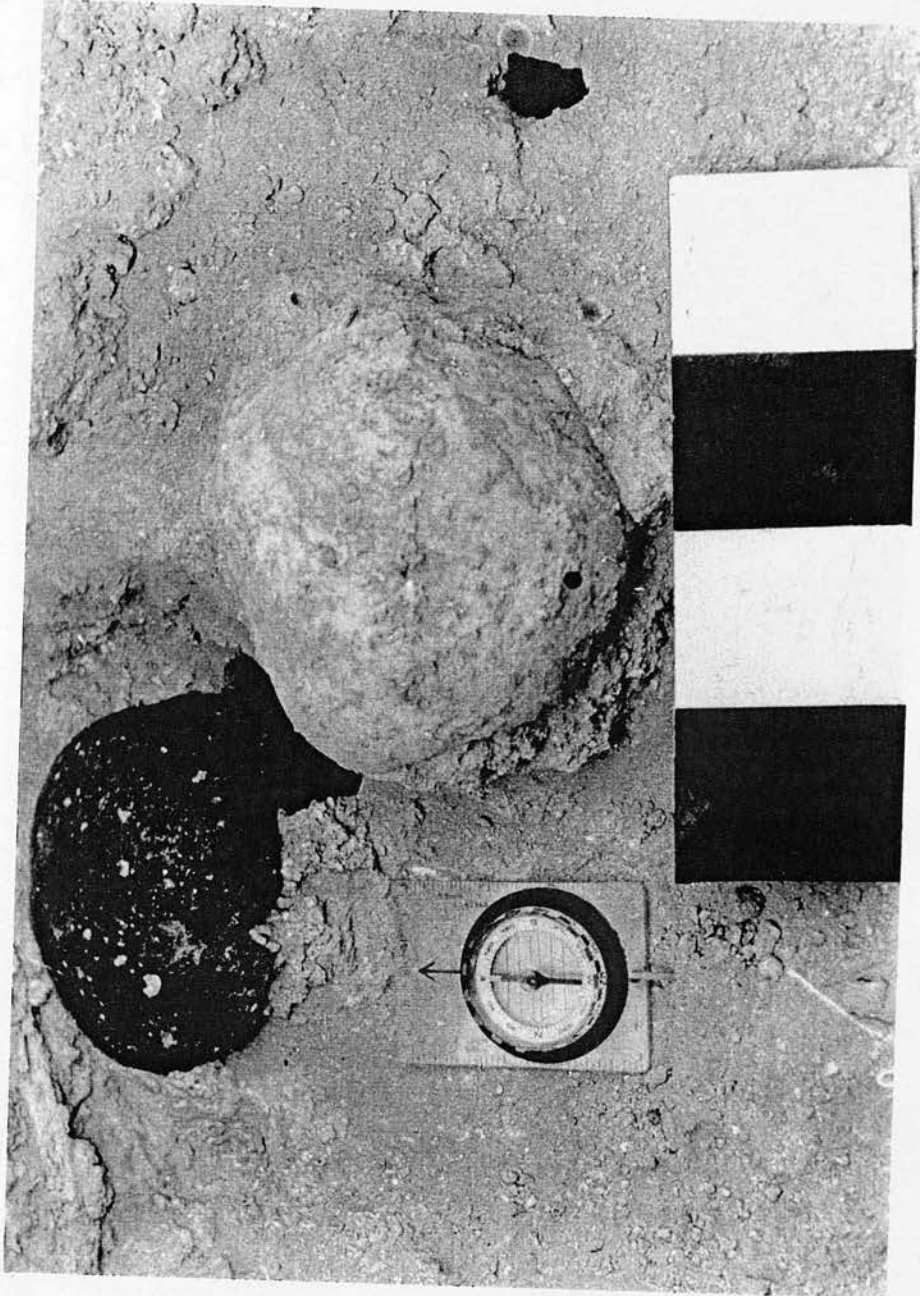


Fig. 56: A one-half of a pottery ware with a human skull found inside tomb II.

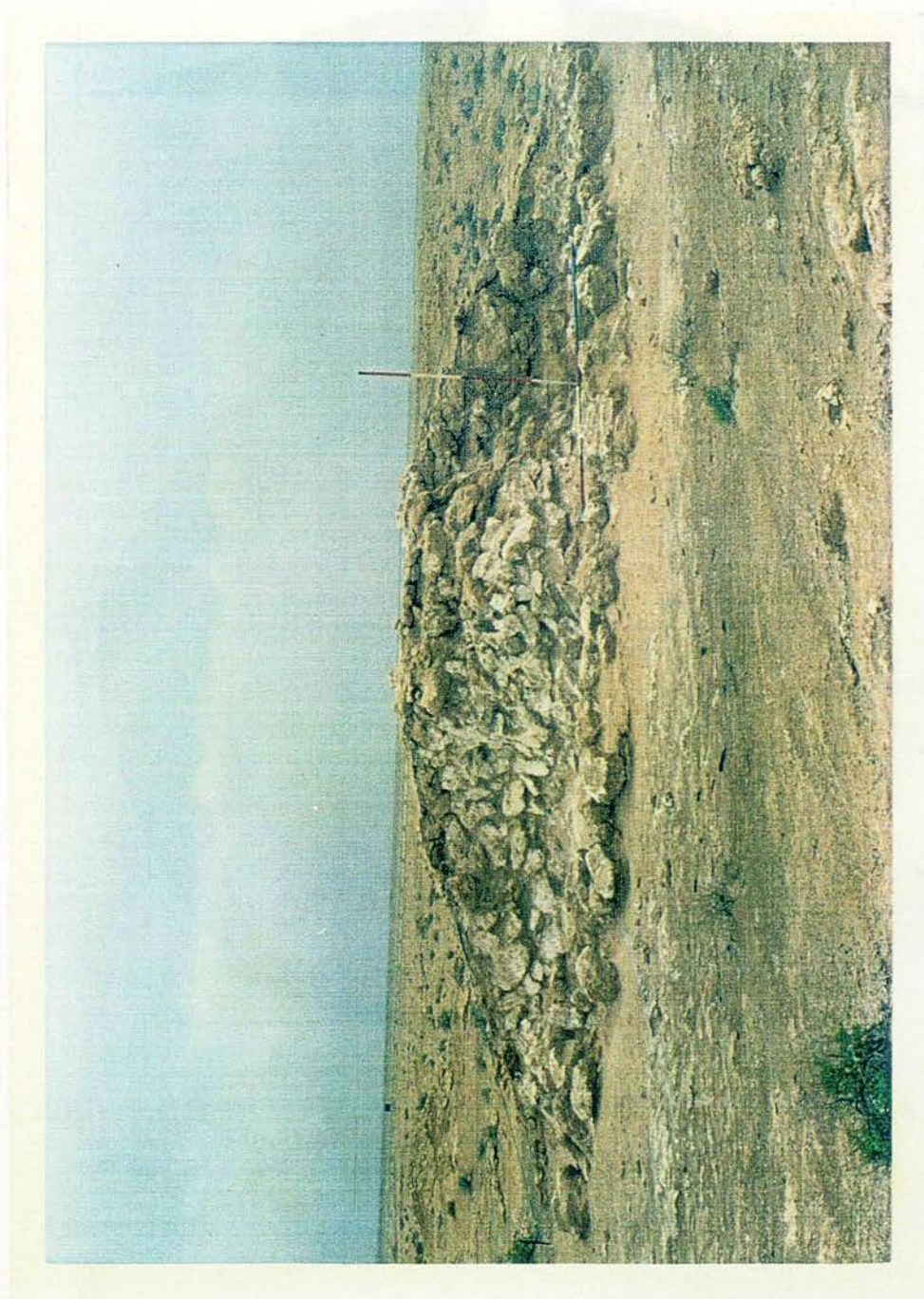


Fig. 57:

A-A view of tomb III after partly excavated.

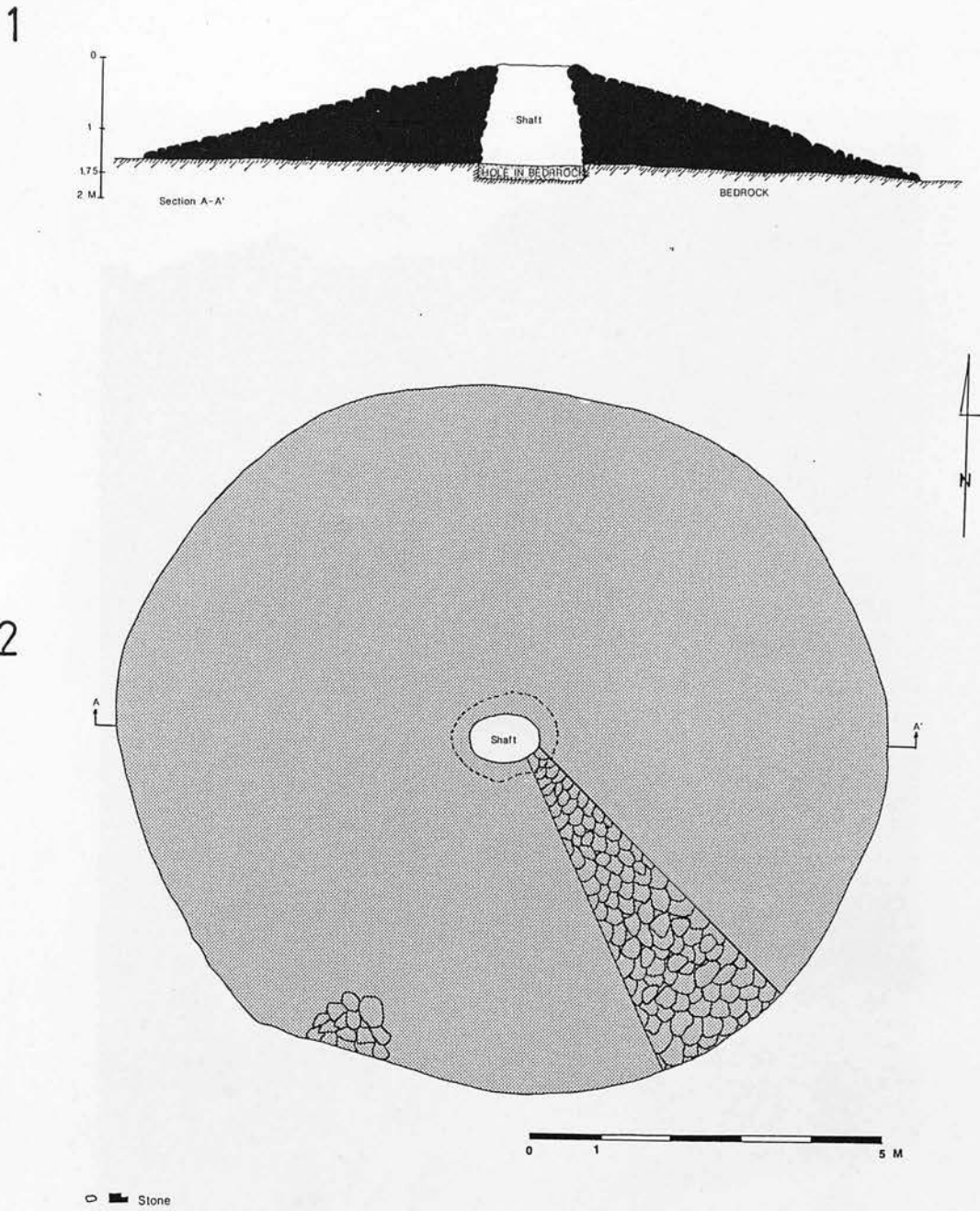


Fig. 57:

B- 1 Section A-'A of tomb III.

2 A plan of the tomb.

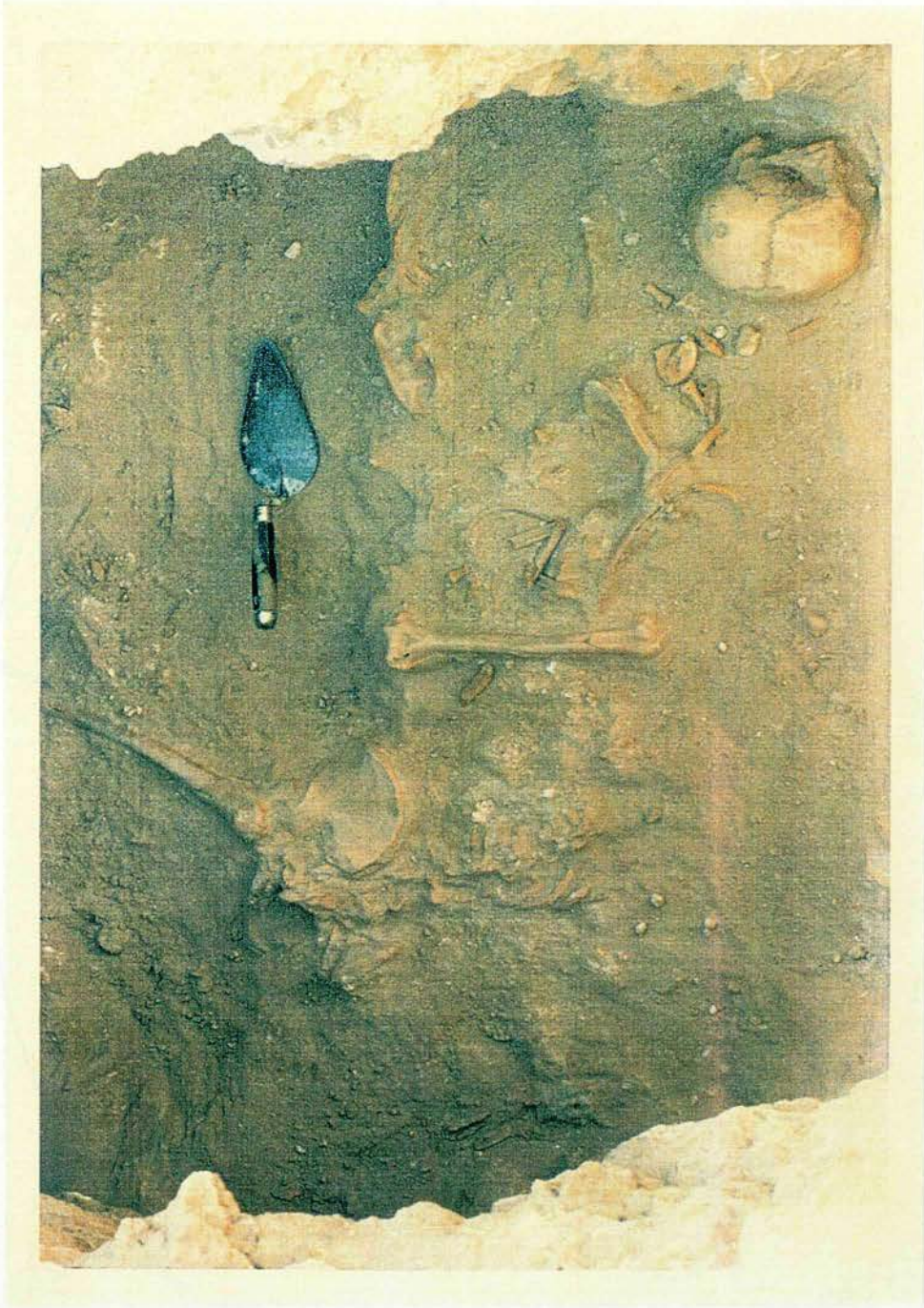


Fig. 58:

A- A single skeleton found in tomb III.

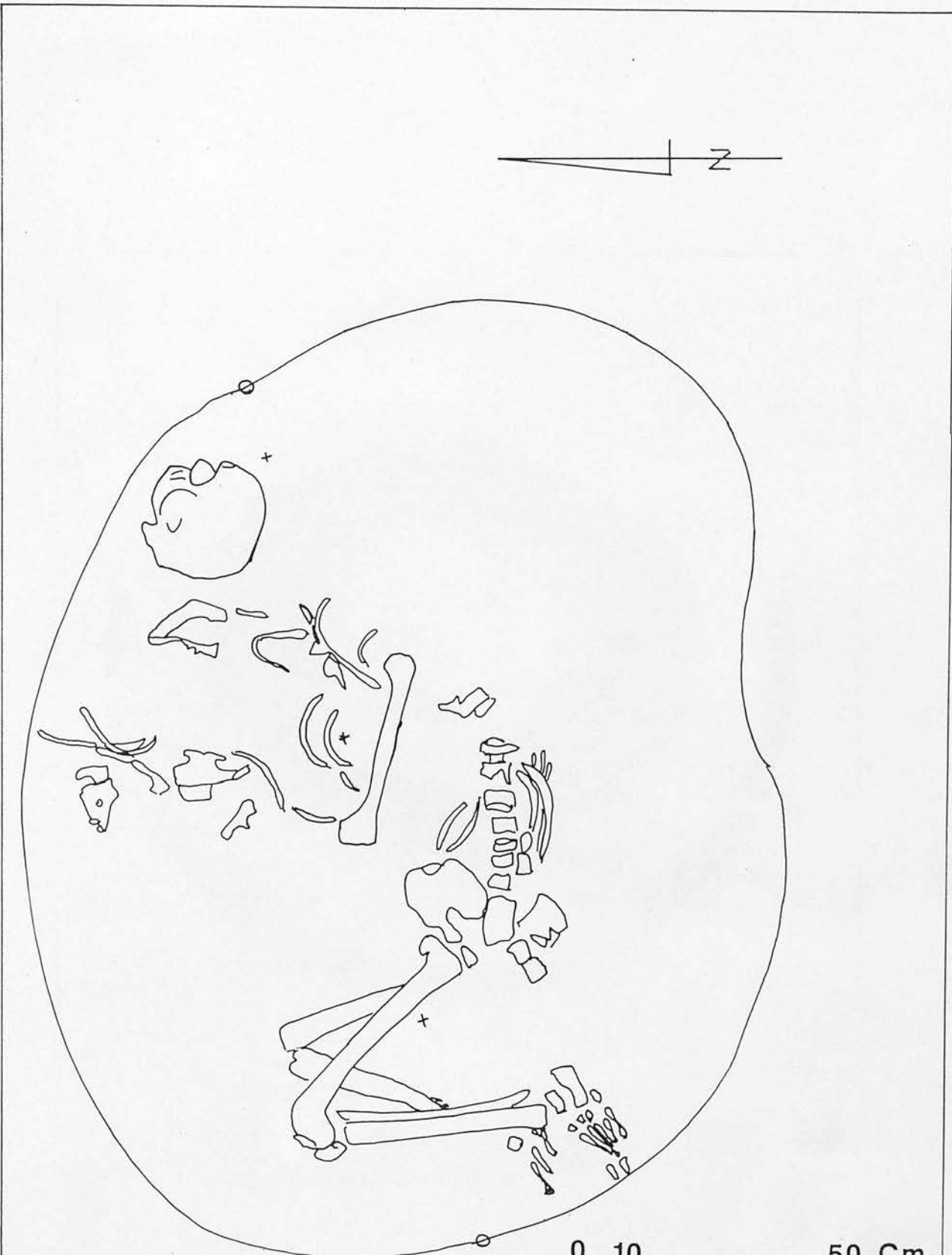


Fig. 58:
B- A drawing of the skeleton.

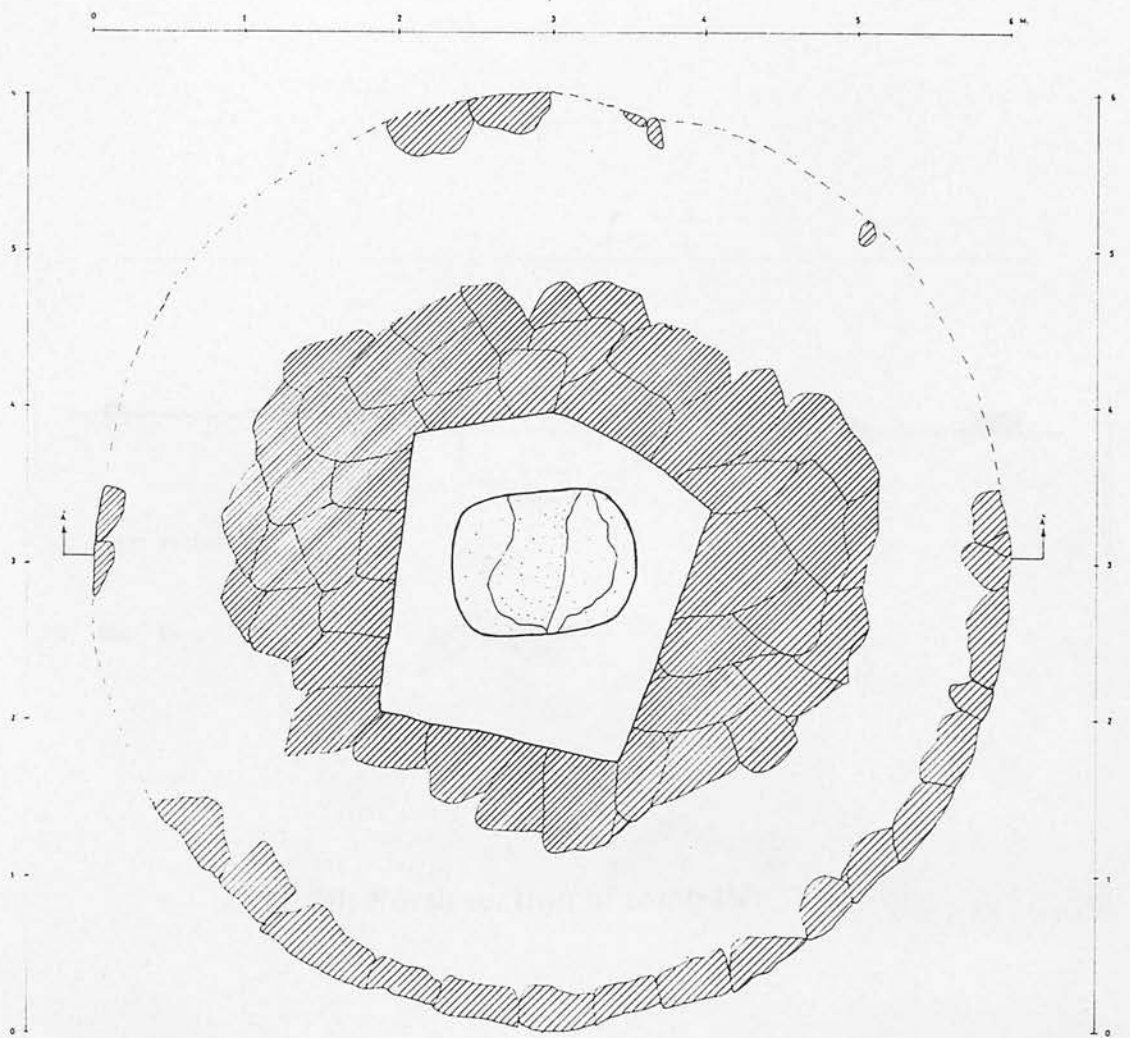


Fig. 59: A plan of tomb IV.

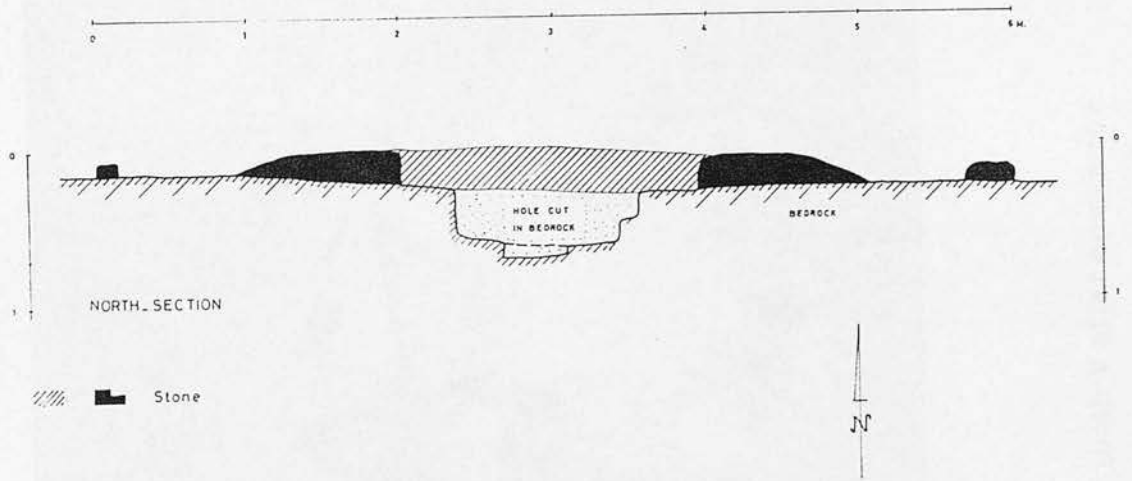


Fig. 60: North section of tomb IV.

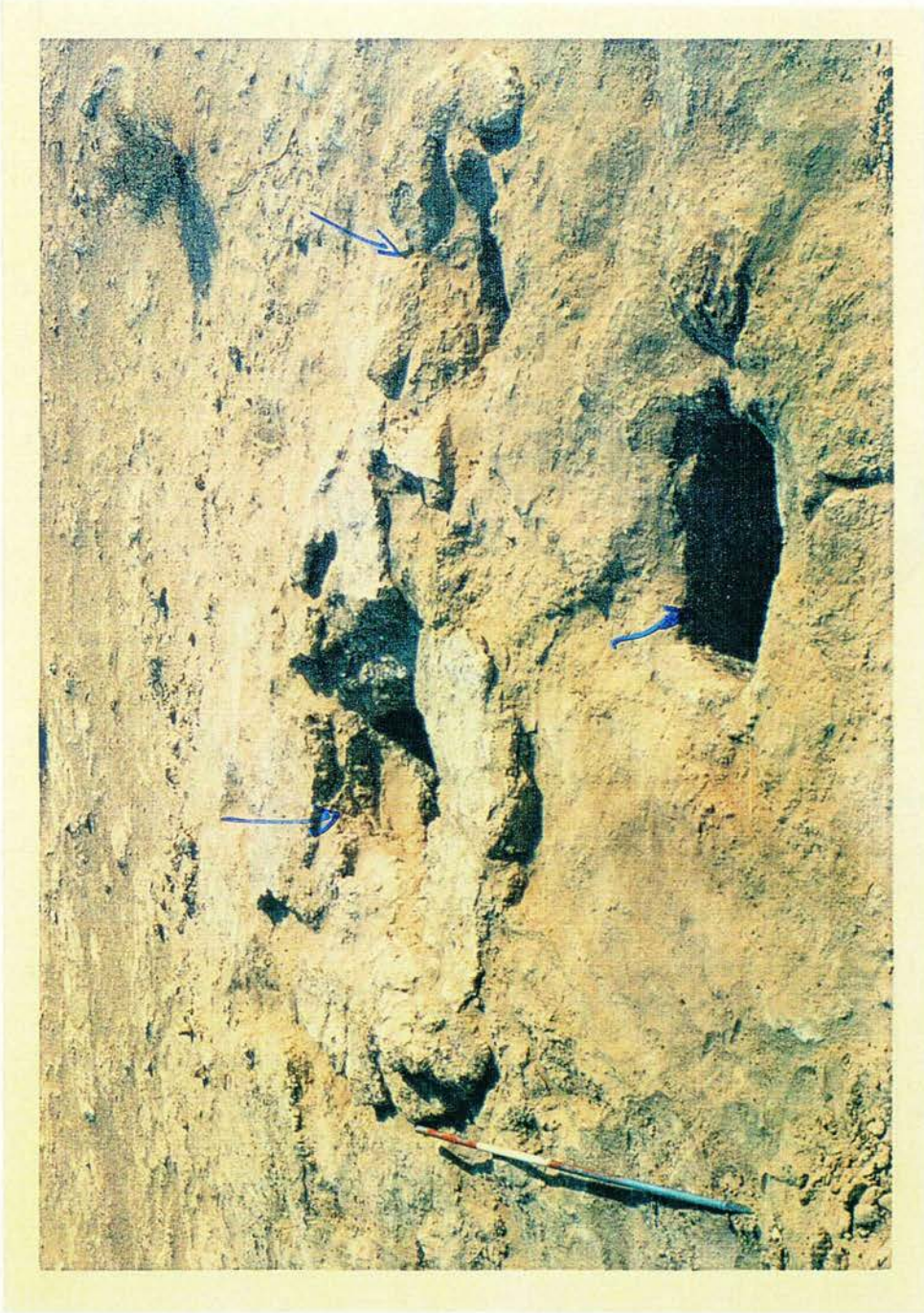


Fig. 61:

A- The three chambers of tomb V after excavation.

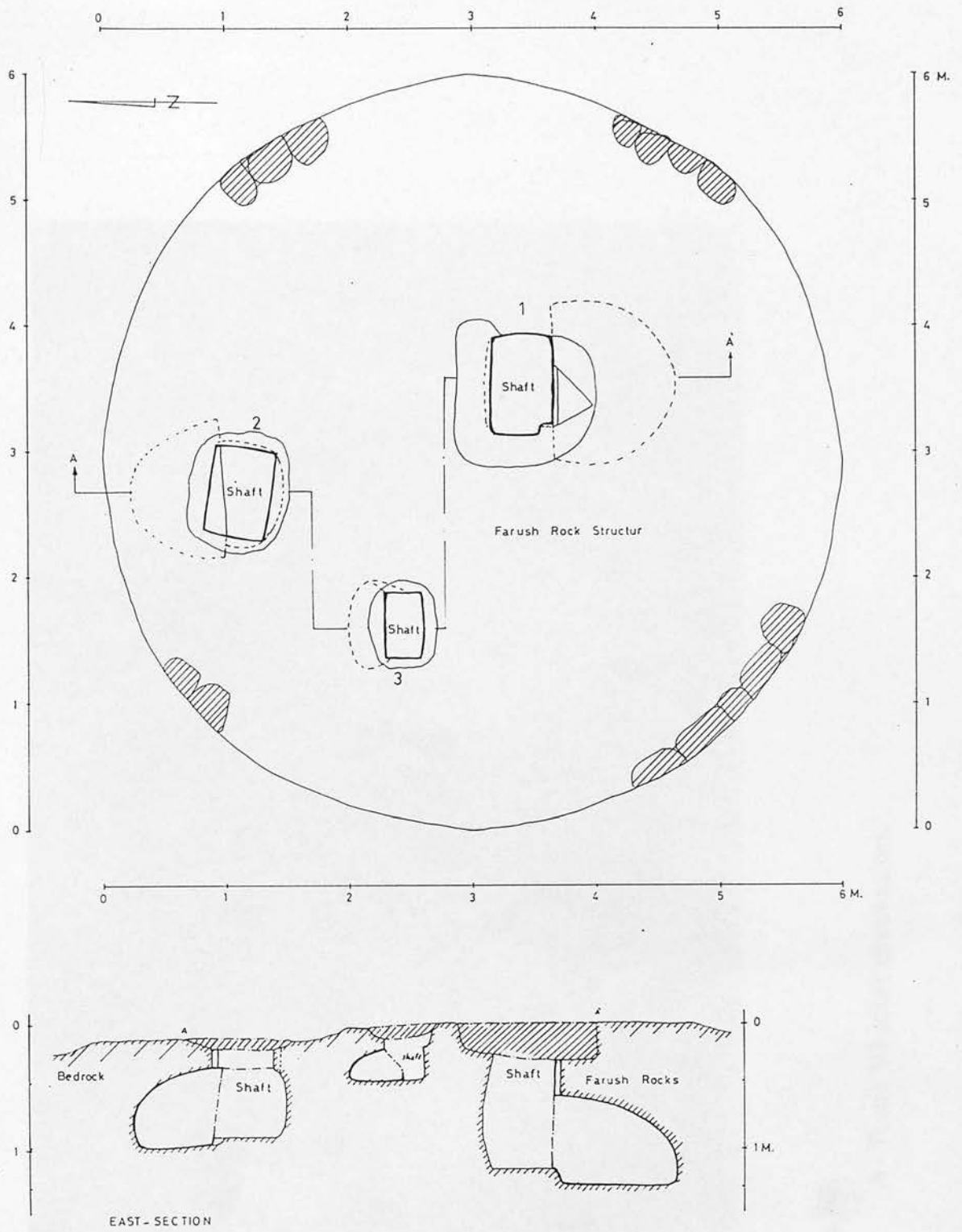


Fig. 61:

B- 1 A plan of the tomb.

2 East section of the tomb.

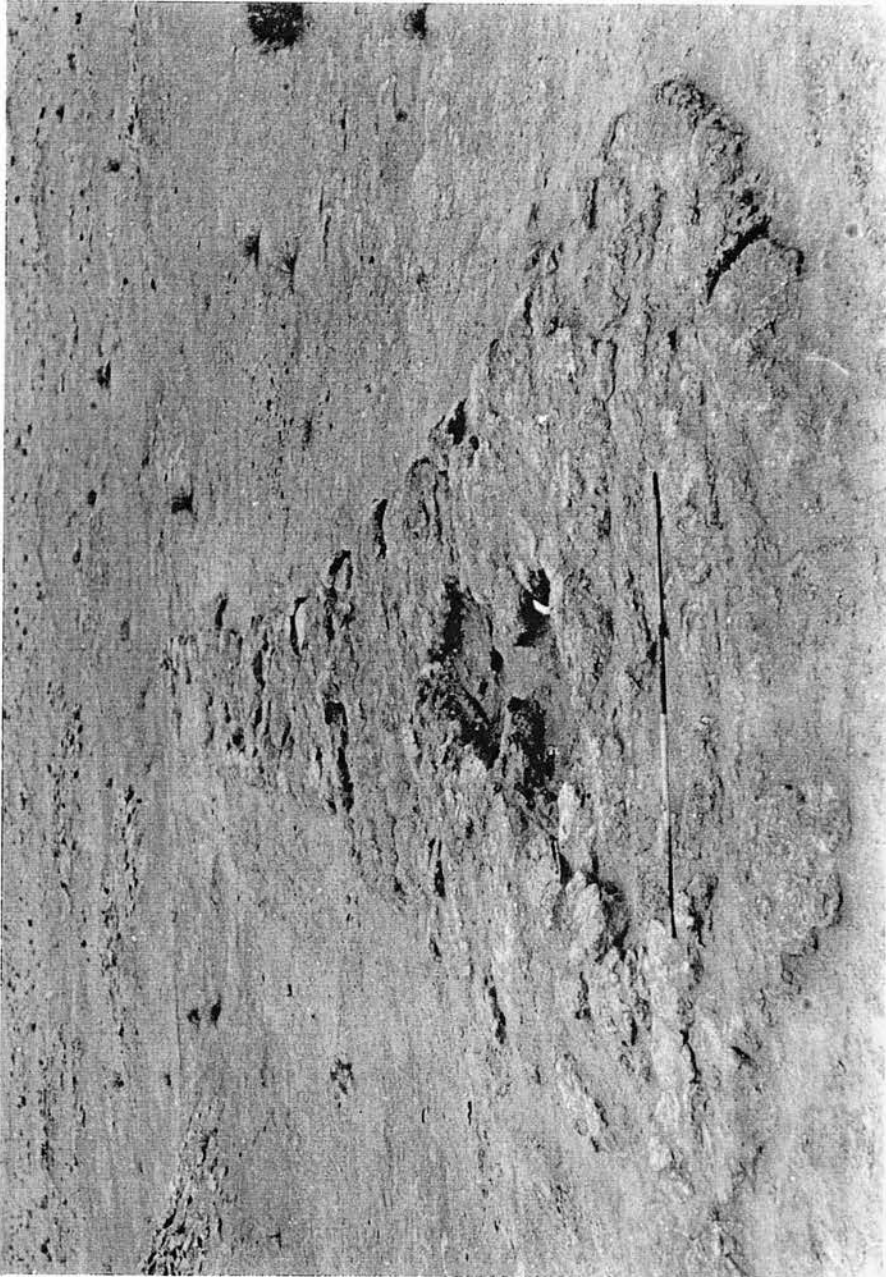
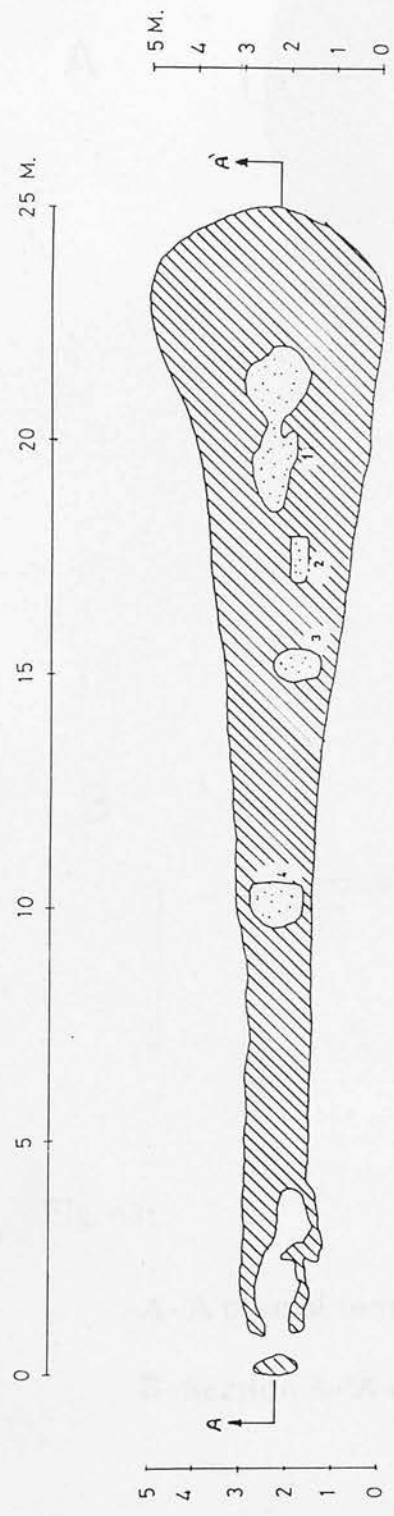


Fig. 62:

A- Tomb VI after excavation.

1



2

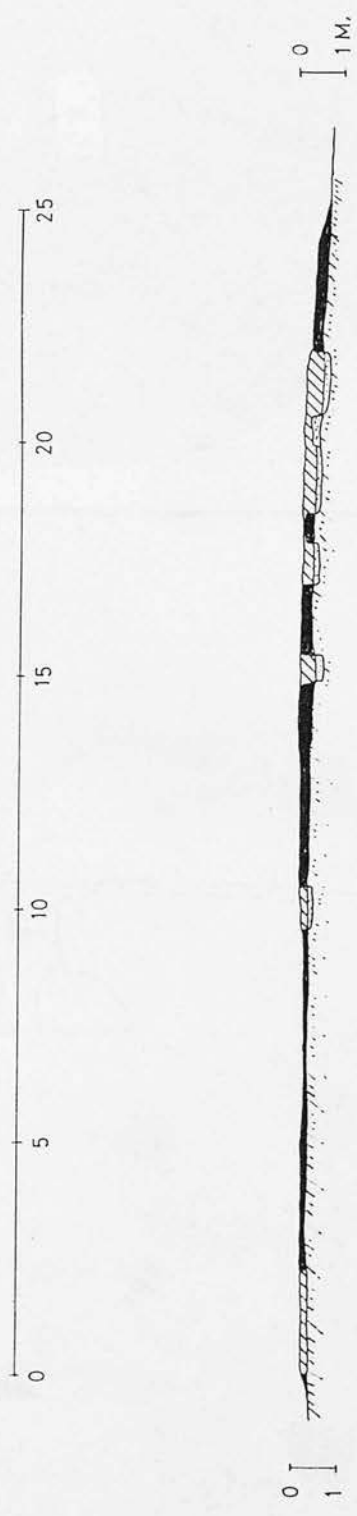


Fig. 62:

B-1 A plan of the tomb.

2 South-west section of the tomb.

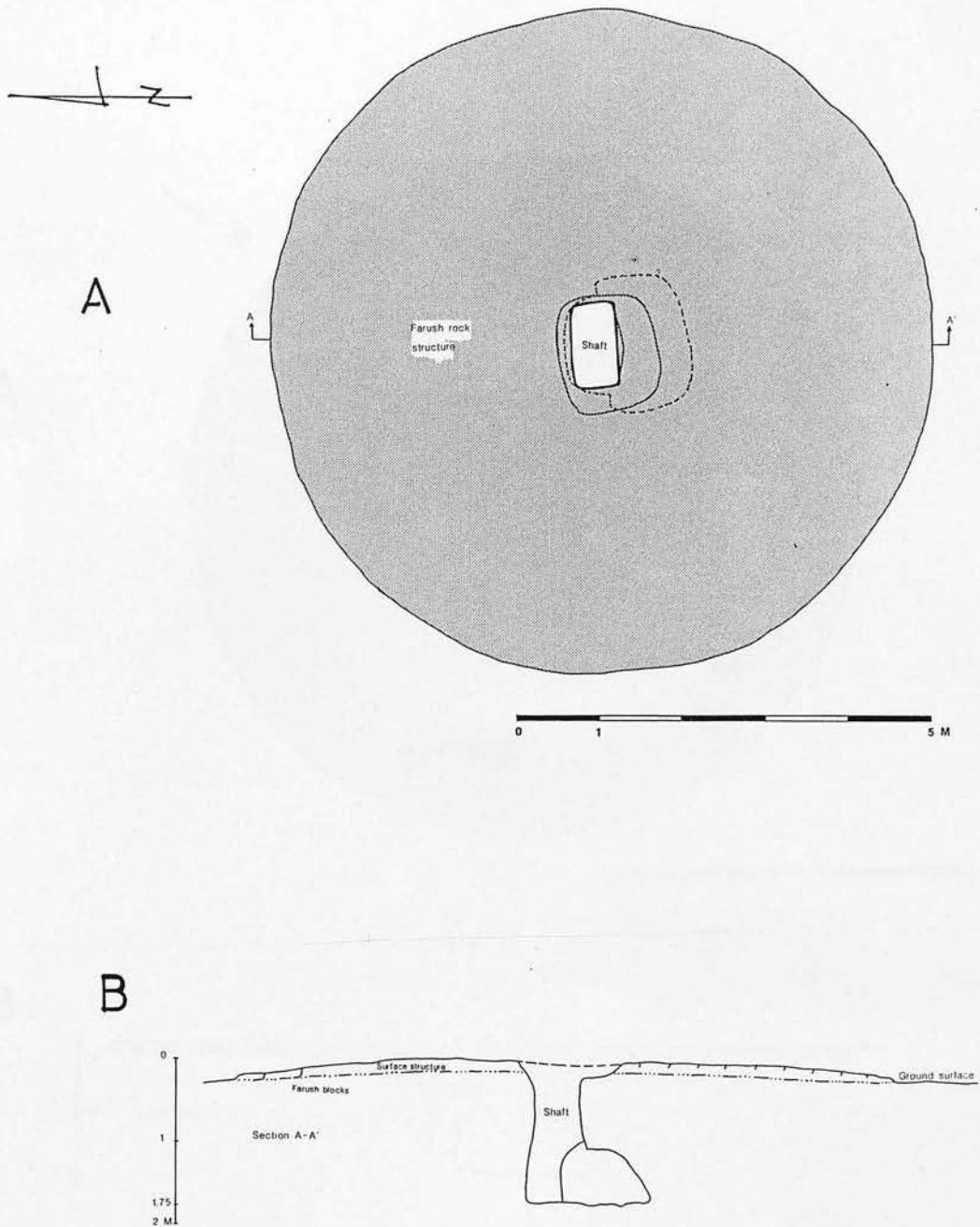


Fig. 63:

A- A plan of tomb VII.

B- Section A-'A of the tomb.

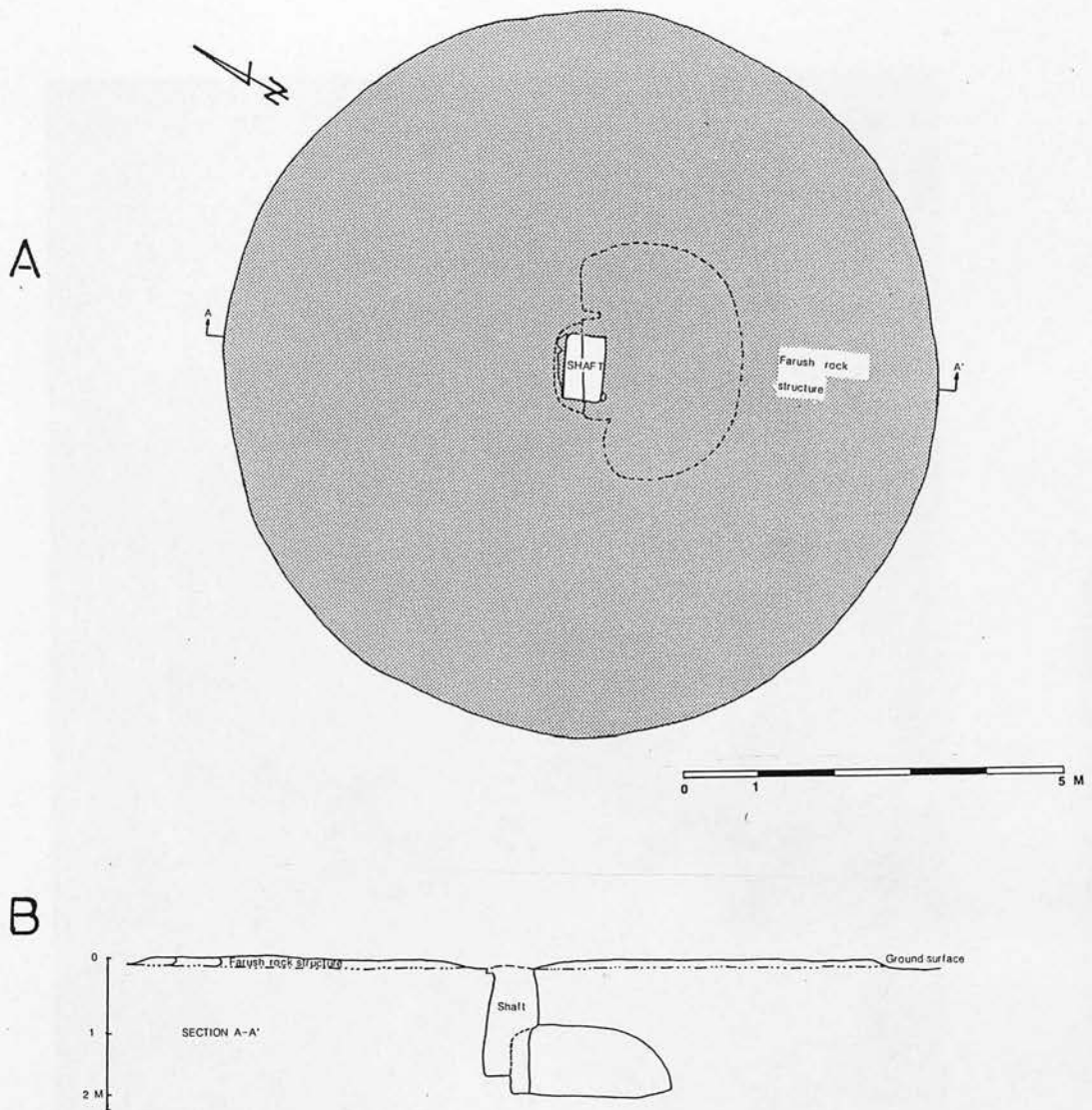


Fig. 64:

A- A plan of tomb VIII.

B- Section A-'A of the tomb.



Fig. 65: Tomb IX after excavation.

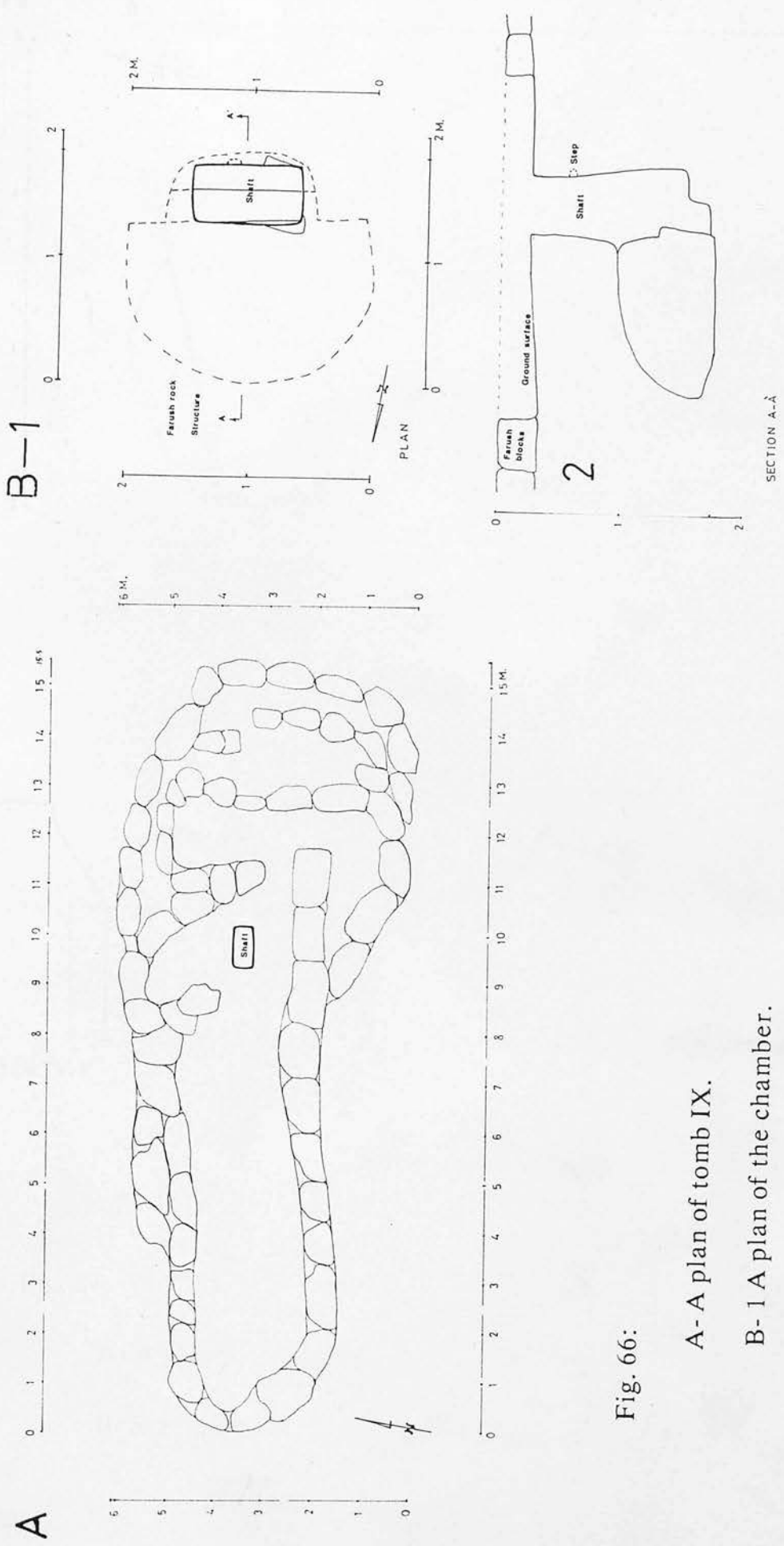


Fig. 66:

A- A plan of tomb IX.

B- 1 A plan of the chamber.

2 Section A-'A of the chamber.

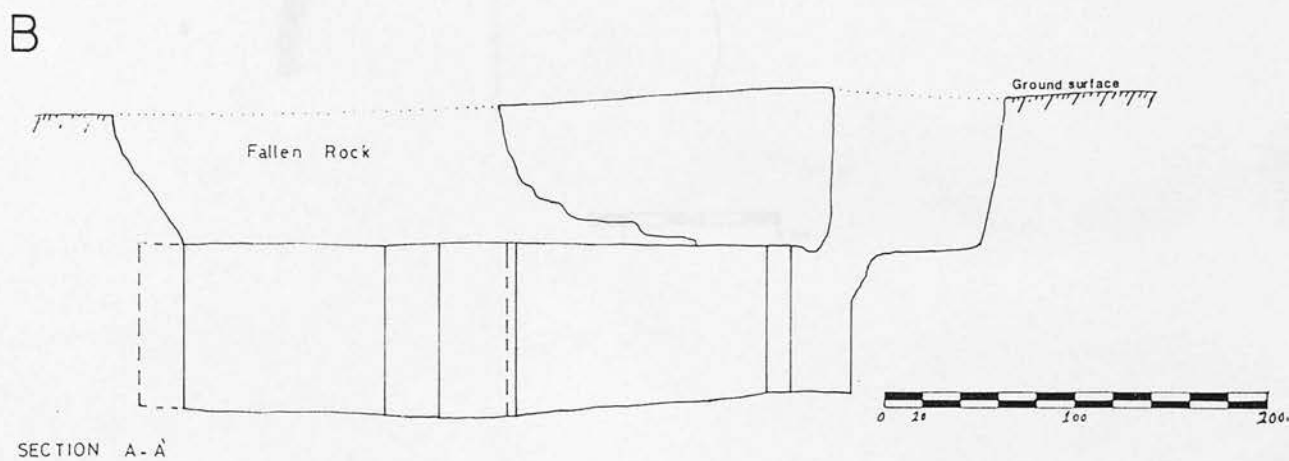
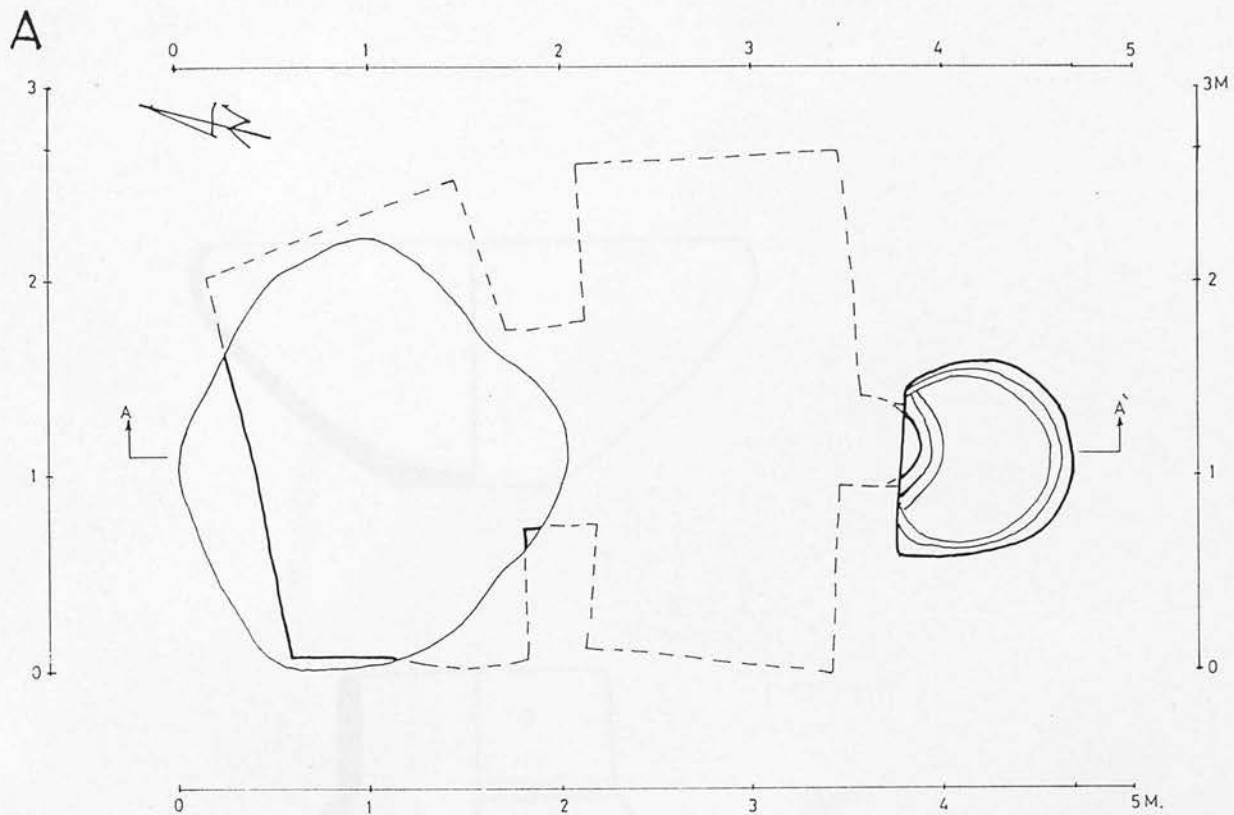
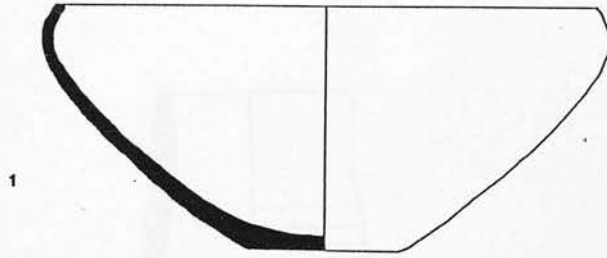


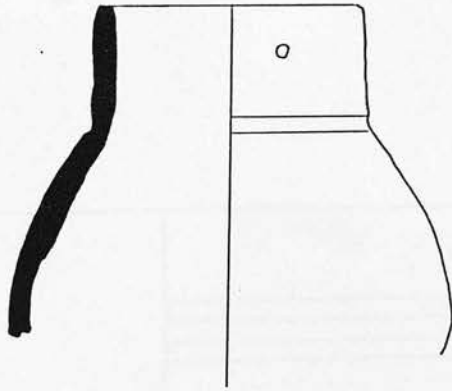
Fig. 67:

A- A plan of tomb X.

B- Section A-'A of the tomb.



1



2



Plate 1: Type 1 of unglazed pottery.

Plate 2: Type 1 of unglazed pottery.

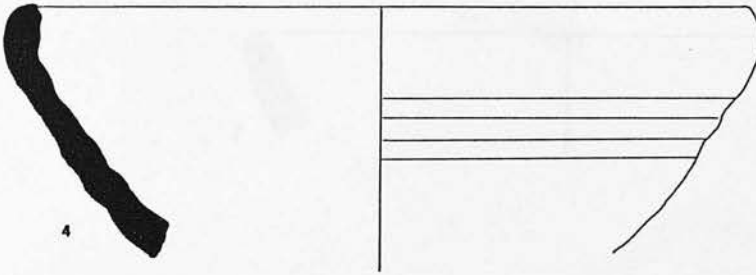
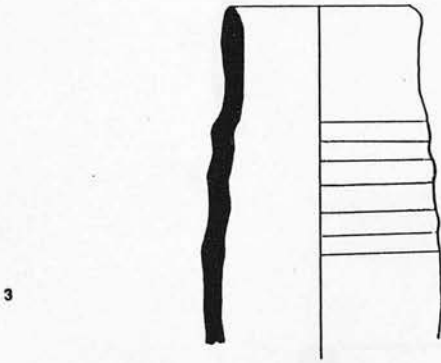


Plate 2: Type 1 of unglazed pottery.

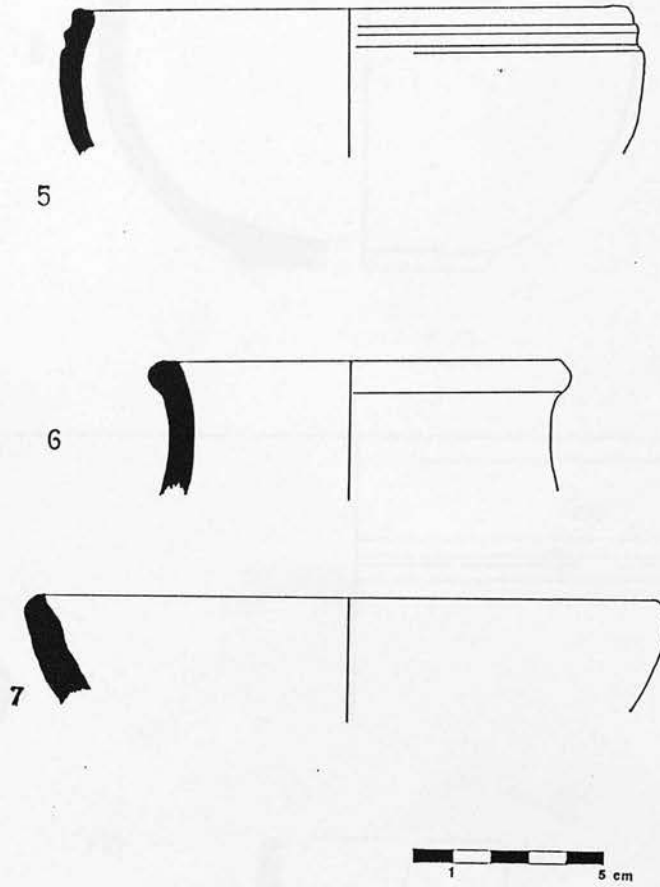


Plate 3: Type 1 of unglazed pottery.

Plate 4: Type 2 of unglazed pottery.

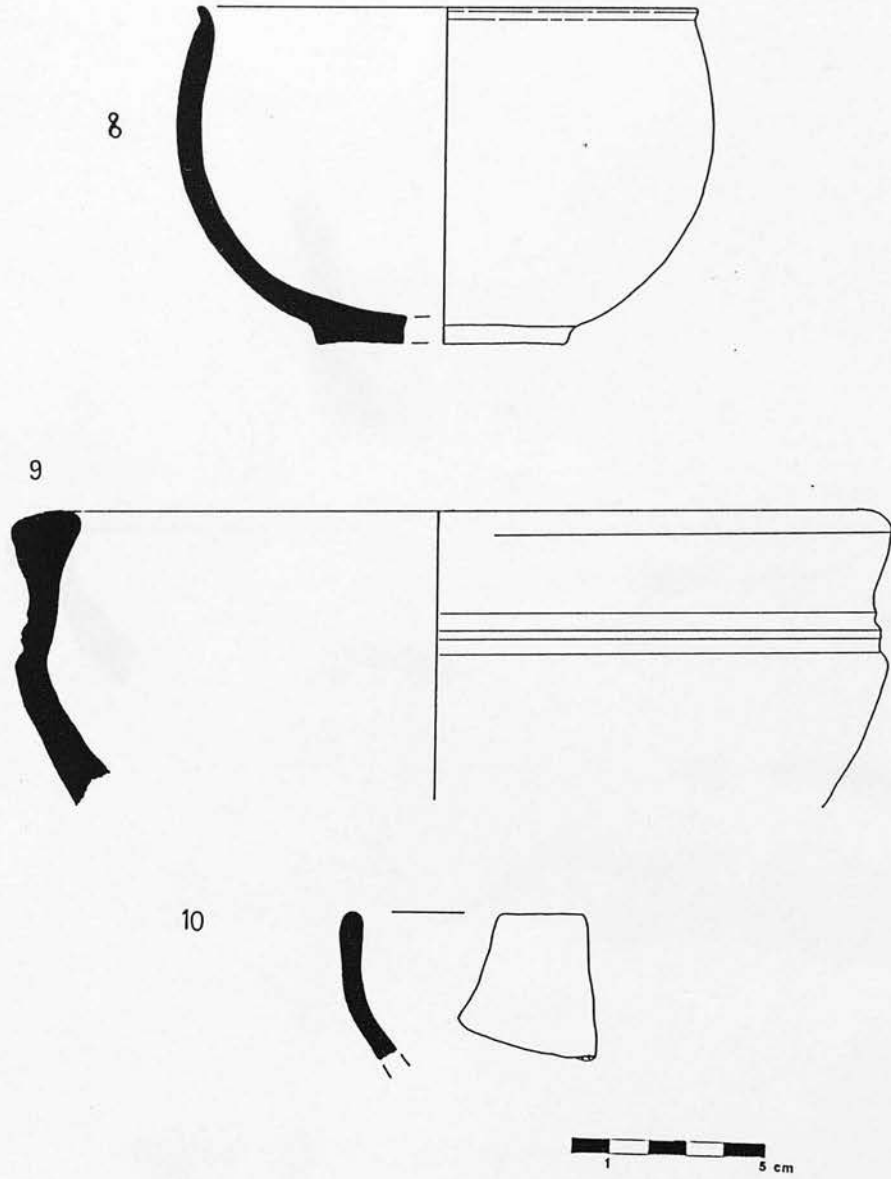


Plate 4: Type 1 of unglazed pottery.

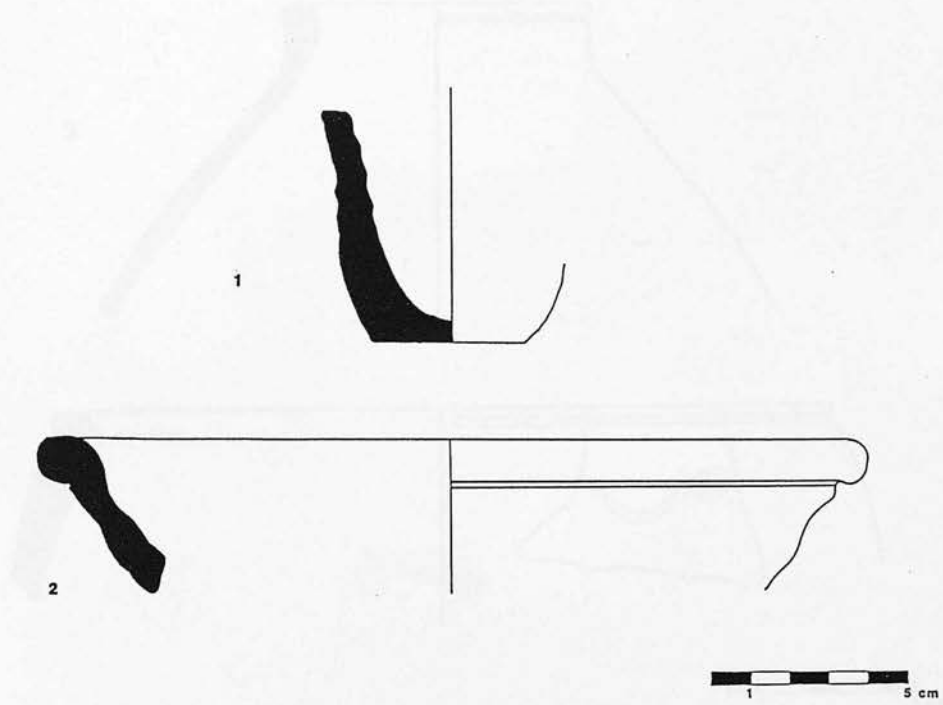


Plate 5: Type 2 of unglazed pottery.

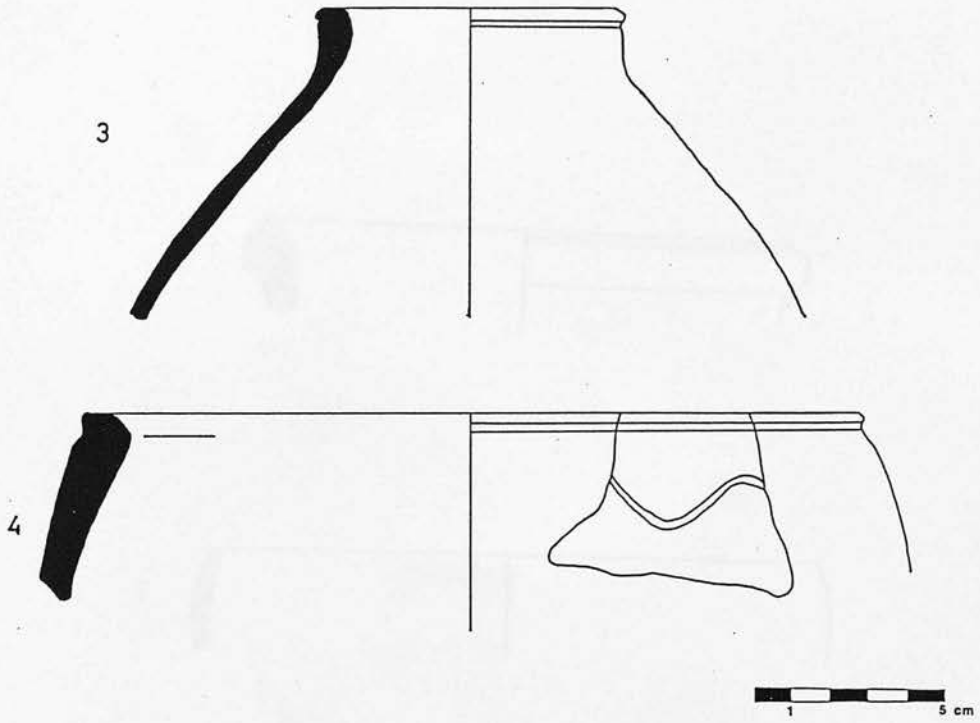


Plate 6: Type 2 of unglazed pottery.

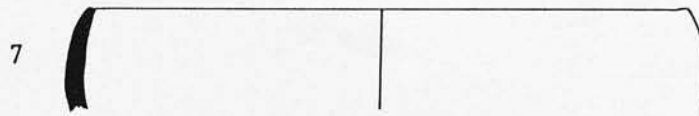
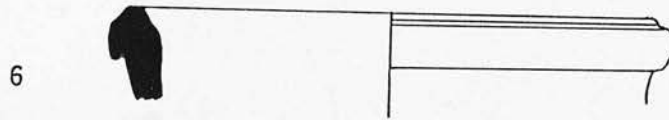
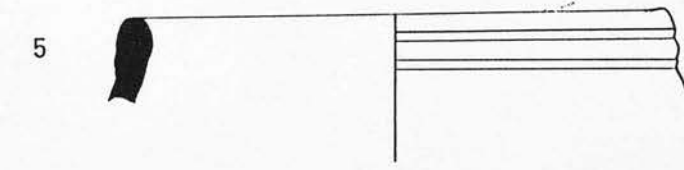


Plate 7: Type 2 of unglazed pottery.

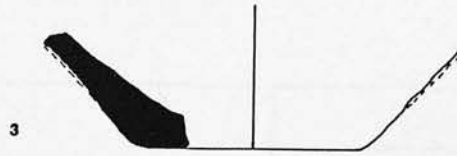
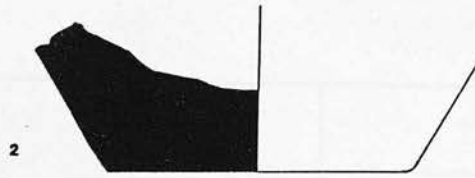
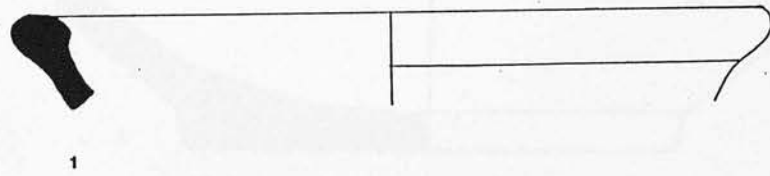


Plate 8: Type 3 of unglazed pottery.

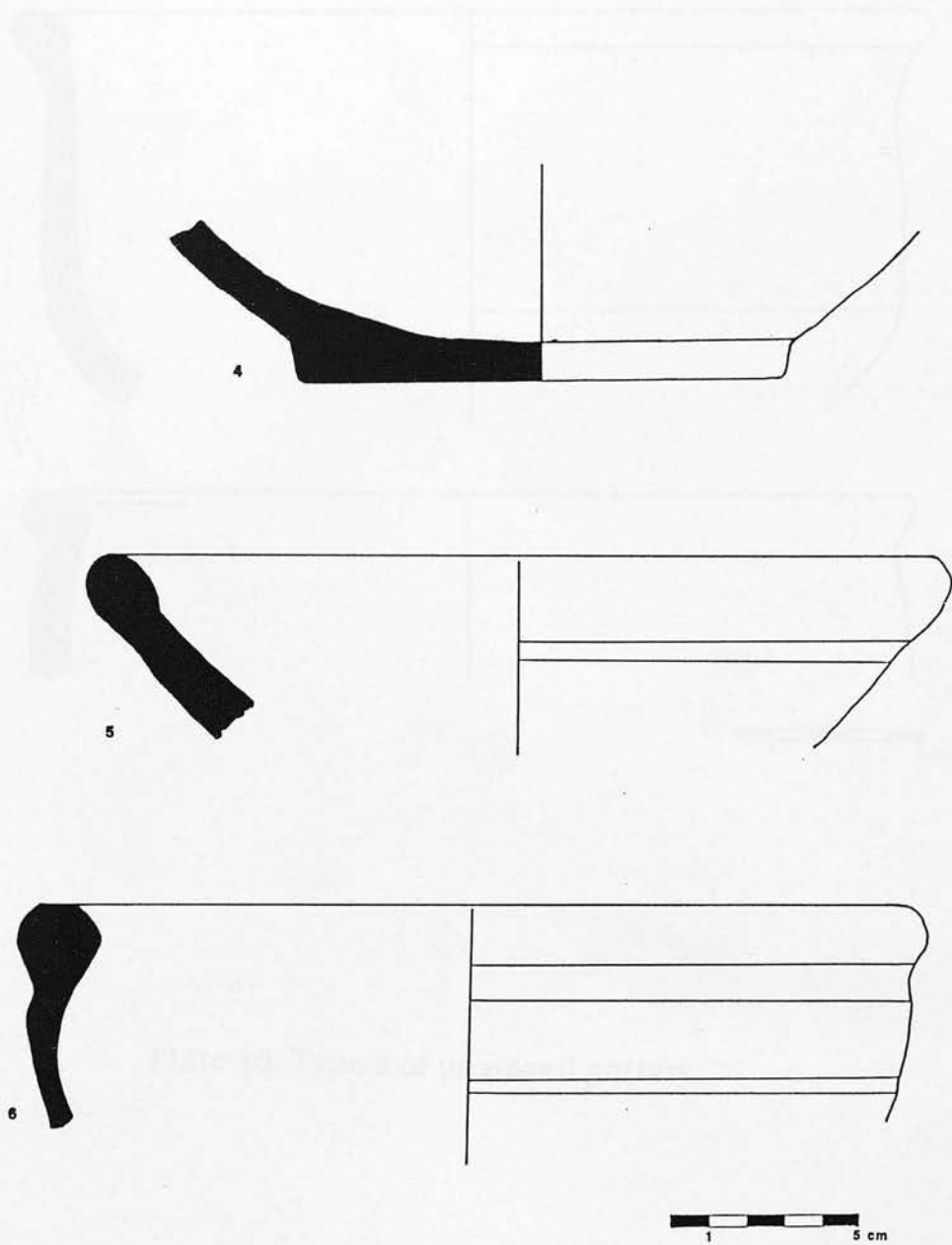


Plate 9: Type 3 of unglazed pottery.

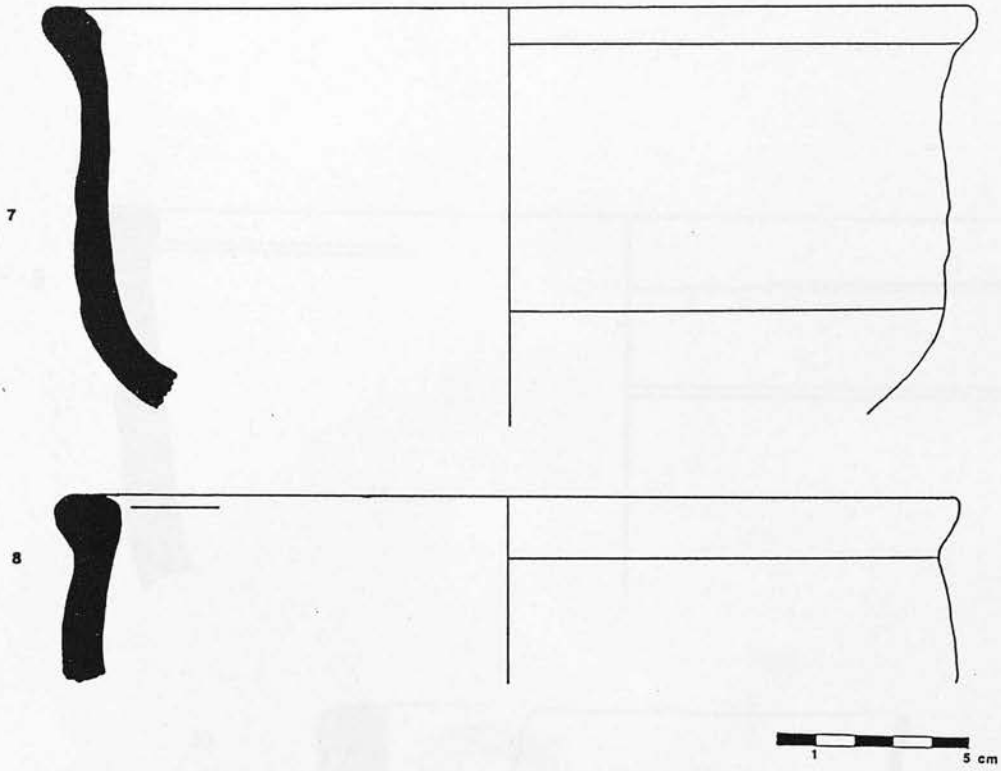


Plate 10: Type 3 of unglazed pottery.

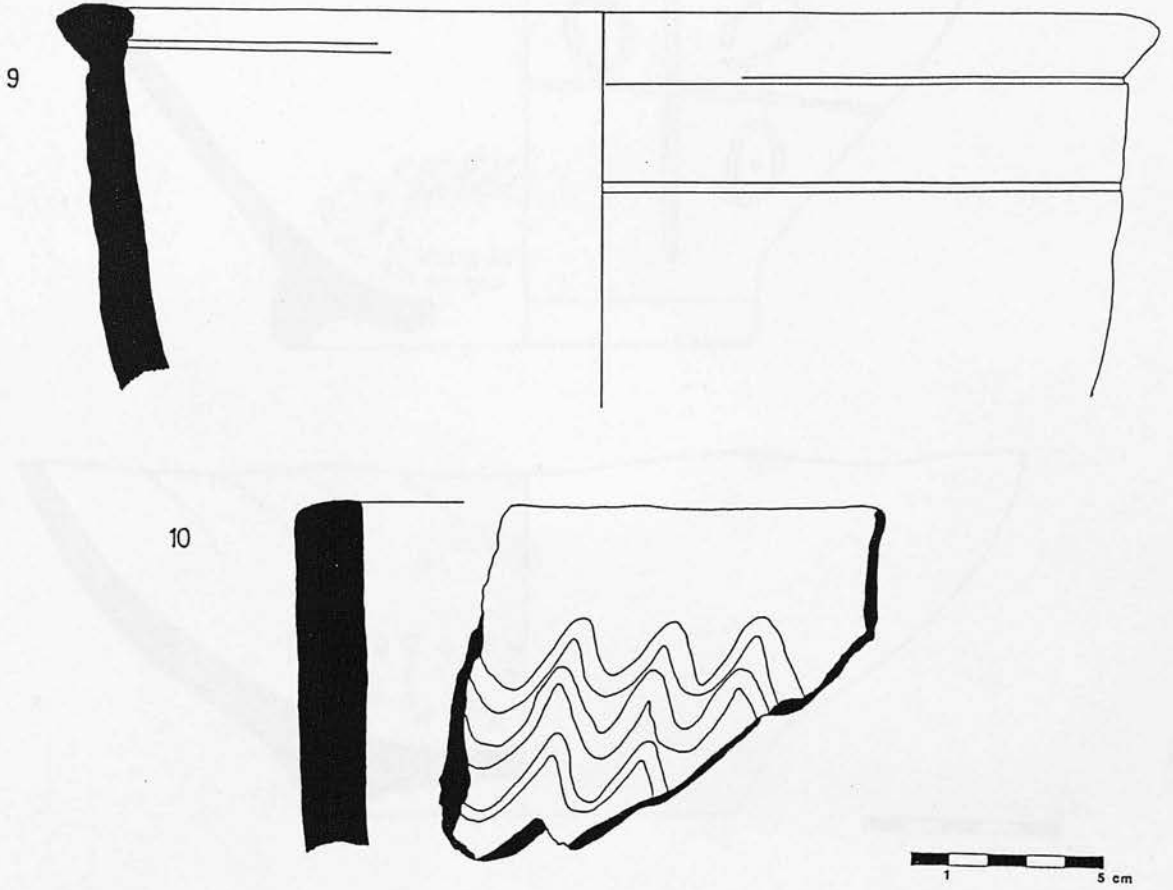


Plate 11: Type 3 of unglazed pottery.

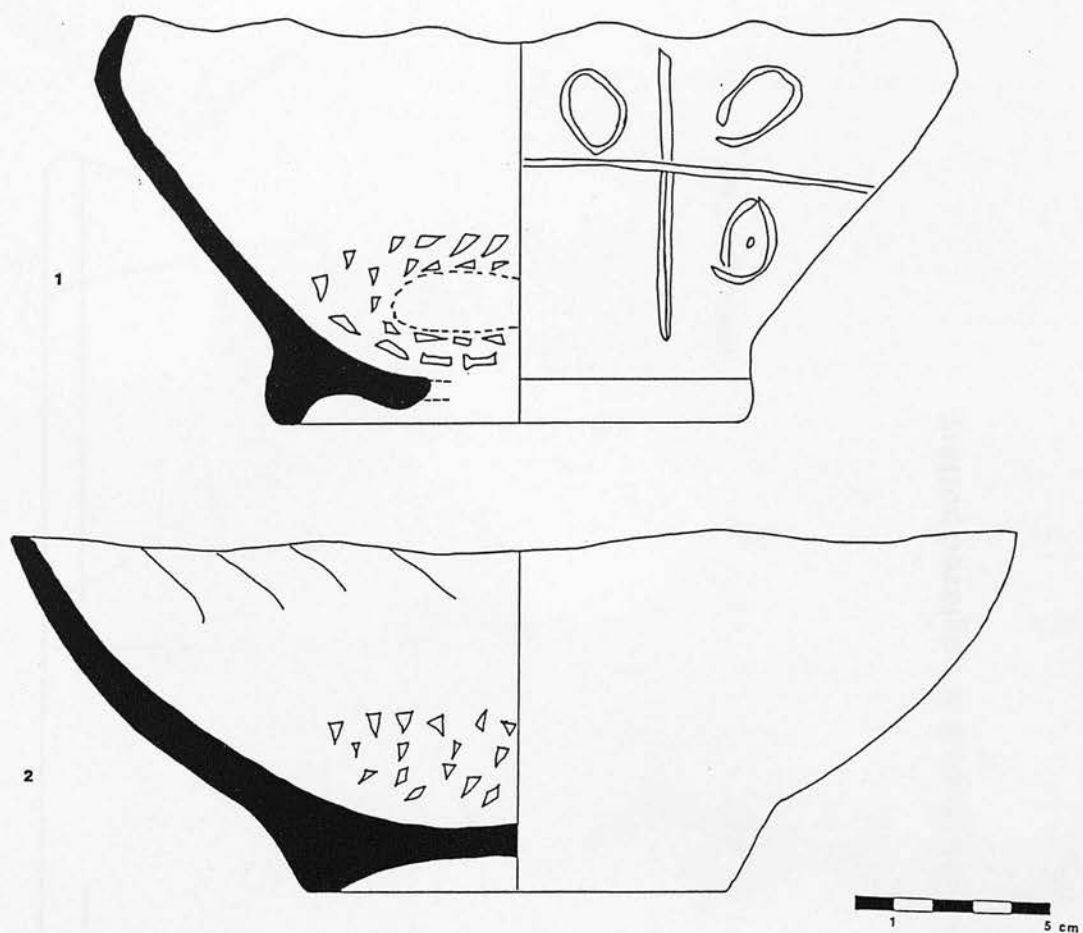


Plate 12: Type 4 of unglazed pottery.

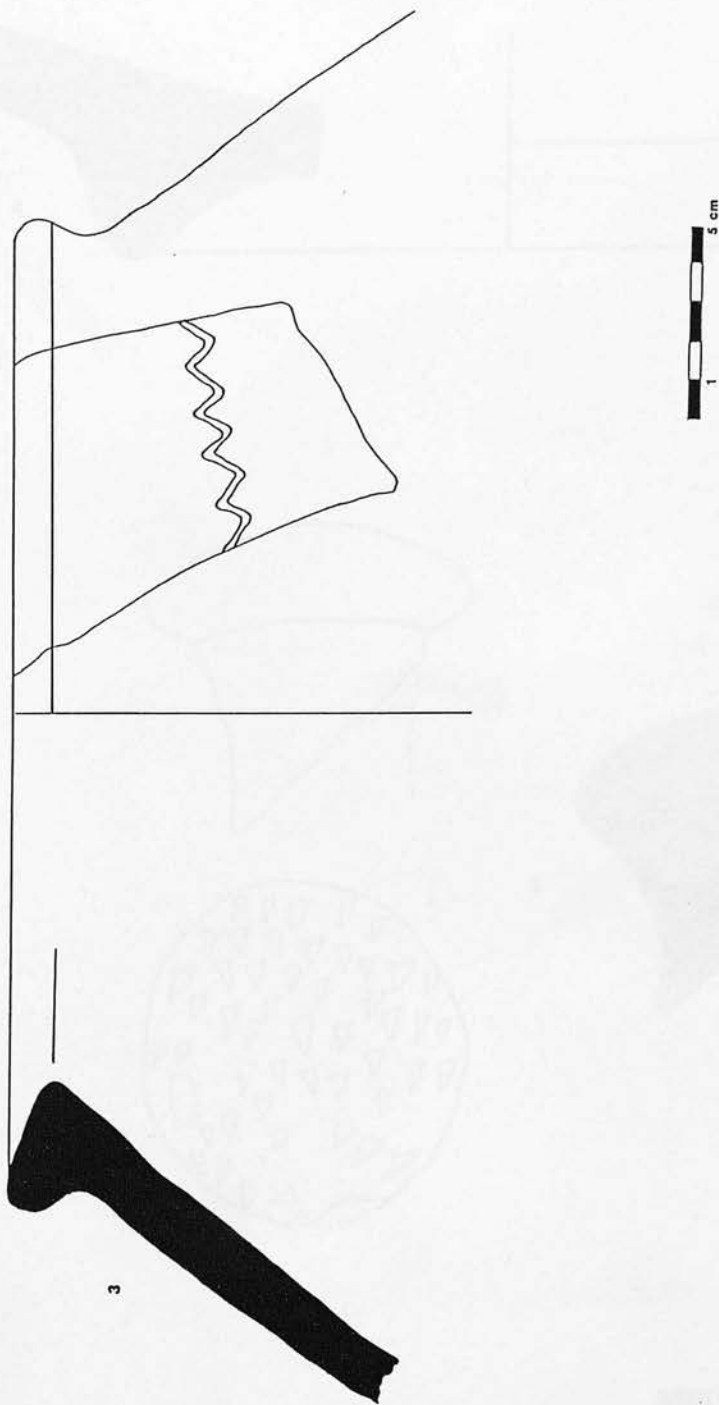


Plate 13: Type 4 of unglazed pottery.

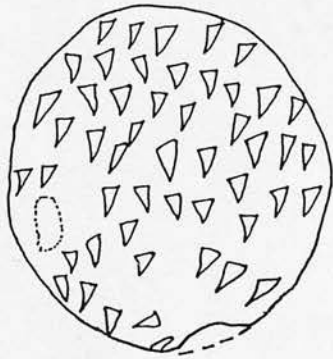
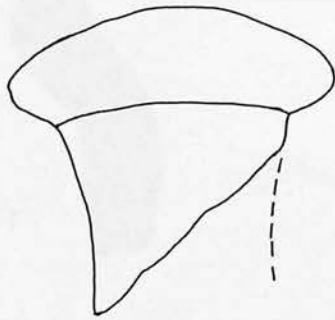
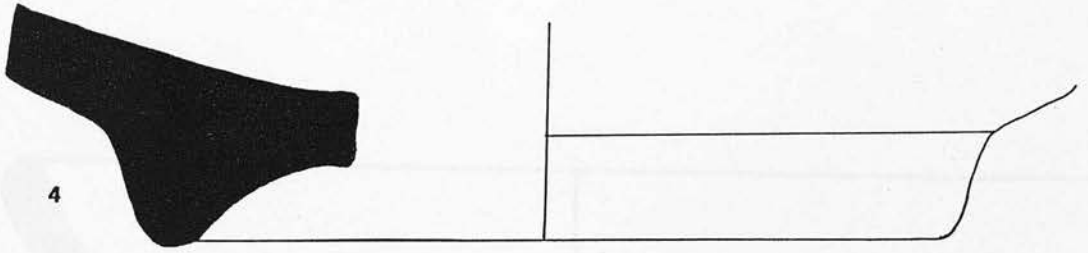


Plate 14: Type 4 of unglazed pottery.

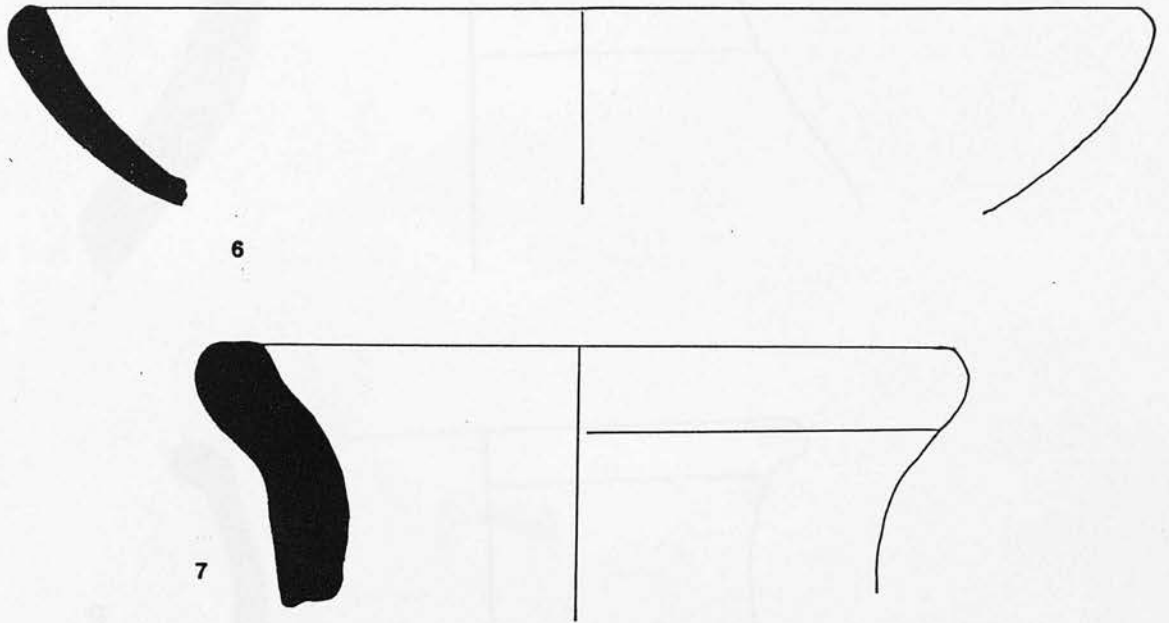


Plate 15: Type 4 of unglazed pottery.

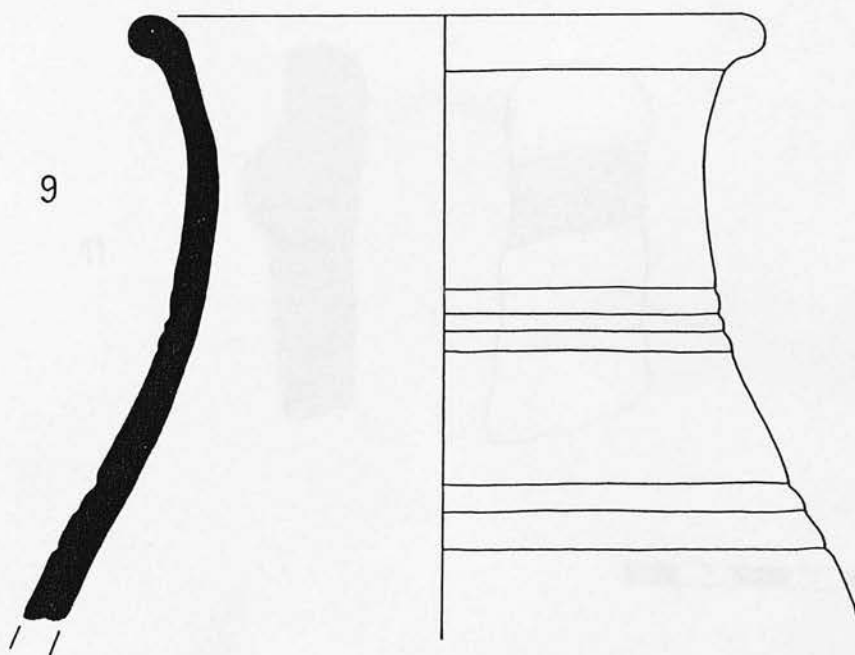
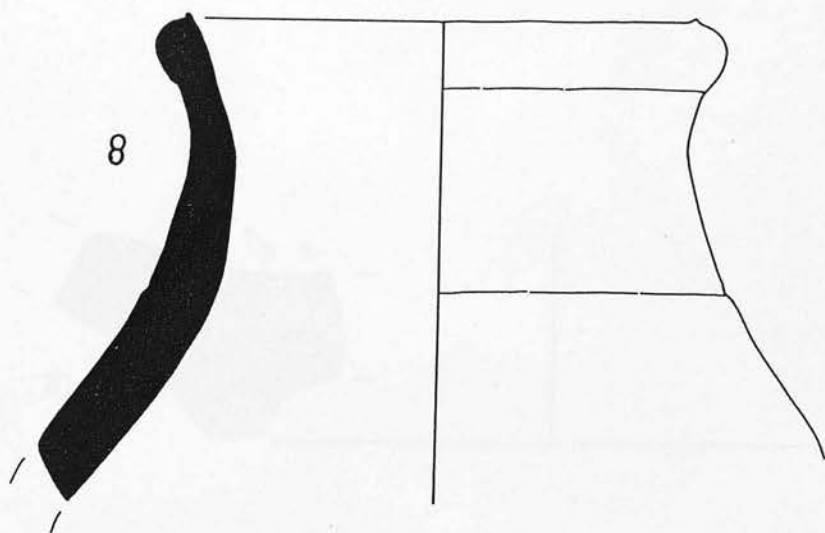


Plate 16: Type 4 of unglazed pottery.

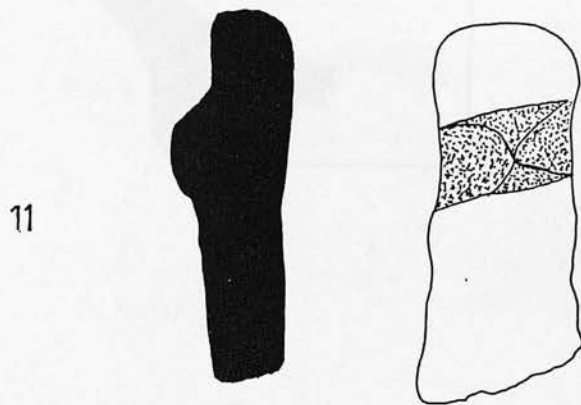
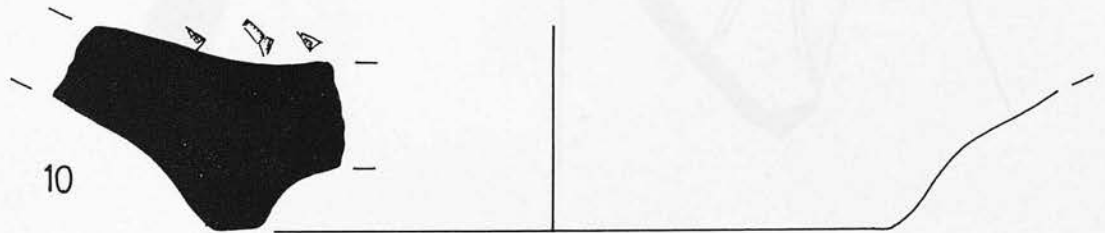


Plate 17: Type 4 of unglazed pottery.

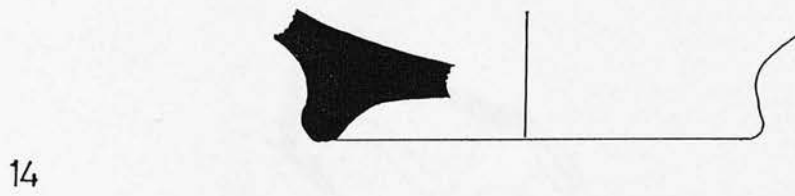
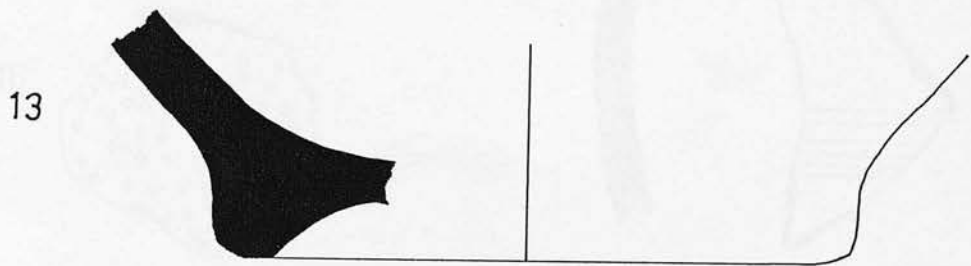
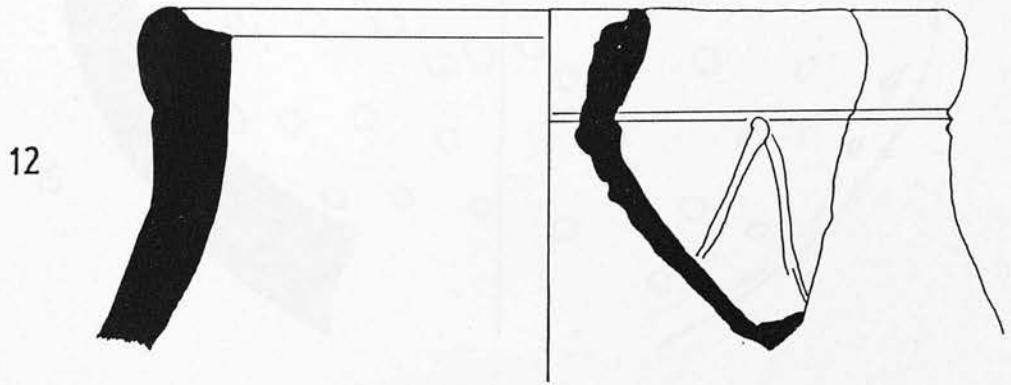
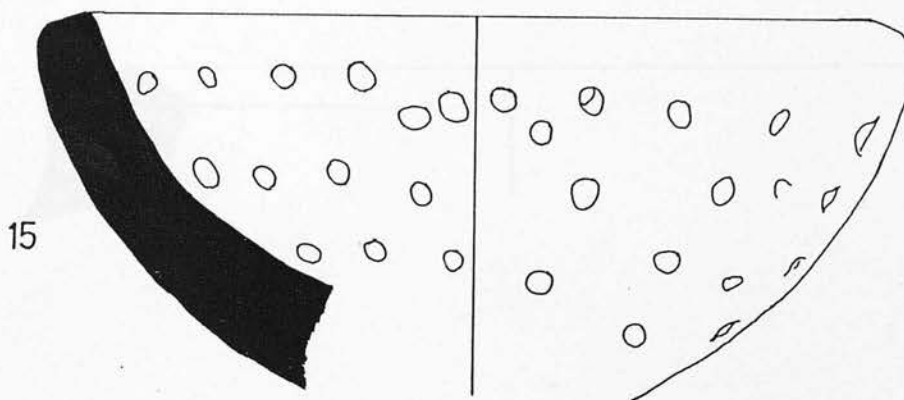


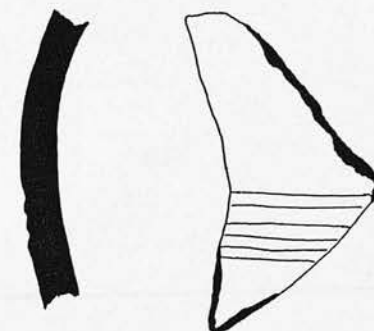
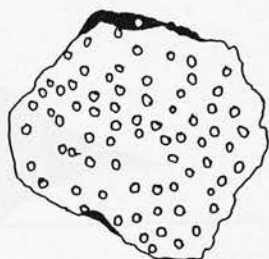
Plate 18: Type 4 of unglazed pottery.



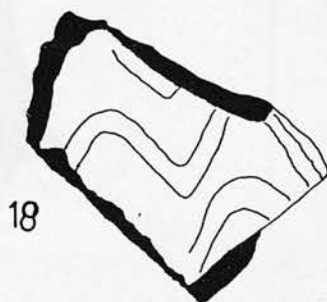
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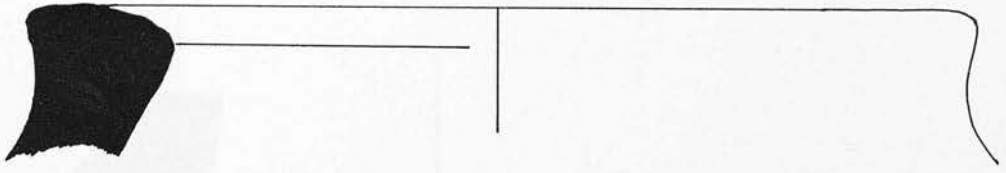


18

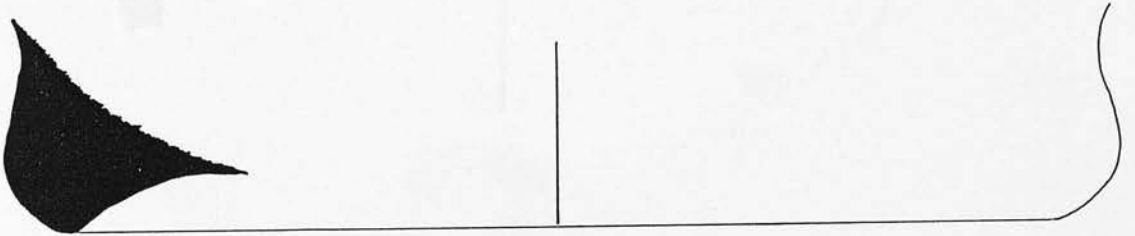


Plate 19: Type 4 of unglazed pottery.

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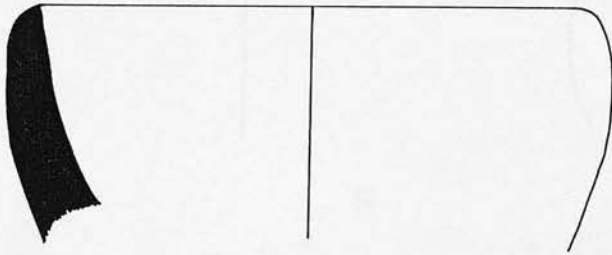


Plate 20: Type 4 of unglazed pottery.

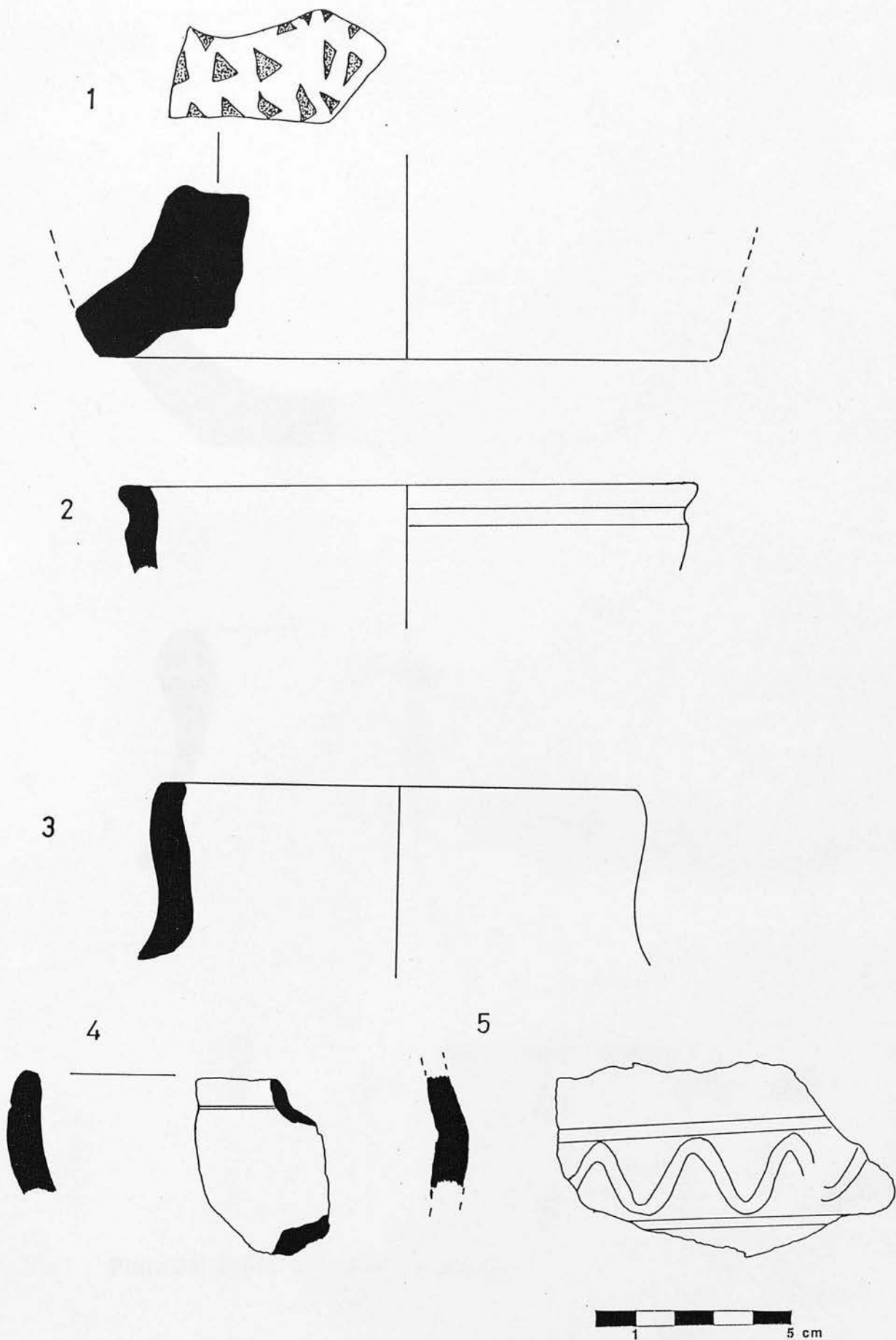


Plate 21: Type 4 of unglazed pottery, surface collection.

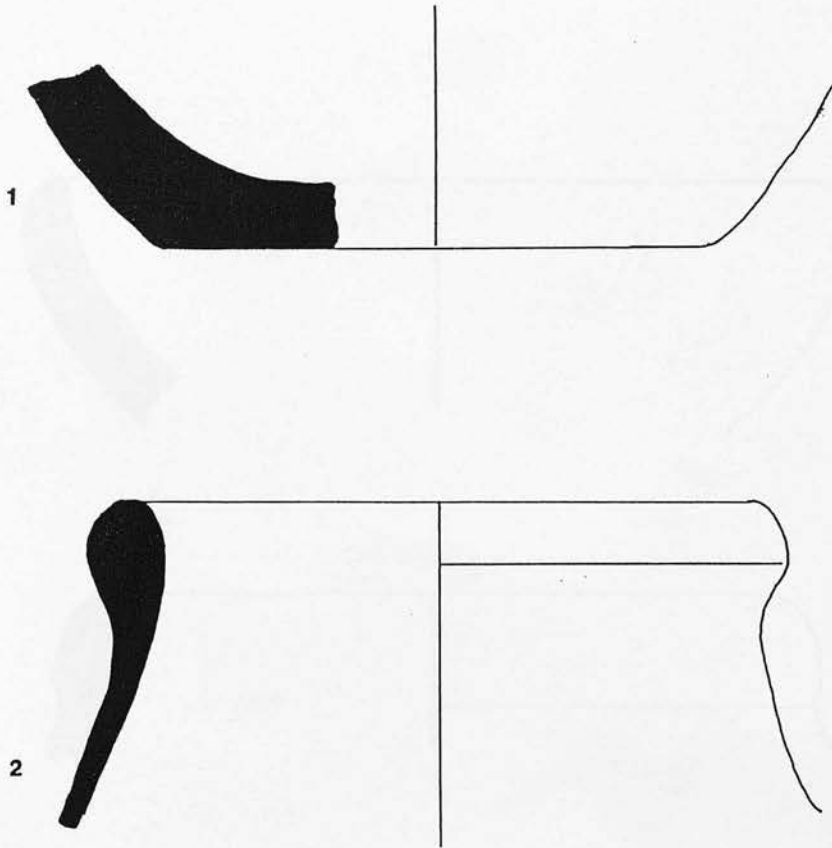


Plate 22: Type 5 of unglazed pottery.

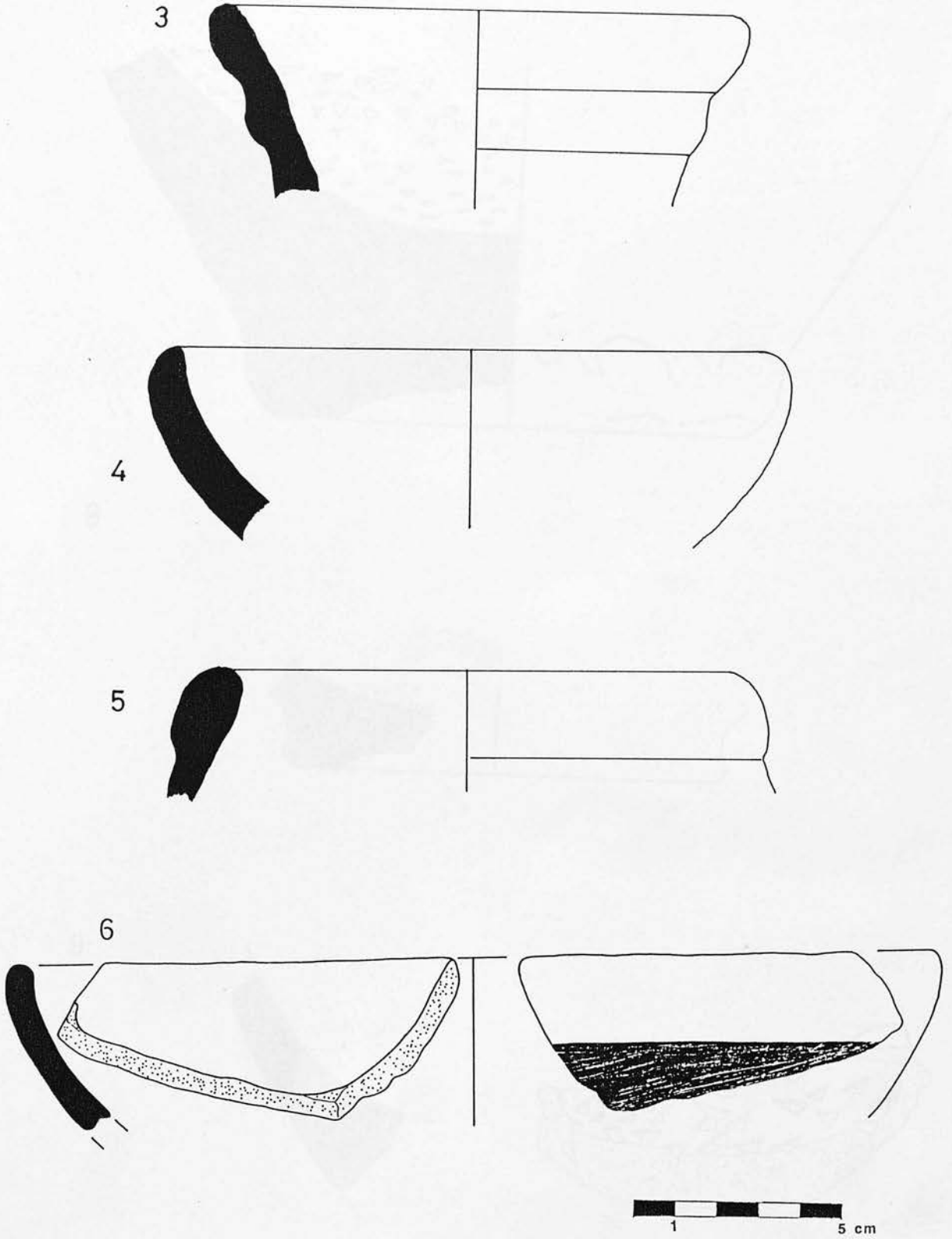
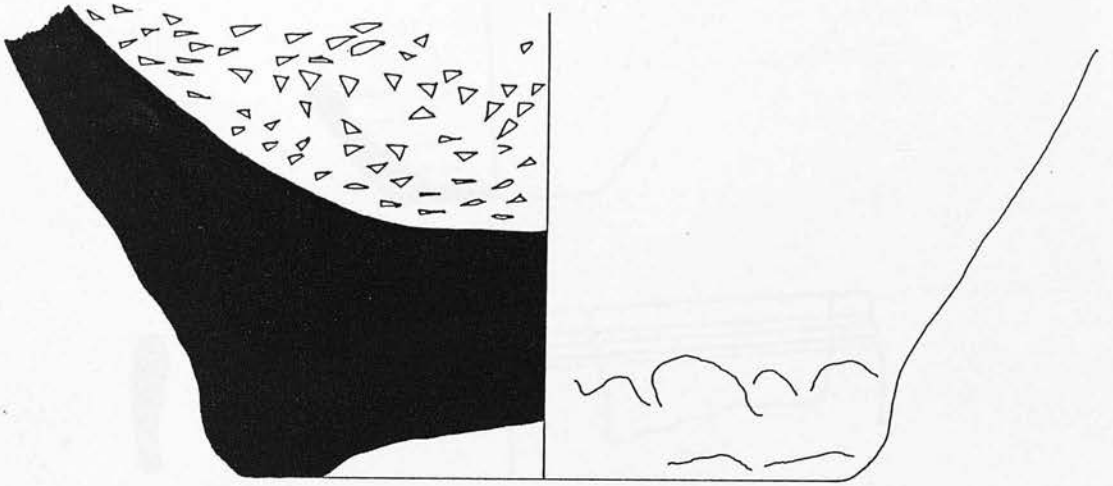
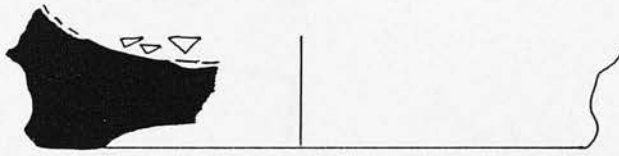


Plate 23: Type 5 of unglazed pottery.

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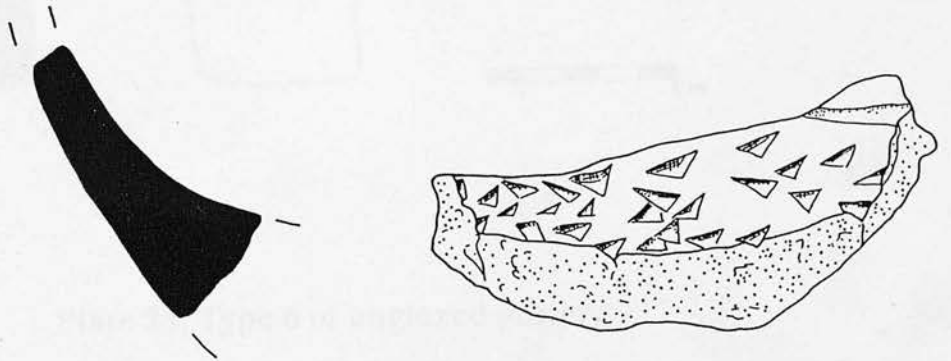


Plate 24: Type 5 of unglazed pottery.

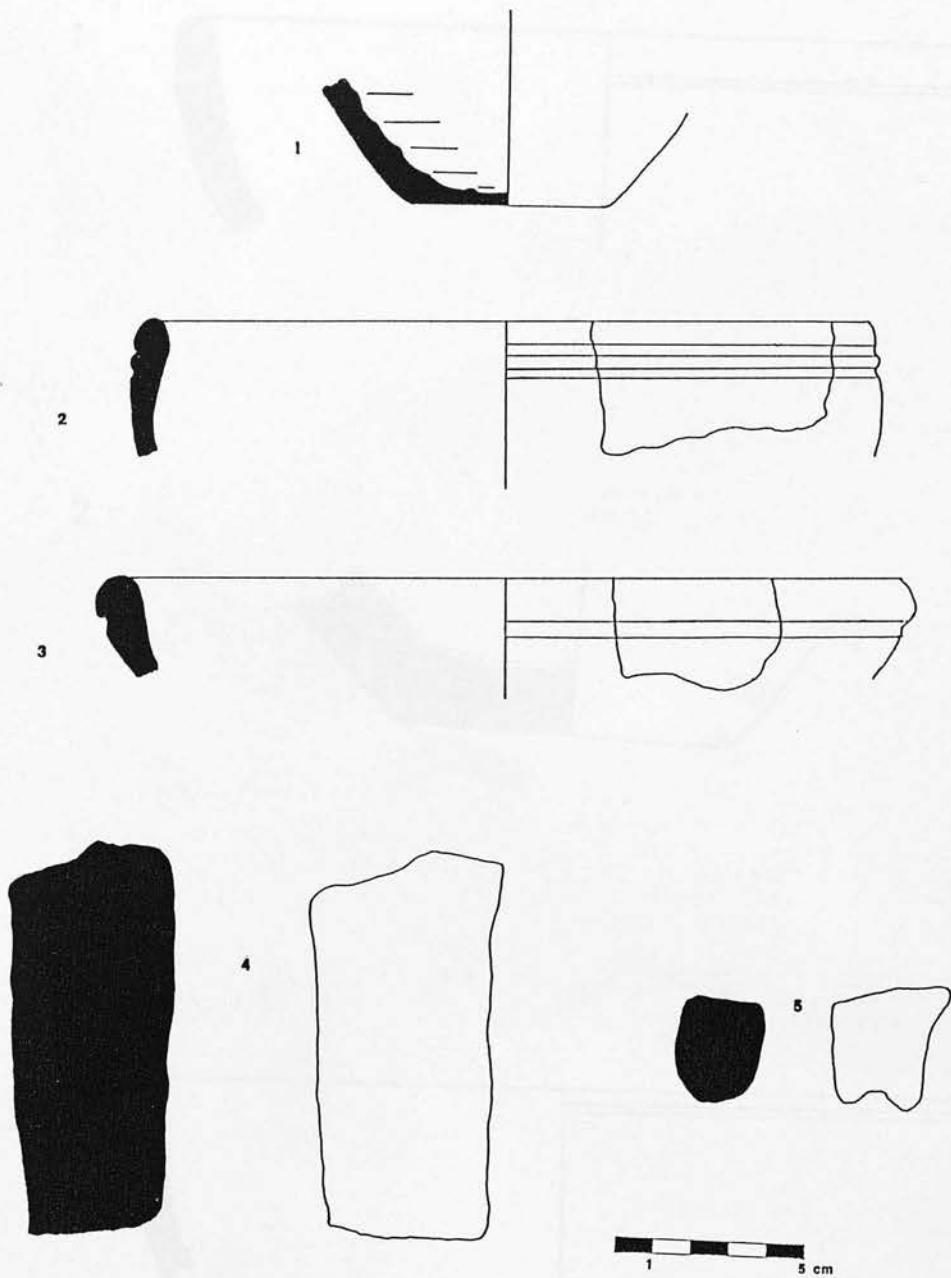


Plate 25: Type 6 of unglazed pottery.

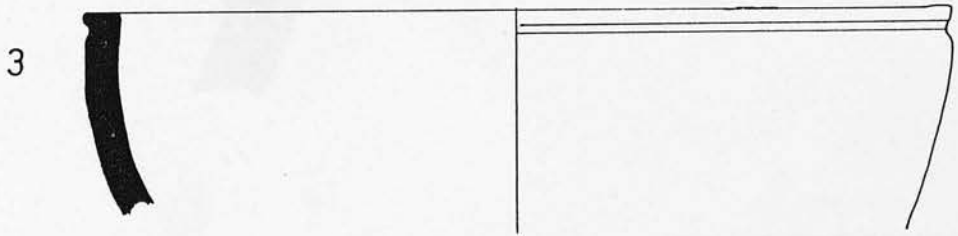
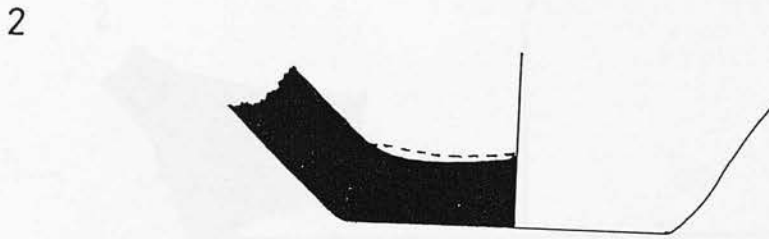
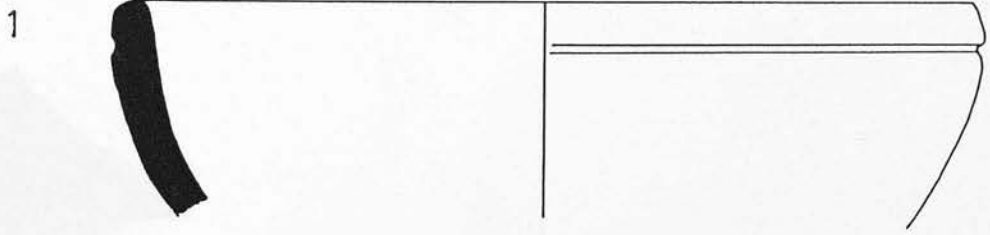


Plate 26: Type 6 of unglazed pottery, surface collection.

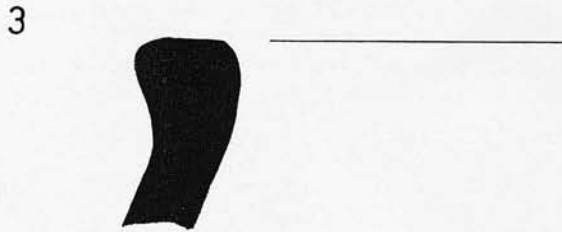
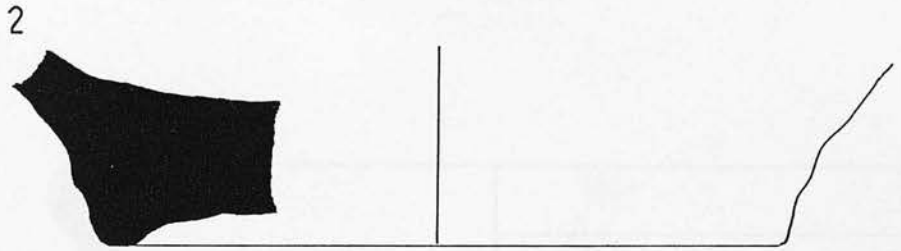


Plate 27: Type 7 of unglazed pottery.

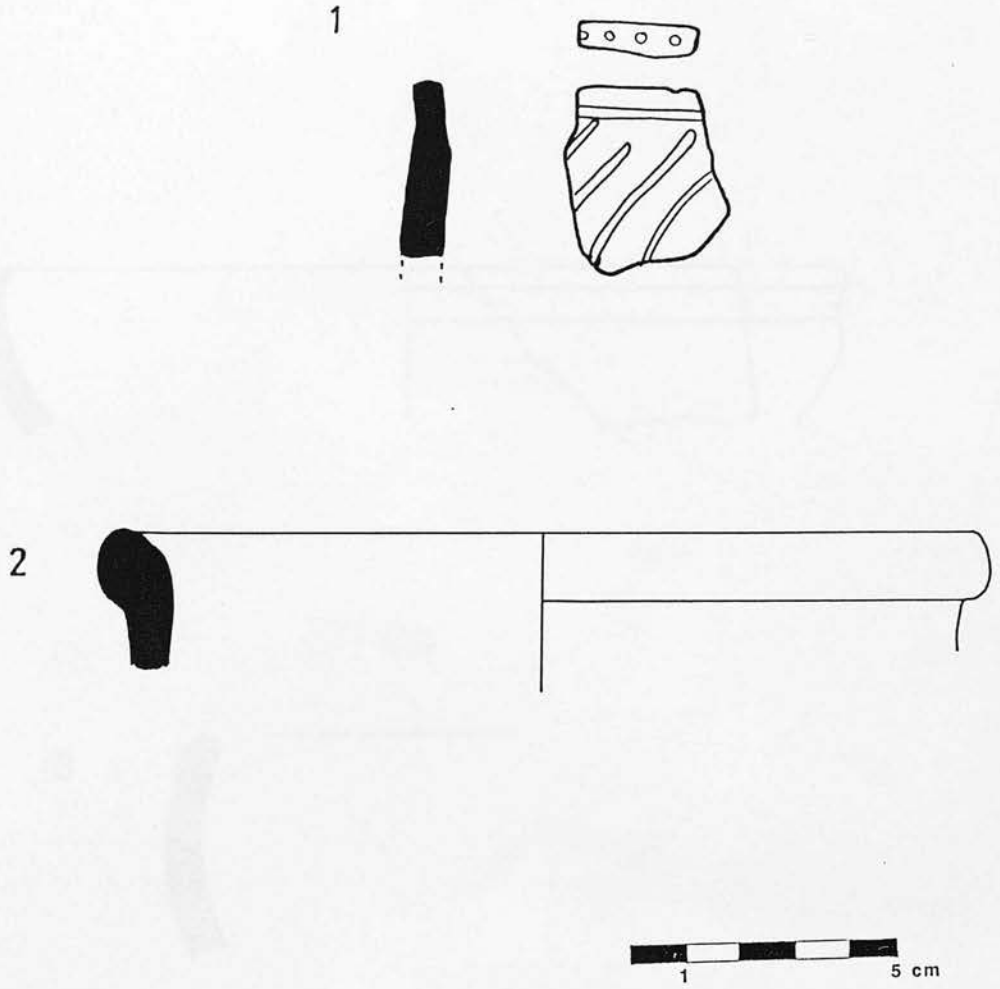


Plate 28: Type 7 of unglazed pottery, surface collection.

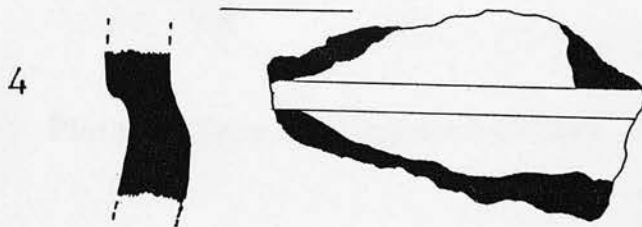
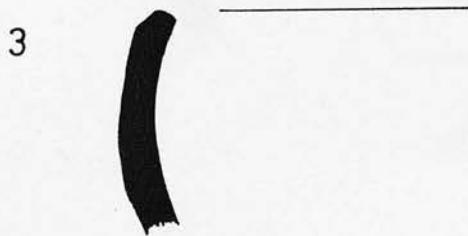
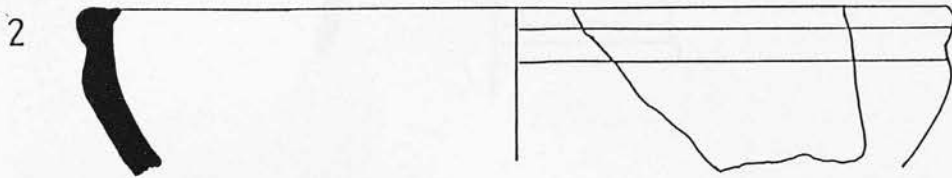
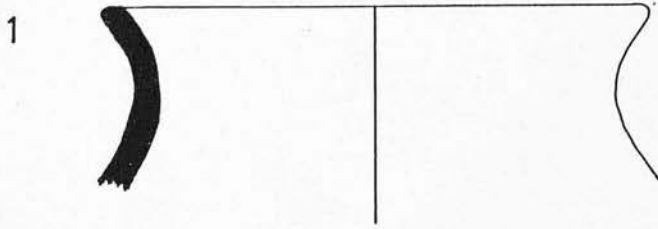


Plate 29: Type 8 of unglazed pottery.

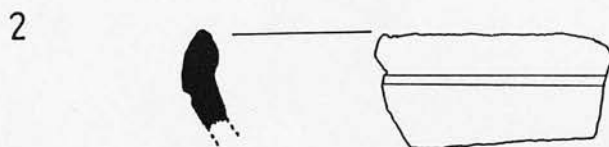
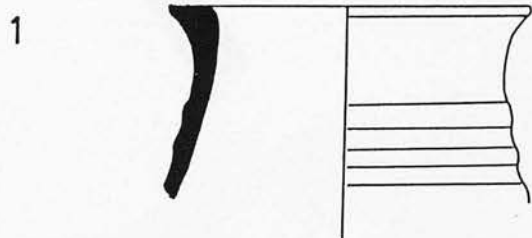


Plate 30: Type 8 of unglazed pottery, surface collection.

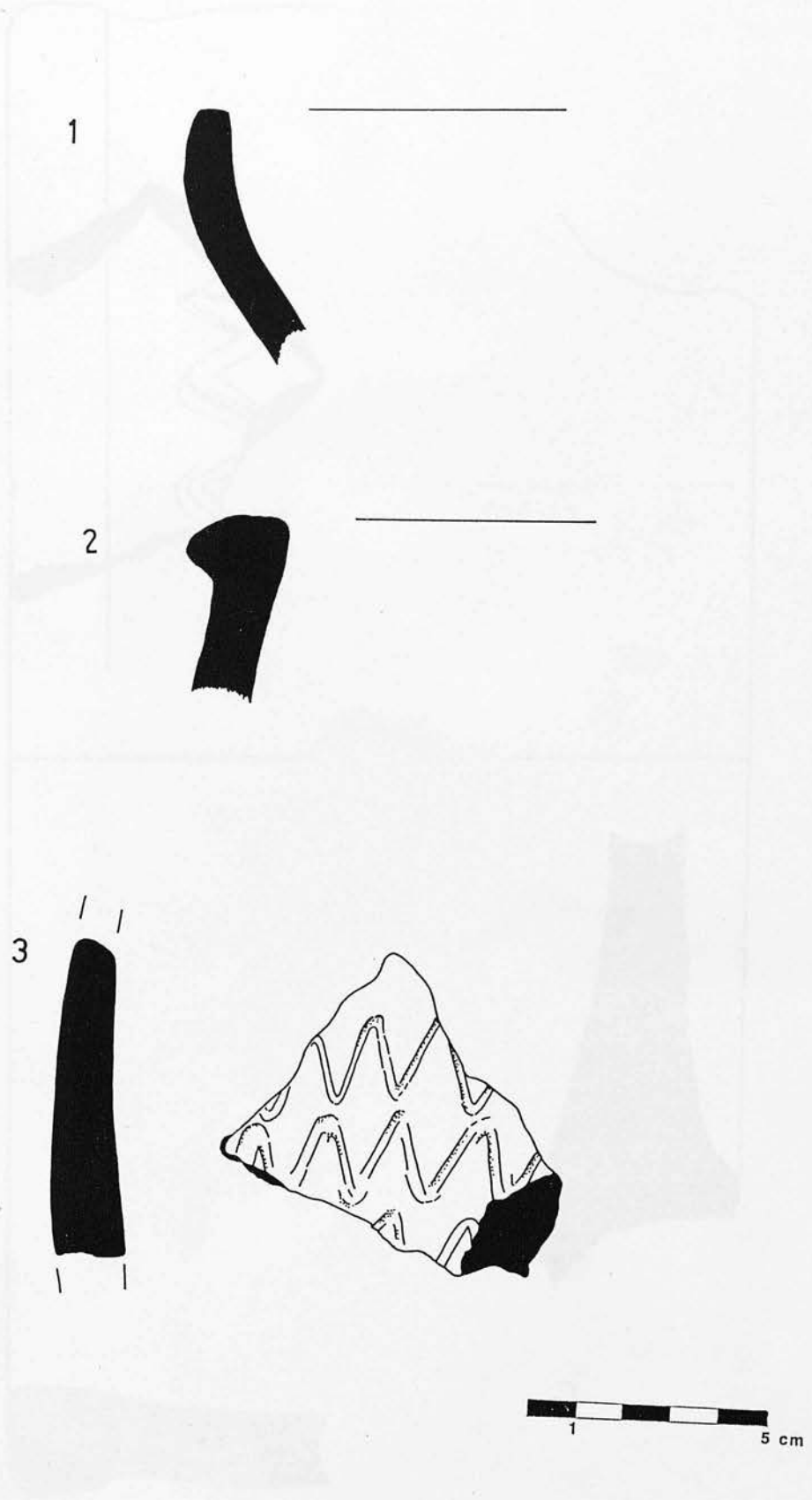
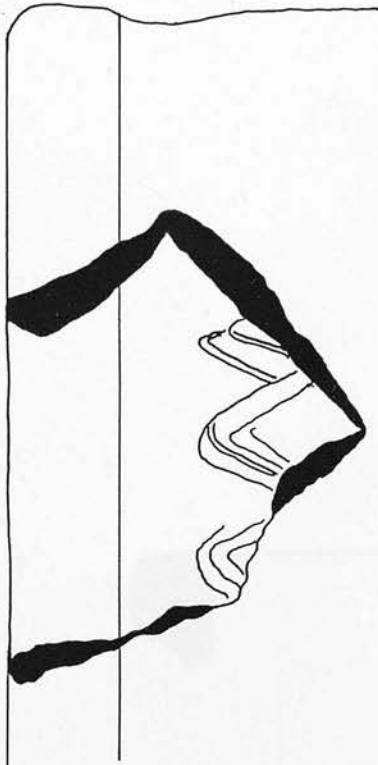
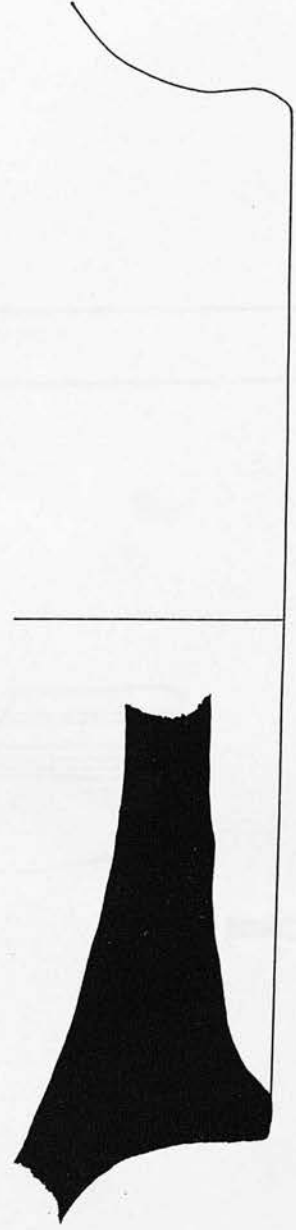


Plate 31: Type 9 of unglazed pottery.



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Plate 32: Type 9 of unglazed pottery.

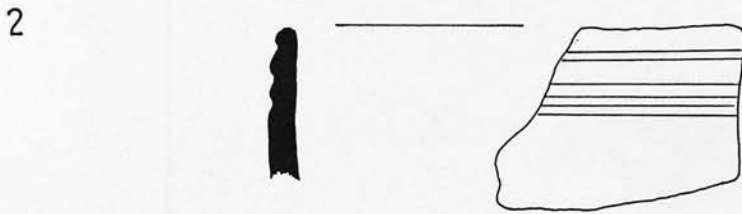
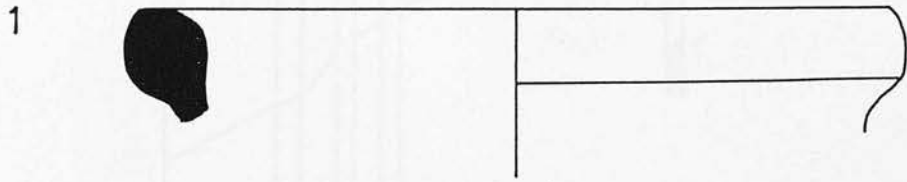


Plate 33: Type 9 of unglazed pottery, surface collection.

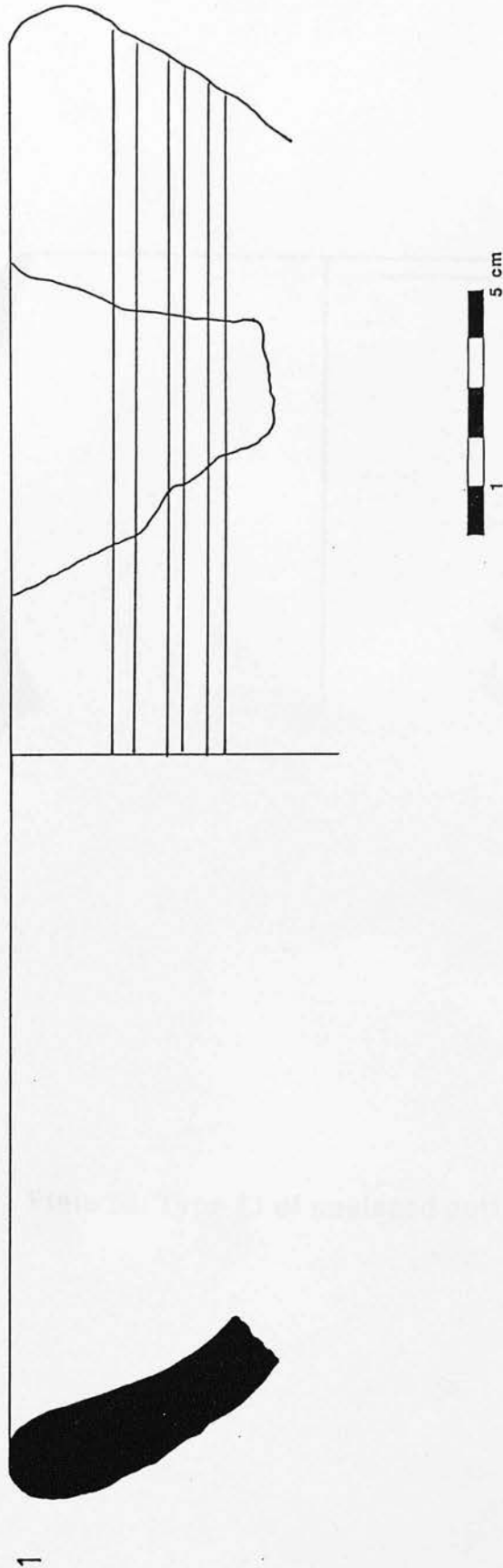


Plate 34: Type 10 of unglazed pottery.

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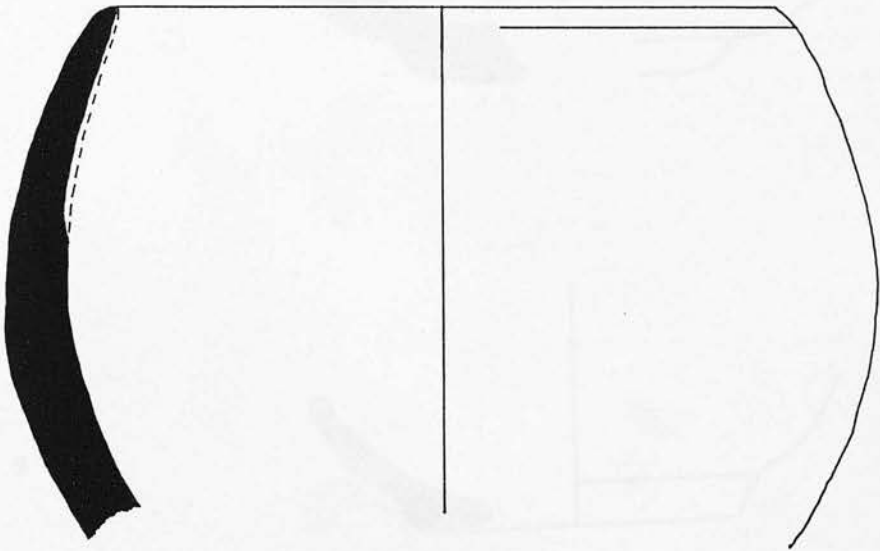


Plate 35: Type 11 of unglazed pottery.

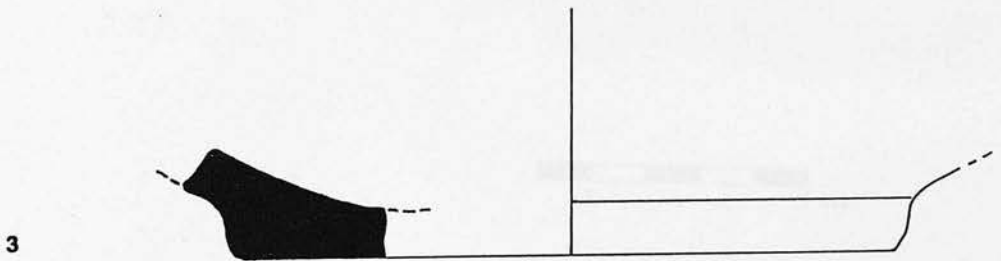
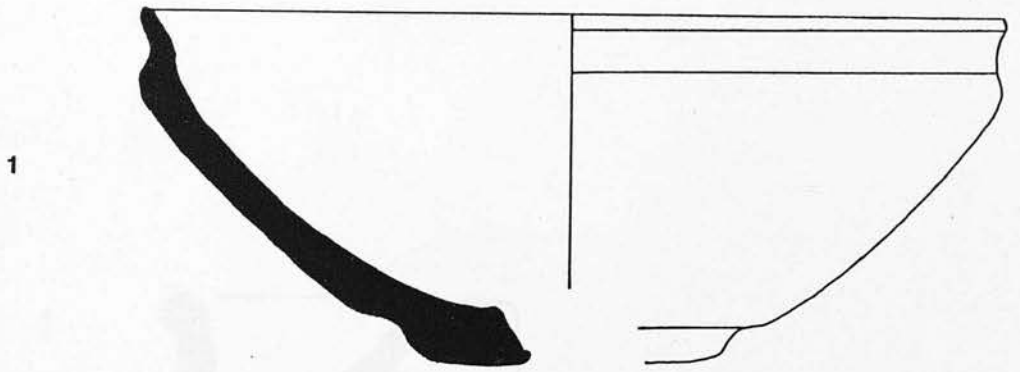


Plate 36: Type 1 of glazed pottery.

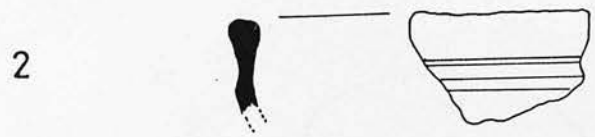
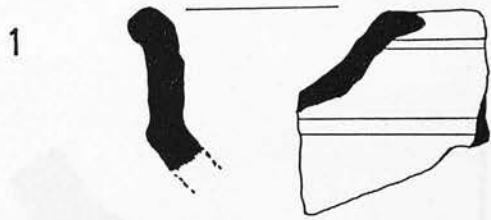


Plate 37: Type 1 of glazed pottery, surface collection.

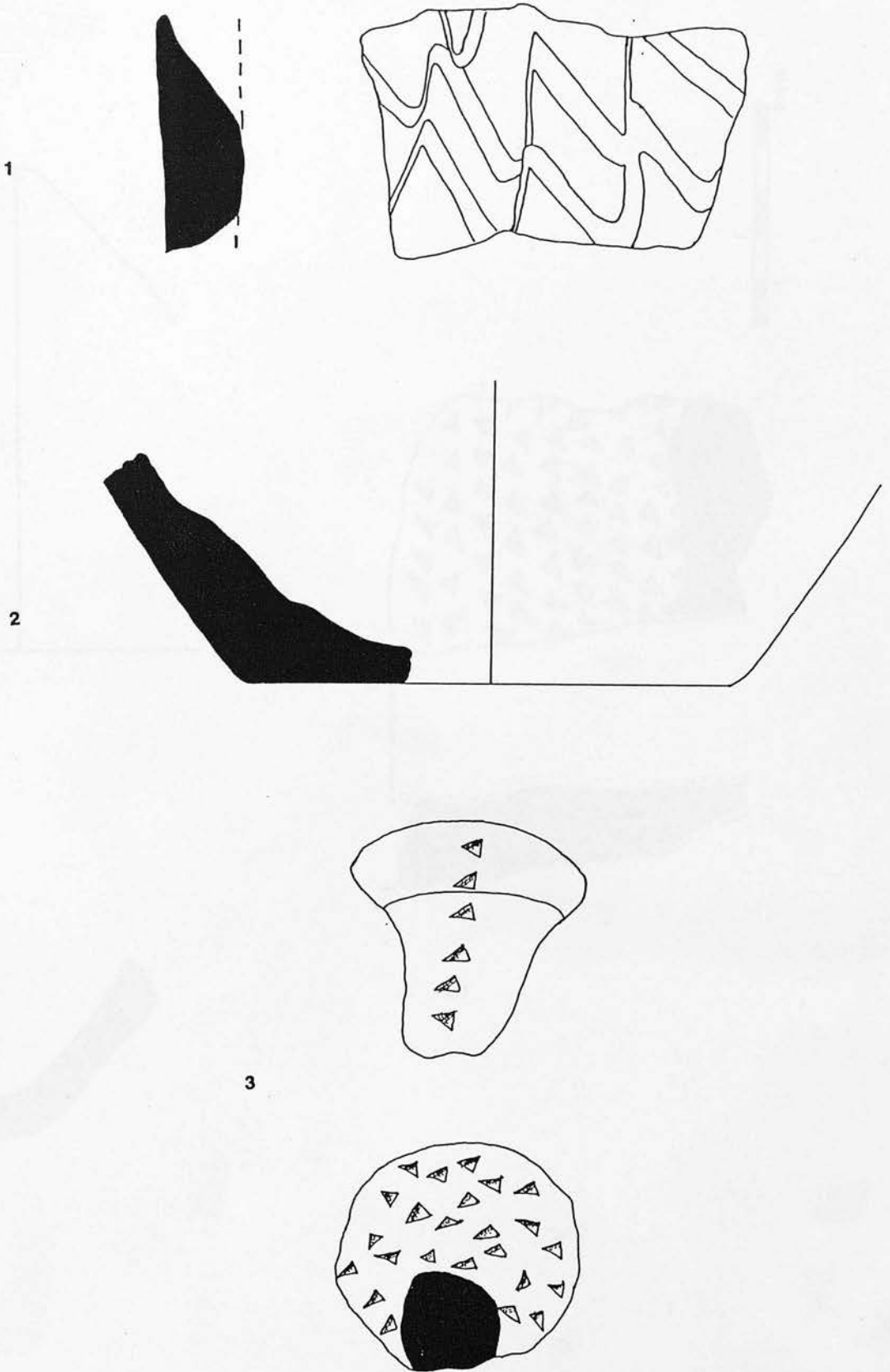


Plate 38: Type 2 of glazed pottery.

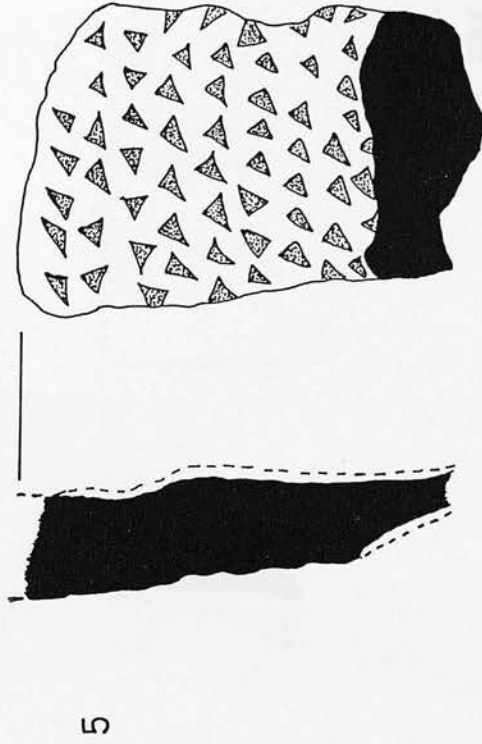
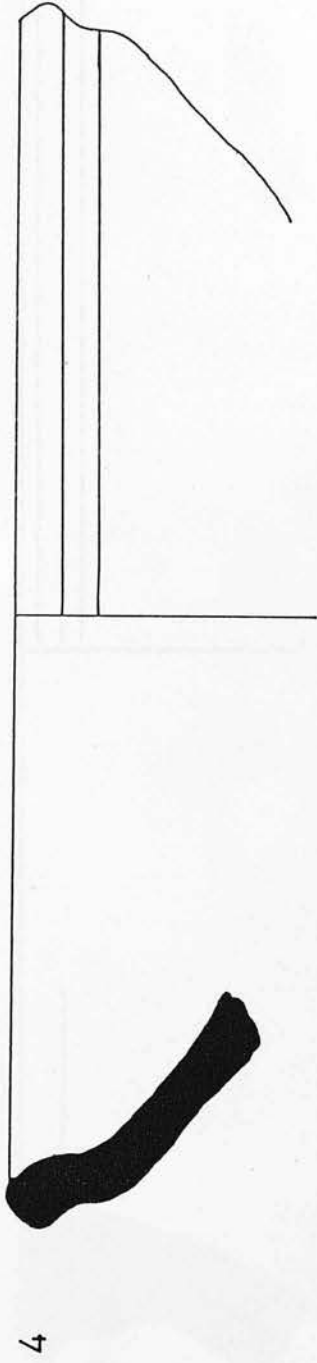


Plate 39: Type 2 of glazed pottery.

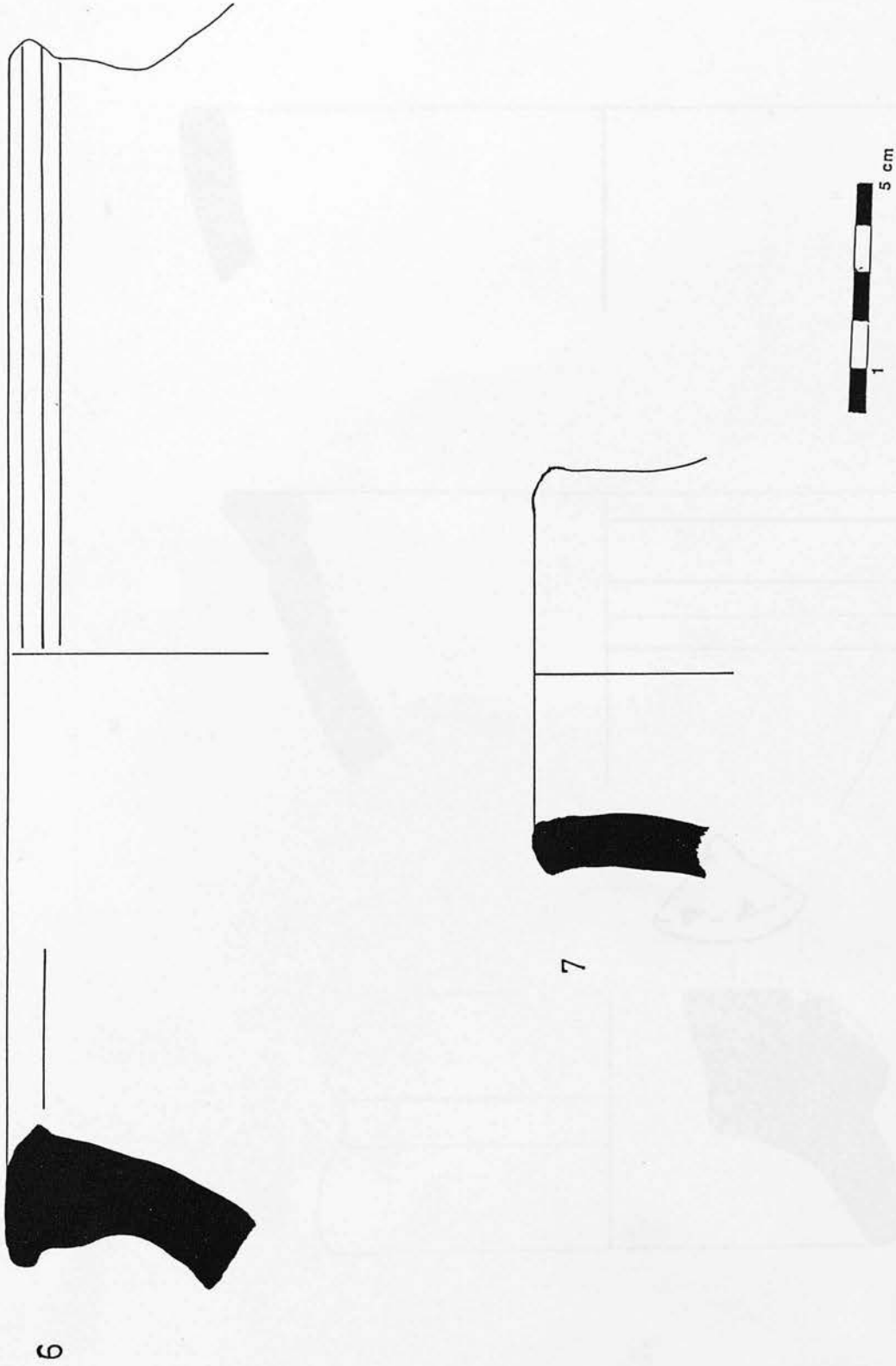


Plate 40: Type 2 of glazed pottery.

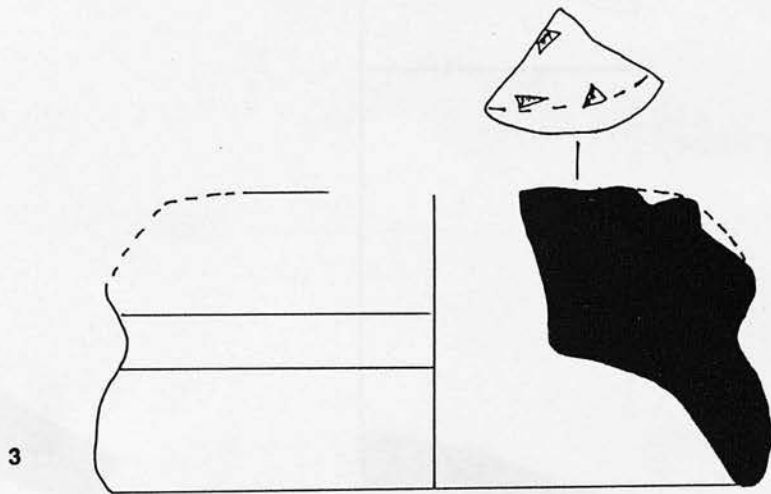
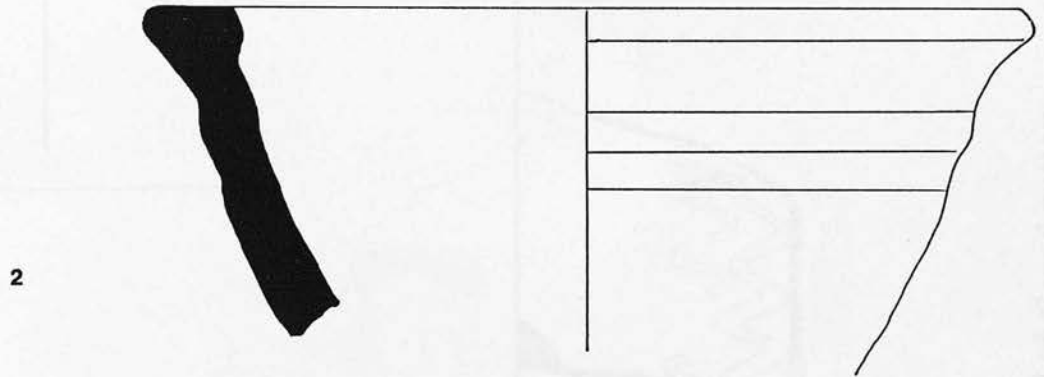
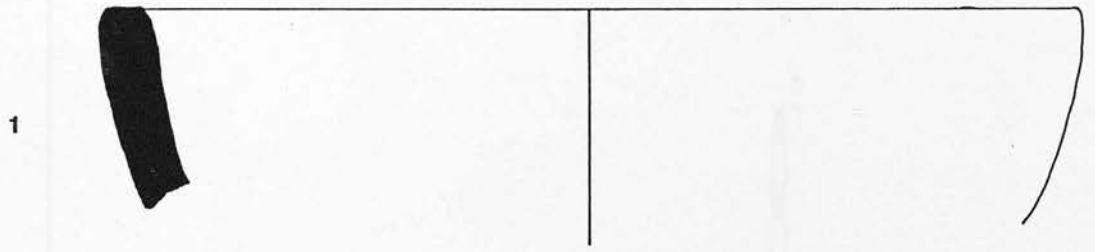


Plate 41: Type 3 of glazed pottery.

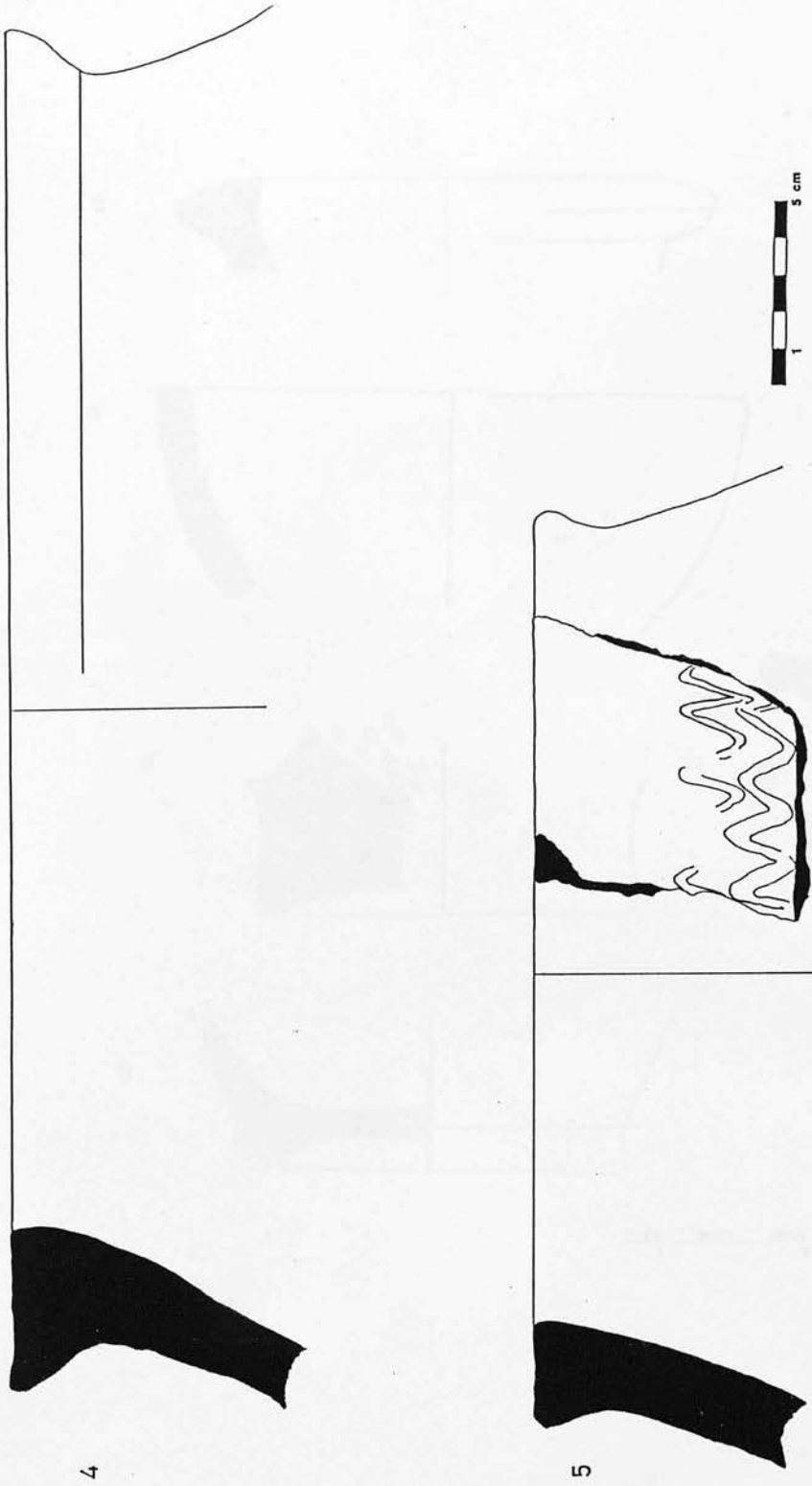


Plate 42: Type 3 of glazed pottery.

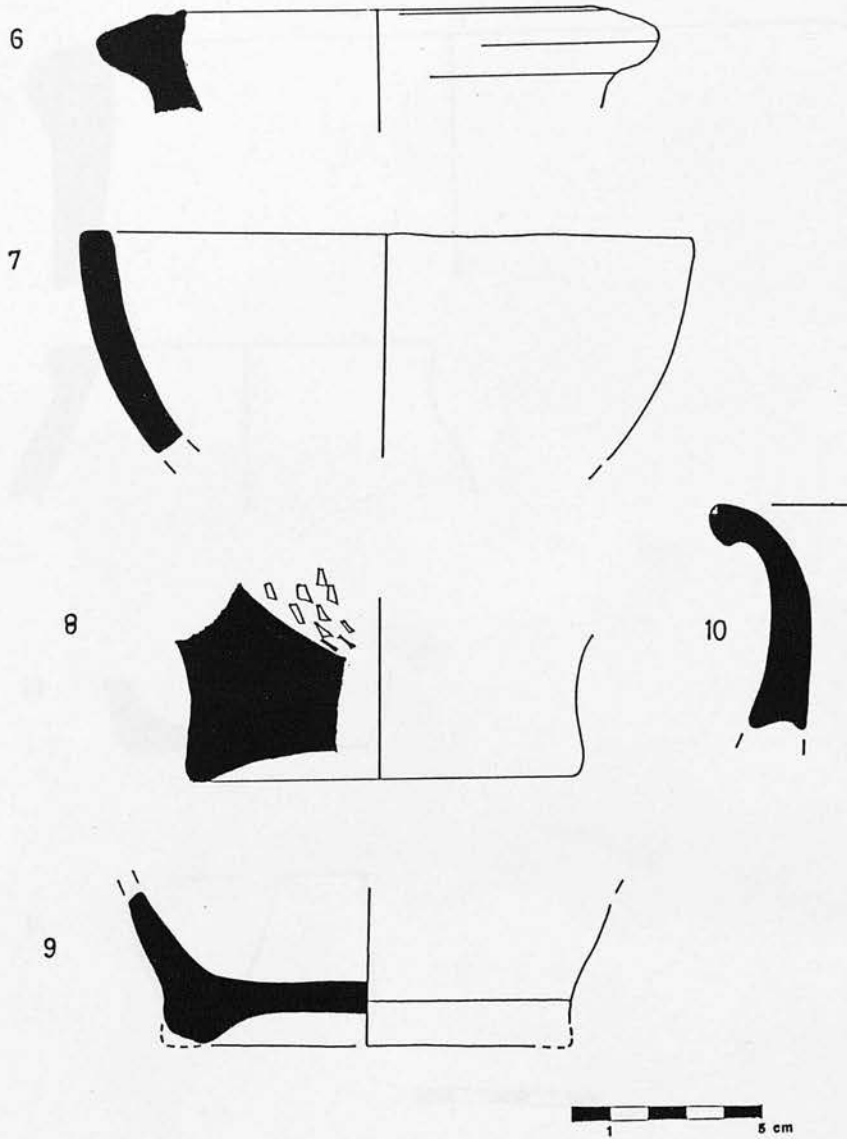


Plate 43: Type 3 of glazed pottery.

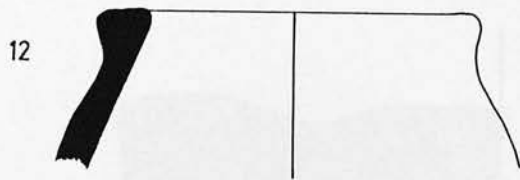
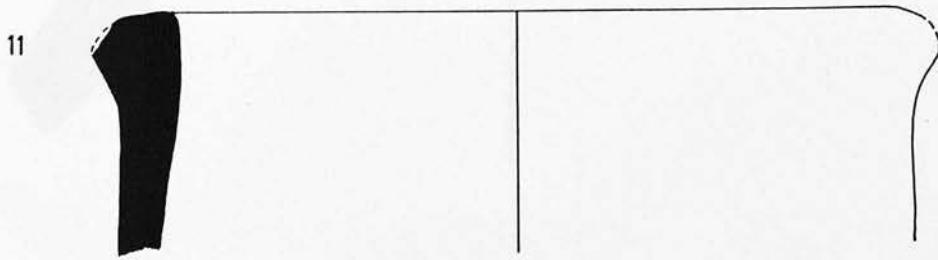


Plate 44: Type 3 of glazed pottery.

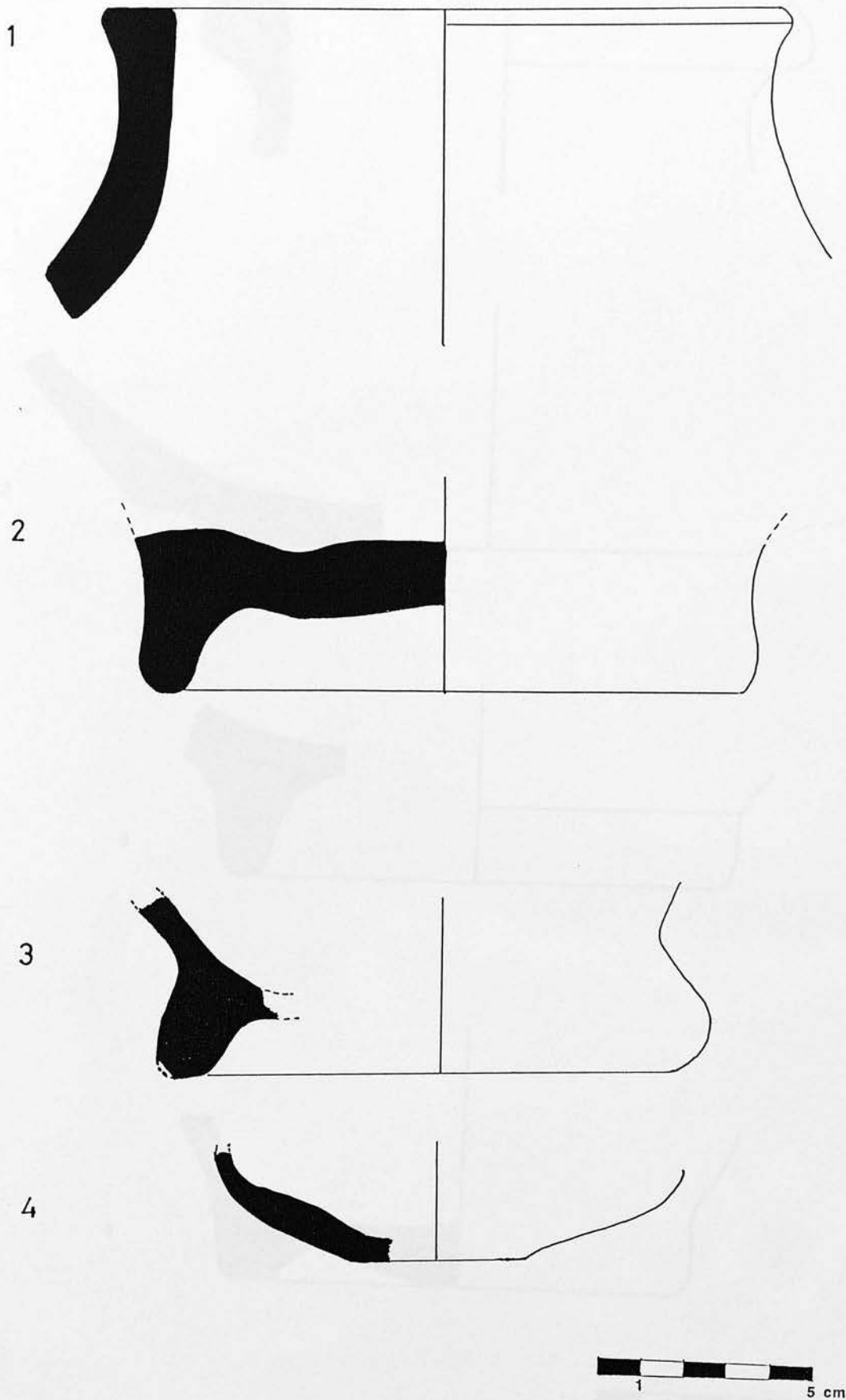


Plate 45: Type 3 of glazed pottery, surface collection.

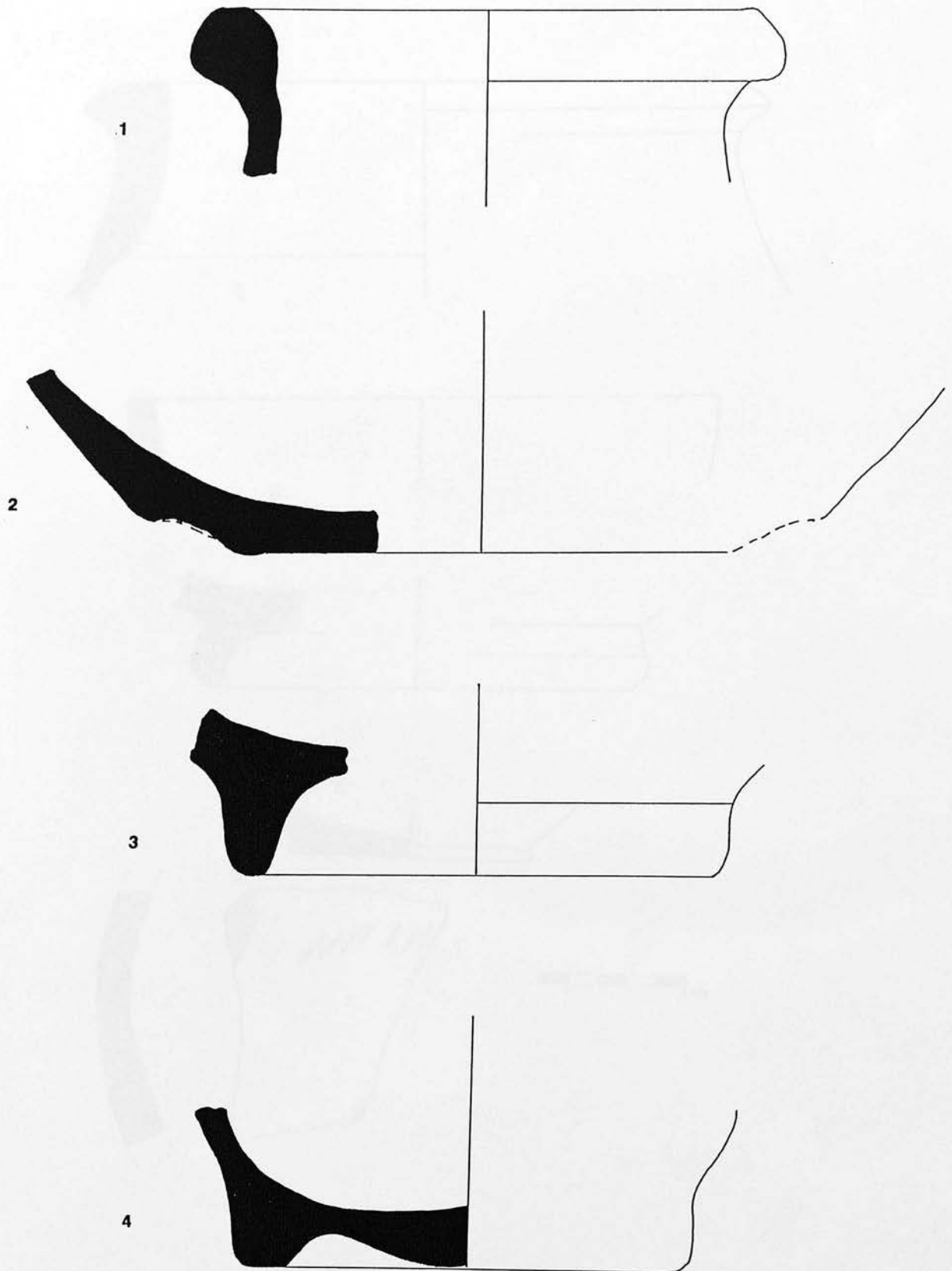


Plate 46: Sub-type 3/1 of glazed pottery.

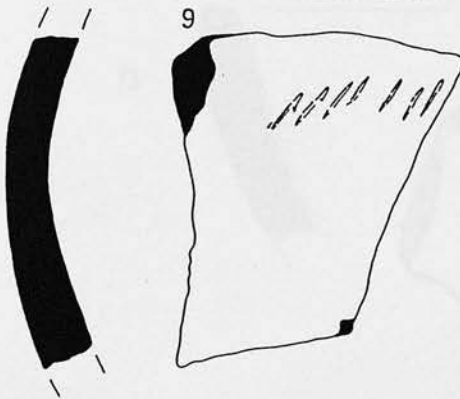
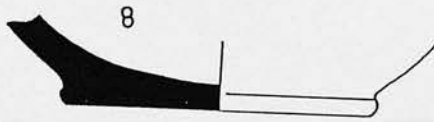
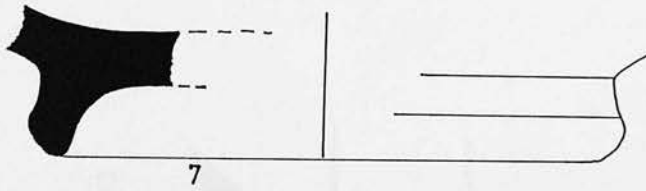
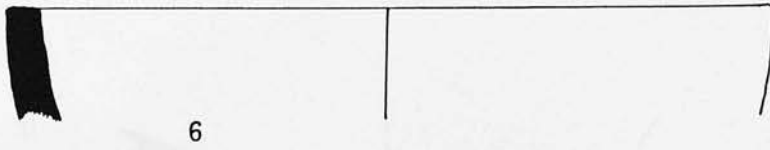
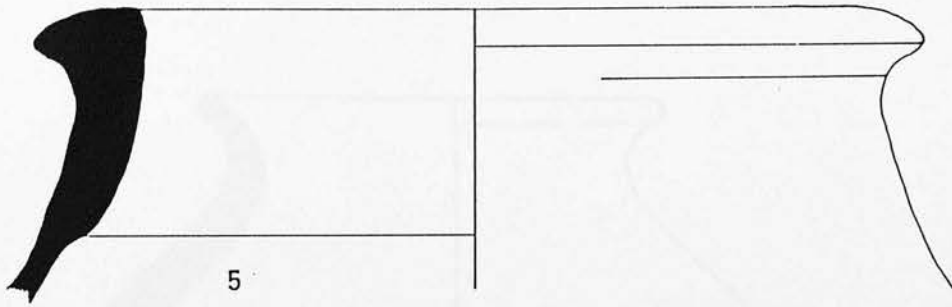


Plate 47: Sub-type 3/1 of glazed pottery.

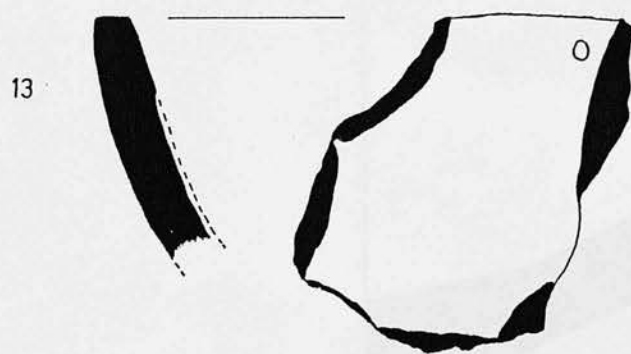
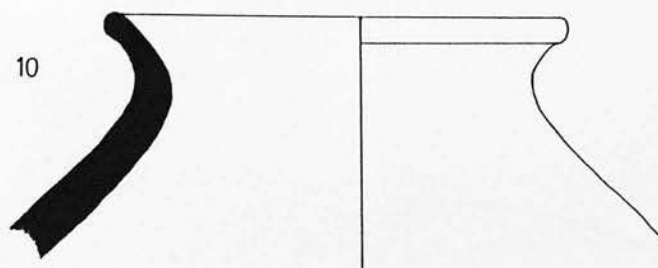
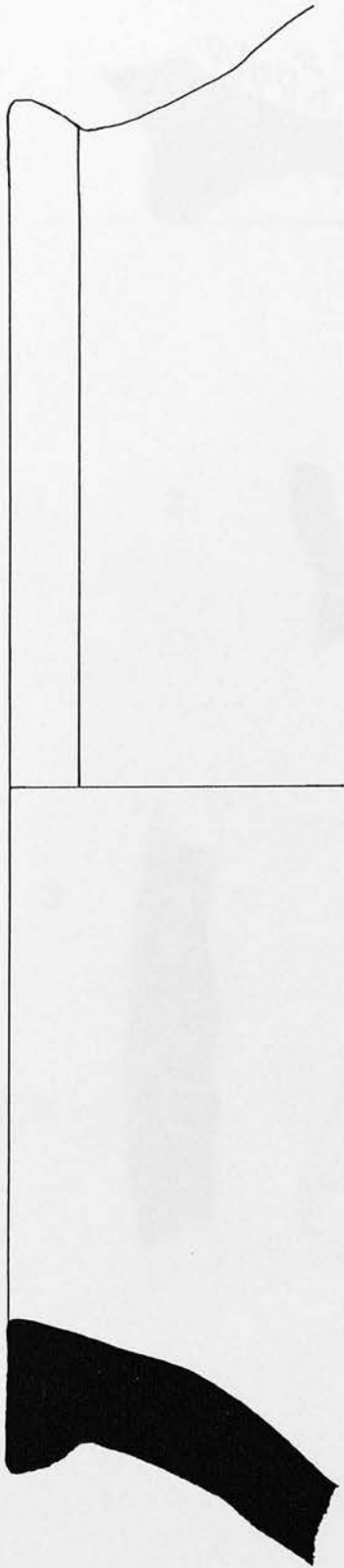
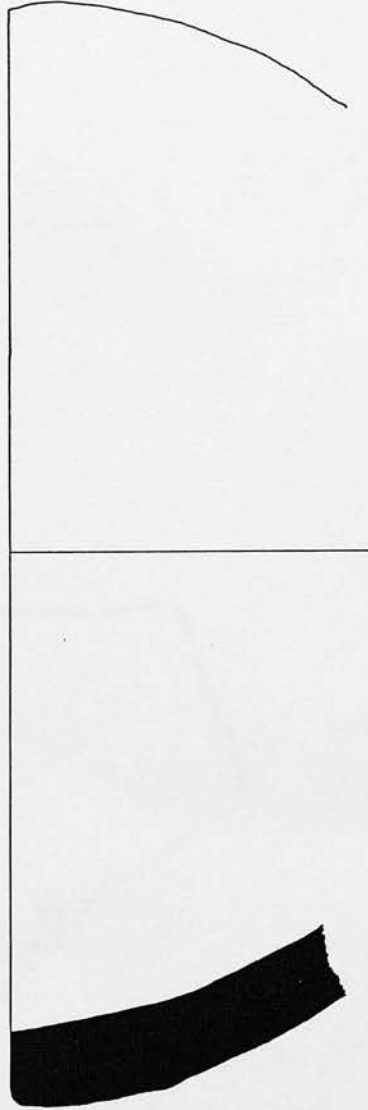


Plate 48: Sub-type 3/1 of glazed pottery.



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Plate 49: Sub-type 3/1 of glazed pottery.

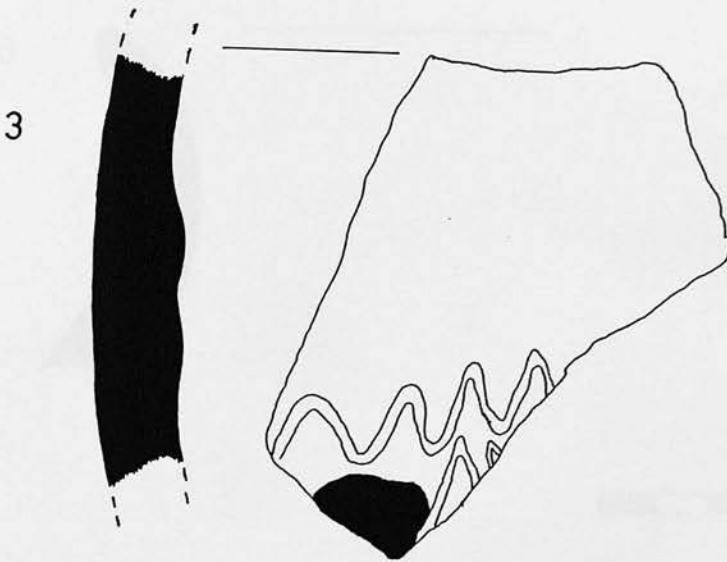
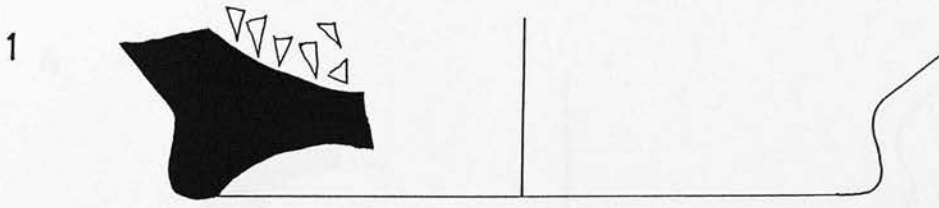


Plate 50: Sub-type 3/1 of glazed pottery, surface collection.

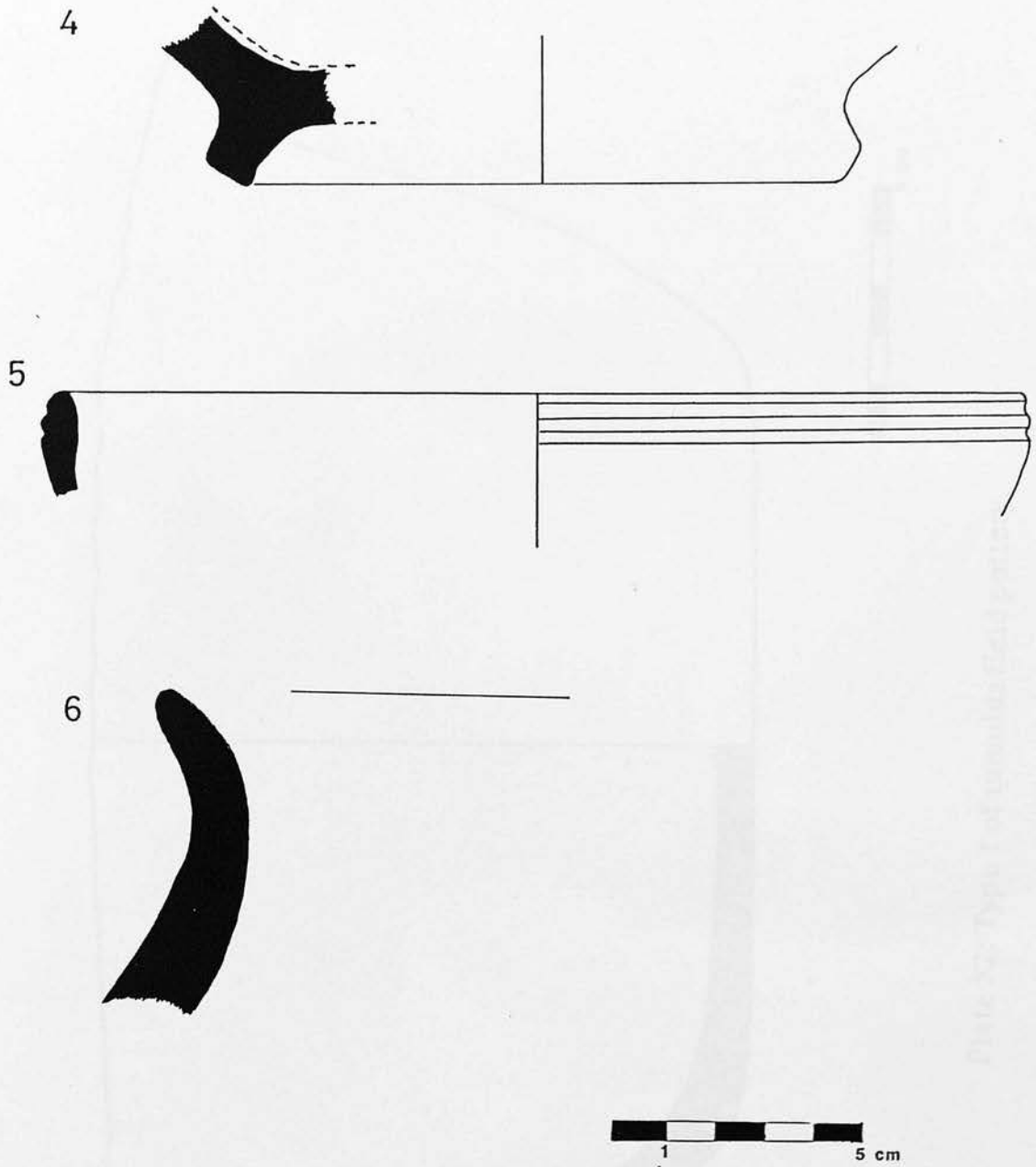


Plate 51: Sub-type 3/1 of glazed pottery, surface collection.

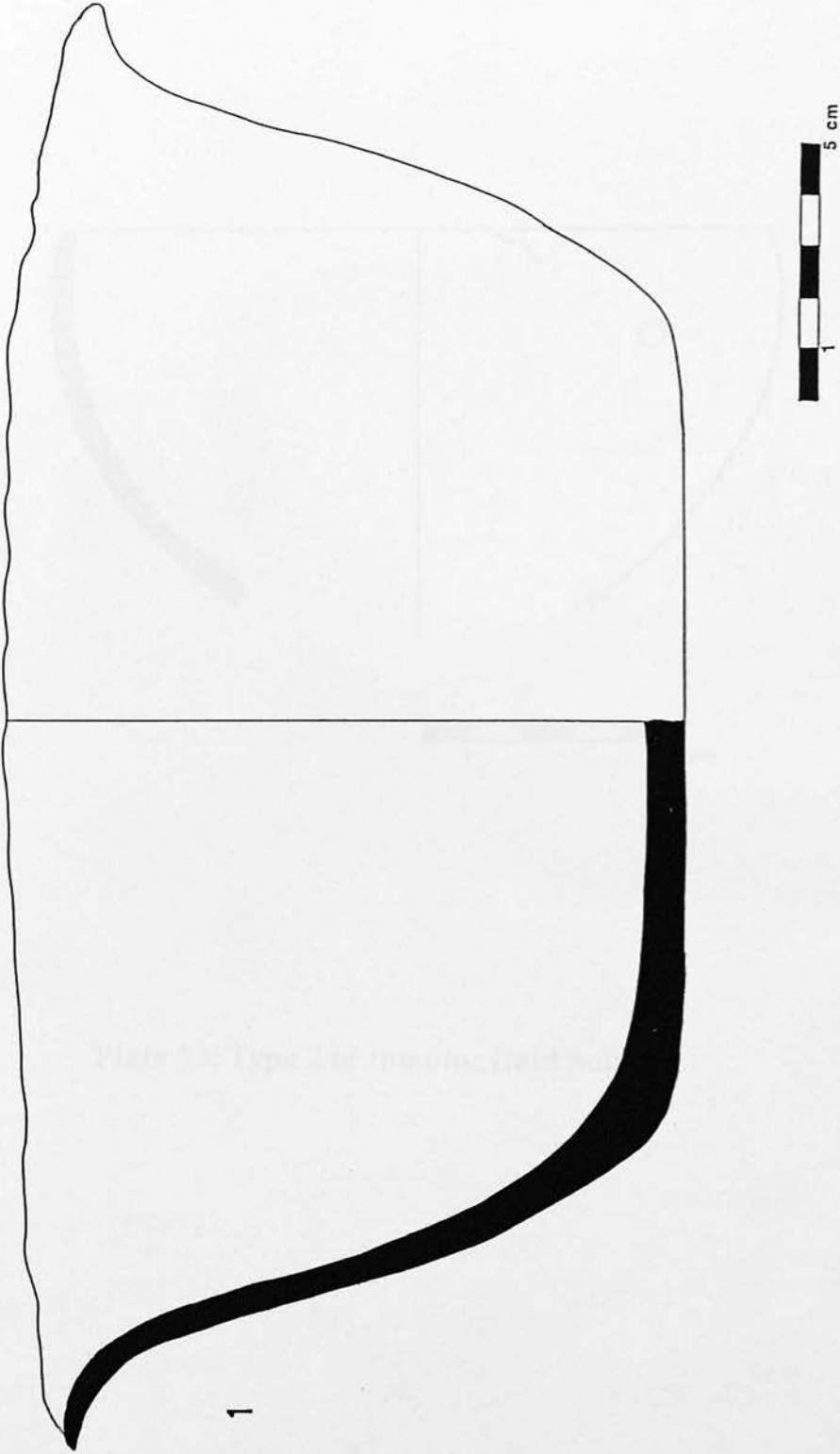


Plate 52: Type 1 of tumulus field pottery.

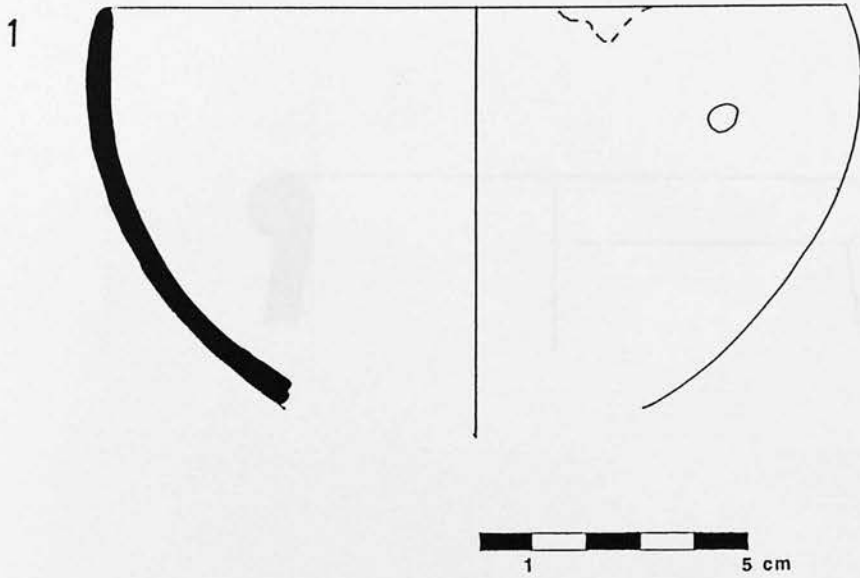


Plate 53: Type 2 of tumulus field pottery.

Figure 54: Type 2 of unglazed pottery collected from the surface of the al-Bayh settlement.

Note: The types of pottery shards from al-Bayh illustrated in plates 54-63 are following the same type from al-Ayza.

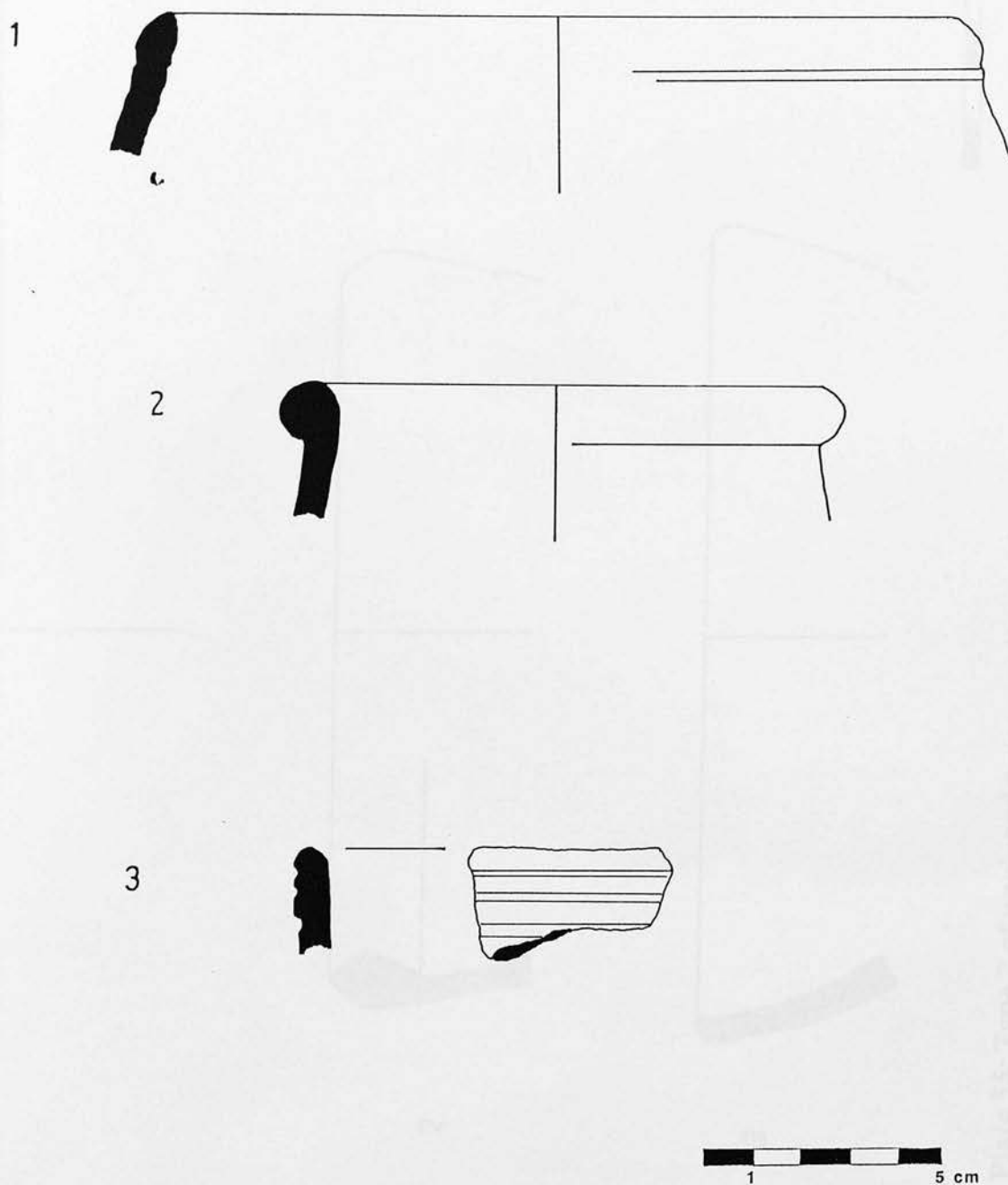


Plate 54: Type 2 of unglazed pottery collected from the surface of the as-Sayh settlement.

Note. The types of pottery sherds from as-Sayh illustrated in plates 54-62 are following the same types from al-'Ayun.

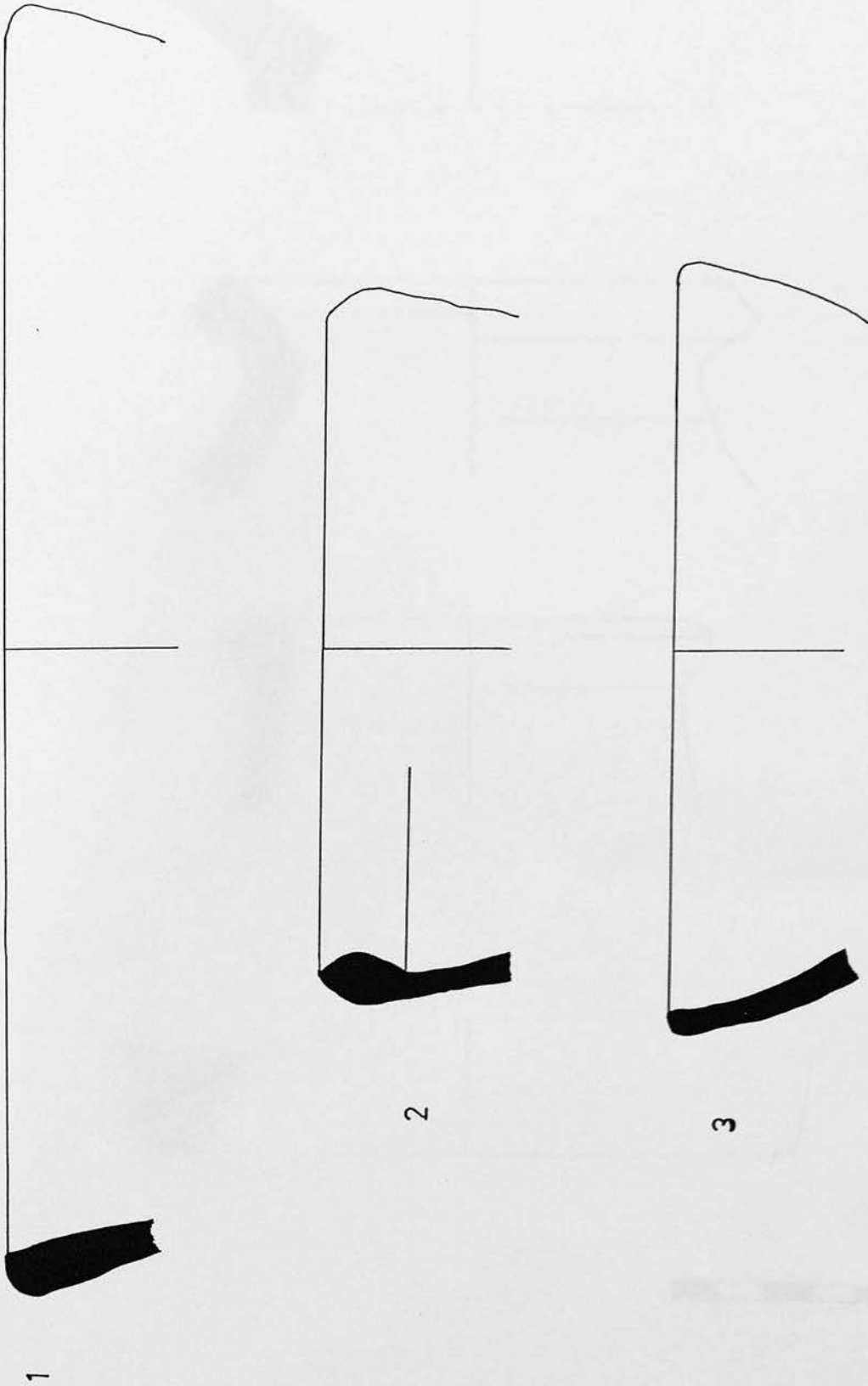
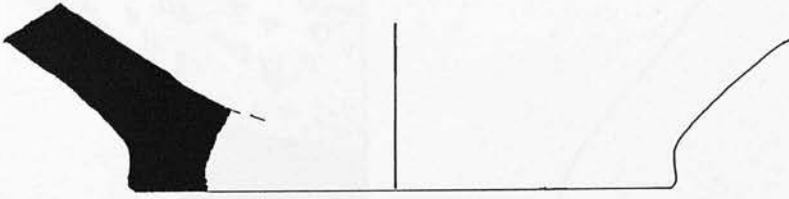
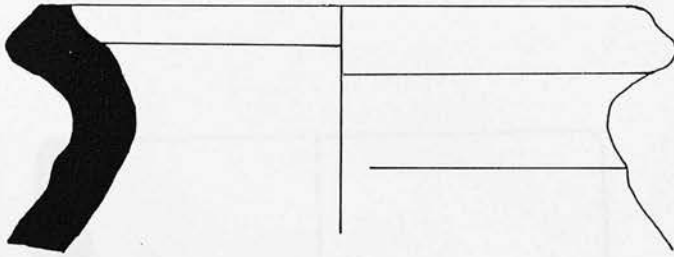


Plate 55: Type 2 of unglazed pottery collected from the surface of the
as-Sayh settlement.

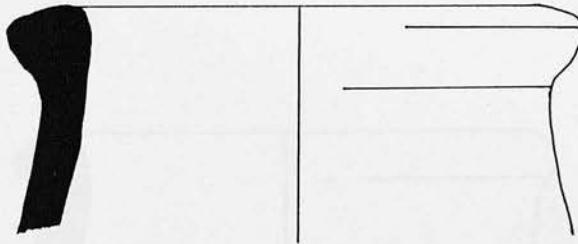
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Plate 56: Type 3 of unglazed pottery collected from the surface of the as-Sayh settlement.

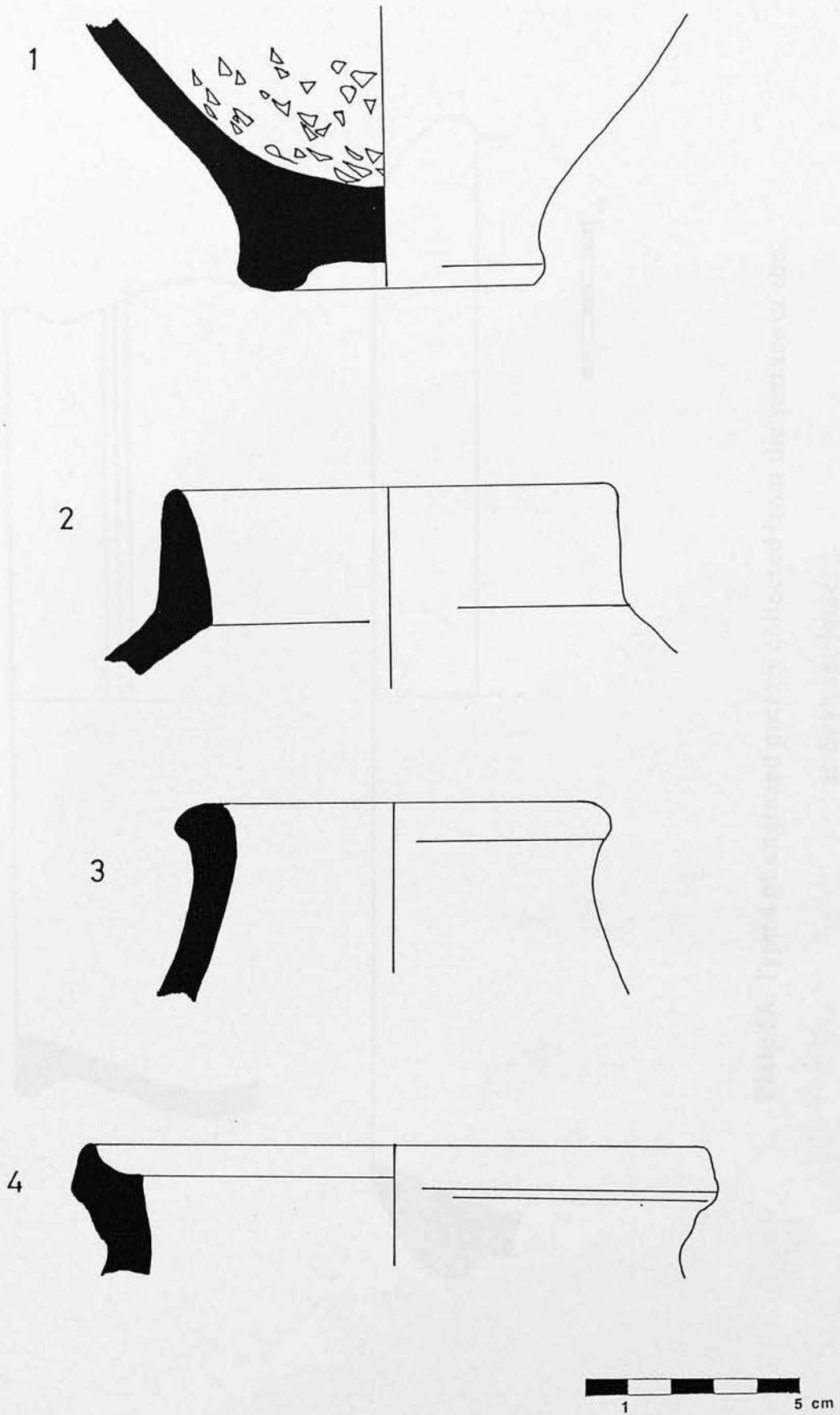


Plate 57: Type 4 of unglazed pottery collected from the surface of the as-Sayh settlement.

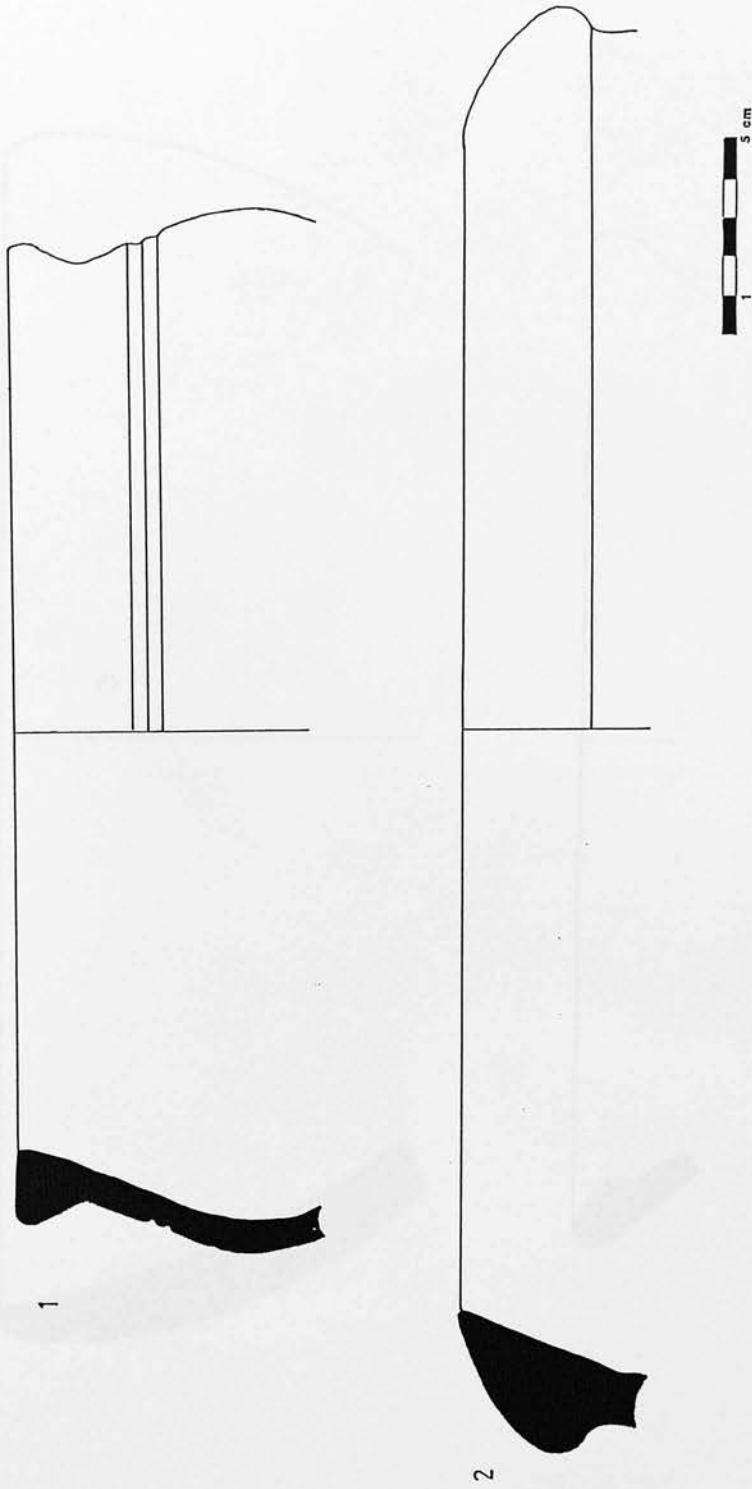


Plate 58: Type 4 of unglazed pottery collected from the surface of the as-Sayh settlement.

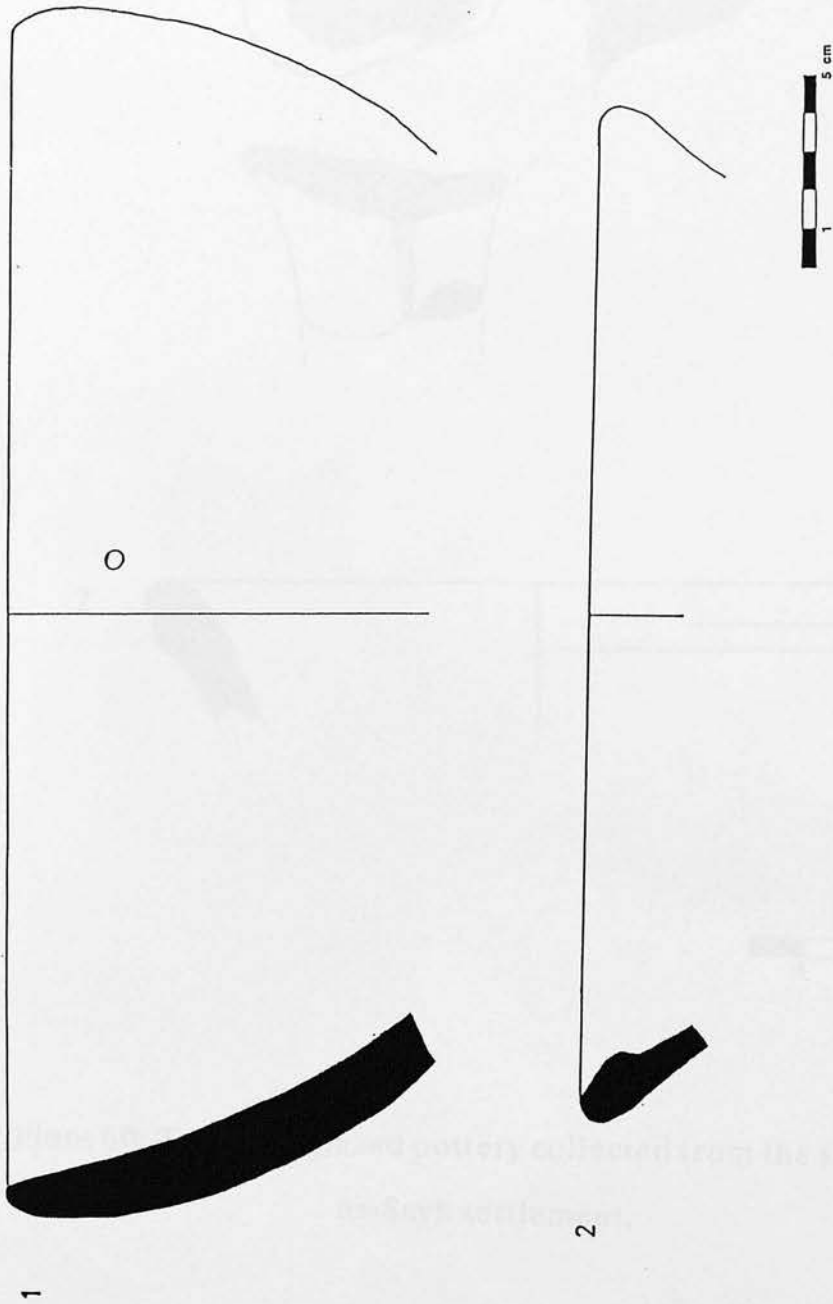


Plate 59: Type 4 of unglazed pottery collected from the surface of the
as-Sayh settlement.

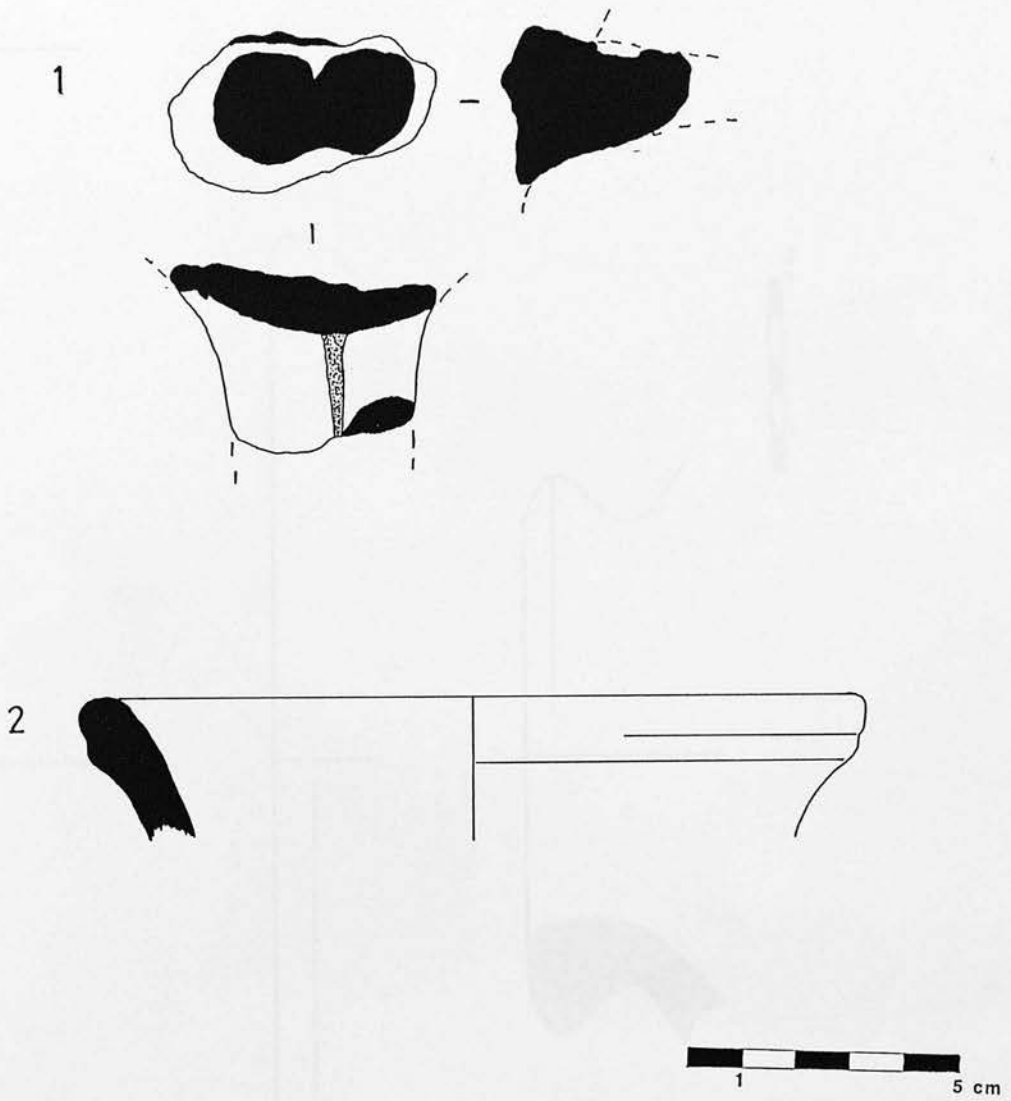


Plate 60: Type 1 of glazed pottery collected from the surface of the as-Sayh settlement.

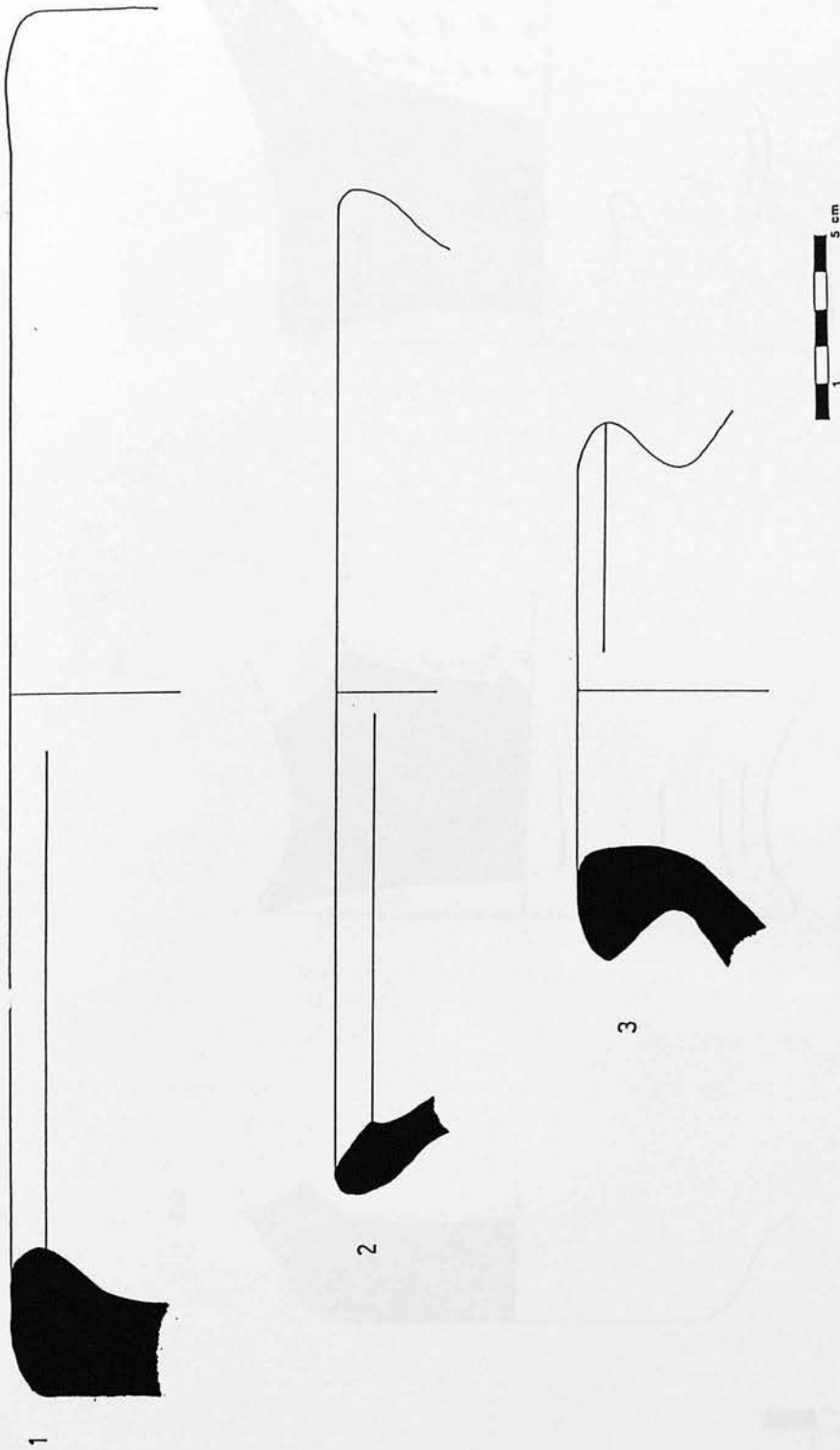


Plate 61: Type 3 of glazed pottery collected from the surface of the
as-Sayh settlement.

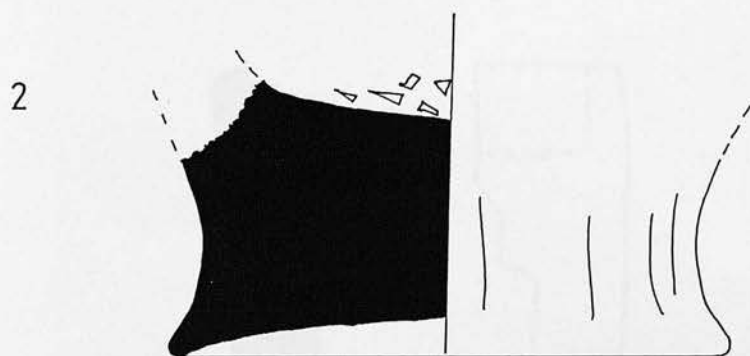
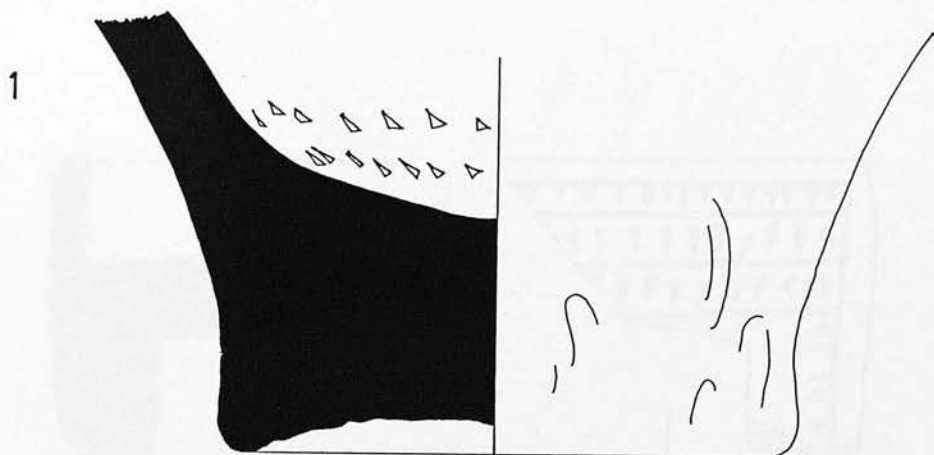


Plate 62: Type 3 of glazed pottery collected from the surface of the as-Sayh settlement.

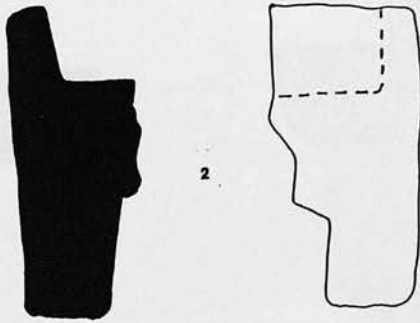
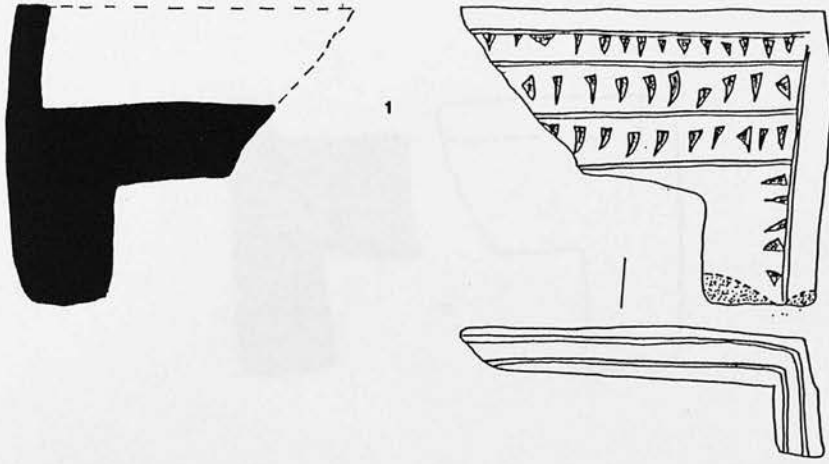


Plate 63: Incense burners.

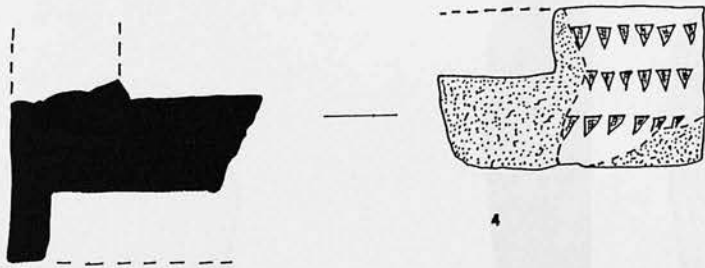
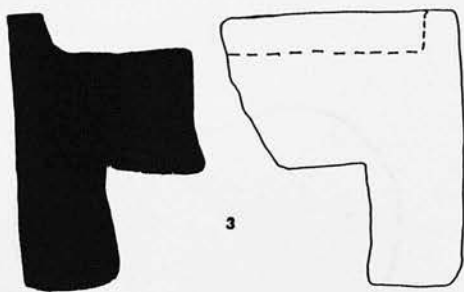
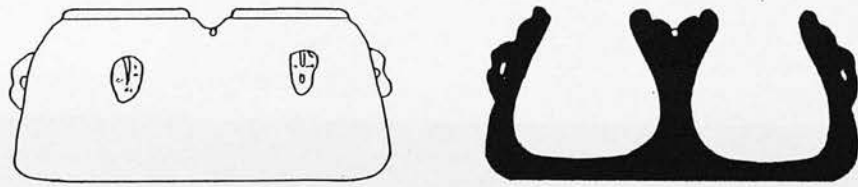
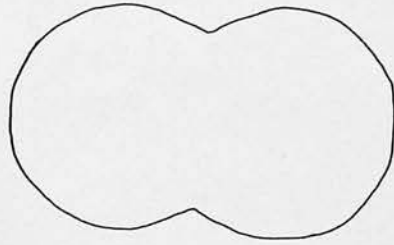


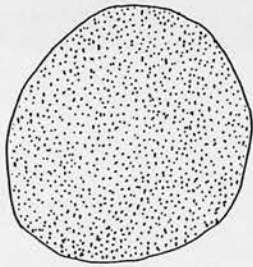
Plate 64: Incense burners.



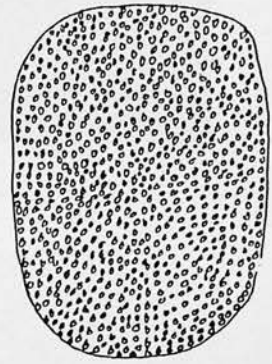
1



2



3



4

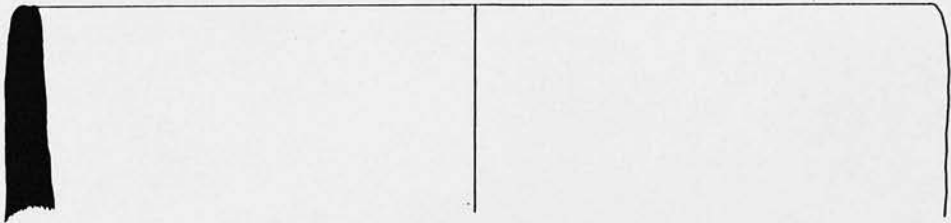


Plate 65: Stone artifacts.

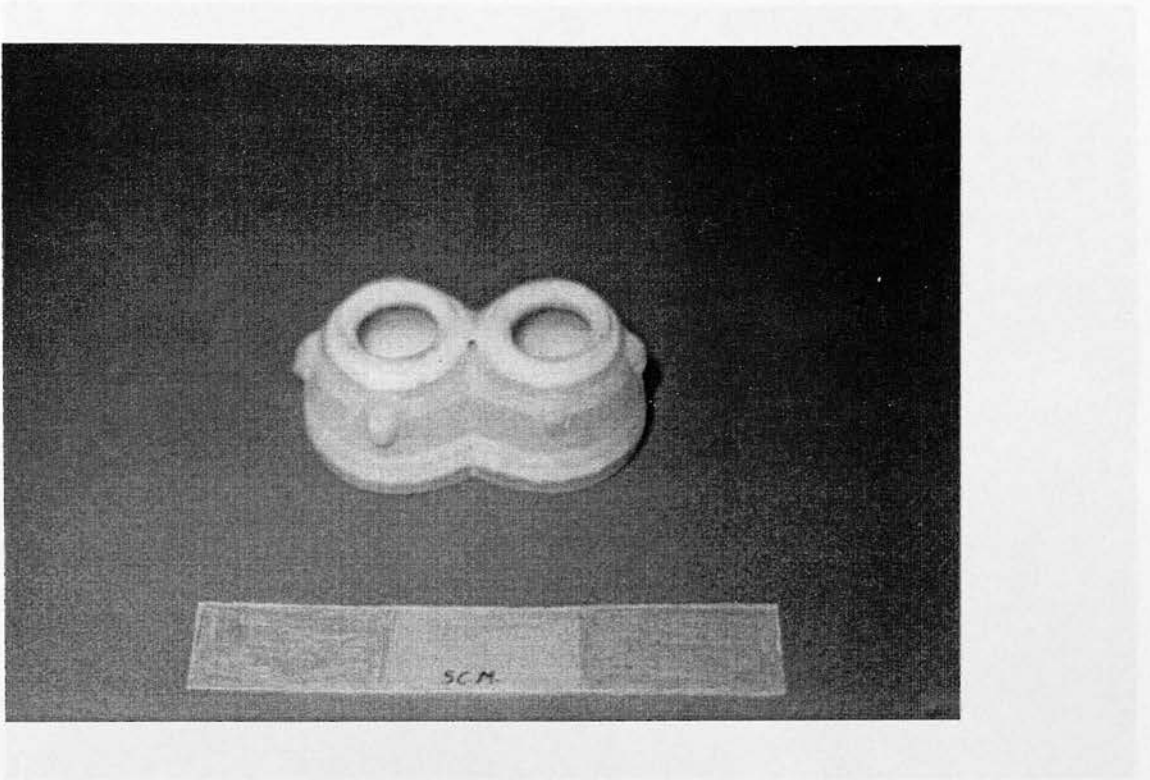


Fig. 68: A marble composite vessel.



Fig. 69: Beads from the tumulus field.

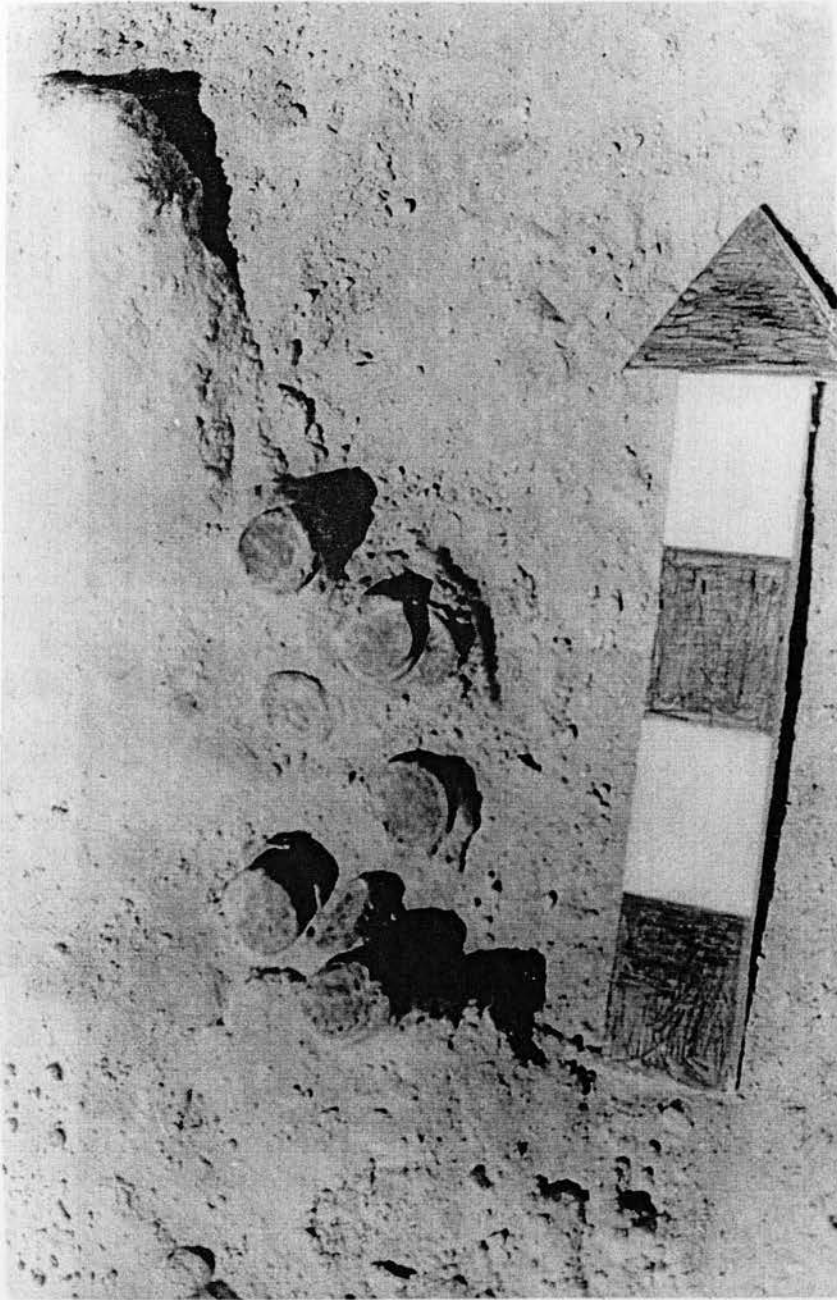
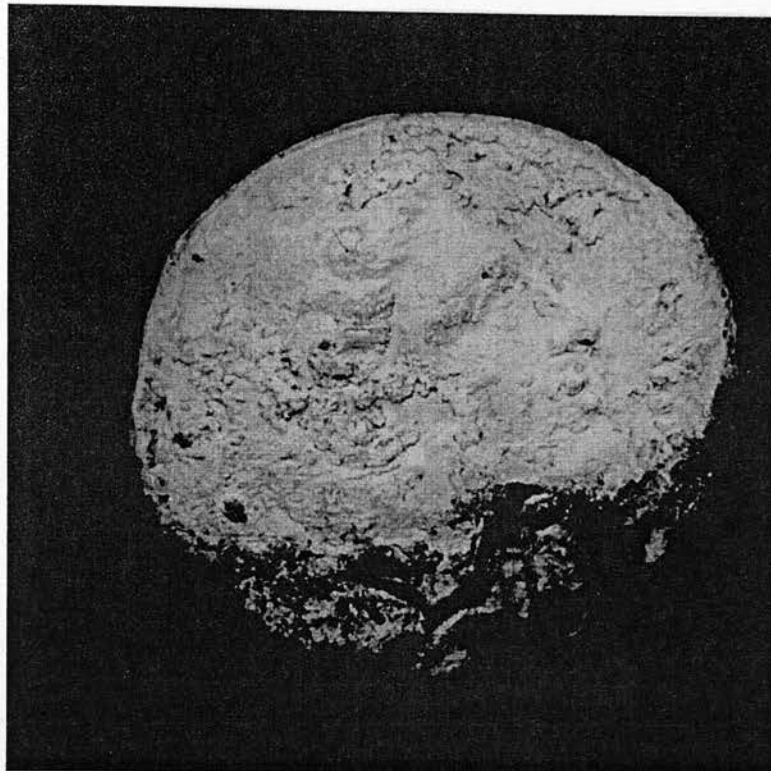


Fig. 71: Coins found in trench I of the settlement.

Fig. 72

A - Coin no. 1.

1 obverse.



2 reverse.

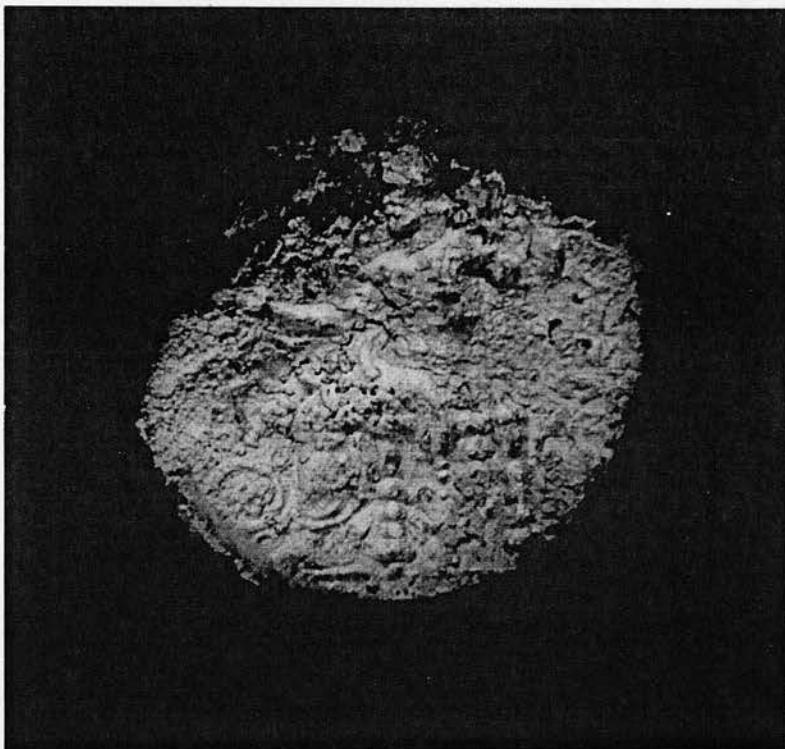


Fig. 72:

A- Coin no. 1.

1 obverse.



2 reverse.



1

0

5CM

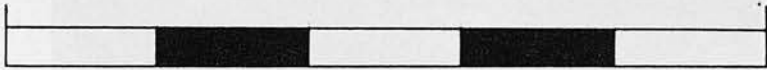
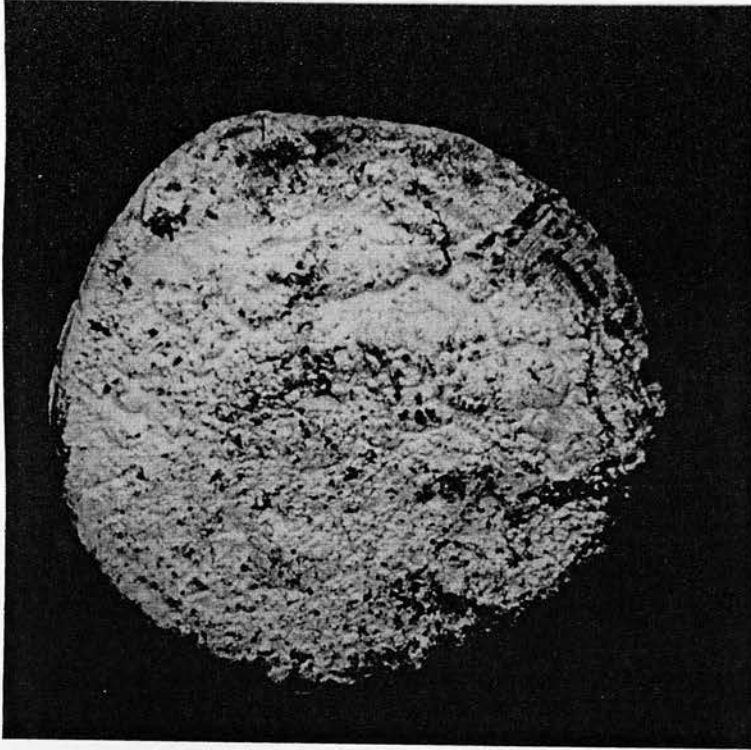


Fig. 72:

B- A drawing of coin no.1.

1 obverse.



2 reverse.



Fig. 73:

A- Coin no. 2.

1- obverse.



2- reverse.



2

0

5CM

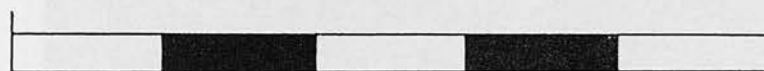
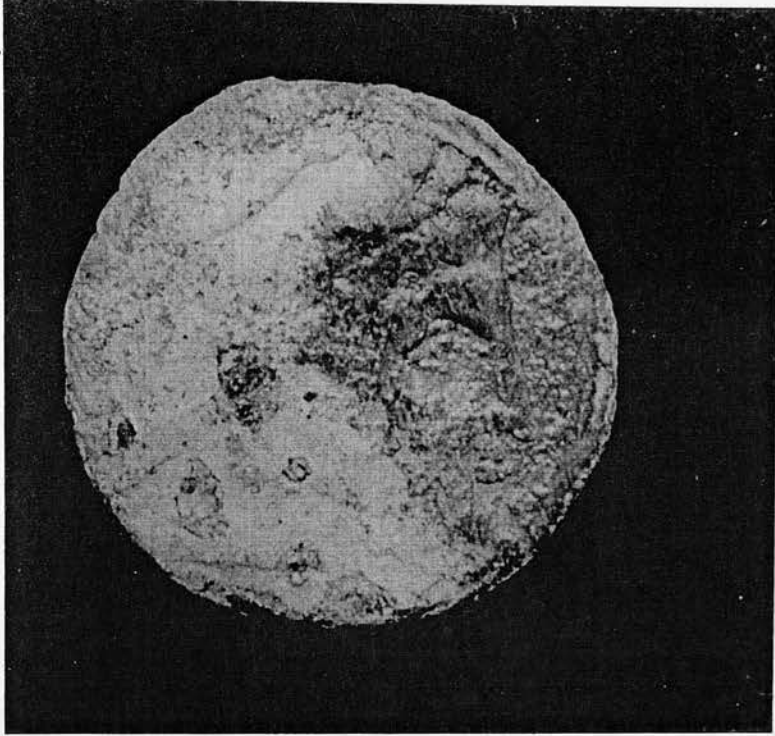


Fig. 73:

B- A drawing of coin no. 2.

1 obverse.



2 reverse.



Fig. 74:

A- Coin no. 3.

1 obverse.

2 reverse.



3

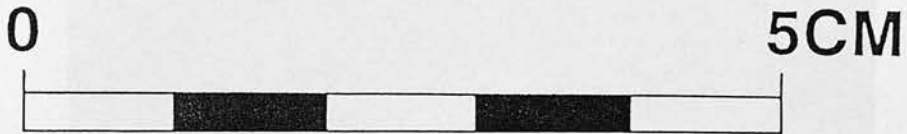
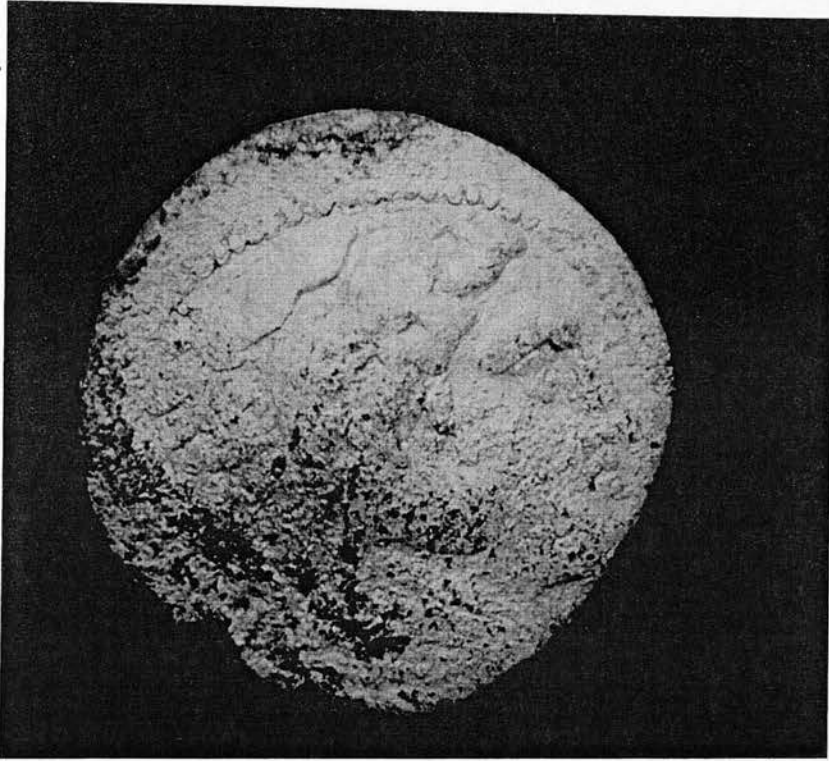


Fig. 74:

B- A drawing of coin no. 3.

1 obverse.



2 reverse.

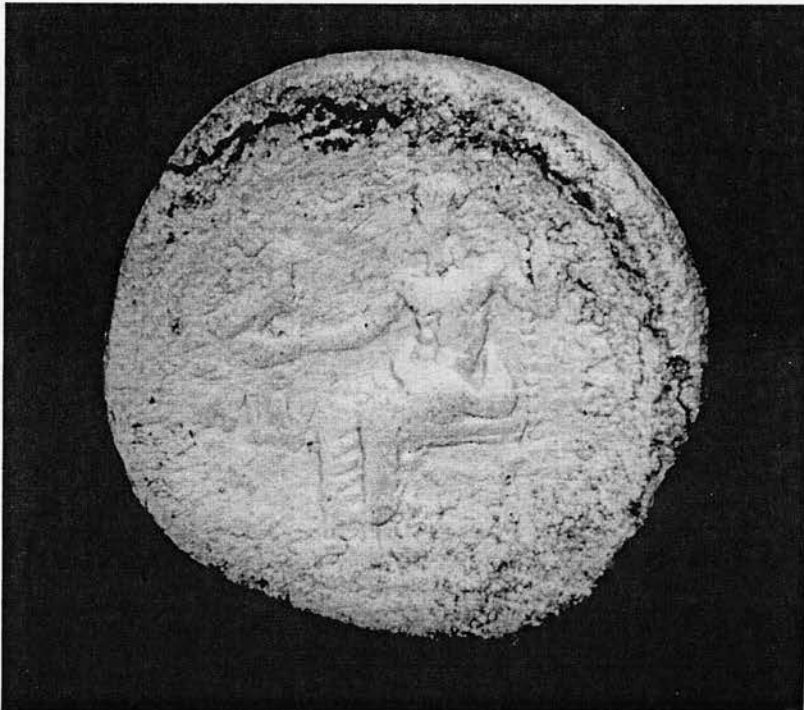


Fig. 75:

A- Coin no. 4.

1 obverse.

2 reverse.



4

0

5CM

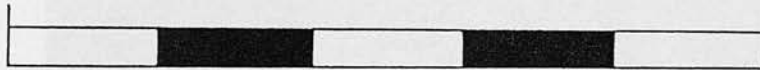
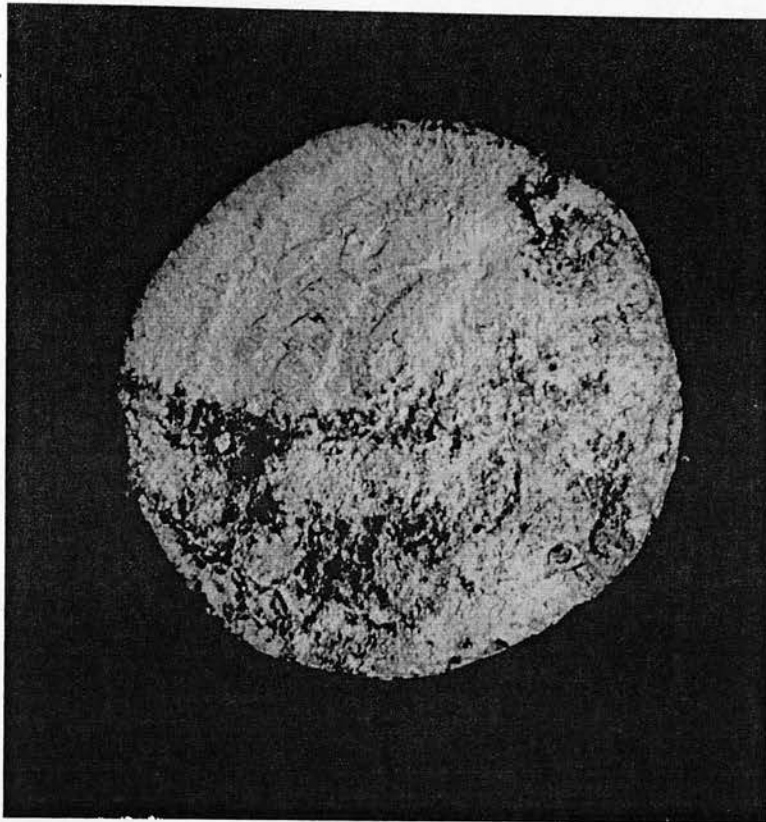


Fig. 75:
B- Coin no. 4.

1 obverse.



2 reverse.



Fig. 76:

A- Coin no. 5.

1 obverse

2 reverse.



5

0

5CM

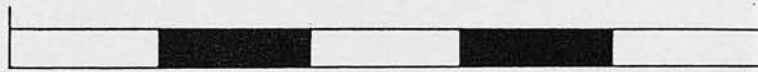
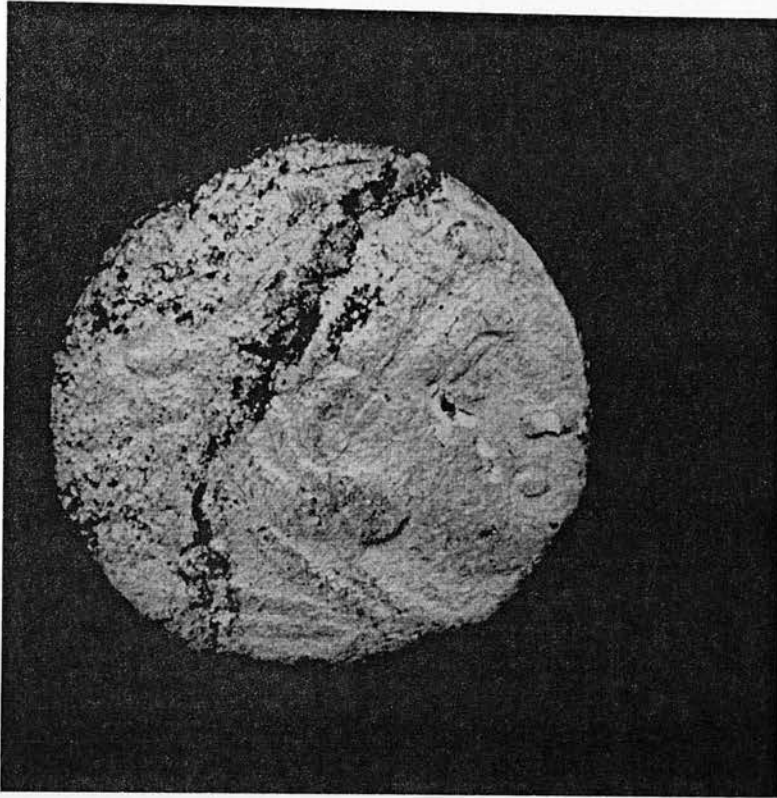


Fig. 76:

B- A drawing of coin no. 5.

1 obverse.



2 reverse.

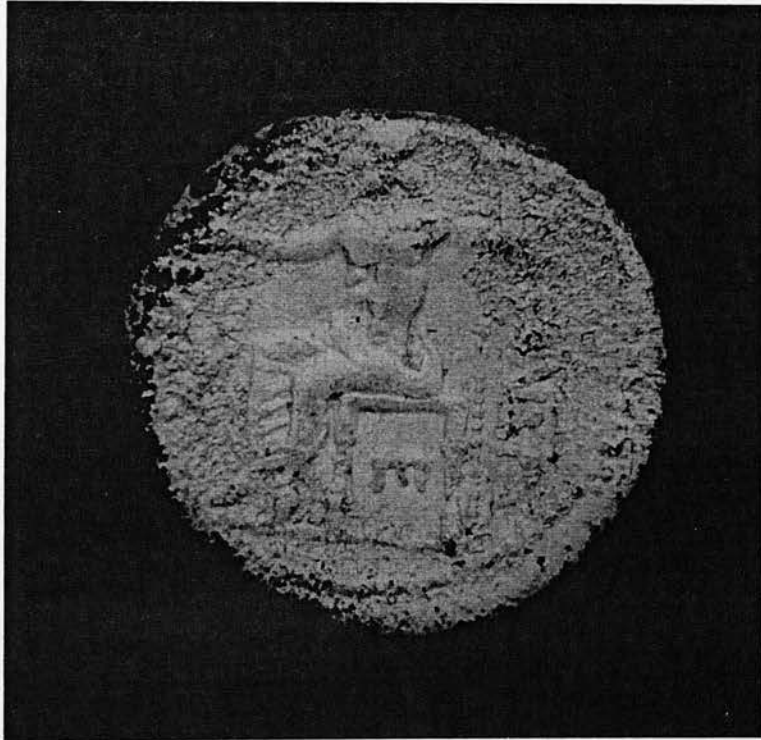


Fig. 77:

A- Coin no. 6.

1 obverse.



2 reverse.



6

0

5CM

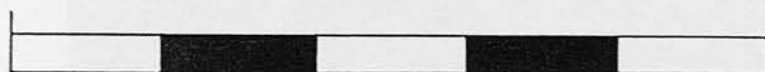
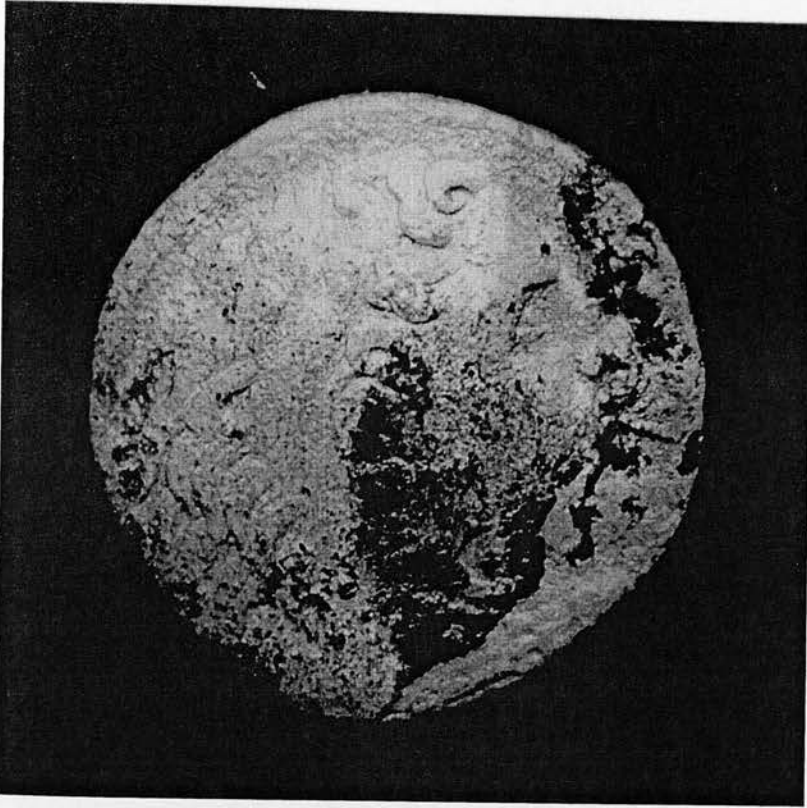


Fig. 77:

B- A drawing of coin no. 6.

1 obverse.



2 reverse.



Fig. 78:

A- Coin no. 7.

1 obverse.



2 reverse.



7

0

5CM

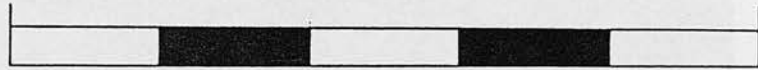


Fig. 78:

B- A drawing of coin no. 7.

1 obverse.



2 reverse.

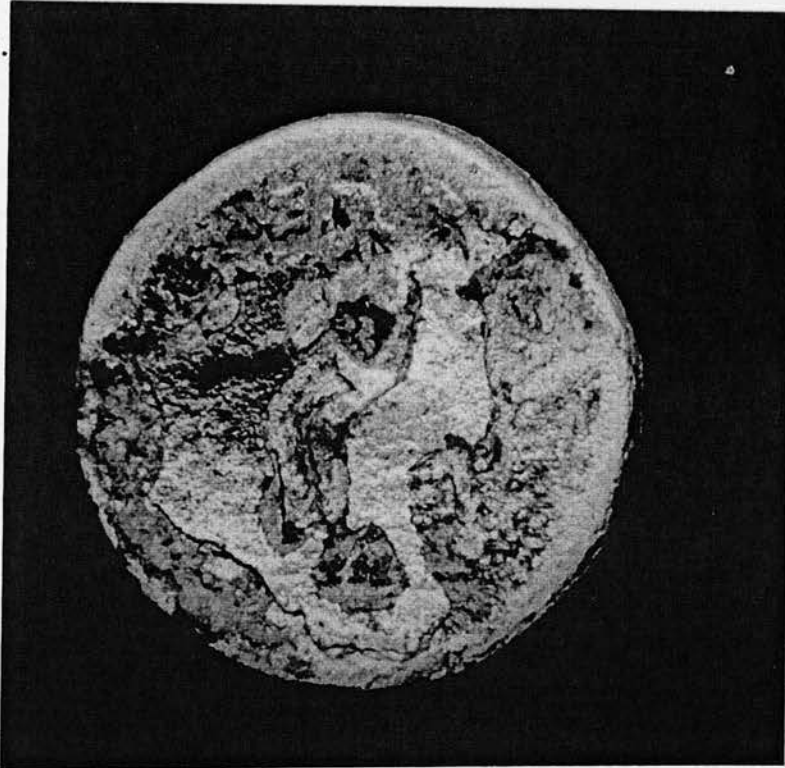


Fig. 79:

A- Coin no. 8.

1 obverse.

2 reverse.



8

0

5CM

Fig. 79:

B- A drawing of coin no. 8.

1 obverse.



2 reverse.



Fig. 80:

A- Coin no. 9.

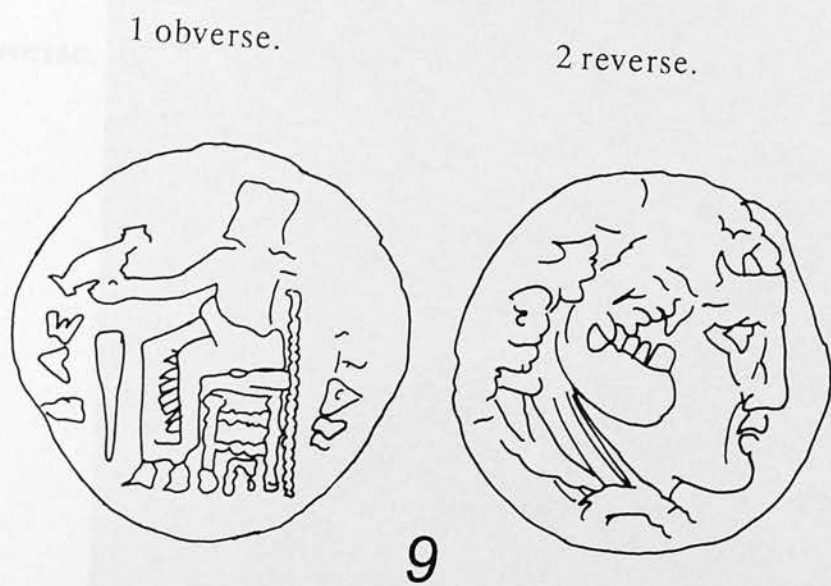


Fig. 80:
B- A drawing of coin no. 9.

1 obverse.



2 reverse.



Fig. 81:

A- Coin no. 10.

1 obverse.

2 reverse.



10

0

5CM

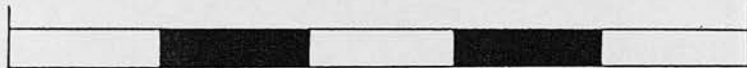
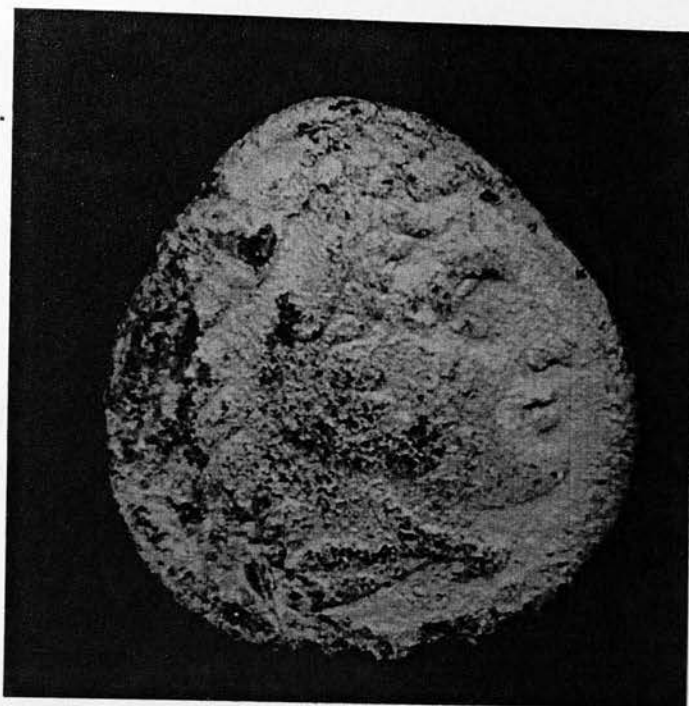


Fig. 81:

B- A drawing of coin no. 10.

1 obverse.



2 reverse.

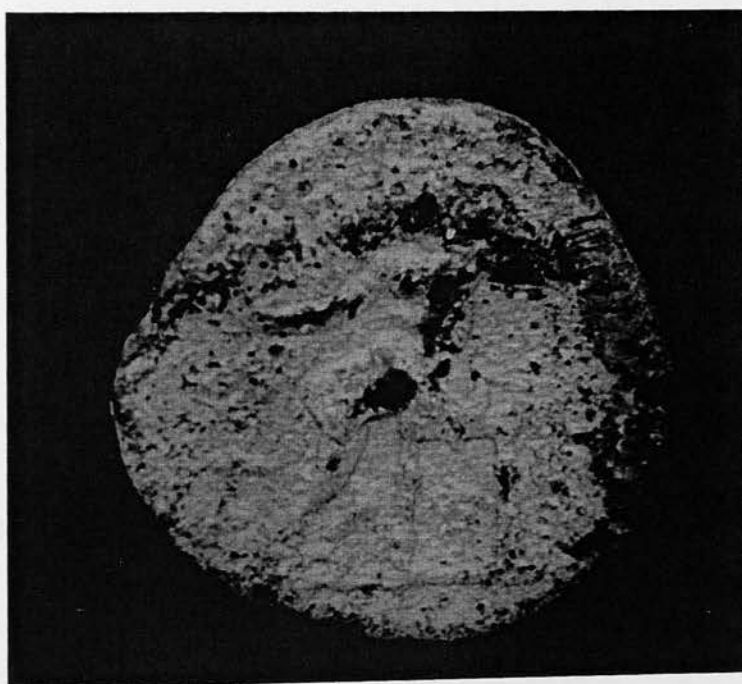


Fig. 82:

A- Coin no. 11.

1 obverse.

2 reverse.



11



0

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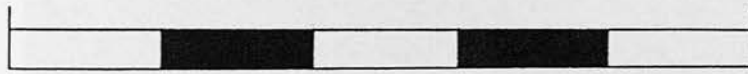
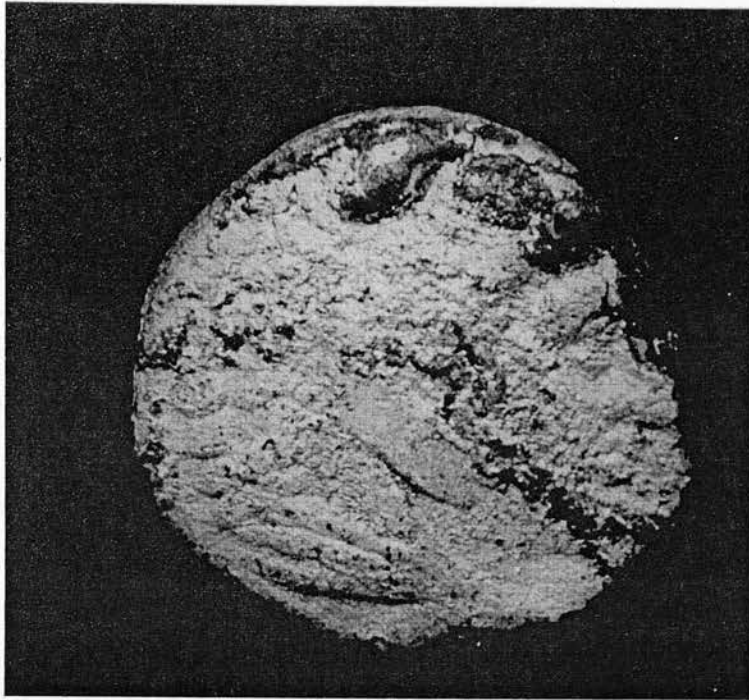


Fig. 82:

B- A drawing of coin no. 11.

1 obverse.



2 reverse.

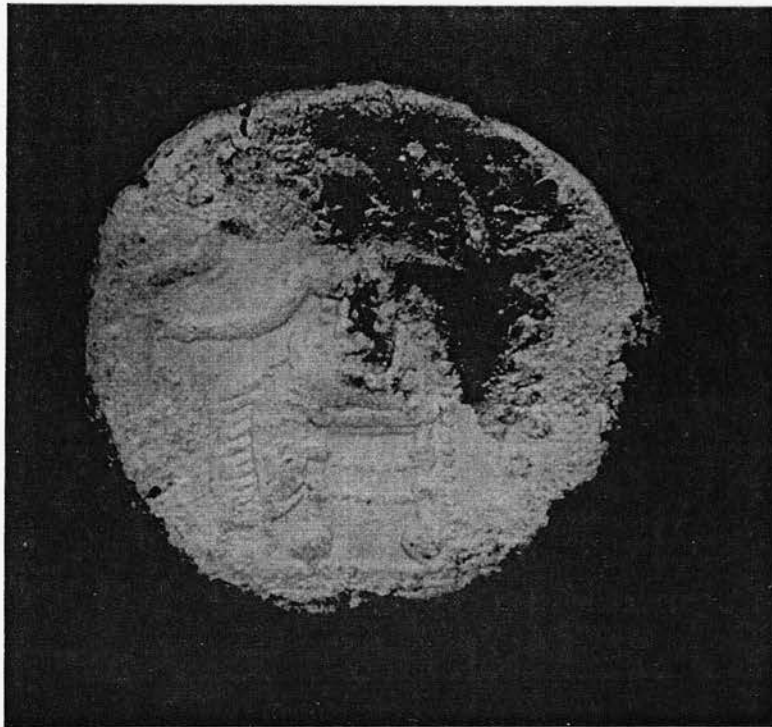


Fig. 83:

A- Coin no. 12.

1 obverse.



2 reverse.



12

0

5CM

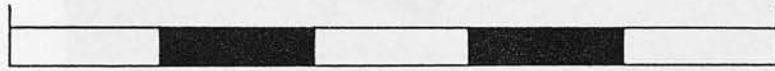
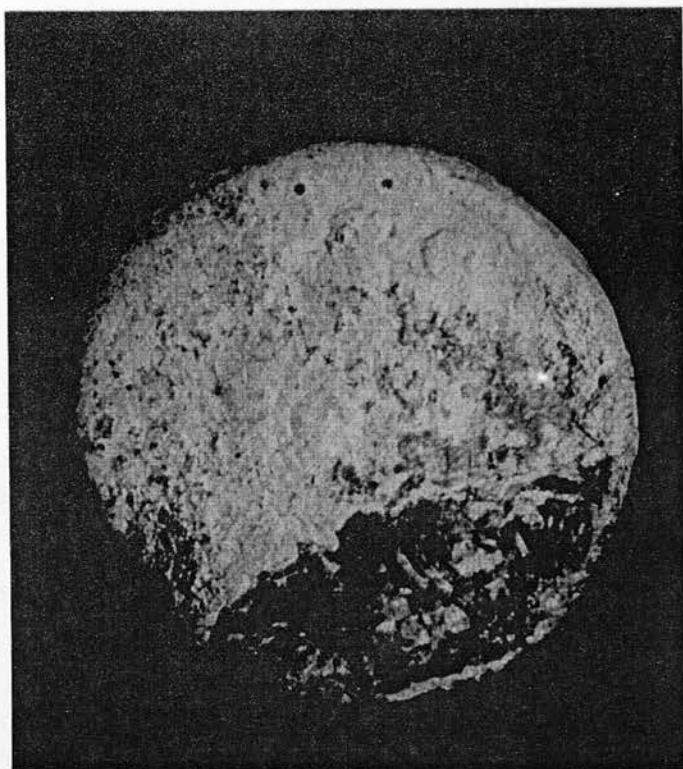


Fig. 83:

B- A drawing of coin no. 12.

1 obverse.



2 reverse.

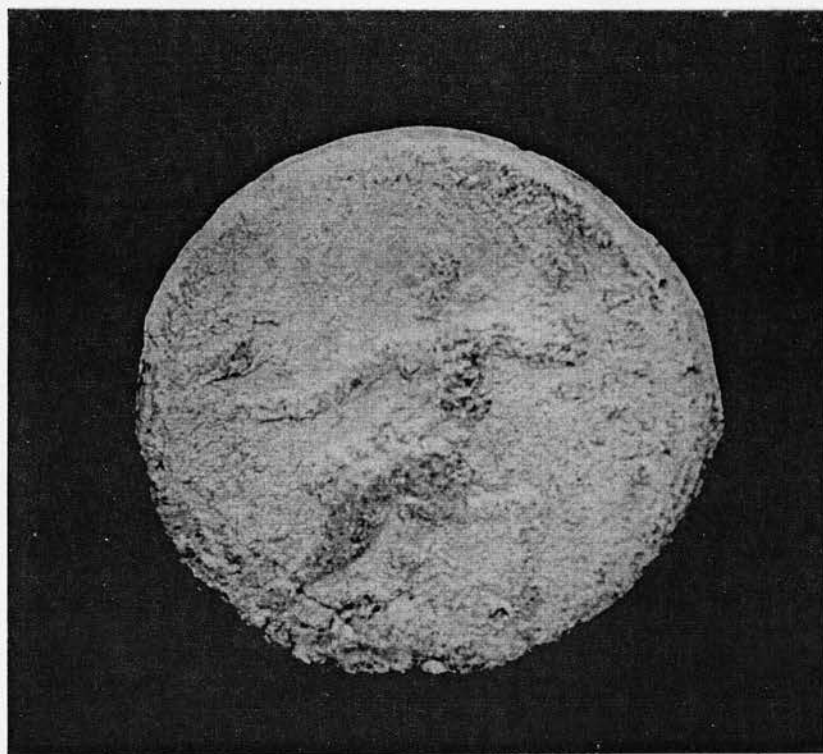


Fig. 84:

A- Coin no. 13.

1 obverse.



2 reverse.



13

0

5CM

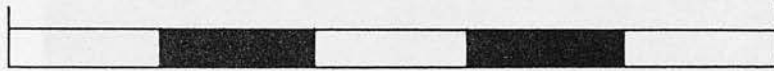


Fig. 84:

B- A drawing of coin no. 13.



Fig. 85:

A- A south Arabian seal.

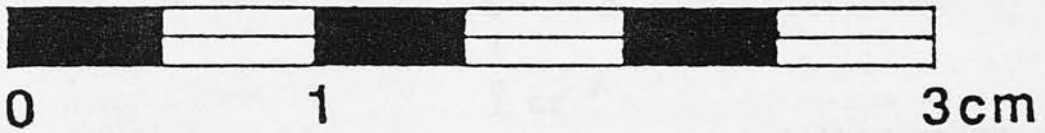
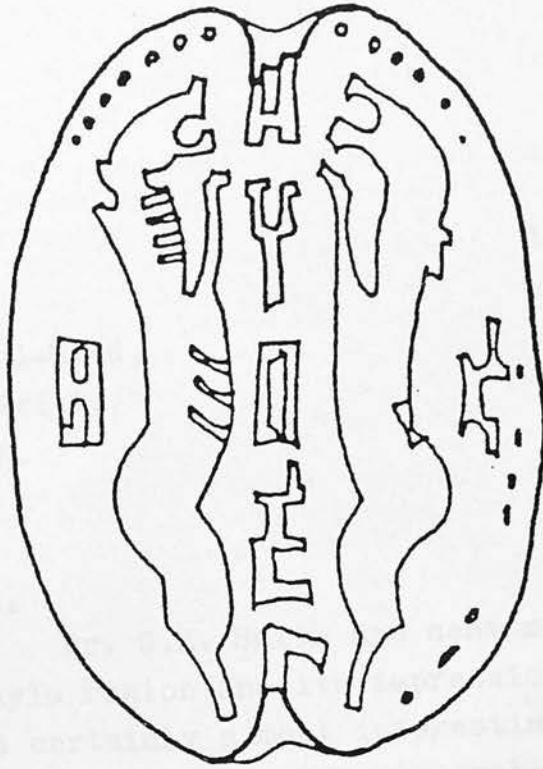


Fig. 85:

B- A drawing of the seal.

Appendix III

BURMINGTON MANOR,
SHIPSTON-ON-STOUR,
WARWICKSHIRE, CV36 5A

SHIPSTON-ON-STOUR (0608) 62483

16th. September, 1989.

Mr. Abdullah S. al-Saud,
15/5 Buccleuch Street,
Edinburgh EH8 9JN.

Dear Mr. al-Saud,

Dr. G.R. Smith has sent me your photographs of the seal from the Layla region and its impression, together with a tracing and a map. It is certainly a most interesting and puzzling piece. The script is, of course, monumental South Arabian, rather crudely carved with the top and bottom letters damaged. However, with the possible exception of the bottom letter, the reading is, I think, beyond doubt.

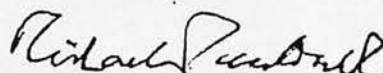
o
d
h
, b d
,
i or ?

However, it is much more difficult to say what this means. On a seal one would normally, of course, expect a name. However, neither dhb'l or dhb'' is attested as a name, and neither is a very likely formation. It is also not clear what significance the letters behind the two animals have.

I have taken the liberty of passing the photographs, tracing and map on to Professor A.F.L. Beeston of St. John's College, Oxford, who will I am sure be able to tell you much more about it than I can. I have asked him to return all the items to you direct.

With best wishes,

Yours sincerely,



M.C.A. Macdonald.

Appendix IV

St John's College Oxford OX1 3JP

23.9.89

Dear Sir,

Your enquiry about the seal found at Layla has ended up with me, having been sent by Dr G.R.Smith to Mr Michael Macdonald, and by the latter to me, and I am happy to say what I can about it.

1. The photograph numbered on the back 389016/3 is evidently the seal as we see it; 389016/2, which is a reversed image ('mirror-image') show the impression, but is not as clear as the other one.

2/ The script is Sabaeen, of a style resembling what J.Pirenne (Paléographie des inscriptions sud-arabes, vol.1, 1956) calls E3. She assigns this to a date somewhere in the 2nd century B.C. (though this must not be taken as a certainty).

3. The second letter reading down in the middle is in photograph 389016/3 very clearly Ḥ (ʾ) with its three prongs, and not a two-pronged H (ʰ) such as it seems to be in the photograph of the impression and in the tracing. But the reading of the seal itself is certainly correct, since it produces the name HB'L, attested seven times in North Arabian (Safaitic) inscriptions (see G.L.Harding, Index and Concordance of Pre-Islamic Arabian names, p.172); although it is not, so far as I can find, attested in South Arabian materials, it would be a perfectly natural form to be found there as well, and it is a possibility that it may in reality be Sabaeen. The name would be probably roughly equivalent to Habibullah.

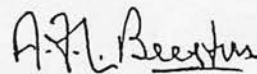
The fourth letter down is equally clearly an alif on the seal, though here again the photograph of the impression, and the tracing, lack clarity.

4. On each side of the seal is a symbol which does not appear to be simply an alphabetic letter, but perhaps rather a monogram, since there is in the photograph 389016/3 something inscribed inside both symbols. Unfortunately it is impossible to guess what it would all add up to; the epigraphic monograms are often extremely difficult to elucidate.

5. The first letter of the centre name is of course dhal, commonly used in the pre-Islamic inscriptions to introduce a clan-name.

6. Besides the dating, which suggestively evidences contacts, probably of a trading nature, along the route from Qaryat al-Fau to the Gulf coast in the early centuries B.C., the principal interest of the seal lies in the two animals depicted. Someone expert in early seal iconography might be able to identify what these are; I fear I cannot.

Yours sincerely,



A.F.L. Beeston

Your materials are returned herewith.

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