

THE LATE CHALCOLITHIC PERIOD IN THE TELL LEILAN REGION:  
A REPORT ON THE CERAMIC MATERIAL OF THE 1995 SURVEY \*

Anna Brustolon – Elena Rova

*1. Introduction*

The present contribution provides a first evaluation of settlement dynamics in the Tell Leilan area of north-eastern Syria during the fourth millennium BC based on the analysis — carried out by the first author in the framework of her MA thesis<sup>1</sup> — of the Late Chalcolithic ceramic material collected during the 1995 season of the Leilan regional survey.<sup>2</sup> Data from field identifications of the 1997-collected material presently stored at the Leilan Project expedition house at Qahtaniya (Syria), whose study is planned for the next future, as well as data derived from published reports of the previous survey seasons (Weiss 1986;

\* A shorter version of this article was presented at the 5th International Congress on the Archaeology of the Ancient Near East (ICAANE), Madrid, 3-8 April, 2006, and is presently in press in this conference's proceedings. This study was carried out in the framework of the COFIN 2001-2003 project "The Upper Khabur region: routes, itineraries and settlements between the 3rd and the 2nd millennium BC".

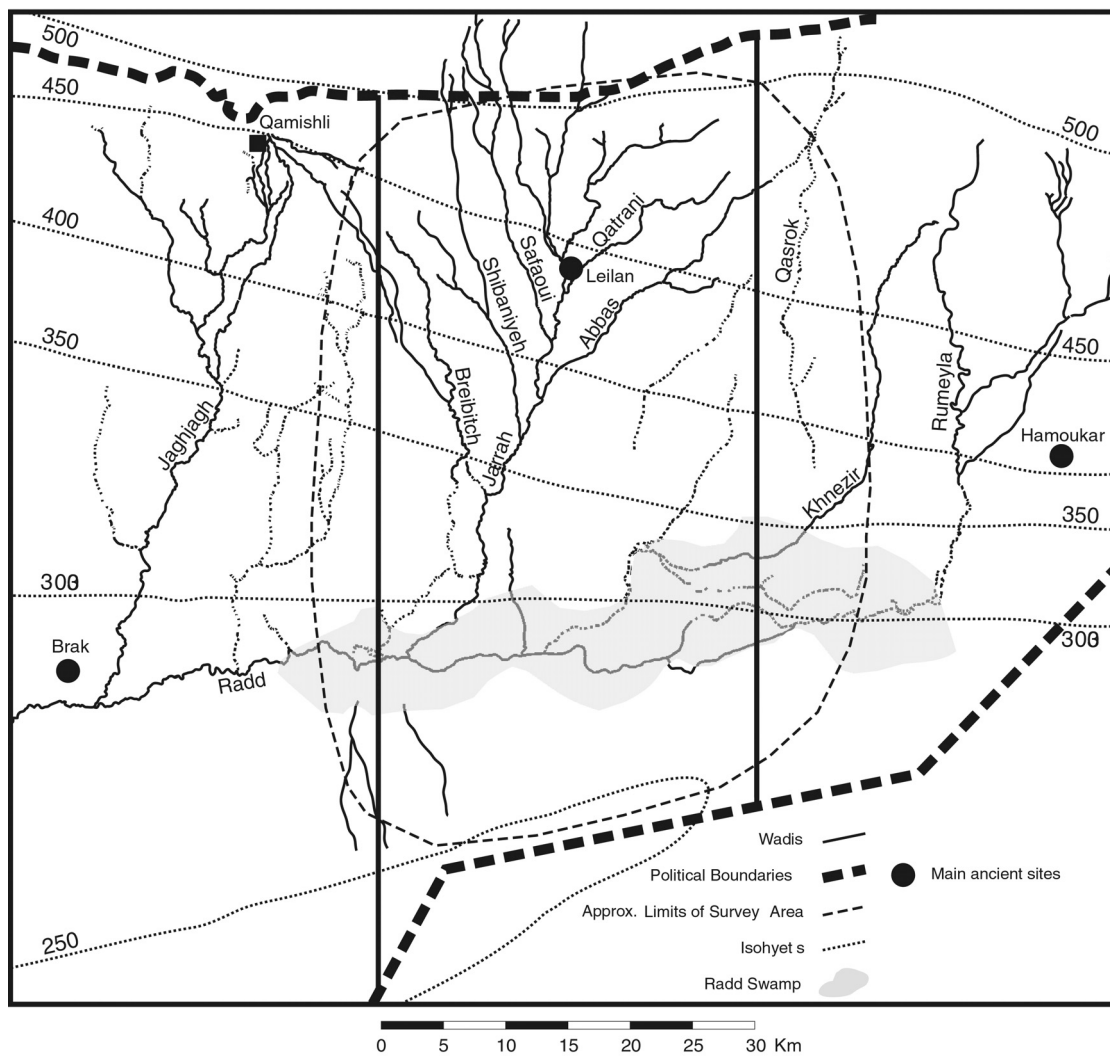
1. Brustolon 2005.

2. The Leilan regional survey project directed by Prof. Harvey Weiss of Yale University with the aim of analysing the settlement development in the region from the pre-pottery Neolithic period (ninth millennium BC) to the Late Islamic period (nineteenth century AD), has developed over several seasons of fieldwork (1984, 1987, 1995 and 1997) (Weiss 1986; Weiss 1997, 128; Stein – Wattenmaker 2003). The study of the ceramic material from the 1995 and 1997 campaigns is under way in the framework of a cooperation between the University of Venice, under the responsibility of Prof. Elena Rova, and the Yale University Tell Leilan project. The analysis of the 1995 material has been completed for the Late Chalcolithic (Brustolon 2005), Middle Assyrian-Mitannian (Donella 2002), Neo Assyrian-Achaemenid (Gavagnin 2006), Hellenistic-Sasanian (De Aloe 2003, in press), and Islamic periods (Vezzoli 2004, in press), while the Ceramic Neolithic-Chalcolithic and the third millennium BC material of the same campaign are still in the course of being processed. For the Leilan I (= Old Assyrian) period, see Risvet 2005.

Stein – Wattenmaker 2003; Weiss 2003) have been taken into consideration only as integrative sources of information, since they could not yet be verified by the authors.



Fig. 1. The Tell Leilan Survey area.



The study area (Fig. 1) consists of a 30 km wide transect from the Turkish border to the North to the Iraqi frontier to the South, and corresponds to a total surface of ca 1900 sq km.<sup>3</sup> During the different stages of the survey, a total of 327 sites were visited (Fig. 2). Survey

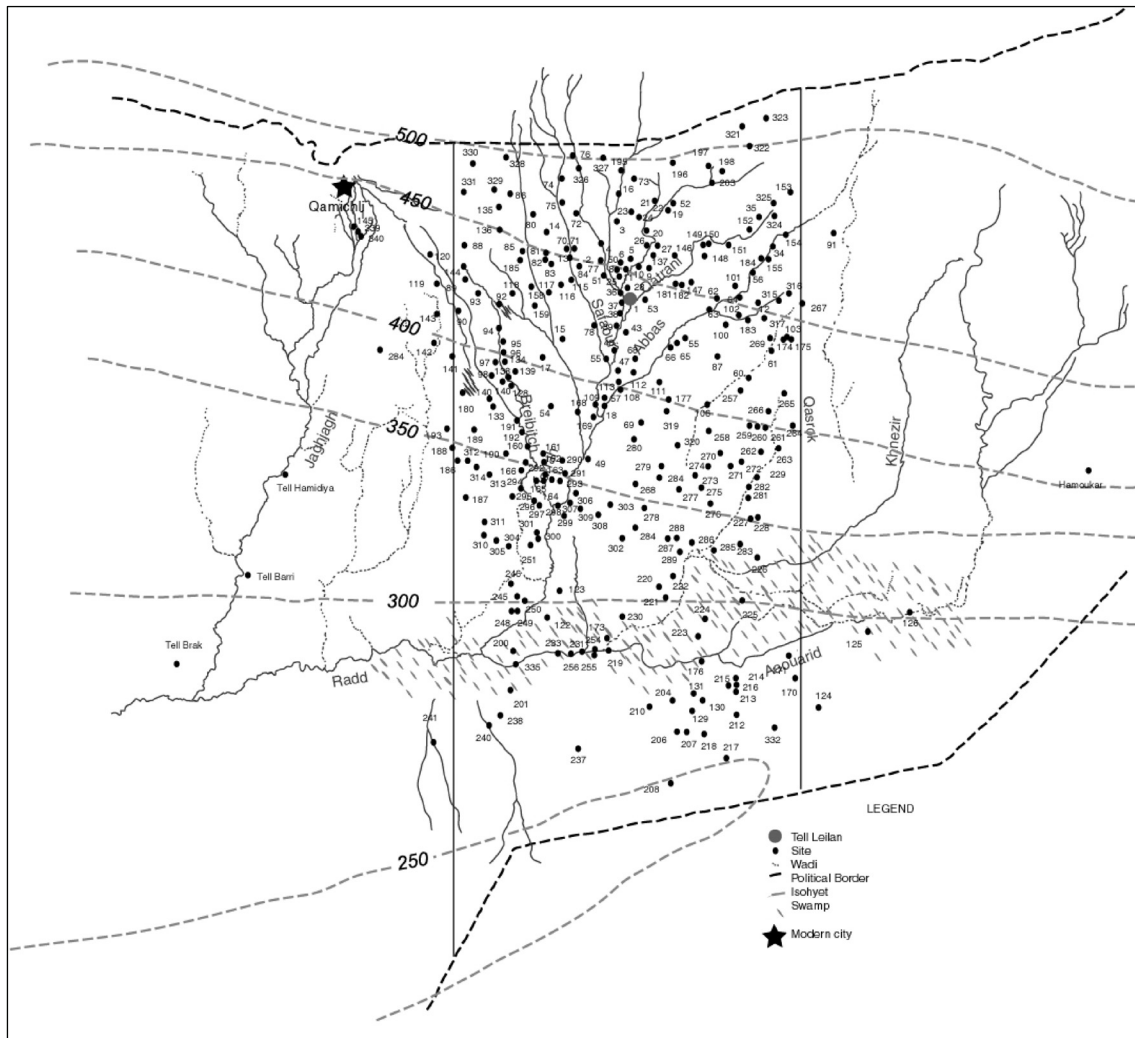


Fig. 2. The Tell Leilan Survey area with location of the surveyed sites.

Survey methodology has been presented elsewhere,<sup>4</sup> and will not be dealt with in detail here: suffice it to remind that sites were identified and located using a combination of information from previous surveys (Meijer 1986; Lyonnet 1992), local informants, available

3. The survey area originally extended for 15 km all around the site of Leilan but was later (1995) extended in southern direction in order to include the Wadi Radd area to the North of the Iraqi border.
4. Ristvet 2002; for further details see also Ristvet 2005, 35-44.

maps of the area,<sup>5</sup> and satellite imagery.<sup>6</sup> Larger sites were laser-mapped and divided into different collecting units according to their topography.

## 2. *The Late Chalcolithic period in northern Mesopotamia*

### 2.1 Historical Developments

During the Late Chalcolithic period, a long lapse of time which in rough absolute dates corresponds to the fourth millennium BC,<sup>7</sup> deep changes occur in the socio-political organisation of the Mesopotamian communities. In the South the most important site is Uruk, whose name has traditionally been used to designate the whole period. In the course of the fourth millennium BC the site of Uruk expands to reach, by the end of the period, an extension of 250 ha (Nissen 2001). More in general, in the southern Mesopotamian plains, settlements develop according to a multi-tiered network of villages, small and large towns and large urban centers, the largest among them being Uruk itself (Adams 1981, 52-94). The management of this complex system requires a central organisation able to coordinate a large range of activities, from the production, centralisation and distribution of agricultural surplus, to the regulation of the work of specialised craftsmen, to the management of internal conflicts within a highly hierarchical society, and the defence from external enemies, a process which culminates with the appearance of the first early states in the region (Algaze 2001).

In northern Mesopotamia, similar phenomena of settlement nucleation and increasing social stratification — exemplified by the presence, e.g., of exceptionally rich burial goods — characterise the earlier part of the period, whose material culture shows strong local features (Frangipane 1993; Rothman 1993, 2002b). Later on, however, indigenous societies seem to become increasingly exposed to southern influences, including the settling in the region of elements of southern origins (the so-called “Uruk colonies”). These influences culminate, by the latest part of the period, with the adoption by a number of northern centres of a southern material culture (Schwartz 2001; Stein 2001), and with the appearance elsewhere of assemblages characterised by different degrees of hybridisation (Helwing 2000).

Although the relative and absolute chronology of the period is still to a certain degree unsure (see *infra*), it has become increasingly clear during the last ten years that the introduction in the North of southern cultural elements follows several centuries of local post-

5. In particular, use was made of both the Qamishli–Sinjar 1:200.000 map and the Syrian 1:50.000 maps (see Ristvet 2005, 35-42, fn. 26).
6. LANDSAT TM, SPOT, and CORONA images were used in the course of the different survey seasons (*ibid.*).
7. As a matter of fact, as clearly shown in Hole 1994, 122, available calibrated 14C dates suggest that the Late Chalcolithic period must have actually extended over more than one thousand years.

Ubaid developments, characterised by a high degree of indigenous social complexity, and cannot therefore be considered as the primary stimulus toward urbanisation in the area.

The end of the Late Chalcolithic period, around 3100 BC, witnesses to a number of deep, and apparently rather abrupt changes in northern Mesopotamia and in its relations with the South. The “Uruk colonies” are abandoned and the cultural *koinè* of the Late Uruk period loosens, to give rise to different regional developments everywhere in the region. Settlement distribution appears to be characterised by a reversal of the previous trend toward centralisation and nucleation, showing a decrease both in the number of settlements and in their dimensions. Different explanations have been offered for this crisis (for a recent synthesis and relevant literature, see Butterlin 2003), which may ultimately be due to the co-occurrence of various factors: political changes in southern Mesopotamia, population movements in the northern periphery, and finally a short but severe drought (Weiss – Bradley 2001; Weiss 2003, 606-609).

## 2.2 Chronology and periodisation

The interpretation, in historical terms, of Late Chalcolithic developments in northern Mesopotamia and of the southern presence in the area heavily depends on the period’s relative and absolute chronology and internal periodisation. As a matter of facts, the precise date of the local versus southern sites and assemblages, and the length of the different phases involved, just to give two examples, are of paramount importance in establishing the endogenous or exogenous origin of new developments and in deciding whether these represent the outcome of long-term contacts or of a rapid southern expansion.

Until recently, fourth millennium BC chronology has been highly controversial, partially due to the effects of some long-lasting errors and misunderstandings, the most notable of which is the traditional synchronisation of strata XIA-VIIIIC-B at Tepe Gawra — with different internal subdivisions — with the southern Early/Middle/Late Uruk-Jemdet Nasr sequence, with VIIIA possibly extending into ED I (see Rova 1999-2000, 176). The infusion, during the last decades, of new data from recent excavations in Syria and Turkey stimulated different scholars to attempt, in the course of the 1990s, a preliminary revision of the available evidence, in the perspective of synchronising different regional chronologies (among others, Gut 1995; Trufelli 1997; Rova 1999-2000). These individual efforts were followed by three international congresses — at Santa Fe (Rothman 2001), Manchester (Postgate 2002) and respectively Istanbul (Marro – Hauptmann 2000) — entirely or partially devoted to this precise topic.

The periodisation first proposed during the Santa Fe meeting organised by Mitchell Rothman (Rothman 2001) has in the meanwhile been accepted, with slight variants, by the majority of the scholars working in the field. The ultimate aim of the Santa Fe group was to produce a purely chronological periodisation. This should allow scholars to compare regional chronologies, in order to better analyse inter-regional contacts, which represent one of the main features of the “Uruk phenomenon”. The proposed periodisation — hence-

forward, “SAR” — arises from a combination of absolute 14C dates from different sites (for a survey of the available evidence, see Wright – Rupley 2001) and of relative regional chronologies derived from the synchronisation of individual sites’ sequences on the basis of their material culture, and especially of their ceramic assemblages. In order to avoid the frequent misunderstanding between “Uruk” as a chronological marker and as a cultural designation, it was decided not to make use of this term, but to adopt the more neutral designation of “Late Chalcolithic” (LC) for the whole period, and to divide it into five successive phases (LC 1-5).

Renate Gut does not fully agree with this system, since, according to her opinion, it does not take into due account regional and sub-regional variety, and thus disguises the presence and chronological meaning of phases which may not be present at every site. As for northern Iraq, on the basis of her re-examination of the old excavations at Nineveh and Tepe Gawra (Gut 1995), she proposes a six-fold subdivision, into “Gawra” A to B and “Uruk” A to D (see also Gut 2002). The Gawra period would represent a purely local phenomenon, antedating any contact of the northern sites with the South, whereas the following phases would all be characterised by different degrees of southern influence.

It must be remarked that the upper and lower limits of the Santa Fe and of Gut’s periodisations do not coincide completely, since the LC 1 period antedates Gut’s Gawra period (it could rather correspond to her *End-‘Obed Stufe*), while Gut’s Uruk D (*Enduruk*, or Terminal Uruk) includes post-LC 5 late fourth-early third millennium BC developments, like the “Mohammed ‘Arab Late Uruk” of the Eski Mosul region. A careful comparison of the two systems allows the following equivalences: LC1 = End-‘Obed; LC 2 = Gawra A-B, LC 3 = Uruk A ?, LC 4 = Uruk B, LC 5 = Uruk C — the Uruk D-Enduruk period being equivalent, as we just said, to the beginning of the Early Bronze Age (Postgate 2002, 51). Table 1 shows the equivalence of the SAR periodisation (with its approximate absolute dates) with different chronological schemes used for Late Chalcolithic northern Mesopotamia,<sup>8</sup> and with the stratigraphical sequence of the main sites of the region (Leilan,<sup>9</sup> Brak,<sup>10</sup> Nineveh<sup>11</sup> and Hacinebi<sup>12</sup>), on which the present contribution is based.<sup>13</sup>

The chronological limits of the present study correspond to those of LC 1-5 (i.e., from post-Ubaid to Late Uruk<sup>14</sup>). Our aim was, however, not only to distinguish, on the basis of the ceramic types actually attested in the survey area, as many sub-phases as possible in order to reconstruct the pattern of settlement development in the course of time, but also

8. Notably, those by R.V. Gut (1995) and by J. Oates (2002).

9. Schwartz 1988.

10. Oates 2002; Matthews 2003, with previous literature.

11. Gut 1995, 2002.

12. Pearce 2000.

13. For further details, see also Rova 1999-2000, 175-199.

14. Terminal Uruk types will not be considered. These, as far as present in the survey area, will be studied together with the third millennium BC material, whose analysis is presently in progress by Monica Ar-rivabeni of the University of Venice.

to analyse the interaction of different but contemporary (northern/local *vs.* southern/exogenous) cultural assemblages.

APPROX. ABSOLUTE DATES BC	SAR	GUT	OATES	LEILAN	BRAK	NINEVEH	HACINEBI	GROUP OF DIAGNOSTICS
3100 — 3300	LC 5	Late Uruk	Late Uruk		TW11-12	-31-20 Nineveh		6
3300 — 3500	LC 4	Uruk B	Southern Middle Uruk	← IV	TW 13 TW 14-16 HS 1, 5-1	-37-31 Nineveh 3	B2 B1	5 (4) 4
3500 — 3700	LC 3	Uruk A	Northern Middle Uruk	V →	HS1, 6 TW 17-16? CH 9-12	-45-37 Nineveh 3	A	4 3
3700 — 4000	LC 2	Gawra B Gawra A	Northern Early Uruk		HS 6 TW 18-19 CH 13-14	-59-45 Nineveh 3 hiatus ?		2
4000 — 4200	LC 1	Terminal Ubaid	Post- or Terminal Ubaid	IVb ↓	CH 15-20 HS 6	-60		1

Table 1. Chronological chart.

Therefore, we decided to divide our material into six groups (G1-G6) of co-occurring ceramic diagnostics, which are defined as following:

- Group 1) Types of the LC 1 = Post-Ubaid phase
- Group 2) “Gawra” types<sup>15</sup> of the LC 2 phase
- Group 3) “Grey Ware” and other types of the early LC 3 = Uruk A phase
- Group 4) “Chaff-faced Ware” and local “Middle Uruk” types of the LC 3-4 phases
- Group 5) Southern “Middle Uruk” types of the LC 4 phase
- Group 6) Southern “Late Uruk” types of the LC 5 phase

This subdivision integrates both the SAR and Gut’s chronological periodisations, but is not purely chronological, since a distinction has been also made between types which are probably at least partially contemporary. The approximate relative and absolute dates of our groups of diagnostics are shown in Table 1.

### *3. The main diagnostic types of the period*

#### 3.1 Sources and methodology

The list of diagnostics used in our study of the Leilan material was established on the basis of the available literature about the Late Chalcolithic period in northern — and to a lesser extent in southern — Mesopotamia, and of previous syntheses on the topic (Gut 1995; Rova 1999-2000; Rothman 2001). Since the 1930s, northern Mesopotamia and especially the Khabur basin have been the object of a large number of surface investigations and excavations (see Rova 1996, pls. 1, 2). After a forced interruption during the Second World War, beginning from the 1970s these have undergone a significant intensification, as a consequence of a number of international projects of salvage archaeology connected with the construction of dams on the course of the Tigris, of the Euphrates and of their main tributaries and, especially in more recent years, of renewed long-term excavations.

The available documentation, therefore, suffers from a significant lack of homogeneity, both as far as research aims and methodology, and as far as the scientific value — according to the present standards —, of the different publications, are concerned.

This has set severe limits, for instance, to our use of data from materials from surveys (including, e.g., Meijer 1986) earlier than the 1990s, when, as we have seen, the knowledge of the period’s internal periodisation has significantly progressed. On the other hand, only preliminary results and no complete list of used diagnostics, or quantitative data about

15. No distinction between Gawra A and B was possible on the basis of the 1995 Leilan survey material, since decorated pottery, on which this distinction is mainly based, was virtually absent in this assemblage.



them, are available for some of the most recent surveys,<sup>16</sup> for which work is still in progress. The analysis of data from older excavations presented us with similar difficulties, mitigated, in some cases, by the possibility of critically evaluating the excavator's results on the basis of independent analysis of the illustrated material and of the site's stratification (see, e.g., Renate Gut's [1995] seminal work on Mallowan's deep sounding at Nineveh).

Although survey publications could not, of course, provide us with any clear dating criteria, they have nevertheless been useful to isolate, within the Late Chalcolithic material, those features which are, at the same time, a) characteristic for the period and, b) relatively unmistakable for types of other periods, even on the basis of small sherds. The most complete list of Late Chalcolithic surface diagnostics available until now was provided by Wilkinson and Tucker (1995, 92-95) for the Iraqi North Jazirah survey. This list, which includes 29 different types,<sup>17</sup> has successively been modified and adapted to northeastern Syria by Wilkinson himself and by Jason Ur, on the occasion of the more recent surveys in the regions around Tell Beydar and Tell Hamoukar (see now Ur 2004, 362-366).

Less recent or still preliminary publications of surveys concerning the Khabur region have also been taken into account, since they were supposed to concern the same, or very similar material, to that of the Leilan area. Among these, we can mention Fielden 1981a; Meijer 1986; Eidem – Warburton 1996; and Lyonnet 1992. It should be emphasised that none of these contributions goes far beyond a distinction, for the whole Late Chalcolithic period, between local and southern types, and could not, therefore, be of much help for a finer periodisation.

Excavated sites have been much more useful in this respect, since they provide stratified sequences of diagnostic types. We will limit ourselves, in this context, to mention only the most important ones. The Operation 1 sequence at Tell Leilan (Schwartz 1988) has provided the backbone for the survey periodisation. The most complete sequence for the Late Chalcolithic in the Khabur area is however presently represented by Tell Brak, whose significant occupation and long-term excavations now provide good ceramic assemblages for all the phases of the period (Oates 1985, 1986, 2002; Oates – Oates, 1991, 1993, 1994; Matthews 1995, 2003).

Though less near in space to the Leilan region, Hacinebi Tepe on the Turkish Euphrates (Pearce 2000; Stein 2001, 2002) has proved extremely important for the finer ceramic phasing of central part of the fourth millennium (LC 3 and 4 phases). Of major importance have also been the recent re-evaluations of two pre-second World War sequences of northern Iraq: that of Nineveh (Gut 1995), which spans over the whole of the Late Chalcolithic

16. This is the case of Bertille Lyonnet's survey in the Upper Khabur (1992) and of the University of Amsterdam's Balikh Survey (Akkermans 1984). For a preliminary evaluation of the Late Chalcolithic data of the latter, see Trentin 2004.

17. A subdivision was attempted into 4 different groups ("Earlier Uruk Local Wares", "'Amuq F" chaff-tempered wares", "Local late Uruk types", and "Later Uruk introductions from Southern Mesopotamia and related forms", but the proposed dating of the individual types is merely tentative and has not always been confirmed by most recent excavations.

period, and that of Tepe Gawra (Rothman 2001, 2002a, 2002b), for the first part of the fourth millennium only (especially the LC 1 and 2 phases). In spite of its peripheral position (it is located on the Turkish Upper Euphrates, North of the Taurus range) the site of Arslantepe/Malatya has also been taken into account, because of its continuity of occupation and large exposures during the period at issue (Frangipane 1993, 2000, 2002).

As for the southern ceramic types, evidence from the above mentioned sites has been implemented by reference to the “classical” Uruk assemblages from the Middle Euphrates area: Tell Sheikh Hassan (Boese 1995; Bachmann 1998) for the LC 4 phase, Habuba Kabira (Sürenhagen 1974/75) and Jebel Aruda (van Driel 2002) for the LC 5 phase.

Through the comparative analysis of this and other literature, the following list of main diagnostic types has been established, and the presumable range of use of each of them has been fixed. The choice of diagnostic elements was based on the triple criteria, which especially fit materials from surface surveys, of being: 1) typical of the period, 2) of wide occurrence, and 3) easily recognisable and unmistakable for types of other periods.<sup>18</sup>

Since surface ceramic finds only exceptionally (in our case actually never) include entire vessels, the list is based on features which can be easily recognised on small-sized sherds. Morphological features include rims and walls — these are in most cases attributable either to open (“Bowls”: types **C 1-9**) or to closed shapes (“Jars”: types **O 1-5**), and often to specific vessel types —, bases (**B**), fabrics (**F-1-4**),<sup>19</sup> and decorations (**D**).

It is important to acknowledge that not all types have the same diagnostic value. As a matter of fact, some of them may be extremely typical for the Late Chalcolithic period as a whole, but not very useful, due to their long time of use, for defining any chronological sub-phase within this (it is the case, for instance of type **F 1**, the “Chaff-faced Ware”). The proposed date of sites in which such types were found has been therefore established on the basis of their association with other diagnostics, which were in use for a more limited period.

For types which were in use during different sub-phases, it is nevertheless possible, in some cases, to single out a sub-phase for which they are especially typical, i.e. for which they have a higher diagnostic value. Table 2 provides a synthetic view of the main diagnostic types, of their distribution into the 6 chronological groups mentioned above (see *supra*, 2.2; *infra*, 3.2, 3.3), and of their diagnostic value within each group: value 3 has been attributed to highly diagnostic types, while types with low diagnostic value have been attributed value 1. In addition to the types listed below, a number of single sherds which did not belong to any of these, but showed clear parallels in Late Chalcolithic material from excavated sites, have been taken into account in the general attribution of individual sites to the period.

18. This caused the exclusion of a number of less unequivocal types, and consequently reduced the number of identified sherds for the period, but offered the advantage of reducing possible sources of error.

19. In the case of type **F 2** (“Uruk Grey ware”) sub-types have been defined on the basis of the rim shape.

Code	Description	Diagnostic Value					
		G1	G2	G3	G4	G5	G6
		LC1	LC2	LC3	LC3-4	LC4	LC5
<b>C1</b>	Coba Bowl and related types	3	2				
<b>C2</b>	Bowl with int. thickened, bev. rim with triangular profile		3	1			
<b>C3</b>	Wide Flower Pot	1	3	1			
<b>C4</b>	Bevelled Rim Bowl			1		3	3
<b>C5</b>	Bowl with simple inverted rim	1	1	2	1		
<b>C6</b>	Deep double-rimmed bowl		3				
<b>C7</b>	Simple - rimmed bowl	1	1	1	1	1	1
<b>C8</b>	Casserole			1	2		
<b>C8.1</b>	Casserole with simple or slightly thickened rim			3	2		
<b>C8.2</b>	Casserole with accentuated rim			1	3		
<b>C9</b>	Hammerhead bowl			1	2		
<b>C9.1</b>	Bowl with simple hammerhead rim			3	2		
<b>C9.2</b>	Bowl with accentuated hammerhead rim			1	3		

Code	Description	Diagnostic Value					
		G1	G2	G3	G4	G5	G6
		LC1	LC2	LC3	LC3-4	LC4	LC5
<b>O1</b>	Generic jar rim or neck	1	1	1	1	1	1
<b>O2</b>	Hole - mouth jar with slightly raised rim		2	1			
<b>O3</b>	Jar with sharp interior angle			1	2		
<b>O4</b>	Jar with sharp - angled rim				3	3	3
<b>O5</b>	Jar with internally grooved rim			1	3		
<b>B1</b>	Flattened or slightly curved flint - scraped base	2	2	1			
<b>F1</b>	Chaff - faced ware		1	2	3		
<b>F2</b>	Uruk Grey Ware				3		
<b>F2.1</b>	Hole - mouth jar with slightly raised rim, in Uruk Grey Ware		1	3			
<b>F2.2</b>	Bowl with slightly beaded rim, in Uruk Grey Ware				3		
<b>F3</b>	Fine ware of the LC 2 period		3				
<b>F4</b>	Fine wares of the later fourth mill. B.C.			2	2	2	2
<b>D1</b>	Reserved Slip decoration				2	3	
<b>D2</b>	Southern Uruk incised-impressed decoration				3	3	3

Table 2. List of diagnostic types, with proposed date and diagnostic value.

### 3.2 The list of diagnostic types

The diagnostic types described in the following are illustrated by examples from the Leilan survey. A small selection of parallels from other sites and/or surveys is added to the description.

**C 1.** Deep bowl with curved wall, simple rim and flattened or slightly rounded base, in coarse vegetal-tempered ware; the lower part of the wall is often flint-scraped (Fig. 3:1). It includes what is commonly known as “Coba Bowl” and related types. It is especially typical of the LC 1 (Post-Ubaid) period, but may continue into the following LC 2 phase as well (Rova 1999-2000, 180-181; Rothman 2001, 55). This type is common in south-eastern Turkey and in western Syria (Hammam et-Turkman VA, Tell Afis, level 18), but is also attested at Tell Brak, CH 15-20. Wilkinson and Tucker (1995, 93, Type 17) place it among their “Earlier Uruk local types”.

Selected parallels: Matthews 2003, fig. 3.15:12 (Brak HS6); Mazzoni – Cecchini 1998, fig. 1 (Afis 18); Akkermans 1988, fig. 8:120-121 (Hammam et-Turkman VA); Wilkinson – Tucker 1995, fig. 65:15-16.

**C 2.** Bowl with internally thickened, bevelled rim with triangular profile, normally in vegetal-tempered fabric (Fig. 3:4, 5). This type is common in the LC 2 phase (e.g. at Tepe Gawra, esp. Level X, or at Tell Brak, HS 6 — in particular in the later, Gawra B, subphase of this, where it can be decorated with the characteristic “blobs of paint” —, but it is also present in the following LC 3 phase (e.g. at Hammam et-Turkman VB and Hacinebi A). Wilkinson and Tucker (1995, 94, type 21) consider it a “Middle Uruk type”, but notice that its use started earlier.

Selected parallels: Rothman 2002a, pl. 18:1928 (Gawra X); Matthews 2003, fig. 3.13:2; fig. 3.14:5 (Brak HS6); Akkermans 1988, fig. 9:140 (Hammam et-Turkman VB); Pearce 2000, fig. 2:g (Hacinebi A); Ur 2002, fig. 10:13; fig. 19:15-16 (Hamoukar); Wilkinson – Tucker 1995, fig. 65:17-18.

**C 3.** Large coarse, chaff-tempered bowl with flat base and straight, very open walls, also known as “Wide Flower Pot” (WFP) (Fig. 3:6). It is in principle a LC 2 type, though examples of it are still present in the LC 3 phase (Rothman 2002b, 55). At Gawra it is attested in levels XII-IX (in a later variant also in level VIII). Wilkinson – Tucker 1995, 92 (type 7) consider it “Earlier Uruk” in date.

Selected parallels: Rothman 2002a, pl. 12:1406; pl. 5:222; pl. 19:2243 (Gawra XI/XII/IX); Oates 1985, fig. 3:44-45 (Brak CH7/CH10); Ball *et al.* 1989, fig. 19:3 (Tell al-Hawa).

**C 4.** Coarse, heavily chaff-tempered, mould-made bowl, normally known as Bevelled Rim Bowl (BRB) (Fig. 5:2). It represents the most ubiquitous ceramic marker of the Uruk period; in northern Mesopotamia, it is generally considered as an indication of a southern presence, or of contacts with the South. Previous publications (e.g. Wilkinson – Tucker 1995, 92, type 6) tend to consider it a diagnostic of the Later (i.e. LC 4 and 5) Uruk period; as shown by R. Gut (1995, 250, 292), however, its first occurrence in the North dates back to the LC 3 phase (Uruk A in her terminology), while isolated examples persist even in

post-LC 5 contexts of the so-called “Terminal Uruk” period. It is still debated whether the presence of BRB within an entirely local assemblage (e.g. at Leilan period IV:Schwartz 1988, fig. 52, 1-2, 4) should be considered as an indication of a relatively early date (LC 3 or 4), as we are inclined to think (see also Rova 1999-2000, 191-192), or may also represent a conservative environment contemporary with the LC 5 phase. In the present study, BRB have been considered as possible indicators of LC 3 to 5 occupation; the most probable suggested date within this range depending on the date of other associated diagnostics.

Selected parallels: Oates – Oates 1993, fig. 54:74; Fielden 1981b, fig. 3:41-40 (Brak CH 9-12); Schwartz 1988, fig. 52:1-2, 4 (Leilan IV); Pearce 2000, fig. 12:a (Hacinebi B2); Boese 1995, 84, fig. 21:b, d, 200, fig. 12:a (Tell Sheikh Hassan livv. 10-13); Sürenhagen 1974-75, 73, pl. 1:19 (Habuba Kabira); Roaf 1998, fig. 1:2 (Tell Mohammed Arab 1).

**C 5.** Bowl with simple inverted rim, generally in relatively fine ware (Fig. 3:7, 8). Examples seem to concentrate in the central part of the fourth millennium (LC 3 and 4): at Hacinebi Tepe, they are said to be “most common, if not limited to early Phase A” (Pearce 2000, 117), but at Leilan they occur both in period V and in period IV. Similar types are, however, already present in the later Ubaid period (e.g. at Hammam et-Turkman IV), so that it is possible that they also run through the early fourth millennium. It partially corresponds to Wilkinson and Tucker’s type 152 (see e.g. Wilkinson – Tucker 1995, 95, fig. 66, 9) which, however, also includes examples which would rather fit into our type **C 9** (see *ibid.*, fig. 66:8).

Selected parallels: Schwartz 1988, fig. 53:8-10-12, fig. 60:7 (Leilan V, IV); Pearce 2000, fig. 6:d-e (Hacinebi A); Akkermans 1988, fig. 7:90-91 (Hammam et Turkman IV).

**C 6.** Deep double-rimmed bowl (Fig. 3:2; Fig. 6:1). Though not very common, this is one of the most characteristic diagnostics of the LC 2 phase, and in principle disappears after it. Already Wilkinson and Tucker (1995, 92-93, type 10) commented on its value for dating survey assemblages, although their dating fluctuated between “Middle” or “earlier Uruk”.

Selected parallels: Rothman 2002a, pl. 14:1475 (Gawra XI/XA); Ur 2002, fig. 10:11-12 (Hamoukar); Wilkinson – Tucker 1995, fig. 64:9-10.

**C 7.** This code has been attributed to different types of simple-rimmed bowls, which, according to their fabric and shape, were Late Chalcolithic in date, but could not be attributed to any specific diagnostic. For dating purposes, each of them has either been evaluated on the basis of its specific parallels, or just considered in its association with other more characteristic types.

**C 8.** Deep carinated bowl in rather coarse, chaff-faced ware, better known under the name of “Casserole” (Fig. 6:4). It has been traditionally used as a surface diagnostic for the northern Late Chalcolithic assemblage (among others, Wilkinson – Tucker 1995, 95, type 153; Ur 2004, 365-356, type 153). Recent research has allowed to better define its date: it is especially characteristic of the northern LC 4 assemblage, but appears already during the previous LC 3 phase. We have tentatively distinguished two variants, which would correspond to the earlier, and respectively to the later phase (see Rova 1999-2000, 188).

**C 8.1.** “Casserole” with simple or slightly thickened rim (Fig. 4:5). This variant seems especially characteristic of the LC 3 and earlier LC 4 phase (e.g. at Hacinebi A, Brak, HS1, level 6, Leilan V).

Selected parallels: Matthews 2003, fig. 4.19:7 (Brak HS 1); Schwartz 1988, fig. 59:5 (Leilan V); Pearce 2000, fig. 3:d (Hacinebi A).

**C 8.2.** “Casserole” with accentuated rim (Fig. 4:6). This type is especially typical of the LC 4 phase, as shown by examples from Brak TW 14, Leilan IV, and Hacinebi B.

Selected parallels: Oates – Oates 1993, fig. 54:69 (Brak TW 14); Schwartz 1988, fig. 54:2 (Leilan IV); Pearce 2000, fig. 10:c (Hacinebi B).

**C 9.** Oblique-rimmed bowl in rather coarse, chaff-faced ware, better known under the name of “Hammerhead Bowl”. It is another “classical” type of the northern Late Chalcolithic assemblage (see Wilkinson – Tucker 1995, 94-95, types 140, 152; Ur 2004, 365-366, type 152). Like in the case of the previous type, recently excavated stratified material has allowed us to distinguish two variants, which apparently correspond to two successive phases in the LC 3-4 sequence.

**C 9.1.** Bowl with simple “Hammerhead” rim (the rim shows no marked thickening in its lower part) (Fig. 4:7). Similar types are attested at Hacinebi A, Tell Brak HS1, and Leilan V; we consider it, therefore, as typical of the LC 3 and earlier LC 4 phase.

Selected parallels: Matthews 2003, fig. 4.17:12 (Brak HS1); Schwartz 1988, fig. 57:2 (Leilan V); Pearce 2000, fig. 6:c (Hacinebi A).

**C 9.2.** Bowl with accentuated “Hammerhead” rim (the rim shows a marked thickening both in its upper and in its lower part) (Fig. 4:8). Examples are known, among others, from Brak TW 14, Leilan IV, and Hacinebi B; therefore we consider it typical for the LC 4 phase.

Selected parallels: Oates – Oates 1993, fig. 52:2 (Brak TW 14); Schwartz 1988, fig. 52:7 (Leilan IV); Pearce 2000, fig. 9:a (Hacinebi B).

**O 1.** This number has been attributed to different types of jar necks and/or rims which, according to their fabric and shape, were Late Chalcolithic in date, but could not be attributed to any specific diagnostic. For dating purposes, they have been evaluated in their association with other more characteristic types.

**O 2.** Hole-mouth jar with slightly raised rim, in brownish ware, normally burnished outside (see Fig. 4:1, 2). As already noticed by Wilkinson and Tucker (1995, 92, type 8, “Earlier Uruk”), it is especially typical of the LC 2 period. The same vessel type is also present in the following LC 3 phase, but then usually in “Grey Ware” (see *infra*, type **F 2.1**).

Selected parallels: Rothman 2002a, pl. 14:775, pl. 21, 1779 (Gawra); Matthews 2003, fig. 3.14:20 (Brak HS6); Ball et al. 1989, fig. 20:2-3 (Tell al-Hawa); Wilkinson – Tucker 1995, fig. 64:3-4.

**O 3.** Jar with very short neck marked by a sharp angle on the interior, in Chaff-faced Ware; the inner part of the rim can be either straight or hollowed, the outer part is generally thickened, but shows a large number of morphological variants (Fig. 4:3; Fig. 6:5). It

represents one of the most common types of the northern Late Chalcolithic assemblage (see Wilkinson – Tucker 1995, 93; Ur 2004, 365-366, type 12); examples seem to cluster in the LC 4 phase, but the type is already present during the LC 3, and possibly even earlier.

Selected parallels: Matthews 2003, fig. 4.20:1-2, 15, fig. 4.23:2 (Brak HS1); Schwartz 1988, fig. 54:7, 8, fig. 60:1-2 (Leilan V-IV); Pearce 2000, fig. 15:d-e (Hacinebi B2); Akkermans 1988, 10:156-157 (Hammam et- Turkman V B).

**O 4.** Jar with sharp-angled rim (Fig. 5:3, 4; Fig. 6:6, 7). This is a very characteristic and easily recognisable jar type belonging to the southern Uruk assemblage. Examples are often decorated with incisions or reserved slip patterns on the shoulder, and date both in the LC 4 (“Middle Uruk”) and in the LC 5 (“Late Uruk”) phase.

Selected parallels: Oates – Oates 1993, fig. 50:9 (Brak TW10); Bachmann 1998, fig. 10:d (Sheikh Hassan); Gut 1995, pl. 67:943 (Nineveh MM-29); Pearce 2000, fig. 14:d (Hacinebi B2).

**O 5.** Jar with internally grooved rim, occurring both in coarse, chaff-faced, and in finer ware (Fig. 4:4). It is another widely recognised diagnostic for the Late Chalcolithic period in northern Mesopotamia (e.g. Wilkinson – Tucker 1995, 93, type 14; Ur 2004, 365-366, type 14). Wilkinson and Tucker (1995, 92-93) consider it “a local Late Uruk type” and do not even exclude a post-Uruk date; according to more recent research, however, it appears to be a mainly LC 4 type, possibly appearing already during the LC 3 (e.g. at Hacinebi, phase A).

Selected parallels: Oates – Oates 1993, fig. 51:19/53:57 (Brak TW16); Schwartz 1988, fig. 60:5 (Leilan V); Pearce 2000, fig. 4:e, f, g (Hacinebi A); Ur 2002, fig. 20:14-15 (Hammoukar); Wilkinson – Tucker 1995, fig. 66:10-11.

**B 1.** Flattened or slightly curved, often flint-scraped base in heavily chaff-tempered ware. This base type is especially typical of the earlier part of the fourth millennium BC (LC 1 and LC 2 phases), and is mostly connected with large mass-produced bowls (Coba Bowl, type **C 1** or Wide Flower Pot, type **C 3**, see *supra* for illustrations). If only the base is preserved, however, it is difficult to associate it with a particular vessel type, and therefore to attribute it to a particular phase within the Late Chalcolithic period.

**F 1.** Chaff-faced Ware. Although the majority of northern Late Chalcolithic ceramics is rather heavily vegetal tempered, this code had been assigned to sherds belonging to the particular fabric known as “Amuq F”-Chaff-faced Ware, which is especially typical of the central part of the fourth millennium BC (i.e. of the LC 3 and 4 phases). This is rather coarse in texture, buff-greyish brown in colour, and most often shows a darkened core, due to incomplete oxidation, in section. Typical vessels shapes are **C 8**, **C 9**, **O 3**, and **O 6**, for which see *supra*; body sherds are, however, equally diagnostic in this case.

**F 2.** Uruk Grey Ware (Fig. 4:1, 2; Fig. 6:3). It is a middle-coarse, mainly vegetal-tempered ware with occasionally slightly burnished surface, whose most characteristic feature is the homogeneously grey colour. As clearly shown by Renate Gut (1995, 248-251, 292) it is especially typical of the LC 3 (her “Uruk A”) phase, earlier than the main distribution phase of the “Chaff-faced Ware” **F 1** (see also Rova 1999-2000, 184-185). It mainly occurs on

two distinctive vessel shapes, the hole-mouth jar (**F 2.1**) and the bowl with slightly beaded rim (**F 2.2**), but is also recognisable on the basis of simple body sherds. It corresponds to Wilkinson and Tucker's (1995, 94) and Ur's (2004, 365-366) type 138.

Selected parallels: Lloyd 1940, fig. 7:9-10 (Grai Resh); Wilkinson – Tucker 1995, fig. 65:20-21.

**F 2.1.** Hole-mouth jar with slightly raised rim, in “Uruk Grey Ware” (Fig. 4:1, 2; Fig. 6:3). The same type (see *supra*, **O 2**), but not in Grey Ware, has been considered as a diagnostic for the LC 2 phase.

Selected parallels: Akkermans 1988, fig. 10:152-153 (Hamman et Turkman VB); Gut 1995, pl. 58:860-862 (Nineveh).

**F 2.2.** Bowl with slightly beaded rim, in “Uruk Grey Ware”.

Selected parallels: Gut 1995, pls. 57-58:848-857 (Nineveh); Matthews 2003, fig. 3.16:4 (Brak HS6); Pearce 2000, fig. 5:a-e (Hacinebi phase A); Akkermans 1988, fig. 9:146 (Hamman et Turkman VB).

**F 3.** Fine ware of the LC 2 period (Fig. 3:3; Fig. 6:2). This fine hand-made ware, which can bear an incised-impressed decoration, varies from buff, to yellow, to green in colour, and often shows a distinctive “bubbling” on its surface (cfr. Rothman 2002a, 57, 2002b, 55-56; Oates 2002, 119).

Selected parallels: Rothman 2002a, pl. 9:725, 722, 733, 723; pl. 13; pl. 15, *passim* (Gawra XII-Xa); Matthews 2003, fig. 3.15:30 (Brak HS6).

**F 4.** Fine wares of the later fourth millennium BC (Fig. 5:1), associated with both northern and southern diagnostic types.

Selected parallels: Pearce 2000, fig. 11:b-c (Hacinebi B); Schwartz 1988, fig. 53:8; fig. 58:12 (Leilan V, IV); Sürenhagen 1974/75, pl. 2:25-27 (Habuba Kabira).

**D 1.** Reserved Slip decoration (Fig. 5:5; Fig. 6:6). This kind of surface treatment and/or decoration is one of the most characteristic diagnostics of the southern Uruk assemblage. It characterises both the LC 4 (Middle Uruk) and the LC 5 (Late Uruk) phase, as clearly shown by its presence, among others, both at Tell Sheikh Hassan, and at Habuba Kabira. Contrary to western Syria and the Upper Euphrates region (for recent general discussions, see Trentin 1993, Finkbeiner 1994), in the Khabur region it does not seem to survive after the end of the Uruk period, and to give rise to local post-Uruk developments.

Selected parallels: Bachmann 1998, fig. 15:a (Sheikh Hassan); Sürenhagen 1974/75, pl. 5:60 (Habuba Kabira).

**D 2.** Southern Uruk incised-impressed decoration (Fig. 5:4, 6, 7; Fig. 6:7). This code groups different types of incised and impressed decorations, normally on jar shoulders, associated with the southern Uruk assemblage (crosshatched bands and triangles, punctuations, impressed ribs, groups of horizontal lines), which are typical of both the LC 4 (Middle Uruk) and the LC 5 (Late Uruk) phase, and continue also in the “Terminal Uruk” phase.

Selected parallels: Gut 1995, pls. 59-68, *passim*: 869-871 (Nineveh MM.-37-21); Bachmann 2003, fig. 8:b, d; fig. 10:c, d; figs. 12-13 (Tell Sheikh Hassan); Roaf 1998, fig. 8 (Tell Mohammed Arab 1).



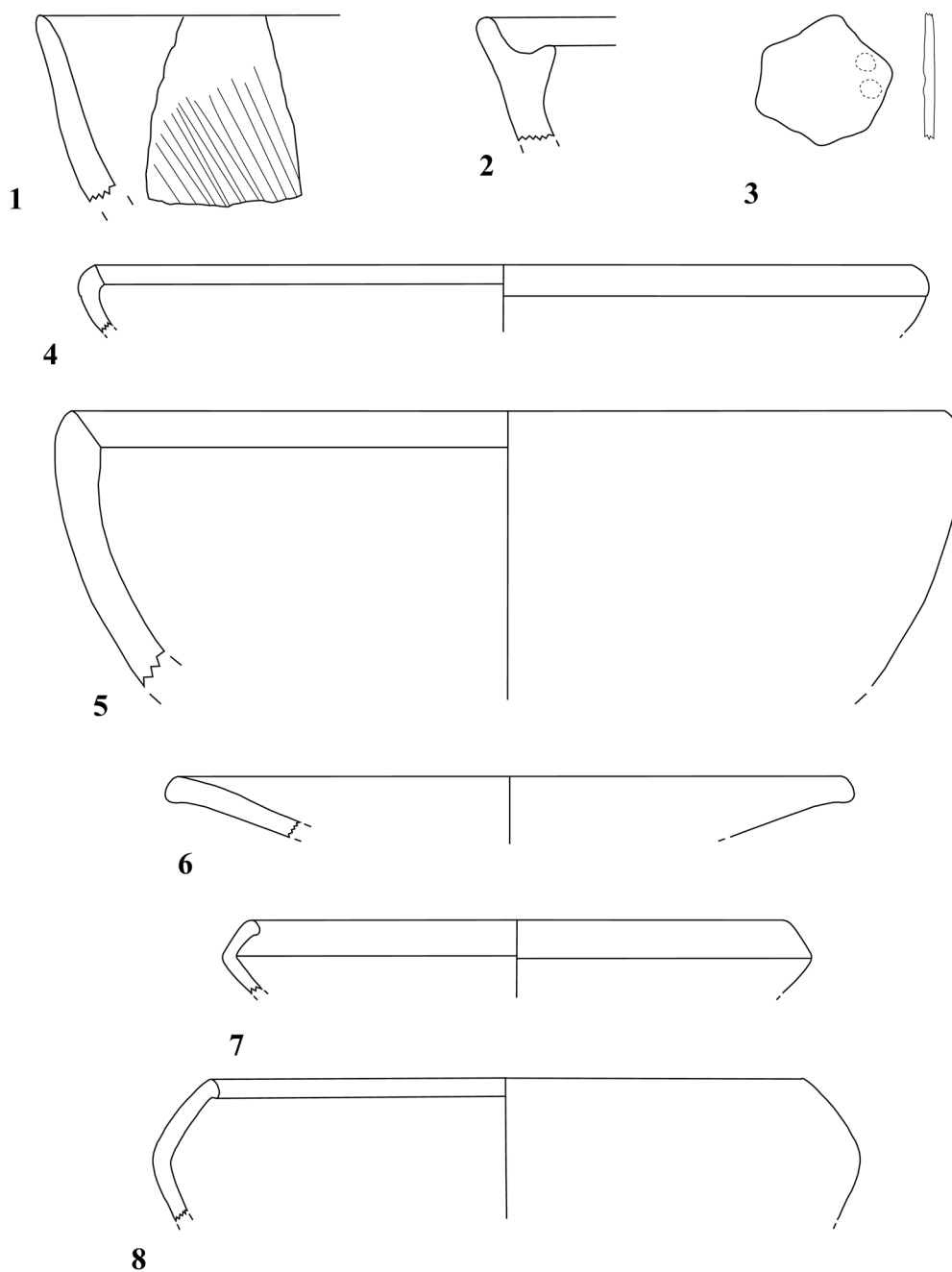


Fig. 3. Selected sherds from the 1995 survey: 1) type **C 1**; 2) type **C 6**;  
 3) type **F 3**; 4, 5) type **C 2**; 6) type **C 3**; 7, 8) type **C 5**.  
 no. 1: Mathluthch Tawila 17, scale 1:2      no. 2: Abu Farah 356, scale 1:2  
 no. 3: Sharmouk C.E. 15, scale 1:2      no. 4: Sharmouk C.W. 39, scale 1:3  
 no. 5: Shair M.M. N.W. 66, scale 1:2      no. 6: Khodr 32, scale 1:3  
 no. 7: Sharmouk C.E. 137, scale 1:2      no. 8: Khazne 211, scale 1:2

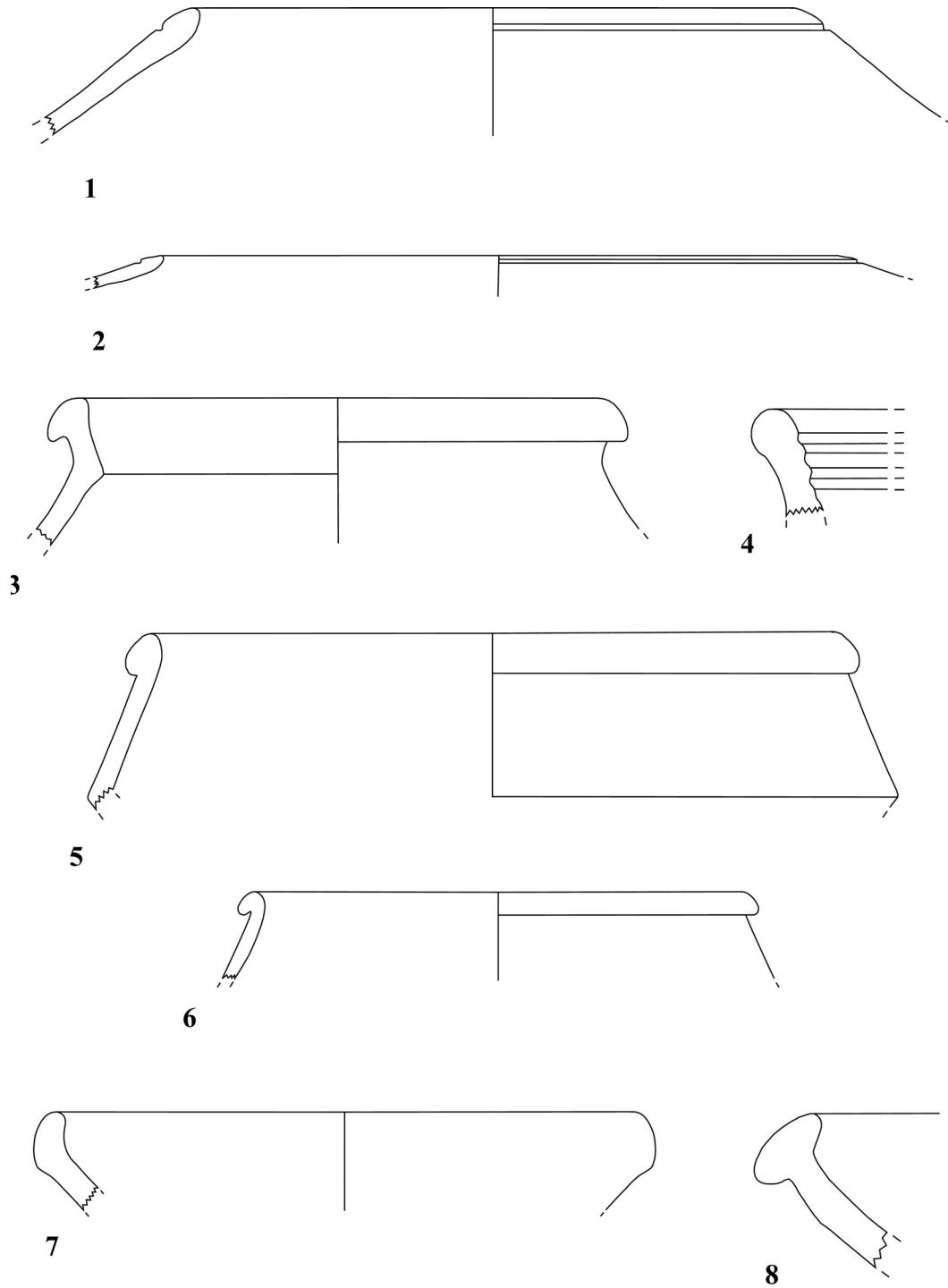


Fig. 4. Selected sherds from the 1995 survey: 1, 2) type **F 2.1 (O 2)**; 3) type **O 3**;

4) type **O 5**; 5) type **C 8.1**; 6) type **C 8.2**; 7) type **C 9.1**, 8) type **C 9.2**.

no. 1: al-Andalus 39, scale 1:2

no. 2: Khodr 44, scale 1:3

no. 3: Khodr 40, scale 1:3

no. 4: Sharmouk 159, scale 1:2

no. 5: Sharmouk S.N. 23, scale 1:2

no. 6: Sharmouk C.W. 69, scale 1:3

no. 7: Sharmouk C.W. 51, scale 1:3

no. 8: Sharmouk C.E. 109, scale 1:2

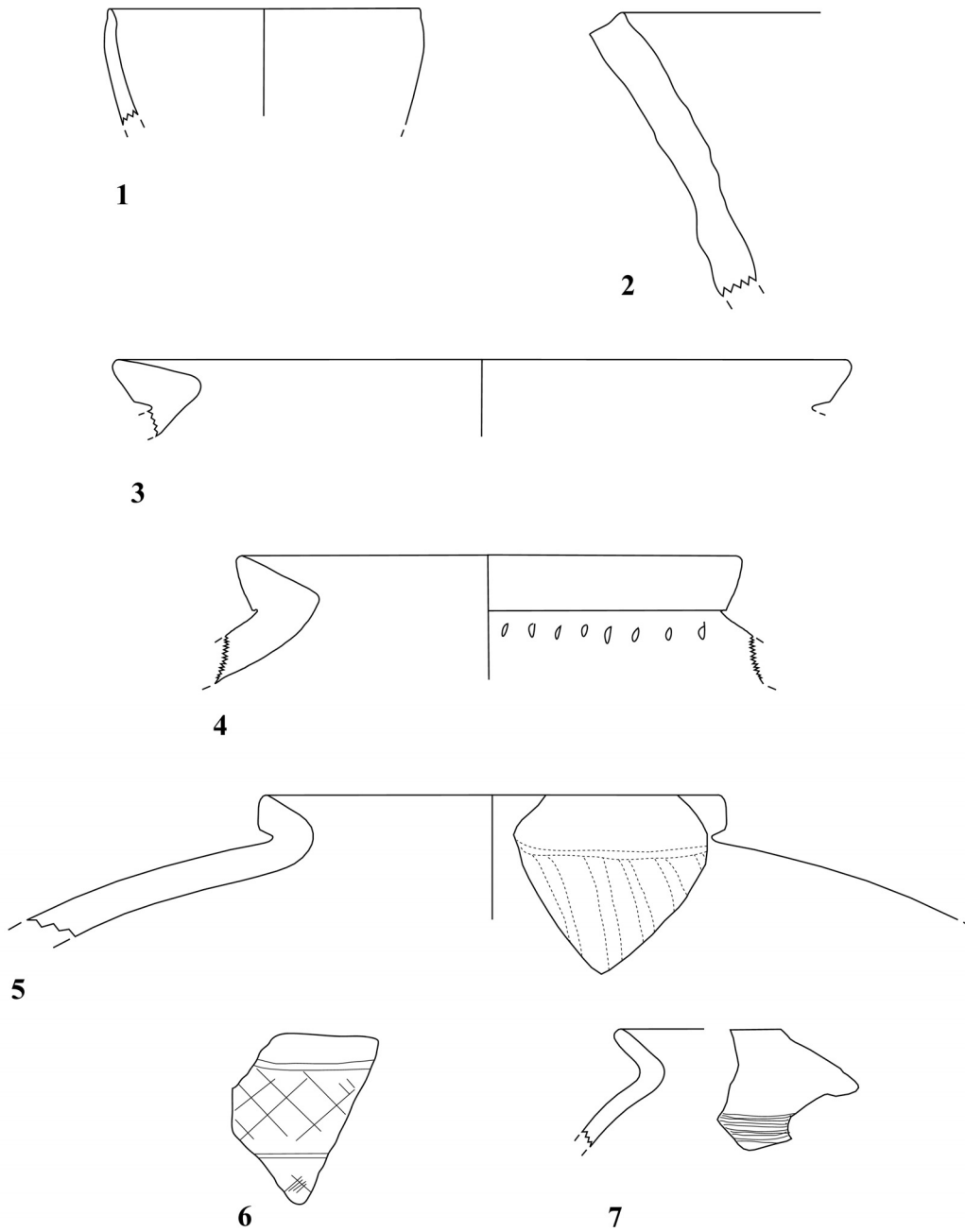


Fig. 5. Selected sherds from the 1995 survey: 1) type **F 4**; 2) type **C 4**;  
 3) type **O 4**; 4) type **O 4 + D 2**; 5) type **D 1**; 6, 7) type **D 2**.  
 no. 1: Sharmouk C.W. 16, scale 1:2  
 no. 2: Sharmouk C.S.95+, scale 1:2  
 no. 3: Sharmouk 62, scale 1:3  
 no. 4: Sultan et Tellul 28, scale 1:2  
 no. 5: Sharmouk C.G.95+, scale 1:2  
 no. 6: Sharmouk S.S. 48, scale 1:2  
 no. 7: Sharmouk C.G. 15, scale 1:2

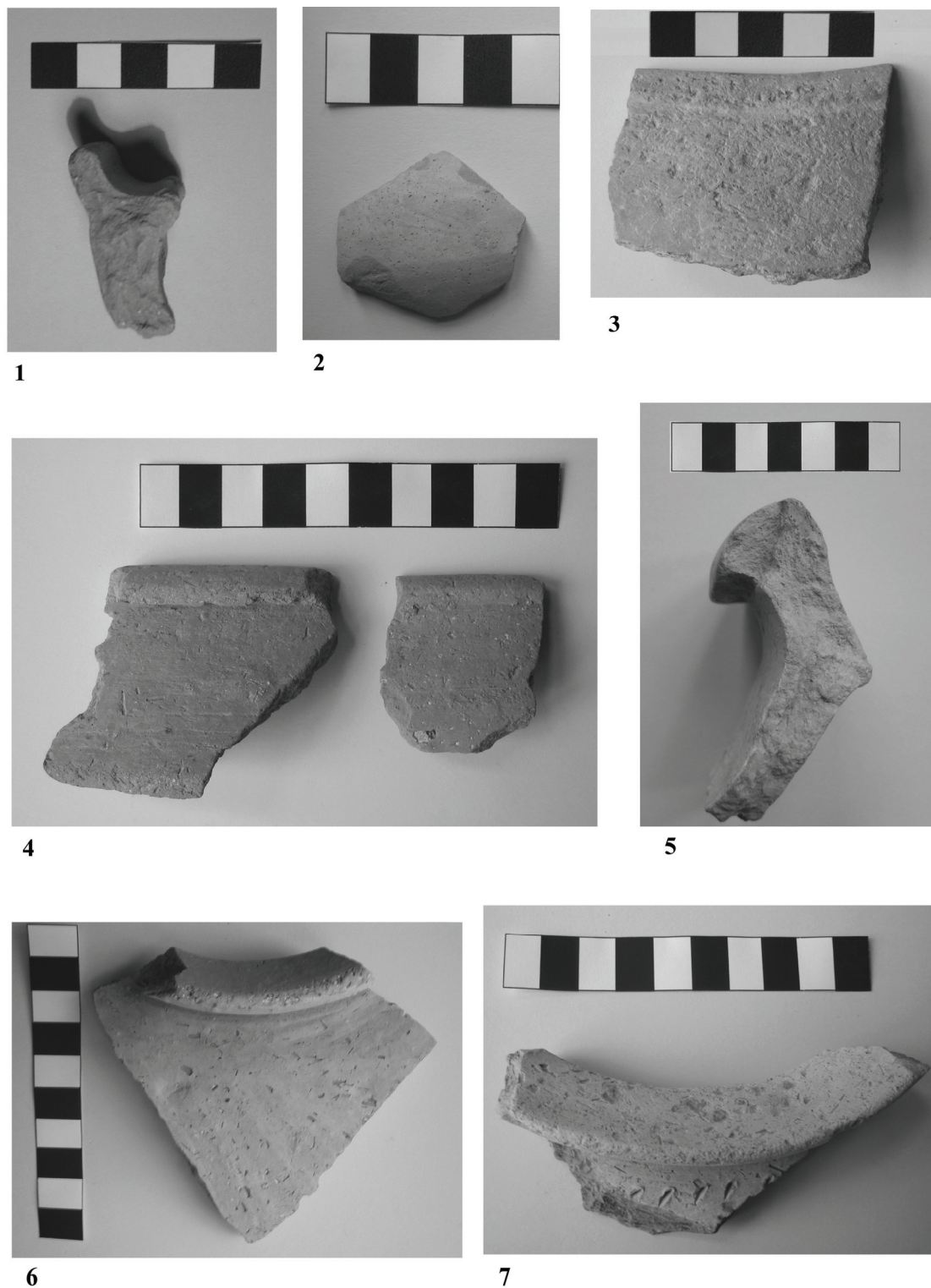


Fig. 6. Selected sherds from the 1995 survey: 1) type C 6; 2) type F 3; 3) type F 2.1; 4) type C 8; 5) type O 3; 6) type D 1 + O 4; 7) type D 2 + O 4.

3.3 The six groups of diagnostic types and their date<sup>20</sup>**Group 1:** Types of the LC 1 = Post-Ubaid phase (4200-4000 BC ca.)

These types tentatively define a post-Ubaid horizon, as attested, e.g., at Gawra XII, Leilan late VIb, Brak CH 15-20, Hammam et-Turkman IVD/VA (Gut 1995, 284, 291; Rova 1999-2000, 180-181, table I; Schwartz 2001, 236-237; Rothman 2002b, 54-56, tables I, II). In the survey material, this horizon is mainly represented by types **C 1** and **B 1** (Coba Bowls and related types) (Fig. 3: 1), possibly associated with types (**C 3**, **C 5**) (Fig. 3: 6, 7, 8) which continue in use during the following LC 2 phase, but neither in association with the most typical diagnostics of the latter, nor associated with Ubaid painted pottery. Other, more characteristic types of this phase, like typical post-Ubaid painted wares (Sprig Ware, Painted Red and Black Ware), do not seem to be present in the 1995 survey material.<sup>21</sup> Group 1 diagnostic types are therefore few in number, not particularly distinctive in aspect, and were often in use for a longer period. Accordingly, settlement distribution for the LC 1 phase should be considered with a certain cautiousness.

**Group 2:** “Gawra” types of the LC 2 phase (4000-3700 BC ca.)

This group of diagnostics represents the LC2 (“Gawra”) period as attested at Tepe Gawra XIA-IX, Nineveh MM -59 -45, Brak CH 13-14, TW 18-19, HS 6, Hammam et-Turkman VA/early VB, and as far as Norşuntepe in the Keban region of south-eastern Turkey (Gut 1995, 284, 291 *et passim*; Rova 1999-2000, 178-184, table I; Rothman 2002b, 56, tables I, II; see also Schwartz 2001, 237-238; Matthews 2003, 32-36). Very distinctive types, which provide the most reliable attribution, are **C 2**, **C 3**, **C 6**, **O 2**, and **F 3** (Fig. 3: 2-6, Fig. 4: 1-2; Fig. 6: 1, 2). Types **C 1**, **B 1**, **C 5**, **F 1**, and **F 2.1** (Fig. 3: 1, 7-8, Fig. 4: 1, 2) belong to Group 2, as well, since they are also attested in this phase, either continuing from the previous (**C 1**, **B 2**), or continuing into the following one (**F 1**, **F 2.1**), but have a lower diagnostic value. Other characteristic markers of this phase (double-mouthed jars, cannon spouts, stamped, appliqué and incised decoration, blobs-of paint and cross-hatched triangles painted decoration) have not been found in the 1995 Leilan survey material, and have not, therefore, been included in our list of diagnostics. Since Gut’s (1995) and Rothman’s (2002) distinction into an early (Gawra A) and a late (Gawra B) sub-phase is mainly based on the occurrence of these types — and especially of decorated pottery —, it was not possible to apply it to our material.

20. As we noticed before, sherds belonging to generic types like **C 7** and **O 1** have been assigned to the different groups on the basis of individual parallels and/or prevailing associations. They will therefore not be mentioned in the following description of each group.

21. The situation may however change when the analysis of the Ubaid material which is presently in progress by Serena Daldin of the University of Venice, will be completed.

**Group 3:** “Grey Ware” and other types of the early LC 3 = Uruk A phase (3700-3600/3500 BC ca.)

This group of diagnostics (esp. Fig. 4: 1, 2, 5, 7; Fig. 6: 3) defines a ceramic horizon, first singled out by R. Gut (1995) under the name of Uruk A, which marks the transition between the Gawra assemblage and the typical northern “Chaff-faced Ware” assemblage of the LC 3-4 periods and is to be dated in the early LC 3 phase. In excavated sequences, it would correspond to Gawra VIII, Nineveh MM -45 -37, Hacinebi A, Tell Brak H1, 6, TW 17-16 (?), CH 9-12, and Hammam et-Turkman late VB (Gut 1995, 284-285 *et passim*, 292; Rova 1999-2000, 184-190, table I; Rothman 2002b, 56-57, tables I, II; see also Matthews 2003, 69-75). This horizon is especially characterised by the presence of “Uruk Grey Ware” (type **F 2**) (Fig. 4: 1, 2; Fig. 6: 3) with its distinctive morphological types (**F 2.1**, **F 2.2**), and, in addition to these, by early variants of two typical “Chaff-faced Ware” types: the Casserole and the Hammerhead rim bowl (**C 8.1**, **C 9.1**) (Fig. 4: 5, 7). These can be associated to less characteristic types, either continuing from the previous (**C 2**, **C 3**, **O 2**, **B 1**), or continuing into the following phase (**F 1**, **C 8**, **C 8.2**, **C 9**, **C 9.2**, **O 3**, **O 5**).<sup>22</sup> According to Gut, this horizon would also mark the first appearance in the North of southern types, namely the Bevelled-Rim Bowl (**C 4**). This hypothesis could not be tested on the Leilan survey material, since in no case BRB have been found exclusively associated with distinctive Group 3 types and not with later types as well.

**Group 4:** “Chaff-faced Ware” and local “Middle Uruk” types of the LC 3-4 phases (3600/3500-3300 BC ca.)

Group 4 (Fig. 4: 3-8; Fig. 6: 4, 5) includes a number of widely attested and rather characteristic northern types of the mid-fourth millennium BC, which define what has been variously called “Northern Middle Uruk”, “Early Middle Uruk”, or “Chaff-faced Ware” assemblage. This is represented, among others, at Tell Leilan V, Hacinebi B1, Tell Brak TW 14-16, HS1, 5-1 (Rova 1999-2000, 185-190, table I; Schwartz 2001, 238-241; Rothman 2002, tables I, II; Matthews 2003, 68-75). Continuity, in both wares and morphological repertoire, with the previous assemblage is quite high, and the precise chronological limit between them is therefore somehow indistinct — it should be placed somewhere within the LC 3 phase; on the other hand, it is sure that, at a later time (during the LC 4 phase) the same assemblage continues in use, now associated with an increasing number of southern Uruk types (e.g. a Leilan IV, Hacinebi B2). The date of its disappearance is still debated; as we explained elsewhere (Rova 1999-2000, 191-192), we suppose that it did not last long into the LC 5 phase, which is characterised, beside the continuing presence of southern types, by the appearance of new local wares and morphologies. The most common diagnostic element of the assemblage is “Chaff-faced Ware” (**F 1**) with its whole range of characteristic

22. According to the evidence of Hacinebi Tepe (Pearce 2000, 117) type **C 5** would also be especially typical of this group.

morphological types: Casseroles and Hammerhead rims (**C 8** and **C 9**), especially in their “mature” variants (**C 8.2** and **C 9.2**) (Fig. 4: 6, 8), jars with sharp interior angle and with internally corrugated rim (**O 3**, **O 5**) (Fig. 4: 3, 4; Fig. 6: 5); associated, but less distinctive types are also **C 5** and **F 4**.

**Group 5:** Southern “Middle Uruk” types of the LC 4 phase (3500-3300 BC ca)

**Group 6:** Southern “Late Uruk” types of the LC 5 phase (3300-3100 BC ca)

Groups 5 and 6 (Fig. 5: 2-7; Fig. 6: 6, 7) represent the southern Uruk assemblage. As such, this could be distinguished into a “Middle Uruk” assemblage, as attested at Tell Sheikh Hassan, Nineveh -37 -31, Brak TW 13 (and, in association with different amounts of northern material, at Leilan IV, Hacinebi B2) etc., and a “Late Uruk” assemblage, as attested at Habuba Kabira, Jebel Aruda, Nineveh -31-20, Tell Brak TW 12-11 etc. (Gut 1995, 277-280, 292-293 *et passim*; Schwartz 2001, 240-241; Rothman 2002, table I, II). The types which better define these sub-phases — conical bowls with pouring lip, spouted carinated bowls, handled cups with incised decoration, short straight spouts, applied pellets, for the “Middle Uruk” (see Boese 1995, 249-271; Schwartz 2001, fig. 7.5) and respectively, droopy spouts, elongated nose-lugs, etc., for the “Late Uruk” — have however not been found among the Leilan survey material. Groups 5 and 6 are therefore composed of the same diagnostic types, **C 4** (Fig. 5: 2), **O 4** (Fig. 5: 3, 4; Fig. 6: 7), **F 4**, **D 1** (Fig. 5: 5; Fig. 6: 6), and **D 2** (Fig. 5: 4, 6, 7; Fig. 6: 6, 7), which occur in both the LC 4 and LC 5 phases.<sup>23</sup> The autoptic analysis of the individual sherds, as well as the fact that in all occasions they appear to be associated with larger amounts of Group 4 types, make us however incline toward a LC 4 date for the majority of them.

#### 4. *The data from the 1995 Survey*

The total number of identified Late Chalcolithic pottery fragments amounts to 947. They derive from 28 sites, that is ca. 27% of the 104 which were visited during the 1995 survey (see Table 3 and Fig. 7).

Types of southern origin (Groups 5 and 6) have been recovered only at four of these, and in rather limited amounts, whereas northern types (Groups 1-4) represent the overwhelming majority of the finds. The number of identified sherds (see Table 3) is sufficient to attest to some sort of Late Chalcolithic occupation at all sites, with the possible exceptions of Qubur al-Harb (n. 184, with only 1 sherd), Khirbet Marjdan and Rehaja 3 (nos. 69 and 11, each with 2 sherds). At 14 sites the number of Late Chalcolithic sherds varied

23. **C 4** probably starts in the LC 3, and is occasionally be present, like **D 1** and **D 2**, even after the end of the LC 5 period.

between 3 and 10; 4 sites yielded between 11 and 20 sherds; 5 sites between 21 and 40, while two sites — Tell Khodr (no. 123) and Tell Sharmouk (no. 59) — yielded a much larger amount (87 and respectively 533 fragments) than the remaining ones.

Site No.	Site Name	Size (in Hectares)	Total LC Sherds	Total Number of Collected Sherds
61	Abu Hajjeira	3.042	11	95
101	Abbas	0.785	3	3
60	Abu Farah	6.38	12	3019
212	al-Andalus	64	33	393
120	Arbat	1.08	5	29
144	Awena	2.5	7	63
137	Barham	1.33	7	98
124	East of Bagheriya	0.3	8	702
180	Ghazal	11.96	31	463
22	Gir Dahul	3.75	8	31
151	Gre Pre 1	4.8	3	248
148	Gunduk Said	1.23	38	107
85	Khazne	3.08	7	217
123	Khodr	12.25	87	218
69	Marjan	3.75	2	12
166	Mathluteh Tawila	7.5	19	79
62	Nabua	1.77	7	39
92	Nasr	9	19	32
184	Qubur al Harb	1	1	19
9	Rehaya 1	4.99	5	86?
11	Rehaya 3	3.48	2	57
74	Shair	4	35	806
59	Sharmouk	6	533	963
118	Shibaniyeh	1.2	7	45
66	Sufiyah	1	26	222
223	Sultan el Tellul	7.8	23	262
179	Tartab 3	6.4	9	121
106	Toueiyei	4.08	6	788

Table 3. List of the Leilan 1995 survey sites with Late Chalcolithic occupation.



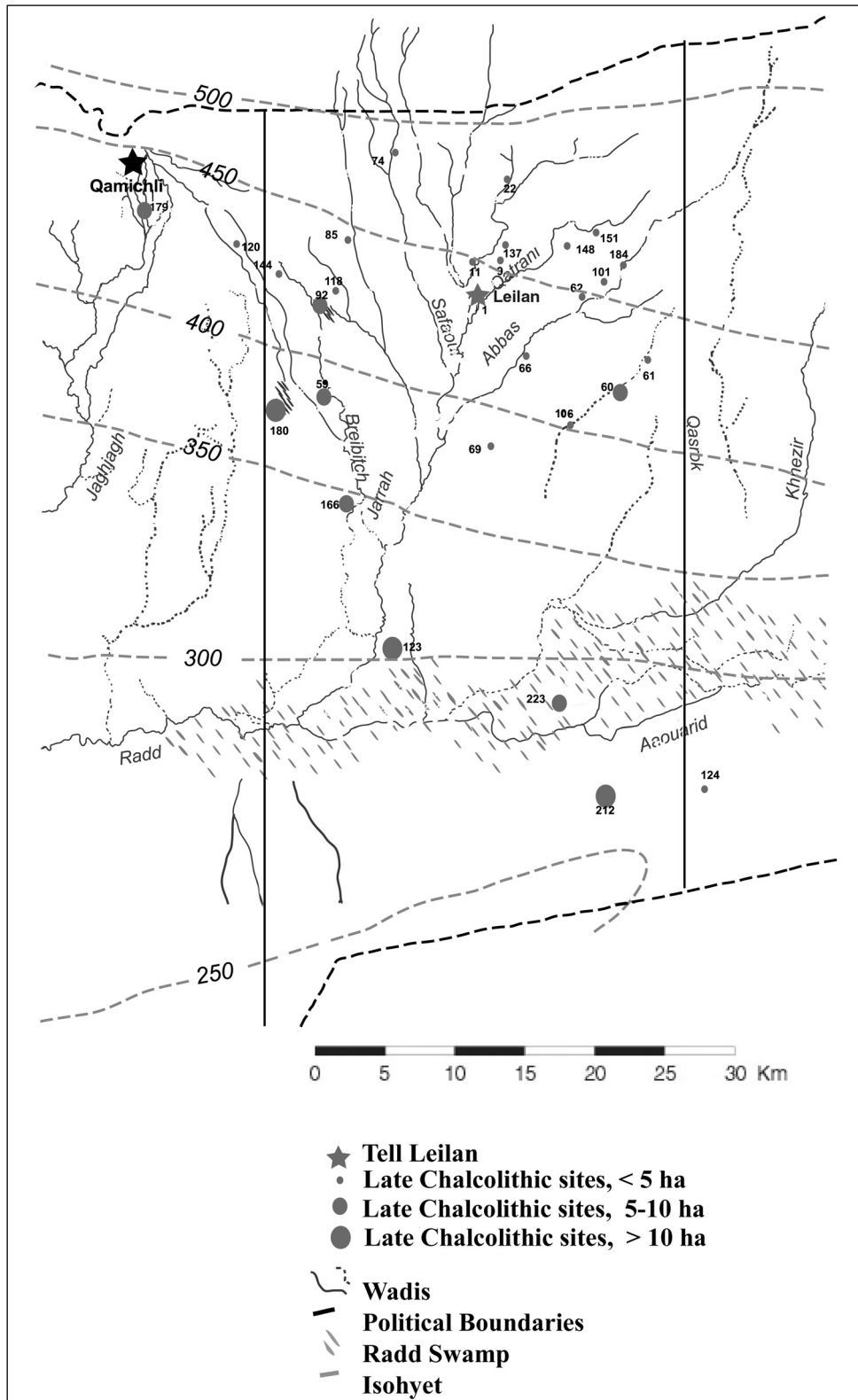


Fig. 7. Tell Leilan 1995 Survey: Late Chalcolithic sites, all phases.

Site dimensions are quite variable: 16 sites measure less than 5 ha (half of these actually less than 2 ha); 6 are between 5 and 10 ha, and only three exceed this limit: Tell Ghazal (site no. 180) with 11.96 ha; Tell Khodr (no. 123) with 12.25 ha, and finally al-Andalus (no. 212) (with 64 ha, this is the only site which could represent a major urban centre). To these, however, we can add Leilan itself, which as we know from the Operation 1 excavation (Schwartz 1988), was probably a centre of some importance during the Late Chalcolithic period.

It has to be considered, on the other hand, that all the larger sites are multi-period settlements, whose total dimensions not necessarily derive only from their Late Chalcolithic occupation (see *infra*), and that sites which yielded the largest amount of Late Chalcolithic sherds not necessarily correspond to the largest sites. A short description of the individual sites which produced more than 10 fragments may therefore help to better evaluate their meaning within the period's overall settlement pattern.

First of all, it is interesting to notice that all the three sites measuring more than 10 hectares yielded a considerable amount of material (more than 20 sherds) and may be therefore considered as possible local centres. Al-Andalus (no. 212, 64 ha), the largest one, has 33 sherds, all of which belong to our Groups 2 and 3, and therefore suggest a date in the LC 2-3 phases (see also Table 4, *infra*).

Tell Khodr (no. 123, 12.25 ha) has 87 Late Chalcolithic out of a total of 218 collected sherds. These mainly belong to our Groups 2 to 4, with a significant component of Group 4 diagnostics (“Casseroles”, “Hammer-head rims”) and no presence of southern types. This certainly supports a major early-middle fourth millennium component for the site's occupation. Tell Ghazal (no. 180, 11.96 ha) shows 31 sherds, which can be attributed to our Groups 3, 4, and 5. Besides the most typical northern types, this site yielded some southern diagnostics (e.g., incised sherds). These occur both in the LC 4 and in the LC 5 phase; typically LC 5 types are however not present, and the association with Group 4 types supports an earlier (= mainly LC 4) date. Strangely enough, no Bevelled Rim Bowl was found at this site.

Of the 6 sites whose size is between 5 and 10 hectares, all except one yielded more than 10 fragments (the exception being Tartab 3, which has 9). Among them, Tell Sharmouk (no. 59, 6 ha) (Fig. 8) stands out for its extremely large number of Late Chalcolithic sherds (553, corresponding to more than half of the total sherdage from the site), and is therefore certainly a local centre of the period. The sherds typology suggests a considerable settlement continuity over all the phases of the Late Chalcolithic period. In addition, the site yielded also some southern material, including several Bevelled Rim Bowls, and the only example of “Reserved Slip Ware” from the 1995 survey. Although the Late Chalcolithic material was distributed over the whole mound, southern types have been found only in its southern sector. This may suggest the presence of a small southern community within a largely local settlement, like, e.g. at Godin Tepe (Weiss – Young 1975) and Hacinebi (Stein 2001). It is also interesting to notice that Sharmouk is located quite near to Tell Ghazal (no. 180), another large settlement occupied during the same periods.

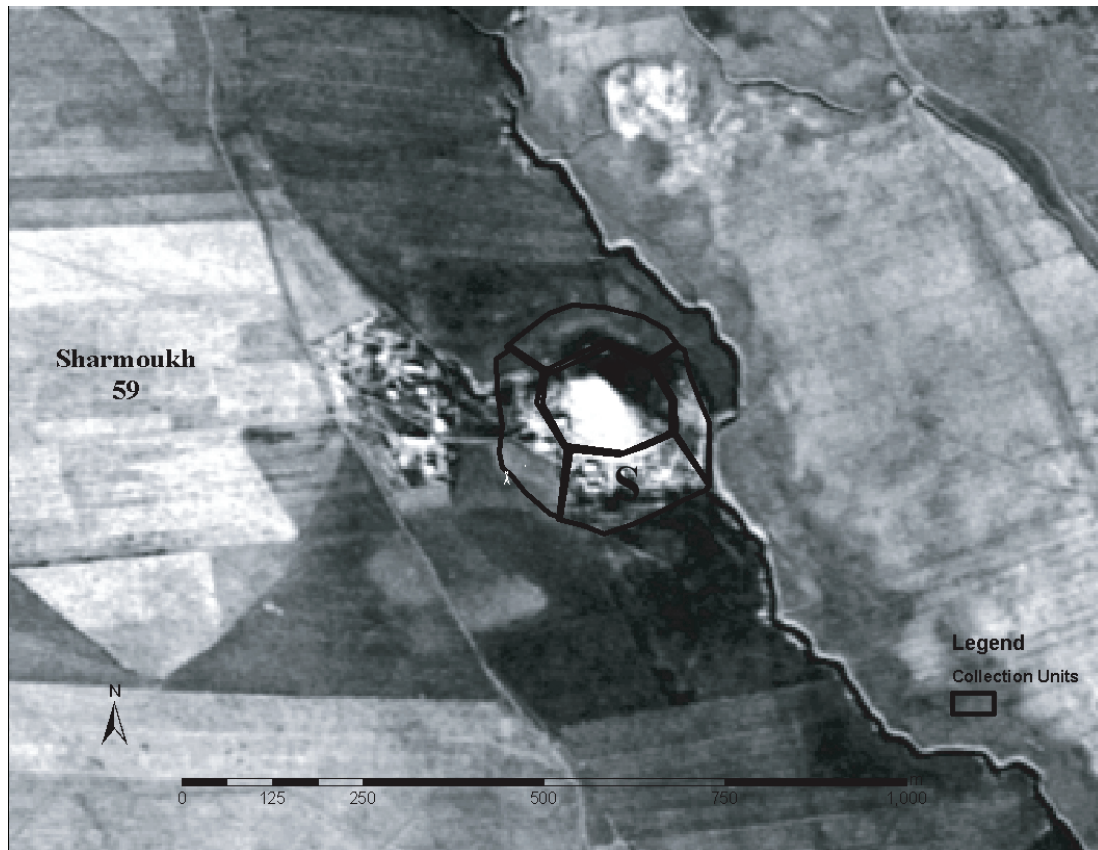


Fig. 8. Tell Sharmouk (site no. 59) with collection units.

Nasr (no. 92, 9 ha) yielded 19 Late Chalcolithic sherds, most of which belong to our Group 3, out of a total of 32. From Sultan el Tellul (no. 223, 7.8 ha) come 23 sherds. These belong to our Groups 4, 5 and possibly 6 — i.e. they include both northern and southern types, the latter attested both in the Middle and in the Late Uruk periods — and therefore suggest a main occupation during the LC 4, possibly continuing into the LC 5 phase. At Mathluthéh Tawila (no. 166, 7.5 ha) the Late Chalcolithic component is certainly a major one: it consists of 19 out of a total of 79 collected sherds, belonging to our Groups 1-3. Abu Farah (no. 60, 6.38 ha) has 12 fragments, which are either generic Late Chalcolithic types, or LC 2 (our Group 2) in date; this site shows however a multi-period occupation, whose third and second millennium components largely outnumber the fourth millennium one.

35 fragments of our Groups 1, 2 and 4 come from Tell Shair (no. 74, 4 ha). Finally, three smaller sites: Abu Hajjeira (no. 61, 3.042 ha), Gunduk Said (no. 148, 1.23 ha) and Sufiyah (no. 66, 1 ha) yielded a significant amount of Late Chalcolithic material (11, 38 and respectively 26 sherds); interestingly enough, all of them appear to be occupied during the LC 2 and 3 phases.

To sum up, with a few exceptions there seems to be a good correspondence between site size and number of collected sherds; furthermore, in most cases the Late Chalcolithic

material was found in different sectors of the mound, i.e. over its whole surface. We can therefore safely assume the presence within the survey area, during the period, of a number of local centres of relatively large size (between 5 and 10 hectares at least) besides Leilan itself. All the largest settlements are located on rather high mounds; most, though significantly not all of them (see e.g. al-Andalus and Sultan el Tellul),<sup>24</sup> are located along the course of present or ancient *wadis*.

The distribution on the territory of the Late Chalcolithic sites (Fig. 7) is on the whole rather homogeneous; an apparent “empty spot” in the south-eastern part of the surveyed region is most probably going to disappear once the data from the other seasons will be included in the study, as shown in Fig. 9.<sup>25</sup> It is especially interesting to notice that the Wadi Radd area, a rather arid, partially swampy region to the extreme South which is almost devoid of settlement in most periods, is not only occupied during the Late Chalcolithic, but appears to be the seat of some of the largest centres. In the northern part of the surveyed area, the population appears to be more evenly distributed on the territory, and the average site size is smaller. Small-sized sites, and/or sites which yielded a small number of sherds, are especially numerous here. They tend to cluster around larger settlements: e.g. Nasr (no. 92) and Abu Farah (no. 60), and especially around Leilan (no. 1), which by this time was already the most important centre in the area, and was probably at the top of a small regional settlement system. With the exception of Leilan and Abu Farah, the largest settlements seem to be located along a line, which approximately follows the course of the Wadi Breibitch in NW-SE direction, crosses the Wadi Radd and continues from here approximately in E direction, and which may mark the course of an ancient route.

We can now turn our attention to the distribution on the territory of the different groups of diagnostics, and therefore to the question of settlement development within the Late Chalcolithic period (Table 4).

The LC 1 (post-Ubaid) phase would be represented by 6 sites, but, as we explained above, the relevant diagnostics (Group 1) are all rather generic and some of them continue in use later on, so that the evidence for this phase is rather dubious.<sup>26</sup> Therefore, we decided to consider it together with the following LC 2 (Gawra) phase, represented by Group 2 diagnostics.

24. Consider, in this respect, that both these sites are located in the southernmost part of the survey region, in an area where ground-water is close to the surface, and which had access to the Wadi Radd swamp water resources (see Ristvet 2005, 45-46; *ead.* in press; Ristvet – Weiss 2005).

25. This figure is based on preliminary identifications of the sherds from the 1997 seasons by Elena Rova, and on information provided by Harvey Weiss and Lauren Ristvet.

26. The question will be re-examined once the analysis of the Ubaid period material, which is currently under way, will be completed.

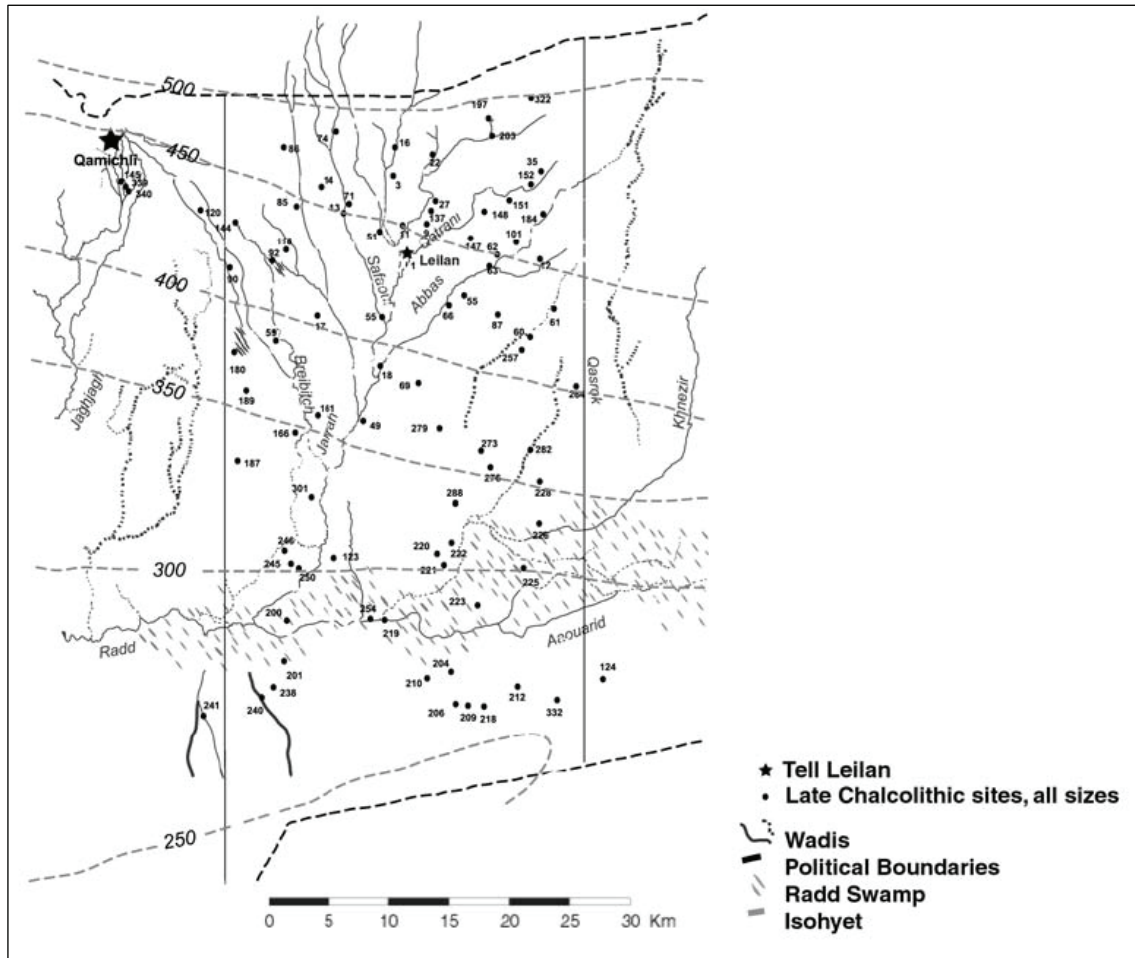


Fig. 9. Tell Leilan Survey 1984-1997: Late Chalcolithic sites, all phases.

All together, the sites attributed to this early section of the Late Chalcolithic amount to 21 (Fig. 10).<sup>27</sup> It has to be considered that, among them, only Abu Farah yielded some of the most characteristic LC 2 diagnostics (like, e.g., type **C 6**, the double-rimmed bowl); the rest of the attributions being based on less distinctive contemporary types (e.g., type **C 2**, the bowl with internally thickened bevelled rim, and type **O 2**, the hole-mouth pot). Settlements seem to be distributed among all size classes, but with a significant component of small mounds. Furthermore, all the larger mounds continue being in use during the following (LC 3-4) phases. We can therefore conclude that the prevailing pattern is probably one of evenly distributed villages, with no clear evidence of settlement hierarchy.

The following settlement phase is represented by the distribution of our Group 3 diagnostics (especially the typical “Grey Ware”, but also earlier variants of the “Casseroles” and “Hammer-head rims”), which define a possibly short-lived, but rather distinctive local

27. Although Leilan was not visited during the 1995 campaign, it has been added to our map on the basis of contemporary material from excavations (Schwartz 1988, period VIb).

assemblage (earlier than the typical “Northern Middle Uruk” as represented by “Casse-roles”, “Hammerhead rims” etc.), to be dated in the early LC 3 period. This assemblage was found at 14 sites (Fig. 11), 8 of which continue from the previous phase, and 4 of which continue into the following one. In comparison with the previous phase, there is a clear decrease, especially in the region around Tell Leilan, in the number of smaller size sites, which may suggest a phenomenon of incipient nucleation.

Site No.	Size	Site name	Groups of Diagnostics					
			1	2	3	4	5	6
61	3.042	Abu Haijeira	x	x		x		
101	0.785	Abbas		x				
60	6.38	Abu Farah		x				
212	64	al-Andalus		x	x			
120	1.08	Arbat			x	x		
144	2.5	Awena		x		x		
137	1.33	Barham		x				
124	0.3	East of Bagheriva	x	x	x			
180	11.96	Ghazal			x	x	x	x?
22	3.75	Gir Dahul			x			
151	4.8	Gre Pre 1			x	x		
148	1.23	Gunduk Said		x	x			
85	3.08	Khazne			x			
123	12.25	Khodr	x	x	x	x		
69	3.75	Marian		x?				
166	7.5	Mathluteh Tawila		x	x			
62	1.77	Nabua		x		x		
92	9	Nasr			x			
184	1	Oubur al Harb					x	x?
9	4.99	Rehava 1		x?				
11	3.48	Rehava 3		x?				
74	4	Shair	x	x		x		
59	6	Sharmoukh	x	x	x	x	x	x?
118	1.2	Shibaniveh		x		x		
66	1	Sufivah		x	x			
223	7.8	Sultan el Tellul				x	x	x?
179	6.4	Tartab 3	x	x	x			
106	4.08	Toueivel				x		

Table 4. Distribution of the 6 groups of diagnostics on the sites of the 1995 Leilan survey.

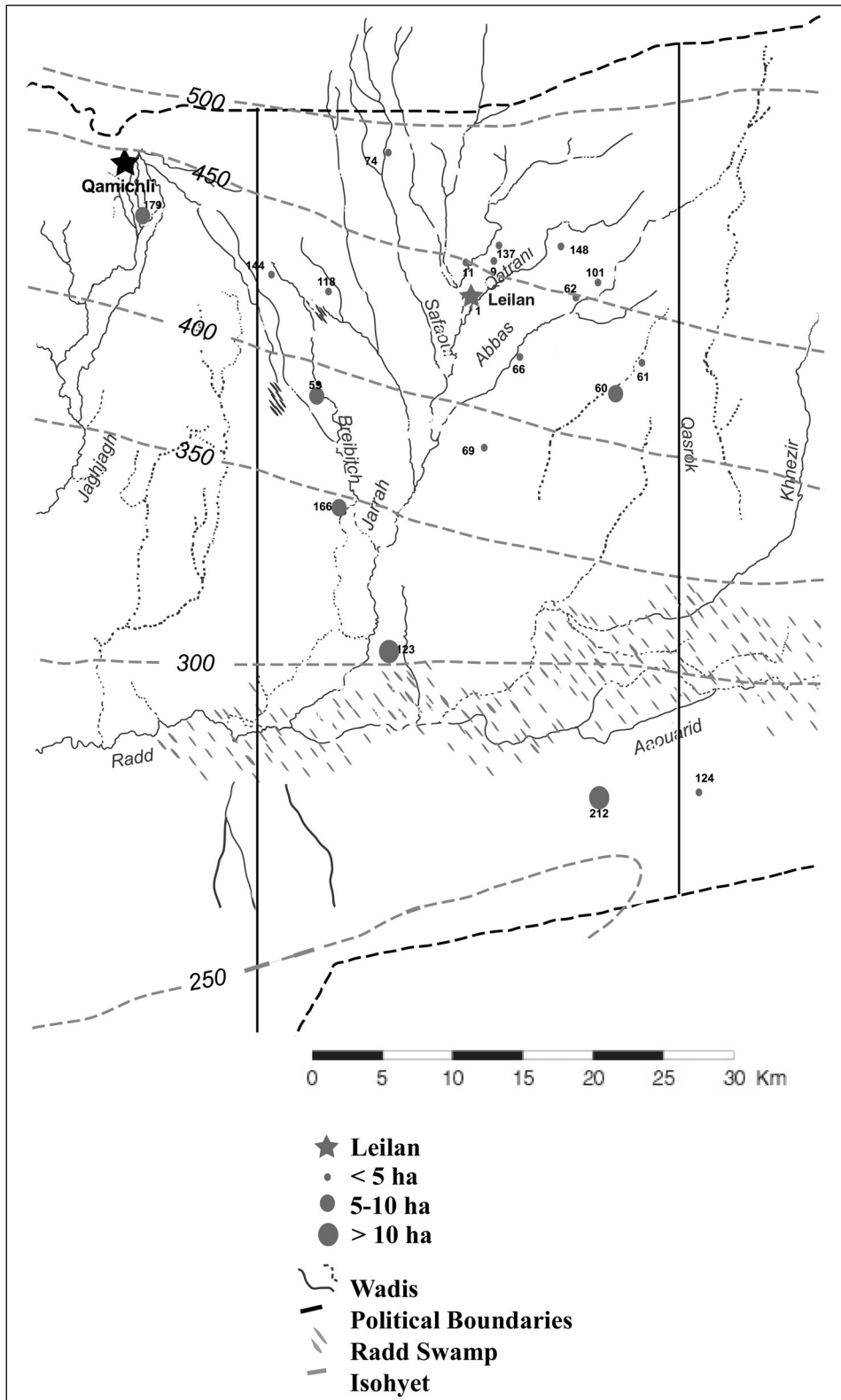


Fig. 10. Tell Leilan 1995 Survey: Late Chalcolithic 1-2 sites.

This trend becomes even more evident in the following phase, which is represented by Group 4 diagnostics. These mark the distribution of the local assemblage (“Casseroles”, “Hammerhead rims” etc.), whose life apparently extends over both the LC 3 and LC 4 periods. Group 4 diagnostics have been found at 12 sites (Fig. 12). The settlement pattern seems to be centred around three foci, represented by the larger sites, located on the Wadi Breibitch (Ghazal, no. 180 and Sharmouk, nos. 53-138), on the Wadi Jarrah (Leilan, no. 1),<sup>28</sup> and on the Wadi Radd (Khodr, no. 123, and Sultan el Tellul, no. 223) respectively. In general, small sites are completely missing in the southern half of the survey area, while a number of them are still present to the North, along the minor tributaries of the Wadi Jarrah.

Finally, as we mentioned before, southern types (Groups 5 and 6) have been recovered only at five sites including Leilan (Fig. 13).<sup>29</sup> With the exception of a fragment of Bevelled Rim Bowl from the small site of Qubur al-Harb (no. 184), to the North-East of Leilan, which could be a casual find, they all come from larger settlements. These are the same which emerged as local centres during the previous phase (Sultan el Tellul,<sup>30</sup> Ghazal, Sharmouk and Leilan). Among them, Sharmouk stands out both for the number (more than 20 fragments) and for the variety of southern types. If the preliminary data from the 1997 survey are also taken into considerations, two further sites can be added: Dabagh (no. 238), and Aweinat ibn Harshan 4 (no. 254), both of them located in the Wadi Radd area (Fig. 14). This could support the hypothesis of a special concentration of southern elements in this area, which was relatively free from local settlement. At least in one case (Sharmouk), as already discussed above, we may have evidence for the presence of a small southern “enclave” within a larger local site.

As for the date of the southern presence, it seems significant that no exclusively “Late Uruk” types have been found at any of the surveyed sites. This points to a prevalingly LC 4 “Middle Uruk” presence, partially contemporary with the local settlement pattern represented by Group 4 diagnostics, and suggests a significant settlement decrease during the last centuries of the fourth millennium BC,<sup>31</sup> which would be coupled by a complete abandonment at least of the southern part of the survey area.

28. Although Leilan was not visited during the 1995 campaign, it has been added to our map on the basis of contemporary material from excavations (Schwartz 1988, periods V and IV).

29. Like in the previous cases, although Leilan was not visited during the 1995 campaign, it has been added to our map on the basis of contemporary material from excavations (Schwartz 1988, period IV).

30. The site was visited during the 1997 season as well, and the presence of southern Middle/Late Uruk material was confirmed on this occasion.

31. This impression could find further support in the very small number of occupied sites of the early third millennium BC, the ceramic material of which is presently under study by Monica Arrivabeni (for a preliminary assessment, see Ristvet 2005, 58; Weiss 2003, 601, fig. 12 p. 605).



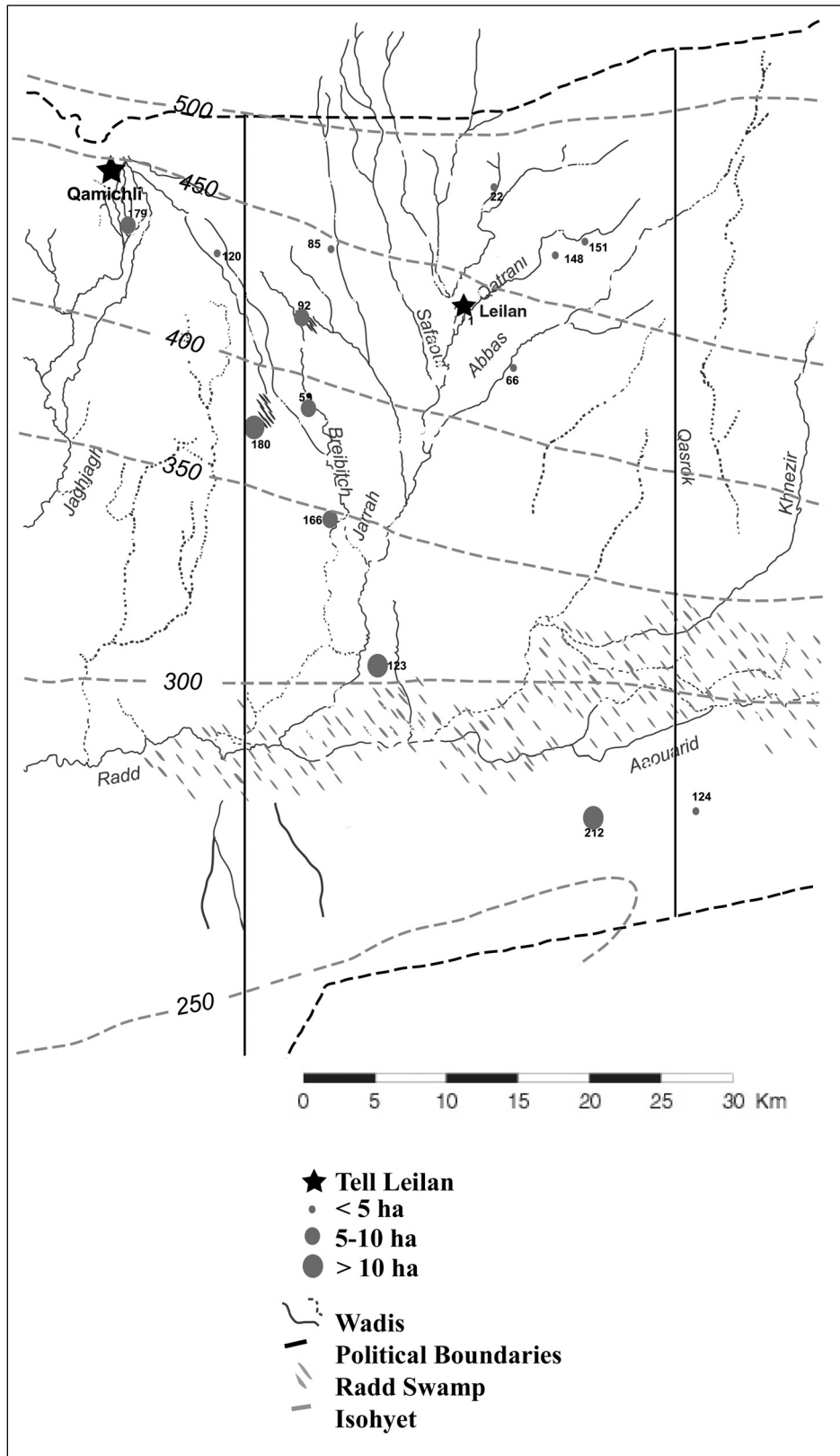


Fig. 11. Tell Leilan 1995 Survey: Early Late Chalcolithic 3 sites.

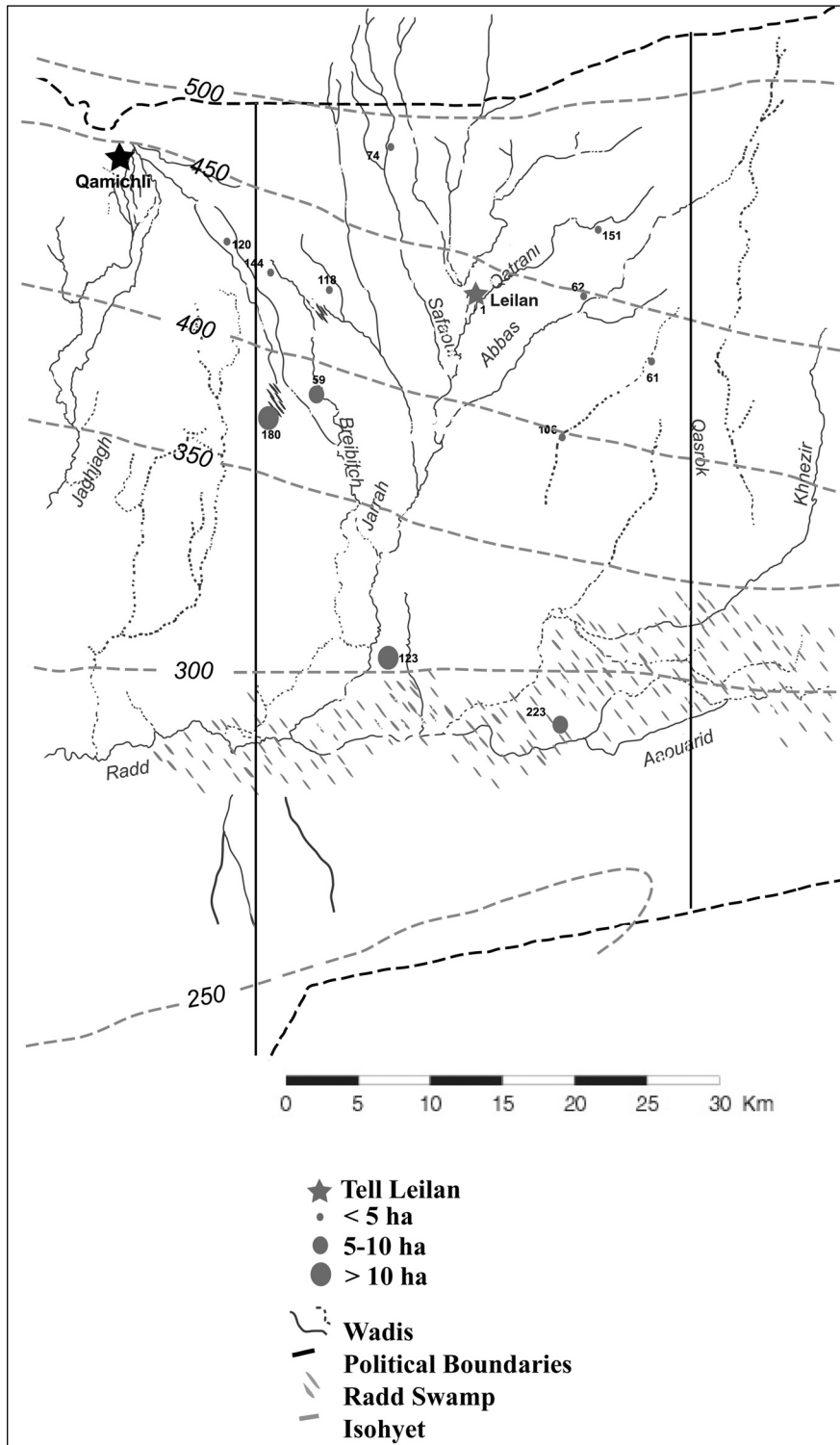


Fig. 12. Tell Leilan 1995 Survey: Late Late Chalcolithic 3 – Late Chalcolithic 4 sites (local assemblage).

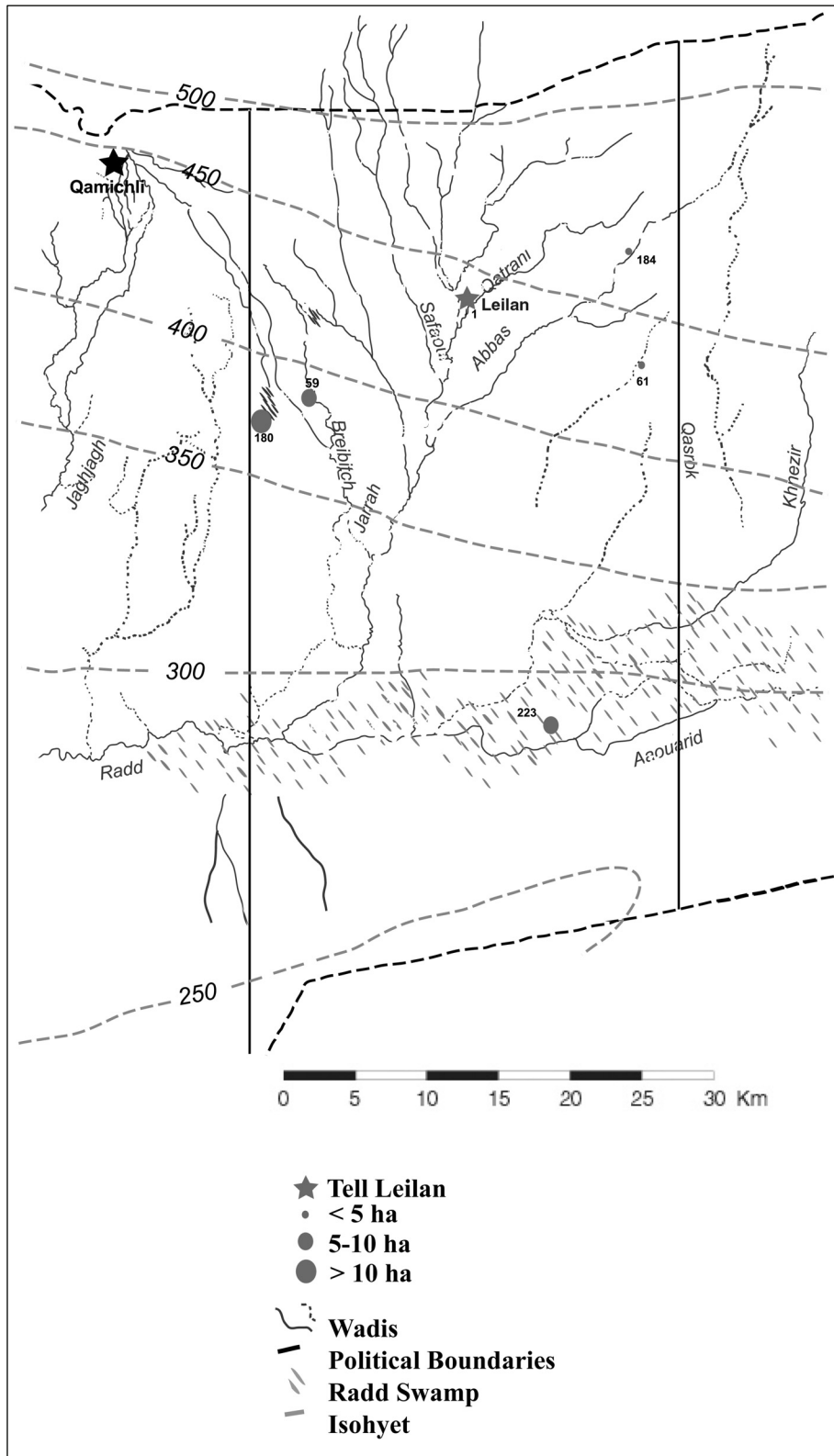


Fig. 13. Tell Leilan 1995 Survey: Late Late Chalcolithic 4 – Late Chalcolithic 5 sites (southern Uruk assemblage).

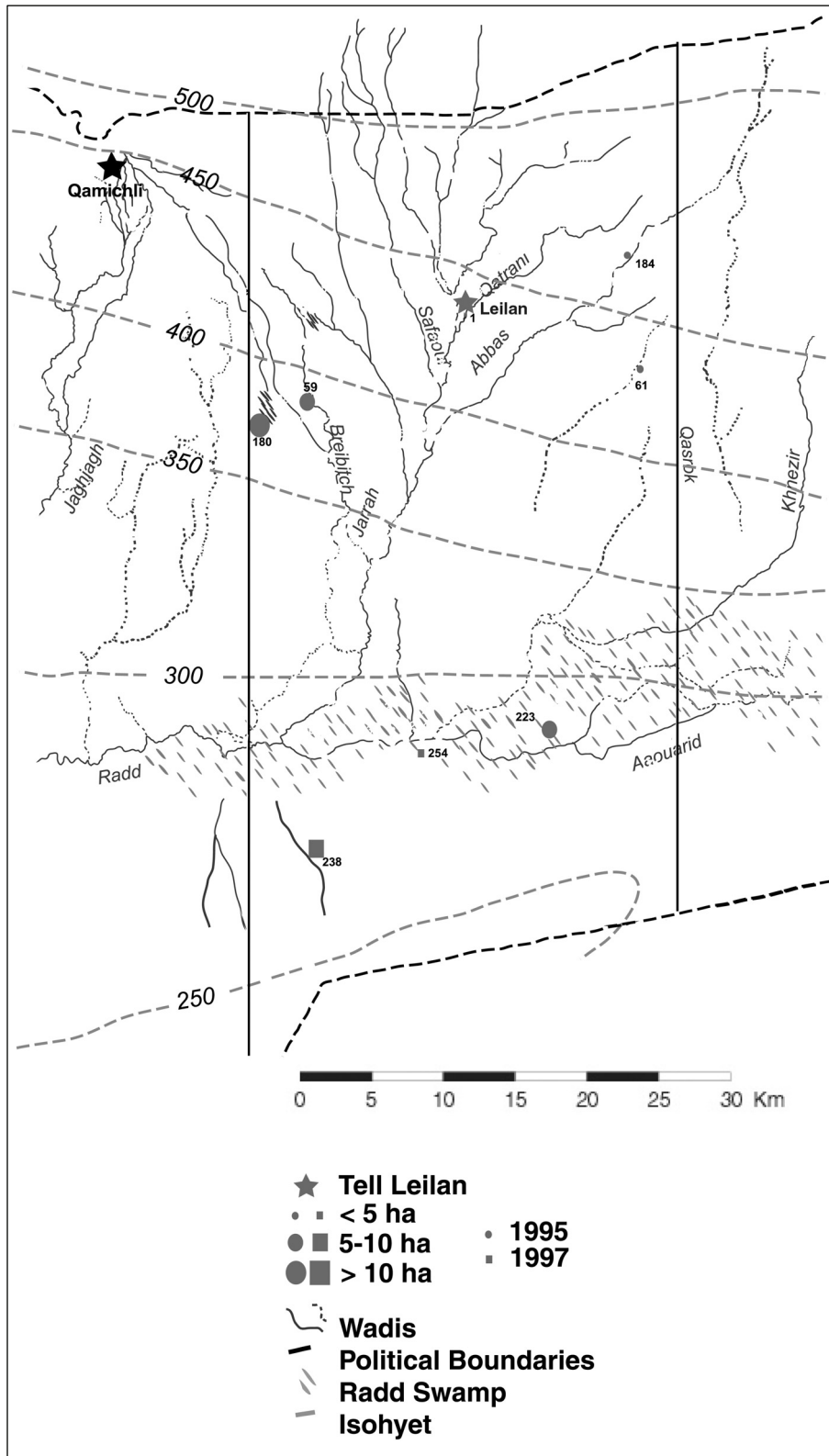


Fig. 14. Tell Leilan 1995 + 1997 Survey: Late Late Chalcolithic 4 – Late Chalcolithic 5 sites (southern Uruk assemblage).

5. *Conclusions: the 1995 survey data in the context of present research, and their historical interpretation*

To sum up, the data from the 1995 survey allow us to propose for the Leilan region a development, during the fourth millennium BC, characterised by different phases of growing complexity, followed by an apparent collapse.

The first phase (LC 1 and 2 periods) shows an increase in the number of village-size sites homogeneously distributed on the territory according to the traditional settlement pattern of the Ceramic Neolithic and Chalcolithic periods. From this moment on, the number of occupied sites constantly decreases as a consequence of different and partially contrasting phenomena, which follow each other in the course of time. At first, through a phase of incipient nucleation (early LC 3), a phase is reached characterised by local proto-urban developments (LC 3-4), in which the number of occupied sites decreases, but their average dimensions increase considerably. In the course of the LC 4 phase these local developments are followed by, and partially coupled with, a limited intrusion of southern elements. Finally, by the end of the period (during the LC 5 phase), the latter is followed, in its turn, by a rather deep crisis. This involves the abandonment of most settlements in the area, which continues to be under-populated during the first centuries of the third millennium BC.

The fine periodisation adopted for the Leilan survey material (made possible by the availability of well stratified ceramic sequences from recently excavated sites, like Tell Brak and Hacinebi Tepe) allowed us to follow these developments in detail, and thus to provide a model which may be tested and refined on material from elsewhere in the Jazirah.

Although no direct comparison is possible until now with the publications of other surveys in the region, since even the most recent ones generally distinguish only between local Late Chalcolithic material (our Groups 1, 2, 3 and 4) and southern Uruk material (our Groups 5 and 6), it is nevertheless clear that the results of these surveys are in general agreement with those arising from the present study. As a matter of facts, in most cases it appears that: a) the overwhelming majority of settlements are local in culture, and the southern presence in the region is rather limited, and b) an indigenous trend toward increased size settlement and urbanisation is evident in the earlier half of the fourth millennium, before any perceptible southern influence.

Just to make a few examples, the 1999 survey around Hamoukar (Ur 2004, 132-170) found 13 local Late Chalcolithic sites, and only 5 sites with southern Uruk material; while the 1997-1998 survey around Tell Beydar (Ur 2004, 170-171) found only 2 "Late Uruk" sites out a total of 29 sites occupied during the fourth millennium BC.<sup>32</sup> To these, we may compare the data collected between 1986 and 1990 by Wilkinson and Tucker in the Iraqi northern Jazirah (Wilkinson – Tucker 1995, 43-44, fig. 35), with 66 Late Chalcolithic sites, of which only 7 yielded southern material; and those collected in the Balikh valley by Akkermans (1984, 188-190), who found only 2 small sites with southern material, against 5

32. Neither Eidem – Warburton 1996, nor Lyonnet 1992, 105, make a clear distinction between northern and southern types; to judge from the illustrated sherds, however (e.g., Lyonnet 1992, fig. 2), it seems clear that the bulk of the collected material belongs to the northern assemblages.

large local Late Chalcolithic settlements. This cumulative evidence from landscape studies provides the framework into which the early urban developments now attested by excavations at Tell Brak (Matthews 2003, chapters 3 and 4), Tell Hamoukar (Gibson *et al.* 2002) and Tell Leilan itself can be better understood.

The development pattern here proposed for the first part of the Late Chalcolithic period (LC 1, 2 and the earlier part of LC 3), for which no comparative evidence is available until now, should be considered as rather tentative. The settlement pattern for the following LC 3-4 phases, on the contrary, appears relatively sure. On this basis we can briefly re-examine, from the point of view of the Leilan survey data, the question of the relation between the local and the southern assemblages, and thus provide a new contribution to this much debated question.

As for the date of the southern presence, as we explained above this seems to us to be mainly of “Middle Uruk” rather than of “Late Uruk” date, although a continuation into the following period cannot be excluded. Be that as it may, the southern penetration certainly occurred into an area already characterised by a significant degree of endogenous complexity. In no cases it takes the form of a newly founded “colony”-type settlement, and only in one case (Sharmouk) possibly of a small enclave of foreigners within a local settlement. The prevailing pattern appears to be that of a limited presence of southern pottery, or of imitations thereof, maybe not always accompanied by a physical presence of foreigners, on sites characterised by a prevailing local assemblage. This may explain the presence of a few “hybrid” types, mainly southern shapes and decorations on local chaff-faced fabrics, which possibly represent a limited assimilation of southern elements by the local population.

Whereas in the northern part of the survey area the southern presence appears to be scanty and to be limited to the largest sites, a concentration of southern material can be noticed in the southernmost part of the region, i.e. in the Wadi Radd area. A similar concentration of “Late Uruk” sites in the southern part of the survey area was noticed by Wilkinson and Tucker (1995) in the Tell al-Hawa region. This fact may be part of a general tendency of the Southerners to settle along the southern borders of the northern regions (cf. the density of Uruk “colonies” in the Syrian Middle Euphrates region and their rarefaction further to the North), maybe to avoid the areas more densely settled by the local population.

If, on the other hand, as it has often been suggested, one of the reasons for the Uruk expansion in the North was the control of trade and trade routes, this distribution of southern material may mark the course of a route which runs from the Tigris, through the Iraqi Jazirah and the Wadi Radd region, to Tell Brak, which not by chance represents the most important site with a significant southern component in the Khabur region. North-South routes following the course of the *wadis* Breibitch and Jarrah may in this case have provided the communication with the centres located to the North, whose culture maintained a distinctly local character.

In more general terms, the significant number of settlements, both with southern and local material, located in the Wadi Radd area and even to the South of this, may suggest the presence, by the mid-fourth millennium BC, of relatively favourable climatic conditions,

which allowed the settlement to spread to this marginal area.<sup>33</sup> The unsubstantial LC 5 and post-LC 5 occupation and the concentration of the following early third millennium settlement in the northern part of the Leilan survey area would be in accordance with the hypothesis (Weiss – Bradley 2001; Weiss 2003, 606-609) of a worsening of these conditions by the last centuries of the fourth millennium BC.

#### *Acknowledgements*

We would like to express our gratitude to Prof. Harvey Weiss for entrusting us the study of the Late Chalcolithic material from the Leilan Regional survey, and to the *Direction Générale des Antiquités et des Musées* in Damascus for its support to the survey project. We would also like to thank Dr. Lauren Ristvet, who provided the base maps of the survey area and the updated list of the visited sites.

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33. Notice that a similar expansion of settlement into this generally underutilised, agriculturally marginal area has been reported for the the Akkadian (Leilan IIB) period (Ristvet 2005, 61; Ristvet in press).

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