

# THE ARCHAEOLOGICAL SURVEY FOR THE REGION OF UDHRUH, 2003 (PRELIMINARY REPORT)

Fawzi Abudanh

## Introduction

The author is currently a second-year PhD student in the University of Newcastle Upon Tyne, England. The survey was conducted to reveal the archaeological data, which is necessarily required to support the author's thesis. The settlement patterns and the military arrangements in the region of Udhrūḥ (الذرح) during the Roman and Byzantine periods is the key subject of my thesis.

Having obtained the official permission from the Department of Antiquities of Jordan, the fieldwork continued from the 15th of October till the 15th of December. Unfortunately, due to the limited resources and lack of financial support, the team consisted only of the author and the hired car driver. Sometimes two or three volunteers joined the team; however, though none of them an archaeologist. Much appreciated logistic support was offered by the Ma'ān Antiquities Office.

## Previous Studies

The history of fieldwork in the region of Udhrūḥ is very short and poor. In other words, large-scale projects are very rare in the region of Udhrūḥ. Most of the projects are undertaken in Petra; the most important site in southern Jordan. Alistair Killick's study (1983; 1986; and 1987) and this study are the only field research which systematically covered the whole region. Other studies considered the importance of the region through the process of investigating certain questions such as the Roman frontier in Arabia (Parker 1979; 1986; Bowersock, 1971; 1976) and the Via Nova Traiana in Arabia Petraea (Graf 1995). Nonetheless, a handful of sites, especially these which are relevant to both fields, such as Udhrūḥ, Ṣadaqa, al-Jarba and Ayl, received closer investigations. The region was first considered by Brünow and Domaszewski in their work *Die Provincia Arabia* (1904, 1905, and 1909). In addition to valuable information, including photographs and plans, about archaeological sites in the region, the study recounts the earlier explorers who per-

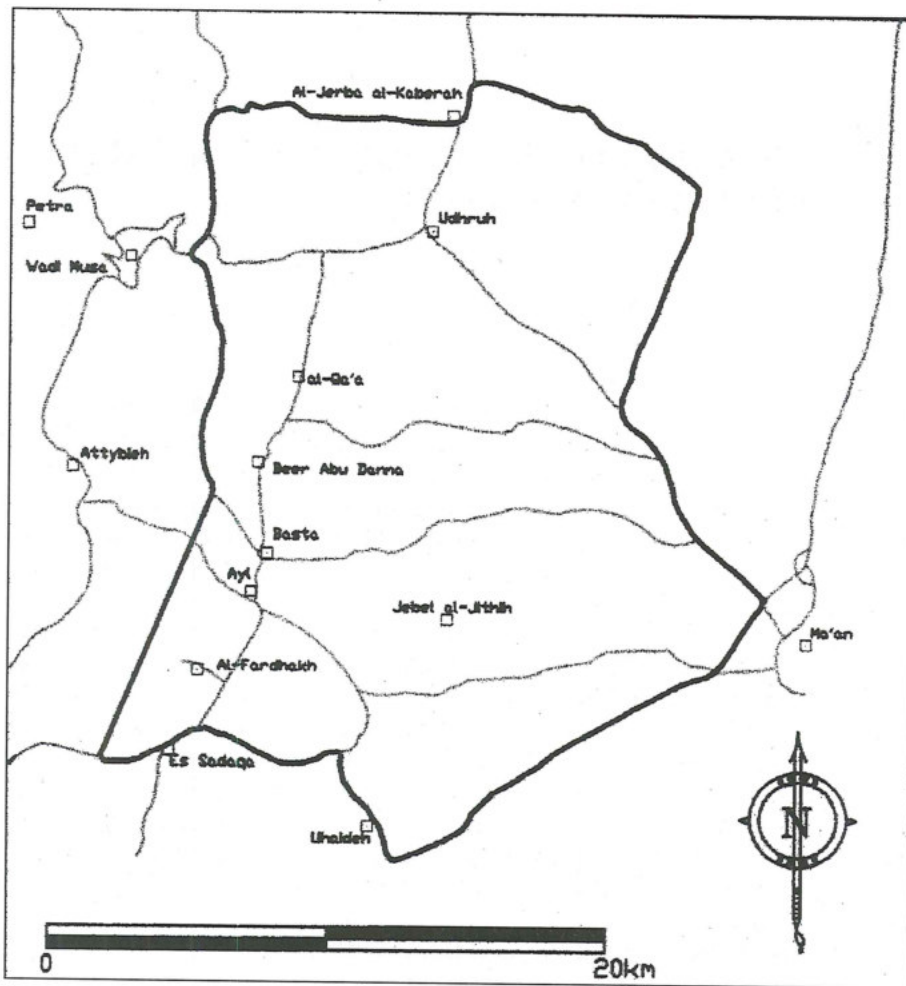
sonally visited the area (Brünow and Domaszewski 1904: 433-479). Travelers like Doughty (1888: 35-38) visited and described Udhrūḥ.

The following studies have revealed fairly important data from the region under investigation: Glueck 1935; Stein 1940; Parker 1979, 1986; Graf 1979, 1995; Fiema 1991, 2002; Kennedy 2000; 'Amr *et al* 2001, 1998 and Tholbecq 2001. The last two studies have investigated sites recorded and studied by the present author. Dr. Khairieh 'Amr (2001, 1998) recorded about thirty sites in the area during her survey which was associated with the process of constructing pipelines in three sectors in the district of Ma'ān (معان). The three sectors: al-Qā' (القاع), Ayl (أيل) and al-Jiththa (الجثة) lie within the study area.

## The Area of Survey (Fig. 1)

According to the recent administrative changes in the district of Ma'ān, the area of survey lies within the borders of four governmental and administrative regions: the Municipality of al-Ash'ari, Ma'ān, the Petra Regional Authority and the Municipality of Ayl. Archaeologically, the survey area is better known as the region of Udhrūḥ (Killick 1987: 175), however, we might tentatively refer to it as Udhrūḥ and its environs.

The modern road network in the regions mentioned above was used as border lines, which means that in many cases we did not go beyond the asphalt roads to find out what is there. Although this strategy might seem weak in terms of losing the geographical cohesion and the similarity in archaeological data, it was virtually the sole way to finish the work according to the schedule. Moreover, some areas were previously surveyed, especially the area west of the Shawbak-Wādī Mūsā road and the Wādī Mūsā-Baṣṭa road (Graf 1995) and the area north of Udhrūḥ (Findlater 2002). However, in some cases we had no choice but to cross a road either to record ruins not recorded or visited before, or to find the end (start) of an ancient road, or to keep a straight border line.



1. Map shows the area of survey (encircled by the contiguous black lines) (ref. map Ma'an 1:250000 A GH 5. in Arabic).

A modern road, vertically (E-W) connecting the Shawbak-Udhrūh-Ma'an road with the Shawbak-Wādī Mūsā road, represents the north-western line of the survey area. This road starts at the southern edge of al-Jarba al-Jadida and has a length of roughly 10km. An imaginary (E-W) line which starts just a few meters to the north of al-Jarba's Fire Station and heads eastward along a desert road representing the north-eastern line. From the wells of al-Burayka (البريكة) another imaginary line was drawn to be part of the eastern bordering line, and it extends south/southwest from al-Burayka until it intersects with the Shawbak-Udhrūh-Ma'an road at the permanent location of al-Hussein bin Talal University. From there down to Ma'an the modern road completes the rest of the eastern line. Most of the area (eastward) beyond our line and road is occupied by modern quarries, the buildings of al-Hussein Bin Talal University, and the city of Ma'an.

The western border line is represented by the Shawbak-Wādī Mūsā road (1) and the Wādī Mūsā-Basta road (2). From a point where the Wādī Mūsā-Basta significantly turns southeast to Basta,

an imaginary line was drawn to form the remaining part of this border line south/southwest until it reaches Şadaqa (صدقة). This line crosses the aṭ-Ṭayba-Ayl road and runs horizontally to the west of Basta, Ayl and al-Fardhakh (الفرذخ). The southern border line of the survey area extends vertically from Şadaqa and it runs along a recently constructed road down to the village of al-Wahīda (الوهيدة), the Ma'an-'Aqaba road; from Ma'an to al-Wahīda interchange is the south-eastern end of this line.

### Methodological Approaches

Due to the relatively huge area the survey intended to cover, it was highly unlikely to cover the region as one geographical unit. Therefore, dividing the region into small areas was very necessary to finish the work according to the schedule, and to systematically cover each area by looking at small geographical units. The survey area is horizontally and vertically divided by modern road networks. These roads were utilized to identify the borders of each area and within each area there are too many vertical and horizontal agricultural or

desert roads. The frequency of the latter differs from area to area. However, they were employed practically and made a vehicular survey very effective. In other words, there was a relatively easy access to every hill, mountain and valley.

In terms of the topography factor, it is worth pointing out that the survey region can be noticeably divided into two zones. Each zone has roughly the same topographic and climatic features from north to south. A demarcation line can be easily drawn due to the significant change when we move from west to east in the survey area. However, most of the survey area is part of the Jabal ash-Sharā (a series of mountains). The common topographic feature is a series of contiguous hills that run N-S; most of them are at least fourteen hundred metres above sea level. Hundreds of small valleys running vertically, west-east and southeast interrupt these hills. Thousands of square metres of agricultural fields seem to have been cultivated in antiquity; today barley and wheat and other cereals are the common crops grown in those regions.

The rest of the survey area, particularly the areas on other side of the Shawbak-Udhruh-Ma'ān road and the south-eastern part around al-Wahida with the elevation of less than 14 hundred metres have a relatively different topography. The presence of separate hills is the prominent element of this area; moreover, it is the area where large valleys are formed by the gathering of many small valleys. And due to the roughly flat landscape of this part, the visibility is enough to observe any sizable archaeological material.

Having divided the survey region into eight areas, interviewing some of the elderly people in each area was a necessity to visit and record as many archaeological sites as we could. This strategy was an attempt to compensate for the lack of the 10,000 scale aerial photographs taken in 1978 for most of the country; unfortunately, the 1978 survey did not cover the region of Udhruh, or the survey area (according to the RJGC archives). The 30,000 scale aerial photographs taken in 1992 are available but not effectively useful due to the difficulty in identifying any archaeological site through the photographs. However, more than twenty people were interviewed during the survey period; some of them kindly and voluntarily joined and guided us to important archaeological material.

Due to the significant similarity in the topography of the survey region, the same strategy was applied in most of the areas. The topography was a key factor in changing the survey methodological approaches. The intensive presence of horizontal and vertical agricultural road networks

made the work much easier since exploring any hill and valley was a matter of time. Accordingly, we have been vertically surveying each hill and valley starting from the eastern horizontal border line up to the western border line, and then going down towards the eastern border line, and so on until we finished the whole area. This process was very successful due to the fact that most of the sites were located on hilltops or on upper and lower slopes of hills from west to east, moreover, the gradual increase of elevation, from east to west, made any archaeological site easily recognizable from a distance. In some cases, we had to survey horizontally, particularly when there were ancient tracks and roads heading north to south. Many sites were recorded along ancient tracks and roads.

Surveying horizontally into transects, identified by certain landmarks, and was the strategy applied to the easternmost areas of the survey region. This approach was preferred due to the nature of the terrain there. Shallow, flat and smooth hills in addition to wide valleys are the common features of that landscape. This was practically vital in the areas to the east and south/southeast of Udhruh in the light of the high visibility one can get in that area. What is finally worth mentioning is the fact that the surveyor, as one of the local people, has a good experience in the survey region.

Once an archaeological site was found the following steps were taken:

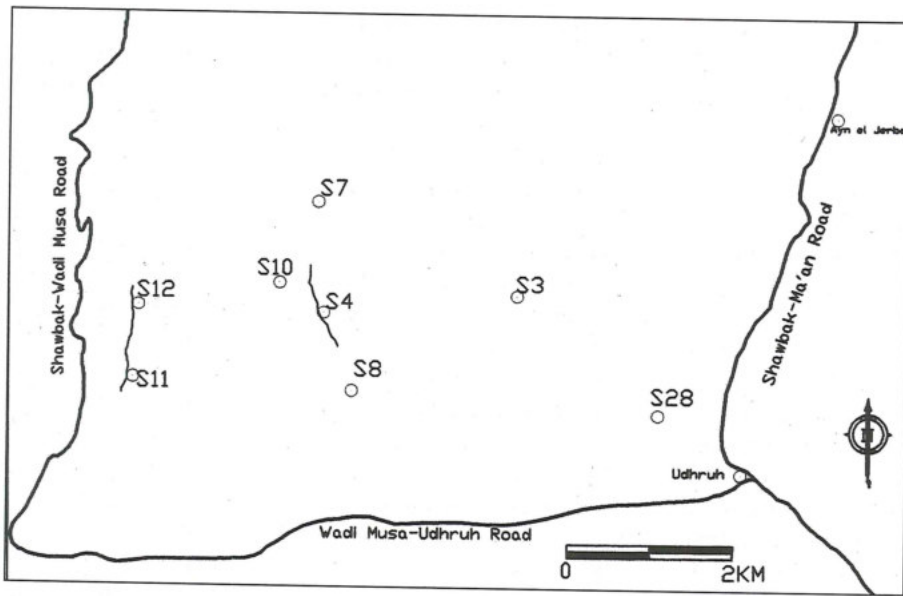
1. Taking GPS reading for every site.
2. Producing sketch plan if possible.
3. Measuring the architectural remains at each site.
4. Measuring the cisterns and reservoirs.
5. Collecting pottery sherds from every site if available.
6. Describing the archaeological components of the site.
7. Taking photographs by compact and digital cameras.
8. Investigating the whole area around the site.

### **The Archaeological Finds**

Two hundred ninety-one sites were recorded in the region under investigation. And because there is not enough room in this report to mention every single site recorded during the survey, the more significant finds will be briefly cited in each area.

#### **Area I (Fig. 2)**

This area is enclosed by four modern roads; three of them are major whereas the fourth road is secondary. The latter is the northern line of this area that vertically connects the Shawbak-Wādi Mūsā road to the west with the Shawbak-Udhruh-



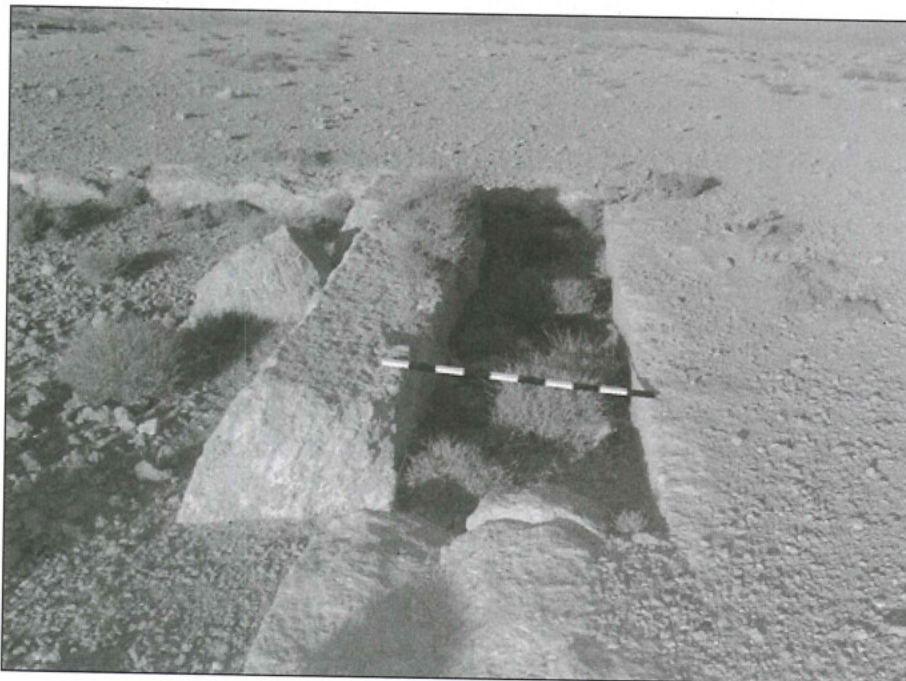
2. Map shows the sites recorded in Area I (ref. map Jordan 1:50000 Bir Khidad 3150IV K737).

Ma'an road to the east. It starts at the south-eastern corner of the al-Jarba (the new) and heads westwards for almost ten kilometres in a zigzag direction. The southern line is represented by part of the Wādī Mūsā-Shawbak road. The western and eastern lines are respectively parts of the Wādī Mūsā-Shawbak road and the Shawbak-Udhrūh-Ma'an road. Both roads are roughly aligned north-south.

Very important archaeological sites were recorded in this area. The quarry of Udhrūh (site no.28) occupies its south-eastern corner. A huge and exposed limestone layer was most likely seized to build the legionary fortress at Udhrūh. The traces of the cutting tools can be seen on the rocks, and

interestingly some of the quarried blocks were left in the site (Fig. 3). The quarry covers a huge area, probably 1200m N-S and 700m E-W (Killick 1983: 127, 131).

An ancient road network was the prominent discovery in this area. Well preserved stretches of an ancient road which (site no.4) heads south/southeast from 'Ayn Malghān (عين ملغان), probably towards Udhrūh were recorded (Fig. 4). Secondary roads were also built from this road. Three T-junctions were seen on this road. Two of them head westward to Khirbat Qumayd قميد (site no.10), and the third heads eastward, most likely to az-Zahāqiyyāt الزحاقيات (site no.3). However, the



3. Quarried blocks in the Quarry of Udhrūh.



4. Site no.4, Ancient road heads south from Khirbat Malghān.

main road does not have the same characteristics everywhere, near 'Ayn Malghān for example it is bordered and has a 4m width, and no traces of pavement were noticed, whereas in other parts only a single stone wall was found. However, we have been able to track it continuously from Khirbat Maghāyir Zayd مغاير زيد (site no.8) to Malghān (site no.7).

In fact, Malghān is a central site in this area. A complex structure on a hilltop known as Khirbat Malghān (site no.7) is overlooking the spring down in the wadi. Another structure on the upper slope of a hill facing the khirbah was located to oversee Wādī Malghān. A small structure was built on the northern upper slope of the hill that includes Khirbat Malghān. The hilltop has extensive ruins;

350m east-west and 200m south-north. A complex structure must have been the centre of the site since some exterior walls and internal divisions are still preserved (**Fig. 5**). The site is highly disturbed by modern agricultural and pasturing activities. Five caves on the southern slope and three threshing floors to the west of the structure are associated with the site. Pottery sherds are abundant particularly outside the structure. And the site was occupied from the Edomite through the Byzantine period.

Khirbat Du'ayj خربة دعيج (Site no.12) is a very significant site in terms of the location and function. It lies just on the edge of a hill about two kilometres to the east of the Wādī Mūsā-Shawbak road, and overlooks the entire region westward



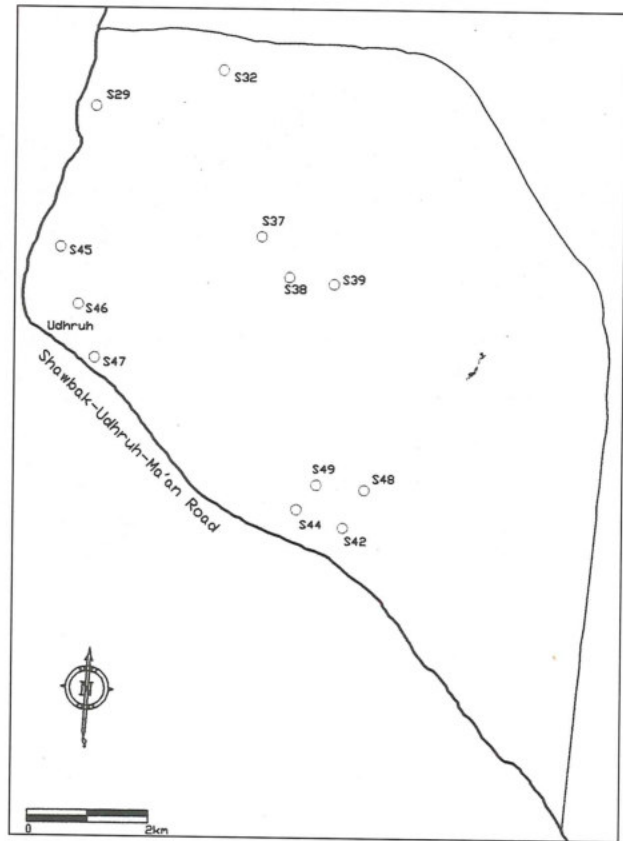
5. Site no.7, Khirbat Malghān, view to the west.

down to the mountains of Petra and Wādī Du'ayj to the east. The main feature at the site is destroyed to the extent that no architectural elements could be recognized. It is merely a huge circular mound of stones standing +2m above exposed bedrock. Accordingly, a high building probably circular was standing there, and it might have collapsed due to natural causes. A well-preserved structure beside two caves or cisterns was found just about sixty metres to the south of the main feature. The structure is roughly square (19x18m) and seems to have been connected with the main feature from the south-eastern corner by a short walkway, 66m long.

An ancient road (Site no.11) passes the western edge of Khirbat Du'ayj, and it could be tracked over the hills down to the Wādī Mūsā-Udhruh road to the south. Nevertheless, it does not have the same characteristics everywhere, it is very clear, well-preserved and bordered by stone walls near Khirbat Du'ayj (Fig. 6), elsewhere only stone walls (not curbstones) and traces of the road itself without curbstones were seen. According to the local people, this road heads also north from Khirbat Du'ayj up to Nijil at ash-Shawbak. It is noteworthy that this road is probably part of the road (site no.154) recorded on the hills to the west and south-west of Bīr Abū Dannah (بیر أبو دنّة).

**Area II (Fig. 7)**

This area is less well defined in comparison with the other areas. Its northern and eastern borders were drawn as imaginary lines on the ground. The first extends for nearly ten kilometres along a desert track eastwards to the modern wells of al-Burayka. We should mention that this line starts



7. Map shows the sites recorded in Area II (ref. map Jordan 1:50000 Bir Khidad 3150IV K737).

just about twenty metres to the north of the al-Jarba's Fire Station and is not straight, from al-Burayka a south-southwest line was also drawn to be the eastern border of this area. It intersects with the Shawbak-Udhruh-Ma'an road at the permanent location of al-Hussein bin Talal University. In fact, the whole area eastwards down to the desert high-



6. Site no.11, Ancient road near Khirbat Du'ayj (the khirbat appears in the photo's background).

way, was intended to be investigated but the presence of industrial activities, mainly modern quarries, was a real obstacle. The Shawbak-Udhruḥ-Ma'ān road forms its western fringe.

Khirbat al-Jarba (خربة الجربة) is a unique site in this area (site no.29). Massive ruins occupy a hilltop for approximately 700m N-S and 300m E-W (Fig. 8). Most of the ruins are the remains of a complex structure consisting of many contiguous rooms. The spring of al-Jarba lies just on the western base of the hill. The spring provided the khirbah with water and many agricultural fields or farms seem to have been irrigated by the spring. Many field walls are still visible in Wādī al-Jarba below the spring. The pottery sherds collected from the site reflect a continuous settlement at al-Jarba; Nabataean/Roman (first-second century AD), Late Roman, Late Byzantine, Early Islamic, Ayyubid/Mamluk and Ottoman sherds confirm the importance of the site. Al-Jarba as well as Udhruḥ and Aila ('Aqaba) submitted to Prophet Muhammad and paid the poll tax in 630 AD, the three towns must have flourished during the Late Byzantine and Early Islamic period (Schick, 1994: 149).

Not far south of Khirbat al-Jarba lies another important site known as Jabal at-Taḥkīm (جبل التحكيم) or al-Ash'arī (الأشعري) (site no.45). Two well-preserved and contiguous structures built of large blocks occupy the hilltop with a clear view in all directions. Both structures have the same length (40m) and width (10m), and no internal divisions were observed. Due to the considerable width of the walls, they have been reused as graves. Nabataean, Roman, Late Byzantine/E. Islamic and Ottoman sherds were collected from the site. The strategic location of the site and the thick-

ness of the walls leave no doubt that it was used for defensive purposes.

Moving to the south towards Udhruḥ there are two hills; the first is known as Tall Jurayda تل جريدة (site no.46) and the second is Tall Dubays (تل دبيس) or Udhruḥ (site no.47). Many natural caves with archaeological deposits occupy most of the area of Tall Jurayda, and a structure was built on its southeastern edge. Tall Dubays was excavated by Alistair Killick (1983: 127). Although most of this area is within the desert zone, many archaeological sites were recorded, and some dated to the prehistoric periods. From Tall ar-Ruz تل الرز (site no.37) for instance, Upper Palaeolithic pottery sherds were collected, and Chalcolithic pottery sherds were also found at Şufr al-Burayka صُفر البريكة (site no.39).

Finally, is the site of Khirbat al-Fiqiyy خربة الفقي (site no.44), a few kilometers southeast of Udhruḥ. The site seems to have been a centralized agricultural complex, an aqueduct connects the site with Birkat Udhruḥ (reservoir) (site no.48) about kilometre northeast of the site. A wall was built to carry the aqueduct (site no.49) in Wādī al-Fiqiyy, and well-preserved parts of it are still standing for a considerable height (Fig. 9). Another reservoir was found about five hundred metres southeast of Khirbat al-Fiqiyy. Many vertical and horizontal field walls were seen in the wadi below this reservoir. Therefore, the people who cultivated the fields, operated the water system and protected this important area must have occupied the site. The pottery sherds reflect the long history of the area (al-Fiqiyy) from the Nabataean/Roman period up to the late Islamic period. It is attested that the area between Ma'ān and Udhruḥ flourished during the Byzantine period. Udhruḥ itself paid the second largest tax among the towns of southern Palestine



8. Site no.29, Khirbat al-Jarba, view to the west.



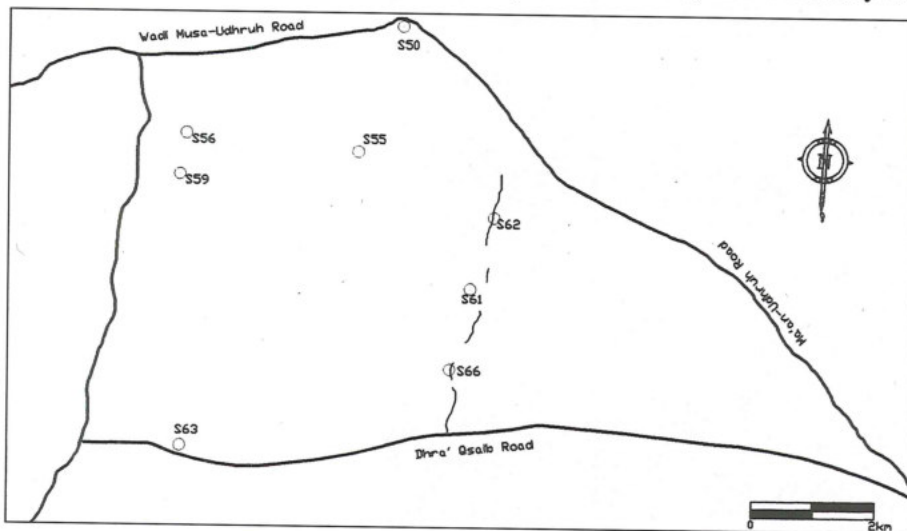
9. Site no.49, the aqueduct's wall in Wādi al-Fiqiyy, view to the east.

in the sixth century according to Beersheba Edict (Killick 1983: 110).

The security of this area seems to have been taken into account, most likely in later periods (Byzantine/Islamic?). Three square structures, site no.32, site no.38 and the one near Khirbat al-Fiqiyy (site no.44) seem to have been built, in order to keep an eye on the settlements, agricultural fields and water resources west at al-Jarba and Udhrūḥ and southeast at al-Fiqiyy. The architectural materials at the first two structures are very similar, and consist of small limestone blocks, and a roof tile was found at site no.32. The blocks of the structure near Khirbat al-Fiqiyy are very similar to those at the fortress of Udhrūḥ; therefore it might be tentatively supposed that these blocks were brought from the fortress in the later periods.

**Area III (Fig. 10)**

Area III is well defined by four modern roads, two vertical and two horizontal encircle it. The two verticals are respectively the Wādi Mūsā-Udhrūḥ road to the north and the Dhrā' Qaṣīb road to the south and southeast. From the west is the Udhrūḥ-Rāshid-Abū Dannah-Baṣṭa-Ayl road, while the Shawbak-Udhrū'-Ma'ān road is from the east and northeast. Starting from the north-eastern corner of this area the legionary fortress (site no.50) at Udhrūḥ is the most momentous site within our area. The site is well known to the scholars of the Roman period (Bowersock, 1971, 1983; Parker, 1979 and 1986; Kennedy 2000), and it has been excavated by Alistair Killick (1983, 1986, and 1987). Although the excavator believes that the fortress was Trajanic (second century AD) (Killick, 1983: 125), many



10. Map shows the sites recorded in Area III (ref. map Jordan 1:50000 Bir Khidad 3150IV K737).



scholars still disagree with him (i.e. Bowersock 1976: 226-227), particularly Parker who prefers a Diocletianic date (third/fourth century AD) and based his argument on the comparison with the fortress at Lajjūn (Parker 1986: 98). A Byzantine church lies just about thirty metres to the south of the south-western tower outside the fortress wall. The exterior walls of the fortress and most of the projecting towers are still well preserved.

A few kilometres to the southwest of the fortress lies Tall Abū ar-Ru‘a أبو الرعة (site no.55). A stone wall or an enclosure surrounds the hill, and it is very clear on the western upper slope. Killick identified this enclosure as a temporary Roman camp (Killick 1986: 436-438; Kennedy, 2000: 170). Separate hills in a smooth terrain are the main topographical feature of the eastern half of area III. Most of them have archaeological material, either a small structure, probably a watching tower, like that at the top of Tall aṣ-Ṣafiyya تل الصافية (site no.66), or a group of stones and pottery sherds which indicate that the hilltop was temporarily being used as a watch point due to the clear view one can get from there. A long stretch (5km) of the so-called Khaṭṭ Shabīb خط شبيب (site no.62) was tracked in this area. The khaṭṭ was tracked by the present author until Khirbat Likah (site no.288), the southernmost recorded site in the survey area. It was first believed that the khaṭṭ does not extend northward and heads southward twelve kilometers to the west of Ma‘ān (Kirkbride 1948: 151-154).

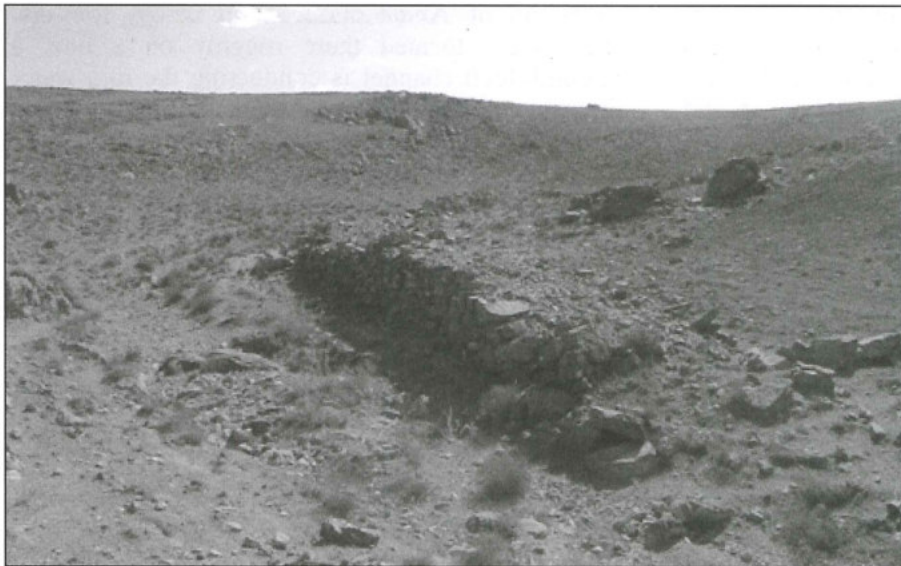
Moving westward into transects, many archaeological sites were also visited and recorded. Two traditional houses named after their owners, Khirbat Rubayy‘ خربة ربيع (site no.56) and Khirbat

Ibn Rajā خربة ابن رجا (site no.59) seem to have overlapped ancient structures. Natural caves are significant there, at least three caves at each site. Some of these caves were converted into cisterns to collect the rain water after having plastered their walls and dug a channel or ditch into the ground along the lower slope of the hill, the same system was applied in other areas where no natural water sources are available. Agriculture seems to have been the main economic factor in the life of the people in antiquity in that area. Pottery sherds, particularly handles of storage jars, are abundant in the cultivated fields, and many threshing floors have also been seen. Nabataean/Roman (first-second century AD), L. Roman and L. Byzantine sherds are significant in the sites mentioned above.

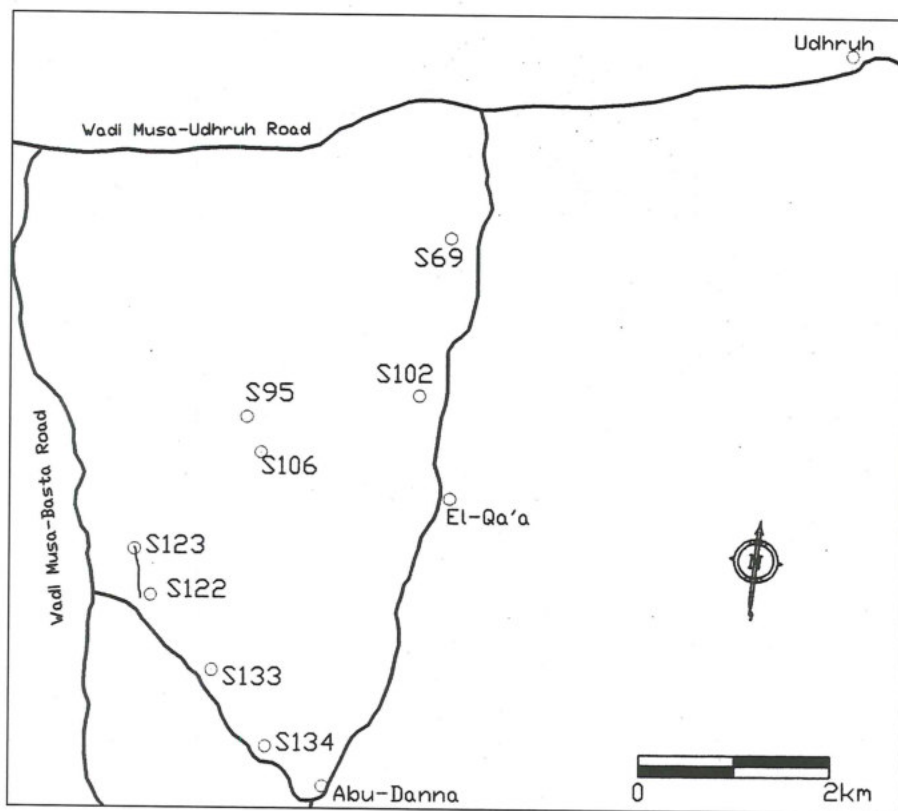
Two Rujums have also been recorded in this area. Rujum al-Ghurāb رجم الغراب (site no.61) lies to the northwest of Tall aṣ-Ṣafiyya, and Rujum ‘Abid رجم عبيد (site no.63) to the southeast of Rawḍat al-Amīr Rāshid روضة الأمير راشد (al-Qā‘). Both seem to have probably played a defensive role as watching towers due to their strategic locations. The latter was probably located on the road between Udhrūh and Ayl, a stretch of this road associated with a thick wall (site no.204) has been recorded in Wādī al-Bīr or Abū Dannah, a few kilometers to the southwest (**Fig. 11**). The author believes that this stretch was reported by Brūnow and Domaszewski (1904: 467, fig. 541). Nabataean/Roman sherds were found at Rujum ‘Abid whereas few Byzantine sherds were collected from Rujum al-Ghurāb.

#### Area IV (**Fig. 12**)

As a matter of fact, this area was heavily settled



11. Site no.204, the road and wall in Wādī al-Bīr.



12. Map shows the sites recorded in Area IV (ref. map Jordan 1:50000 Bir Khidad 3150IV K737).

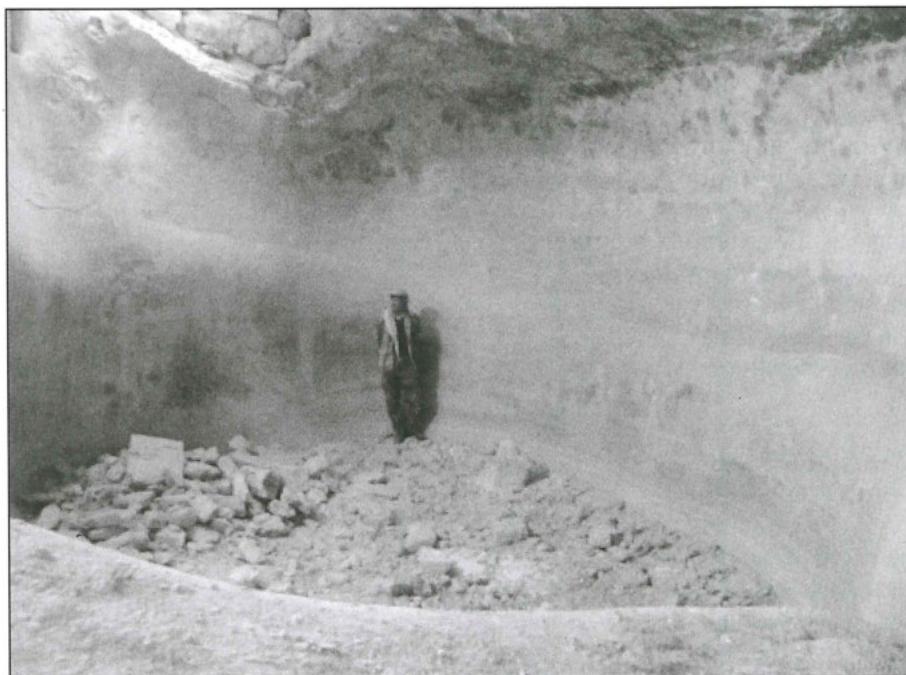
from the first century AD onwards. Many structures were recorded in the area; however, only some of them were recorded by Dr. Khairieh 'Amr ('Amr *et al* 2001, 1998) during the survey which accompanied the process of constructing the water pipeline between al-Qā' and Wādī Mūsā via Bīr al-Biṭār. Therefore, those sites will not be mentioned here. The modern settlements at Rashid (al-Qā') and Abū Dannah lie within this area. This area is encircled by four roads; the Wādī Mūsā-Udhrūḥ road to the north, the Wādī Mūsā-Baṣṭa road to the west and northwest, the Udhrūḥ-al-Qā'-Abū Dannah-Baṣṭa-Ayl road to the east and southeast, and the Umm Hilāl road (أم هلال) to the south. The latter heads west to northwest from Abū Dannah and intersects with the Wādī Mūsā-Baṣṭa road.

Stretches of an ancient road (site no.123) running north to south, over the hills just parallel to the Wādī Mūsā-Baṣṭa road, are still amazingly well preserved. The road does not have the same features in all the stretches; its width, for example, ranges from four to eight meters, in some places there are no curbstones at all due to the hard terrain existing there. Many structures were built on the slopes to the east of the road, some of them just on the edge of the road, and secondary routes connect these structures with the main road. A good example is site no.122 where the main road is intersected by a secondary one connecting the site with

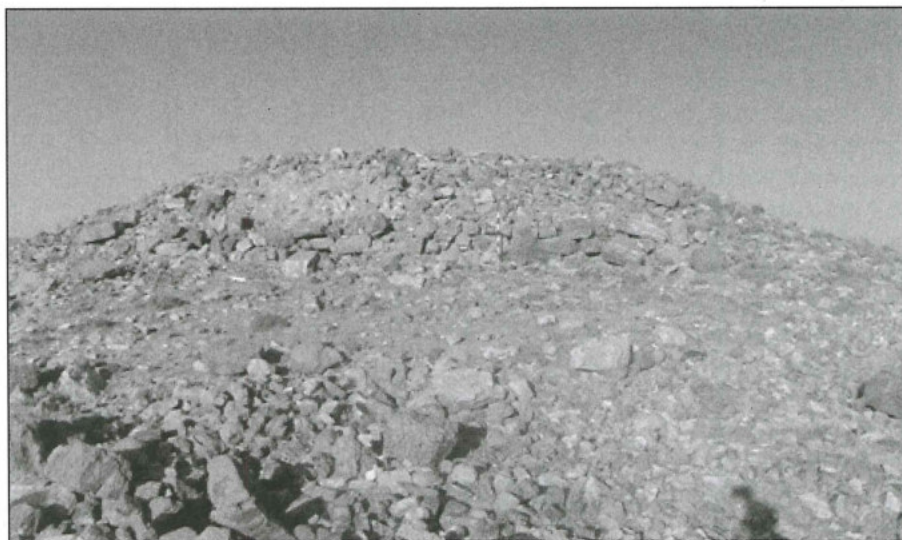
the road, and it is interesting enough to know that the modern road between Baṣṭa and Wādī Mūsā probably overlapped parts of this road.

Apart from the abundant presence of structures in this area, the existence of many rock-cut cisterns is the most significant phenomenon at this area. Most of them were originally natural caves converted into cisterns after they were improved and plastered. About thirty cisterns were recorded there. The lack of natural water sources must have been the reason behind this technique. A good case is the site of 'Abdāt عبادات (site no.69), four cisterns were located there roughly on a line, a ground-ditch channel is conducting the rain water into them. They also have the same depth of 6m, and probably the same diameter (3-4m).

Another case is the cistern at Umm al-'Awsaj أم العوسج (site no.95). It was located on the upper slope of a hill. A rectangular settling basin was connected to a small channel to run the water inside the cistern. A small door enables a slim person to enter the cistern, and seventeen rock-cut steps lead to the floor of the cistern (Fig. 13). The measurement of its interior is 9.4m-8.5m, and the diameter of its floor is 7m, and finally its depth is 6.5m. No structure was built close to this site but a cave exists down on the lower slope of the opposite hill. Two important Rujums, Rujum al-Biṭār رجم البيطار (site no.102) (Fig. 14) and Rujum al-Kha-



13. Site no.95, interior of rock-cut cistern, Umm al-'Awsaj.



14. Site no.102, Rujum al-Biṭār, view to the west.

رجم الخطيبية (site no.134) must have had a defensive role to play. Both have strategic locations on very high hilltops, 1500m at least above sea level, and this evidently means that they have a very clear view over the surrounding landscape in all directions. In terms of the dimensions and architecture material, Rujum al-Biṭār is 19m SN and 17m EW whereas Rujum al-Khaṭibiyya is 5m x 5m, both were built of large and very large blocks of flint stones, the walls at Rujum al-Biṭār cannot be easily traced due to the considerable stones covering the structure. At Rujum al-Khaṭibiyya the plan is very clear, as a single row of walls still stand for a considerable height, buttress walls however, were built on the external sides of the walls.

The remains of two complex structures with internal divisions are worth mentioning. The first is known as Khirbat al-Hazāhza خربة الهزاهزة (site no.106), and the second is Khirbat Umm al-Jarād خربة أم الجراد (site no.133). The former rests on a hilltop about 500m to the west of al-Qā' Pump Station. The archaeological remains including the structure cover an area of 150m EW and 70m NS, although the structure was affected by later agricultural activities, some of the original walls are *in situ*.

Many exposed and walled bedrocks and paved floors occupy the western and south-western part of the site, a cistern lies outside the north-western corner. Nabataean (first century BC-second cen-

tury AD) and L. Roman-Byzantine (fourth/fifth-sixth centuries AD?) sherds were collected from the site. Khirbat Umm al-Jarād lies about three hundred metres to the east of Wādī Mūsā-Baṣṭa road on a flat hill. The main body of the structure measures 47x40m, however, stone circles or probable external courtyards were built on the southern wall. Nabataean, L. Roman and L. Byzantine sherds were found on the site. If we take into consideration the huge area of agricultural fields surrounding them, such sites were most likely flourishing small settlements dependent on agriculture.

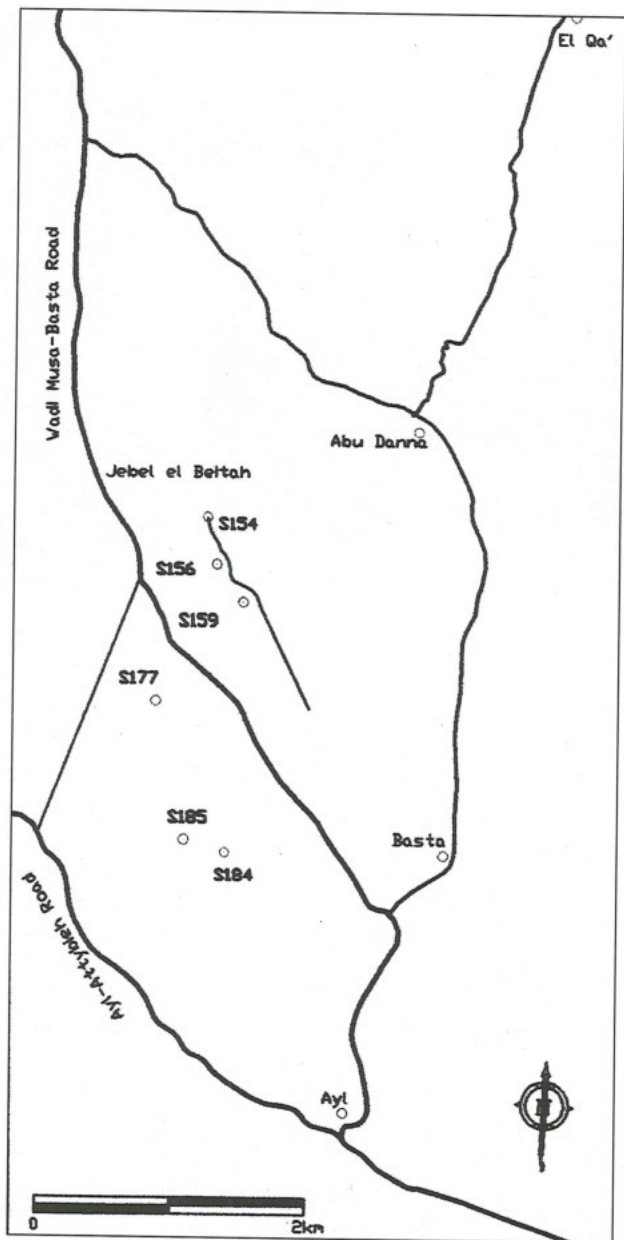
**Area V (Fig. 15)**

This area is bordered by Udhrūḥ-al-Qā‘-Abū Dannah-Baṣṭa-Ayl road to the east, Wādī Mūsā-Baṣṭa road to the west, aṭ-Ṭayyiba-Ayl road to the south, and Umm Hilāl road to the north. From the point where the Wādī Mūsā-Baṣṭa road significantly changes its direction to intersect Udhrūḥ-al-Qā‘-Abū Dannah-Baṣṭa-Ayl road at Baṣṭa, a virtual line was drawn to form a straight end for this road.

Well preserved parts (site no.154), probably of the ancient road recorded in Area IV (site no.123) were also found in this area on the hills west and southwest of the village of Bīr Abū Dannah, and it was traced until it completely disappeared on the edge of Baṣṭa. Secondary roads were built parallel on other side of this road, and road junctions were seen along the road (Fig. 16). The road is bordered by stone walls on both sides, 3-4m wide and pavement was seen. However, due to the hard terrain in some parts of the area the road’s features change significantly. In some parts it is merely a wide track or a rock-cut exit.

Two structures seem to have been simultaneously built with the road on the hills southwest of Abū Dannah, the first structure (site no.156) consists of two parts: a two-row wall measures 14.3x13m and the remains of a square structure measures 6x6m inside the wall. This structure was probably a reservoir providing the passers-by with water. The second structure (site no.159) is most likely a watch tower to protect the main road and the secondary road which heads eastward to Rās Zahāra (راس زهارة). The tower is a simple square structure (4.3x4.3m) built of large and very large limestone blocks.

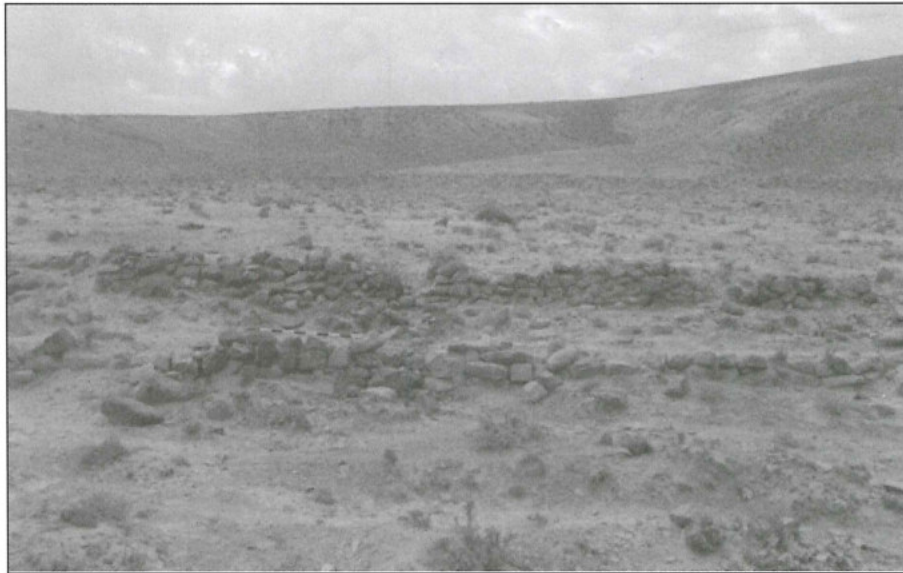
This area seems to have been intensively settled in antiquity. Architectural remains of at least twenty buildings were recorded there. Most of them were located either on hilltops or lower slopes and surrounded by agricultural fields and, more importantly, they were served by secondary roads. The existence of natural water sources and the fer-



15. Map shows the sites recorded in Area V (ref. map Jordan 1:50000 Bir Khidad 3150IV K737 and Ma'an 3150III K737).

tile soil were decisive factors behind the concentration of settlement in the region in general and in this area in particular. A good example is the area around 'Ayn al-Mu'in (عين المعين) where many structures encircle the spring. Two structures lie respectively to the northeast and north of the spring, three more structures lie to the northwest/west, and a complex structure was located on a hilltop to the southeast of the spring. A flint stone quarry was also recorded on a hilltop to the north of 'Ayn al-Mu'in.

Another important settlement cluster was observed around Wādī and 'Ayn Muḥaydhrāt north-



16. Site no. 197, Tall Qaṣīb, terracing walls.

west Baṣṭa. Many architectural features and caves were recorded in Wādī Muḥayḏhrāt (وادي محيظرات), archaeological material including pottery sherds and ash layers were seen outside two caves, and this might indicate that these caves were settled. Threshing floors are also abundant, they were found in groups, three or more to each group (Fig. 17). 'Ayn Muḥayḏhrāt (site no.184) was evidently intended to cultivate the fields below the spring, a reservoir was constructed a couple of hundred metres to the east of the spring, and a ground-level aqueduct was most likely used to bring the water from the spring. Traditional houses were built northwest of the reservoir fifty years ago.

On a hilltop to the northeast of the spring, Khirbat Muḥayḏhrāt (site no.185) was strategically located with a clear view over the valley north and the agricultural fields to the south and southeast. The *khirbah* is a rectangular structure built of flint stone blocks. Four internal divisions were built on

the north wall, two in the middle and two on the south wall. Edomite and Nabataean pottery sherds were found at the site.

The security of an important agricultural area such this seems to have been taken into consideration. A rectangular structure identified as a tower was located on the ridge of a hill on the left side of Wādī Muḥayḏhrāt (Fig. 18). The tower (site no.177) consists of two parts: a square base measures 18x18m over bedrock, and a rectangular structure (5.3x6.3m) built above the base. A rectangular stone wall (10x4m) lies just outside the eastern wall of the base. The tower walls were built of large and very large limestone blocks, and they have a considerable thickness (1m). Late Roman pottery sherds were collected from the site.

#### Area VI (Fig. 19)

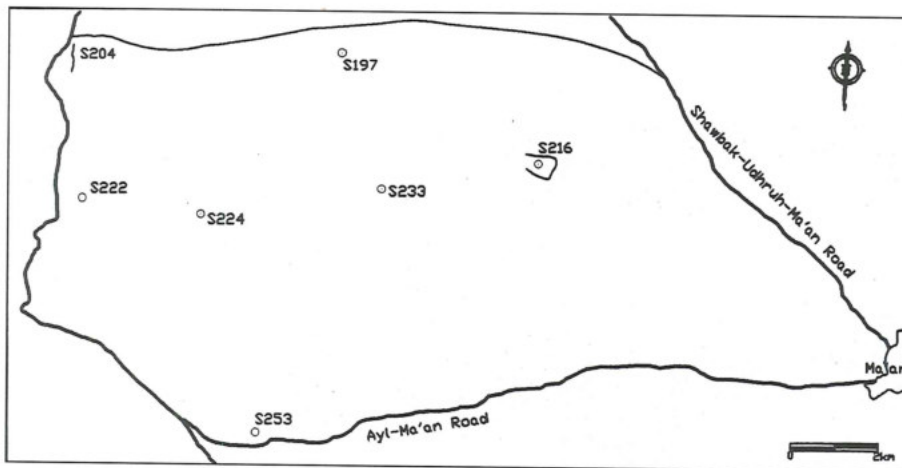
This area is enclosed by four roads, the Shawbak-Udhrūh-Ma'ān road to the east, Udhrūh-al-



17. *Wusm* or camel brand.



18. Site no.253, Safaiatic inscription.



19. Map shows the sites recorded in Area VI (ref. map Jordan 1:50000 Bir Khidad 3150IV K737 and Ma'an 3150III K737).

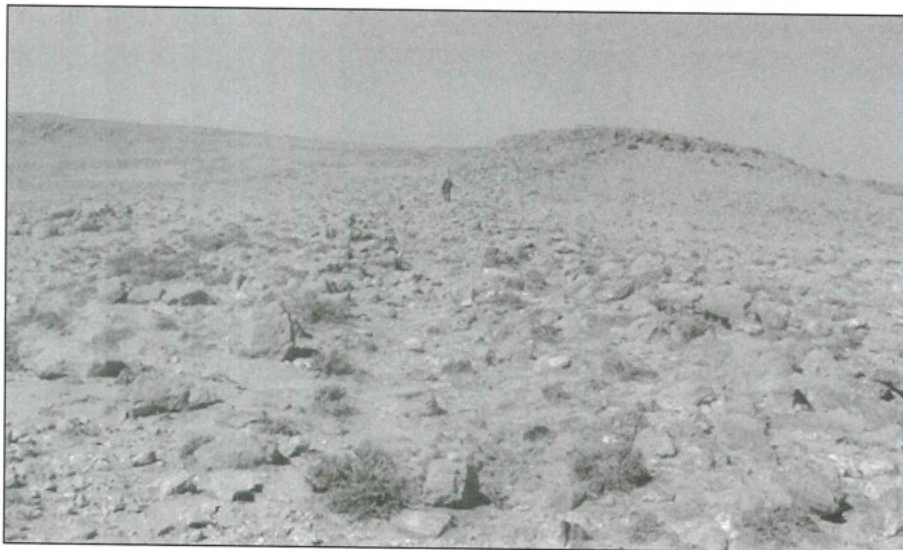
Qā'-Abū Dannah-Baṣṭa-Ayl road to the west, Dhra' Qaṣīb road to the north and northwest and Ma'an-Ayl road (9). Many sites in this area were previously recorded; hence, they will not be mentioned here ('Amr *et al.*, 1998 and 2001 under al-Jiththa and Ayl sectors, Killick 1986). Only the archaeological sites which were recorded and visited for the first time will be briefly presented here.

Tall Qaṣīb تل قصب (site no.197) is a significant site about seven kilometres to the southwest of Udhrūḥ. A spring, known as 'Ayn Qaṣīb, lies at the north-western base of the hill. Terrace walls were found on other side of the valley about sixty metres below the spring (Fig. 20). The function of these walls cannot be firmly determined. Nevertheless, they should be seen as agricultural terraces in the light of the presence of the spring. Up on the hill, fifteen graves were found on the eastern upper slope. Recently uncovered walls on the north-western part of the hilltop strongly indicate that a structure was built up on the hilltop, most likely a watching tower to guard the spring, a salvage ex-

cavation is highly recommended. Edomite, Nabataean (first-second century AD), Roman, L. Byzantine-E. Islamic and Ottoman sherds were found at the site.

Rujums are abundant in this area; most of them were located on hilltops with a clear view over the surrounding terrain. A well preserved tower known as Rujum Abū Ḥalaqa رجم ابو حلقة (site no.222) is a good example. The Rujum was located on a hilltop 2km northeast 'Ayn Baṣṭa. The tower is merely a square structure 6.5x6.5m built of large and very large flint and limestone blocks, and still standing for the height of 1.5m. A stone circle or courtyard lies just 15m apart from the eastern wall. Nabataean and probably early Roman sherds were collected from the site. The function of such a tower cannot be more than a watch point presumably to protect the cultivated area and settlement westward from any possible attack from the desert.

The presence of well preserved parts of two water channels deep in Wādi Baṣṭa (site no.224) leaves no doubt that the area to the east of Baṣṭa



20. Site no. 154, Ancient road.

and Ayl must have had an economic importance for the central authority whether during the Nabataean or the Roman period. Parker (1986: 101) reported that a traveler had mentioned that the spring of Baṣṭa provided water to a Roman site three kilometres to the east of Ma'ān. Hundred of stone mounds are significant features in the landscape, particularly in the area to the east of Baṣṭa and Ayl, most likely due to an intensive agricultural activity. The remains of many small structures, probably farmsteads are also another sign that points to the agricultural substance of the area.

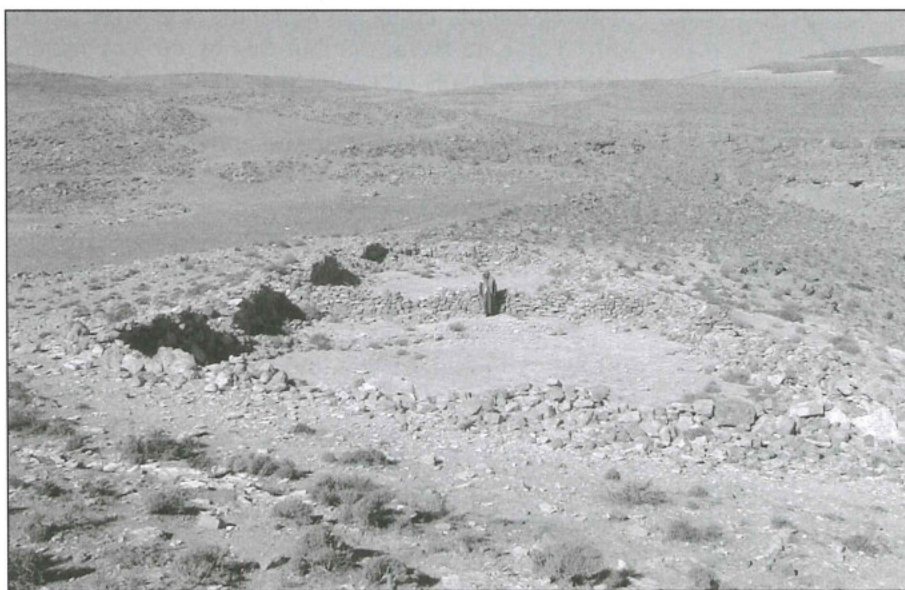
A very significant landmark in this area is Jabal aṭ-Ṭāḥūna (site no.216). The importance of this site was first indicated by Killick (1986). From the eastern base of the Jabal up to a thousand metres to the east, the area is occupied by important archaeological remains. A huge enclosure (550NS. 700EW) contains most of the archaeological components. Many rectangular and square architectural units, most likely houses, were built very close to the eastern base of the mount. The internal divisions of these units can be seen on the surface and they seem to have a considerable height beneath the ground when uncovered.

A rectangular reservoir lies inside the enclosure northeast of the architectural remains. A channel running from the west flows into the reservoir, and a few metres of it are still preserved. Two conceivable places might have provided the reservoir with water. The first, more reasonable, is the supposed dam reported by Killick (1986) on the southwest base of the mount. A modern dam, constructed in the same area, should have covered the ancient one. The second is the spring of al-Hsieh to the

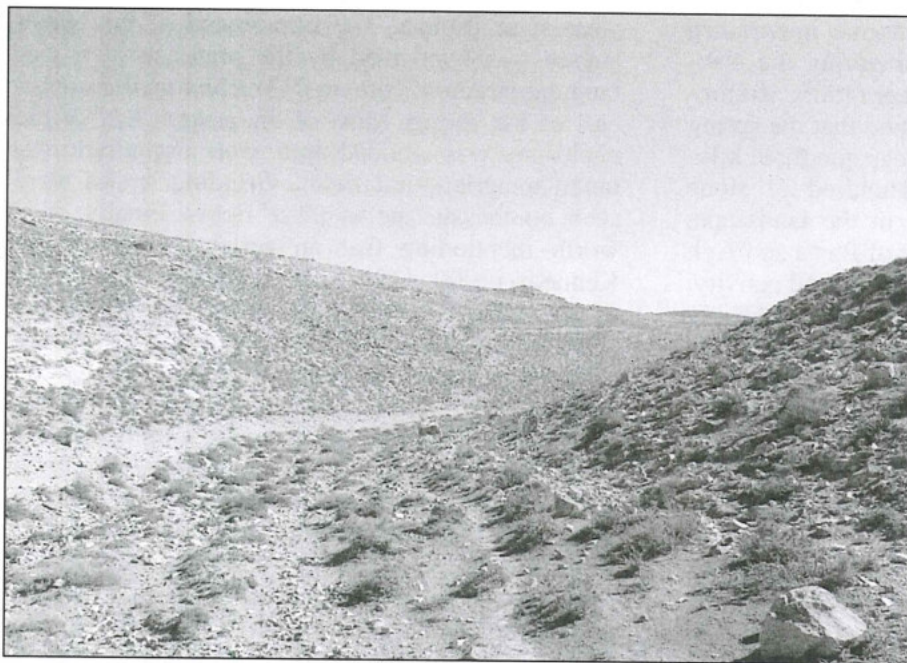
west of aṭ-Ṭāḥūna. The importance of this water source was confirmed by the presence of a rectangular structure (site no.233) a few metres south-east of the spring. Most of the eastern half of the enclosure was divided into well organised rectangular agricultural fields. Grinding stones were seen on the surface in these fields. Finally, it is worth mentioning that an aerial photograph by Kennedy (2000: 172, fig.17.3) clearly shows most of the features mentioned above. Many special symbols were observed in this area, and these were abundantly found on heaps of stones located on isolated hills. Three symbols were the most frequent (**Fig. 21**). The local people simply explain these signs as camel brands or *wusm*. Each tribe has a certain *wusm* that should be applied to its animals. Nevertheless, although this explanation was tentatively accepted, the fact that these marks were associated with archaeological material makes it preferable to find an alternative explanation. Dr. Khairieh 'Amr (Pers. Comm.) said that: "*wusum were usually applied to recognisable landmarks within a tribe's territory or roaming area and archaeological sites make very good landmarks*". Many of these marks were recorded on the hills around Jabal al-Jiththa (جبل الجثة). Only one inscription was recorded on a hilltop (site no. 253) southwest of Jabal al-Jiththa (**Fig. 22**).

#### Area VII (**Fig. 23**)

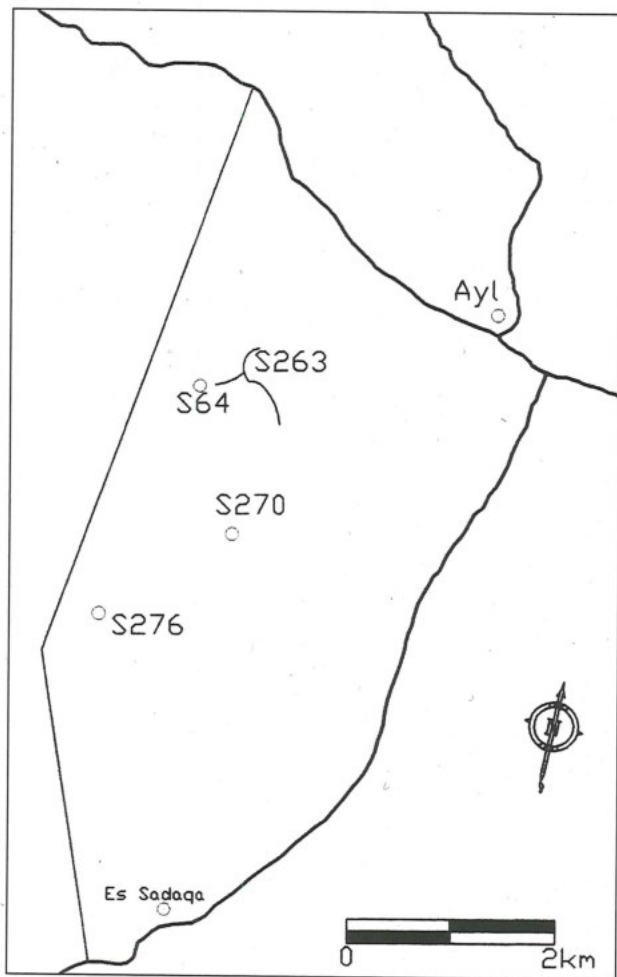
This area is enclosed by aṭ-Ṭayyba-Ayl road to the north, Ayl-Fardhakh-Ṣadaqa road to the east and northeast, the hills south and southwest of Ṣadaqa, and by the extension of the virtual line drawn in Area VI from the west.



21. Threshing floors in Muḥaydhṛāt.



22. Site no. 177, A Rujum on the edge of Wādī Muḥaydhṛāt.



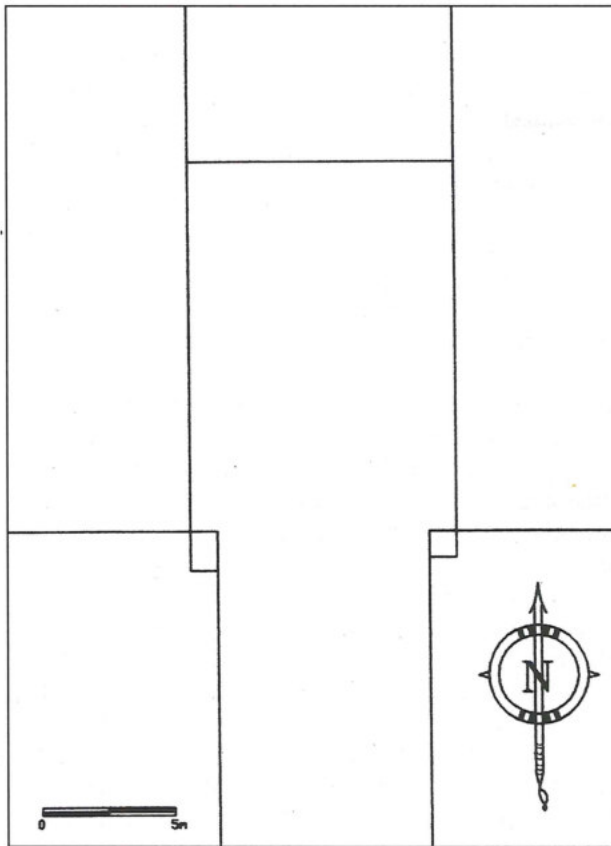
23. Map shows the sites recorded in Area VII (ref. map Jordan 1:50000 Ma'an 3150III K737 and Ras En Naqb 3050II K737)

Three major categories of archaeological material were recorded in this area, structures and complex structures, roads and threshing floors. The most significant structure was the fort (site no.264) on the top of Wādī al-Fardhakh, just 2km southwest of the Ayl-Ṭayyba road. Its walls are still standing for at least 1.5m, and its plan is also very clear (Fig. 24). The fort measures 32m(NS)x24m (EW), and was built of large and very large limestone blocks. Six internal divisions were recognised inside the walls, two divisions on the east and west walls, one on the north wall, the courtyard and the gateway in the middle. The entrance was located in the middle of the south wall. The few pottery sherds collected from the site were identified as Late Byzantine but this by no way means that the fort was constructed in the Late Byzantine period.

The importance of this site is indicated not only by the strategic location of the fort but also by the fact that it was connected by a secondary road with a road heading S-N over the hills northeast of Khirbat al-Fardhakh. The distance between the fort and the main road is about 200m. The main road (site no.263) seems to approach north and then northeast probably to Ayl. In fact, the similarity between the characteristics of this road and the road recorded in Area VI might cautiously suggest the idea that they are stretches of the same road. The road is bordered by curbstones, and is 3-4m wide and no pavement was seen.

The area to the northwest and west of al-Fardhakh seems to have been heavily settled in an-





24. Plan of site no. 264.

tiquity. Numerous terraces and structures were seen there, but because time was very limited we did not go beyond certain topographic features. Nevertheless, important sites were recorded there, and two intensively ruined sites are recorded here. The first site is known as Khirbat Şabbāḥ خربة صباح (site no.270) and lies on a hilltop northwest of Khirbat al-Fardhakh, and overlooks Wādī al-Fardhakh to the east and Wādī ar-Ruwayḥī (الروحي) to the west. Architectural features in-

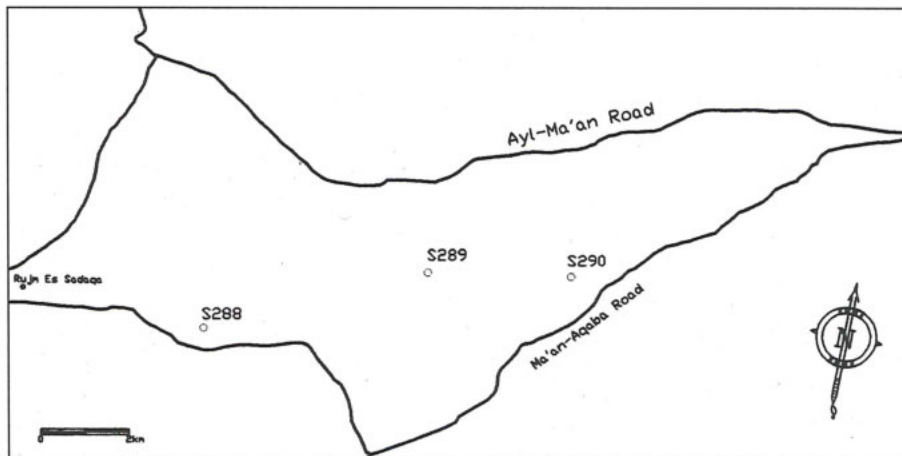
cluding well-preserved walls and some divisions; caves and circle stones are the main archaeological material above the hill. These components cover a considerable area, approximately 150m (NS) and 80m (EW). Well-preserved walls with two and three courses high can be seen on the eastern edge of the hill. The architectural material of the walls designates two periods of construction. Meanwhile, Nabataean and Late Byzantine pottery sherds were collected from the site.

The second important site is Khirbat ar-Ruwayḥī (site no.276). The site is significantly located on the top of a flat shallow rocky hill and surrounded by a series of very high hills. The site extends northwest to southeast for about 450m. Four architectural features were observed above the hill: the main part of the site, and three separate rectangular structures on the south-eastern half of the hill. The main part consists of a complex structure with many internal divisions, and well-preserved external walls. Three caves are associated with the ruins and they seem to extend beneath the structure.

A flat exposed bedrock surface occupies the area southeast of the complex structure. A stretch of an ancient road ascends the hill from the south-eastern base, and can be easily tracked from there until it enters the centre of the site. This road could be a branch of a main road heading southeast and then southwest to Şadaqa via Wādī ar-Ruwayḥī, stretches of this road besides what might be road pavement were recorded in this wadi. To judge from the evidence of the pottery sherds, the site seems to have been settled during the Roman and Byzantine periods.

#### Area VIII (Fig. 25)

This area is encircled by the Ayl-Ma'an road to the north, the Ma'an-Aqaba road to the east and



25. Map shows the sites recorded in Area VIII (ref. map Jordan 1:50000 Ma'an 3150III K737).

southeast, the Ayl-Fardhakh-Şadaqa road to the west, and the newly constructed road between the Ayl-Fardhakh-Şadaqa road and the Ayl-Wahida road to the south. Not too many archaeological sites were recorded there. However, some of them are worth mentioning.

A few kilometres to the east of Rujum Şadaqa (رجم الصدقة) and on the edge of the Khaṭṭ Shabīb lies Khirbat Layka خربة ليكة (site no.288). The site consists of a small collapsed structure surrounded by many stone circles. No internal divisions were noticed in the main structure, the outer walls can hardly be seen, particularly the western one. It is highly likely that the structure was originally one unit, a room or tower. This is very possible since the presence of simple structures in remote areas or on ancient roads is very common in the region. Moreover, at least one of the site's components whether the structure itself or the walls should have been coincidentally built with the road. Pottery sherds of the Nabataean (first century BC onward), Roman (third century AD) and Ottoman periods were collected from the site.

By crossing the road between Ayl and al-Wahida we came to a ruined hill known as Khirbat al-Wahida (site no.289). A modern quarry at the hilltop disturbed the site. However, archaeological remains still exist on the hill. A wall which encloses the hilltop and many small and simple rectangular structures on the southwest half of the hill are still in good condition. The latter were most likely part of a pre-historic settlement to judge from the presence of some lithics and pottery sherds. Well-preserved parts of traditional houses occupy the north-eastern edge of the hill, and there is a possibility that it was built above a Nabataean or Roman structure if the pottery sherds of both periods reflect the existence of such structure. The spring at the north-western base of the hill must have been very attractive at least for the Nabataean.

About 3km east of al-Wahida we came to the site of Khirbat Wahdān خربة وهدان (site no.290), it was a big surprise to find an archaeological site in such a remote area. The fact that a spring is a few hundred metres southwest of the site has explained our surprise. Also, three features were identified in the site, remains of irregular structure, enclosures or walls and many cairns. The structure was deliberately located on the edge of Wādī al-Wahida and extended further southwest to incorporate a natural cave. Unfortunately, the structure's plan is not preserved well enough to understand its function. Remains of walls and an enclosure were strangely located in the gully. However, a very ob-

vious wall seems to have been built to protect the structure from any possible flood from the wadi. Many cairns or simple stone circles were seen in the plain to the west of the structure. Within the circles the ground is massively covered with very small pebbles.

### Conclusion

Although the main purpose behind the survey of the region of Udhrūḥ was to support the present author's thesis, the data that was collected from the region is enormous and can be considered in many academic papers. The 291 sites recorded in the survey not only show intensity in settlement but diversity in the function and date of these sites. Archaeological remains dating from the prehistoric periods up to the Ottoman period were found in the area.

The outcomes of this project are many. Firstly, in addition to recording a large number of sites, plotting these sites on maps which has never been on before, apart from the sites which were recorded by 'Amr (2001 and 1998), will be very useful. Secondly, identifying certain sites for future investigations particularly excavations, especially these which are already disturbed or might be affected by human activities and natural factors. Thirdly, analysing the accumulated data, in the author's thesis, will offer a clearer picture about the history of human activity in the region of Udhrūḥ, particularly in the first millennium AD. Finally, it is important to assert that this is just a preliminary report, final results and conclusions would be available in the future.

### Acknowledgement

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41 St.Keverne Square  
Newcastle upon Tyne  
NE5 3YF  
England  
Email address  
fawziabudanh@yahoo.co.uk

### Bibliography

- 'Amr, K. and al-Momani, A.  
2001 Preliminary report on the Archaeological Component of the Wadi Musa Water Supply and Wastewater Project (1998-2000). *ADAJ* 45: 253-285.
- 'Amr, K., al-Momani, A., Farajat, S. and Falahat, H.  
1998 Archaeological Survey of the Wadi Musa Water Supply and Wastewater Project Area. *ADAJ* 42: 503-548.
- Bowersock, G.W.  
1976 Limes Arabicus. *Harvard Studies in Classical Philology* 80: 219-229.  
1971 A Report on Arabia Provincia. *Journal of Roman Studies* 61: 219-242.
- Brunow, R. and von Domaszewski, A.  
1904-1909 *Die Provincia Arabia*. 3 vols. (Strassburg).
- Doughty, C.M.  
1888 *Arabi Deserta*. Vol 1. The Cambridge University Press.
- Findlater, G.  
2002 Limes Arabicus, via militaris and resource control in southern Jordan. Pp. 137-152 in P. Freeman, J. Bennet, Z. Fiema and B. Hoffmann (eds.), *Proceedings of the XVIIIth International Conference of the Roman Frontier Studies, Amman, Jordan (Sep. 2000)*. Vol 1. BAR International Series 1084.
- Glueck N.  
1935 Explorations in Eastern Palestine, II. *AASOR* 15: 62-79.
- Graf, D.F.  
1979 A Preliminary Report on A Survey of Nabataean-Roman Military Sites in Southern Jordan. *ADAJ* 23: 121-127.  
1995 The via nova Traiana in Arabia Petraea. in J. Humphrey (ed.), *The Roman and Byzantine Near East. Some recent archaeological research. Journal of Roman Archaeology Supplementary Series* 14: 241-267.
- Kennedy, D.L.  
2000 *The Roman army in Jordan*. (London).
- Killick, A.  
1987 Udhruh and the Trade Route through Southern Jordan. *SHAJ* 3: 173-179.
- Kirkbride, S.A.  
1986 Uthruh and the southern frontier. Pp. 44-57 in P. Freeman and D. Kennedy (eds.) *The Defence of the Roman and Byzantine east*. British Archaeological Reports International Series. 297 (Oxford).  
1983 Uthruh. The frontier of an empire. 1980 and 1981 seasons, a preliminary report. *Levant* 15: 110-131.  
1948 Shebib's Wall in Transjordan. *Antiquity* 22: 151-154.
- Parker S.T.  
1976 Archaeological Survey of the Limes Arabicus: A Preliminary Report. *ADAJ* 21: 19-31.  
1986 *Romans and Saracens. A history of the Arabian frontier*. (Winona Lake, Ind.).
- Schick, R.  
1994 The settlement pattern of southern Jordan: the nature of the evidence. Pp. 133-154 in G.R.D King and A. Cameron (eds.), *The Byzantine and early Islamic Near East II. Land use and settlement patterns*. (Princeton).
- Stein, Sir Aurel.  
1940 Surveys on the Roman Frontier in 'Iraq and Trans-Jordan. *Geographical Journal* 95: 428-438.
- Tholbecq, L.  
2001 The Hinterland of Petra from the Edomite to the Islamic Periods: the Jabal ash-Sharah Survey (1996-1997). *SHAJ* 7: 399-405.

