

بعل



العدد ١٠ ٢٠٠٦

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Fig. 18A- Area 6, north-western and central parts. View from south (location of peg P2 marked in Fig. 17) (T. Herbich).

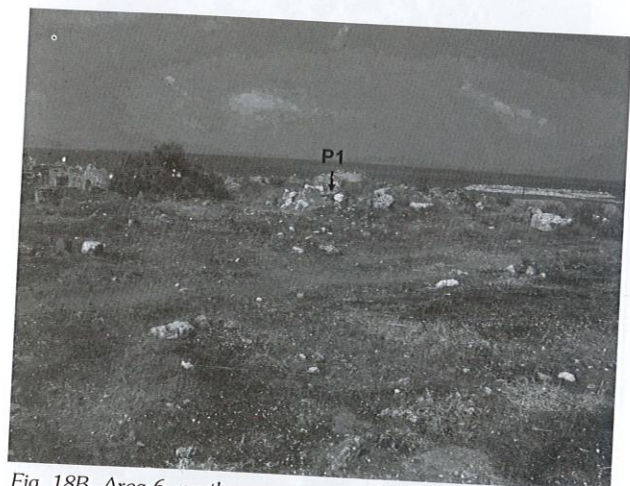


Fig. 18B- Area 6, north-western part. View from west (location of peg P1 marked in Fig. 17) (T. Herbich).



Fig. 18C- Area 6. Metal objects on the surface, before clearing of the site (T. Herbich).

Area 7 (Figs 19 and 20A-B)

A total of 0.02 ha was surveyed here. The area is situated north of the basilica and constitutes today a sandy coastal dune. The survey appears to have revealed architectural remains: an anomaly in the southwestern part of the map may be interpreted as the corner of a building. The northern wall of the building is parallel to the axis of the basilica.

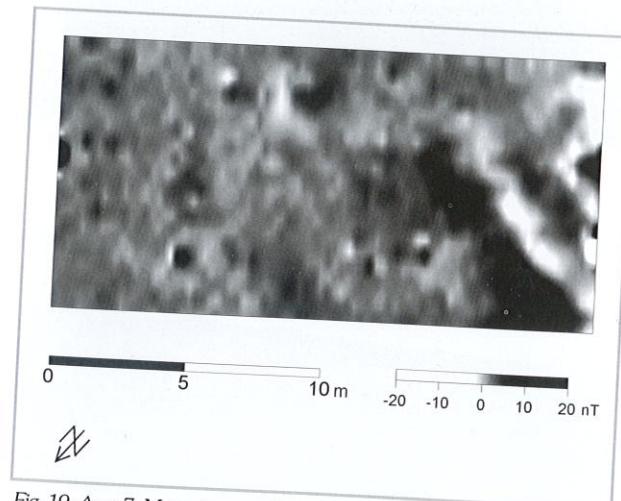


Fig. 19- Area 7. Magnetic map. Sampling grid 0.50 by 0.25 m, interpolated to 0.25 by 0.25 m. Dynamics -1.9 / +7.9 nT (T. Herbich).

6. Conclusion

The surveying method that was applied proved useful only in the case of measurements inside the basilica. It has to be admitted that a number of anomalies, interpreted provisionally in view of their shape and the amplitude range as a reflection of pottery kilns under the surface, could very well be caused by large objects of iron (measuring up to 50 cm in diameter). Extensive modern landscaping in the region and the presence of substantial metal waste of a modern provenience have also hindered the proper interpretation of the results.

Resistivity testing proved completely inadequate under the conditions of the site. The relatively high humidity levels of the soil required by Geoscan Research RM15 apparatus were simply not present at the site despite proximity to the sea. In the period of the survey, that is, at end summer, the ground was so dry that it was impossible to achieve stable probe-soil contact.

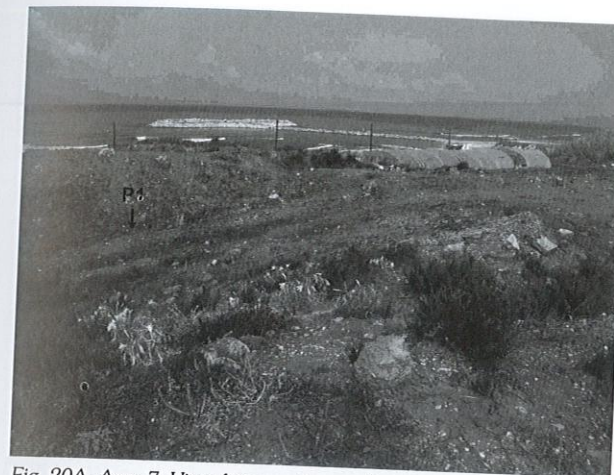


Fig. 20A- Area 7. View from south-east (location of peg P1 marked in Fig. 19) (T. Herbich).



Fig. 20B- Area 7, south-western part. View from south-east (location of peg P1 marked in Fig. 19) (T. Herbich).

IV. Underwater Archaeological Survey at Jiyeh (I. Nouredine and K. Kotlewski)

1. Underwater Survey – Objectives, Methods and Results

In September 2005 a team of archaeologist-divers and students surveyed a portion of the Jiyeh shore looking for connections between this site and the sea, given that the terrestrial archaeological remains of the Late Antique necropolis A and basilica Q stand right on the coast¹¹ (Fig. 21). The objectives of the survey were mainly to determine the marine use of the coast by the inhabitants of the ancient settlement. To this end, and in order to collect as much information as possible, the marine archaeologists and students undertook numerous dives across the shoreline by the necropolis and the basilica.

Two basic surveying methods were combined as needed – snorkelling and scuba diving – which resulted in most of the area being surveyed by scuba diving (Fig. 22). The survey started using the 'parallel search system' by swimming on a fixed compass headline for a given distance. The distance was maintained by counting kick cycles or time. At the end of the swim line we turned 90° to the line of search, swam a short distance (depending on the visibility) and then turned 90° to return parallel to the previous

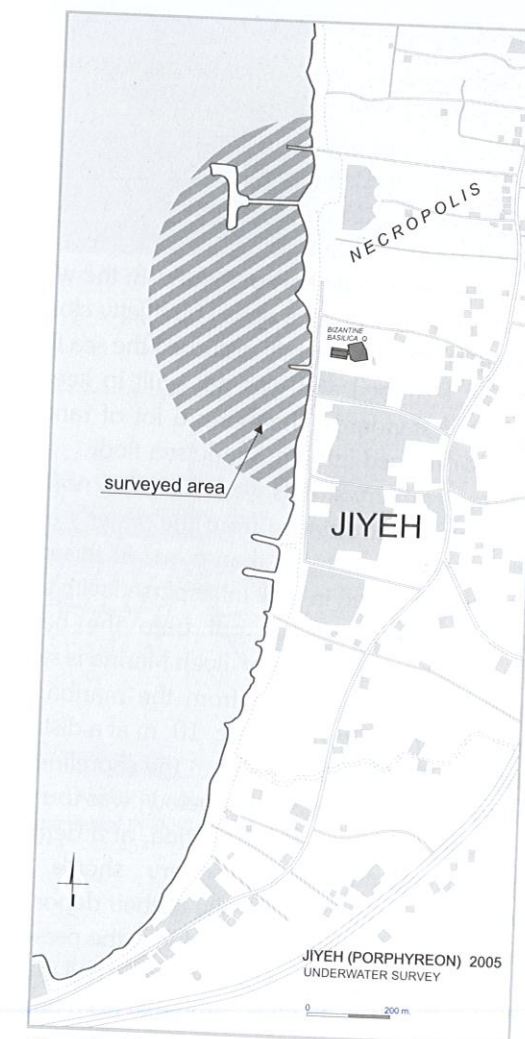


Fig. 21- Map of the surveyed area, Jiyeh 2005 (M. Puszkarski).



Fig. 22- Preparing for the next scuba dive (T. Waliszewski).

line. This procedure was repeated many times, allowing a fairly large area to be covered.

For about 10 days the team was diving every day searching for traces related to a harbour or any other marine installation. Forty-eight scuba dives were conducted on the site during this period. This work did not reveal any visible harbour works in the whole of the surveyed area, since a newly built jetty close to the necropolis had significantly disturbed the sea floor. This jetty is T-shaped and was not built in keeping with accepted standards; therefore, a lot of random blocks were dropped into the sandy sea floor.

Numerous pottery sherds were recorded north of the basilica, a short distance from the water's edge, lying at a depth of no more than 6 m. At this point the sea floor is covered in rock interspersed with strips of sand. The rock extends out onto the beach.

The sea floor to the north of Jiyeh Marina is stony, becoming sandy some 30 m from the marina and falling away gently to a depth of c. 10 m at a distance of approximately 300–350 m from the shoreline.

A stone anchor (details given below) was found c. 50 m to the south-west of the marina, at a depth of 5.7 m. An abundance of pottery sherds was discovered nearby, though the site of their deposition and their state of preservation precludes the presence of a shipwreck or mooring. Fragments of small marble columns and a chancel screen, probably from basilica Q, were found only a short distance from the ceramic material.

Amphora and roof tile fragments were recorded across the whole of the surveyed area, their largest concentrations being noted in the vicinity of the basilica. The further away from the land site, the smaller the quantity of ceramic remains on the sea floor. Around 200 m from the shoreline ceramic finds were noted only sporadically. Most of the ceramic material has been heavily eroded by waves and sand. Larger fragments have become strongly embedded in the reef. Preliminary analysis of the ceramic assemblage indicates that it dates from Late Antiquity.

The underwater survey also incorporated a number of boat dives carried out c. 500–600 m from the shoreline. The sea is 20 m deep at this point and the sea floor is sandy. These dives revealed the existence of reasonably conspicuous sea floor currents associated with wind direction, which may be a contributory factor to the absence of any obvious archaeological remains.

2. Stone Anchor from Jiyeh (Fig. 23)

During the course of the survey a stone anchor was recovered from the water. This limestone anchor features three holes and resembles in shape what is known as a composite Bronze Age anchor (Fig. 24). This type of anchor was also used throughout the Roman and Byzantine periods and, surprisingly, there are still some imitations of this form made from modern cement (Fig. 25).

As mentioned previously, stone anchors were primarily used in the Bronze Age and throughout the Iron Age periods, as illustrated in Fig. 26. Anchors can actually tell us more about the shipwrecks of their era than the wreck itself. In other words, Bronze Age wrecks are still rare, but the anchors they lost are not as rare (Frost 1969: 428). Finds and advanced studies of the stone anchor and its use are a relatively recent source of information. Dr K. Nicolaou and Professor H. Catling both assert that stone anchors can be used to indicate the origin of the ships carrying them. Thus, the maritime merchants of various coastal settlements can be determined without actually finding the ships themselves or awaiting the publication of reports concerning such vessels. Stone anchors, therefore, allow historians to study maritime transport without having to locate or excavate complete (LBA) shipwrecks (McCaslin 1980: 4).



Fig. 23- Stone anchor from Jiyeh (K. Kotlewski).

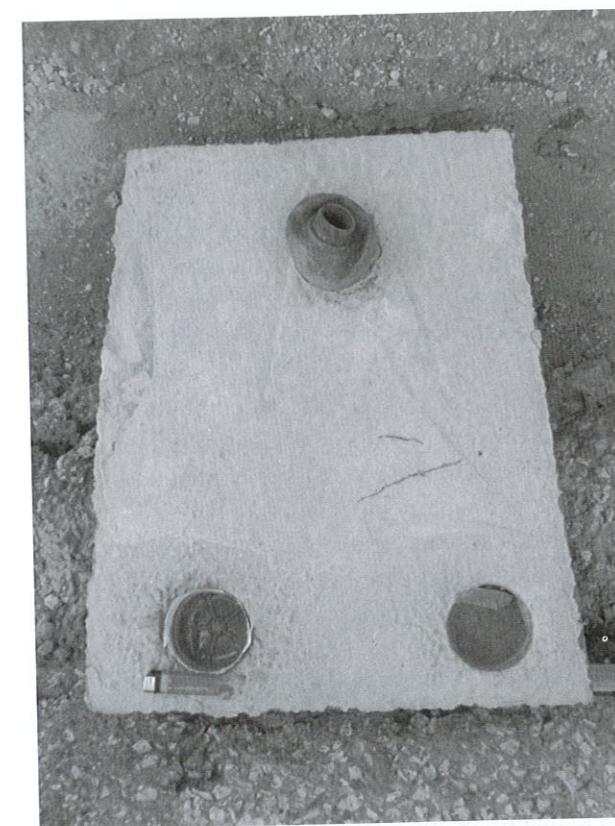


Fig. 25- A modern imitation of a composite stone anchor.

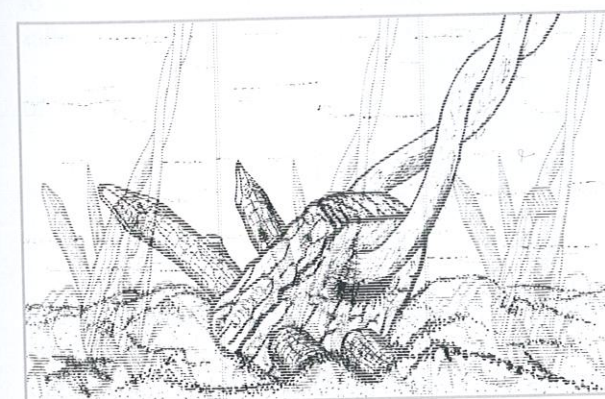


Fig. 24- A composite anchor holding a vessel in a sandy seabed.

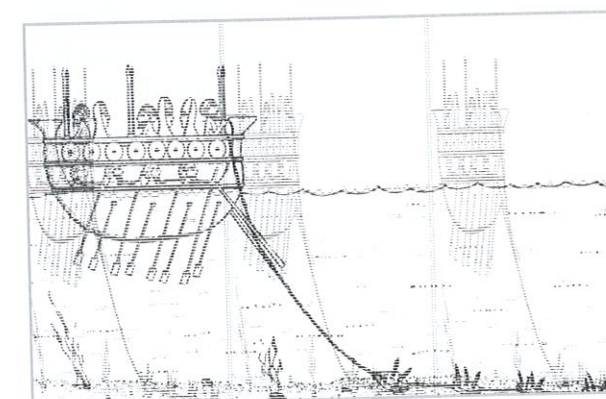


Fig. 26- A sketch of composite and trailing sand anchors holding an Iron Age vessel in shallow water.