

THE CULTURAL RESOURCES MANAGEMENT PROJECT IN JORDAN ARCHAEOLOGICAL RESCUE SURVEY OF THE RAS AN-NAQAB - AQABA HIGHWAY ALIGNMENT, 1992

by

Ghazi Bisheh, Suleiman Farajat, Gaetano Palumbo and Mohammad Waheeb

Introduction

The Ministry of Public Works and Housing (MPWH) is planning the construction of a road parallel to the existing highway from Ras an-Naqab to Aqaba, in order to complete the four-lane Desert Highway which links Amman to Jordan's only port and sea outlet. The World Bank (WB), the possible funding agency for this project, requires the preparation of Environmental Impact Reports that include Cultural Resources Impact Assessment, before any grant or loan is provided.

Following a series of agreements, the MPWH provided financial help to the Department of Antiquities of Jordan (DAJ) in order to conduct an emergency survey along the road alignment, and prepare a final report with the results of the survey and its recommendations.¹

General Assessment

The survey extended from station 85+165 (UTM coordinates 7400 33290), at the end of the four-lane Desert Highway, to station 14+250, at the intersection with the new highway to Aqaba port and the Saudi border (UTM coordinates 7068 32707). It also covered the road from Ras an-Naqab to Humeima al-Jadideh, which is going to serve as detour road during the construction works of the main highway, after some modification to allow heavy traffic to pass there.

The team surveyed and registered all the

archaeological sites and monuments located along the projected highway, within 500 meters on both sides of the existing road. Structures were mapped and artifacts were collected in order to date the sites. Sites found for the first time, as well as sites already known from previous explorations, are mainly located between Km 65 and 85 of the projected road, in the Ras an-Naqab area (Figs. 1 and 2).

Most of the sites identified are not directly threatened by construction, while five of them will require various degrees of archaeological work and excavation before or during the construction phase. Protection measures are recommended for all of the sites listed in this report. While there is no need for road re-alignments, in the opinion of the survey team a series of recommendations will have to be closely followed by the MPWH and the contractor in order to avoid further damages to existing important archaeological sites.

Site Assessment

The sites along the road alignment mainly belong to the following archaeological periods:

1. Lower and Middle Palaeolithic, such as site 21 (Qasimiyyeh), UTM coordinates 7400 33289.
2. Pre-pottery and Pottery Neolithic, such as site 17 ('Ain al-Jammam 1), UTM coordinates 7376 33240.
3. Nabataean, such as site 1 (Khirbet al-

1. The survey was conducted for two weeks during the month of August, 1992. The survey was directed by Dr. Ghazi Bisheh, Mr. Suleiman Farajat, Petra inspector, was Field Director, and Dr. Mohammed Waheeb, CRM Archaeologist. Dr. Gaetano Palumbo, CRM Consultant, was liaison be-

tween the team, the DAJ and the MPWH. The survey team was composed by: Ibrahim al-Haj Hasan, Saad Hadidi, Yaqoub al-Marshud Oweis, Sausan 'Adel al-Fakhri, Hani al-Falahat, Ahmed al-Momani, Jalal Abu Hamdan and Samih Khamis.

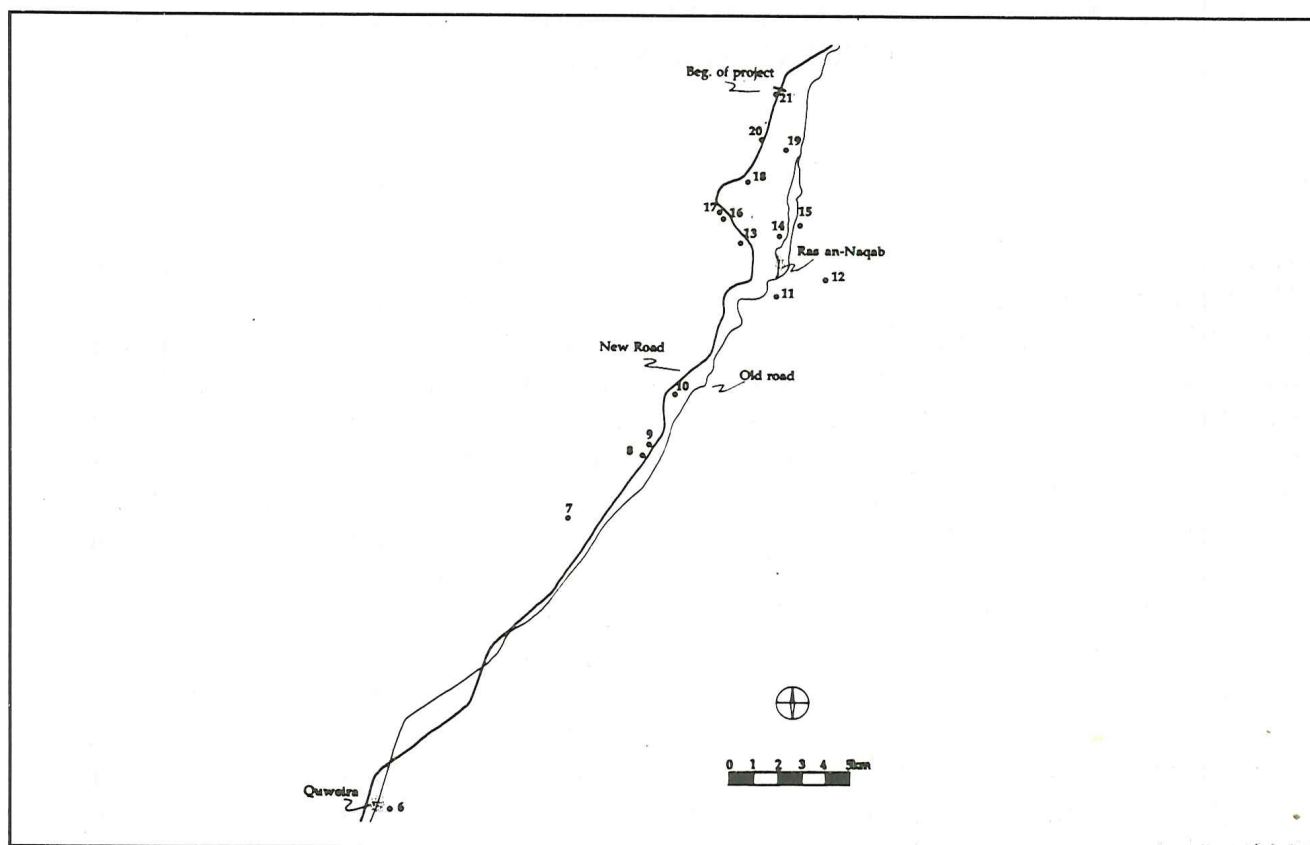


Fig. 1. Road alignment with location of archaeological sites described in text (North Section).

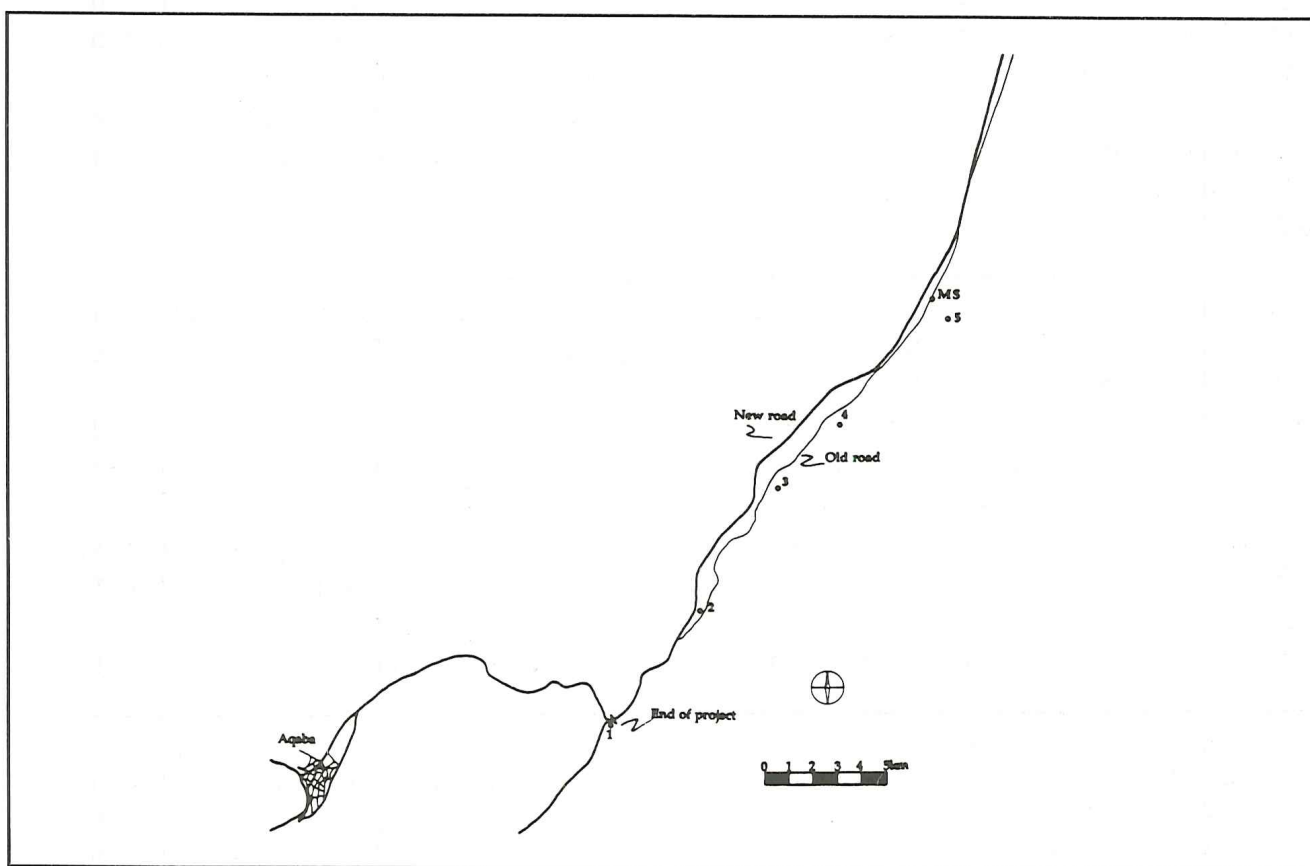


Fig. 2. Road alignment with location of archaeological sites described in text (South Section).

Kithara) UTM coordinates 7068 32703; site 5 (Mersed), UTM coordinates 7205 32875.

4. Roman, such as site 20 (Khirbet Hiyayid), UTM coordinates 7394 33270; site 13 (Khirbet Abu an-Nusur), UTM coordinates 7386 33226; site 4/1 (Khirbet al-Khaldi), UTM coordinates 7160 32830.
5. Byzantine, such as site n. 19 (Abu al-Lusun), UTM coordinates 7404 33266.

Sites Endangered

The survey showed that there are five sites directly threatened by the project:

1. *Site 13 — Abu an-Nusur*, UTM coordinates 7386 33226 / P.g. coordinates 195.4 935.7, stations 77+575 to 77+650. (Glueck 1935: 65, site 44; Graf 1983: 648).

Periods of occupation: Nabataean, Roman and Byzantine (Fig. 7: 4-8). This site was subjected to extensive bulldozing and dumping of modern debris during the construction of the present highway. Part of the site is still preserved on a knoll to the south of the present road, but there is concern that new construction and bulldozing will partially affect the integrity of the surviving archaeological structures. The site is characterized by a large number of building remains, belonging to a large village of Nabataean, Roman and Byzantine age. Soundings will have to be conducted at the site, especially in those areas in proximity of the road. The contractor should also be informed about the presence of this site, and the movement of heavy equipment in and around the area should be restricted.

2. *Site 16 — 'Ain al-Jammam 2*, UTM coordinates 7378 33239 / P.g. coordinates 194.6 937.0, stations 78+650 to 78+700.

Periods of occupation: Nabataean and Roman. This site is located close to 'Ain al-Jammam 1 and has been largely damaged due to previous bulldozing and dumping of material during the construction of

the present road. It is apparently a watch-tower of the Nabataean or Roman period, in an excellent position overlooking the Humeima region. It covers an area of approximately 20 by 20 meters. The site might be partially affected by the dumping resulting from the cut above the existing road. Soundings and possible total mitigation should be conducted at this site, considering the heavy damages already suffered by this structure. The water collector below the present road embankment should also be diverted, since it is directing the water above the site, thus causing the erosion of part of the archaeological deposit.

3. *Site 17 — 'Ain al-Jammam 1*, UTM coordinates 7376 33240 / P.g. coordinates 194.4 937.1, station 78+750 to 78+825.

Periods of occupation: Pre-pottery Neolithic B, Pre-pottery Neolithic C?, Pottery Neolithic (Figs. 3 and 4). This site is located on the slopes below the present road, at the edge of the Ras an-Naqab escarpment. It was located in 1986 by one of the authors (Suleiman Farajat) during the Humeima regional survey. Glueck (1935: 65) saw the spring, but failed to recognize the presence of ancient remains. The site extends for approximately 100 meters along the present highway. The total extension of the site is estimated by Gebel at 6-8 hectares (Gebel 1992). The site has already been damaged by a dirt track and by the embankment of the existing road (see Fig. 3 with section drawing of this road cut). Nevertheless, substantial remains are still preserved; these need investigation before possible destruction due to the widening of the road and expansion of the embankment. The remains consist of buried domestic structures preserved to a height of almost three meters, with associated archaeological deposits containing artifacts, as well as animal bones and plant remains. Considering the homogeneity of the deposit, to be dated to the long sequence from the PPNB to the Pottery Neolithic period, and its state of preser-

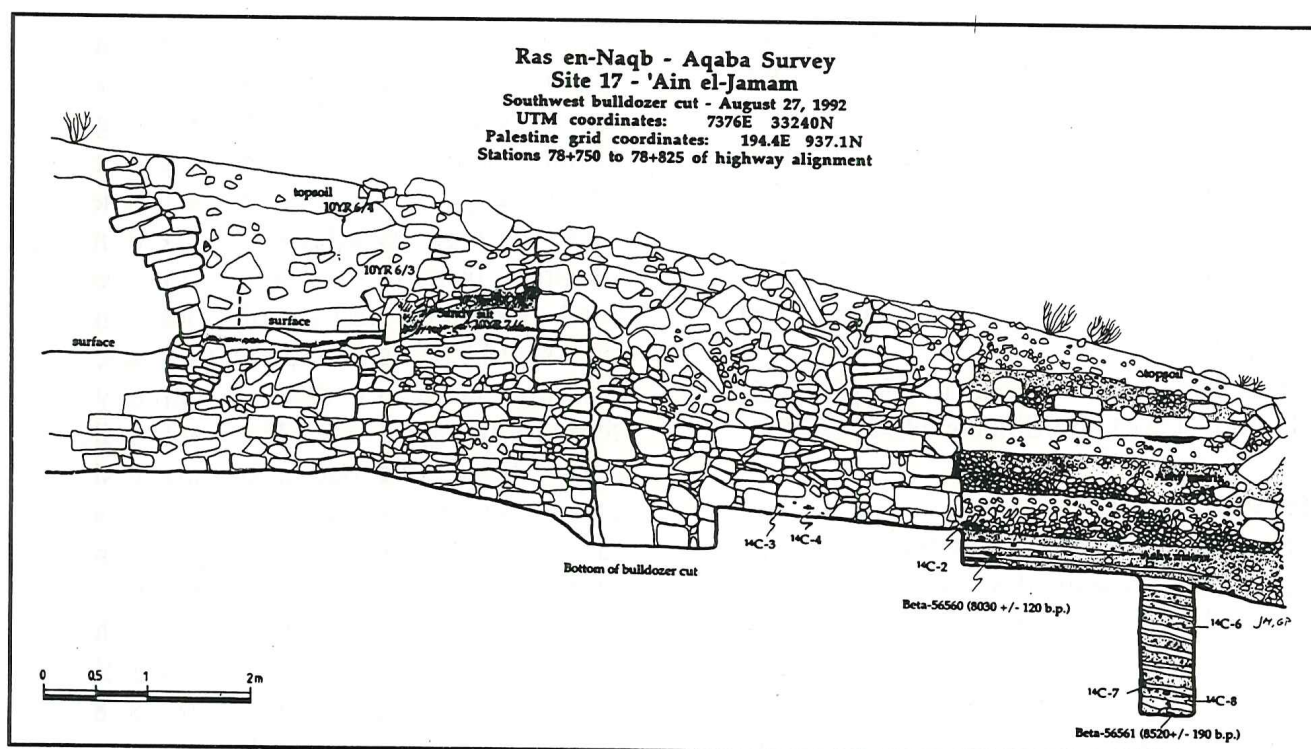


Fig. 3. 'Ain Jammam 1 (Site 17): upper bulldozer section. Drawing by Jonathan Mabry and Gaetano Palumbo.

vation, this site is comparable for importance to the sites of Baṣṭa, near Petra, and 'Ain Ghazal, near Amman (Nissen *et al.* 1987; Rollefson, Simmons and Kafafi 1992). In particular, chipped stone artifacts and other material culture remains have strong affinities with those found at Baṣṭa (Gebel 1992). Chipped stones found in our surface collection, as well as in the cleaning of the bulldozer section are a typical assemblage of the Late PPNB (Fig. 4). Byblos points, borers and blades are very common. An unusual feature is a blade industry on quartzite, which is locally available.

During our survey, the bulldozer section was cleaned, photographed, and drawn.² C14 samples were retrieved from the section at selected locations. Two of them have been analyzed (samples Beta-56560 and Beta-56561). The dates yielded were respectively 8030 \pm 120 b.p. and 8520 \pm 190 b.p., which would place the visible structures between the end of the PPNB and the recently defined PPNC period. The im-

portance of the site derives from the fact that this is one of the very few PPN sites, with a Pottery Neolithic component. Moreover, the Pottery Neolithic period is almost totally unknown in southern Jordan. Excavations will have to be conducted at the site before construction in order to retrieve the maximum amount of information possible. The contractor should also be informed about the presence of an archaeological site at this location, and the construction work in the area should be carefully monitored.

4. *Site 20 — Khirbet Hiyayid*, UTM coordinates 7394 33270 / P.g. coordinates 196.3 940.1, station 83+000 to 83+070. (Glueck 1935: 67, site 56).

Periods of occupation: Nabataean and Roman (Fig. 9: 23-25). Large ruin, with archaeological remains found on both sides of the road. The main site is to the west of the road, and includes visible ruins of masonry houses with large stone blocks. On this section, the site extends for approximately 70 to 100 meters along the road, and

2. We would like to thank Jonathan Mabry for drawing the section with the assistance of Gaetano Palumbo.

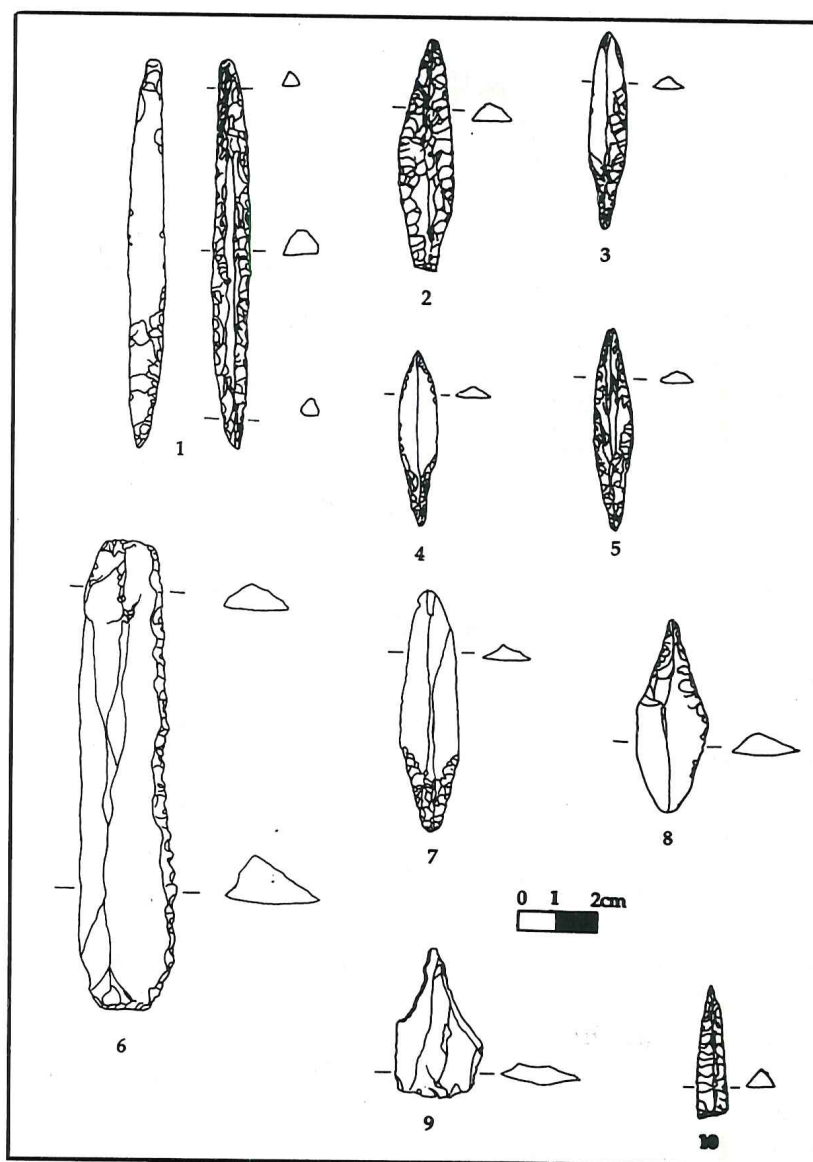


Fig. 4. PPNB chipped stone tools from 'Ain Jammam 1 (Site 17).
Drawings by Yazid Elayan.

100/120 meters to the west of it. According to road sections provided by the MPWH, minimal work is required to the west of the present road alignment; excavation will be conducted to the east of it where some minor ruins are visible, and where the archaeological deposit is not deeper than 50 to 70 centimeters, according to the results of a test excavation conducted by our team. The area of the site that is going to be affected by road construction is approximately 40 meters along the existing road by 20/25 to the east of it. The area to the east of the present road should be excavated; soundings should also be conducted in the west

section, especially in areas very close to the projected construction area. The diversion of the present water collector, which is affecting part of the site is also recommended. The contractor should also be informed about the presence of the site, and of the fact that works in the area should be conducted with the maximum care.

5. *Site 21 — Qasimiyyeh*, UTM coordinates 7400 33289/P.g. coordinates 196.9 941.9, stations 85+165 to 84+500.

Periods of occupation: Lower Palaeolithic, Middle Palaeolithic (Fig. 5). Flint scatter spread over an area of approximately 700 meters by 50 meters on both sides of

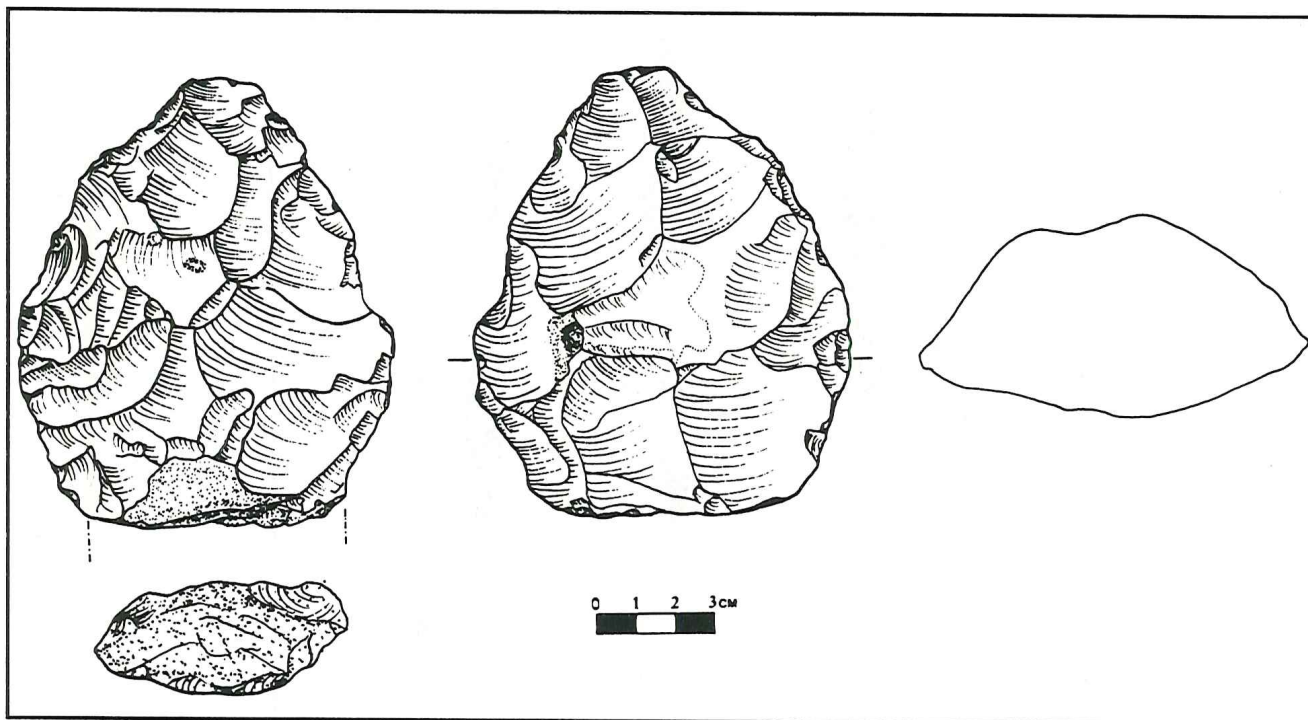


Fig. 5. Acheulean bifacial hand-axe from Qasimiyyeh (Site 21). Drawing by Yazid Elayan.

the highway. Fruit groves are also present in the area. It is possible that some or most of the artifacts result from field clearances. Separate non-systematic collections conducted at the site yielded a large number of cores, scrapers, blades, and three Acheulean bifacial handaxes, one of which is illustrated here (Fig. 5).

The site will need an intensive, systematic surface collection of artifacts. Excavation might not be necessary, since the site seems to be in secondary location.

Sites Not in Immediate Danger of Destruction

Site 1 - Khirbet al-Kithara (Savignac 1932: 595; Glueck 1939: 13-15, site 11; Alt 1936a: 105; Alt 1936b: 166; Parker 1976: 25, site 39; Jobling 1983: 200; Graf 1983: 651) — UTM coordinates 7068 32703 / P.g. coordinates 162.6 884.0. Periods of occupation: Nabataean and Roman (Fig. 7: 1-3). Roman castellum in a wide bend of Wadi al-Yutum. Several rooms and part of the central courtyards are recognizable on the surface. The site was badly damaged during the construction of the new railroad line to Aqaba.

Site 2 - Ruwaish al-Mahbub (Graf 1983: 651) — UTM coordinates 7103 32753 / P.g. coordinates 166.2 888.9. Periods of occupation: Nabataean and Roman. Watchtower built of granite stones on a hilltop. Several courses are still visible, especially in the southern wall.

Site 3 - Mauqa' al-Jurf/'Atṭyan (Glueck 1939: site 12; Graf 1992: 257) — UTM coordinates 7135 32803 / P.g. coordinates 169.5 893.9. Periods of occupation: Nabataean and Roman. Watchtower partially destroyed by the new railroad line to Aqaba, and disturbed by modern graves. One course is still *in situ*.

Site 4/1 - Khirbet al-Khaldi (main site) (Savignac 1932: 596; Alt 1936a; Glueck 1939; Bowerstock 1971; Parker 1976: 25, site 38; Jobling 1983: 200; Graf 1983: 651-652) — UTM coordinates 7160 32830 / P.g. coordinates 172.0 896.5. Periods of occupation: Nabataean, Roman and Byzantine (Fig. 7: 9; Fig. 8). The site is characterized by a series of structures, watchtowers (4/2) and three Nabataean roofed cisterns (4/3). The main fort (a Roman *castellum*) has four angular towers, one of them bulldozed during the construction of

the new railroad to Aqaba. Many rooms are visible along the main walls. One Roman coin was found on the surface, as well as three crucibles, one of them in good condition, with traces of slag still inside (Fig. 6). A caravanserai is located besides the fort.

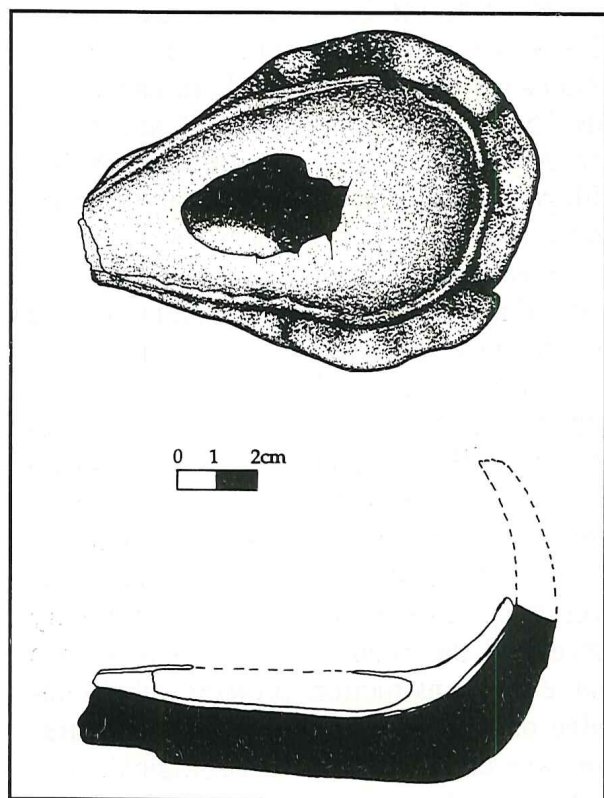


Fig. 6. Crucible from Khirbet al-Khaldi (site 4).
Drawing by Yazid Elayan.

Site 4/2 - Khirbet al-Khaldi (tower) — UTM coordinates 7158 32833 / P.g. coordinates 171.8 896.8.

Site 4/3 - Khirbet al-Khaldi (cisterns) — UTM coordinates 7160 32835 / P.g. coordinates 172.0 897.0.

Site 5 - Mersed / Quşayr al-Meḍeifi (Graf 1979: 125) — UTM coordinates 7205 32875 / P.g. coordinates 176.6 900.9. Periods of occupation: Nabataean and Roman (Fig. 9: 19-22). Watchtower built of dressed sandstone. One course still visible on the surface. The structure was partly damaged by the new railroad to Aqaba. A modern building in the vicinity is constructed with stones taken from the tower.

No site number - Roman Milestone (Alt

1936a: 101; Fiema 1991: 104) — UTM coordinates 7199 32883 / P.g. coordinates 176.0 901.7. Milestone along the *Via Nova Traiana*. Dated to the time of Emperor Trajan, between the years A.D. 111 and 114 (Pl. I, 1, 2).

Site 6/1 - Quweira (pool) — UTM coordinates 7238 32991 / P.g. coordinates 180.1 912.5. 32x17 meter pool, with traces of water channels in its vicinity.

Site 6/2 - Quweira (castellum) (Alt 1936a: 98; Glueck 1935: 55-58, site 29; Parker 1976: 25, site 37; Jobling 1983: 199) — UTM coordinates 7240 32990 / P.g. coordinates 180.3 912.4. Periods of occupation: Nabataean, Roman and Islamic. The site is characterized by a castellum, a large pool (6/1) and a watchtower (6/3) on the top of a hill to the southeast of the site.

Site 6/3 - Quweira (tower) — UTM coordinates 7240 32989 / P.g. coordinates 180.3 912.3.

Site 7 - Ḥumeima al-Jadideh (cistern) — UTM coordinates 7313 33112 / P.g. coordinates 187.9 924.4. Nabataean roofed cistern.

Site 8 - Dabbat Ḥanut 1 (cistern) — UTM coordinates 7345 33138 / P.g. coordinates 191.1 927.0. Nabataean roofed cistern.

Site 9 - Dabbat Ḥanut 2 (cistern) — UTM coordinates 7347 33142 / P.g. coordinates 191.3 927.3. Nabataean roofed cistern.

Site 10 - Dabbat Ḥanut 3 (cistern) — UTM coordinates 7358 33163 / P.g. coordinates 192.5 929.4. Nabataean roofed cistern.

Site 11 - Naqab 'Ashtar — UTM coordinates 7400 33204 / P.g. coordinates 196.7 933.4. Periods of occupation: Chalcolithic and Early Bronze Age. 4,000 m² site located on a hilltop, with many visible structures.

Site 12 - Khirbet Shdayd (Glueck 1935: 60, site 34; Graf 1979: 125) — UTM coordinates 7420 33211 / P.g. coordinates 198.8 934.1. Periods of occupation: Iron Age II, Nabataean, Roman and Byzantine. Not vis-

ited.

Site 14 - Fuweileh al-Gharbiyeh (Glueck 1935: 60, site 32; Graf 1983: 648; Hart and Falkner 1985: 269) — UTM coordinates 7401 33230 / P.g. coordinates 196.9 936.0. Periods of occupation: Nabataean and Roman. Many traces of structures beside a spring.

Site 15 - Fuweileh ash-Sharqiyyeh (Glueck 1935: 60, site 33; Graf 1983: 648; Hart and Falkner 1985: 269) — UTM coordinates 7410 33233 / P.g. coordinates 197.8 936.3. Periods of occupation: Nabataean and Roman. 10 dunum site, with many traces of walls and buildings. Some rooms show flagstone paving.

Site 18 - al-Ḥiyyaḍ — UTM coordinates 7386 33253 / P.g. coordinates 195.4 938.4. Periods of occupation: Nabataean and Roman. 20 dunum site, with traces of walls and structures. A large structure is recognizable, built of large dressed stones. The site is partly disturbed by the presence of modern houses and graves.

Site 19 - Abu al-Lusun (Glueck 1935: 62, site 39) — UTM coordinates 7404 33266 / P.g. coordinates 197.3 939.6. Periods of occupation: Nabataean, Roman, and Byzantine. Very large site, covering approximately 50 dunums. Many structures, courtyards, walls and buildings are recognizable on the surface. The site is affected by looting.

Discussion

Most of the sites identified during our survey or already known from previous explorations are fortunately outside of the right of way of the highway expansion. In particular, all of the Roman forts and watchtower controlling the *Via Nova Traiana* are not directly threatened by road works. The milestone (Pl. I, 1, 2), is located 200 meters to the east of the present highway, between Quweira and Khaldi. The inscription dates it to the time of Trajan, and more precisely to the years of construction of the *Via Nova* between Petra and

Aqaba (A.D. 111-114) (Fiema 1991: 104).

More complex is the situation of the sites found near the road alignment along and above the Ras an-Naqab escarpment. Most of those sites require various degrees of intervention, from intensive surface collection and limited soundings (at site 21 - Qasimiyyeh; site 20 - Khirbet Ḥayyaḍ; site 13 - Abu an-Nusur) to more extensive excavations (at site 17 - 'Ain al-Jammam 1, and site 16 - 'Ain al-Jammam 2). The concern for 'Ain al-Jammam 1, the PPNB/PPNC(?) village, is that the expansion of the road embankment can cause more damage than it seems apparent from the construction sections, due to the fact that the entire village lies downslope at a point where major cut and fill operations will be conducted. The importance and excellent state of preservation of the PPN remains at this site (Figs. 3 and 4) call for a careful rescue project, which can hopefully be organized with the support of the World Bank, as part of the overall mitigation plan. This preliminary survey of the road alignment has shown that even construction projects which involve only expansion of existing structures can have an impact on archaeological sites. In this case, however, thanks to the recently established coordination measures between the Ministry of Public Works and Housing and the Department of Antiquities, and because of the World Bank requirements for the preparation of Environmental Impact Reports, it was possible to assess the threat to archaeological sites and to evaluate the type of intervention required in the next phases of the project. This rescue project is setting an example that can be easily followed, not only here in Jordan, to benefit both the needs of development and of the protection and conservation of our cultural heritage.

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Appendix: Catalogue of Pottery

Fig. 7:

1. Site 1 - Khirbet Kithara: Cooking pot with handle attachment, rounded rim. Medium grit temper. Waster. 2.5Y 6/4 exterior and interior, 2.5Y 4/0 core.
2. Site 1 - Khirbet Kithara: Bowl fragment, vertical rim. White ware with small grit temper, high fired. 10YR 8/2 exterior and interior, 10YR 8/4 ware. Roman.
3. Site 1 - Khirbet Kithara: Jar fragment, everted rim. Small grit temper, over-fired. 2.5Y 6/2 exterior and interior, 2.5Y 5/2 ware. Roman.
4. Site 13 - Abu an-Nusur: Jar fragment, inverted rim. Small grit temper, medium fired. Cream slip exterior. 10YR 8/3 slip exterior, 2.5YR 6/4 interior, 2.5YR 6/0 core. Roman.
5. Site 13 - Abu an-Nusur: Jar fragment. Flared and everted rim. Medium grit temper, medium fired. 5YR 7/4 exterior and interior, 5YR 6/1 core. Roman/Byzantine.
6. Site 13 - Abu an-Nusur: Jar fragment, flattened rim. Small grit temper, medium fired. Cream slip exterior. 2.5YR 5/6 exterior and interior, 5YR 7/4 slip exterior, 2.5YR 5/0 core. Roman.
7. Site 13 - Abu an-Nusur: Cooking pot fragment. Small grit temper, high fired. 2.5YR 5/0 exterior and interior, 2.5YR 6/6 ware. Byzantine.
8. Site 13 - Abu an-Nusur: Small cup fragment, vertical rounded rim. Very small grit temper, high fired. 2.5YR 6/6 ware. Nabataean.
9. Site 4/1 - Khirbet al-Khaldi (main site): Jug neck and rim, with ridged handle attached at neck's top. Very small grit temper, high fired, red slip exterior. 10R5/8 exterior, 5YR 5/4 ware. Roman.

Fig. 8:

10. Site 4/2 - Khirbet al-Khaldi (tower): Bowl fragment. Everted rim. Medium grit temper, high fired. 5YR 7/3 exterior, 2.5YR 6/4 interior and ware. Roman.
11. Site 4/2 - Khirbet al-Khaldi (tower): Bowl fragment. Inverted rim. Small grit temper, high fired, red slip interior. 5YR 7/6 exterior, 2.5YR 5/6 interior, 7.5YR 7/4 ware. Roman.
12. Site 4/1 - Khirbet al-Khaldi (main site): Carinated bowl fragment, flattened rim. Cream slip exterior. Incised wavy decoration. Small grit temper, high fired. 7.5YR 7/4 slip exterior, 2.5YR 6/6 interior and ware. Roman.
13. Site 4/1 - Khirbet al-Khaldi (main site): Cooking pot fragment, everted rim with handle attachment. Very small grit temper, high fired. 2.5YR 5/6 exterior and interior, 2.5YR 6/6 ware. Roman.
14. Site 4/1 - Khirbet al-Khaldi (main site): Bowl fragment, vertical rim above sharp carination. High fired. 2.5YR 6/6 ware. Nabataean.
15. Site 4/2 - Khirbet al-Khaldi (tower): Carinated platter rim. Very small grit temper, medium fired. 2.5YR 6/8 exterior, 2.YR 6/6 interior, 2.5YR 5/0 core. Roman.
16. Site 4/1 - Khirbet al-Khaldi (main site): Cup fragment, vertical rounded rim. Very small grit temper, medium fired. 2.5YR 6/6 exterior and interior, 2.5YR 6/0 core. Nabataean/Roman.
17. Site 4/2 - Khirbet al-Khaldi (tower): Cooking pot fragment. Flat everted rim. Small grit temper with occasional straw inclusion, medium fired. 7.5YR 7/4 exterior, 2.5YR 6/6 interior, 5YR 6/1 core. Roman.
18. Site 4/1 - Khirbet al-Khaldi (main site): Platter base. Small grit temper, high fired, red slip interior. 2.5 YR 6/4 exterior, 10R 5/6 slip interior, 2.5YR 6/6 ware. Nabataean/Roman.

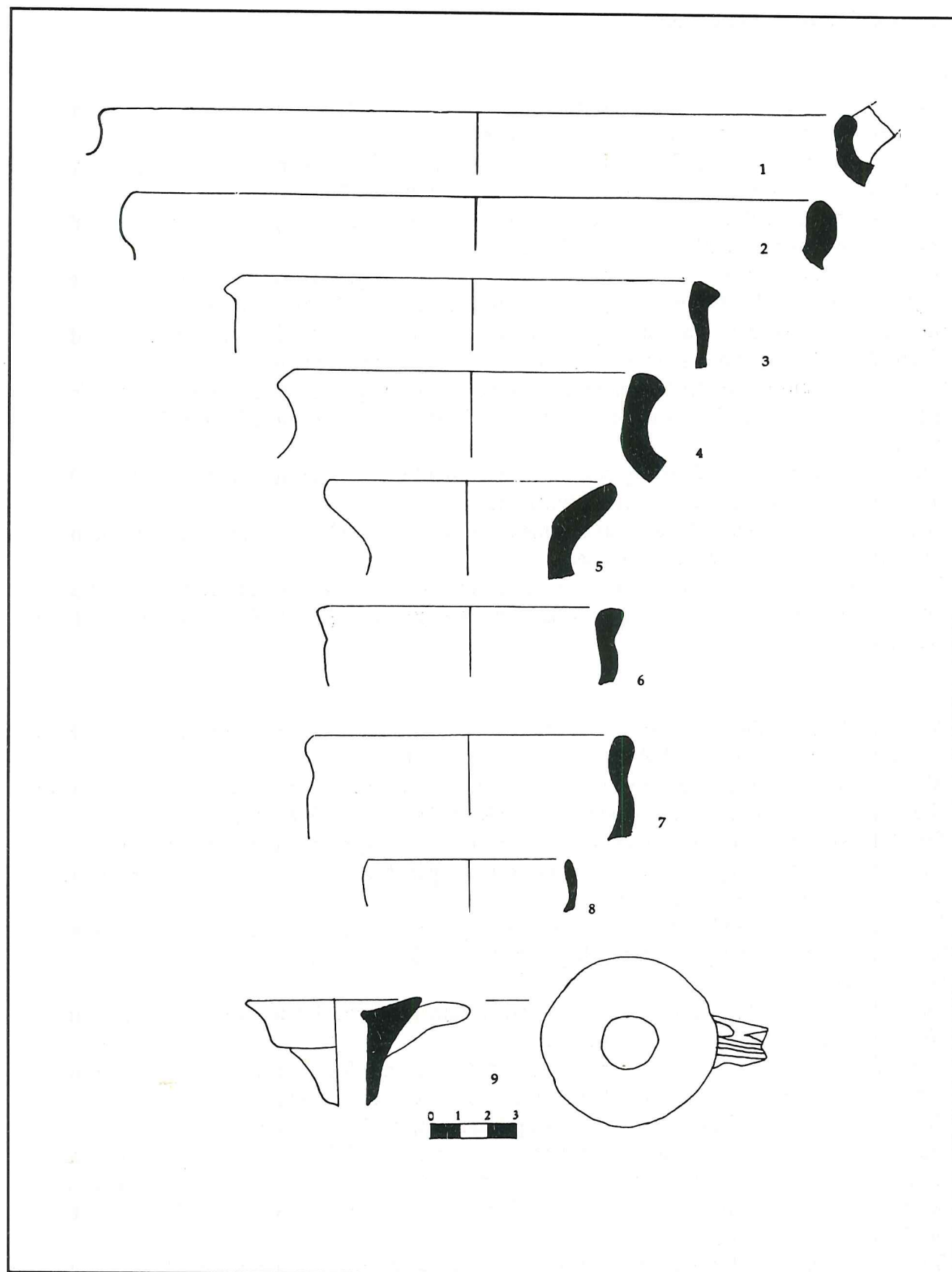


Fig. 7. Pottery from Khirbet Kithara (Site 1) (1-3); Abu an-Nusur (Site 13) (4-8); Khirbet al-Khaldi (Site 4) (9). Drawings by Yazid Elayan.

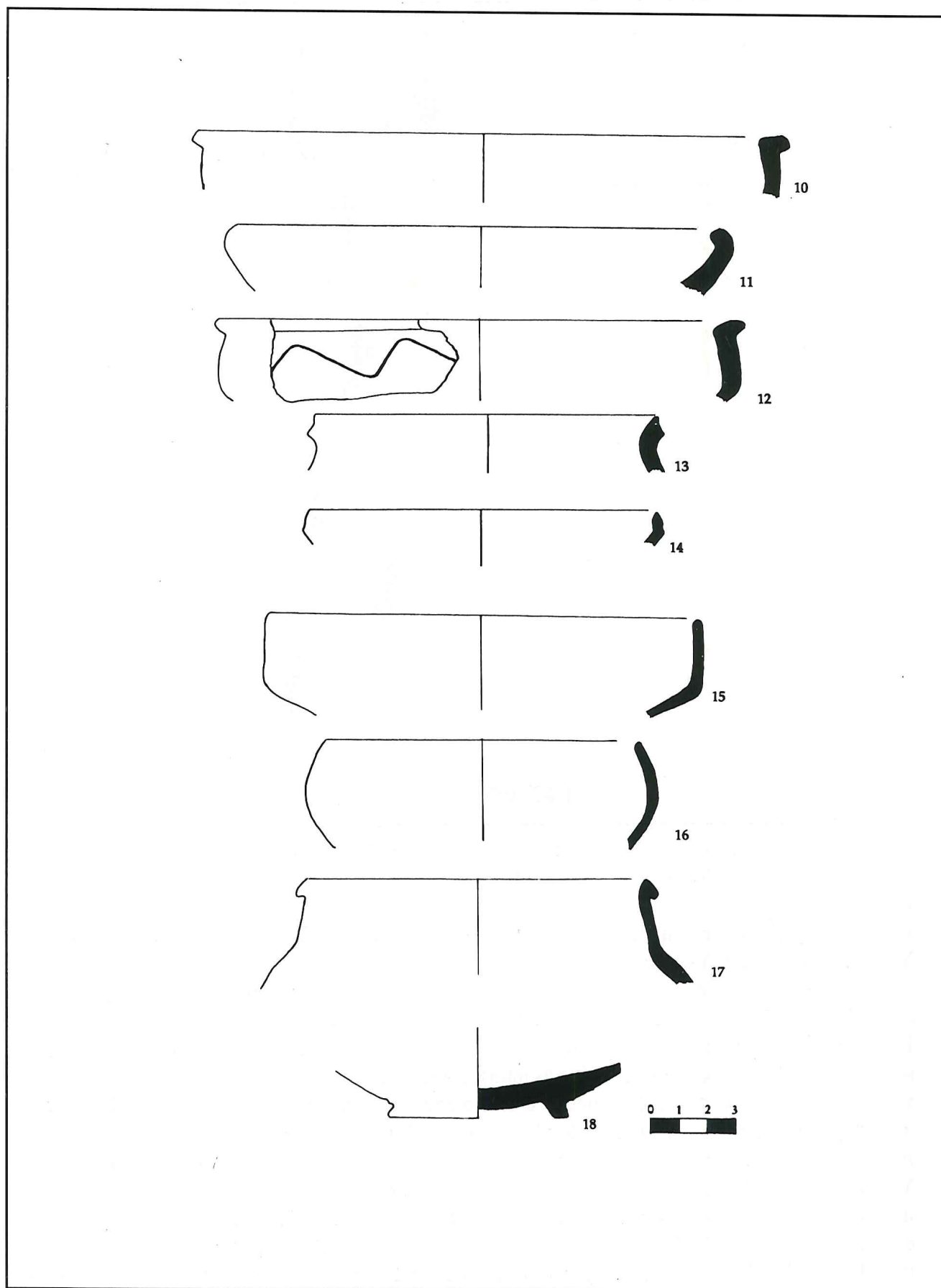


Fig. 8. Pottery from Khirbet al-Khaldi (Site 4). Drawings by Yazid Elayan.

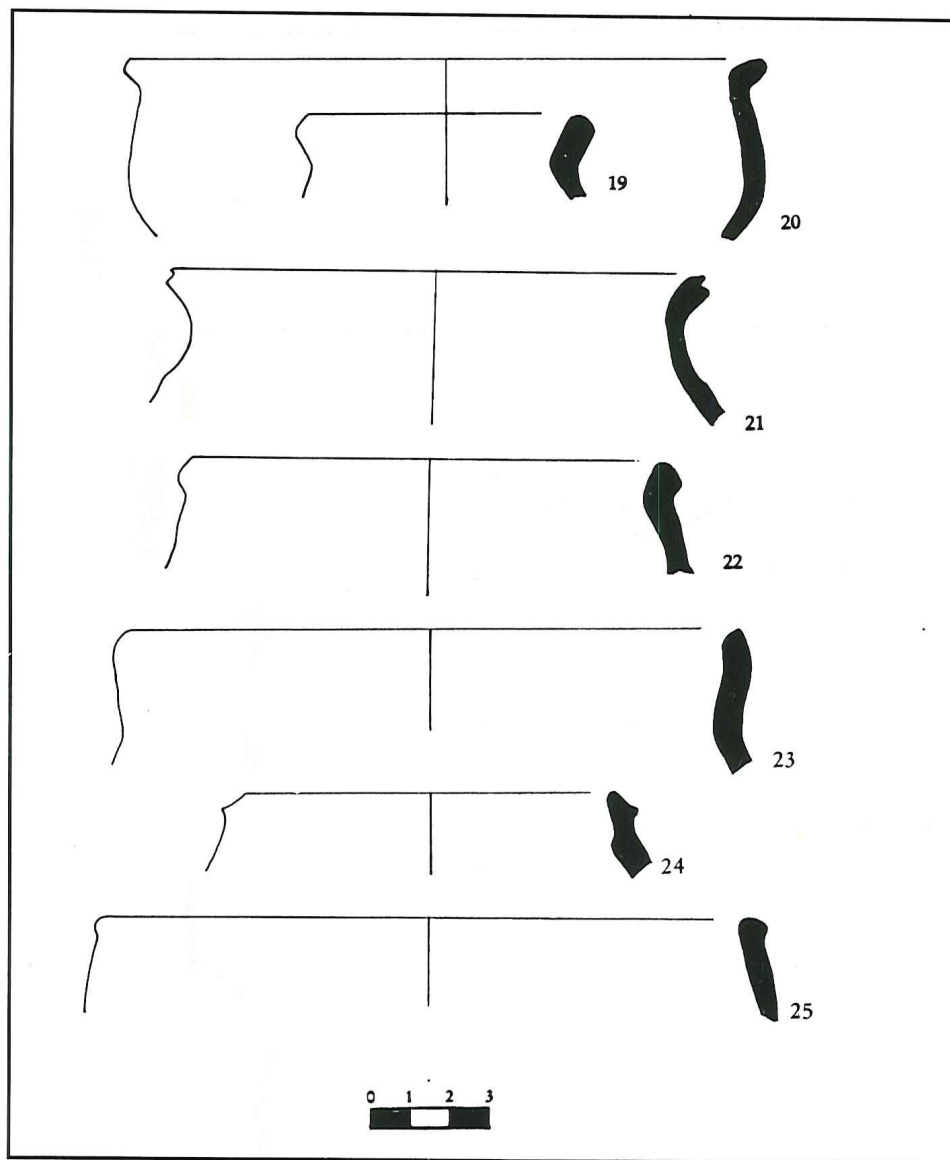


Fig. 9. Pottery from Merşed (Site 5) (19-22); Khirbet Hayyad (Site 20) (23-25). Drawings by Yazid Elayan.

Fig. 9:

19. Site 5 - Merşed (tower): Jar fragment. Everted, rounded rim. Small grit temper, high fired. 5YR 7/3 exterior, 2.5 YR 6/6 interior and ware.
20. Site 5 - Merşed (tower): Carinated cup fragment with everted, square rim. Small grit temper, high fired. 2.5YR 6/6 exterior and interior, 10R 5/6 ware. Roman.
21. Site 5 - Merşed (tower): Jar fragment. Double everted rim, ridged. Very small grit temper, high fired. 5YR 7/4 exterior, 2.5YR 6/6 interior and ware. Roman.
22. Site 5 - Merşed (tower): Jar fragment. Everted rounded rim. Small grit temper, high fired, white slip. 10YR 8/2 exterior, 2.5YR 6/4 interior and ware. Roman.
23. Site 20 - Khirbet Hayyad: Jar fragment. Vertical rim. Medium grit temper, medium fired. 5YR 7/4 exterior, 5YR 7/6 interior, 5YR 7/1 core. Roman ?
24. Site 20 - Khirbet Hayyad: Jar fragment. Triangular rim, black slip exterior. Small grit temper, medium fired. 5YR 5/1 exterior, 5YR 7/4 interior, 5YR 7/1 core. Roman/Byzantine.
25. Site 20 - Khirbet Hayyad: Cooking pot/holemouth fragment. Rounded rim. Small grit temper, high fired. 2.5YR 5/0 exterior, 2.5YR 5/6 interior, 2.5YR 5/4 ware. Roman/Byzantine.

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1. Roman milestone along the *Via Nova Traiana* close to Merşed (Site 5).



2. Close-up of the same milestone.