الجمهورية اللبنانية
مكتب وزير الدولة لشؤون التنمية الإدارية
مركز مشاريع ودراسات القطاع العام

The UNESCO / Lebanese Government Archaeological Project of Beirut City Center

Republic of Lebanon
Office of the Minister of State for Administrative Reform
Center for Public Sector Projects and Studies
(C.P.S.P.S.)

By

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to the City Center Archaeological Project,
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ABSTRACT

In the aftermath of the destruction of Beirut, three phased excavation project was planned giving archaeologists a unique opportunity to study the various strata of the rich heritage of the ancient city. Two main levels from a diagnostic sounding are discussed here. Level 2, is most probably contemporaneous with the Early Roman period C.40 BC to 100 AD.as the pottery assemblage suggests.

Level 3, important new geological structures were uncovered. Channel induced sediments got deformed into small asymmetric compressional folds known as seismites as a result of an earthquake. Some of the finer sediments exhibit liquefaction characteristics which indicate high stress and resultant tremendous pressure behaving like a viscous liquid which have intruded into the overlying layers.

The Lebanese University Excavation in the South of Martyr's Square-Sondage Bey 001

We opened up an area of 20m x 15 m, and descended in steps- a sort of an inverted pyramid, because in the absence of proper shoring of the sides of the sondage, this method ensures reasonable measures of safety.

The mechanical digger was used to remove thick layers of rubble (up to 2.50m thick) after which we reverted to traditional methods using the pick and the trowel.

A masonry structure, orientated east / west and running along the southern end of the sondage was uncovered. The top and upper parts of the northern face of the wall were coated with clean white plaster, but we could not excavate around the southern face of the wall as it lies beneath the modern road, (permission to reexcavate the sondage so as to study the southern side has been promised). However, three north/ south cuts were made along the top of the wall revealing a thickness of c.2.00m.

Stratigraphical Sequence

As excavations proceeded, it became clear that we had uncovered a wall of several phases the stratigraphy of which is very complicated.

1- Construction of this wall preceded the Augustan occupation of Berytos.Remains of this phase lie beneath the present water table of the city at a depth of 5.80m from the surface. A few black glazed , Hellenistic sherds were retrieved after we pumped out the water from one area of the sondage.

2- A Roman occupation level linked to the wall. Most probably it is contemporary with the Augustan period.

3- The earthquake event which caused great destruction and dislocation of the wall, and left its clear marks in the sediments against the wall.

4- A period of abandonment of the site where a new cyclic sequence of deposited sediments (without structural deformations) were piled up against the wall.

5- Levelling of the dislocated wall by a layer of compact earth.

6- A new wall built of limestone blocks coated with a clean white plaster.

7- On top of the latter, a Medieval wall with a different orientation was built .Glazed pottery typical of that period was found.

Only levels 2 and 3 will be discussed in this paper.

Level 2 :

Is characterized by a vast and homogeneous pottery dump/deposit (context 515) which covered the whole excavated area from east to west. Its northern limits are unknown because it was cut by later disturbances, Fig 1. This pottery dump/deposit is most probably contemporaneous with the early Roman period-possibly shortly after Augustus renamed the city as Julia Augusta Felix Berytus, and granted it jus italicum. (Jidejian.N., 1993, p.77)

The size and extent of this context can be visualized from the following statistics :

Pottery Class	No.of sherds	No. of fabrics
Terra Sigillata	161	11
Amphorae	709	38
Unguentaria	14	5
Common Pottery	2408	13
Black glaze	3	1
Campania ware	3	1

The study and analysis[1] of pottery is still in its preliminary stages. An initial sorting of the material was made based on classes: terra sigillata, amphoras, glazed pottery, common pottery etc, then into forms catalogued according to morphological criteria. The study of fabrics, very important for suggesting the provenance of the fragments, has been for the moment, carried out at macroscopical levels only, but petrographical analysis of sample sherds will soon be integrated.

[1] We are gratful to Dr Beatrice Guiggi who catalogued and did a preleminary analysis of the pottery from sondage Bey 001 .

Colours are described according to Munsell Soil Colour Charts. Terms like ,very small, small , medium and big are used for inclusions barely visible to the naked eye, inclusions with a diameter shorter than 1 mm, diameter between 1 and 2 mm, and diameter longer than 2 mm respectively. By medium frequency is meant 20 inclusions per squared cm.

For the purpose of this paper only a few samples from the following three classes will be discussed here.

A- Terra Sigillata

B- Amphorae

C- Unguentaria

A- Terra Sigillata Italica

The "double dipping streak" (Robinson. 1959. p.6) is applied to only a third of the Terra Sigillata sherds of context 515. The rest are treated by the brush glossing method as a large percentage of fragments have lost their true glaze.

Bey 001/515/90- Small plate stamped on the inside with letters RERE, in Planta Pedis Reddish yellow (M5 YR 6/6) hard, solid, coarse to the touch, fracture with regular borders, no inclusions. Flat base,short ring foot ,carinated profile with a circular ridge around the floor of the plate.Fig 2, 3 .

cf. Hayes 1976,p.9, pl.8 .27, and 1991, pls.VIII-X

Eastern Sigillata A

Bey 001/515/154-A bowl with a squared lip and beaded rim decorated with an egg and tongue band, Convex body .

Pink (M 7.5 YR 8/4), hard, solid,powdery to the touch; fracture with regular borders; small red inclusions with sparse frequency.Fig 2 .

cf. Atlanta II, pl.II.7, (Form 9) p.18

Bey 001/1011/5- Cup with a contracted lip and carinated body, a band of rouletting on the carination, base missing.
Reddish yellow (M 5 YR 7/6), very hard, solid, powdery to the touch, fracture with regular borders, no inclusions. Fig. 2 .

cf. Atlante II, pl. VI : 15

Bey 001/516/30- Globular body, convex base, ringfoot, s profile.
Reddish yellow (M 5 YR 7/6) very hard, solid, powdery to the touch, fracture with regular borders, no inclusions.Fig. 2 .

cf. Atlanta II, pl.III :10 .

B- Amphorae

Bey 001/515/378- Flared body cylindrical base with rounded bottom. Red (M 2.5 YR 4/8), very hard, porous, powdery to the touch, fracture with irregular borders small to very small white inclusions with high frequency.Fig 2 .

cf. Hayes 1991, pl. XIV.8.

Bey 001/515/154-Flared body, beaded base, rounded bottom.
Reddish yellow inside, pale brown outside (M5 YR 6/6-10 YR 6/3), hard, porous, coarse to the touch, fracture with regular borders, very small black and shiny inclusions with sparse frequency. Fig.2 .

cf. Hayes, 1991, Fig. XXXVII. 7

Bey 001/515/121- Flared tilted body, base has a short knob encircled with a ring.
Reddish yellow (M.5 YR 6/6), hard, porous, coarse to the touch, fracture with irregular borders, small to very small white, black, brown inclusions with sparse frequency, Fig 2 .

cf. Hayes 1991, Fig. XXXVII. 2

C- Unguentaria

A few forms of this class were found in context 515. the connection of these vessels with funerary rites have been discussed in detail with an exhaustive bibliography by V.Anderson-Stojanovic, 1987.

Bey 001/515/8- Narrow vertical neck, globular body with shoulder, narrow vertical base, flared and flat.
Reddish yellow (M.7.5 YR 6/6), hard, solid, powdery to the touch, fracture with irregular borders, medium to small pale yellow white inclusions with medium frequency. Fig 2 .

cf. Hayes 1991, Pl. XIV. 3 , 4.

Bey 001/515/2- Spindle shaped, rim and base missing. Traces of red glaze appear on the outside. Yellowish brown inside, reddish yellow outside (M 10 YR 5/4- 5 YR 6/6); very hard, porous, coarse to the touch, fracture with irregular borders, big to very small red and white inclusions with medium frequency. Fig 2 .

cf. Hayes 1991 Pl. XVI. 5-8.

Earthquakes and Archaeology

Level 3 :

Destruction as a result of an earthquake[2] is seen both in dislocation of the main wall and fallen masonry but most important, in the geological structures imprinted in the sediments piled up against the wall.These near-horizontal (probably channel-induced) episodic cyclic depositional packages of sand, silt and clay comprising the piled up sediments, were subsequently deformed into small asymmetric tight compressional folds known as seismites as a result of an earthquake. Fig 4 .

[2] I am gratful to my husband Professor Beydoun who happened to be on the site when we uncovered these sediments, he instanly recognied and pointed to us the clear marks of an earhquake .

Each cyclic package denotes decreasing depositional energy conditions, in other words, during higher energy water flow, coarse sand deposits, whereas during lower energy flow, silt deposits, and in slow to sluggish flow , clay deposits.

Some of the finer sediments exhibit liquefaction characteristics which indicate abrupt high stress and resultant tremendous pressure, temporarily making them behave like a viscous liquid (because of the water in them).These have been intruded into the overlying sediments as fluid escapes upwards, Fig 5 .

Hence the inverted stratigraphy where some early Roman period pottery sherds were found engulfed within these "fluids" while others slumped down into the sediments. (Fig.6) After removing the sediments, dislocation of the wall appeared in the form of a large fissure as well as marked collapses in certain parts of the wall (Fig.7). For the area limits of the Early Roman pottery deposit, please see (fig.8) .

The Northern Wall (along points D,E,F)

Wall 520, which is partly demolished, runs parallel to an inner wall 520A, the inner side of which is plastered. Perhaps these two walls formed the sides of a water canal. However, the interesting thing about wall 520 is its technique of masonry. This method is known as 'framework' technique (Fig. 9-10) and has been used since the Phoenician period i.e. "upright orthostats alternating with spaces filled in with rubble." (S. F. Bondi, 1988, pp.266-271).

Excavation is in progress, and our team has moved to an adjacent area Bey 004. A coordination of strata and finds between the two zones is being studied.

Chronology

One shell from context 515 was dated in the laboratory of Prof. Claudio Vita Finzi,UCL, as 1700±100years, i.e. between 150 AD to 350 AD (letter from Prof. Vita Finzi, 2nd August/1994). However, it will be seen below that the pottery assemblage from the same conext points to an earlier date.

Two kinds of Sigillata, Italian and ESA, have been sampled in this paper as North African and Cypriot Sigillata appear mainly in Bey 004.

It is generally considered that the initial date of production of the ESA is c.150 B.C. (Hayes, 1991,p.32), but its exact provenance is still controversial. However, recent analysis seem to point to a Syrian manufacturing centre (J.M.Elam et.al, 1989, Pp.179 to 183). Hence the wide and early distribution of this class in the region. The following three ESA bowls point to a date between first century BC and early A.D.

Bowl, H., fig.2 : Hayes form 47 (Atlante II,pl VI : 15 p.35). Similar bowls are found in Paphos (Hayes 1991, Pp.178 n.19, 180,n.11). Gebara, following Kenyon, attributes this type to a period between 20BC to 20 AD (Gebara 1982,p.412).

Bowl/ cup, j, fig.2 Hayes form 22 (Atlante II, pl.III, 10 to 13, p.23), end 2nd century BC to 10 AD.
Hayes now prefers a mid first century BC date for this bowl (Hayes,1991,p.33).

Bowl,a, fig.2 Hayes forms 9 to 11 (Atlante II,plII,7 to 9). Rim is decorated by a band of eggs and tongues. The date proposed for this bowl is 50 to 25 BC.

Bowl,b, fig.2 Italian Sigillata, very dense thin walled, stamp in planta pedis, could be mid 1st century A.D.
Hayes proposes a date between 50 to 80 A.D (Hayes 1976,p.9).

The three amphora bases are attributed to the late Hellenistic period (Hayes 1991, fig.XXXVII : 2, 7, pl.XIX : 8). Base, e, seems to be a copy of a Knidian type. According to Hayes, this toe treatment appears in Paphos on an amphora of Roman Imperial date (Hayes 1991,p.85).

The two unguentaria seem to be very similar to those retrieved from Paphos and published by Hayes, (1991,Pp.68 to 72). But in view of their context a date at the end of first century BC to early AD would seem more likely.

Finally, it is impossible to give an absolute date to the earthquake which succeeded the early Roman level. Unfortunately no organic matter could be collected from the sediments as samples for C14 dating. All that can be stated at the moment is that major earth tremors must have occured between 200 A.D. and 800 A.D. It is hoped that after cleaning the southern side of the wall, new evidence as to the dating of the earthquake could be obtained .

Excavation in BEY 004

Work in this zone started on the 28th of November /1994. It should be stressed again that for the first two months (December and January), most of our work involved removing a thick layer (2:00 - 2:50m) of rubble which was laid on by SOLIDERE in September 1994, and which covered an area of 4500 square meters (fig. 11). Removing this rubble was a priorty as it was soaking rain water as a result of which extensive seepage took place and turned the excavation into a quagmire (fig.12).

At the beginning, we used a bulldozer for a few days, then we engaged a bull charger and two mechanical diggers which all remained working with us till mid-February, after which we disposed with the bull chargeur, and used the diggers only (expenses of the machines were paid by SOLIDERE except for the first week as the contract with SOLIDERE was not yet signed.)

Actual archaeological digging was concentrated at first in an area of about 500 square meters, and we expanded gradually as rubble was being removed. We have now actually excavated an area of 1300 square meters (fig.13).

The zone of our excavations has been greatly disturbed both in antiquity, and in modern times. A savage destruction by fire took place during the Byzantine period where roof tiles, marble friezes, and mosaics were burnt and broken to pieces. A very similar situation took place unfortunately in modern times namely during the recent civil war. Clandestine excavations were practised by looters, either looking for modern treasures from the nearby jewellery stores which flourished during prewar days, or perhaps for ancient treasures as well. Pieces of a beautiful mosaic made from small stone cubes were thrown into modern rubble. Looters, probably attempted to remove the mosaic and failed which resulted in the mosaic being savagely massacred and its fragments thrown all over the place.

The northern sondage of Bey 004/1993 was a priority. We began emptying the area, and thanks to our architect Mr. Gereige who was able to precisely define the sides of the sondage due to an excellent system of square grids and reference points, we were able to recover the walls of the sondage intact. From this small sondage 4mx4m, we expanded till we uncovered an impressive hall measuring twenty three meters North/ South and twelve meters East / West. Two parallel rows each consisting of four alternating piers divide the hall into three sections (fig. 14). These piers must have carried arches or perhaps a second floor as a thick layer of reddish mortar still appears at the top of each pier. The walls of this impressive structure went through several phases of rebuilding. A reuse of earlier stones and parts of columns are evident in the lower courses of the walls. The foundations of these walls were laid above a plastered floor which according to retrieved pottery could be dated to the end of 6th and beginning of 7th century A.D. A succession of occupation layers and floor levels were recovered under the plastered floor. The earliest level we reached here was a road paved with flagstones in the middle of which a water conduit passes (fig. 15). The road is orientated NE / SW and probably extends further west where it joins the Cardo Maximus at right angle. Medieval foundations still cover part of the road which we shall soon remove so as to assess the exact size of the Roman road. A curious feature appeared in this hall. A sort of a cavern appeared in the south east corner. At first we thought it could have been formed by subterranean water channel movement. But after expanding to the north, we uncovered a similar feature in the NE corner of the structure exactly opposite the South / East so- called cavern. The only exception is that the NE cavern was blocked by a thick layer of hard mortar behind which a row of flag-stones appeared. Again the looters might have been intrigued by this stone like cover and had broken it only to find masonry structure with a very narrow passage behind it.

Squares VIH, VH

The northern side of square VIH and half of square VIG consisted of a heap of stone rubble. This is why it was too dangerous to excavate near the northern side ,because the stones might have caved in and fell on us. The DGA, very wisely gave us a permission to extend a few meters towards the north. After clearing the rubble, we uncovered a stretch of 15 meters long of a wall which seems to be the western extension of the northern wall of Hall A, (fig. 17). Opposite that wall , and forming the southern side of square VH, and parallel to it, a wall with a different masonry appeared (fig. 16). This technique of masonry was used during Medieval times, and even earlier. However, the precise dating of this structure requires further analysis and study.

Squares VIG,VIF,VG,VF

These squares cover an area of 400 square meters. Excavation here was very interesting as we uncovered an archaeological sequence from the Ottoman period down to Roman times.
Characteristic of the Ottoman period are the sandstone arches with deep foundations. These were accompanied by beautiful Iznik pottery.

Beneath the foundations of the Ottoman period structures, we discovered a late Byzantine level, the architecture of which is not well preserved However , several broken amphoras were found in-situ (fig. 18), as well as several bronze and terra cotta lamps (fig. 19).

A savage destruction by fire covered the total of these squares. The thickness of the destruction layer is about 0.75m. Walls and roofs collapsed on the floors. The roof tiles were broken into little fragments (fig. 20) under which charred wooden beams were found in-

situ(fig. 26) as well as carved pieces of a beautiful marble frieze portraying various incidents in their history and in their religion, (fig. 21). Moreover, bronze vessels were found, two almost intact, but the third is partially crushed by the weight of the collapsed roof and still carries a fragment of the dismembered mosaic floor,(fig. 22, bottom).

A new level appeared after we removed the thick destruction layer. Elongated amphoras (carrot shaped according to Hayes), were found in-situ (fig. 23). According to their style they seem to belong to the Roman period.

An impressive dallage covering a water canal stretching from north to south ends in a transversal canal at the southern end, (fig. 25).

An interesting marble statue has unfortunately lost its head. It was found in a rubble heap , and not in a stratified level. This is why one cannot be sure about its dating, though the style seems to be late Roman.

For an absolute chronology of the various levels we have uncovered, we sent bone samples to the British Museum for C14 dating with Mr Marquis. I hope he has handed them to the right person in charge. So far I know nothing about them .

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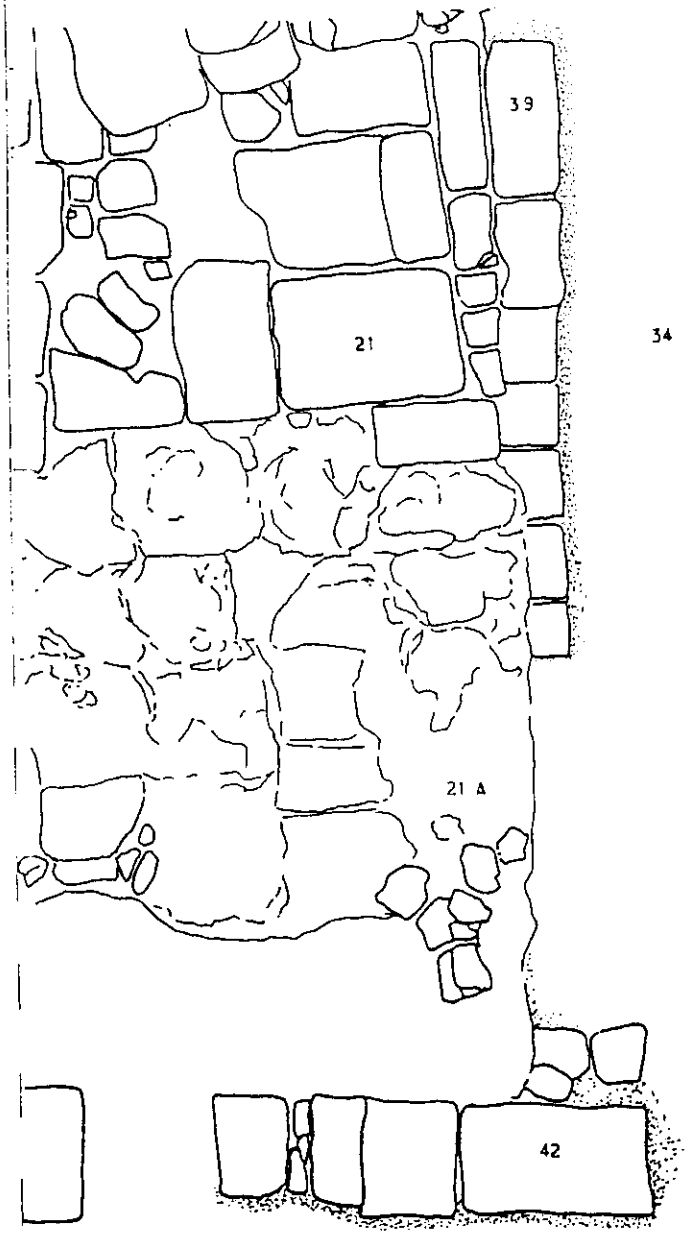
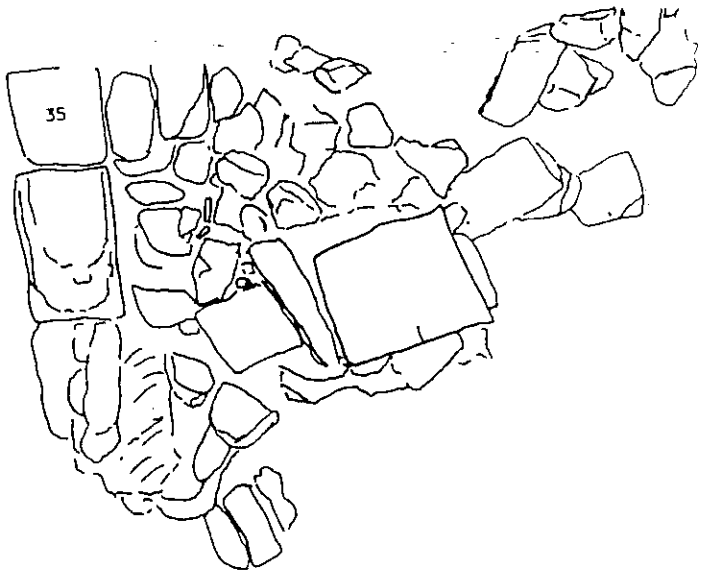
UCL University College of London, University of London .

List of Expenses for March 1995

Outsstanding

Staff	Bill nos or Dates	Amount in U.S. $
1 Scientific Director 1 Architect 2 Archaeologists 10 Stagiaires		1200.00 950.00 1400.00 2500.00 **6050.00**
Workmen	bill 7355 bill 7379 bill 9669 bill 9676	350.00 350.00 730.00 560.00 **1990.00**
Films (Prints, Slides and redevelopment)	bill 2151 bill 000119 bill 13/2/95 bill 2187 bill 15/3/95	28.00 207.80 85.00 29.00 11.00 **360.00**
Stationary	bill 28/3/95 bill 4133 bill 15/3/95 bill 4125	46.00 24.00 5.50 8.00 19.00 **102.50**
Material for the excavation 1table 2 stands for the table 1table with a mesh surface for pottery. pottery stands Plastic bags for pottery	 bill 14/3/95 bill 35604 bill 1012 bill 555	 110.00 11.00 28.40 23.00
Transport	bill 1 bill 2 bill 3 **Grand total**	110.000 75.000 55.000 240.000L.L.= /150US$ **8834.90$**





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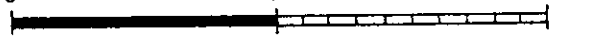
VI G



1- 2- 3 : Bronze Vessels
4 : Charred wooden beams
5 : Burnt fragments of mosaics

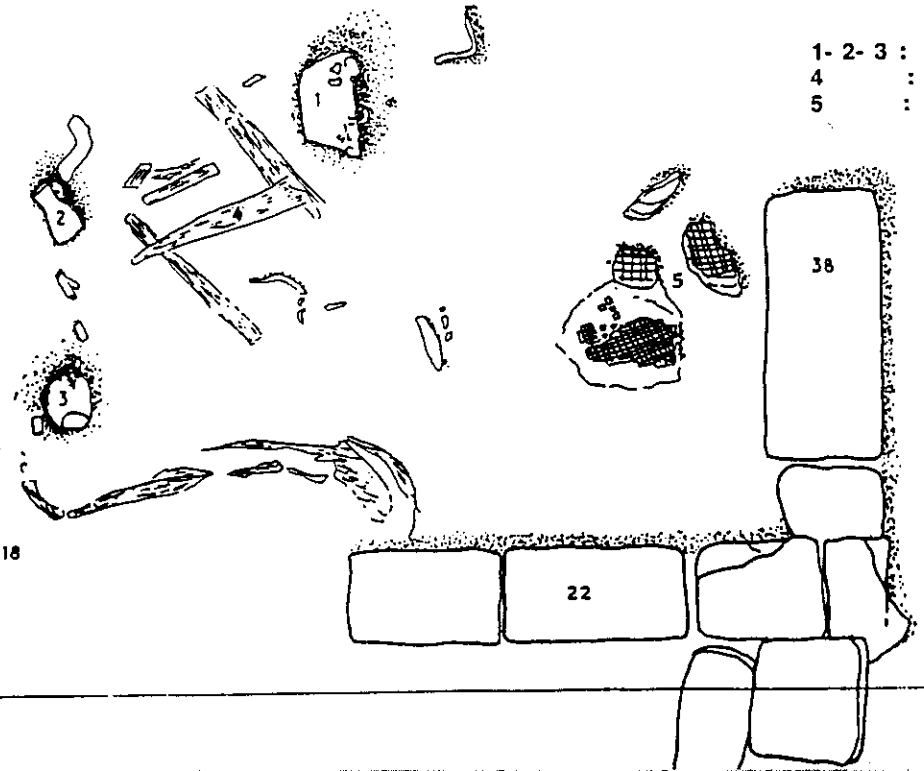


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Fig. 26

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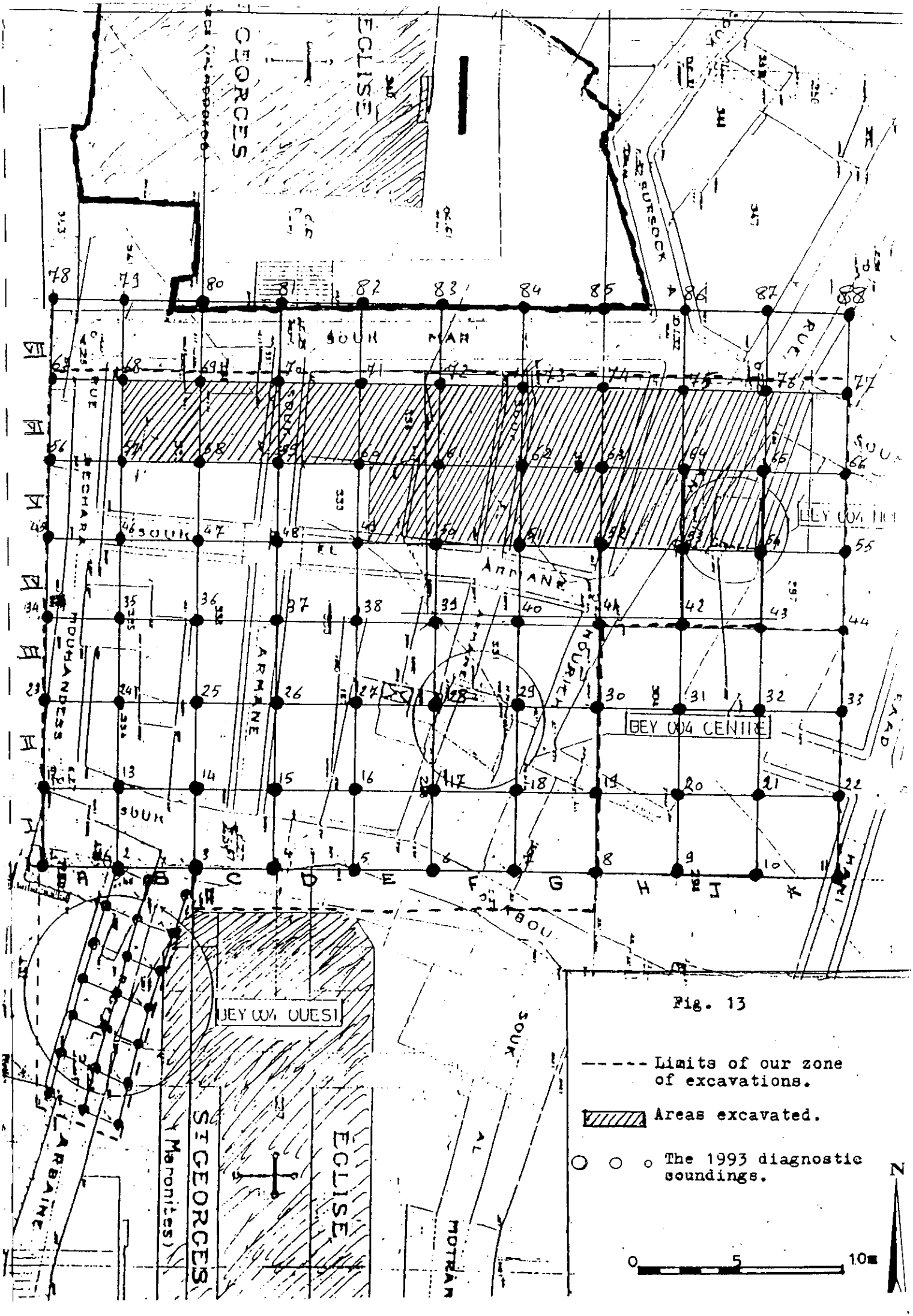

Fig. 13

----- Limits of our zone of excavations.

Areas excavated.

o o o The 1993 diagnostic soundings.

N

0 5 10m