

**SURFACE SURVEY BETWEEN PALMYRA AND ISRIYE**

**APRIL 2008.**

**JOINT SYRIAN-NORWEGIAN PROJECT.**

**PRELIMINARY REPORT**



**2008**

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PRELIMINARY REPORT**

According to the agreement between the Directorate General of Antiquities and Museums in Syria (DGAM) and the University of Bergen in Norway the joint Syrian/Norwegian archaeological mission has conducted fieldwork between Palmyra and Isriye from the 1st of April to the 21st of April, directed by Dr. Michel al-Maqdissi (Direction Générale des Antiquités et des Musées, Ministère de la Culture), Eng. Walid El-Assad (Directeur des Musées de Palmyre) and prof. Dr. Jørgen Christian Meyer (University of Bergen). The mission would like to thank the Direction Générale des Antiquités et des Musées, Ministère de la Culture, Damascus and the Museum of Palmyra for all assistance and generosity during the fieldwork.

This first mission had three objectives. The first one was to identify a possible route from Palmyra up to Isriye. The second one was to register (GIS) and measure sites in the north-western corner of Jebel Abyad and the plain north of the mountain range. The third one was to identify sites for future survey, in order to establish a more comprehensive picture of human activities in the area from prehistoric times up to the Islamic period. The mission has also paid special attention to the exploitation of water resources (wells, cisterns, water-catching systems). The method has been surface survey, based on studies of satellite images and terrain reconnaissance, combined with collection of artefacts at the sites. The mission wants to thank prof. Dr. R. Stefan Hauser and David Tucker at Seminar für Orientalische Archäologie und Kunst, Martin-Luther-Universität Halle-Wittenberg for assistance with the interpretation of satellite images and for fruitful discussions. No digging has been done at any of the sites. A total station from the museum of Palmyra was employed at the registration of the buildings at Shalalah in Jebel Abyad.

1. Tweihina (Tahoun al Masek). 34.724N 38.093E. 26 km. NW of Palmyra. A Roman fort on the hill top was published by Schlumberger in 1951. In the wadi below remains of buildings, rock tombs, and probably 2 shrines. Several water-catching systems and cisterns. Finds: pottery, bronze and glass fragments, a Roman imperial coin, probably 2<sup>nd</sup> century AD. Function: a probable station on the route from Palmyra to Isriye. Date: Roman period.
2. Shalalah (Ouéchel). 34.753N 38.118E, 27 km. NW of Palmyra 4 km. NE of Tweihina. A Roman fort near the springs was published by Schlumberger in 1951. On the plateau remains of 3 large square buildings. Near the springs several old cisterns and remains of an aqueduct. On a hill to NW of site building. Several corrals. Finds: Pottery. Function. Probably a village like Schlumberger published in the area of Jebel Chaar. Date: Roman period, probably in use earlier.
3. Kshebar. 34.713N 38.140E. A valley into Jebel Abyad, 6. km. S of Tweihina and Shalalah. Rock-tombs, corrals. Finds: pottery near tombs, and flint close to corrals. Date of tombs probably Roman-Byzantine. The site has been used in prehistoric period. The tombs have not been measured.

4. Al Matna. Broad opening in Jebel Abyad to the north. 34.749N 38.090E. Corrals, cairns and cisterns with water-catching systems. Finds. Flint and pottery. Cairns from Bronze Age. Date of corrals and cisterns uncertain.
5. Bir Al-Arfa. 34.748N 38.067E, 3 km. WSW of Al Matna. Cisterns with water catching systems, stone structures, cairns at the top of the hills. Finds. A few pottery. Date of cisterns uncertain. The site has been used in ancient times, probably as early as the Bronze Age.
6. Jazal. 34.6936N 38.008E. Bronze Age cairns along the route to Wadi al-Thakara. Not measured.
7. Shanaeh. 34.799N 38.030E. 10 km NNW of Tweihina at Wadi Shanaeh, close to Jebel Chaar. The site was visited by a joint Syrian-American team in 1966, but only finds of pottery are shortly mentioned. E of wadi on hill top a fort with internal square towers, 57-58 m, and probably a shrine. Finds: pottery. W of wadi remains of buildings, including a square structure ca. 27 x 36 m, and several deep wells. Finds: a few pottery and a Roman tetradrachme in the square building. Function. Probably a station between Palmyra and Jebel Chaar with connections to the W towards Bir Djehar. Date: Roman period.
8. Round structure 071. 34.77178 38.00942. 3.7 km south-south-west of Shanaeh, diameter 60 m. Purpose and date uncertain.
9. Zer Dghelar. 34.755N 37.994E. 6 km. SW of Shanaeh at a pass through Jebel Abyad towards Jazal. A 7x7 m. square structure, probably a shrine, wells, cairn at nearby hilltop.
10. Station 098. 34.76340N 37.96234E. 8 km. WSW of Shanaeh, 17 km. NE of Bir Djehar. Remains of square building ca. 30x30 m. on small hill-top. The sites waits for further investigation. Probably a station. Date Roman.
11. Station 242. 34.75761N 37.91058E, 5 km W of station 098, at a strategic place between two wadis. Remains of large square building, ca. 60x60 m. Probably a station. Date Roman. The site is outside our concession area. Need to be investigated.
12. Khabar. 35.002N 38.116E. 52 km. NNW of Palmyra, 28 km. NNW of Tweihina. W of wadi Square structure 60x60 m. No remains of towers. E of wadi remains of building. 13 wells N and NNE of site. Finds pottery. Function: Probably a station on the route between Palmyra and Isriye. Date Roman.
13. Jebel Merah N. 35.004N 38.171E. Large concentration of cairns, some of them well-preserved on the hill tops. Some cairns are connected by walls. Several kites (huntings traps), Corrals. Finds: flint. Date: Bronze Age. Date of corrals and kites uncertain. 6 km. S of site a small cave with flint in front. The registration of the site was started but not finished.
14. Fasida. 35165N 38.022E. 71 km. NW of Palmyra, 21 km. NW of Khabar. Rectangular building ca. 90 x 120 m. Probably several phases. No remains of towers. Finds:

pottery, glass and bronze fragments. No wells found in the area. Function. Probably a station between Palmyra and Isriye. Date Roman.

15. Khaleed al-Ali (Fasida). 35.155N 38.029E. 1.4 km SSE of Fasida. Small oblong tell on small hill top, 36x12 m. Remains of mud brick-buildings. Several architecture fragments in marble. Close to the site 3 wells. On nearby hill top modern diggings, revealing pottery and probably remains of old cemetery. Finds: pottery, glass, black and white mosaic stones. Samples of a mud brick will be sent to pollen-analysis for an investigation of the fauna around the site. Function: The tell is too small to be a village, and the finds indicate a much more monumental structure. Probably a sanctuary. Date Roman.

The coins have been sent for cleaning and preservation in Damascus, and a more precise dating is expected. The pottery finds are stored in the museum in Palmyra, and will be studied in September-October 2008 by pottery experts. This will probably give a more precise dating of the chronological extension of human activities at the sites. Samples of mud-bricks from Khaled al-Ali will be analyzed for pollen in order to establish a picture of the flora around the site in ancient times.

### **Members of the mission in 2008**

**Directors:**

Dr. Michel al-Maqdissi (DGAM).  
Eng. Walid El-Assad (Directeur des Musées de Palmyre)  
Prof. Dr. Jørgen Christian Meyer (University of Bergen).

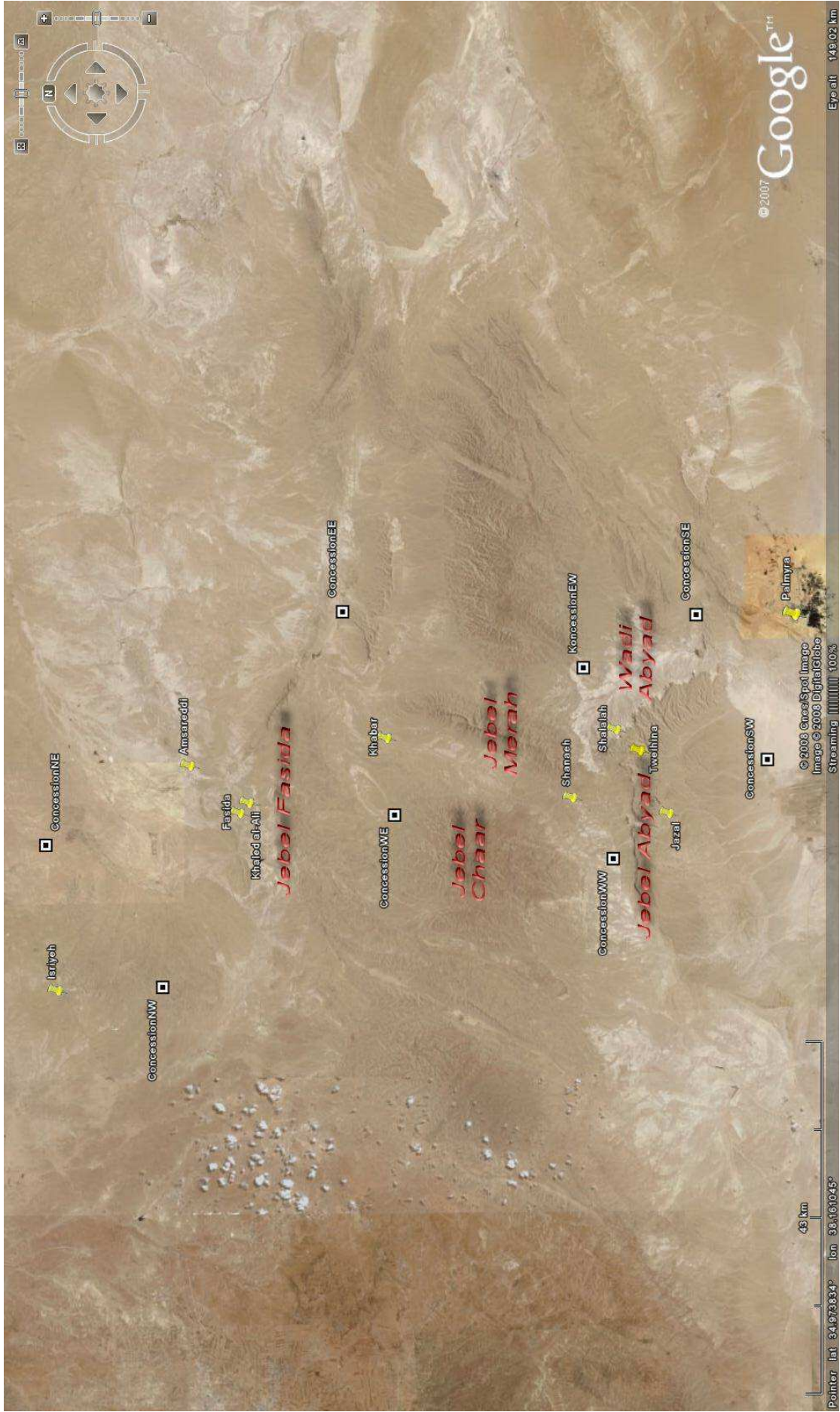
**Syrian members:**

Adeeb Asaad (Palmyra)  
Omar Asaad (Palmyra Museum)  
Azam Daas (Palmyra Museum)  
Abdelbasit Kanawi (Palmyra Museum)

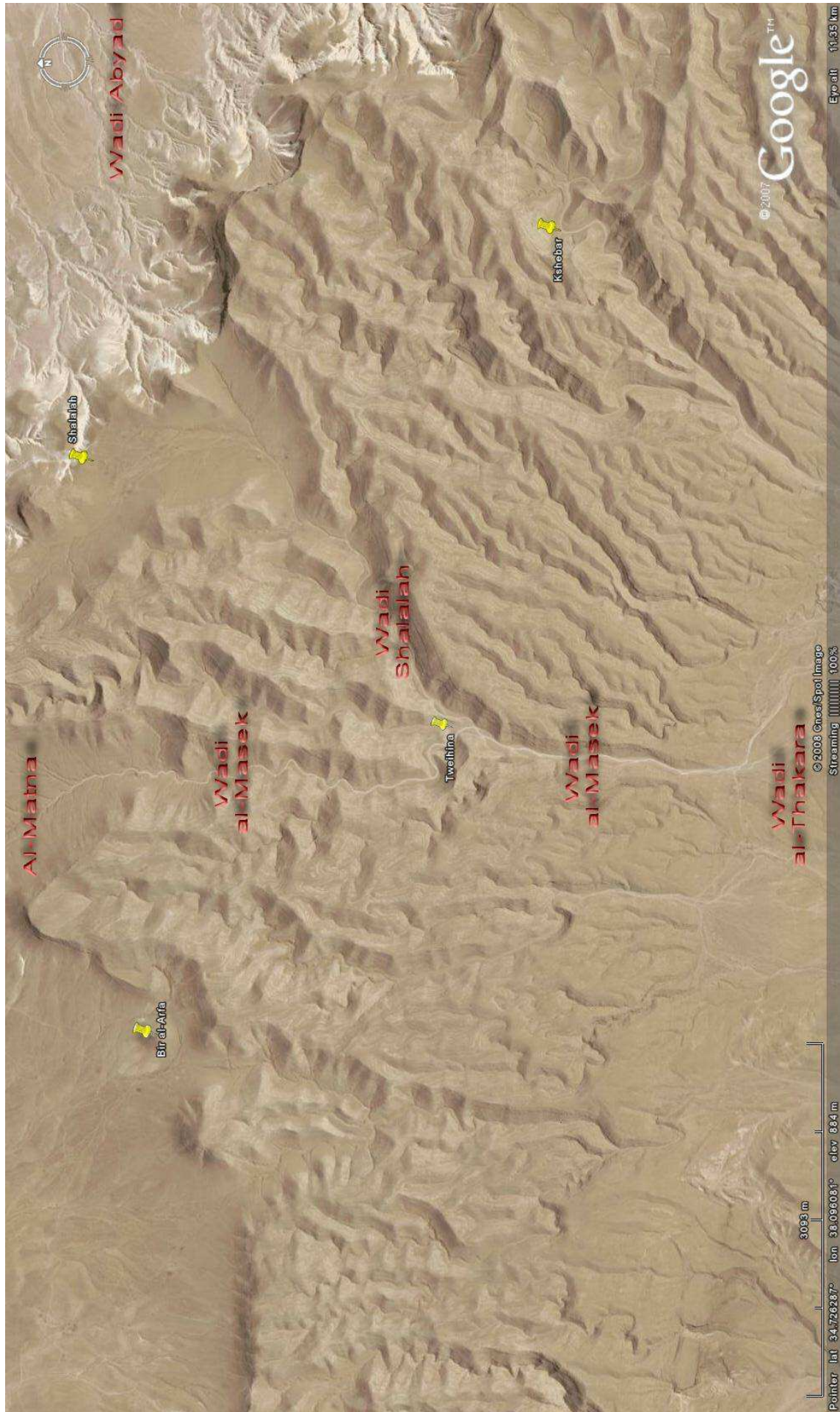
**Foreign members:**

Dr. Nils Anfinset (University of Bergen)  
MA Jonatan Krzywinski (Heritage management office, Bergen)  
Dr. Eivind Heldås Seland (University of Bergen)

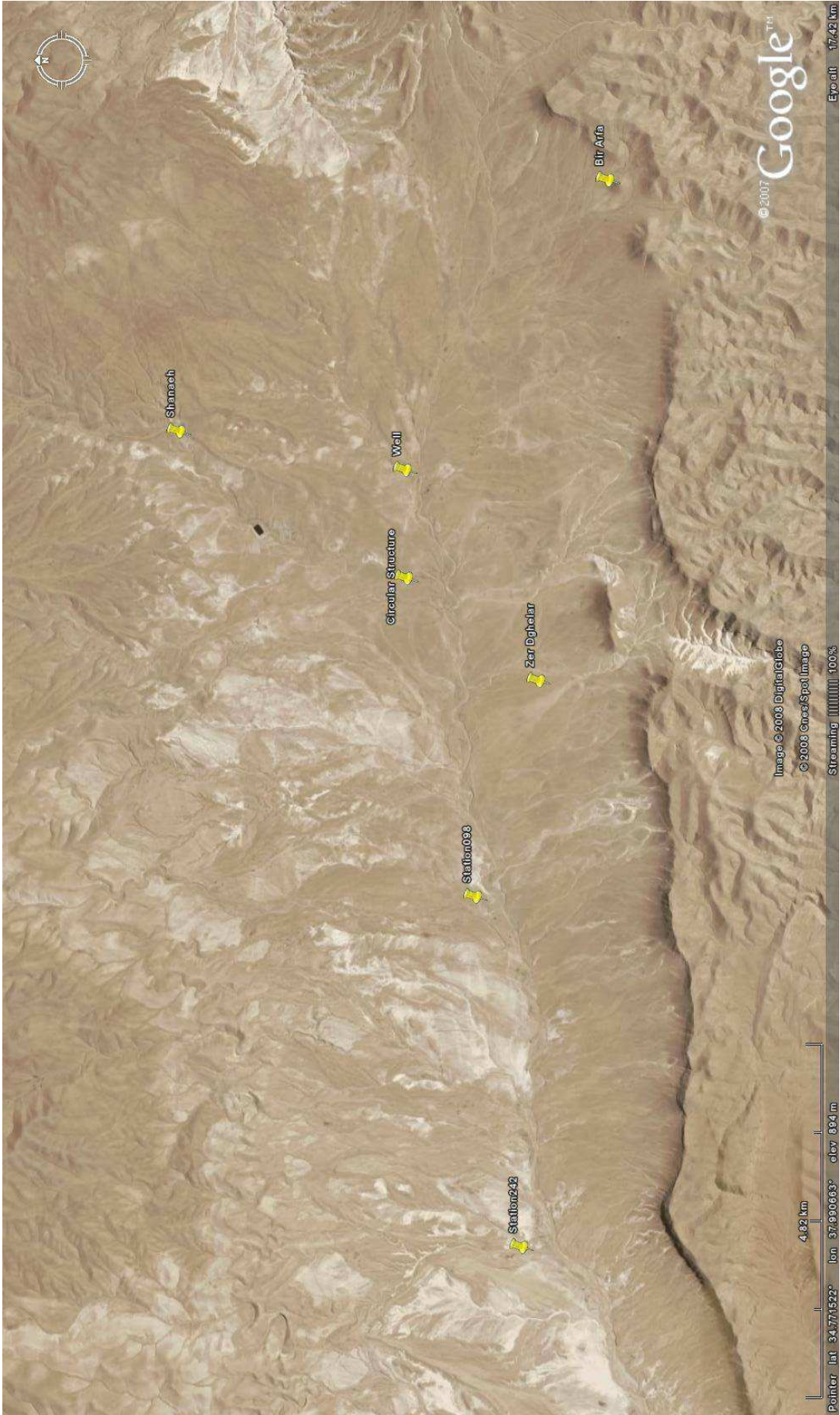




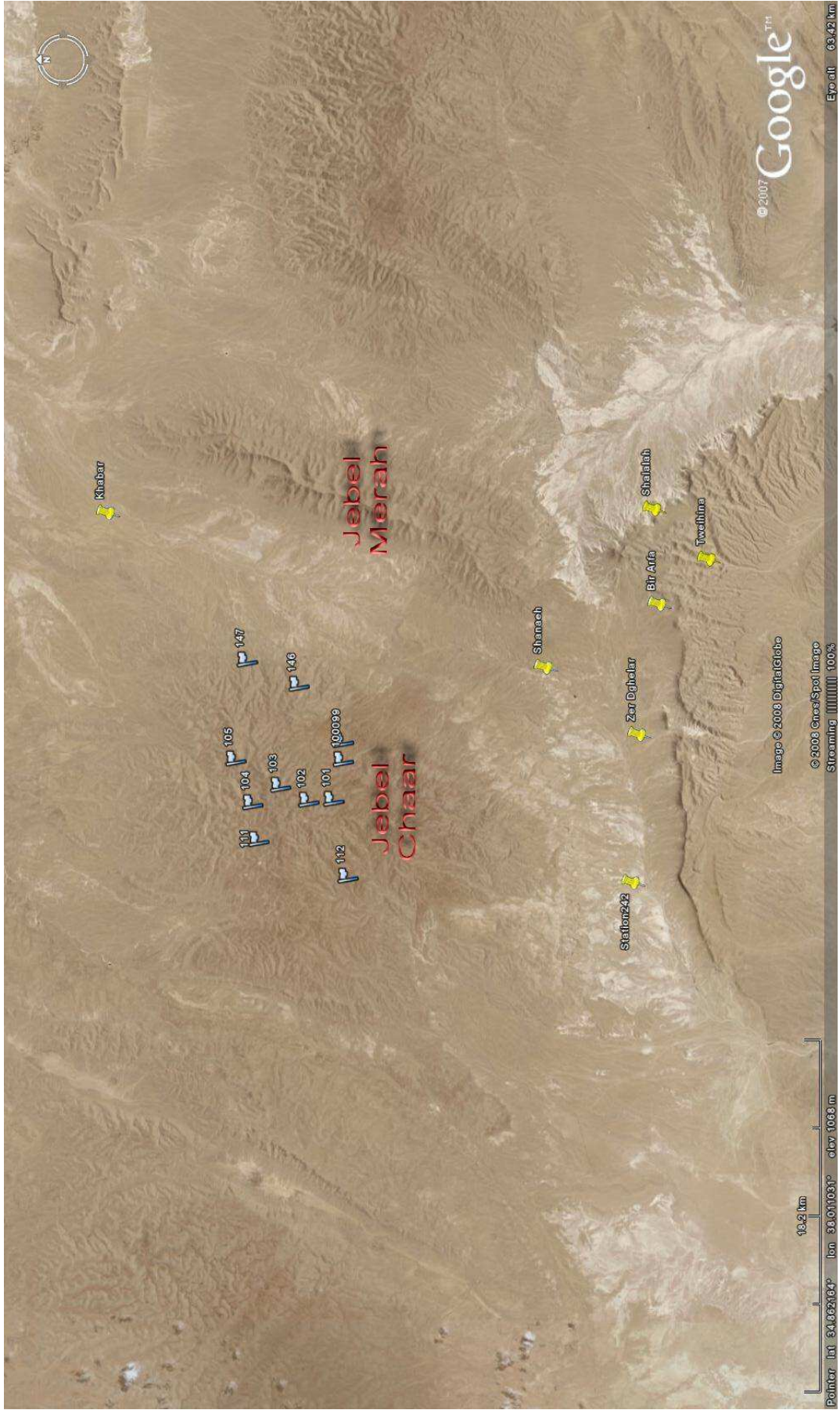


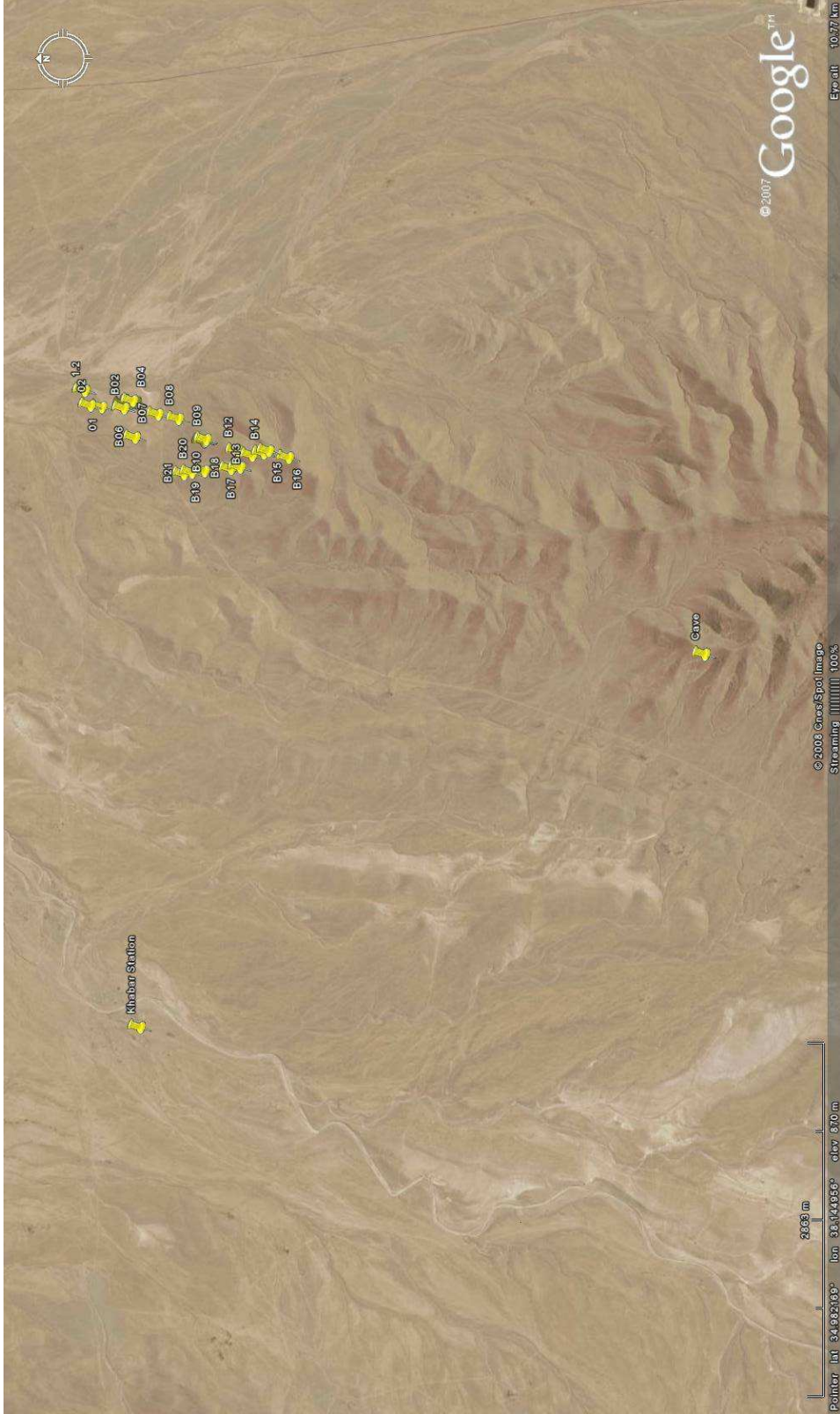




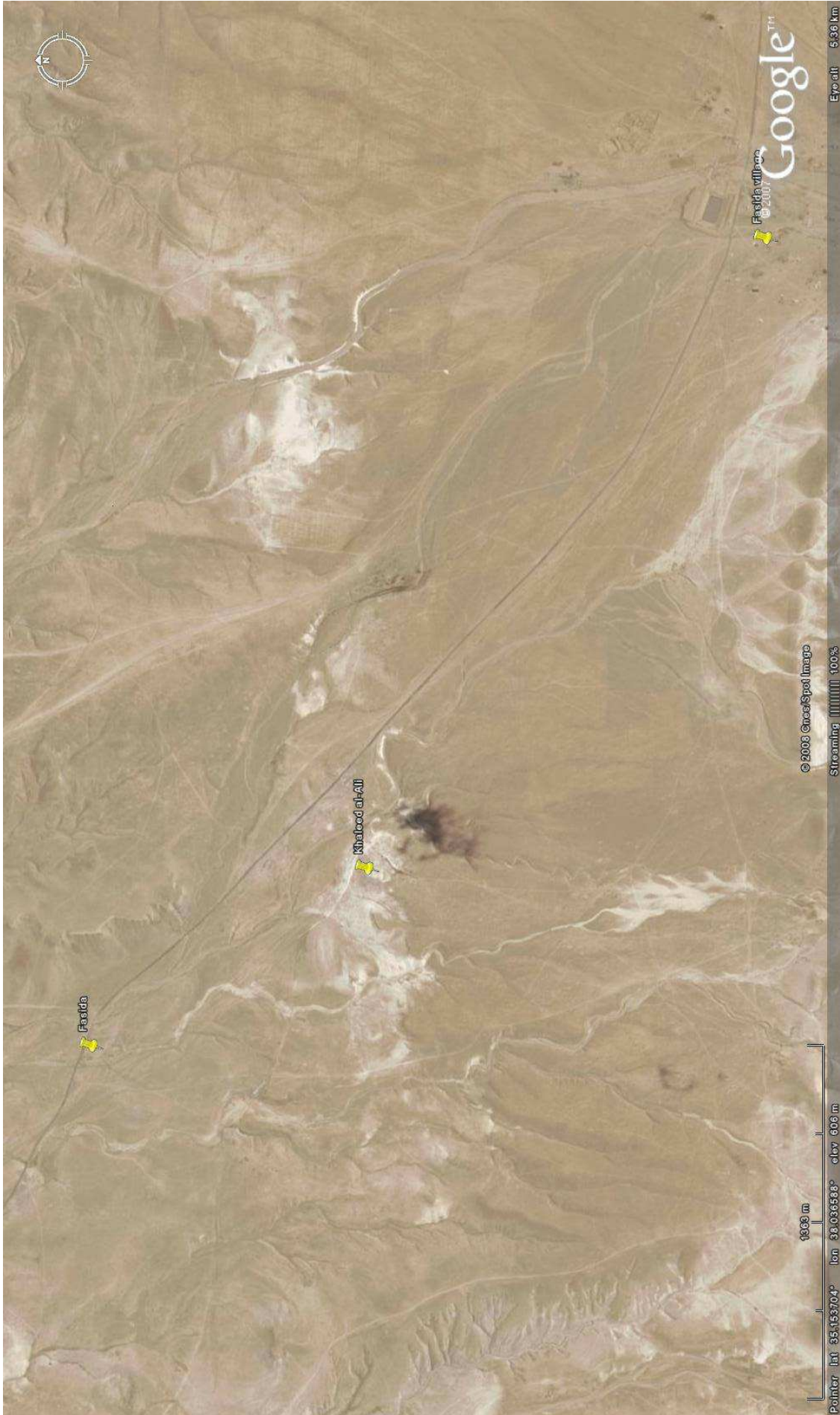












## **TWEIHINA (TAHOUN AL-MASEK)**

Surveyed by JCM, JK, NA, EHS, ABK and AA 07 – 08 APR 2008

GPS: 34.724N 38.093E Altitude: 910 m (the fort).

Map: 1:10000. I-37-41. 38450 74170

The site lies in the north-eastern corner of Jebel Abyad about 26 km north-west of Palmyra, as the crow flies, where Wadi Shalalah from the north-east meets Wadi Al-Masek from the north with a marked promontory between them. A fort on the promontory is visible on satellite images. The valley from wadi al-Thakara to al-Matna in the north is the only broad passage through Jebel Abyad from the plain west of Palmyra to plain north of Jebel Abyad between Jebel Chaar and Jebel Merah. The passes north of Jazal are only animal tracks. The distance to Khabar to north is about 28 km as the crow flies, equivalent to one day's travel. Shanaeh is 10 km to the north-west, Jazal 8.5 km to the west-south-west and the plain at Shalalah 4 km to the north-east along Wadi Shalalah. The water in Wadi al-Masek and Wadi Shalalah runs towards Wadi al-Thaka in the south-west. The site is surrounded by steep mountain slopes, but south of the promontory the mountains open up, forming a plain between Wadi al-Masek and Wadi Shalalah. To the north Wadi al-Masek winds between the mountainsides up to the plain of Al-Matna. North-west of the promontory the wadi makes a sharp bend from west to the south creating a low oblong small plain on the lee side on the foot of the western mountain range. A wadi to the north-east surrounded by steep slopes, east of the promontory, leads up in the mountains.

The site is named after the local name, Tweihina, but it also carries the name Tahoun al-Masek. Tahoun means “grinding stone”, Tweihina, the small Tahoun.

The narrow plain beneath the promontory is a very popular camping ground for beduins. There are no wells close to the wadis, but four cisterns with catch arms up the mountain sides. The valleys are good grazing ground, and old animal tracks are visible in the rock of the mountain sides of Wadi al-Masek south-west of the site.

The fort on the promontory was surveyed and published by Schlumberger in 1951, and named Tahoun al-Masek. He registered some Palmyrene inscriptions on the walls, two stele with Greek and Latin inscriptions and other artefacts found inside the fort.

The site consist of the following:

1. Fort on promontory.
2. Buildings west of Wadi al-Masek.
3. Rock tomb behind the building.
4. Shrines south and south-west of promontory.
5. Rock tomb south of promontory.
6. Digging with worked stones south-east of promontory.
7. Cisterns with catch arms east and west of Wadi al-Masek.
8. Inscriptions and symbols on rock and stones.

## 1. Fort on promontory.

GPS: N34.72489255 E38.09350802 (South-east corner), Altitude 910 m.

The fort lies on the southern part of an oblong north-south going promontory from Jebel Abyad, with steep slopes down to Wadi Al-Masek to the west, to a side-wadi to the east, and to the plain where Wadi Shalalah and Wadi Al-Masek meets to the south. From the fort there is a splendid view in all directions along the wadis, especially to the south-west to the opening in Jebel Abyad, where Wadi al-Masek meets Wadi al-Thakara. The fort is orientated north-south and measures ca. 25 m north-south and 10 m east-west, and is well-constructed. The entrance to the fort is to the east, with staircases on both sides. In the fort Schlumberger found Greek, Latin and Palmyrene inscriptions in the walls, but there are no signs of them. On the outer west wall a crude inscription in Arabic. In the north-west and south-east rooms cuttings down into rock, not mentioned by Schlumberger, and they must have been added later by the locals. In the courtyard a tie for animals cut into the northern part of the west wall, and similarly in the south wall of the north-west room. Immediately south of the fort a lower small plateau with cuttings in the vertical rock up to the fort. It is possible that the stones for the building of the fort has been quarried here. Both the stones in the fort and the rock on the plateau contain maritime fossils.

Some ceramics on the washed down slope to the west. To the east a thicker cultural layer also with ceramics. 150 m north of the fort at the beginning of the promontory a grotto, which is probably natural.

As the fort was registered by Schlumberger no further survey of the fort was done.

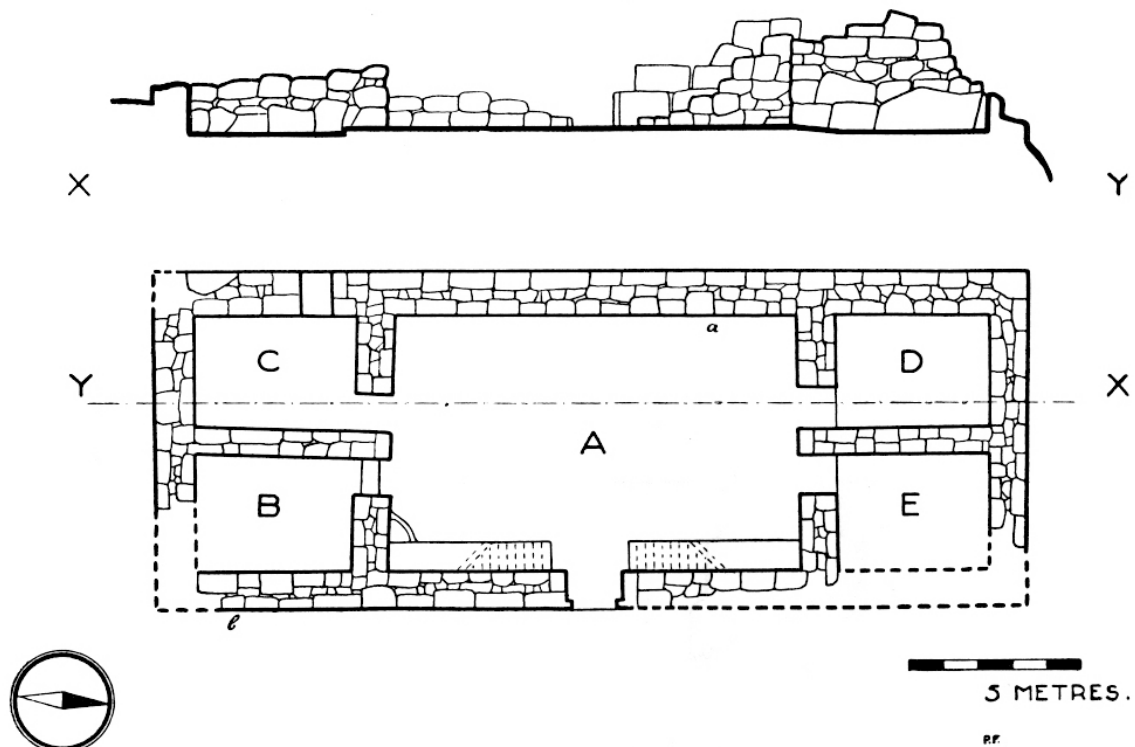


FIG. 20. — Fortin de Tahoun el Masek. Plan et coupe.

## 2. Buildings west of Wadi al-Masek.

GPS:

North end east wall N34.72503075 E38.09227483

South end east wall N34.72455461 E38.09239535

Altitude: 863 m.

On the west side of Wadi al-Masek on the low oblong plain on the lee side of the wadi several stretches of bases for walls, constructed with outer bigger stones with a filling of smaller stones in the middle. Local diggings, some of it very recent, have made much disturbance and piles of stone cover some of the walls, but it is possible to get a rough impression of the lay-out of the building. On satellite photos some kind of rectangular building is faintly visible.

Only walls from the eastern part of the building is visible on the surface. The building is approximately 55 m long north-south and lies between the wadi and the foot of the western mountain range. This delimit the western extension, in the north to ca. 22 m, in the south to 50 m. The eastern wall, 55 m. long, almost follow a straight line with a slight curve to the west in the southern end. The north-eastern corner is well preserved, whereas the southern limit is more uncertain. The thickness of the wall varies. For most of the stretch it is 80 cm, but a section 11 m long, 29 m from the north-east corner it decreases to 40-50 cm. Before this the wall has widened to 1.20 cm. Modern diggings show that at this point the base go deep into the ground. At the southern end a small stretch is 100 cm thick.

The northern wall, 80 cm thick, makes a bend towards the south, creating a irregular room in the north-east corner. Modern diggings show that the base go deep into the ground.

Inside the building several partition walls are visible. They vary much both in thickness, orientation and shape. Some of them in the northern part of the building are perpendicular to the east wall, thickness varying from 70 – 110 cm. Together with a few north-south going walls, which are in line with each other, but not parallel to the east wall, getting narrower to the south, they make a series of rooms of varying size. Closer to the foot of the mountain two walls form a corner, but the relation to the rooms to the east can not be established, and they are not in line neither with the north wall nor the rooms.

At the point where the east wall decreases in thickness a “S” shaped wall runs to east. The thickness of the wall increases from ca. 80 cm close to east wall to 150 cm at the bend, hereafter it tapers to 80 cm at the west end, before a small bend to the north. The wall is not perpendicular to the eastern wall, but is orientated a few degrees to the south in the interior. The bend of the wall seems to be in line with a small fragment of a wall to the south, and together with a east-west going wall the make either a room or a courtyard at the section where the thickness of the eastern wall is 40-50 cm. Also to the south remains of room, but the relation to the rest of the building is uncertain.

It is not easy to interpret the preserved stretches of walls. The course of the wadi has obviously formed some of the shape of the building with a slightly curved eastern wall, but otherwise thoughts on the lay-out of the building and its function will be highly speculative. There may be several phase, or several buildings connected by walls. The large amount of stone piles indicate that at least parts of the building have had a more solid construction in the height.



The finds from the building are primarily from the southern part. During heavy rainfalls the water in the wadi will cover the area and bring material to the southern end. The finds comprise ceramics, including a probably terra-sigillata sherd, fragments of grinding stones and a corroded bronze coin, 2.0-2.1 cm in diameter, weight 8.5 gram, which has been sent to cleaning and preservation in Damascus.

### **3. Rock tomb behind the building.**

GPS: N34.7247700 E38.0918600.

In the mountain side behind the station a door to a rock-tomb, fairly well preserved. In the interior, however, the local beduins have extended the room for storage of tents and other equipment, and the original layout can not be clarified, apart from the existence of some kind of central column in the middle.

### **4. Shrines south and south-west of promontory.**

GPS:

Shrine 1: N34.72434754 E38.09316615

Shrine 2. N34.72436718 E38.09279143

Immediately south of the foot of the promontory a solid foundation for a building (shrine 1), measuring ca. 5.5 x 5.5 m. with a 1 m broad opening in the south wall. The thickness of the walls, constructed with outer bigger stones with a filling of smaller stones in the middle, is ca. 1 m. The height of the preserved wall between 50 – 70 cm. The outer stones in walls measure up to 70 cm. A few meters west of the structure the beduins have made a 5 m long stone wall probably by using stones from the building.

35 m west of shrine 1, in the open, another square structure (shrine 2), measuring 2.5 x 2.5 m, constructed by big stones, the largest one measuring 130 x 80 x 40 cm. The south-western corner is missing, and the opening to structure must have been to the south.

The function of the square structures, comparable to the structures at Shanaeh and Zer Dghelar, can only be determined by comparing it to the smaller buildings at the sites at Jebel Chaar, where they have been identified by Schlumberger as shrines, not towers, on the bases of the connected finds.

### **5. Rock tomb south of promontory.**

GPS N34.72434754 E38.09316615

2.5 m east of shrine 1, a 2 m long, 1.5 m broad, cutting into the sloping rock with clear markings of the chisel. The height of the end wall is 1 m above ground level, and it goes down to at least 60 m below. Locals have made a circular cutting at the bottom of the end wall, probably in search for an entrance to a tomb. This can be safely identified as a commenced, but not finished rock tomb.



## **6. Digging with worked stones south-east of promontory.**

GPS: N34.72426 E38.09370

At the north-eastern foot of the promontory a digging with two worked stones with a 10 cm broad half circular groove on both of them. On the largest one also a rectangular bevelling of the stone, but this might be natural. Function of the stones uncertain.

## **7. Cisterns with catch arms east and west of Wadi al-Masek.**

System 1.

GPS Cistern: N34.72367356 E38.09334115

Starting point south catch arm: N34.72322791 E38.09338051

Starting point north-west catch arm: N34.72445705 E38.09124595

Length south arm: 53 m. Length north arm: 257 m.

West of wadi, cistern at the south-eastern corner of the mountain range. A southern catch arm, which start around the corner to the west. The northern one runs diagonally up the mountain side. Walls of the catch arms are constructed by stones and mud with a short trace of a channel on the southern arm.

System 2.

GPS Cistern: N34.72440531 E38.09402392

Starting point west catch arm: N34.72454176 E38.09332920

Starting point north-east catch arm: N34.72519516 E38.09385989

Length west arm: 87 m. Length east arm: 100 m.

East of wadi, cistern at the south-eastern corner of the promontory. A western and a north-eastern catch arm, constructed by stone and mud. The north eastern arm has a channel cut into the rock in the beginning. The last section before the cistern the catch arms run at the foot of the promontory.

System 3

GPS

Cistern: N34.72469514 E38.09265984

Starting point south-east catch arm: N34.72465619 E38.09325714

Starting point north catch arm: N34.72589723 E38.09282853

Length south-east arm: 64 m. Length north arm: 138 m.

East of wadi, cistern just north of the south-western corner of the promontory. A northern and a south-eastern catch arm. The northern catch arms runs diagonally up the western side of the promontory. In the beginning the catch arm is constructed by stones and mud. The last 41 m before the cistern a channel, 10 cm broad, cut into the steep mountain side, 5 cm deep towards the valley, up to 50 cm. deep towards the hilltop. The south-eastern catch arm starts close to the western catch arm of system 2. It is constructed by stones and mud, but has a short channel close to the cistern.

System 4.

GPS: Cistern: N34.72482167 E38.09192917

Length south arm: 8 m. Length north arm: 26 m.

West of wadi, cistern immediately north of rock tomb 1 behind the building. Only very short catch arms preserved, at the foot of the eastern side of the mountain, lined with stones on the outside. Close to cistern a fragmented trough.

## **8. Inscriptions and symbols on rock and stones.**

1. Symbol in shape of a sun with rays, immediately south of cistern 3. The centre is composed by a big and a small deep hollow overlapping each other. The irregular rays have different length and width. Diameter of the symbol ca. 70 cm. Meaning and date of the symbol uncertain.  
GPS: N34.72447653 E38.09271609
2. Inscription? In the rock immediately north of cistern 3, length 55 cm, height 30/14 cm. The interpretation of the carvings, which are in two lines, is difficult, perhaps characters of Palmyrene, or they have another meaning.  
GPS: N34.72469514 E38.09265984
3. Inscription on large deep stone block. The inscription fills up the entire surface, length 1 m, height 80 cm. Big rough characters. Not Arabic, but language uncertain, perhaps Latin or Palmyrene.  
GPS: N34.72484908 E38.09365004.
4. Inscription on large rectangular stone block 1.5 x 50 m. Length of the inscription 70 cm. height 30 cm. Big rough heavily weathered characters. Language uncertain.  
GPS: N34.72489092 E38.09366956.
5. Inscription on the face of the west wall of the fort. Length 90 cm height 30 cm. Big rough characters, Arabic..

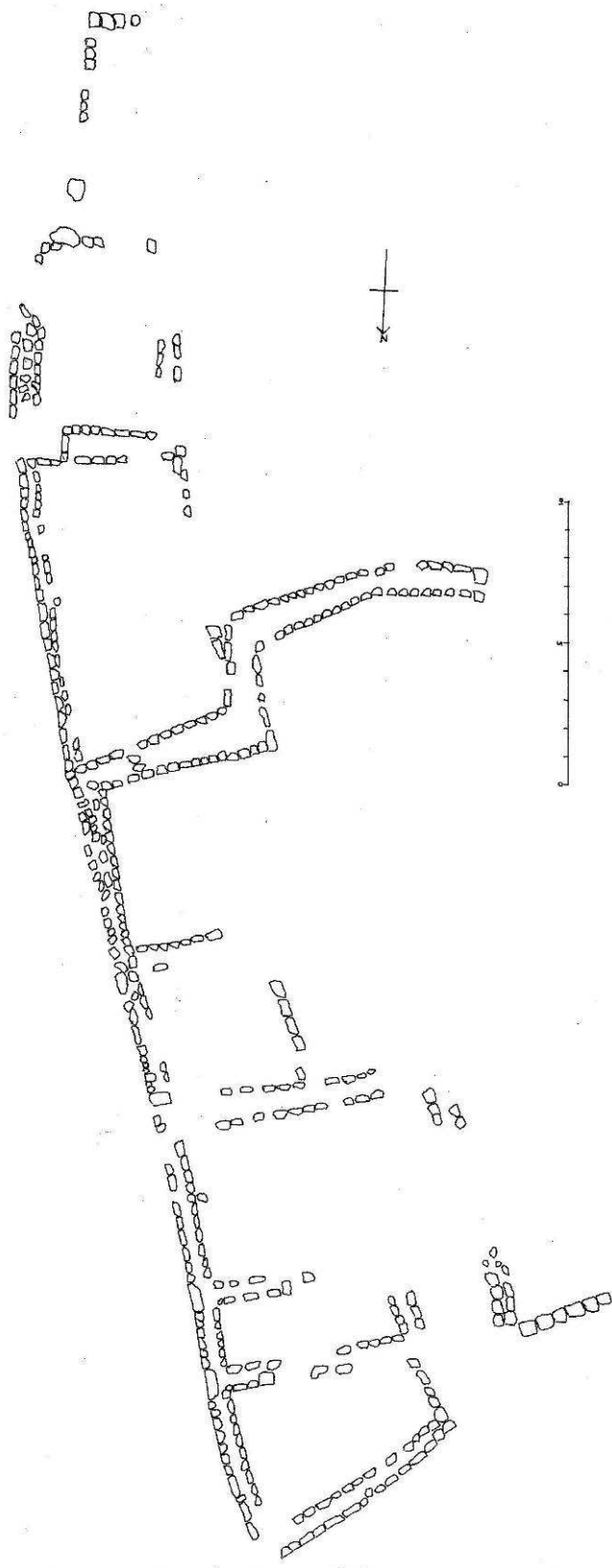
## **Finds:**

The finds from TweiHina can be divided into two distinct groups, finds from the slopes of the promontory and finds from the building west of the wadi. The yearly flow of the wadi keeps finds from the two areas clearly separated.

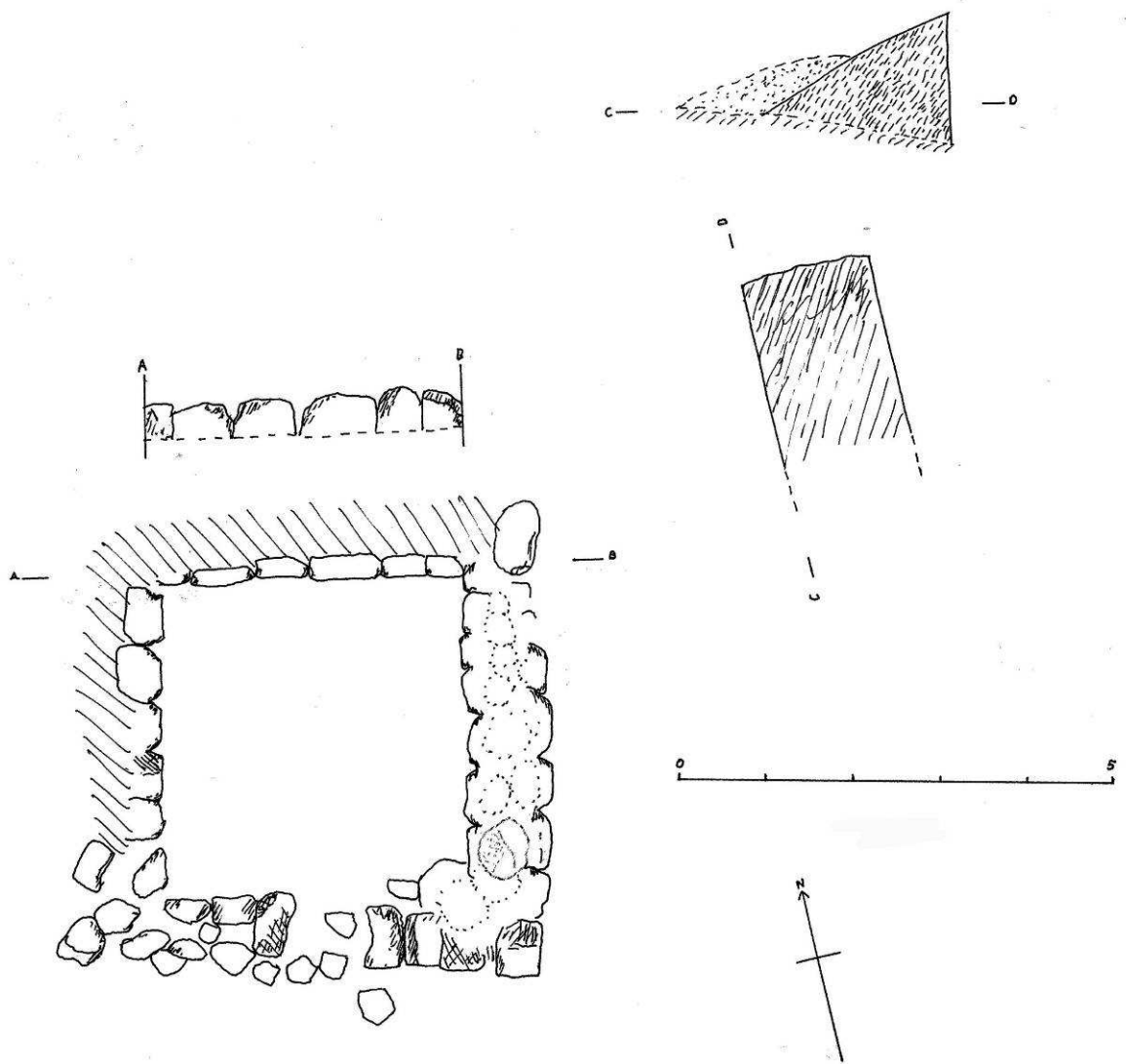
## Conclusion:

Tweihina, or Tahoun al Masek, must have been an important site in antiquity. In the fort Schlumberger found Greek inscriptions on two steles mentioning a *δρομεδάριος*, member of the camel corps, and a plaque with a Latin inscription, with two Thracian names, dated to 156 (Schlumberger 1951, 86-87). These inscriptions may have been moved to the fort from the valley later, and the date of the construction of the fort cannot be determined, but it was operational in the 2<sup>nd</sup> century, as Palmyrene inscriptions were registered by Schlumberger carved into the walls of the fort (Schlumberger 1951, 50, 168-169). The rock-tombs, the building, which can probably be dated to the 1<sup>st</sup> century, and the probable shrines down in the wadi testify to the complexity of the site. The site has no natural water resources in the wadi, and also in antiquity the supply must have come from cisterns with catch arms diagonally up the mountain sides. The channels cut into the rock can not be dated, but they do not seem to be recent.

The small fort at the hilltop controls the intersection between the road to the north through Wadi Abyad and the road to Shalala, but this cannot be the only reason for the existence of the fort. Rather it should be seen in the connection with the route from Palmyra through Jebel Abyad to the northern plain. The distance to Palmyra to the south-east and Khabar to the north is one day's travel, and Thweihina must have functioned as a station on the route to the north. However, due to the geographical conditions Tweihina is not a traditional station on a route, with a larger square building, as Khabar. The function of the building on the west side of the wadi is not clear. Are they for unloaded packs during the night? Did the fort provide sufficient security for the caravans without any protected buildings? Does the building have another function which is not related to the caravans at all? Why is the site called Tahoun, "the grinding stone"? Is it meant figuratively or does it relate to the potential of other economic activities under different ecological conditions? A valley close to Shalalah is called Valley of the Oil by the locals. According to Musil Jebel Abyad was covered by trees especially on both sides of Wadi al-Thakara (Musil 1928, 147).



Tweihina: Buildings on west side of wadi

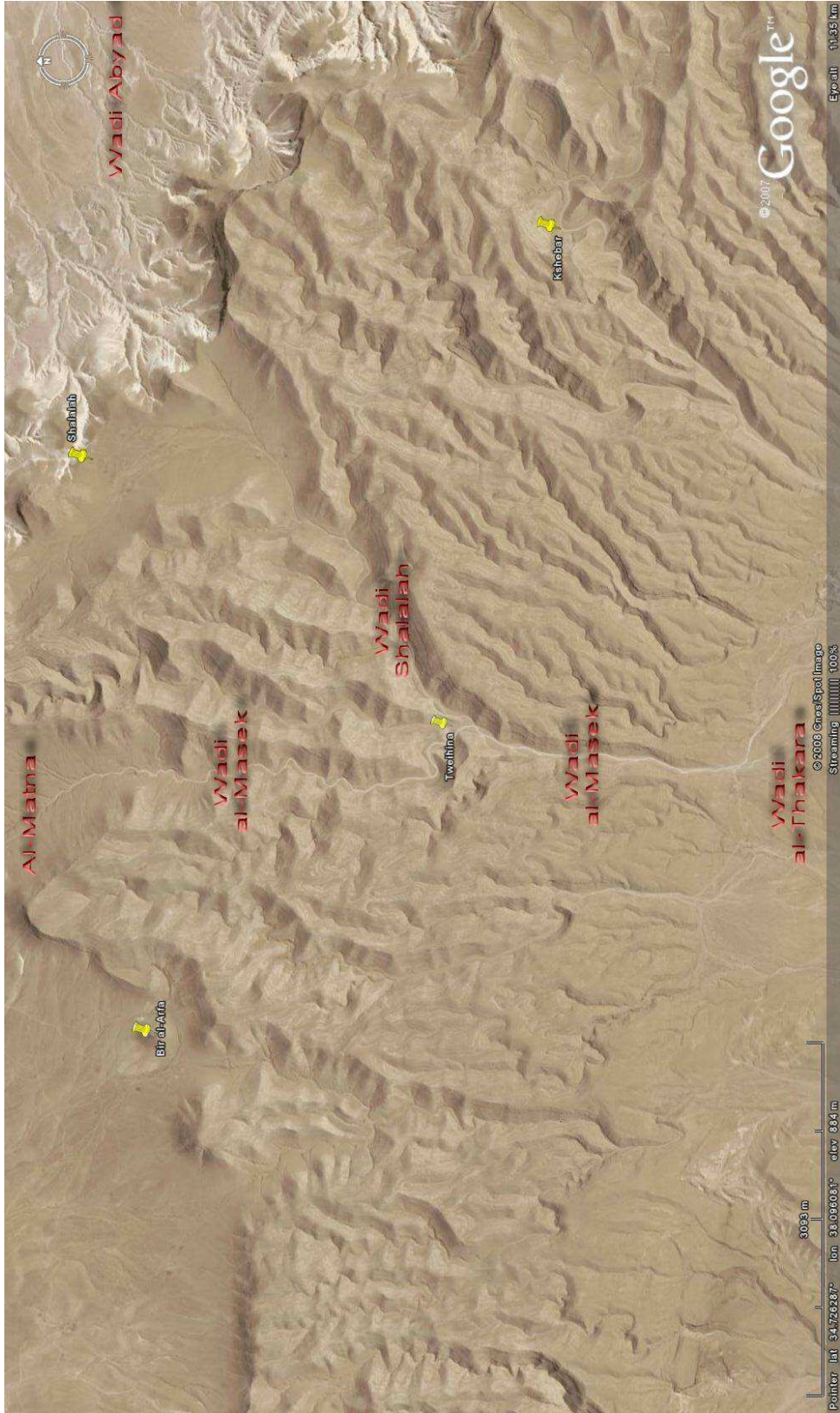


Tweihiina: Remains of shrine and commenced rock tombs at foot of the promontory















Tweihina: Satellte view. (Interpreted Quickbird satellite image provided by D. Tucker/S.R. Hauser, University of Halle, SFB 586)

**Tweihina hillfort**

Find	Site	Type	Qu.	Comment
1	Tweihina hillfort	1.1	5	Coarse
2	Tweihina hillfort	1.1	9	Coarse, red
3	Tweihina hillfort	1.3	1	Coarse, black
4	Tweihina hillfort	1.3	1	Fine, red
5	Tweihina hillfort	1.3	3	Coarse
6	Tweihina hillfort	1.4	8	Fine, red
7	Tweihina hillfort	1.4	9	Coarse
8	Tweihina hillfort	1.5	5	Coarse
9	Tweihina hillfort	3.2	2	Green glass
10	Tweihina hillfort	1.3	6	Coarse, red

**Tweihina station**

Find	Site	Type	Qu.	Comment
1	Tweihina Station	1.1	3	Coarse
2	Tweihina Station	1.1	3	Fine, white
3	Tweihina Station	1.1	3	Coarse, red
4	Tweihina Station	1.1	3	Fine, red
5	Tweihina Station	1.3	3	Coarse, red
6	Tweihina Station	1.3	3	Coarse
7	Tweihina Station	1.2	1	Fine, white
8	Tweihina Station	1.4	6	Fine, red
9	Tweihina Station	1.4	5	Coarse, red
10	Tweihina Station	1.4	1	Terra Sig.?
11	Tweihina Station	1.4	3	Fine, black
12	Tweihina Station	1.4	4	Coarse
13	Tweihina Station	1.4	4	Fine, white
14	Tweihina Station	1.5	1	Coarse, red
15	Tweihina Station	1.5	1	Coarse
16	Tweihina Station	1.4	2	Islamic (painted green)
17	Tweihina Station	4	1	Basalt
18	Tweihina Station	3	2	Green+white
19	Tweihina Station	2.1	1	Coin



## SHALALAH (OUÉCHEL)

Surveyed by JCM, JK, NA, ES, NA, OA, AD, ABK and AA 10 and 14 APR 2008

GPS: N34.753 38.118 Altitude: Plain 960-1000 m.

Map: 1:10000. I-37-41. 3847 7419

The site, which covers a large area, lies in the north-eastern corner of Jebel Abyad, 27 km north-west of Palmyra and 4 km north-east of Tweihina, as the crows flies, where Jebel Abyad opens up, forming a large 1 km long triangular plateau, facing Wadi Abyad to the north-east, surrounded by mountain ranges with marked slopes. The edge of the plateau forms the watershed to Wadi Abyad. A side valley goes up to the north-west towards the mountain peaks of Jebel Abyad, but there are numerous tracks, used by the beduins, across the mountain to Al-Matna, the opening through Jebel Abyad, only 3 km away.

All drainage goes south and south-west via Wadi Shalalah, which leads down to Tweihina, about one hour's travel away. The slopes down to Wadi Abyad are relatively sharp, but a path goes 1100 m north and northwest on the eastern very sharp slopes of Jebel Abyad down to a big ravine with a concentration of springs and wells. To the east of the path 300 m from the ravine a small promontory with remains of a small Roman fort. From the springs and wells a path on the northern side of the ravine leads eastward, further down forming a side wadi to Wadi Abyad, where the landscape flattens out.

The Roman fort is clearly visible on satellite images, and on maps the springs and wells are marked.

The site has been named after the modern local name, Shalalah, which means "springs", which has also given name to the wadi towards Tweihina, Wadi Shalalah.

The plateau is a very popular camping ground for beduins and the area and the surrounding mountains are good grazing ground. According to local information a valley south of the plateau is called, the "valley of the oil trees", but no trees are left. In the area there should also have been some kind of oil press, but it was not possible to identify it. The water supply comes from the spring and the wells, and women with donkeys are a common sight on the path down to the ravine. There are no traces of wells or cisterns on the plateau. The wells also supply beduin families down on the plain of Wadi Abyad. Heavy rainfalls during the winter 2007/2008 have changed the landscape dramatically. The path down to wells has been cut through by many small ravines, making it impassable for cars, and the path down into Wadi Abyad has been washed away, opening up a 4 m deep ravine from northwest down to the rock.

The site was first surveyed and published by Schlumberger in 1951, and named Ouéchel. He registered the small Roman fort, some Greek, Latin and Palmyrene inscriptions from the fort and a few from the area gathered by the Beduins. Schlumberger did not register any structures on the plateau. Ouéchel is very probably also identical with al-Wešel, mentioned by Alois Musil on his travel north through Wadi Abyad in March 1912. According to him there was "a green meadow irrigated by the the spring of al-Wešel, on the side of which is a small ruin (Musil 1928, 148-149).

The site consists of the following:

1. Buildings on the plateau.
2. Fort on the promontory.
3. Wells and an aqueduct.
4. Structures on hilltop northwest of the plateau.
5. Corrals on the plateau.

### **1. Buildings on the plateau.**

The buildings on the plateau, which can only be seen faintly on the satellite images, appear as small hills with piles of stones on the edge of the plateau west of the path leading down to the wells. The walls are mostly only visible as bases imbedded in the ground, and the small hills cover large parts of the structure.

The measurement of the walls was done by a team from the Museum in Palmyra, consisting of Omar Asaad and Azam Daas, with a total station. As no clearing of the walls were allowed, permitting more precise adjustments, only the outline of the visible walls were registered.

The buildings can be divided into three blocks, block A to the southeast, block B to the north and block C to the southwest. All bases of walls are constructed with outer bigger stones with a filling of smaller stones in the middle. The bases are clearly defined with no surrounding stones, and the walls have probably been a mud brick construction.

#### **1. Block A.**

GPS: N34.75044 E38.12151 (North-east corner), Altitude: 993 m.

Block A, just west of the path leading down to the wells, is orientated approximately north-south. As the northern wall and the eastern wall are clearly defined by corners, and the stretch of the southern and western wall can be stipulated the size of the building can be calculated to be ca. 34 m north-south and 37 m. east-west. The thickness of the east wall and the south wall is 70 cm. The interior wall parallel to the northern wall measures 60 cm, the rest of the walls vary between 63 – 66 cm in thickness.

The layout of the building is relatively clear, even if the western wall is only preserved for a few meters. The centre of the building is a large open courtyard, ca. 30 m east-west and 26 m north-south. To the north and west along the outer walls traces of a series of rooms, 7.5 m deep and 5 m width obviously opening into the courtyard, even if no traces of doors can be seen. The arrangement in the north-western corner is a little bit peculiar. The most western room and the northwest corner are not in line with the rooms and the west wall to the south. As the bases are well-preserved it is probable that the walls has made a angle in the north-west corner of unknown reasons (adapting to other buildings?). There is no indication of the position of the gate to the building. Doors and gates do not necessarily cause an opening in the bases of walls.

## 2. Block B.

GPS: N34.75083 E38.12100 (North-east corner), N34.75079 E38.12031 (North-west corner), altitude 1003 m.

Block B, which is very close to the edge of the plateau on a little bit higher ground, is orientated more to the west. Small hilltops of stones in the northern and southern part, together with a north-south division wall, divides the block in an eastern and western section. The overall dimensions of block B is 41 m north-south and 60 m east-west

The outer walls of the western part of the buildings have a deep foundation, visible in some modern diggings. The width of the northern wall vary between 90 to 100 cm, the width of the western wall 120 cm. The width of the internal walls and partition walls vary between 70 to 75 cm. A small stretch of a southern wall, width 120 cm, bound the building to the south, and indicate the south-western corner of the building, and by that also the length of the western wall, 41 m. Along the outer western and northern wall a parallel internal wall with some partition walls angular to them, indicating a series of rooms, depth 5 m opening into the interior. In the east wall clear signs of a gate, 2.5 m broad. The east-west walls on each side of the corridor have a width of 66 cm. The gate makes an opening in the internal base but not in the base of the western wall. In the south-west corner a small 2 m broad and 5 m long structure. Purpose uncertain, perhaps foundation for a staircase.

The northern walls, both the outer and the internal, of the eastern part of the building are in line with the walls of the western part and the also show internal rooms probably facing to the south. Width of the outer northern wall 90 cm, the internal walls 75 m. The north-west corner makes an angle and forms a curve close to the edge, adapting to the valley to the north. The bounds of the eastern part of the building are made by a eastern wall, thickness 75 cm, a southern wall, thickness 75 cm, and a western wall, thickness 80-90 cm. The western wall thus divides building B in two sections. At the south-west corner bases for two slightly irregular interior rooms.

The relation between the eastern and western part of building B is not entirely clear. The northern wall and the northern internal rooms seem to be part of the same layout. However the western wall of the eastern section, dividing the building into two sections, and also the orientation of the southern walls, including the thickness indicate two different buildings or at least phases.

## 3. Block C.

GPS: N34.75015 E38.12022 (South-west corner), Altitude 996 m.

Block C consists of a south-western wing, with the south-west corner clearly defined. The building is orientated a little to the west, but not as much as the western part of building B. The thickness of the walls between 60 and 70 cm. A series of internal rooms, ca. 6 x 6 m, probably opening into an interior courtyard to the east. East of the wing a series of structures, which perhaps is part of the building. A 15 m long stretch of wall, thickness 70 cm, goes to the east from the northern part, touching the south-west corner of building B. It's relation to the walls of the wing can not be clarified, and it's orientation in relation to the wing is not exactly angular. South of the southern wall of building B, traces of a room, 6 x 10 meters. The

north wall of the room, which is partly covered by the southern wall of building B, is not exactly in line with the stretch of wall from the northern part of the wing.

The relation between the south-western wing, the north-wall and the room to the north-east can not be clarified.

The finds from the area are limited, some ceramics and grinding stones fragments.

Conclusion:

Building B differs from building A and C by having much thicker walls. It must be later than some of the structures at the south-west, as the southern wall runs on top of older walls. Otherwise the relationship between the different buildings can only be clarified by excavations or at least some clearance of the walls.

## 2. Fort on the promontory.

GPS: N34.75743409 E38.12016882

The promontory is limited by sharp slopes to the east and north. The fort measure 19.30 x 19.90 m, constructed by 1.20 m thick walls. The outer stones of the walls are up to 1.5 m high and 2 m. long, with smaller stones in the middle, making a solid base. According to Schlumberger the upper levels have probably been constructed by mud bricks. The fort has a courtyard, surrounded by 2 eastern and 3 western rooms with a gate to the east. Traces of stairs to an upper floor. A modern building has been constructed on top of the western walls. As the fort was registered by Schlumberger no further survey of the fort was done. It is probably the ruin mentioned by Musil close to the spring (Musil 148-149).

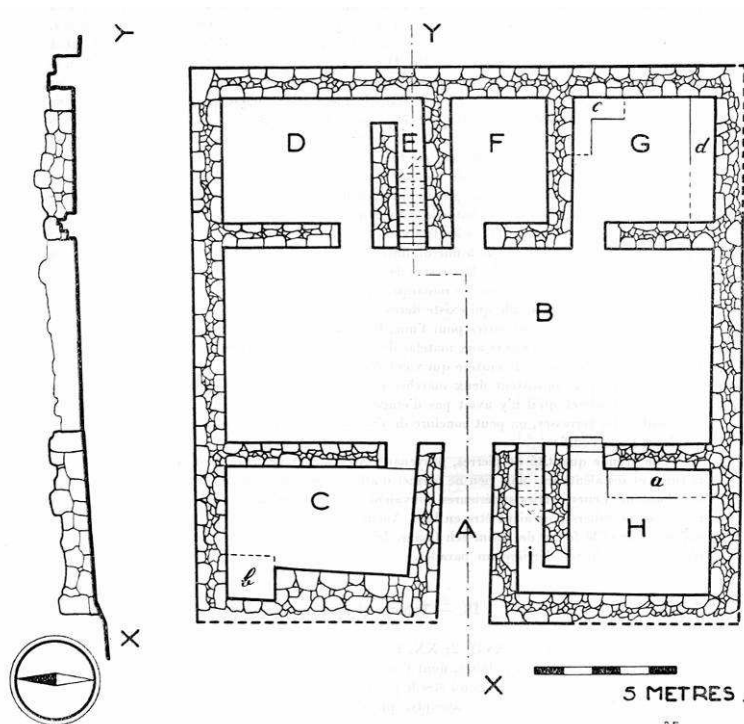


FIG. 19. — Fortin de Ouéchel. Plan et coupe.

### 3. Wells and aqueduct.

At Shalalah the mountain in the ravine area consists of different layers with different hardness. Some of the layers are water-bearing, and at several places there are springs, mentioned by Musil as al-Wešel (Musil 1928, 148-149). The wells are concentrated in an area where three small ravines from the mountainside meet to form a greater ravine towards Wadi Abyad. The wells certainly get their water from the water-bearing layers. They do not open up in depth like a flask, which is normal for cisterns in other areas, but the water flow from the mountainside down the ravines may in periods supplement the spring water, even if the quality can not be compared to that. Very heavy flows of water may even destroy the quality of the water. This is obvious after the heavy rains during the winter 2007/2008. In one of the wells the water, at a much higher level than normal, has been covered with green algae.

Well 01.

GPS: N34.75775851 E38.11554191E. Altitude: 979 m.

The well lies a few meters north of the southern ravine, before it meets the central ravine. It has a rectangular opening, 70 x 140 cm. The north and the south walls, 70 cm in length, are cut into the rock, whereas the east and west wall, 140 cm in length, are built up by stone, probably using a natural fissure in the rock. The well has partly been filled in only having a depth of 1.80 m. South-east of well fragments of a trough.

Well 02.

GPS: N34.75800426 E38.11578442. Altitude: 962 m.

The well lies just north of the point where the southern and central ravine meet each other, ca. 35 m north-east of well 01. Approximately circular opening, diameter 3 m. Deep stone lining with traces of the rope for the well bucket in the south-east. In depth the shaft gets quadrangular. Depth of the well 15.50 m, still carrying water.

Well 03.

GPS: N34.75810601 E38.11587070. Altitude: 967 m.

The well lies just west of the point where the northern ravine meets the other ravines, ca. 10 m east-north-east of well 02. It is now almost completely filled in, and only appear as a half circular cutting in the rock. Stipulated diameter 3.60 m.

Well 04.

GPS: N34.75820307 E38.11600679. Altitude: 964 m.



The well lies 20 m east-north-east of well 13. Approximately circular opening, diameter 5 m. 1 m. deep stone lining with traces of the rope for the well bucket in the south-east. In depth the shaft gets quadrangular. Normally the water level is deep down, but now it covers the quadrangular shaft. East of well one trough, south of well 2 troughs. One of the troughs has several small drillings on the top and on the terminal surface.

Well 05.

GPS: N34.75806970 E38.11621002. Altitude 962 m.

The well lies 20 m. est of well 04. It is completely filled in, and only appear as a quadrangular cutting in the sloping rock, 1 x 1.40 m.

Aqueduct.

GPS: N34.75838541 E38.11726781. Altitude 951 m.

The aqueduct, which runs from west to east, lies on a small plateau, before the big steep ravine towards Wadi Abyad. To the west it is cut into the raising rock as tunnel. The opening is 2.5 m high and 1.5 m broad with a slightly arched top. To day the opening is partly covered by stones and mud and the length of the tunnel to the west into the mountain can not be determined. It does not seem to be connected to any manholes further up the valley. Before 2008 the local beduins had closed the eastern end of the open canal to create a small reservoir, from which they pumped the water. This shows the potential of the system. The heavy rains and the flood have washed away all the debris down to the rock revealing the open canal, 1.5 m broad, to it's end 16 m. from the opening. The canal ends on a small broad widening plateau before the ravine. There are no traces of a continuation of the aqueduct to the east, but any constructions would have been washed away throughout the ages. Musil mentions that a green meadow down in Wadi Abyad is irrigated from the springs (Musil 1928, 148-149), but it is not clear, whether it is water from the springs as such, or water from the wadi-system during the rainy season.

South of the canal a tie in rock for animals and a modern Arabic inscription on the southern wall of the canal.

#### **4. Structures on hilltop northwest of the plateau.**

Building structure

Surveyed by EHS, NA 10 APR 11 APR.2008.

GPS: N34.76191589 E38.10740807. Altitude: 1252 m.

The building or structure is placed on the summit WNW of Shalalah, on a ridge with two steep edges in the west and east. It is an almost rectangular (trapezoid) building in more or less north-south, east-west direction. The west wall is 38.5m long, while the east wall is 38m long. The north wall is 25.5m long, while the south wall is 31m long. Generally the structure follows the landscape, and fits well into this. In the south end there is a marked entrance 1.5m wide. Along both the west and east wall, inside the structure there is accumulation of stones, soil and debris, which may possibly stem from the walls. The walls are fairly regular around

the whole site, with a width of 70-80 cm, with larger stones on the inside and outside and the middle filled with smaller stones and soil. In the north part of the structure towards the north wall there is a pile of stones, partly circular, which may be one or several burials.

Finds: Pottery of Fine white ware, base and body which fits together  
Dating: Uncertain

#### Corral 04

Surveyed by EHS, NA 11 APR 2008.

GPS: N34.76323350 E38.10694483. Altitude: 1206 m.

A number of small corrals attached and located in a small and narrow depression and valley just 200m north of the building structure at the hilltop. Two larger circles are attached by a smaller one in the middle, in addition to some more unclear structures (semi-circles) to the South. The valley bottom seems to be collecting water, as the soil clearly had been recently wet and the vegetation was fairly green. Total area is about 43m west-north-west east-south-east and 20m north-east-north south-west-south.

Finds: None  
Dating: Uncertain

### **5. Corrals on the plateau.**

#### Corral 08

Surveyed by JK, NA 14 APR 2008.

GPS: N34.75591134 E38.10866113

The corral is located north-west of Shalalah as high up the valley as possible before the slopes get too steep. Still the valley is fairly flat here among the wadis running down from the slopes to north, north-west and west in to the major wadi of the valley which runs in the direction of Shalalah to Southeast. Corral 8 consists of several unclear structures or walls, and one possible. To the west and southwest there is a wadi coming down from the mountains and slopes. The site is heavily eroded.

Finds: None  
Dating: Uncertain

#### Corral 07

Surveyed by JK, NA 14 APR 2008.

GPS: N34.75397374 E38.11150175

The corral is located further down the valley from corral 8 in a south-western direction. This corral is well kept, being fairly rectangular, though with curved ends in the east where there seems to be an entrance. The south-east wall, just at the entrance, a circular structure is found just outside about 4.4m in diameter which is interpreted as a burial. A few meters to north, inside the corral, there is another burial of a more rectangular type. The corral itself measures 23.3 m (E-W) and 17.5m (N-S). In the west-north-west there is another wall attached to the

corral, which also has a marked entrance. Though there is no clear indication of where these walls continue.

Finds: None  
Dating: Uncertain

Corral 06  
Surveyed by: JK, NA 14 APR.2008  
GPS: N34.75352403 E 38.11219705

A rectangular corral with rounded corners found further down the valley to the South-west from corral 07. It measures 25.5m E-W and 16.3m north-south. There seems to be some structures that is connected to this, one possible grave inside, and one just to the east outside, with an additional two in south and south-west. The entrance of the corral seems to be in the south.

Finds: None  
Dating: Uncertain

Corral 05  
Surveyed by JK, NA 14 APR 2008  
GPS: N34.75281467 E38.11247819

A more trapezoid corral with rounded corners found further down the valley to the south-west from corral 06. It measures 18.m N-S 20.5m E-W. There seems to be two niches in the northern wall, as well as the beginning of a new wall heading W from the western wall. To the east, about 2m, there is an U-shaped structure which is almost attached to the corral proper. This measures 6.5m by 4.8m. Next to the wadi there is an ancient Islamic cemetery.

Finds: None  
Dating: Uncertain

Corral 004  
Surveyed by: JK, NA 14 APR 2008  
GPS: N34.75207750 E38.11274733

This is a small and heavily eroded corral which has not been documented any further

Finds: None  
Dating: Uncertain

### **Conclusion:**

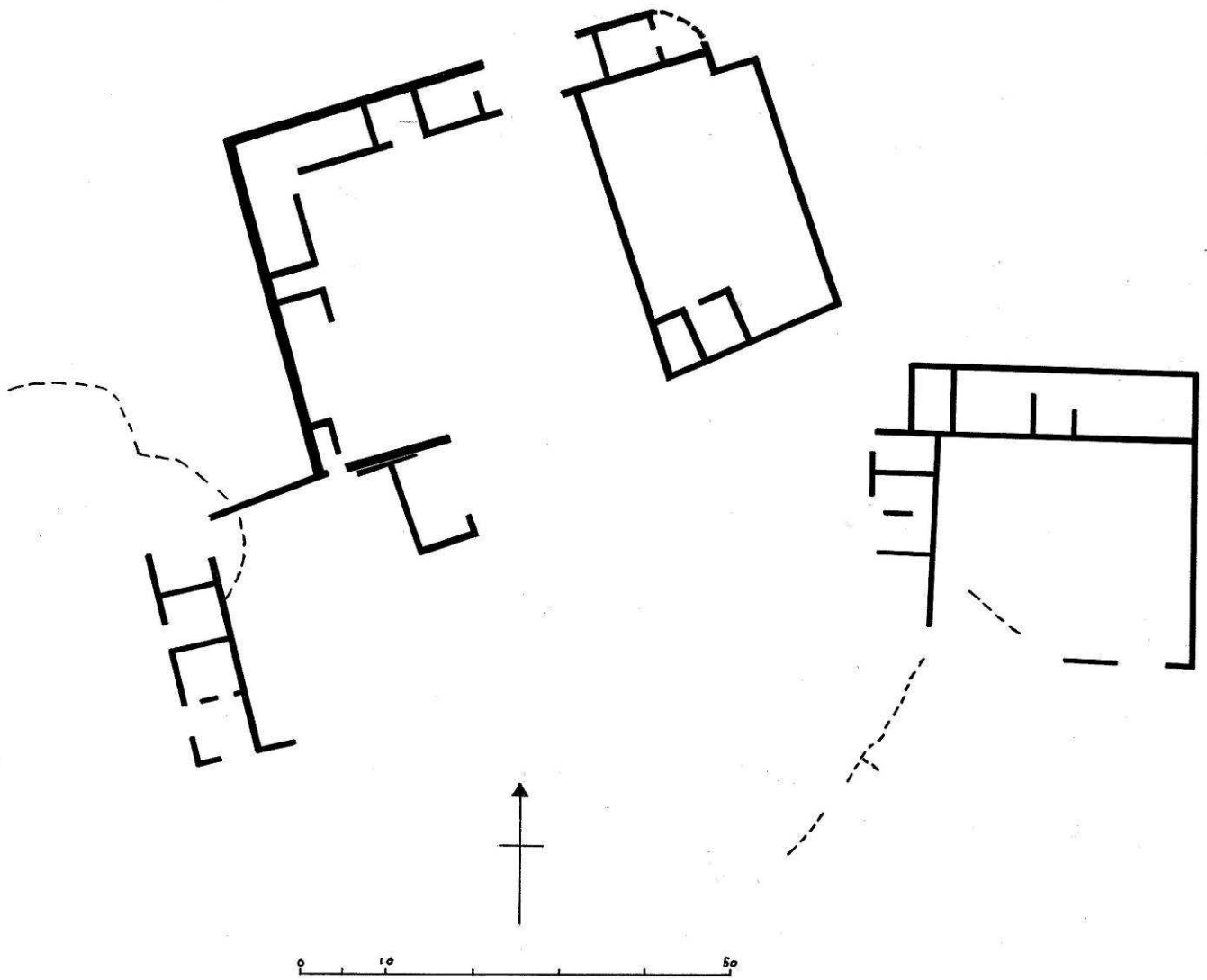
The importance of Shalalah and the surroundings must surely be seen in relation to the water resources at the springs, even if the wells and the aqueduct can not be dated, though they are probably several hundred years old, maintained by the local beduins up through ages. The



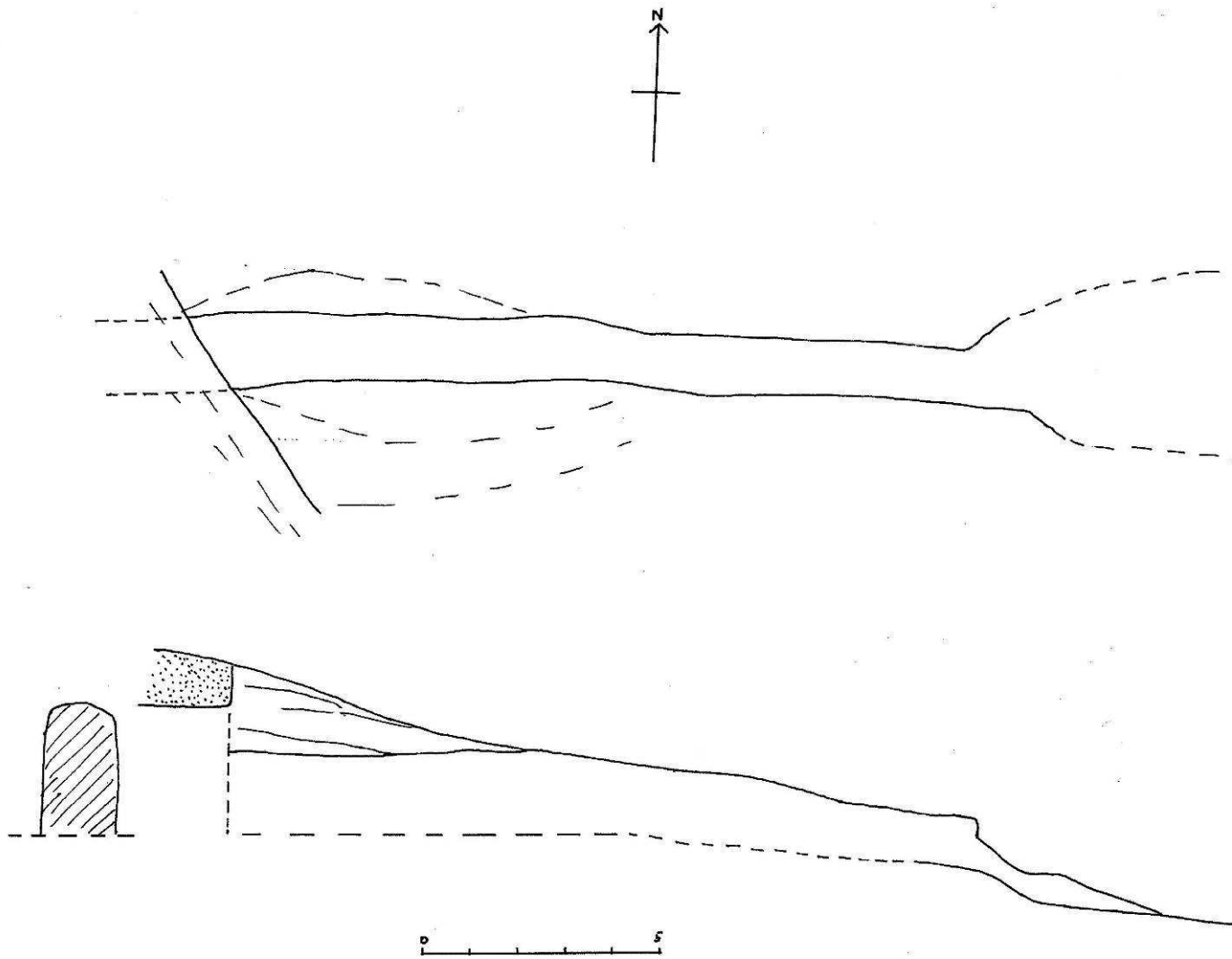
wells are a natural gathering point, and the position of the fort on the promontory overlooking the wells can be explained by that.

Further, the Shalalah plain is one of the few larger plains high up in the Jebel Abyad range. According to Musil Jebel Abyad was covered by trees especially on both sides of Wadi al-Thakara (Musil 1928, 147). If the mountain sides and the valleys have been partly covered by the *Atlantica Pistacia* trees the conditions for human exploitation of the area must have been quite different from the modern beduin usage, even if there might have been some beduin agriculture on the plain with barley. Even if our present knowledge as to the buildings on the plateau is very scanty and incomplete, there is a striking parallel to the villages in Jebel Chaar, excavated and surveyed by Schlumberger. The size and structure of the buildings are the same.

It has also been discussed whether the buildings could have been part of a communication system from Palmyra to the north and north-west along Wadi Abyad. It can not be excluded, but the geographical conditions are not optimal for a station along a route in Wadi Abyad. The natural access to the plateau is from the direction of Tweihina via Wadi Shalalah, not along the narrow paths from Wadi Abyad. The slopes down to Wadi Abyad are relatively steep. From the well-area there is a natural shelf to the north-west, but at the north-eastern corner it is traversed by many ravines from the west-side of Jebel Abyad.

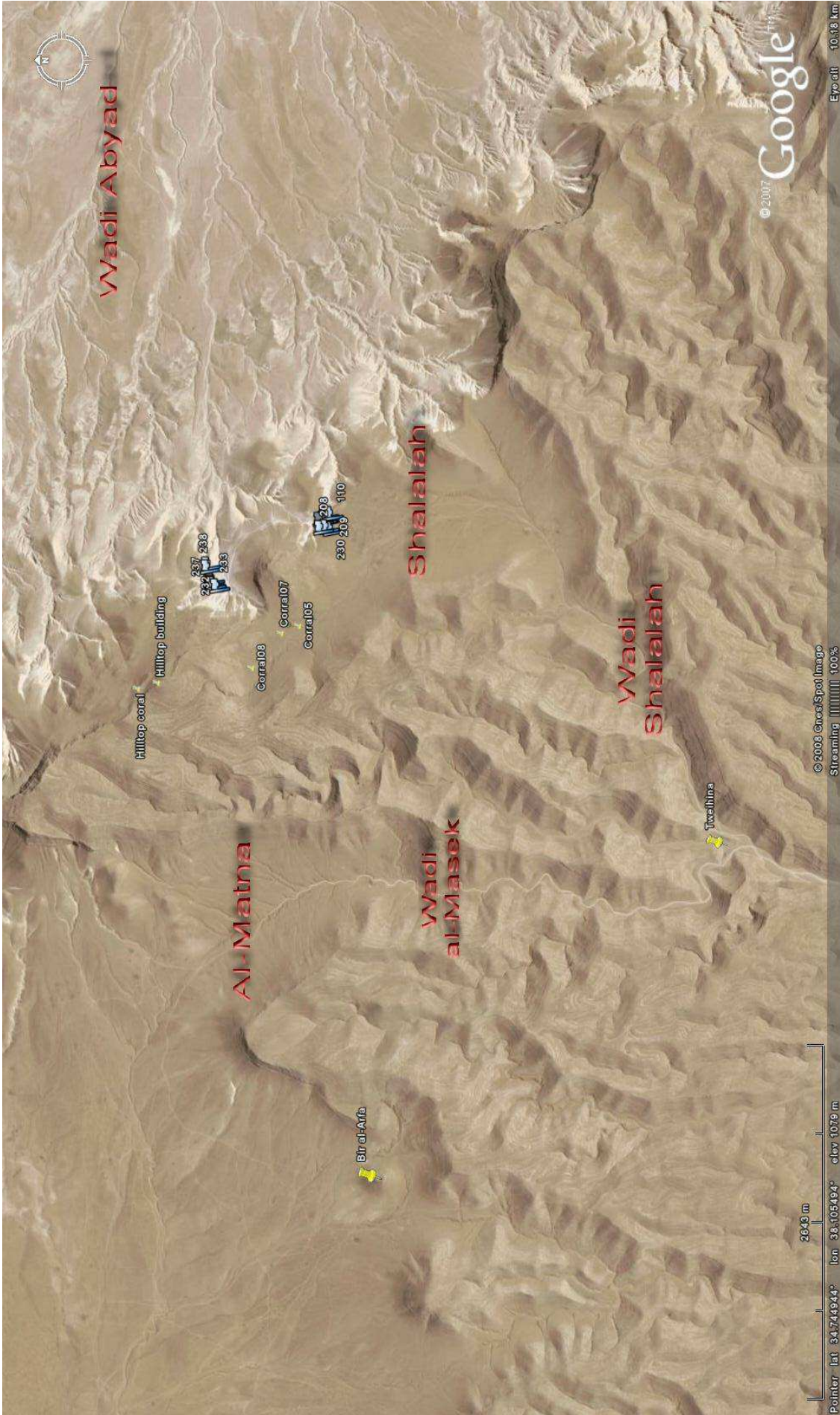


Shalalah plain: Overview of buildings

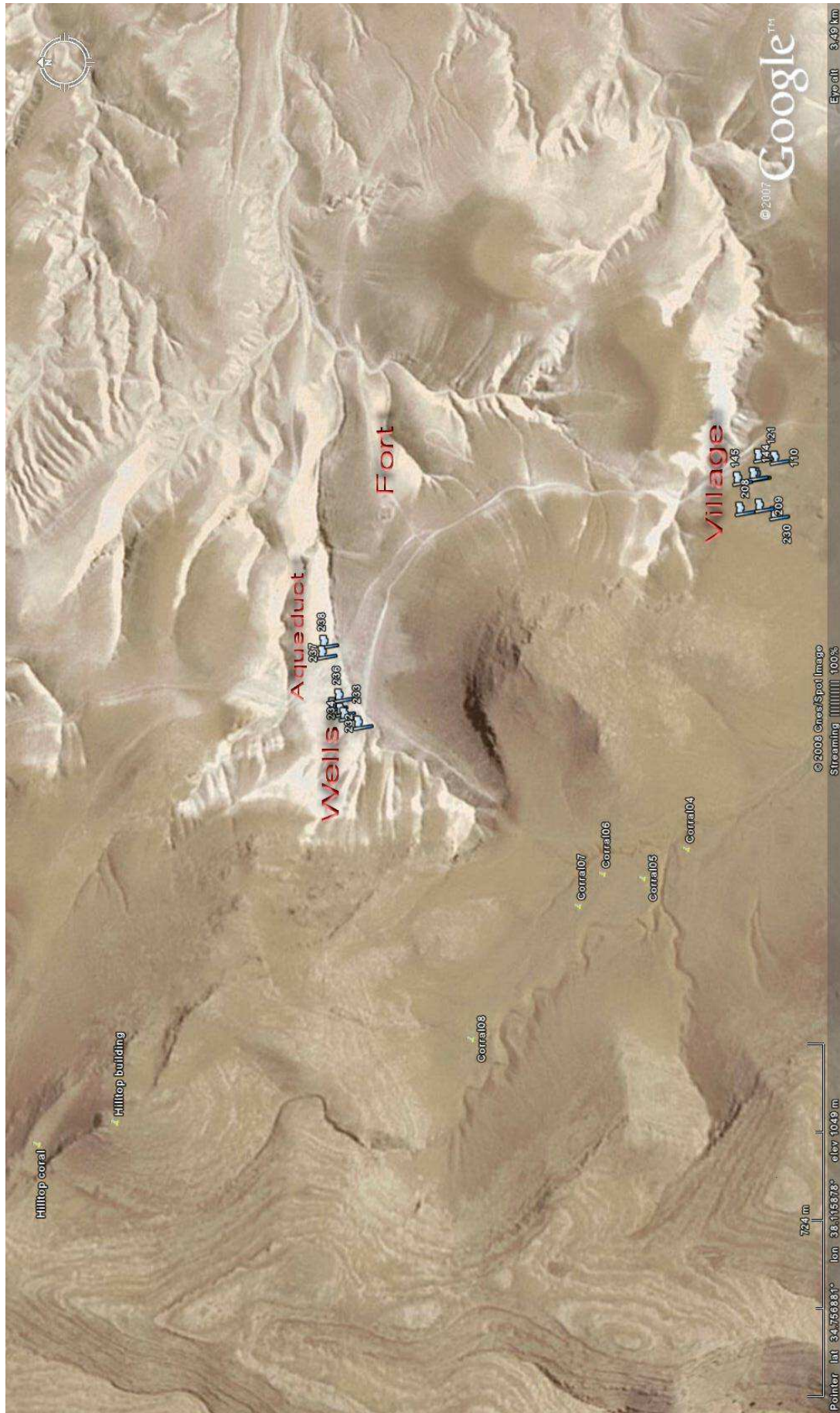


Shalalah springs: Aqueduct.













Shalalah: The plain, satellite view. (Interpreted Quickbird satellite image provided by D. Tucker/S.R. Hauser, University of Halle, SFB 586)





Shalalah: The spring area and the fort. (Interpreted Quickbird satellite image provided by D. Tucker/S.R. Hauser, University of Halle, SFB 586)

**Shalalah settlement**

F. no	Site	Category	No.	Comments
1	Shalalah settlement	1.3	2	Fine white ware
2	Shalalah settlement	1.1	1	Coarse black ware
3	Shalalah settlement	1.1	1	Coarse ware
4	Shalalah settlement	1.1	1	Fine white ware
5	Shalalah settlement	1.1	1	Fine red ware
6	Shalalah settlement	1.4	11	Fine black ware
7	Shalalah settlement	1.4	8	Fine white ware
8	Shalalah settlement	5.1	1	Flint flake
9	Shalalah settlement	5.2	1	Retouched flint flake
10	Shalalah settlement	4.1	2	Basalt fragment

**Shalalah Hilltop building**

F. no	Site	Category	No.	Comments
1	Shalalah Hilltop building	1.5	3	Fine white ware, base and body which fits together

## **KSHEBAR**

Surveyed by JK, JCM, NA, ABK and AA 16 APR 2008

GPS: N34.71372 E38.14035. Altitude: 870 m.

Map: 1:10000. I-37-41. 38431 74216

The site is located in a side wadi, Wadi Kshebar, to Wadi al-Thakara, in Jebel Abyad, about 3 km from the mouth of the wadi, 23 km NW of Palmyra, 5 km south-south-west of Shalalah and 6 km east-south-east of Tweihina as the crow flies. The wadi, which flows from northeast to southwest, is comparatively narrow and continues to the southeast up to the eastern edge of Jebel Abyad, where the mountainside falls steeply towards Wadi Abyad. All communication from Kshebar to Tweihina, Shalala and Palmyra goes through Wadi Kshebar and Wadi al-Thakara to the west, as there is no natural routes across the mountains. Geologically the mountainside is divided into alternate, horizontal layers of soft and hard rock, which creates many natural caves in the softer rock. The site lies where the wadi makes a marked bend to the east and the landscape opens up forming a small plain.

The site is named after Wadi Kshebar.

The beduins use the wadi and the mountainsides as grazing ground, but there is no traces of beduin camps. The track in the bottom of the wadi is used frequently.

The site was visited briefly in 2006, in 2008 the site was *registered but not measured*. Further up the wadi the area opens up and was only visited briefly. However, the area has great potential for sites, and will be investigated further at a later stage.

1. Tombs west of wadi.
2. Different structures at the plain.

### **1. Tombs.**

In the mountain side to the west of the wadi on a shelf about 50-70 m above the wadi bottom a series of tombs have been carved out in the softer rock. The harder rock above forms a protecting overhang and a new shelf. The sites is heavily eroded by weather but 5 tombs (tomb A to E) and some niches are preserved. The shelf and the tombs have been used by locals up through ages, and the numerous Arabic inscriptions, recent and ancient, have been carved into the rock. The walls of the tombs are smoked and the floors covered by sheep and goat droppings.

The niches are carved into the vertical rock north of tombs A. Most of them have an uncharacteristic shape, but one of them is formed as a broad "T". The horizontal upper part of the "T" is carved into the rock as a rectangle, bevelled at the top and at the bottom. The vertical part of the "T" is in relief by cutting away the surrounding rock. The niche has probably been some kind of alter.

The most northern tomb, tomb A, has a comparatively well preserved doorway, ca. 1.5 m. high with traces after door frame, which is visible on the inside. Later use of the tomb for other purposed has cause an enlargement at the sides. The chamber is formed as a barrel vault, ca. 4 m long, 3 m. broad and 1.8 m high. In the horizontal back wall a ca 60 x 60 cm arched niche. In the northern wall a oblong niche, formed as an alcove, partly connected to the left with a smaller niche with flat bottom and tapering roof. To the left and right of the



doorway niches of trapezoid shape. Other small niches with flat floor and tapering top in the vault.

Tomb B, south of tomb A has a 1.6 m high doorway, later enlarged at the sides. Inside faint traces after the doorframe. Close to the doorway the chamber forms a barrel vault, but the back wall forms an arch. A few niches in the chamber, but no alcoves.

Outside the tomb, perpendicular to the northern doorpost, a low wall has been left by the cutting of the tomb. It forms the southern limit of a worked triangular floor, which tapers towards the niches..

Tomb C is south of tomb B, where the wall of the shelf makes a worked inward angle. The doorway has been damaged and the chamber is rudely carved as a grotto. South of doorway a rectangular block of stone, perpendicular to the door.

Tomb D, south of Tomb D, has a 1.8 m high doorway, at the top bevelled into the rock, forming a half vault. The chamber has almost vertical walls and horizontal roof. In the south and west wall side chambers with vaulted walls and roofs. In the western wall also has an alcove, which at the corner meets a deeper alcove in the northern wall. South of doorway a tall niche with flat bottom, tapering roof and arched back wall. In the floor of the niche a cup-shaped hollow with a narrow drain into the chamber.

Tomb E lies a distance to the south cutting through a small promontory forming a tunnel. The rock and the remains are heavily eroded, and the original plan of the tomb is no longer visible.

Between tomb C and tomb D a series of rock-cut steps, forming a U-turn (3-8 steps), leading up to the shelf above. On the shelf there are 3 further steps to the shelf above, but the rock and most of the shelf above have eroded away.

From the shelf with the tombs a track leads diagonally down the mountain side towards the northeast, with traces of a retaining wall. Further down a cistern, cut into the sloping rock, with circular opening and traces of an inlet canal cut into the rock bed. The cistern has been filled up 1 m from the top.

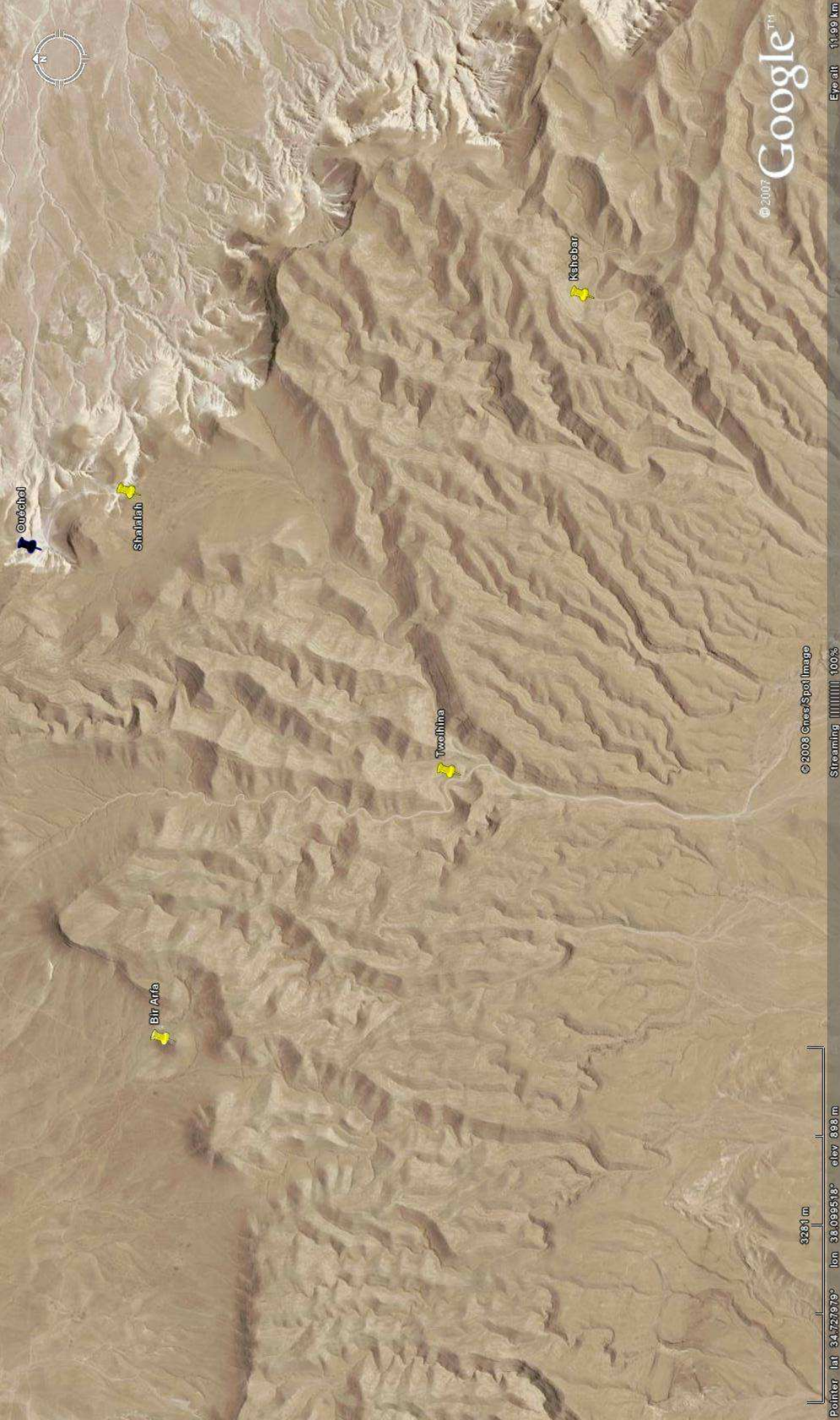
The tombs have probably been used for other purposes up through the ages. They are probably from Roman-Byzantine times. They can be compared to the much larger and much more sophisticated tombs west of Jazal (GPS N34.71993 E37.96676).

## **2. Different structures at the plain.**

On a small shelf of rock and soil, just below the tombs, next to the wadi proper, there are some circular and rectangular structures in a partly flat area. In addition to these structures there are a number of Muslim graves. This shelf with a flat area, is cut on both sides by two wadis running down from the mountainside with the tombs. Just north of this flat area on the shelf, there is a fairly flat area next to the wadi with an circular structure, where most of the pottery was found. Just across the wadi to the south-south-west there is also a relatively flat area, with an almost squared structure, though with a dividing wall inside. In this area there is also a number of Muslim graves to the southwest of this squared structure. In this area next to the squared structure a tabular fan scraper was found in 2006. This was not collected at this time and left at the site, though a photo was taken.

Finds: Some pottery of coarse painted red ware, fine red ware, glazed pottery

Dating: Uncertain, the pottery points to both more recent periods and possibly late prehistorical periods. The tabular fan scraper would support the latter, as it is basically known in the late prehistoric periods.



**Kshebar**

F. no	Site	Category	No.	Comments
1	Kshebar	1.4	3	Coarse red ware
2	Kshebar	1.4	8	Painted coarse red ware
3	Kshebar	1.5	1	Coarse red ware
4	Kshebar	1.3	1	Fine red ware
5	Kshebar	1.1	2	Fined red ware
6	Kshebar	1.1	2	Coarse red ware
7	Kshebar	1.8	1	Glazed pottery
8	Kshebar	3.1	2	Fragments, one possible base fragment
9	Kshebar	3.2	1	Glass bead blue



## **AL-MATNA – RAS AL-MATNA.**

This site, which covers a large area in the north-eastern part of Jebel Abyad, is the northern part of the pass between Wadi al-Thakara and the plain west of Palmyra to the south, and the plain north of Jebel Abyad between Jebel Chaar and Jebel Merah to the north. The southern limit lies 3.6 km north of Tweihina, where the narrow wadi, Wadi Al-Matna opens up, forming a 1.6 km long triangular valley up to the broad mouth of the pass, between Ras al-Matna to the west and the northern spur of Jebel Abyad to the East. The wadi flows from north to the south, and the mouth of the pass forms the watershed to the northern plain. The opening in the mountain range is very marked and is visible from far distance from the north. On the top of Ras al-Matna some marked stone structures (not visited).

The beduins use the area and the mountainsides as grazing ground, and there are numerous traces of old beduin camps.

The site is named after the local name of the valley: Al-Matna.

The finds comprises corrals, cairns and wells, most of them south of the watershed, with a few to the northwest of the mouth of the pass, north of Ras al-Matna.

### **Corral 01, Ras al-Matna**

Surveyed by: EHS, JK, ABK, JCM and NA 10 APR 2008.

GPS: N34.76090969 E38.07863508. Altitude: 1053 m.

The site is located on the foot of Ras al-Matna, facing the plain between Jebel Chaar and Jebel Merah, east of Bir-al-Arfa. Consists of two major circles which are interconnected in NW, and in NNE there is a semi-circular structure which is also partly connected. In W there is a major accumulation of stones, and a smaller one 2-3 meters NE, which both could be possible burials. The W part of the corral is partly eroded from a small wadi from the hills of Ras al-Matna, though the structures are still clearly visible. About 55 meters N there is a small circular structure, though it is uncertain if they are connected in any way.

Finds: Fine red and black ware, and coarse red ware, and 2 fragments of greenish-bluish glass  
Dating: Uncertain

### **Cistern. Ras Al-Matna.**

Surveyed by JCM and JK 10 APR 2008

GPS: N34.76130 E38.07880. Altitude: 1041 m.

Ca. 50 m north of Corral01. Filled-in and covered, probably cistern, appears as a crater, diameter 5 m. Close to small wadis running down from Ras al-Matna.

Dating: Uncertain.

## **Corral 02**

Surveyed by EHS, JK, ABK, JCM and NA 10 APR 2008

GPS: N34.7627 E38:0888. Altitude: 1111 m.

Corral in a small wadi valley with a number of features and structures near by such as cave, small hilltop structure 1 to the southeast, and small hilltop structure 2 to the north. Just SE of this corral, over hilltop structure 1 is also a catchment area for water collection and a cistern further down the wadi towards the south. Corral 1 is located west of corral 2 across the valley. There is also an eroded corral (3) just to the N further up the wadi (see below).

Very similar to Corral 1 across the valley, two circles which are attached. One is fairly large and the other smaller though with a small pile (burial?) of stones in the middle. The corral is partly eroded in N, by a small wadi draining down from the hill in NE. In the N of the large circle there are several smaller piles of stone, some may delineate the entrance in E or SE. E-W the structures are about 25m across, while N-S measures about 20m across.

Finds: Pottery or coarse and fine red ware, and fine white ware

Dating: Uncertain

## **Corral 03**

Surveyed by: EHS, ABK and NA 10 APR 2008

GPS: N34.76304250 E38.09019967 Altitude: 1111 m.

Heavily eroded and has not been documented and recorded. The corral consists of at least to circles which are interconnected. Just N of the corral there is a straight "wall" towards the hill.

Finds: Pottery or coarse and fine red ware

Dating: Uncertain

## **Hilltop structure 1**

Surveyed by: EHS, ABK, and NA 10 APR 2008

GPS: N34.76191400 E38.08991900. Altitude: 1130 m.

The hilltop structure is located about 100 m SW of the cave on a small hilltop and about 200 m S of corral 2, just on the watershed between Wadi Abyad and Wadi al-Matna. It is probably a watch place for hunting and herding made of large stones with a circular space in the middle. The structure is probably of recent date, though the place is of strategic position in general. The structure measures about 20m SW-NE, and 7-8m SE-NW.

Finds: none

Dating: Uncertain

## **Cave**

Surveyed by: EHS, ABK and NA 10 APR 2008

GPS: N34.76237333 E38.09072000. Altitude: 1121 m.

The cave is located just below a small ridge almost at the watershed between Wadi al-Matna and Wadi Abyad, few meters from the hilltop to the E. The cave opening is towards the SSE about 2m in diameter. Inside the cave is about 10-15 m<sup>2</sup>, with large stones and a few niches. It is presently used for storage of tents by the Bedouins, two rock has a large cup-mark (grinding?) in addition to a game board on one of the rocks.

Finds: Pottery of coarse red ware and fine white ware, basalt fragment, no lithics

Dating: Uncertain

## **Hilltop structure 2**

Surveyed by: EHS, ABK and NA 10 APR 2008

GPS: N34.7645 E38.08962. Altitude: 1139 m.

Located on a small hilltop just N of Corral 1, 2 and hilltop structure 1. Good view towards both Wadi Abyad and Wadi al-Matna. Possibly one burial with large rocks marking the edge of the burial, with fill of smaller stones and soil. Possibly also used as a watch place. The possible burial is rectangular 3x2,5m

Finds: none

Dating: Uncertain

## **Cairn 1 and Corral 8**

Surveyed by: EHS, ABK and NA 10 APR 2008

GPS: Cairn 1 N34.75257317 E38.08951550

Corral 8 N34.75244596 E38.08962146

Altitude: 1040 m.

The corral and burial is located about 300 W of the track through the wadi in the E hillside of Ras el-Matna before reaching the watershed towards Wadi Abyad. The corral consist one major structure, almost rectangular, with one possible entrance in the E. There is also one small semi-circular structure inside, and a more squared one next to it in the S. One small circular structure is also located slightly to the S of the entrance, partly attached to the corral wall, which may be a possible grave. Further to the S are two additional structures, possibly burials. These are not attached to the corral itself. The major corral is attached in the NNW with a part of another corral, though in the SSW corner towards the main corral is an almost circular, probably grave, structure. It has major stones along the outer edge, and is filled with smaller stones and soil. The diameter is 9m and the height is about 50-70 cm. A few meters to the N of this is another squared structure, with a small cache inside with three lines of stones radiating out in NNW and N. The total length is about 60m N-S, and 25m E-W of all the structures included. About 100m to the W (towards the track in the wadi) there is a major wall

of stones leading S for about 150m to a small wadi from the hillside. Here it disappears, and does not continue further to the south of this wadi.

Finds: None  
Dating: Uncertain

### **Cairn area (cairns 2-8)**

Surveyed by: EHS, ABK and NA 10 APR 2008

GPS:	Cairn 2,	N34.74987867 E38.09074467
	Cairn 3,	N34.74982967 E38.09071883
	Cairn 4,	N34.74990767 E38.09060317
	Cairn 5,	N34.74989217 E38.09049483
	Cairn 6,	N34.74991917 E38.09094717
	Cairn 7	N34.74997450 E38.09069267

A few hundred meters to the south further down the wadi, there is a an area with 7 round cairns located on a small ridge. It seems as if there is an old track passing more or less through cairns, particularly between cairn 4 and 5. There are also a number of other possible structures here, though these are difficult to identify without more investigations. Cairn 4 is the largest with an approximate diameter of 9m E-W and 10m N-S. This cairn has clearly been plundered as there is a hole in the middle about 3x4 meters. Cairn 4, 7, 2 and 3 are located just with a few meters distance from each other. Cairn 8 is located about 16m S of cairn 3. About 12m NE of cairn 2, is cairn 6. This seems to be a cist grave, with a rounded structure of stones around it. Cairn 5 also seems to have a small cache in the middle.

Finds: None  
Dating: Uncertain

### **Corral 9 and 10**

Surveyed by: JCM, JK, ABK and NA 16 APR 2008

GPS corral 9:	N34.74560 E38.09008. Altitude: 985 m.
GPS corral 10	N34.74636 E38.08950. Altitude: 998 m.

Corral 9 and 10 are here treated as one entity, although it is uncertain if they are directly related or not. They are both found in the eastern slopes of Ras al-Matna 100m away from each other. Corral 9 is found to the SSE, and seems to be a complex corral consisting of several sections and divisions. There are also some minor walls to the S which may be connected, though there are no clear walls here. The corral is located on a gently slope between two wadis running down from Ras al-Matna, and some of the walls are partly cut by these wadis. The total length N-S is about 52m, and 28m E-W. There are several small piles of stone partly inside the corral, which are both rectangular and circular and may be possible graves. The length of these vary, though usually no more than 10m in diameter and generally marked by larger stone at the edges. The corral seems to be attached by several "rooms", of various shape, though the one to the N seems to be more or less rectangular measuring N-S 9m, and E-W 12m.



About 100m to the NNW corral 10 is found which is also located on the gently slop of Ras al-Matna next to a small wadi. This corral is more or less rectangular in shape, though with rounded corners and partly bent walls. There seems to be marked entrances both to the W and E. In N there also seems to be two small “niches” in the wall. Also this corral consists of several small piles of stone inside, which may be possible graves.

Finds: Altogether 10 sherds of red coarse ware were found  
Dating: Uncertain

### **Cairn 9**

Surveyed by: JCM, JK, ABK and NA 16 APR 2008.

GPS: N34.74625 E38.09092. Altitude: 986 m.

A fairly small possible cairn located in the vicinity of Corral 9 and 10, as well as Cairn 10 (below) almost in the middle of the valley. There seems to be a track passing the cairn, though the cairn is heavily destroyed and there is a pit recently dug in the western corner. The total structure measures about 5.5m (SW-NE) and 6m (SE-NW).

Finds: None  
Dating: Uncertain

### **Cairn 10**

Surveyed by: JCM, JK, ABK, NA 16 APR 2008

GPS: N34.74631 E38.09163. Altitude: 981 m.

It is uncertain whether this structure is a corral or a cairn, though by closer examination it seems to have more parallels to a grave rather than a corral, particularly as it seems to be a small chamber or cist inside the structure.

The cairn is located on the northern bank of wadi al-Matna just as the valley narrows down, just some few hundred meters from Corral 9 and 10, to the NE of these. The structure measures N-S 7.7m, while E-W is 7.2m, and is located on the edge towards wadi al-Matna and a small tributary wadi running down from the slopes in N, just where these wadis meet. The structure is almost shaped like a P with the remains of a small chamber or cist in the middle measuring about 1m by 1.5m

Just across the small wadi to the E there is a string of stones running in a E-W direction for 31m in the W end it runs 7m N-S

Finds:  
Date: uncertain

### **Cistern01**

Surveyed by JCM and JK 13 APR 2008.  
GPS: N34.76001 E38.08959. Altitude: 1056 m.

Cistern, with an opening of 50 cm. opening as a flask at the bottom. Stone lining at the top. Catch-arm, constructed by stones, 150 m long, north-north-west, west of hill with hilltop structure01. Fragmented trough.

Date uncertain

### **Cistern02**

Surveyed by JCM and JK 13 APR 2008  
GPS: N34.76001 E38.08959. Altitude: 1056 m.

Cistern with an irregular opening, but the original opening has probably been 1 m. Traces of the rope for the well bucket. The cistern is formed by a large cave, probably natural. The catch-arm is well-constructed and stretches 195 m to the north on the eastern side of the hill with hillstructure01.

Date uncertain.

### **Cistern03**

Surveyed by JCM and JK 13 APR 2008  
GPS: N34.76009 E38.09317. Altitude: 1095 m.

Cistern on the eastern side of the mountain. The digging-up for the cistern has formed a half-circular plateau. The opening of the cistern 80 cm, a stone lining ca. 2 m deep, opening up as a flask at the bottom. Depth uncertain. Two catch arms along the mountainside, one to the north 56m, the one to the south 69 m. Catch-arms constructed by stones.

Date uncertain.

### **Cistern04**

Surveyed by JCM and JK 13 APR 2008  
GPS: N34.75023 E38.09257. Altitude: 997 m.

Cistern on gentle slope from the mountainside. Circular opening ca 80 cm, with stone-lining at the top. Opens as a flask at the bottom. Situated at a small wadi. Higher up, stonewalls lead water from other streams down into the wadi.

Date uncertain.

### **Cistern05**

Surveyed by JCM and JK 13 APR 2008.  
GPS: N34.74834 E38.09264. Altitude: 989 m.

Big cistern, opening 1.5 m. with stone-lining at the tope. The cistern is natural. Situated at ravine from the mountain. No traces of catch-arms.

Date uncertain.

### **Cistern06**

Surveyed by JCM and JK 13 APR 2008  
GPS: N34.74782 E38.09118. Altitude: 972 m.

Cistern, on the western side of Wadi Al-Matna. Opening ca. 1 m, opening as a flask at the bottom. Two indistinct catch-arms to the northwest and southwest up the mountainside. South of the opening a trough constructed four upright stones.

Date uncertain.

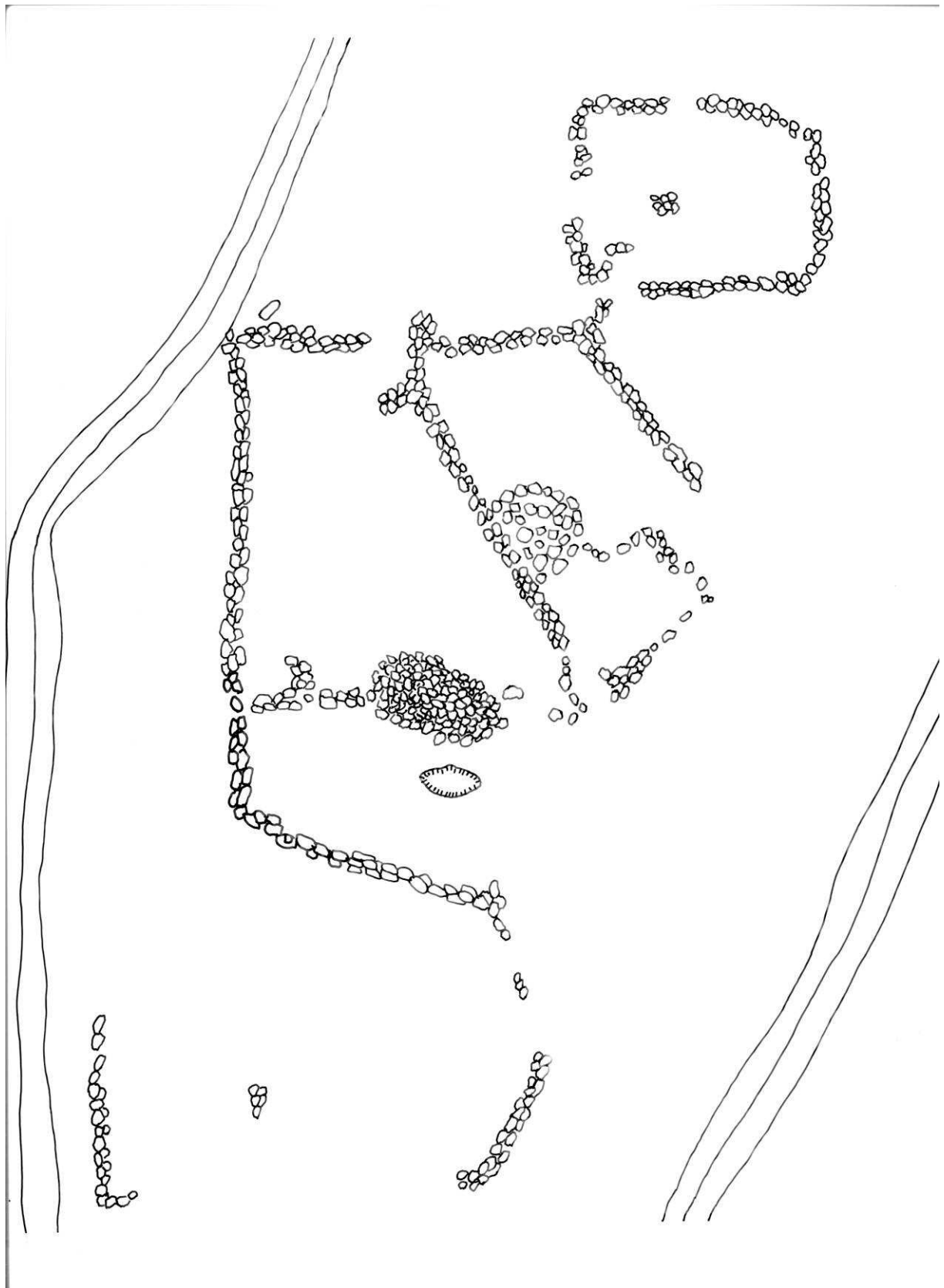
### **Cistern07**

Surveyed by JCM and JK 13 APR 2008.  
GPS: N34.75788 E38.08757. Altitude: 1035 m.

Cistern, east side of the wadi, the opening repaired in modern times with concrete. Trough. Close to the bottom of the wadi. Two indistinct catch-arms up the gentle slope.

Date uncertain.

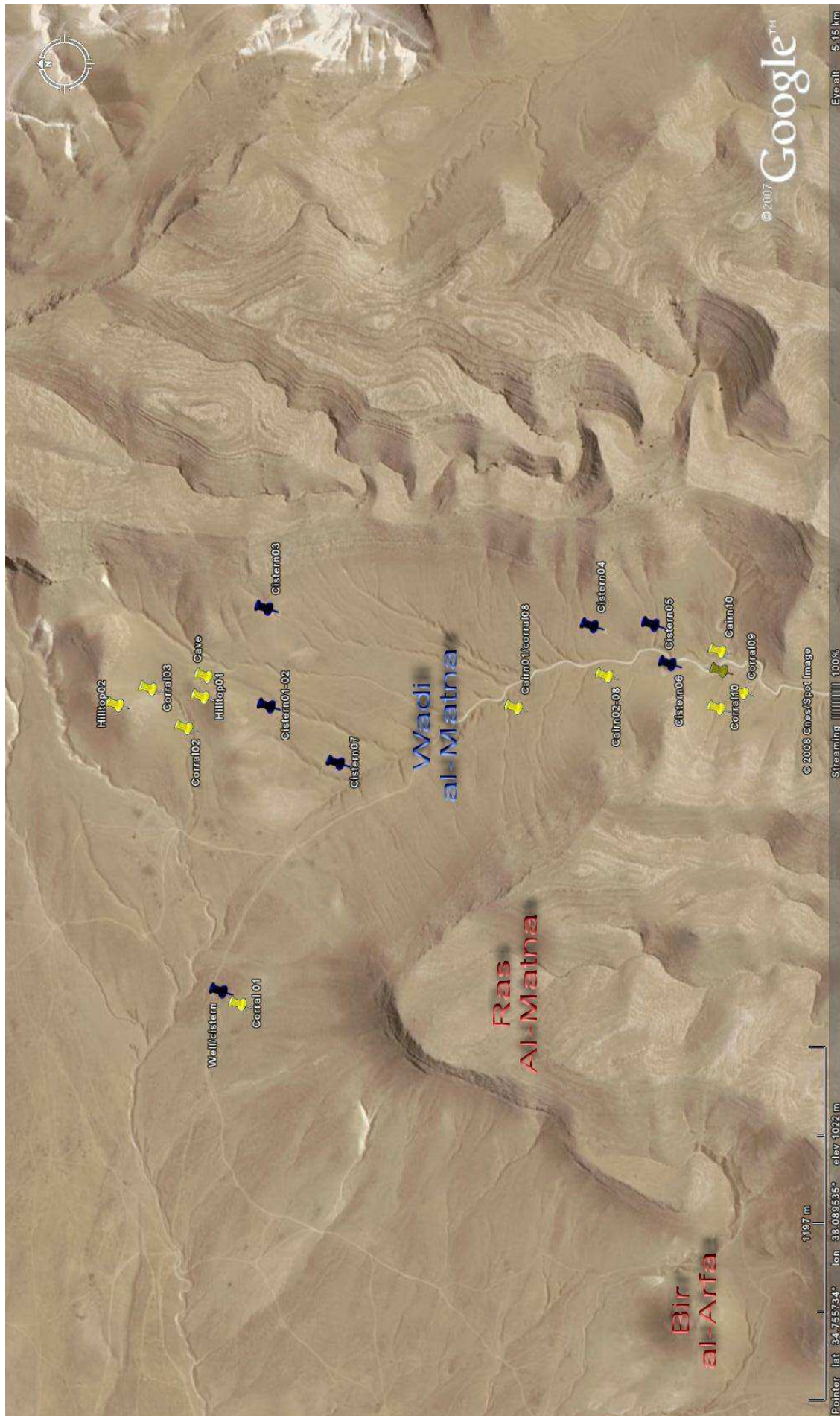




**Al-Matna: Corel 9 and 10**









**Cave al-Matna**

F. no	Site	Category	No.	Comments
1	Cave al-Matna	1.4	3	Coarse red ware
2	Cave al-Matna	1.4	2	Fine white ware
3	Cave al-Matna	4.1	1	Basalt fragment

**Corral 1 al-Matna**

F. no	Site	Category	No.	Comments
1	Corral 1 al-Matna	1.4	4	Coarse red ware
2	Corral 1 al-Matna	1.4	3	Fine red ware
3	Corral 1 al-Matna	1.4	1	Fine black ware
4	Corral 1 al-Matna	1.1	1	Fine red ware
5	Corral 1 al-Matna	1.3	2	Fined red ware
6	Corral 1 al-Matna	3.1	2	Greenish/bluish glass

**Corral 2 al-Matna**

F. no	Site	Category	No.	Comments
1	Corral 2 al-Matna	1.4	4	Coarse red ware
2	Corral 2 al-Matna	1.4	2	Fine red ware
3	Corral 2 al-Matna	1.4	1	Fine white ware

**Corral 3 al-Matna**

F. no	Site	Category	No.	Comments
1	Corral 3 al-Matna	1.1	1	Coarse red ware
2	Corral 3 al-Matna	1.4	1	Coarse red ware
3	Corral 3 al-Matna	1.4	1	Fine red ware

**Corral 6 al-Matna**

F. no	Site	Category	No.	Comments
1	Corral 6 al-Matna	1.3	1	Fine red ware

**Corral 9 al-Matna**

F. no	Site	Category	No.	Comments
1	Corral 9 al-Matna	1.3	1	Red coarse ware
2	Corral 9 al-Matna	1.4	8	Red coarse ware

**Corral 10 al-Matna**

F. no	Site	Category	No.	Comments
1	Corral 10 al-Matna	1.4	1	Red coarse ware

**Cairn 9 al-Matna**

F. no	Site	Category	No.	Comments
1	Cairn 9 al-Matna	1.5	1	Red coarse ware

## **BIR AL-ARFA**

Surveyed by JCM, JK and AA 23 APR 2008

GPS: N34.748 E38.067 Altitude: 1050 m.

Map: 1:100.000. I-37-41. 38473 74148

*Surveyed but not measured*

The site is visible on satellite images as circular upcasts at the eastern hillside of Jebel Al-Arfa to the west. On the map several wells are marked and the site is called Bir Al-Arfa. In the centre a oblong cone-shaped mountain, surrounded to the east by a northern spur from Jebel Abyad, to the south by Jebel Abyad, to the west by Jebel Al-Arfa. To the north the lower open plain. The site is 3 km from the mouth of Al-Matna, the northern part of the pass through Jebel Abyad from Tweihina. On both sides of Jebel Al-Arfa paths through the mountain descending sharply to the plain at Jazal. The paths are only suitable for sheep and goats.

The site is named after the wells, Bir Al-Arfa.

Several beduin camps north of the site, and many traces of former camps.

The site consists of the following:

1. Cairns.
2. Area 01 E
3. Area 02 S
4. Area 03 W

### **1. Cairns.**

On the western and highest edge of the cone-shaped mountain traces of large cairn. Also a few cairns at the top of Jebel Abyad to the south.

### **2. Area 01 E**

GPS: N34.74589 E38.07114

To the southeast of the cone-shaped mountain a sharp valley into the northern spur of Jebel Abyad. The water from the mountainside has created a steep wadi down to the rock with several smaller riparian wadis. At the farthest end to the east, a large natural cave. On the plateau above the cave two rows 55 cm long, slightly curved, each with 7 circular cups, carved in the rock, probably a game. To the west on the hillside of Jebel Abyad two cisterns with water catching arms diagonally up the mountainside. It is possible that the cave also have been part of a water system.

### **3. Area 02 S**

GPS: N34.74618 E38.06831

The cone-shaped mountain and Jebel Abyad is connected by a low broad ridge. On both sides of the ridge on the hillside of Jebel Abyad cisterns with short catching arms diagonally up the mountainside. The cisterns have been repaired recently. On the ridge a 8 m x 2 m. filled stone structure, orientated E-W. Purpose and date uncertain, but parallels can be found in Oman from the Bronze Age. On the ridge several uncharacteristic pottery fragments of pre-Islamic date.

### **4. Area 03 W**

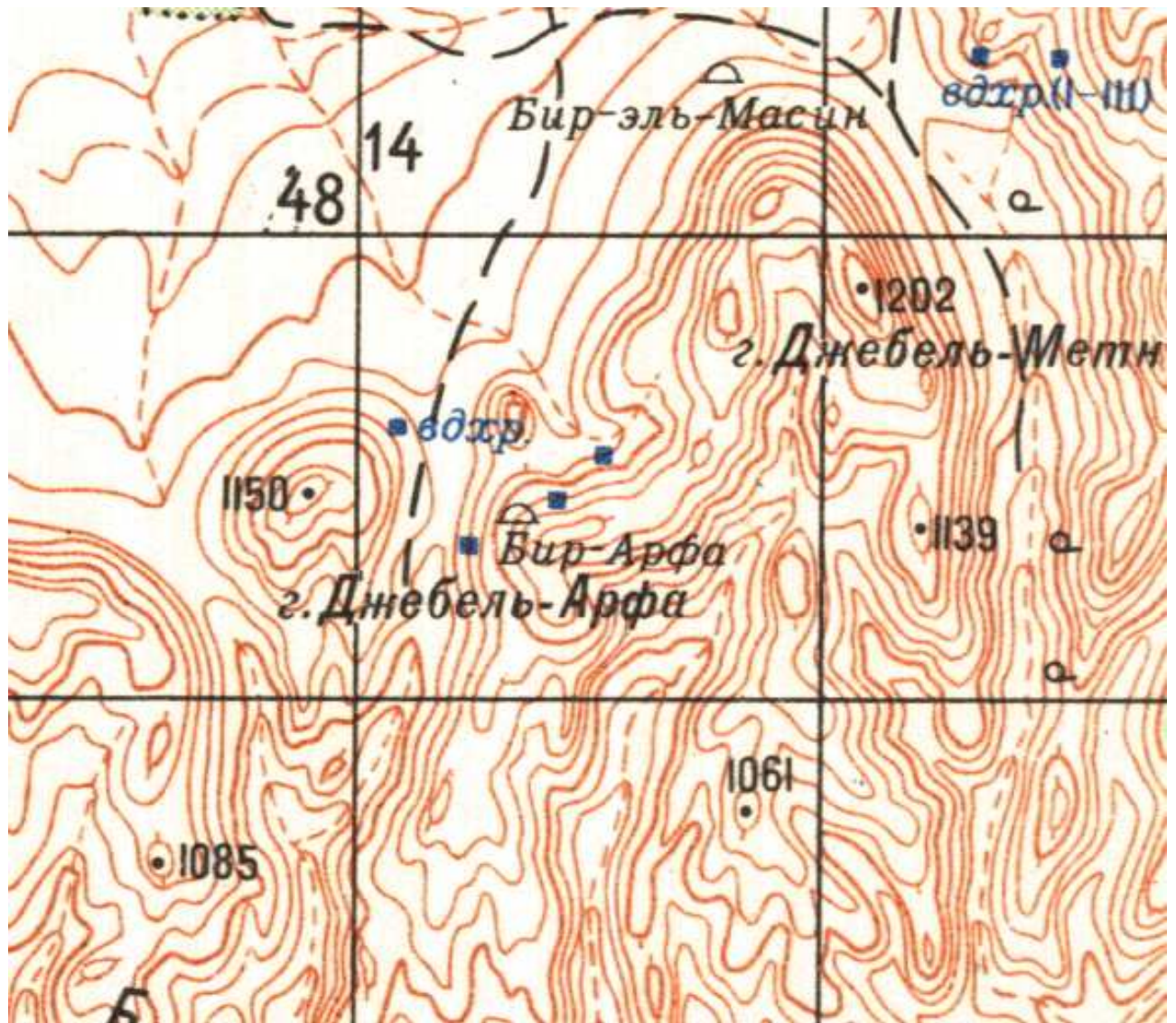
GPS: N34.74734 E38.06224

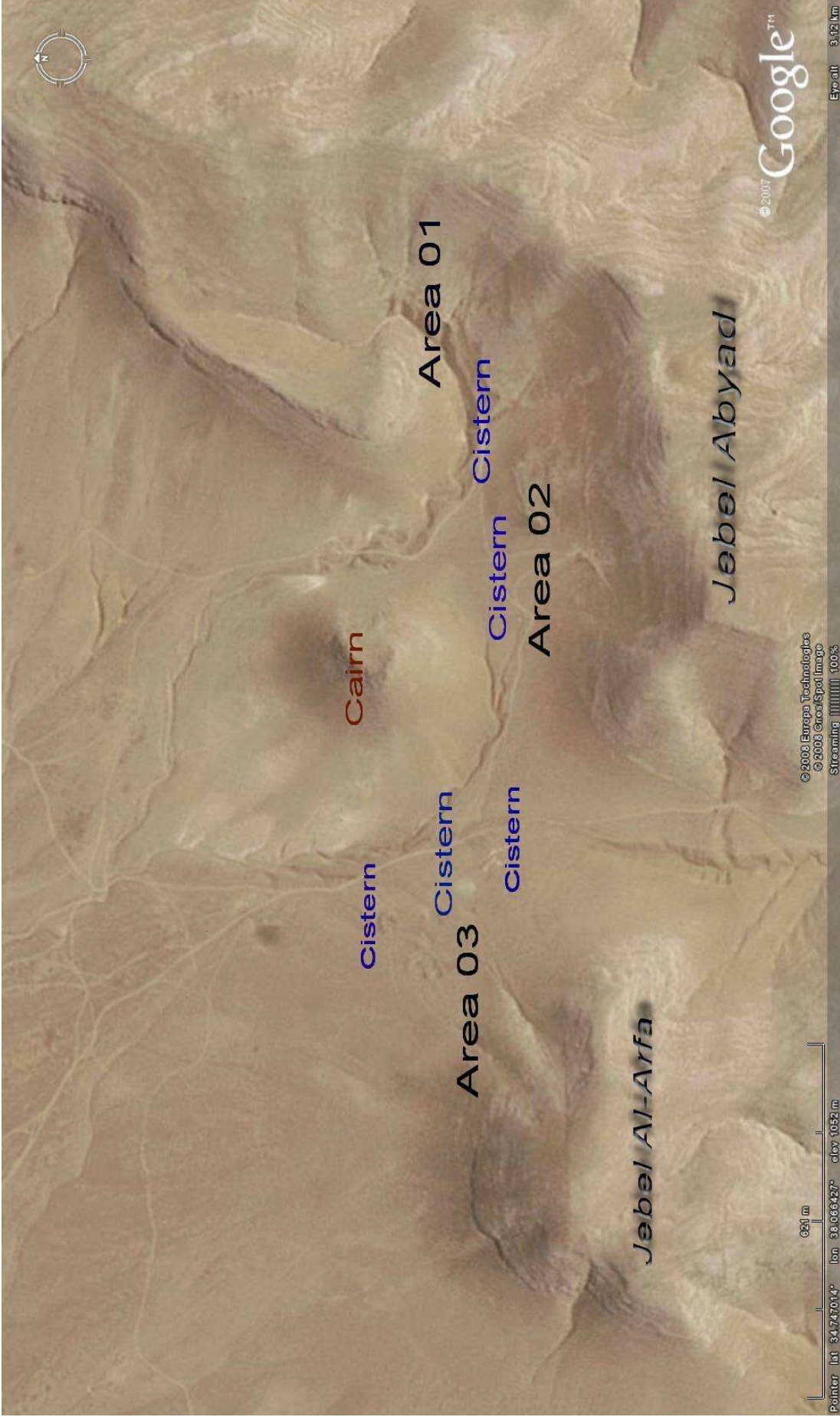
On the lower eastern hillside of Jebel Al-Arfa 3 cisterns. The southern Cistern01, has a small opening, and two distinctive catching arms constructed as low stone walls forming a fan up the mountainside. The cistern is situated on an artificial half circular plateau. The system has been repaired recently. The next, Cistern02, is filled up, and only visible as a large crater on an artificial half circular plateau. The cisterns is situated where a small wadi comes down from the mountain, but also indistinctive catching arm are visible diagonal to the mountainside. The northern cistern, Cistern03, is also situated on an artificial half circular plateau, where it forms a distinctive crater. The cistern has been filled up with sediments, but the upper part is still preserved. It has a stone lining with traces of the rope for the well bucket, and expands as a broad flask in the depth. The cistern has two long catching arm diagonally to the south and north up the mountainside, collecting the water from several small wadis. The catching arm has been constructed as a ditch, strengthened by stones along the lower edge.

#### **Comments:**

The site is not situated along major communication lines, though there is a opening i Jebal Abyad down to the plain east of Jazal. The importance of the site must be due to the possibility to concentrate several water systems, as cisterns with catching arms, around the cone-shaped mountain. The beduins are still attracted by the site, and the name Bir Al-Arfa on the map testifies to its importance as a water resource. A date of the cisterns is not possible, but the finds of pre-Islamic pottery indicates that the site have been used in ancient times, and probably also, in the Bronze Age, due to the cairns.









## Jazal

Surveyed by JCM and AA 28 MAR 2008  
GPS: N34.6936 E38.008 Altitude: 689 m.  
Map: 1:100.000. I-37-41 38414 74095

*Shortly visited, but not registered.*

The site, Jazal, is marked on Russian maps as a site with wells and some old ruins, 30 km northwest of Palmyra, and 8 km south-west of Tweihina. It lies in an long oblong valley on the south side of Jebel Abyad, with steep slopes to the mountain, with a few passes to the higher plain north of Jebel Abyad, to Zer Dghelar and Bir al-Arfa. To the south a lower range, which divides the Jazal plain from the plain west of Palmyra. To the east and south-east the landscape raises to mountain range on the western side of Wadi al-Thakara.

Jazal is most famous for the impressive caves, or monumental tombs, with traces of a temple, about 5 km to north-west (N34.72002 E37.96845). They are outside our concession. As to our knowledge they have not been registered or published. They should absolutely be the target of some future mission.

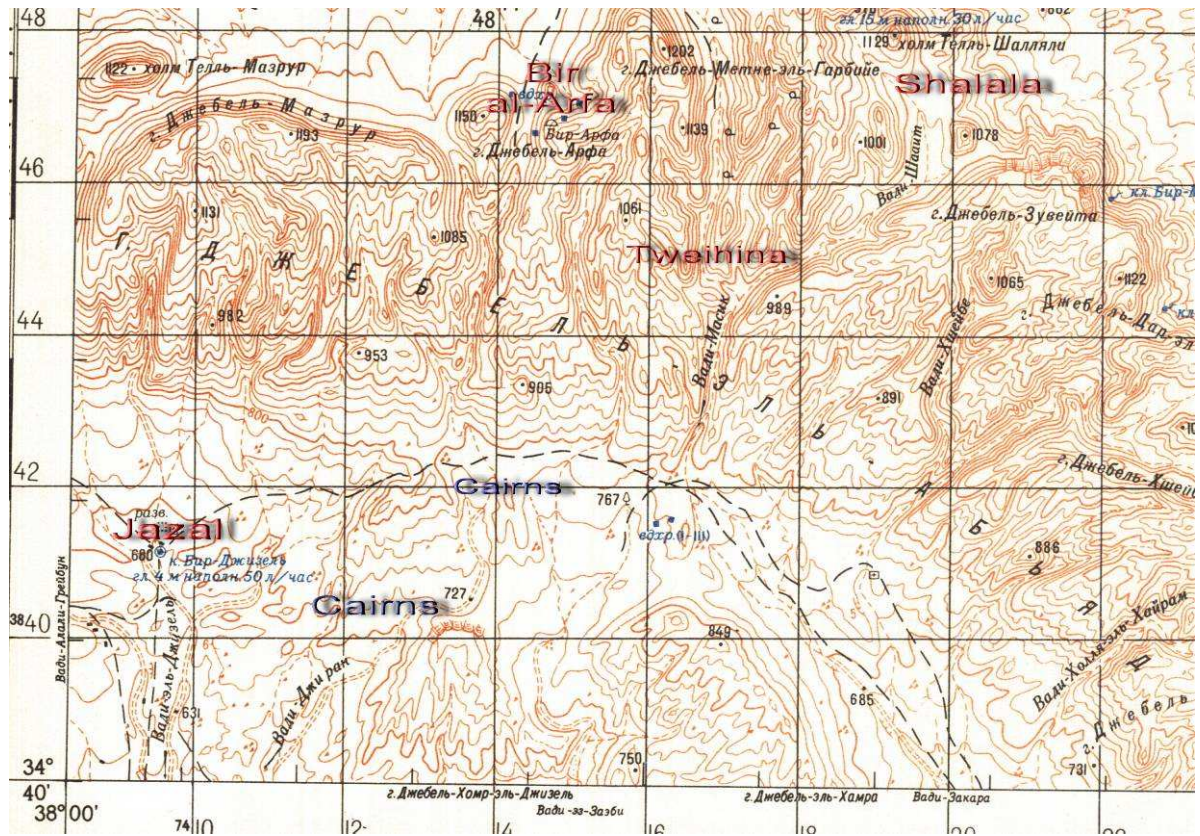
The oasis of Jazal, which lies at a open wadi from Jebel Abyad, has a few modern scattered houses, some wells connected to a small garden. Many traces of recent beduin camps. The wells are very deep, well-constructed with a stone lining in the depth, and they still give water to an enclosed garden. Not much is left of the old ruins on a slightly raised ground, only a few stretches of bases of walls and some pottery at the surface. The size and lay-out of the habitation can only be determined by excavations.

On the hilltops to the south-west several cairns are visible. 3 km from the oasis a heavy concentration of cairns, some of them with well-preserved foot chain and the original wall. They seem to mark the route from Jazal to Wadi Al-Thakara. The route now turns north-east. On the mountains to the south and the hilltops at the beginning of Wadi Al-Thakara numerous cairns.

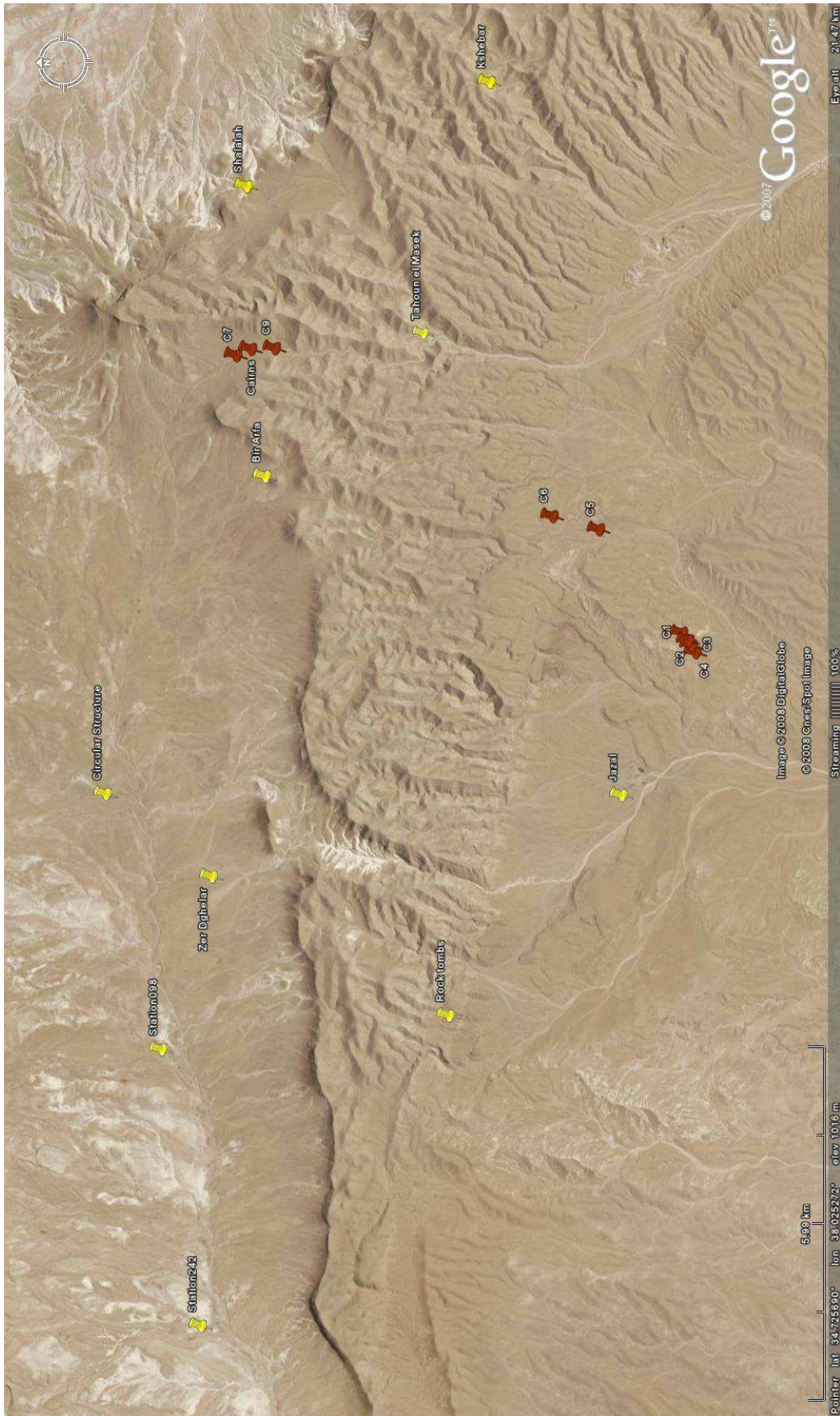
Jazal E	Cairns	N34.68448 E38.03902	700 m
Jazal E	Cairns	N34.68354 E38.03762	725 m
Jazal E	Cairns	N34.68302 E38.03669	722 m
Jazal E	Cairns	N34.68241 E38.03543	717 m
Jazal E	Cairns	N34.69720 E38.05814	767 m
Jazal E	Cairns	N34.70438 E38.06052	793 m

The cairns indicate an important communication line in the Bronze Age.

The site, especially a registration of the cairns in the area, would be an important part of future fieldwork.







## SHANAEH

Surveyed by JCM, NA, JK, ES, ABK, and AA 12 APR 2008.

GPS N34.799 E38.030. Altitude: 980 meter

Map: I-37-41 1.100.000 38530 74105

The site lies 37 km north-west of Palmyra, 10 km north-north-west of Tweihina, 24 km south-south-west of Khabar, ca 11 km east-south-east of the nearest sites at Jebel Chaar, surveyed by Schlumberger, and about 12 km east-north-east of station 242, 25 km east-north-east of Bir Djahar as the crow flies, at the plain between Jebel Chaar and Jebel Merah, on both sides of Wadi Shanaeh, coming from the north, and which turns to the west ca 6 km south-west of the site. On the western side of the wadi the landscape gently rises towards the Jebel Chaar. On the eastern side the wadi has cut into the plateau creating high escarpments. A smaller valley with a wadi from the east meets wadi Shanaeh creating hilltop to the south. The landscape east and south of the hilltop is undulating, cut through by smaller wadis. From the hilltop there is a astonishing view to the south towards Jebel Abyad and to the south-west through the broad valley between Jebel Chaar and Jebel Abyad, leading to Bir Djahar to the south-west.

On satellite images a square structure and some diggings are visible on the western side of Wadi Shanaeh, but nothing on the hilltop.

The site is named after the local name, Shanaeh, which has also given name to the wadi. According to local information the water level at the site is very close to the surface of the wadi.

There are relatively few traces of beduin camps in the area, but on the eastern slopes of Jebel Chaar there are numerous. To the south-west of the site, on the western side of the wadi traces of old beduin fields, divided into sections, about 5 to 8 m broad, made by ploughing. According to local information this division has nothing to do with property, but they are sowing markers for winter crops, barley. The yield is not intended for human consumption, but for animal fodder. Also at the slopes of Jebel Chaar to the north-west and in the area to the south-east towards Al-Matna there are several traces of old fields, with the old furrows barely visible. The fields are not situated where they receive extra water from wadis, and the agriculture has been entirely dependent on the precipitation during the winter. The local beduins can only give scanty information on the agricultural practises, division of labour etc. but an elderly women informed that her deceased mother could have given all the information. Agriculture does not seem to be part of the more recent beduin survival. However, on old Russian maps fields are marked south-east of the site, and the changes must have happened within the last generations, and is probably due to modernization in the region.

The site was visited in 1966 by a Giorgio Buccellati, Marilyn K. Buccelati, from the Oriental Institute, the University of Chicago, and Ali Taha, the Museum of Palmyra, as part of a larger survey in the area north, north-east and north-west of Palmyra. The survey covered a huge area and the main interest was traces of human settlements for the period of the second millennium B.C. However, no finds or traces of buildings at Shanaeh are mentioned in the report.

The site can be divided into two main areas, the hilltop and the wadi below, and it consists of the following:

1. Hilltop E of wadi.
  - a. Fort
  - b. Shrine
  
2. Wadi area.
  - a. Square building
  - b. Remains of small building.
  - c. Wells and cistern

**1. Hilltop E for wadi.**

- a. Fort.

GPS

NW-corner: N34.79965066 E38.03093724

NE-corner: N34.79942760 E38.03153610

SW-corner: N34.79916562 E38.03072266

SE- corner: N34.79896952 E38.03129891

Altitude. 986

The structure is not visible on satellite images, as the walls have created no visible ramparts with windblown material on the wind-swept hilltop, but appears as marked stretches of larger stones. To the west the steep slope down to Wadi Shanaeh about 30 m below. 30 m north of the structure the east-west going valley. To the east a shallow valley. To the south an oblong plateau, which to day forms the most natural approach to the site.

The preserved bases of walls form a large quadratic building, with internal towers, measuring approximately 57 x 57 m, orientated slightly to the east. All corners are preserved. The length of the north wall is 58 m, the south wall 57 m, the west wall 57 m and the east wall 56 m. The bases are constructed with outer bigger stones, measuring up to 60 cm with filling of smaller stones in the middle, thickness from 100 – 120 cm. The stones on the exterior are generally bigger than the interior. In the northern wall more flat big upright stone are use in the exterior shift, while the interior stones are remarkable smaller. In the north-east, south-east and south-west corners smaller piles of stones, partly covering the bases, indicating that the stone construction in the corners has been higher than the connecting walls, which have probably been constructed by mud bricks.

In the northwest and southwest corner traces of interior walls are preserved, thickness between 60 – 70 cm. The form rectangular rooms. The north-west room measures 9 m north south, and 7 m. east west, with traces of an interior door in the eastern wall. The south-west room measures 9 m. east-west and 7 m north-south with a 1 m broad centred door opening in the north wall. There is thus a shift in orientation of the longitudinal direction. The internal walls in the north-east and north-west corners are not similarly preserved, but the course of the outer walls indicate the same arrangement here, as the walls in the corners has been displaced about 40 cm outside to the normal walls, keeping the same thickness of 100-120 cm. However the displacement of the corner walls, being shorter, have not got the same length as the interior rooms. The reason for that is uncertain. The rooms in the corners almost certainly are traces of internal towers, not merely corner rooms, due to the replacement and the probable higher stone base for the walls.



Two distinctive gates can be observed in the south and the east wall. The southern one is 3 m wide and exactly in the centre of the south wall. Stones make a 40 cm narrow outside protrusion, 100 – 120 cm broad, on each side of the opening. In the interior traces of walls can be observed from the gate, probably rooms adjacent to the entrance. Original towers would have left a more marked traces, as in the corners. The eastern gate is 2 m broad, also with narrow 40 cm protrusions, but not so well-preserved. The gate is not exactly in the centre of the east-wall, the distance to the north-east corner being ca. 25 m, to the south-east corner 27 m. Also here faint traces of interior walls adjacent to the opening, but the area is heavily disturbed.

Neither in the west wall, which is close to the slope down to the wadi, nor in the north-wall, where the upright stone dominate in the entire length, are there any traces of gates.

Inn the south-eastern part of the structure traces of several internal walls are visible, almost rectangular to the outer walls, indicating a row of inner rooms, using the outer walls as back wall. The chronological relation to the original construction can not be determined, and some of them might be very late and secondary. In the centre of the building and south of the eastern part of the southern wall several irregular stretches of stone-walls, like corrals, which can be observed at many forts in the area. They are surely later additions by the beduins using the surviving parts of the building and the stones from it. East of the building thick layers of dung, without any ceramics, but no traces of former beduin camps.

The design of the building is surely that of a fort. It can to some extent be compared to the 4<sup>th</sup> century forts along Strata Diocletiana, where some of the forts have interior towers in the corners. However, they are much more solidly constructed with stone and thick walls. A date of the fort at Shanaeh can thus not be based on this typology, and a dating of the pottery gathered from the interior of the fort must be awaited.

Some concentration of ceramics and fragments of grinding stones in the interior. The slope down to the wadi gave surprisingly few finds.

b. Shrine

GPS: N34.79977356 E38.03100219E. Altitude: 986

9 m from the north-west corner of the fort bases for a square building, ca 5 x 5 m, orientated a little bit more north-south than the fort. The bases are constructed with outer bigger stones with filling of smaller stones in the middle, and has probably carried walls constructed by mud bricks, as there are no stone piles around the preserved stretches. Thickness of north, east and south bases ca. 80 cm, thickness of the west base 140 cm. In the east wall an opening, 2 m from south-east corner. The width of the opening can not be determined, as the northern part of the wall is heavily disturbed. Obviously a door to the interior, perhaps transposed a little to the south. The thickness of the west base is probably not equivalent to the thickness of the wall. Rather some of the base has been used as a plinth along the western wall.

The function of the square structure, comparable to the structures at TweiHina and Zer Dghelar, can only be determined by comparing it to the smaller buildings at the sites at Jebel Chaar, where they have been identified by Schlumberger as shrines, not towers, on the bases of the connected finds, and where some of the have a plinth along one of the walls. If the



structure is contemporary with the fort, and not earlier, it does not make sense to have a tower close to one of the towers of the fort.

### **Wadi area.**

Apart from the cistern, all the structures lie on the west side of the wadi, where the course of the wadi forms a curve to the east against the plateau, creating a ca. 200 m long and 100 m broad slightly raised plain on the leeward side.

#### **a. Square building (station)**

GPS: NE-corner: N34.80230889 E38.03063161, Altitude 958.

On the satellite image the square structure appears with its ramparts, formed by windblown material on top of underlying walls, or perhaps partly collapsed mud brick walls, and a depression in the middle. The material from the north-east corner has recently been removed, either by wind or water flow, exposing stretches of bases for walls, and the exact north-east corner. They are constructed with outer bigger stones with filling of smaller stones in the middle, thickness between 60 - 80 cm. The north wall is preserved for about 20 m, before it disappears into the western rampart, the east wall for about 15 m. The angle between the two walls is approximately right-angled. There are no traces of towers in the preserved corners. There are no larger stone piles along the preserved bases, and the walls must have been constructed by mud bricks.

The exact dimensions of the building can only be stipulated, but must have been close to 27 m northeast and 36 m east-west. The building is orientated about 16° to the east.

In the depression in the middle of station a heavily corroded tetradrachma, probably with very high percentage of bronze, was found. On the reverse side a Roman eagle. Probably from the 3<sup>rd</sup> century. The coin has been sent to cleaning and preservation in Damascus.

#### **b. Remains of small building.**

GPS NE-corner: N34.80265111 E38.03057899

Altitude: 958

The building, which is not visible on satellite images, lies just north of the square building. It appears as bases, constructed with outer bigger stones with filling of smaller stones in the middle, thickness about 50 cm. No piles of stone along the stretches, indicating a mud brick wall construction. The building is orientated approximately north-south, opening up to the south. The north wall, which is 32 m north of the north-west corner of the square building, is well-preserved for 23 m with both corners. The eastern wall is preserved for 20 m, the western wall for about 18 m. 6.6 m south of north-western corner traces of a partition wall, rectangular to the west wall.

The preserved southern limit of this building is very close to the square building, but it can not be considered part of the same block. The orientation is different, and the east and west wall have no connection to the north wall of the square building. It probably represent an earlier phase at the site.

Apart from the find of the coins, some ceramics, but not much.

**c. Wells and cistern**

Well 1. GPS N34.80183876 E38.03028797. Altitude 958

West side of wadi. Filled in and partly covered, appears as a crater, diameter 3.30 m. depth 1.50 m. at the high ground at the edge of the wadi. Digging-up visible on satellite image.

Well 2. GPS N34.80179936 E38.03015101. Altitude 958.

West side of wadi. A few meters south-west of well 1, at the high ground at the edge of the wadi. Appears as a crater. 2 m. down a 1.50 m. circular opening without stone lining, cut into the rock. It becomes square in the depth. Depth of the well ca. 9.7 m. The well is dry, but probably a recent re-opening of an old well. Digging-up visible on satellite image.

Well 3. GPS 34.80247411N 38.03075285E. Altitude 958.

West side of wadi. Appears as a crater. 2 m. down a circular opening with stone lining. Depth of the well 5.90 m. The well is dry. Near wadi bed. Digging-up visible on satellite image.

Well 4. GPS 3480269N 38.03109E

West side of wadi, 59 m to north-east corner of station.. Filled in and partly covered, appears as a crater, diameter 6m.

Cistern. GPS N34.8004 E38.0302

Filled in, and partly covered, appears as a crater. 57 m from and east of Wadi Shanaeh on the slope up to the hilltop fort. Probably a cistern catching the water from the hillside. No traces of catch arms.

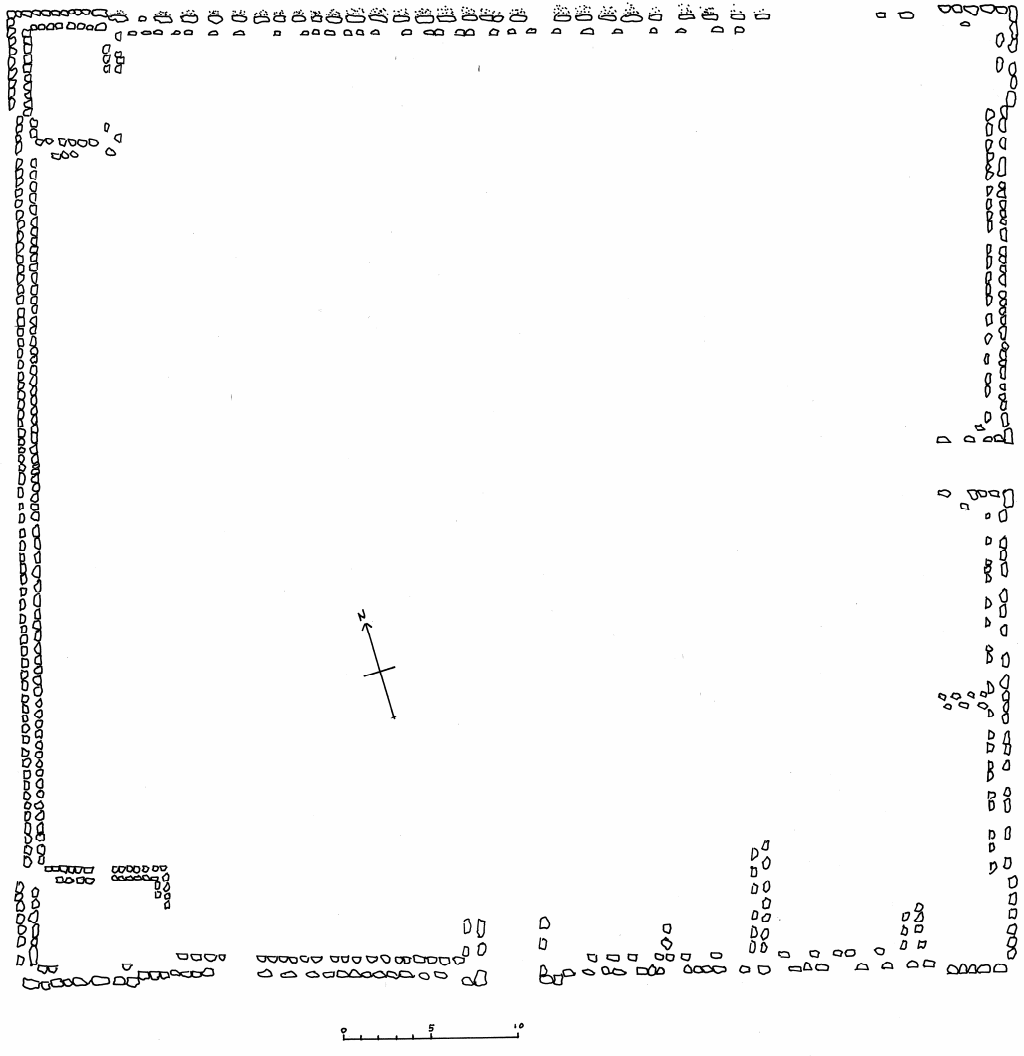
Possible well. GPS N34.80162 E38.02915. Altitude 974.

West side of wadi 90 m. south-west of station. U-shaped deep depression, 19.5 x 17 m, narrowing towards and opening up into the wadi. Possible natural formation, but it can also be trace of old well, like the big well at Khabar (well04), with huge crater, which has been cut of by changes in the wadi course. No traces of stone lining.

**Conclusion:**

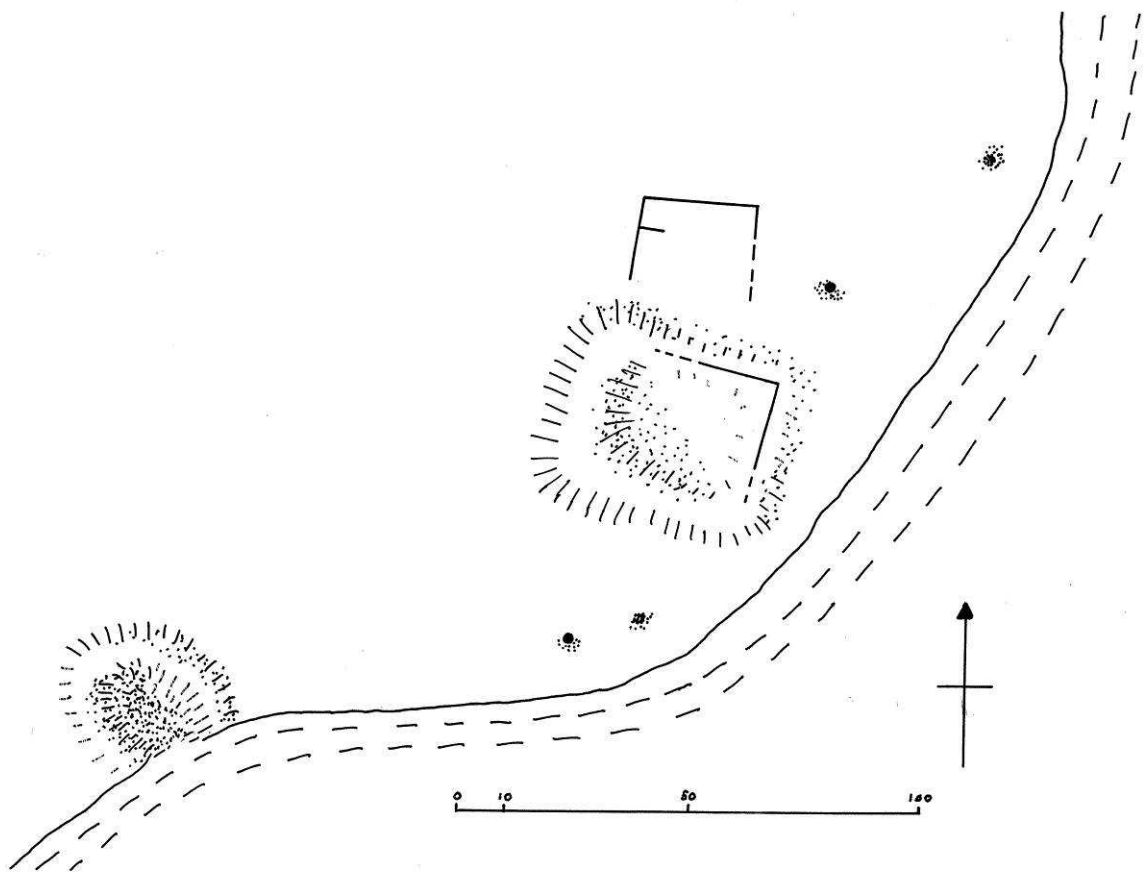
Shanaeh must have been a place of some importance. However, the position of the hilltop fort at Shanaeh does not fit entirely with the normal distance of one day's travel between

strongholds. Though the distance to Khabar in the north is 24 km, the distance to Palmyra is over 40 km, following the wadis and the valleys and the normal communication lines. The distance to station 242 to the west is only 12 km, to Twei-hina 10 km. In many ways it resembles the position of strongholds north-west of Amsareddi, which can not be positioned on normal communication lines with the logic of 1 day's travel. It is possible that the strongholds have had quite another function, as control of the territory. Speculations about this, however, need some dating of the sites, and have to be awaited.



Shanaeh: Fort on hilltop

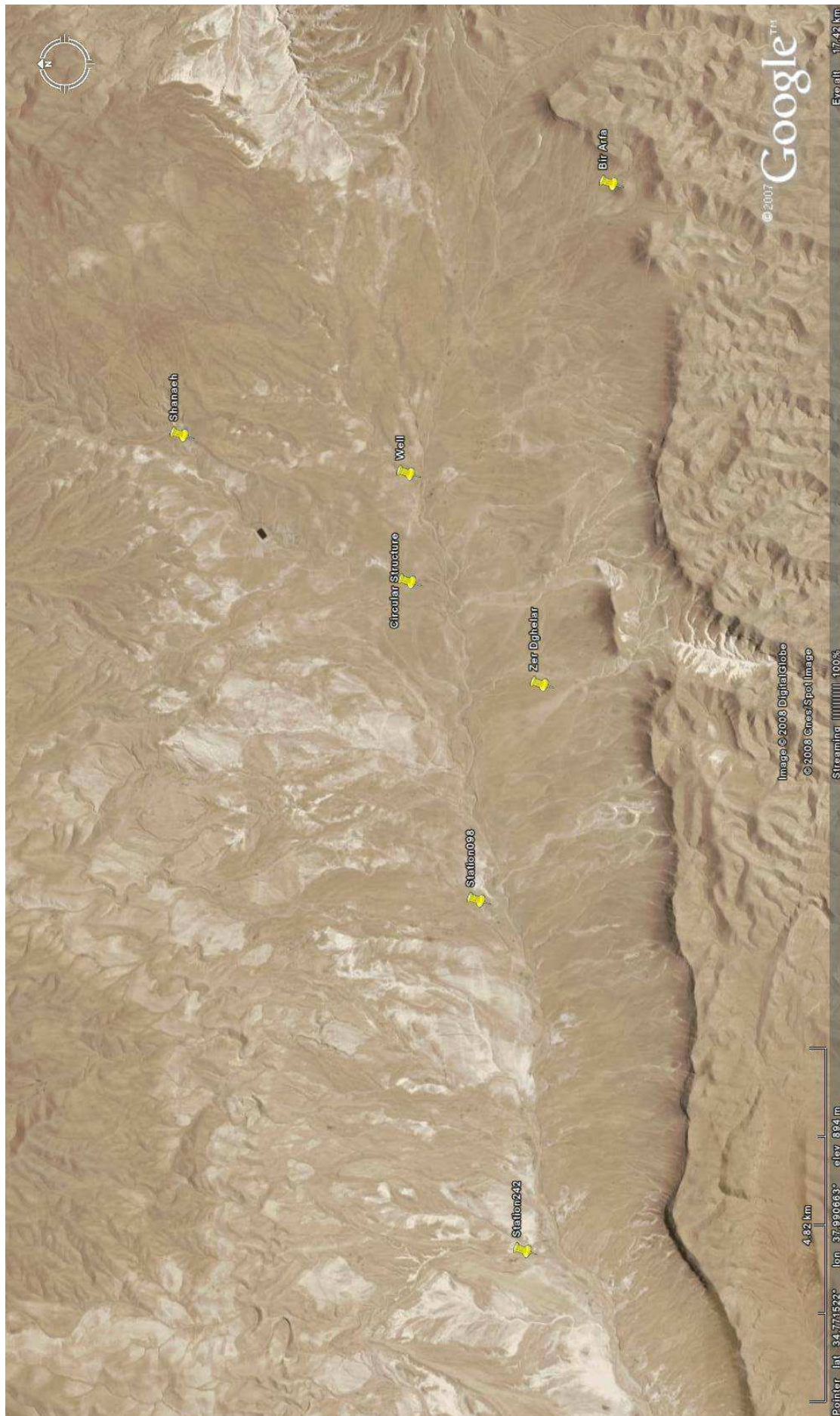




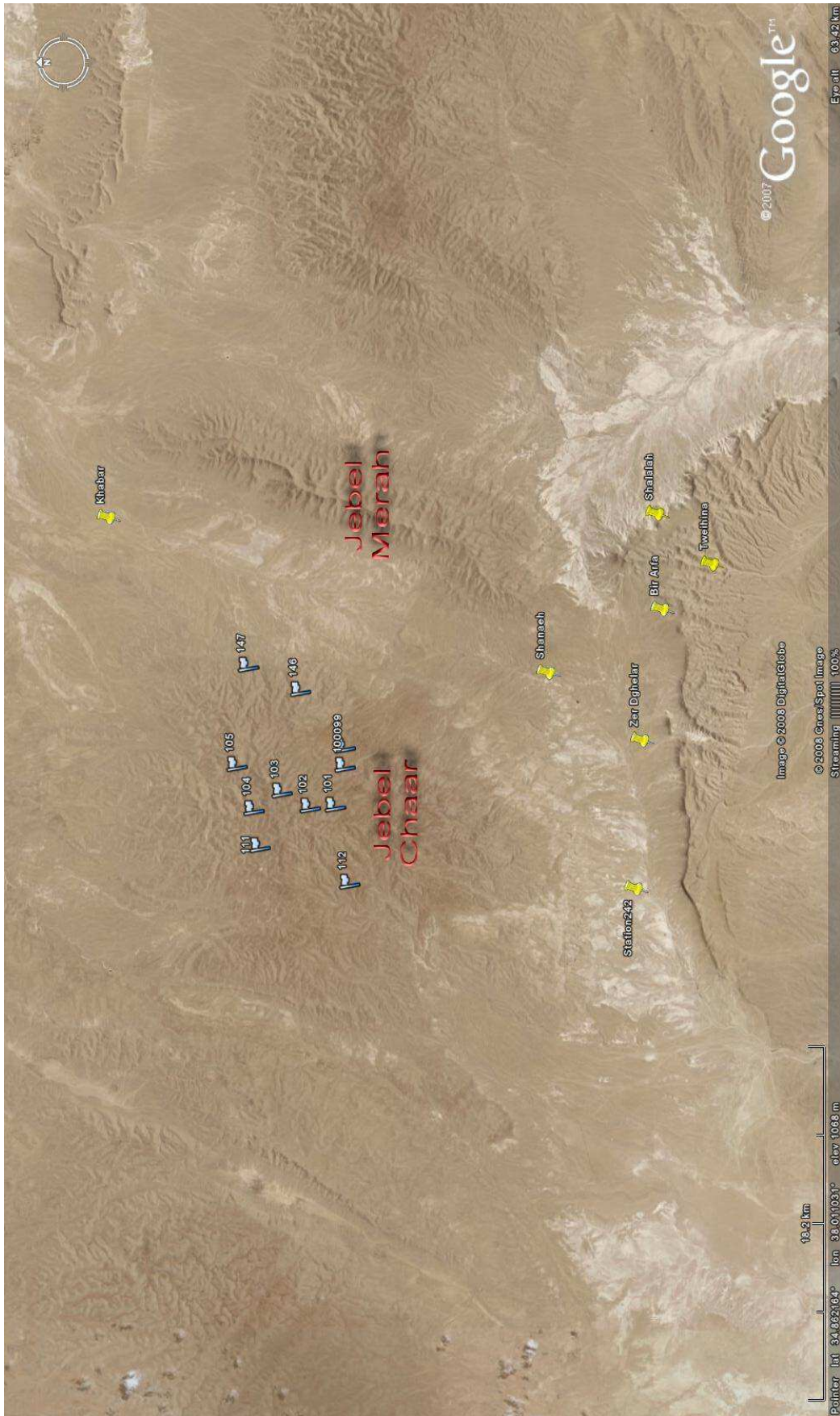
Shanaeh: Plan of wai area.



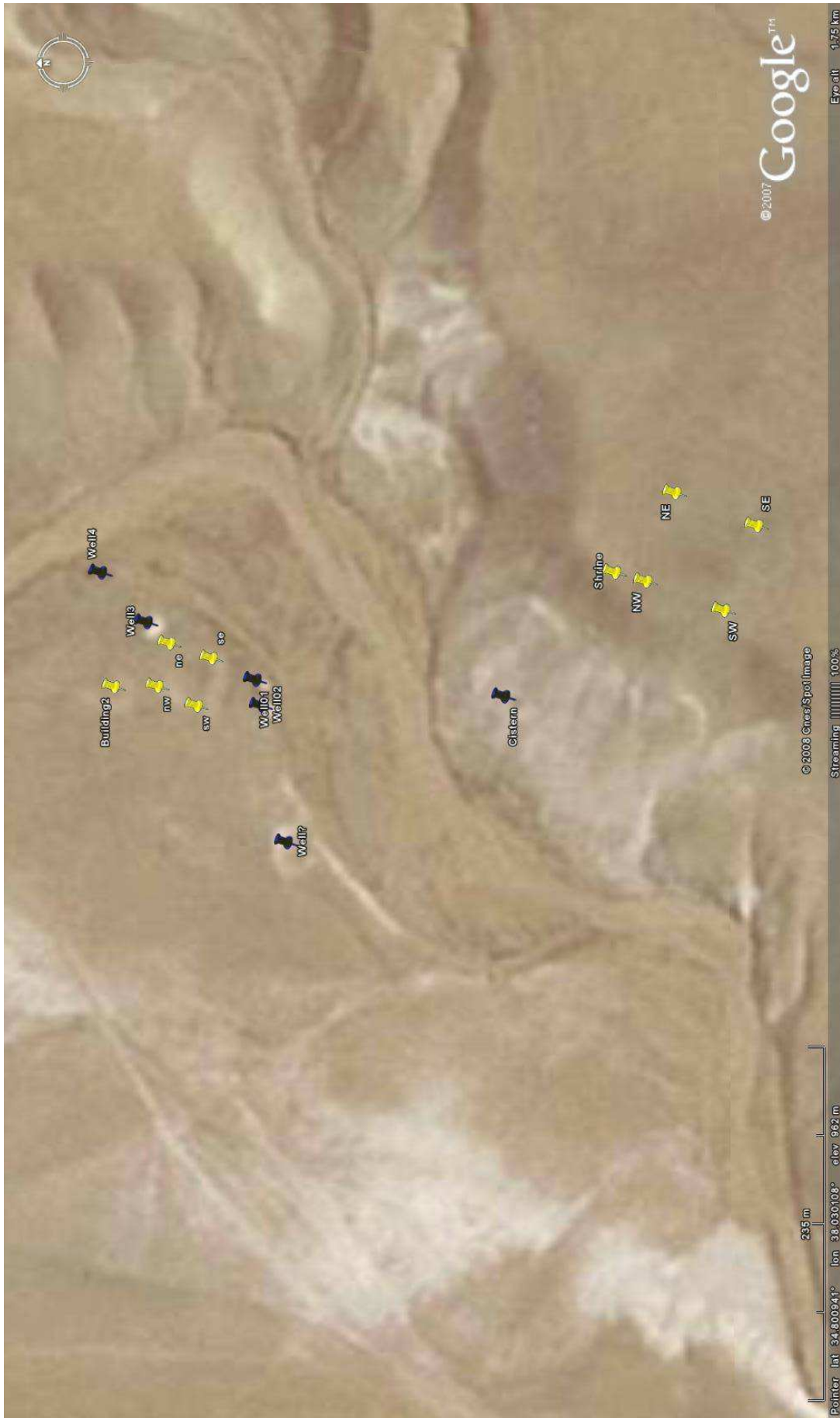












**Shanaeh, station**

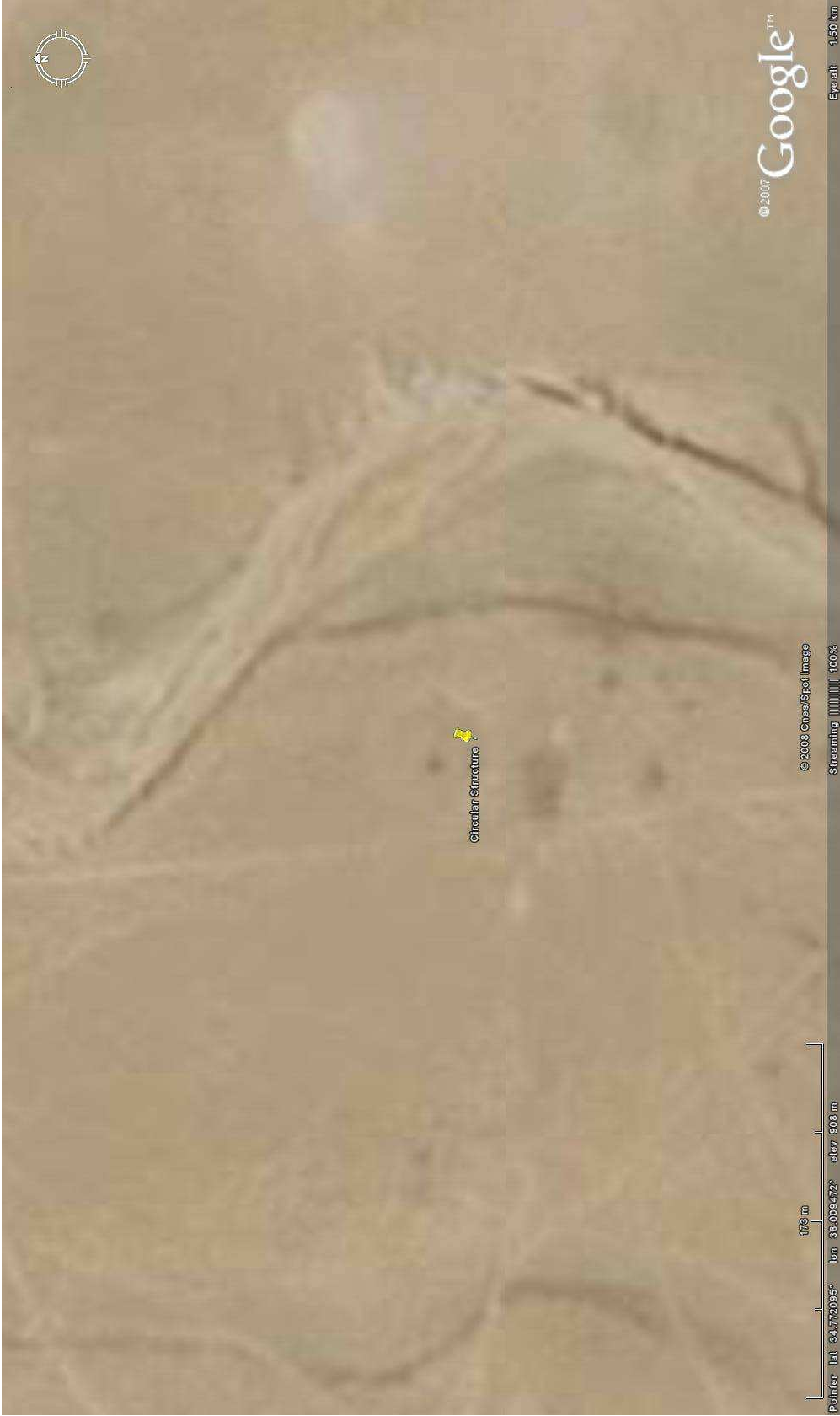
F. no	Site	Category	No.	Comments
1a	Shanaeh, station	2.1	1	Coin. Found in square structure
1b	Shanaeh, station	1.1	1	Fine white ware
2	Shanaeh, station	1.4	5	Coarse red ware
3	Shanaeh, station	1.4	5	Fine red ware

**Shanaeh, fort**

F. no	Site	Category	No.	Comments
1	Shanaeh, fort	4.1	3	Fragments, one of a grinding stone
2	Shanaeh, fort	1.5	6	Fine white ware
3	Shanaeh, fort	1.4	6	Fine white ware, body decoration with thumb impressions and incisions(lines)
4	Shanaeh, fort	1.4	4	Coarse ware
5	Shanaeh, fort	3.1	1	Greenish glass fragment
6	Shanaeh, fort	1.8	3	Glazed green and blue
7	Shanaeh, fort	1.3	7	Fine white ware
8	Shanaeh, fort	1.3	5	Coarse red ware
9	Shanaeh, fort	1.1	1	Coarse ware
10	Shanaeh, fort	1.1	12	Fine red ware
11	Shanaeh, fort	1.1	4	Fine white ware
12	Shanaeh, fort	1.4	10	Fine red ware
13	Shanaeh, fort	1.4	27	Coarse red ware
14	Shanaeh, fort	1.4	34	Fine white ware







## ZER DGHELAR

Surveyed by JCM, JK, NA, ABK and AA 16 APR 2008

GPS: N34.755 E37.994 Altitude: 920 m.

Map: I-37-40. 1:00.000. 38482 74081

The site, which is not visible on satellite images, lies in the open landscape close to Jebel Abyad, south of Wadi Shanaeh, on the western side of a small wadi from Jebel Abyad, 6 km south-south-west of Shanaeh, 8 km east of station098 and 6.3 km west of Bir al-Arfa. The small wadi leads up to a pass through the mountains down to Jazal to the south. The path through the mountains is descending sharply through a wadi down to the plain at Jazal and is only suitable for sheep and goats.

400 m. North of the site on the western side of a small wadi a small hill with a recent tumble-down building. Between this and the foot of Jebel Abyad traces of several beduin camps.

The site is named after the pass through Jebel Abyad, Zer Dghelar.

The site consists of the following:

1. Square structure, well and stone structure east of wadi.
2. Cairn at hilltop.
3. Wells south and southwest of hilltop..

### **1. Square structure, well and stone structure east of wadi.**

GPS: N34.75571 E37.99460

Base for square building, 7.10 x 7.10 m. The walls are 60-70 cm. thick, with outer bigger stones with filling of smaller stones in the middle. Probably bases for mud brick walls. No traces of doorway.

19 m. southeast of building filled up well, appearing as a crater, diameter 6 m.

12 m. south of building curved line of stones 5 x 7 m. Remains of corral?

Finds: Between the building and the line of stones fragments of course ware and handles.

### **2. Cairn at hilltop.**

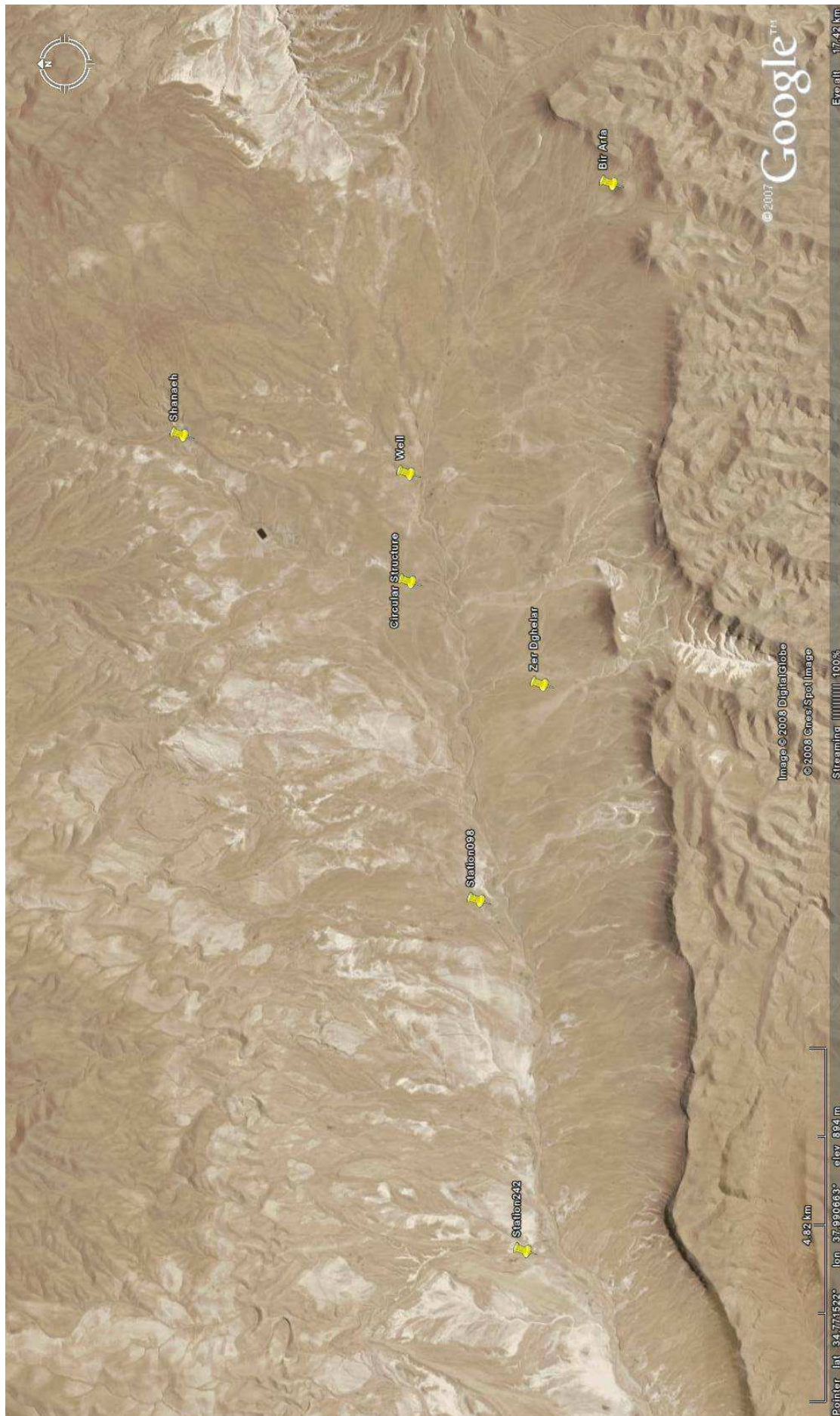
GPS: N34.75236 E37.99373

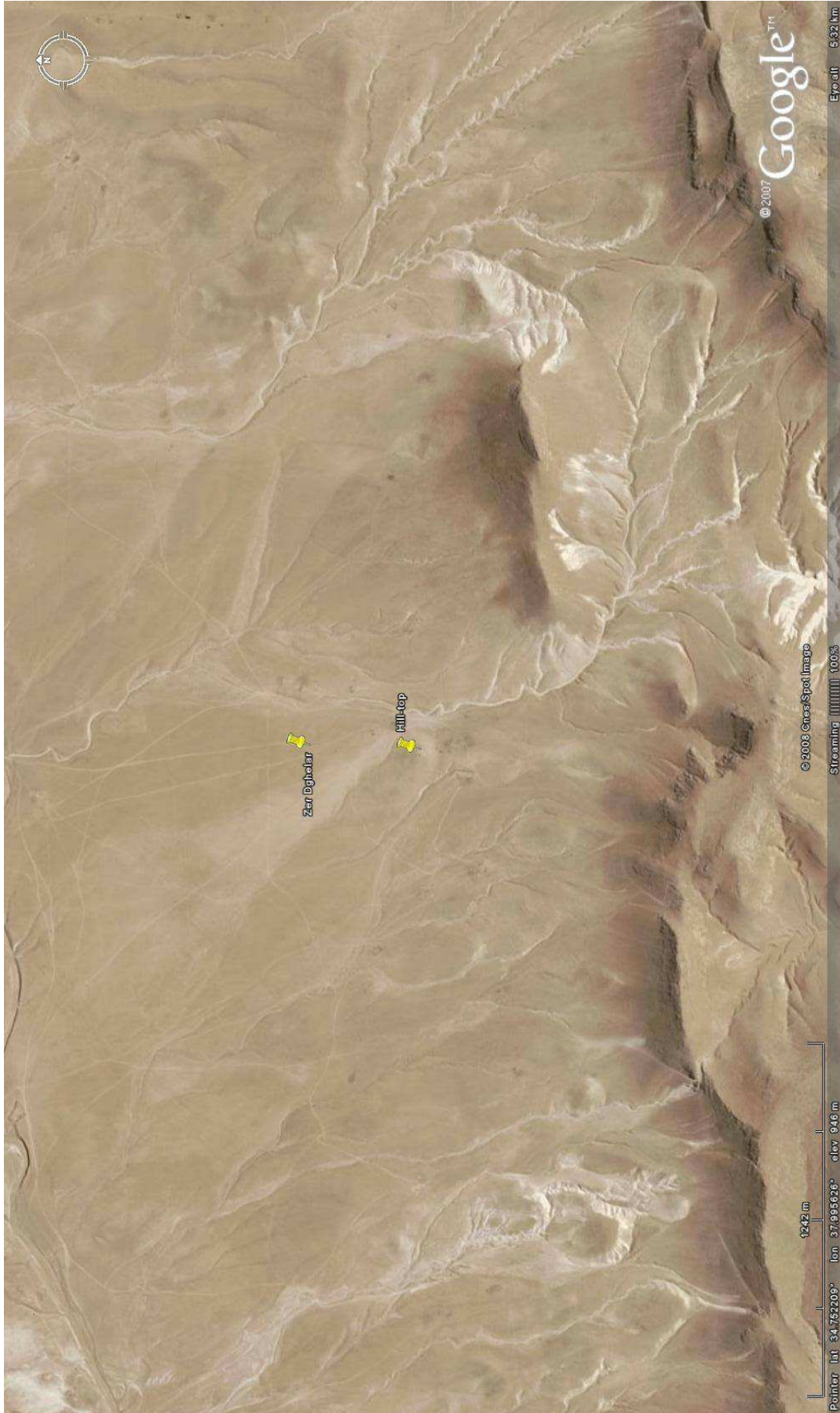
Ca. 30 m. west of modern building remains of cairn, heavily destroyed by modern digging. It must have been very pronounced in the landscape due to it's position on the hilltop. *Not measured..*

### **3. Wells south and southwest of hilltop.**











**Zer Dghelar**

F. no	Site	Category	No.	Comments
1	Zer Dghelar	1.1	1	Fine red ware

**Zer Dghelar, tower (NA)**

F. no	Site	Category	No.	Comments
1	Zer Dghelar, tower	1.1	2	Fine red ware
2	Zer Dghelar, tower	1.1	1	Coarse red ware
3	Zer Dghelar, tower	1.3	2	Fine red ware
4	Zer Dghelar, tower	1.3	1	Coarse red ware, lug handle
5	Zer Dghelar, tower	5.2	1	Retouched flint flake

## Station 098

Surveyed by JCM, JK, NA, ABK and AA 16 APR 2008

GPS: N34.76340 E37.96234. Altitude: 880 m.

Map: 1:100.000. I-37-40 38490 74050

*Registered, but not measured.*

The site, which is not clearly visible on satellite images, lies in the open landscape between Jebel Chaar and Jebel Abyad with a good view of the surrounding territory, 8.4 km east-south-east of Shanaeh, 4.8 km east of station 242, 17 km northeast of Bir Djahar and 16 km northwest of Twei-hina (through the pass in Djebel Abyad). Visible in the landscape as a tell north of Wadi Shanaeh, where the wadi makes a sharp S-turn. North of the station a smaller wadi-reach, creating a small hill. No traces of former wells close to the tell.

Some traces of former beduin camps in the area and on the tell. Eastern part of the tell a small Islamic cemetery.

The site consists of the following:

1. Building on the tell.
2. Stretch of wall east of tell.

### **1. Building on the tell.**

Several bases of walls on the southern side of the tell, 80 cm. thick, with outer bigger stones with filling of smaller stones in the middle. Probably bases for mud brick walls. The southern east-west stretch measures ca. 29 m. with distinct corners, with walls to north. No traces of towers. The western wall runs to the north ca. 20 m before it disappears into the digging on the top of the tell, the eastern wall ca. 10 m. 4 m. north of southern wall, and parallel to it, reaching both the west and east wall, a stretch with lesser thickness, ca. 60-70 cm. Even if there are no traces of north-south partitions between the walls, this indicates a series of rooms against the southern wall opening into the interior of the building. As the tell to the north has a distinct delimitation down to the northern wadi-reach, the size of the building can be calculated to be approximately 30 x 30 m.

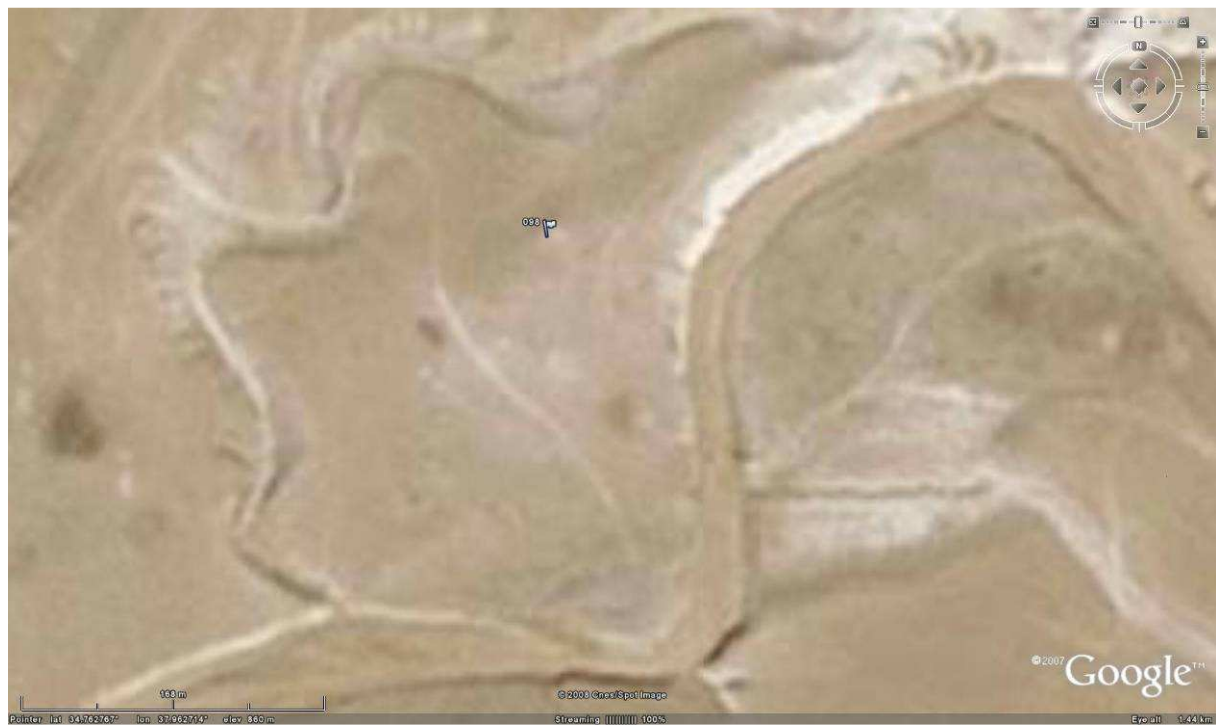
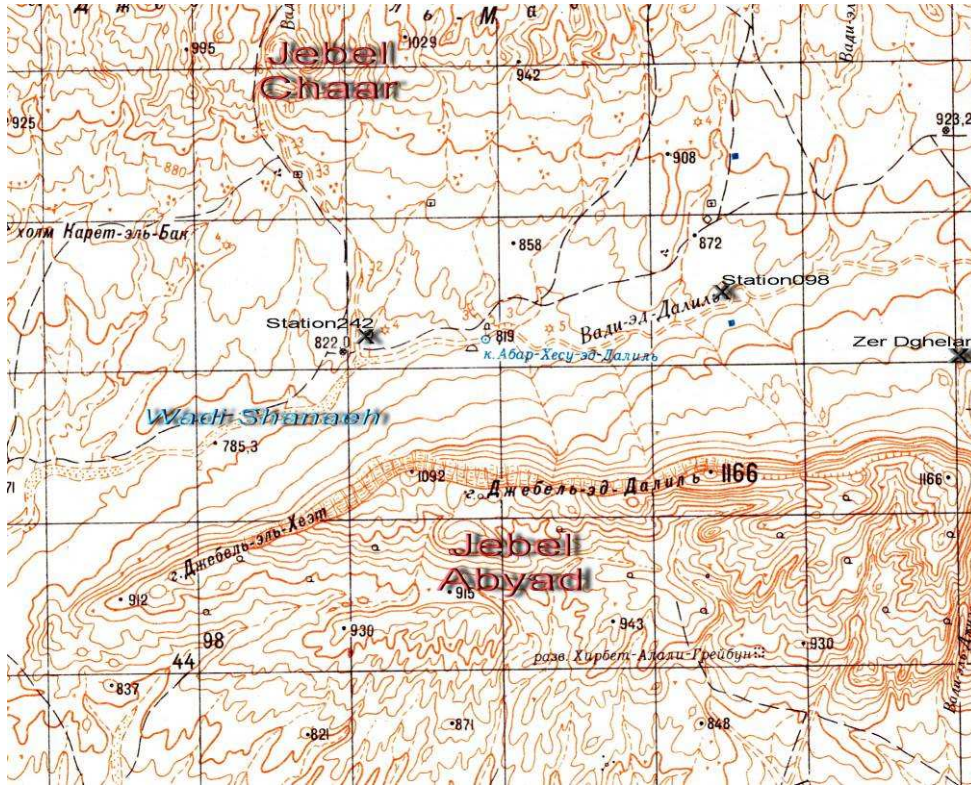
### **2. Stretch of wall east of tell.**

On the eastern edge of the hill, where the Wadi Shanaeh cuts into the hill, remains of a more solid wall with bigger stones, orientated east-north-east. The stretch is preserved for ca. 5 m. and is sharply cut off, indicating a new reach of the wadi.

### **Conclusion:**

The site lies on a natural communication line from east to west towards Bir Djahar. The distances to surrounding sites, the bigger station 242 (4 km), and Shanaeh (8.4 km) are very short, however, and the function of the building is not clear.





## Station 242

Surveyed by JK, JK, JCM, NA, ABK and AA 16 APR 2008

GPS: N34.76340N E37.96234. Altitude: 810 m.

Map: 1:100.000. I-37-40 38490 74050

*Registered, but not measured. Outside concession.*

The site, which is not clearly visible on satellite images, lies in the open landscape between Jebel Chaar and Jebel Abyad with a good view of the surrounding territory, 12 km west-south west of Shanaeh, 13 km northeast of Bir Djahar, 4.8 km west of station098 and 21 km from Twei hina through the pass in Jebel Abyad. The site visible as a 100 m. oblong (S-N) tell on a hill where Wadi Shanaeh meets a wadi from Jebel Chaar to the north, ca. 100 m. north of wadi Shanaeh and immediately east of the wadi to Jebel Chaar. To the east the site is delimited by a smaller north-south wadi. The wadi to Jebel Chaar has created a steep slope to the west.

On the eastern side of the tell, which falls gently down to the wadi, several bases of walls, 80 cm. thick, with outer bigger stones with filling of smaller stones in the middle. Probably bases for mud brick walls. The eastern stretch measures approximately 60 meters, with a distinct corner to the north. At the south modern digging has destroyed the corner, but the position can be calculated by the direction of the southern wall. There are no traces of towers. Exactly in the middle of the eastern wall a gate, about 4 m broad. The northern wall runs for about 30 meters from the corner to the west, where it disappears into the tell. The southern wall is well preserved in some section and it also disappears into the tell. Modern digging has revealed 2 internal rooms up to the southern wall. The partitions are well constructed and the base for the walls goes about 50 cm. into the ground. As the tell to the west has a distinct delimitation because of the wadi, the size of the building can be calculated to be approximately 60 x 60 m, but the wadi to the west may have changed its stretch.

### **Conclusion:**

The building is well-constructed, with deep bases, and larger than station098. It does not seem to be a village. The site lies on a natural communication line from east to west towards Bir Djahar, and also to Jebel Chaar to the north. Even if no wells has been registered, the wadis around the hill must have good water potential. The exact function of the station in relation to the surrounding sites is unclear.







## **KHABAR.**

Surveyed by JK, JCM, ABK and AA 01 – 02 APR 2008

GPS: N35.002 E38.116 Altitude: 800 meter.

Map: I-37-29. 1:10000. 35753 74196

The site is 52 km north of Palmyra (two day's travel), 28 km. North of Tweihina (one day's travel), and 21 km south east of Fasida (1 day's travel), as the crow flies on the northern part of the broad plain between Jebel Chaar to the west and Jebel Merah to the east. It lies at Wadi Khabar which flows from south to north. Both the station and some of the wells are clearly visible on the satellite photos. On the Russian map a building is marked on the site, and this must be the small building of recent date in the station.

The site is named after the local name, Khabar. The landscape is very open and the site is exposed to the strong wind between the mountains.

Several traces of recent and former beduin camps west and north-west of the site, which are also visible on the satellite photo. No traces of beduin fields in the area.

The sites consist of the following.

- 1a. Station west of Wadi Khabar.
- 1b. Desolated building in station.
2. Buildings east of Wadi Khabar on small hilltop.
3. 13 wells east and west of Wadi Khabar.

### **1a. Station.**

GPS:

NW-corner: N35.00291598 E38.11645209

NE-corner: N35.00273370 E38.11706835

SW-corner: N35.00240152 E38.11627897

SE-corner: N35.00223326 E38.11691285

Orientation: North-south axis  $16.57^\circ$  towards the east.

The station appears both on satellite photos and in the landscape as a square structure with ca. 7 m. broad ramparts and a marked depression in the middle about 90 meters west of Wadi Khabar. The ramparts have been formed by windblown material on top of underlying walls. The size of the structure, measured from the middle of the ramparts is approximately 60 x 60 m. perhaps with a little bit longer south wall. The ramparts have been partly destroyed by bulldozers. Half of the northern wall and the north-eastern corner are heavily damaged, and in the south wall a track cuts through the wall. There has been recent digging in the south-west corner.

The walls of the building are not visible, even where the bulldozers have made their tracks. There are no traces of towers in the corners, neither internal nor external. They can not be excluded entirely, but one would have expected the ramparts to show signs of them. No traces of gates or internal walls.

The square structure can safely be identified as a station on the communication lines north-south between Jebel Chaar and Jebel Merah, being about one day's travel north of Twei-hina to the south.

Finds: a lot of ceramics, red texture, and some glass. No hard-burned metallic ceramics or Islamic pottery.

On the south-east corner a more recent building (1.b).

### **1b. Rectangular building on south-east corner of station..**

The building, which is clearly visible on satellite images is constructed on the top of the southern rampart close to the south-eastern corner. It measures 9.6 x 4.6 m and is divided into two rooms. The walls are well-constructed with outer bigger stones with a filling of smaller stones in the middle, ca. 70 cm broad. Stones from the collapsed building surround the walls. The southern wall rests on the middle of the rampart, whereas the eastern short wall is about 2.5 m to the west of the middle of the rampart. The openings of the building seem to have been to the south, as the northern well-preserved wall show no signs of doorways. The building is obviously much later than the fort, probably constructed within the last 200 years. It is interesting to note that the building technique is the same as in ancient buildings with mud bricks.

## **2. Buildings east of Wadi Khabar.**

GPS.

Northern limit of northern walls: N35.00193928 E38.11901600

Southern limit of northern walls: N35.00179489 E38.11898167

Orientation north-south.

Remains of southern walls: N35.00163156 E38.11897033

190 m west of station on the eastside of Wadi Khabar a marked natural hilltop, ca. 100m long north-south and 30 m east-west. The southern part of the hilltop, ca 30 m long is the highest part, whereas the northern part forms a prolonged lower plateau. Wadi Khabar has cut through the hilltop from the west, creating a marked profile, and in antiquity the hilltop must have extended much further to the west.

The southern part is much destroyed by recent diggings, and several Islamic tombs. Traces of walls, 80 cm broad, constructed with outer bigger stones with a filling of smaller stones in the middle. Stones in the wadi-profile shows that the buildings have extended to the west.

On the lower northern plateau a 17 m long wall has been preserved with distinct partition walls to the west, cut by Wadi Khabar. The partition walls are clearly visible in the wadi-profile. They are constructed with the same technique as the walls on the southern part of the hilltop, ca. 80 c. broad. The preserved north-south wall does not form a straight line, but has a marked angle.

From the preserved walls, due to erosion at Wadi Khabar, it is not possible to get an idea of the original buildings. Large amounts of ceramics, including hard burned metallic types on all the hilltop, and in the wadi-profile.

### 3. Wells.

The site has a very high amount of wells, both on the eastern (6) and western side (7) of Wadi Khabar, north and northwest of the station, some of them still in use and maintained by the local beduins, especially east of Wadi Khabar, others filled up, the most distant the 637 m from the station. This shows the great potential of the site for water from the bottom of Wadi Khabar.

Well 01: (N35.00269131 E38.11731946). West of Wadi Khabar. 18 m from north-east corner station. Filled in and covered, appears as a crater, 11 m diameter.

Well 02: (N35.00513956 E38.11860719). East of Wadi Khabar. Circular well with rectangular opening at the top. Stone lining, opening slightly at the bottom. Rectangular stone at the top shows traces of the rope for the well bucket. The opening of the well has been changed recently, making it smaller.

Well 03: (N35.00608832 E38.11888941). East of Wadi Khabar. Stone lining, circular opening 90 cm in diameter, opening slightly to the bottom. In recent times a concrete trough has been constructed to the east.

Well 04: (N35.00667034 E38.11913036). East of Wadi Khabar. Huge crater, 20 m in diameter with a depth of 5 m. Traces of stone lining at the bottom. Probably old well, where diggings up trough time have created the crater.

Well 05: (N35.00659913 E38.11938710). East of Wadi Khabar. Stone lining, diameter of opening 1 meter. Repaired with concrete in recent times.

Well 06: (N35.00698068 E38.11963443). East of Wadi Khabar. Filled in, and almost entirely covered. Appears as a crater.

Well 07: (N35.007483851 E38.12023803). East of Wadi Khabar. Surrounded by crater. Oblong opening, surrounded by stones, 75 x 34 cm.

Well 08: (N35.003161351 E38.11761261). West of Wadi Khabar. Filled in, covered and appears as a crater, 10 m in diameter.

Well 09: (N35.003324601 E38.11766761). West of Wadi Khabar. Filled in, covered and appears as a crater, 10 m in diameter. Close to well 08.

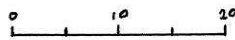
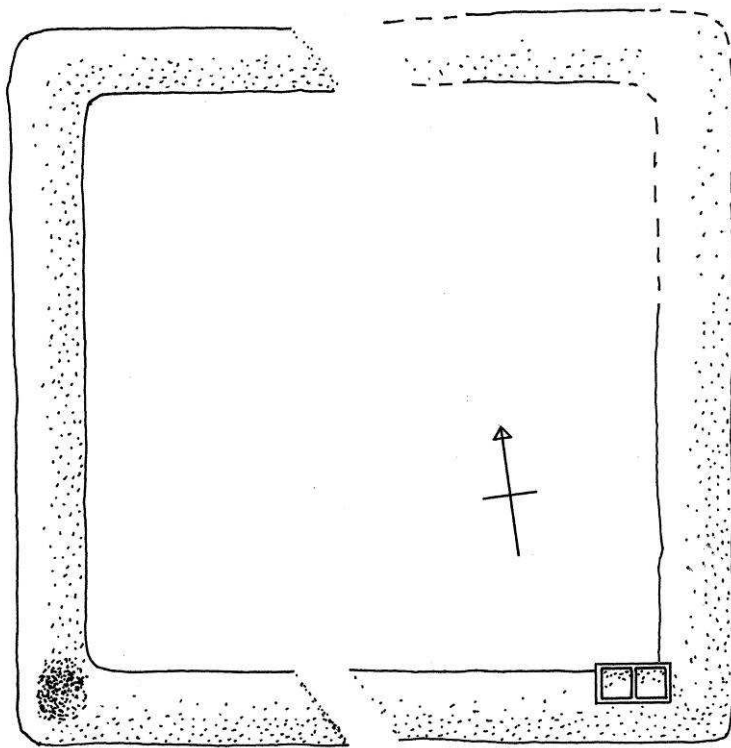
Well 10: (N3500375200 E38.11769556). West of Wadi Khabar. Well in cater. Stone lining. Diameter of opening 1.80 cm.

Well 11: (N35.00496900 E38.11705165). West of Wadi Khabar. Filled in, covered, appears as a crater, diameter 10 m.

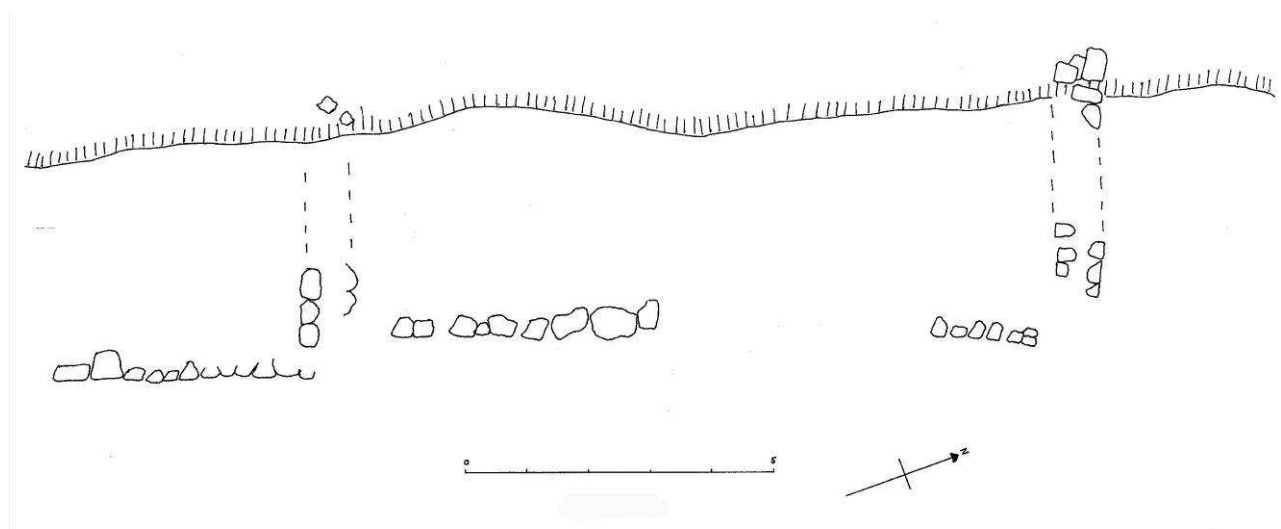


Well 12: (N35.00400 E38.11767). West of Wadi Khabar. Well with circular opening, 1 m in diameter. Stone lining.

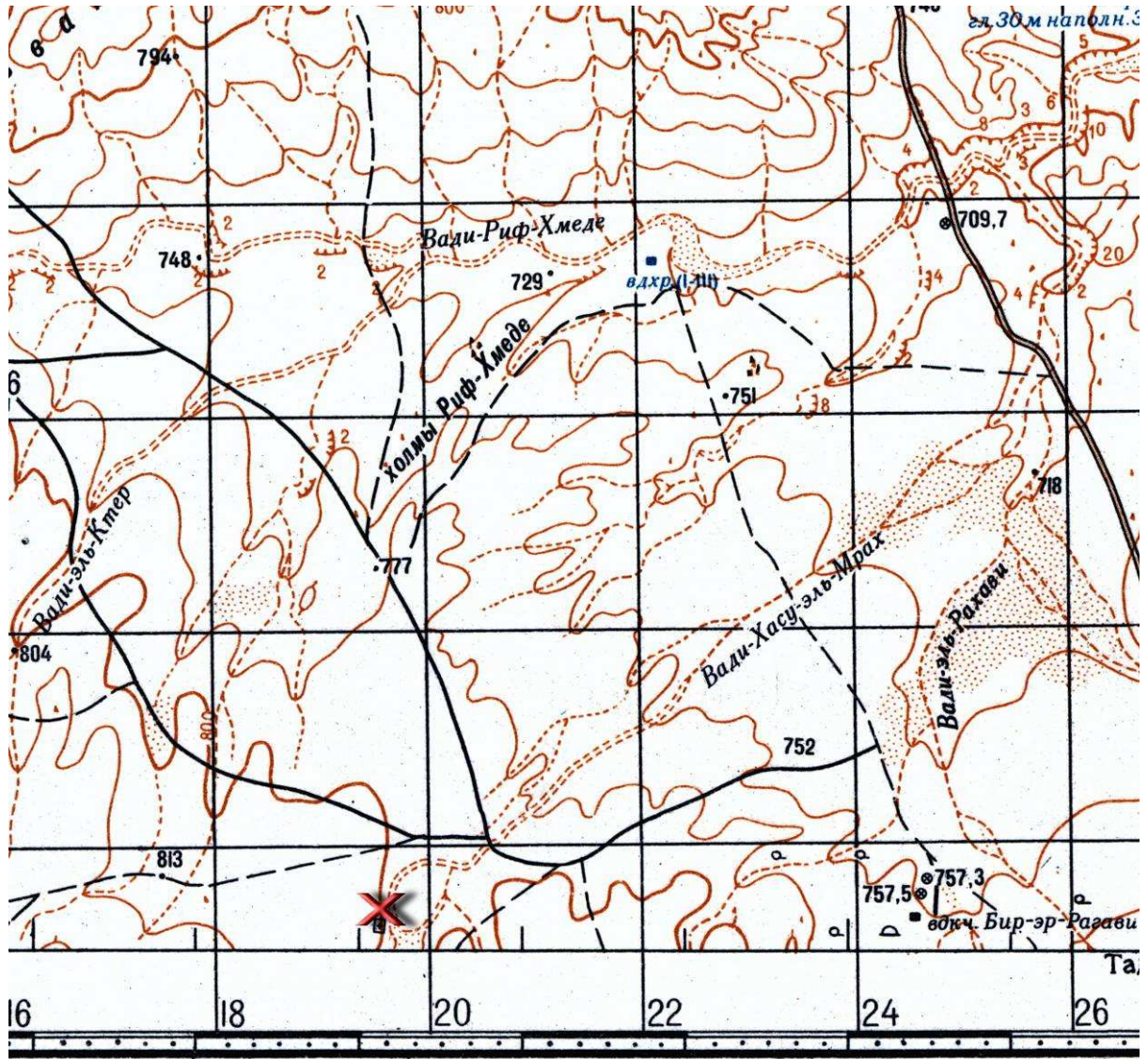
Well 13: (N35.00505 E38.11696). West of Wadi Khabar. Filled in, almost covered, appears a crater.



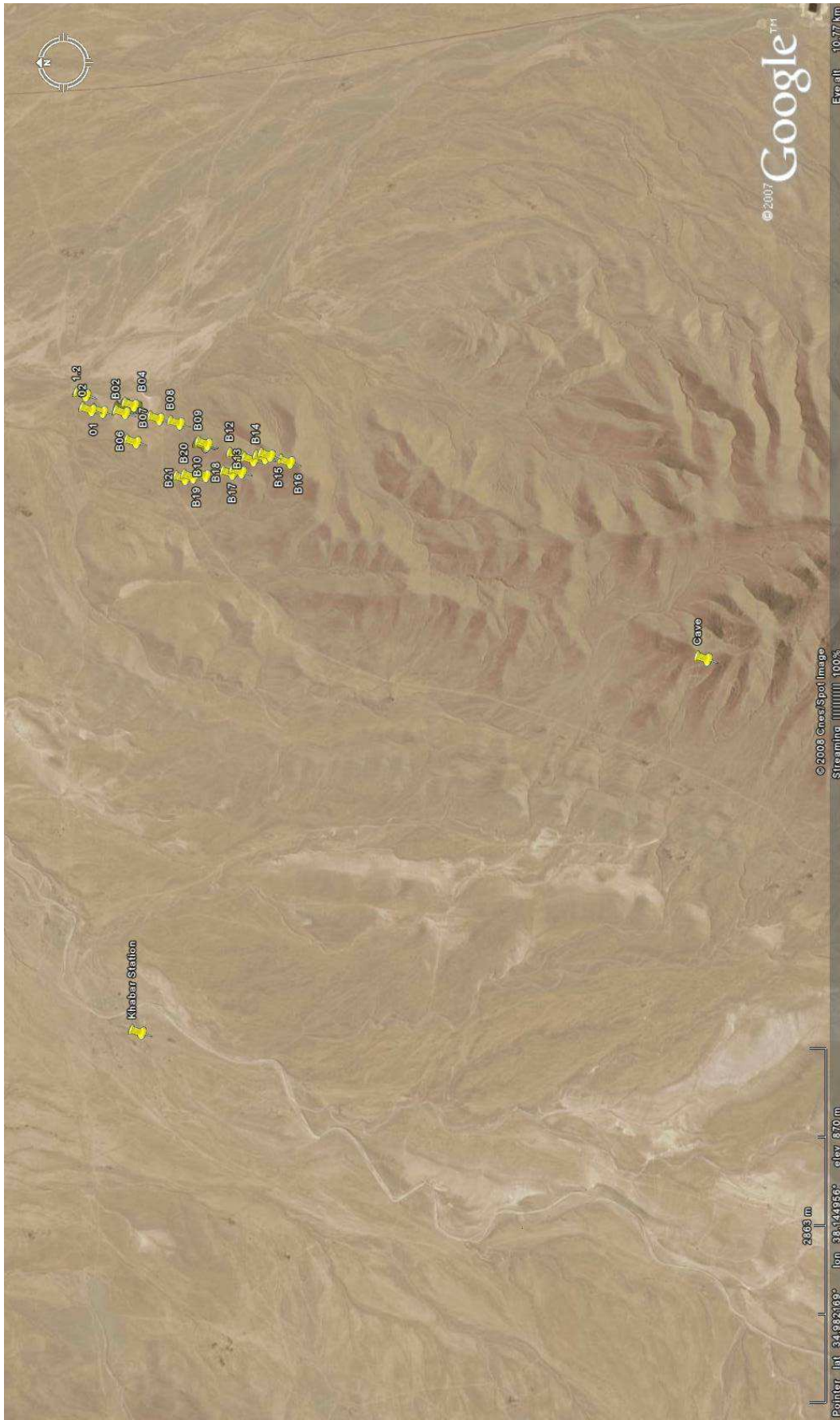
Khabar: Plan of fort.



Khabar: Remains of buildings on east side of wadi.













Khabar: Satellte view. (Interpreted Quickbird satellite image provided by D. Tucker/S.R. Hauser, University of Halle, SFB 586)





Khabar: Satellite view. (Interpreted Quickbird satellite image provided by D. Tucker/S.R. Hauser, University of Halle, SFB 586)



**Khabar station**

F. no	Site	Category	No.	Comments
1	Khabar Station	1.6	12	Coarse ware
2	Khabar Station	1.6	11	Fine white ware
3	Khabar Station	1.6	2	Fine black ware
4	Khabar Station	1.6	18	Fine red-black ware
5	Khabar Station	1.6	10	Coarse red ware
6	Khabar Station	1.6	43	Fine red ware
7	Khabar Station	1.4	2	Knob body, fine red ware
8	Khabar Station	1.2	1	Fine red ware
9	Khabar Station	1.3	3	Coarse red ware
10	Khabar Station	1.3	1	Coarse ware
11	Khabar Station	1.4	1	Coarse ware, body
12	Khabar Station	1.1	1	Coarse white ware
13	Khabar Station	1.1	1	Fine white ware
14	Khabar Station	1.1	2	Fine red-black ware
15	Khabar Station	1.1	1	Fine red ware
16	Khabar Station	1.1	4	Coarse red ware
17	Khabar Station	3.1	1	Wavy lines

**Khabar East**

F. no	Site	Category	No.	Comments
1	Khabar East	1.5	1	Coarse ware
2	Khabar East	1.2	1	Black ware
3	Khabar East	1.1	3	Coarse ware
4	Khabar East	1.1	1	Fine white ware
5	Khabar East	1.1	3	Fine red ware
6	Khabar East	1.3	2	Coarse ware
7	Khabar East	1.3	2	Coarse red ware
8	Khabar East	1.3	1	Fine white ware
9	Khabar East	1.4	3	Coarse white ware
10	Khabar East	1.6	12	Fine white ware
11	Khabar East	1.6	16	Coarse ware
12	Khabar East	1.6	2	Coarse red ware
13	Khabar East	1.6	21	Fine red ware
14	Khabar East	1.6	4	Fine black ware

**Well SE of Khabar**

F. no	Site	Category	No.	Comments
1	Well SE of Khabar	1.1	2	Fine red ware
2	Well SE of Khabar	1.6	5	Fine red ware

## **JEBEL MERAH**

At the northern end of Jebel Merah a large amount of cairns are visible from distance on the mountain ridges. Also on small hills on the northern foot of the mountain some cairns, cairn 1-3. The team started the registration and measurement, and established the limits of the concentration of cairns. The amount of cairns and other structures is impressive, and the area has high priority in the next campaign.

### **Cairn 1**

Surveyed by: JCM, JK, ABK, NA 19 APR 2008  
GPS: N35.00492391 E38.17148960

The cairn is located on the very hilltop, as the area flattens out to the N, W and E and more flat steppe like environment. In the SW, about 2-300m there is an old well from the Nasser-period with a two-storey building however the well is now dry. Further to the E there is a new well across the wadi.

The cairn is heavily plundered with two major pits in the middle. The cairn has probably been almost circular in shape measuring 11x11m with a height of 70-100cm. Small adjacent and attached walls has probably been made at a later stage, partly using stones from the cairn. There are small low walls, to the N, S and E of the cairn, in addition there is an older line of stones partly buried in the soil in N-S direction made of fairly similar shaped stones.

Finds: None  
Dating: Uncertain

### **Cairn 2**

Surveyed by: JCM, JK, ABK, NA 19 APR 2008  
GPS: N35.00574 E38.17169. Altitude: 772 m.

Small cairn 100m N of cairn 1, sloping down towards the plain area. A well is found further down the slope. Cairn 2 is oval in shape, plundered, but major stones still remains. The cairn measures 6m E-W and 2,5m N-S. A small stone built chamber is partly visible in the middle.

Finds: None  
Dating: Uncertain

### **Cairn 3**

Surveyed by: JCM, JK, ABK, NA 19 APR 2008  
GPS: N35.00618 E38.17295, Altitude: 765 m.

A small cairn oval in shape found 150m W of cairn 2. It is plundered, but measures 4m E-W and 3m N-S. It is located on the tip of a low ridge towards the wadi. In E some 100m is the new well and building. There are still remains of a chamber inside the grave, and partly visible foot chain in E.

Finds:

Dating: Uncertain

### **Cistern 1**

Surveyed by JCM, ABK 19 APR 2008

GPS: N35.00730 E38.17158. Altitude: 749 m.

272 m north of cairn 1 on the slope a curved retaining wall where a small wadi descends from the hill. Inside the retaining wall the ground forms a shallow hollow. Either trace of cistern or the structure is a small hafir.

Finds:

Dating: Uncertain.

### **Cistern 2**

Surveyed by JCM, ABK 19 APR 2008.

GPS: N35.00706 E38.17230. Altitude: 758 m.

71 m east-south-east of cistern 1 on the slope two connected curved retaining walls where small wadis descend from the hill. Inside each retaining wall the ground forms a shallow hollow. Either traces of cisterns or the structure is a small double hafir.

Finds:

Dating: Uncertain.

### **Square structure.**

Surveyed by JCM, NA, AA, JK 19 APR 2008.

GPS: ?. Altitude: ?

Photos: NA 0066-0068

Square structure, about 6 x 6 meters, covered by sand and earth, forming a bank, about 170 m east of cisterns. Large stones in the middle and on the bank, but not settled in the ground. Not documented, as the structure was considered to be modern. However, it can not be precluded that the bank covers walls, and that the square structure is a small shrine, as in Tweihiina and Shanaeh.

Finds:

Dating: Uncertain.



## **Corral 1**

Surveyed by: JCM, JK, ABK, NA. 19 APR 2008  
GPS: N34.99738 E38.16743. Altitude: 797 m.

Found in a small valley bottom slightly sloping towards NE, just below kite 2. Consist of two “circular” structures which are attached. Needs to be documented properly.

Finds: None  
Dating: Uncertain

## **Cairns and Kites.**

A series of cairns are clearly visible on the ridges south and southwest of low hills with cairn 1-3. These will be further investigated and surveyed at a later stage. However, a few of them have been registered and located with the letter B-1 to B21. Of particular interest is here Cairns 9 and 10 which are interconnected and where 10 has a marked foot chain. A rough sketch was drawn of the two cairns. In addition three kites for trapping/hunting large game animals have been documented. In Kite 2 a cylindrical flint core was found inside the kite, just next to one of the stations for aiming at the animals. South of the area the concentration of cairns is reduced, and the ridges down to the cave are almost without cairns. East of the area with cairns a broad valley with several corrals.

Cairn B01: N35.00323 E38.17169  
Cairn B02: N35.00327 E38.17137  
Cairn B03: N35.00276 E38.17187  
Cairn B04: N35.00263 E38.17205  
Cairn B05: N35.00240 E38.17189  
Cairn B06: N35.00246 E38.16874  
Cairn B07: N35.00075 E38.17081  
Cairn B08: N34.99924 E38.17037  
Cairn B09: N34.99716 E38.16845  
Cairn B10: N34.99716 E38.16845  
Cairn B11: N34.99732 E38.16828  
Cairn B12: N34.99482 E38.16738  
Cairn B13: N34.99374 E38.16694  
Cairn B14: N34.99289 E38.16713  
Cairn B15: N34.99252 E38.16731  
Cairn B16: N34.99109 E38.16674  
Cairn B17: N34.99465 E38.16592  
Cairn B18: N34.99532 E38.16579  
Cairn B19: N34.99728 E38.16564  
Cairn B20: N34.99822 E38.16554  
Cairn B21: N34.99881 E38.16541

**Cave. Jebel Merah W.**

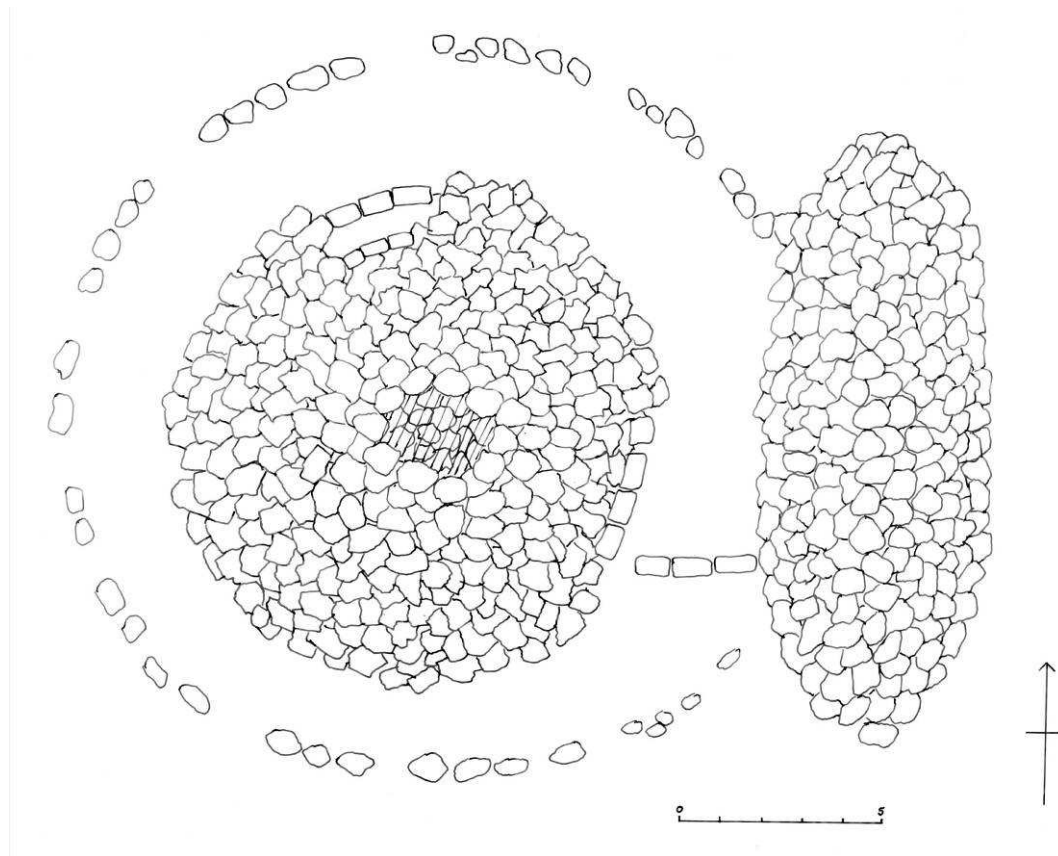
Surveyed by: JCM, JK, ABK, NA 19 APR 2008  
GPS: N34.96120747 E38.14921990. Altitude: 962 m.

*Only visited, needs documentation.*

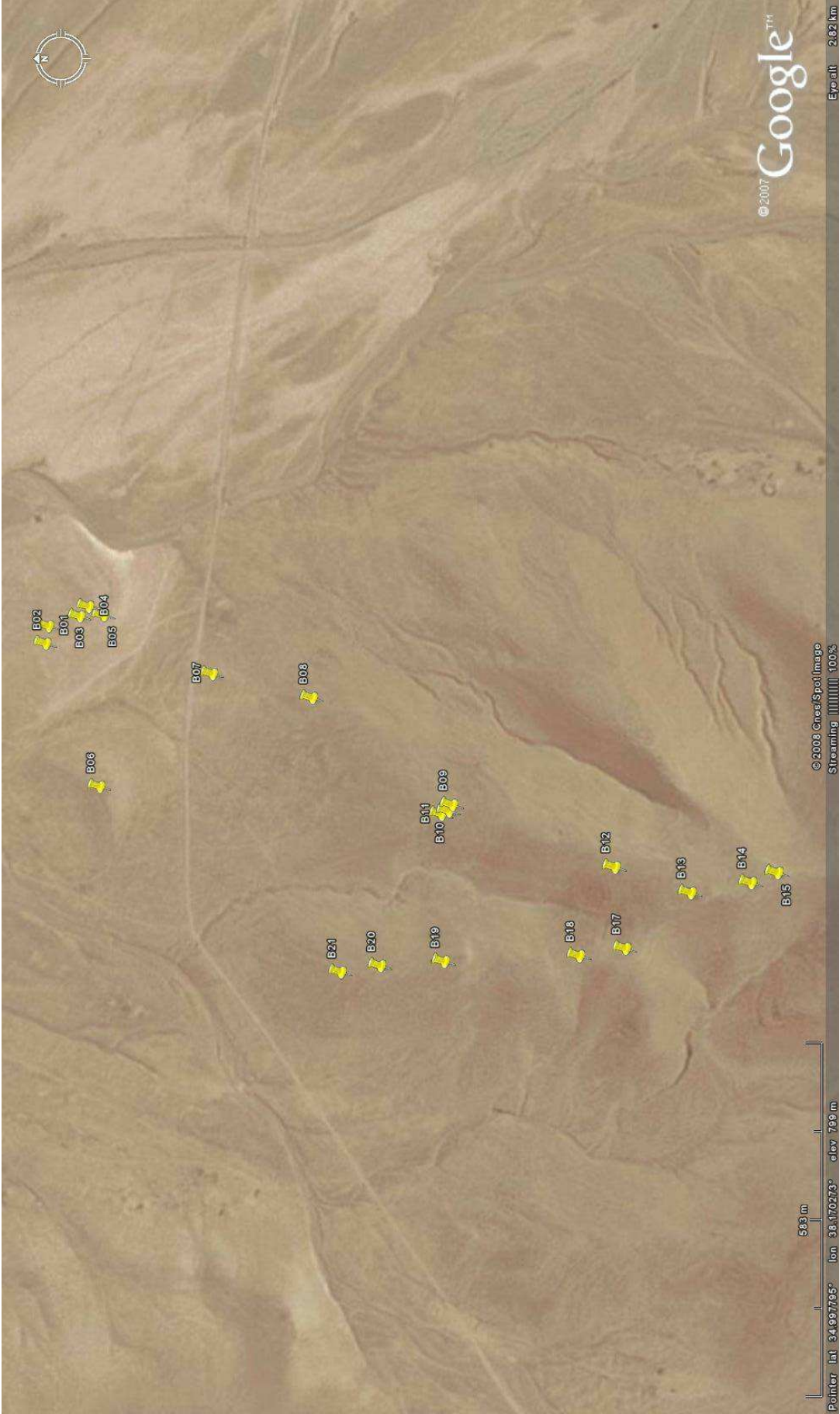
4 km south-south-west of area with cairns, 5.5 km south-east of Khabar, on the western side of Jebel Merah a broad ravine descends from the mountain. At the top of the ravine a small cave with flint debris on the outside slope.

Finds: 1 flint blade, 2 medial parts of blades, 4 flakes and 1 flake-like blade

Dating: Uncertain



**Jebel Merah North: Cairn 9 and 10**







**Jebel Merah N**

F. no	Site	Category	No.	Comments
1	Kite 2, Jebel MerahN	5.3	1	Cylindrical core of flint, partly irregular, patinated

**Jebel Merah**

F. no	Site	Category	No.	Comments
1	Cave 1, Jebel Merah	5.4	1	Flint blade
2	Cave 1, Jebel Merah	5.1	4	
3	Cave 1, Jebel Merah	5.5.	1	
4	Cave 1, Jebel Merah	5.6	2	Medial parts

## **FASIDA.**

Surveyed by JCM, JK, ABK and AA 02 – 03 APR 2008

GPS: N35.165 E38.022. Altitude: 580 m.

Map: I 37-29 1:10000. 38935 74109

The site is 71 km northwest of Palmyra and 21 km north of Khabar, as the crows flies, corresponding to 2 and 1 day's travel respectively and 10 km south of Amsaredi, which lies on the route from Isriyeh to Suhkne, and only 1.2 km north-west of the site Khaled al-Ali. The distance to Isriyeh to the north-west is 31 km, 1 day's travel. The remains lie on the open plain, Sheeb Khaled, 3 km north of the east-west going mountain range, Jebel Fasida, just on the eastern side of a wadi from south-east, 300 m north of a bend, where it turns north out into the open plain. The landscape is gently undulating also where the wadis cut through. 4 km to the south-east the modern village Fasida, which lies at a pass through Jebel Fasida to the south to the plain between Jebel Chaar and Jebel Merah.

The modern asphalt road to Isriyeh passes through the north-eastern corner of the site. This road has another course than the road on the Russian maps, latest revised 1981, which has a more southern course after a bend at Khaled al-Ali. The road has been straightened out, and there are no traces of the old road in the landscape.

The site is named after the modern village to the south-east, Fasida and the mountain range, Jebel Fasida.

No traces of beduin camps in the area, but the locals use the area as grazing ground. At Fasida some limited agriculture.

The site, which is just visible on satellite images as a rectangular structure, lies on a slope down to the wadi, which touches the south-western corner of the structure. It consists of the following:

1. West, north and east walls, connected to each other.
2. South wall.
3. South-west wall 1
4. South-west wall 2
5. Internal walls.
6. Internal irregular courses of stones.
7. Wall north of the asphalt road.

### **1. West, north and east walls.**

Bases for three stretches of walls, which are connected with well-preserved north-west and north-east corners with no traces of towers. The north-western corner is slightly less than 90°, the north-eastern approximately right-angled. The whole structure has an inclination towards the west. The bases are constructed with outer bigger stones with a filling of smaller stones in the middle, with some variations as to the thickness. The bases are clearly defined with no surrounding stones, and the walls have probably been a mud brick construction. The eastern wall lies at a much higher level than the western wall, which run parallel to the wadi only a couple of meters away.



GPS:

North-western corner: N35.16545304 E38.02142848

North-eastern corner: N35.16558316 E38.02241293

Western wall, south end: N35.16459977 E38.02159620

Eastern wall, south end: N35.16450815 E38.02259008

The base of the western wall is preserved for 96 m, thickness ca. 80 cm. At the southern end it becomes more indistinct because of a modern track from the south-east crossing through the station. No traces of a south-western corner.

The base of the northern wall is clearly defined by the corners. It has a length of 91 m, thickness between 75 and 80 cm. To the east the modern asphalt road cuts through the base, leaving the north-eastern corner north of the road.

The base of the eastern wall is preserved for 121 m, thickness between 75 and 80 cm. To the north the modern asphalt road cuts through the base. 41 m from the corner the stretch becomes more indistinct for about 18 m. At the southern end it becomes more indistinct because of a modern track from the south-east crossing through the station. No traces of a south-eastern corner.

## **2. South wall**

GPS:

Eastern end: N35.16421752 E38.02246273

Western end: N35.16411619 E38.02206846

The base of the southern wall is preserved for 38 m, thickness between 60-70 cm. The modern track from southeast has destroyed the eastern part. To the west the base continues into a small artificial hilltop with modern digging at the south-western corner. The wall has a more northern orientation than the northern wall, and a possible connection to the eastern and western wall can not be determined. At the eastern end an triangular accumulation of stones, with possible trace of a wall to the north, but the exact orientation and identification are dubious.

## **3. South-west wall 1**

GPS:

Northern end: N35.16452856 E38.02157484

Southern end: N35.16433005 E38.02166536

The base of wall is preserved for 23.5 m, thickness 80 cm. The filling of the base contains a little bit larger stones than the other walls at the site. It has a western inclination, following a small bend of the wadi, making a slightly oblique opening between the north end and the south end of the western wall. The exact end of the wall to the north-east, and the connection to south-west wall 2 can not be determined.

#### **4. South-west wall 2**

GPS:

Northern end: N35.16430693 E38.02166224

Southern end: N35.16418115 E38.02179538

The base of the wall is preserved for 18.5 m. thickness 65 cm, has an even more western inclination than south-west wall 1, following the bend in the wadi. It's connection to south-west wall 1 can not be determined, and it also has a smaller thickness and smaller stones in the filling. The southern end disappears into the foot of the small artificial hilltop with the modern digging at the south-west corner. A curved stretch of stones from the southern end of the wall goes a little up the hilltop, and this might be a continuation of the wall to the south-east.

#### **5. Internal walls.**

GPS:

Northern end: N35.16454263 E38.02237489

Ca. 15 west of the south end of the eastern wall two stretches of bases of walls, perpendicular to each other, but not directly connected. The longest, which has an orientation slightly north-west, is preserved for 7 m, thickness 55-60 m.. To the north of this wall, a small stretch for 2.5 m, running east-west towards the eastern wall. The thickness can not be determined exactly. The orientation of these stretches does not match the eastern wall, but the southern wall, though the longest stretch is not in line with the possible wall at the eastern end of the south wall.

#### **6. Internal irregular courses of stones.**

In the western part of the site, near the end of the western wall several irregular courses of stone, embedded in the ground with a size between 30 to 60 cm. They form two enclosures. One is almost circular, 13 m in diameter. The other is triangular, 18 x 16 x 15 m. The function and date of these enclosures are uncertain, probably later corrals.

#### **7. Wall north of the asphalt road.**

GPS: N35.16676818 E38.02195616

140 m. north of asphalt road, on a slightly raised plain east of the wadi a short stretch of a base of a wall, preserved for 30 cm, thickness 60 cm, orientated east-west. No other walls preserved in the area.

## **Connection between the walls**

The Western, northern and eastern walls are clearly related to the same rectangular structure, orientated north-south with an inclination the west. The width has been about 90 m in the northern end, narrowing a little to the south. The southern limitation of the structure cannot be determined, but the length has been at least 100 m. No traces of towers or gates.

The southern wall, which has another orientation and thickness, is not clearly connected to walls in the northern part of the site, and it may have been a separate building from another period. This building must have extended to the north, as the wadi course does not leave much space to the south. It is possible that the internal walls have been part of this structures.

The two south-western walls, does not seem to have been constructed initially as part of the same structure, but the purpose of the walls is connected some way or another to the course of the wadi, probably changes of the flow. Their relation to the rest of the walls is uncertain.

The small stretch of a wall north 140 meters north of the roads shows that some building activity in this area, too.

## **Finds:**

Among the finds of ceramics from the centre of the structure a thin red ware is dominating. No fragments of hard burned metallic ware.

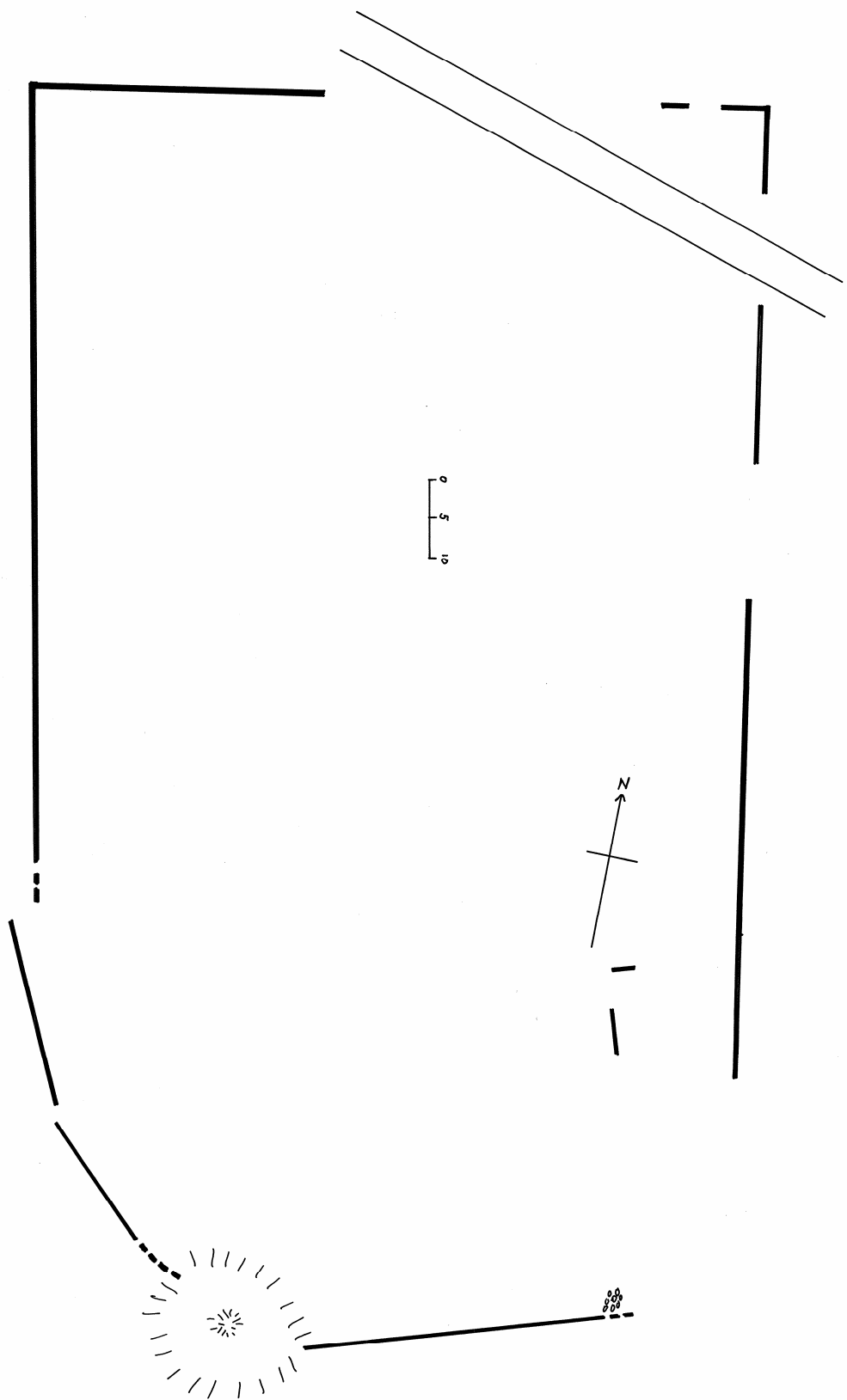
## **Other:**

A search around Fasida to possible other smaller sites, based on shadows on the satellite images gave no result (some activity of modern bulldozers), apart from a few potsherds of red ware 300 m south-west and 500 m. west of the site.

## **Conclusion:**

The building structures at Fasida are impressive in size and the finds of ceramics from the centre indicates some importance. The structures are much bigger than the buildings at Jebel Chaar and Shalalah, which can be related to villages. What has been inside the outer walls can not be determined. However, the most probable function of Fasida is that of a station on the route between Palmyra and Isriyeh. It is located 1 day's travel from both Khabar and Isriyeh at the most suitable route, through Jebel Fasida, to the north-west.

In the area around Fasida there are no traces of wells or cisterns, but a site like Fasida must have had good water supply, probably in connection with the wadi. If beduins have not maintained old wells and cisterns up through the ages, all traces would have disappeared, been filled in and covered by windblown material..

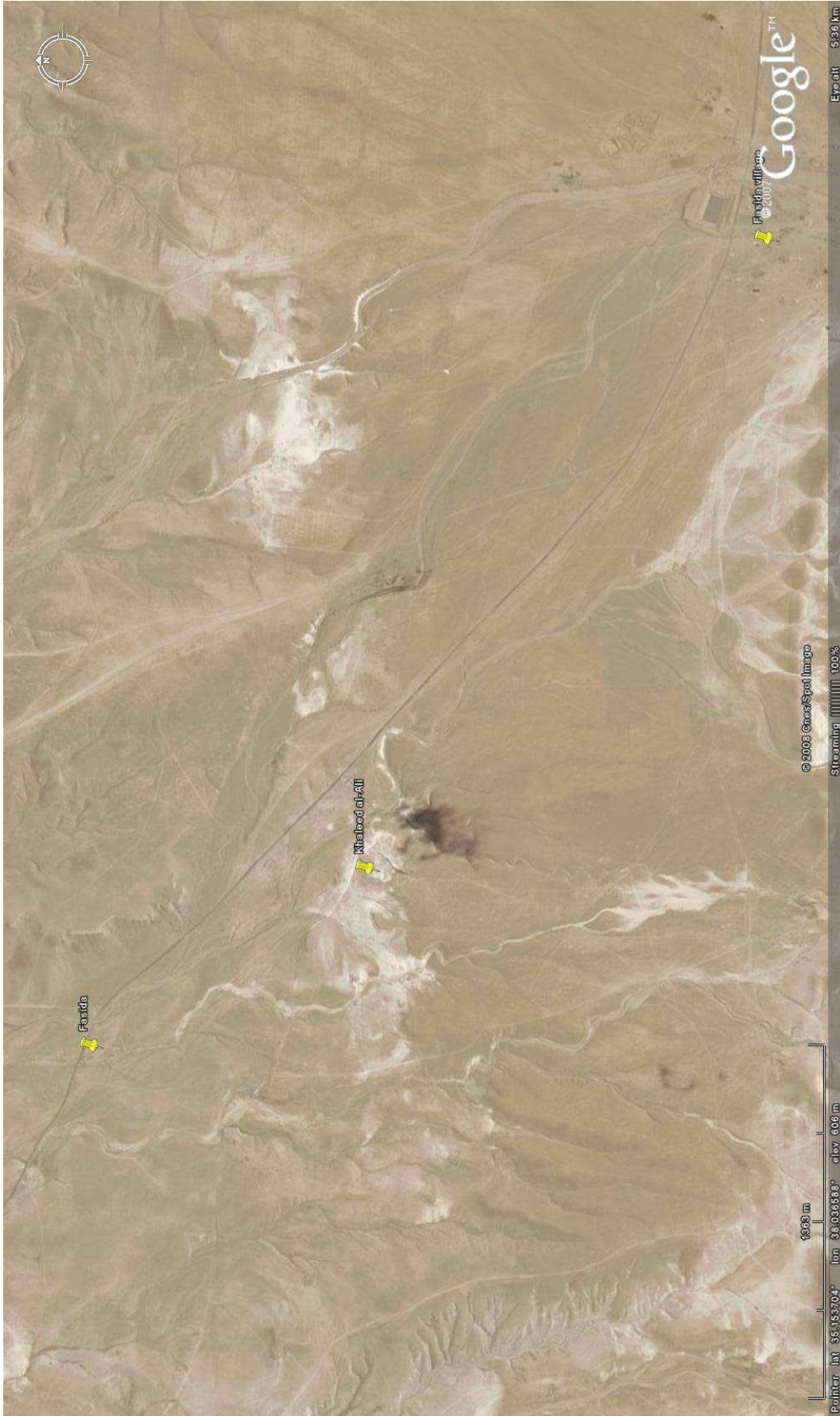


Fasida: Building









**Fasida**

F. no	Site	Category	No.	Comments
1	Fasida	4.1	1	Fragment of grinding stone
2	Fasida	1.1	2	Coarse red ware
3	Fasida	1.1	1	Coarse ware
4	Fasida	1.1	9	Fine red ware
5	Fasida	1.3	6	Fine red ware
6	Fasida	1.4	2	One painted, one with lines
7	Fasida	1.5	7	Fine red ware
8	Fasida	1.5	1	Fine white ware
9	Fasida	1.5	3	Coarse ware
10	Fasida	1.2	1	Fine red ware
11	Fasida	1.6	3	Fine white ware
12	Fasida	1.6	25	Coarse red wae
13	Fasida	1.6	92	Fine red ware
14	Fasida	3.1	1	Glass fragment, greenish colour
15	Fasida	2.2	1	Bronze fragment

## **KHALED AL-ALI**

Surveyed by JCM, JK, AK and AA 04 – 05 APR 2008

GPS: N35.155N E38.029. Altitude: 627 m.

Map: I 37-29 1:10000. 38925 74117

The site is 70 km northwest of Palmyra and 21 km north of Khabar, as the crows flies, 1.2 km south-east of Fasida, on the open plain, Sheeb Khaled, 3 km north of the east-west going mountain range, Jebel Fasida. North of the site a 10 m broad wadi coming from south-east, going down to Fasida, where it turns north. At Khaled al-Ali the wadi has made a distinct valley with steep slopes. Otherwise the landscape is gently undulating also where the wadis cut through. 3 km to the south-east the modern village Fasida, which lies at a pass through Jebel Fasida to the south to the plain between Jebel Chaar and Jebel Merah.

The modern asphalt road to Isriyeh passes north of the site. On Russian maps, latest revised 1981, two wells are marked at the map, with the road passing between them, making a bend before it turns to the north-west. The road has been straightened out, leaving the wells and the site south of the road, and there are no traces of the old road in the landscape.

The site is named after the local name of the place. Khaled al-Ali.

No traces of beduin camps in the area, but the locals use the area as grazing ground. At Fasida some limited agriculture.

The site, which is not visible on satellite images, is visible from the road as a oblong white tell on a natural hilltop.

The site consists of the following.

1. Tell
2. Hilltop with diggings.
3. 3 wells.

### **1. Tell.**

GPS:

Top south tell: N35.15511822 E38.02934487

Top north tell: N35.15552248 E38.02949508

Retaining wall west-tell: N35.15545040 E38.02937636

Eastern foothill: N35.15538877 E38.02959896

The tell is oblong, orientated south to north, with a length of approximately 36 m and width of 12 m with a small eastern lower foothill of ca. 4 m about 65 m south of the wadi. On the southern part of the tell a smaller ca 2 m high tell with a diameter of ca. 8 m. At the northern end modern diggings have created a small flat artificial hilltop with a crater in the centre. Also modern diggings with craters on the eastern side of the tell and on the eastern lower foothill. On the southern side of the small tell on the top modern diggings into the sides. These diggings reveal that the tell has been formed by mud bricks with well constructed courses, and



the surface of the tell is very hard and homogenous, both in texture and colour, except where modern diggings has made disturbances.

The smaller southern tell has a irregular depression on the top, measuring roughly 4 x 4 m. This does not seem to be due to modern diggings, as the outer surface of the tell shows no signs of thrown down material. The depression is probably remains of the interior of a small building. Courses of mud bricks are visible several places inside the depression. A section on the western side (D) was cleaned, showing organic material between the bricks and goat droppings. Samples of the organic material, droppings and a mud brick have taken for pollen analysis in order to elucidate the botanic surroundings at the time of the construction.

The modern diggings at the northern part of the tell (A) has brought to light two large prepared marble fragments, which were temporarily cleaned for drawing and measuring, and after that covered a gain. One of them, L-shaped, measuring ca. 1.18 x 50 x 28 cm (see drawings), has several worked holes, some of the connected, and a curved bevelling. Between two of the holes, which are connected by a broad furrow, some hard grey-black substance, which could be granulated into gray powder. Not heavy to be lead, perhaps desiccated pitch or other binding material, surely not a secondary natural substance. The other fragment protruded from the side of the digging, has the form of a "roof" (see drawings), width 75 cm, with a 25 cm broad and between 7.5 and 10 cm. high roof ridge. Length of the stone at least 1.05 m. On the right side a large worked depression formed as a heel 15 x 8 cm. On the top of the roof ridge a circular hole with the diameter of 5 cm. Traces of many other smaller workings in the surface. The function of the marble blocks is not certain. The holes and workings must have been for attachments of some kind, perhaps decoration of a building, if they are architectural fragments, or door frames. East of the eastern foothill a modern narrow deep digging (B), revealing two L-shaped marble fragments of the same dimensions as in the digging in the northern part of the tell. Because of the conditions is was not possible to measure them, but there were no signs of holes or workings.

On the western side of the tell (E) modern diggings have revealed a wall in one probably two courses, 2.50 m long, constructed by 20x50 cm rough stones. Probably a retaining wall.

### **Finds.**

Large amounts of ceramics of different texture, bronze and glass fragments. Fragments of grinding stone. North of the modern digging on the eastern foothill (C), which show traces of mud bricks in the interior, a large amount of black and white mosaic stones were found. Probably from the digging.

## **2. Hilltop with diggings.**

GPS:

Top plateau: N35.154533 E38.030737

East of the tell (165 m from to top), across a small valley, a broad plateau with many modern diggings. In one of the diggings a 75 cm long and 5-10 cm broad wall, indicating some kind of structure, but otherwise the diggings did not reveal mud bricks courses or other architectural fragments. Some ceramic on the surface, and some fragments of bones. Perhaps it is an ancient tombs that have been pillaged.

## **3. Wells.**

At the site two wells and traces of a third have been registered:

Well 1:

GPS: N35.15455863 E38.03246706

Large crater just south of the wadi, ca. 285 m east-south-east of the tell. The opening of the well measures 2.20 m. with a stone lining, 2 – 3 courses. Traces of the rope for drawing the bucket. It does not open up in the depth, where it is cut into the rock. Depth of the well 20 m. It still contains water.

Well 2:

GPS: N35.15556264 E38.03123289

Large crater south of the wadi, 160 m north-north-east of the tell, where the valley between the tell and the plateau with the diggings meets the wadi. The opening of the well measures 1.5 m with a stone lining, 2 courses. The well opens slightly into the depth, where it is cut into the rock. Depth of well 9 m.

Finds: Well burned ceramics of red texture. It may, however come from the tell, brought down by the water.

Brønd 3.

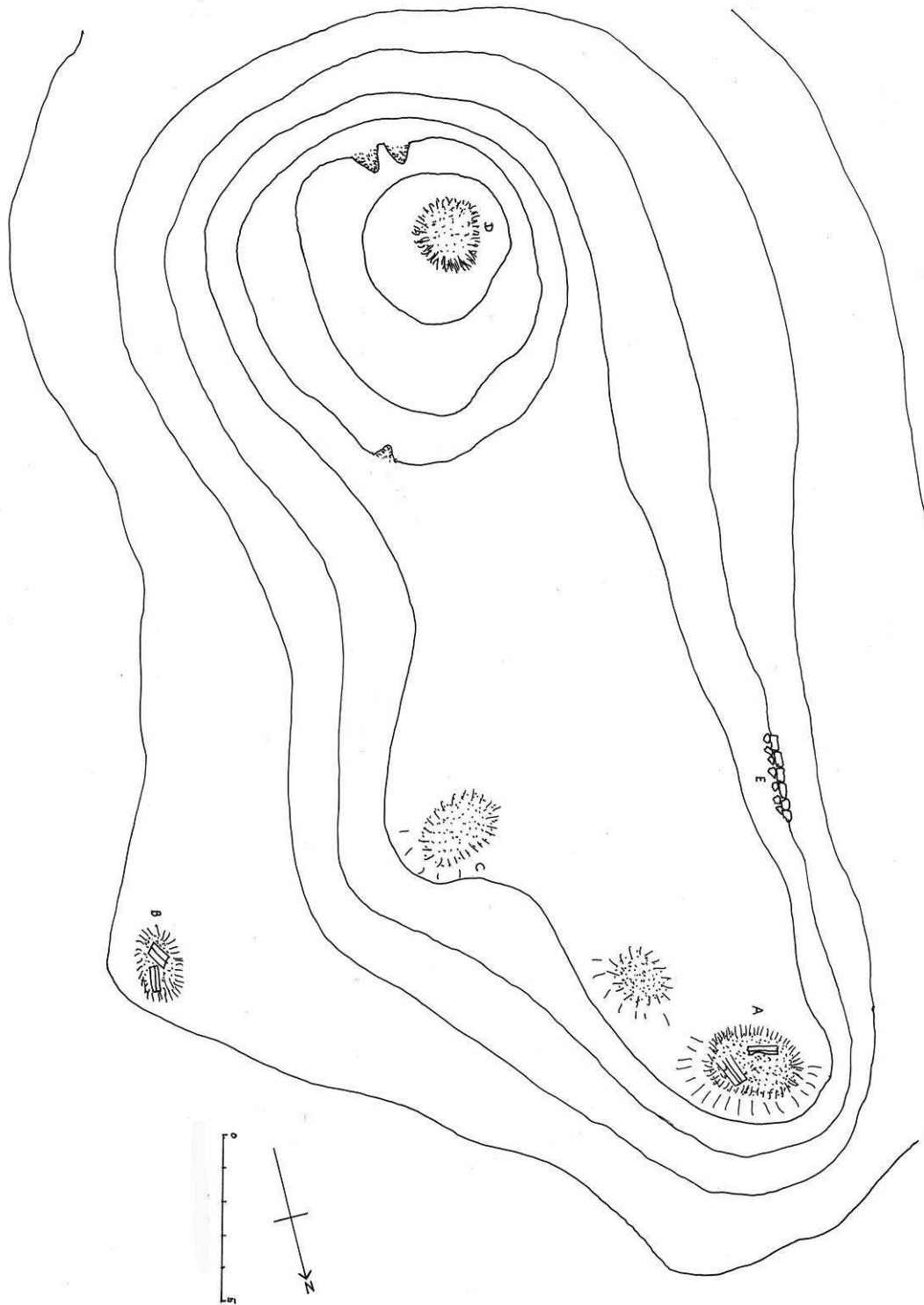
GPS: 35.15376499N 38.03142205E

Filled in and covered well, perhaps cistern, appears as a crater, on higher ground 150 m from wadi and 95 m east of the plateau with diggings.

**Conclusion:**

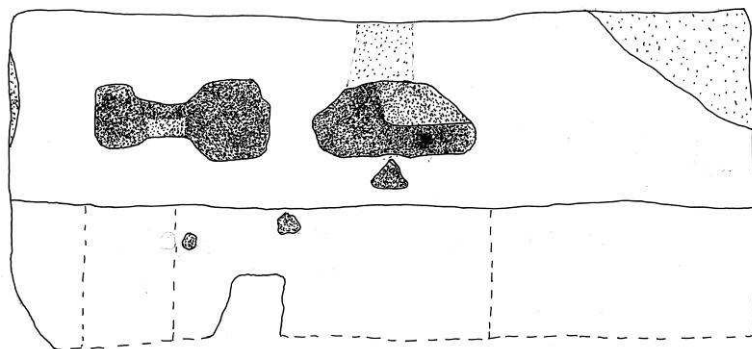
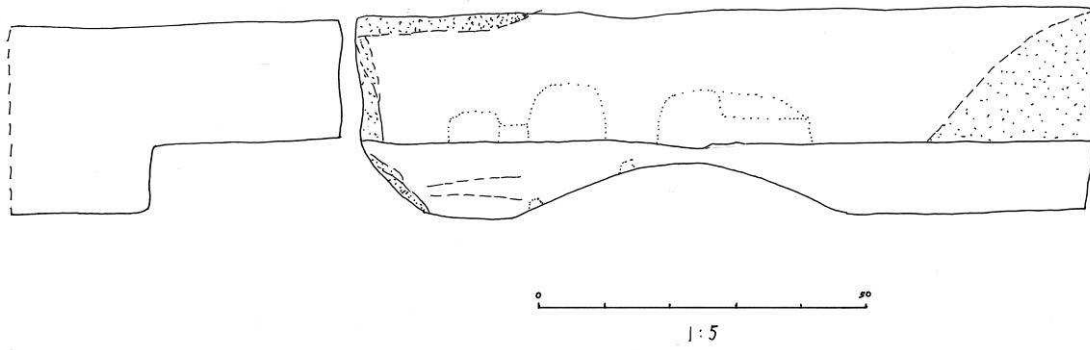
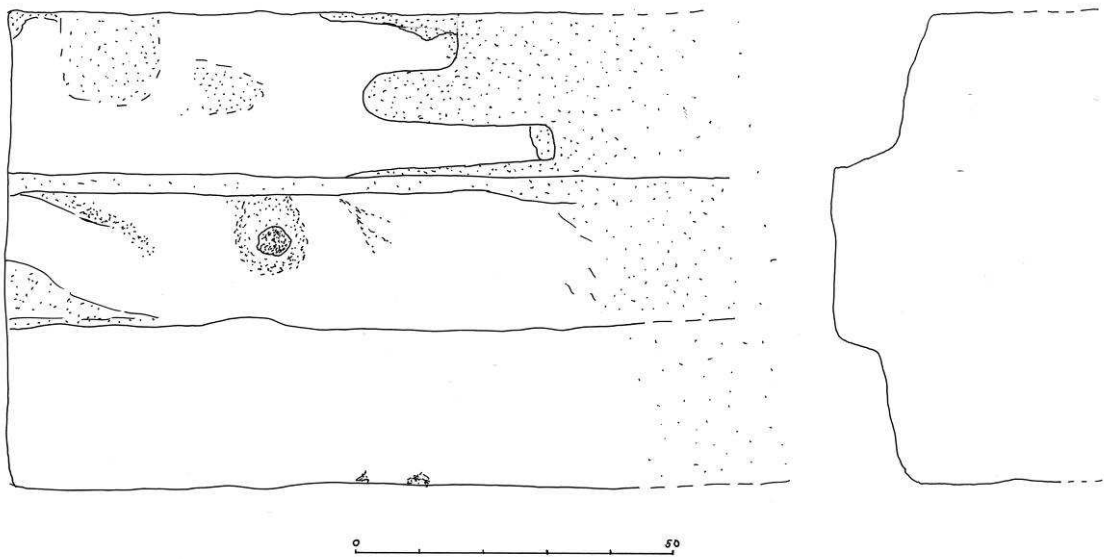
A search around the tell, to other small hilltops gave no results. They were natural with no signs of human activity.

The tell at Khalid al-Ali must have had some impressive buildings constructed in mud bricks with marble architectural elements. Also the finds of mosaic stones indicate that. The size of the tell is not large, and it has probably not been a habitation or village, but rather a sanctuary of some kind. Only excavations in the tell can give us the answers.



Khaled al-Ali: Overview of tell.





Khaled al-Ali: Architectural fragments from northern part of tell.



**Tell Khaled al-Ali**

F. no	Site	Category	No.	Comments
1	Tell Khaled al-Ali	6.2	9	Coarse
2	Tell Khaled al-Ali	4.1	2	One as a polished side
3	Tell Khaled al-Ali	5.1	1	Flint flake
4	Tell Khaled al-Ali	4.2	74	Various colours, mostly white
5	Tell Khaled al-Ali	1.5	1	Fine red ware
6	Tell Khaled al-Ali	1.5	5	Fine white ware, one is glazed or painted
7	Tell Khaled al-Ali	1.5	2	Coarse ware
8	Tell Khaled al-Ali	1.3	2	Coarse ware
9	Tell Khaled al-Ali	1.3	11	Fine red ware
10	Tell Khaled al-Ali	1.3	5	Fine white ware
11	Tell Khaled al-Ali	1.3	1	Fine black ware
12	Tell Khaled al-Ali	1.1	3	Coarse ware
13	Tell Khaled al-Ali	1.1	1	Fine white ware
14	Tell Khaled al-Ali	1.1	6	Fined red ware
15	Tell Khaled al-Ali	1.4	1	Fine red ware, with incisions
16	Tell Khaled al-Ali	1.4	2	Coarse ware
17	Tell Khaled al-Ali	1.6	85	Fine red ware
18	Tell Khaled al-Ali	1.6	29	Coarse red ware
19	Tell Khaled al-Ali	1.6	31	Coarse ware
20	Tell Khaled al-Ali	1.6	30	Fine white ware
21	Tell Khaled al-Ali	3.1	16	Rims and neck, blue/greenish/brown colours
22	Tell Khaled al-Ali	2.2	2	Bronze fragment
23	Tell Khaled al-Ali	10.1	1	Clay or other organic material

**Khaled al-Ali necropolis**

F. no	Site	Category	No.	Comments
1	Khaled el-Ali necropolis	6.2	3	Roof tiles
2	Khaled el-Ali necropolis	1.4	2	Rope impressions and finger impressions, red coarse ware
3	Khaled el-Ali necropolis	1.6	13	Red fine ware
4	Khaled el-Ali necropolis	1.6	1	Red coarse ware

## PRELIMINARY CONCLUSIONS

More detailed conclusions have to await the analysis and dating of the pottery from the sites.

### **Ecological and climatic considerations:**

Today the area around Palmyra makes desert-like impression, even if the area can be green during the winter rainfalls. This, however seems to be a recent development, due to the modernization of the society and deep changes in the Beduin life and way of utilizing the resources of the landscape. The abolishment of the tribal law in 1958 and the traditional grazing rights (*Urf*), combined with the introduction of the lorry, permitting large scale movements and transport of additional feed and water, has changed the seasonal pattern of movement, resulting in a deterioration of the grazing lands (Masri 2001, 16-18). The beduins are now able to keep their flocks on pasture at unseasonable times, not permitting the regeneration of forage plants, which are replaced by other species not suitable for grazing.

In the mountains north of Palmyra there are only few isolated pockets with Terebinth trees (*Pistacia Atlantica*), which are famous for the oil, resin and high quality of the wood. Also this seems to be a recent development. The Terebinth tree is very slow-growing and large trees are several hundred years old, and they are very vulnerable to over-felling in search of fuel. Pictures from the French survey in the 1930ies at Jebel Chaar (Schlumberger 1951, pl I, 4, XI, 1 XVI, 1) show numerous Terebinth trees, where nothing is left today. Also at Tweihina (Tahoun al-Masek) a few trees can be seen (Schlumberger 1951, pl. XX, 1-3). During his travel through the mountains north of Palmyra Musil noted (Musil 1928, 149): "Terebinth trees grow everywhere, making the country look like a vast natural park". Jebel al-Merah is described as (Musil 1928, 149) "wooded cones of al-Mra'", and Jebel Abyad and Wadi al-Thakara (Musil 147): "The nearer we approached, the more distinctly could be seen the groups of trees in the western part of the al-Abjaz mountains. These are especially numerous on both sides of the Wadi Dekâra, which ends in the lowland of al-Ehčej". There can be no doubt that the mountains north and north-west of Palmyra in former times have been covered by trees, making conditions for life quite different from what they are today. It may also have influenced the micro-climate and the local flora. Dew from trees and plants is an important supplement to the rain.

However, the general climatic conditions in the Hellenistic-Roman period have probably not been markedly different from the present (Eugen Wirth 1971, 98), whereas the conditions in the Bronze Age are an open question. The area around Palmyra can be classified as dry steppe, called *badiya* by the beduins, with an average precipitation of 125 mm (1934-1966). According to the traditional figures agriculture without irrigation should not be possible in the area around Palmyra, and in recent times the population of Palmyra has been largely dependent on the import of wheat and barley in exchange for salt from the salina south of Palmyra (Musil 1928, 146). 200 mm precipitation is the traditional limit for barley, but this is a very imprecise figure, as it does not take into account the variations from year to year. According to official figures only a 400 mm average precipitation guaranties that even in drier years the conditions for barley are sufficient. In the zone with an annual rainfall between 200-250 mm agriculture becomes a risky business, with one to two seasons every three years. Palmyra is located south of the 200 mm limit. In drier years the annual rainfall may be as low as 64 mm. in wetter years as high as 255 mm, but that is very seldom.



However, David Tucker, Seminar für Orientalische Archäologie und Kunst, Martin-Luther-Universität Halle-Wittenberg, paid our attention to traces fields at the eastern slopes of Jebel Chaar, based on the analysis of satellite images. The fields are not situated in wadis, where the annual rainfall can be supplemented by the yearly flow. Agriculture with barley has been practiced by the local Beduins after the Second World War, though not for the last generation. In this period barley cultivation has extended into the dry steppe close to the 100 mm isoyet (Sanlavill 2000, 14). This type of beduin agriculture, which must be classified as marginal agriculture, seems to be connected with the deep changes in beduin life in recent times; the abolishment of the tribal law, changes in grazing rights, the introduction of lorries and new grazing patterns.

However, also before the First World War dry farming was practised around Palmyra. According to Musil there were fields north-west of Palmyra south of Jebel Abyad and the opening through the mountains to Wadi Abyad (Musil 1928, 147): “These fields depend upon the moisture from the rains only; for this reason they are called *ba'l* (sunfields), because, when the rain is insufficient, they may easily be destroyed by the sun. Anyone can cultivate a piece of land for himself if he wishes to. If he does it for three successive years, the land becomes his property (*mulk*). If it rains enough in March and April, the crops are good; if it fails to rain in April, the grain is quite poor; but if there is no rain in March also, the grain dries up before it can ripen; the peasant then loses his seed, and his hard work goes for nought”. This does not seem to be beduin agriculture, but rather peasants from Palmyra, who extended their activities to the plain west of Palmyra, which get some extra water from Wadi Abyad and all the wadis to the north, both as annual flow and the drainage. Today the area north of the road to Homs is covered with large fields owned by families in Palmyra. In good years they give a very high yield. At the time of Musil this area was grown over with sorrel, and during his travel to Resafa in March 1912 he did not notice any agriculture north of the plain. However at the southern part of the plain north of Jebel al-Bisiri he noticed traces of old agriculture (Musil 1928, 134-135): “At 8.08 we crossed the wide but shallow valley of ar-Raml in which are ruins of numerous old dams designed to hold back the run-off and prevent the soil from being washed away. Here and there could be seen the foundation walls of demolished farms. At 8.40 we halted before a rise, where the fortified camp of al-Klejbijje had been built. North east of this camp a rampart had been thrown up 464 paces long from south to north by 400 paces wide. East of the rampart are visible the foundation walls of ruined houses, an olive press, and a fragment of a column seventy centimeters in diameter”. Satellite images of the area show many traces of old fields in the area, the date of which is uncertain.

The area around Palmyra certainly has the potential for more stabile agriculture, where the annual rainfall can be supplemented with water from wadis, as a mixture of dry-farming and irrigation to a small extent. There are no traces of large dams, like the great Kharbaqah Dam about 70 km west-south-west of Palmyra at an opening in the Palmyra range to the northern plain (Schlumberger 1939, 195-238), but smaller constructions, like the dams mentioned by Musil, or water reservoirs, like hafirs, might quite easily give much more favourable conditions for the growth of grain and other plants, than indicated by the annual average precipitation of 125 mm, and the 200 precipitation limit.

### **Water supply:**

Water supply is essential for the exploitation of dry steppe area. The water comes from three different sources. First, wells dug at the edges of the wadis, where geological features deep in the wadi have created underground reservoirs, containing water not only from the present year, but also the former ones. Therefore wells are a more reliable system in years with drought. Wells, often in large numbers, are common at sites at the plains like Khabar and Shanaeh. Second, cisterns with catch arms along mountains sides collecting the water in the rainy season. This method is very flexible where you got hillsides, and it does not seem to be dependent on larger wadis on the sloops. Smaller ones or artificial catch arms will do. In contrast to wells years with little rain affect the amount of water available, especially with successive years with low rainfall. Twei-hina seems to have relied on cisterns, and also at al-Matna and at Bir al-Arfa we have a high concentration of cisterns. It is thus human activities that create the water supply, not vice versa. In the mountain areas this gives a lot of opportunities for different activities. Third, there is springs combined with wells and aqueduct where the mountains contain water bearing layers. Shalalah seems to have relied on that source.

Wells and cisterns are of course difficult to date, but according to local information the Beduins in recent times have only maintained old systems. The wells at Shalalah and Khabar are very well-constructed indicating a much more complex organisation of society.

### **Route from Palmyra to Isriye:**

Both Poidebard and Schlumberger draw the route from Palmyra to the north in Wadi Abyad, continuing on the eastside of Jebel Merah. This was also the route followed by Musil in March 1912 on his way to Resafa to the north-east (Musil 1928, 146-149). However this survey suggests another route more to the north-west, through Jebel Abyad, entering the mountain range in Wadi al-Thakara north-north-west of Palmyra, through Wadi al-Masek up to the opening at Al-Matna, following the watershed between Wadi Abyad and Wadi Shanaeh, continuing north between Jebel Chaar and Jebel Merah, turning north-west towards the opening in Jebel Fasida at the modern Fasida village, meeting the route coming from Suhkne up to Isriye, from where there are connections to north-west and Antioch. The distance between Palmyra and Isriye along this route is approximately 120 km. The three sites Twei-hina (Tahoun al-Masek), Khabar and Fasida are evenly spaced along this route, functioning as road stations roughly one day's travel apart, making it a total of four day's travel between Palmyra and Isriye. If the destination is more to the north-west, not north-east, the route through Jebel Abyad is a natural one, avoiding the steep sloops at the north-western part of Wadi Abyad up to the plateau and the watershed.

### **Settlements and sites in north-western part of Jebel Abyad and the plain north of Jebel Abyad.**

The buildings at the plain of Shalalah can almost certainly be identified as a village of the same type as the villages in Jebel Chaar. The economic foundation for the village cannot be clarified, but the mountains must have been covered by trees and the ecological conditions quite different from the present. It is very probable that the Terebinth trees have been one of

the assets. It gives oil, resin and also valuable charcoal by cutting off smaller branches without touching the stem. In recent times, according to Musil (1928, 149), the fruit was picked for the oil, and the resin sold in Aleppo.

At Al-Matna and Bir al-Arfa there are no traces of a village, but the high concentration of cisterns indicate a high level of activity there, perhaps seasonal grazing. The importance of Al-Matna goes back to the Bronze Age, attested by the cairns in the area.

The sites north of Jebel Abyad are not spaced with a day's travel between them, and even if they may have been situated along communication-lines they must have had also other functions, such as control of the territory and the water resources, and perhaps also collection of taxes. Shanaeh is the most impressive of the sites; a well-constructed fort with internal towers, guarding the wells in the wadi below. The relationship between the fort and the buildings below, which go back at least to the 3<sup>rd</sup> century, and also the relationship between the sites on the plain between Jebel Char and Jebel Abyad can only be established when the pottery have been analyzed.

### **Bronze Age:**

Many of the bronze Age cairns are situated along the communication lines in the area, some of them on hilltops being visible from a long distance away. The route from Palmyra to the north is clearly marked, and also the route from Jazal to the east in the Jebel Abyad mountain range. Other areas, such as Jebel Char, however, have a very low concentration, whereas the mountains going east from Jebel Fasida have more cairns. Of special interest is the large concentration of cairns at the northern part of Jebel Merah. The purpose of this is not clear, perhaps a marking of the territory. How the territory has looked in the Bronze Age is an open question.

### **Later periods:**

There has only been found very few fragments of pottery in the area that can be dated to the Ummayyad and Islamic period. This indicates that the human activities and the exploitation of the resources of the area changed dramatically in late antiquity.

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## LIST OF PHOTOES

	Site	GPS	Description	Direction	Details
JCM 00517-00519, 00521, 00801	Tweihina		Overview	E	
JK 2007, 2011	Tweihina		Overview	E	
JK 2012	Tweihina		Overview	SE	
JCM 0802	Tweihina		Overview	W	Wadi
JCM 00512	Tweihina		Overview	N	
JCM 00515	Tweihina		Overview	NE	
JCM 0803-0804	Tweihina		Overview	NW	Wadi Masek N
JCM 00501, 0820-0821	Tweihina		Overview	SW	Wadi Masek S
JK 1985, 7393-7394	Tweihina		Overview	SW	Wadi Masek S
JCM 00503, 00510, JK 2025	Tweihina		Overview	NE	Wadi Shalala
JCM 00510-00511, 0830-0832	Tweihina		Overview	NW	Wadi towards NE
JCM 00461, 00522, JK 7372	Tweihina, Fort	N34.72496 E38.09354	Overview	E	
JCM 00505	Tweihina, Fort	N34.72496 E38.09354	Overview	S	
JCM 00509, 0023	Tweihina, Fort	N34.72496 E38.09354	Overview	N	
JCM 0030-0032	Tweihina, Fort	N34.72496 E38.09354	Overview	NW	
JCM 00496-00498, 0020, 0022	Tweihina, Fort	N34.72496 E38.09354	Central court	N	
JK 2020-2021, 2032, 2042	Tweihina, Fort	N34.72496 E38.09354	Central court	N	
JCM 00504, JK 2030, 2034	Tweihina, Fort	N34.72496 E38.09354	Central court	S	
JCM 0021, JK 2033	Tweihina, Fort	N34.72496 E38.09354	Central court	E	
JCM 0024, JCM 00495	Tweihina, Fort	N34.72496 E38.09354	Central court		Staircase SE
JK 1973	Tweihina, Fort	N34.72496 E38.09354	Central court		Internal wall
JK 2040	Tweihina, Fort	N34.72496 E38.09354	Central court		Internal wall, SW wall
JCM 0023	Tweihina, Fort	N34.72496 E38.09354	Central court	W	Tie for animals. NW corner
JCM 0041-0046, 00494, JK 1975, 1978	Tweihina, Fort	N34.72496 E38.09354	W-wall	S	
JCM 0040	Tweihina, Fort	N34.72496 E38.09354	W-wall	N	

JCM 0050-0051	Tweihina, Fort	N34.72496 E38.09354 SW-corner	NE	
JCM 00473-00474, 0055	Tweihina, Fort	N34.72496 E38.09354 Gate, eastwall		
JCM 00475, 00497	Tweihina, Fort	N34.72496 E38.09354 S-wall	W	
JCM 00499	Tweihina, Fort	N34.72496 E38.09354 S-slope	S	Plateau
JK 1969	Tweihina, Fort	N34.72496 E38.09354 E-slope	N	
JCM 0061, 00472, JK 2041	Tweihina, Fort	N34.72496 E38.09354 NE-room	N	
JCM 0060	Tweihina, Fort	N34.72496 E38.09354 NE-room	SW	
JCM 00469, JK 2028-2031, 2038, 1977	Tweihina, Fort	N34.72496 E38.09354 NW-room	S	
JCM 00471, 0063-0065, JK 1974, 2039	Tweihina, Fort	N34.72496 E38.09354 NW-room	N	
JCM 00492, JK 2026	Tweihina, Fort	N34.72496 E38.09354 NW-room	N	Digging
JCM 00493	Tweihina, Fort	N34.72496 E38.09354 NW-room	S	Tie for animals.. SW corner
JCM 0066	Tweihina, Fort	N34.72496 E38.09354 NW-room	E	N-wall
JCM 0070-0071, JK 2035-2036	Tweihina, Fort	N34.72496 E38.09354 SE-room		
JCM 00506-00507	Tweihina, Fort	N34.72619 E38.09288 Cave		N-part hilltop
JCM 00467, 00502, JK 1970	Tweihina, Station	N34.72456 E38.09243 Overview	W	
JCM 0001-0005, 0018	Tweihina, Station	N34.72456 E38.09243 Overview	W	2006-2007
JCM 00516	Tweihina, Station	N34.72456 E38.09243 Overview	NE	
JCM 0321, 0323, JK 7359-7360	Tweihina, Station	N34.72456 E38.09243 Overview	SE	
JCM 0483-0484, 7358	Tweihina, Station	N34.72456 E38.09243 E-wall	N	
JCM 0485	Tweihina, Station	N34.72456 E38.09243 SE-corner	W	
JCM 0487, NA 0324-0334	Tweihina, Station	N34.72456 E38.09243 E-wall	E	Modern digging, Profile
JCM 0488, 7356	Tweihina, Station	N34.72456 E38.09243 E-wall	S	
JCM 0489	Tweihina, Station	N34.72456 E38.09243 N-wall	N	Modern digging, Profile
JCM 7300, NA 0335-0336	Tweihina, Station	N34.72456 E38.09243 NE-corner	SE	
NA 0337-0340	Tweihina, Station	N34.72456 E38.09243 Trough		
JCM 00436, 00439, 0346	Tweihina, Shrine01	N34.72432 E38.09314	S	
JCM 00432, 00434	Tweihina, Shrine01	N34.72432 E38.09314	N	
JCM 00433, 0349	Tweihina, Shrine01	N34.72432 E38.09314	NE	
JCM 00435	Tweihina, Shrine01	N34.72432 E38.09314 SE-corner	NE	
JCM 00436	Tweihina, Shrine01	N34.72432 E38.09314 N-wall	N	

JCM 00437	Tweihina, Shrine01	N34.72432 E38.09314	E-wall	E	
JCM 00446	Tweihina, Shrine01	N34.72432 E38.09314	Stone-wall	NE	W of shrine
JCM 00447	Tweihina, Shrine02	N34.72432 E38.09276		NW	
JCM 00448, 00451	Tweihina, Shrine02	N34.72432 E38.09276		NE	
JCM 00450	Tweihina, Shrine02	N34.72432 E38.09276		W	
JCM 00440-00445, 00350	Tweihina, Tomb02	N34.72432 E38.09314			
JCM 00452-00453	Tweihina, digging	N34.72426 E38.09370	Cistern, tomb?	SE	SE of fort
JCM 00454-00455	Tweihina, digging	N34.72426 E38.09370	Cistern, tomb?	NW	SE of fort
JCM 00460, 3400-3409	Tweihina, Tomb01	N34.72477 E38.09186			
JCM 00490	Tweihina, Inscript01		Palmyrene?		N of cistern03
JCM 00470	Tweihina, Inscript02		Arabic		W-wall fort
JCM 00478-00481	Tweihina, Inscript03		?		E of fort
JK 1961-1962	Tweihina, Inscript04		Arabic?		E of fort
JK 1953.1954	Tweihina, Inscript05		Arabic?		E of fort
JCM 00456-00458, NA 0345-0347	Tweihina, Inscript06		Sun disc?		SE of cistern03
JK 2011-2012	Tweihina, cistern01		Overview	W	
JK 2001	Tweihina, cistern01		South arm	E	
JK 2002	Tweihina, cistern01		South arm		Sub drain
JK 2004, 2006, 2010	Tweihina, cistern01		North arm	S	
JK 1959	Tweihina, cistern02		Cistern		
JK 2013-2015	Tweihina, cistern02		East arm	SW	
JK 2043	Tweihina, cistern02		West arm	SW	
JCM 9012	Twehina, cistern03		Overview	E	
JCM 00463, JK 1990	Tweihina, cistern03		Cistern		
JCM 9001-9004	Tweihina, cistern03		North arm	E	
JCM 00462, 00464, JK 1987	Tweihina, cistern03		North arm	N	
JCM 00465-00466, 9008-9009	Tweihina, cistern03		North arm	S	
JK 1982-1984, 1986, 2044	Tweihina, cistern03		North arm	S	
JCM 00482, JK 1981	Tweihina, cistern03		SE-arm	NW	
JCM 2043, 9005-9006	Tweihina, cistern03		SE-arm	W	



JCM 2045-2046, 9007, 9010-9011	Tweihina, cistern03	SE-arm	E	
JK 1991, 1995	Tweihina, cistern04	Cistern		
JK 1992-1993	Tweihina, cistern04	Trough		
JK 1996.1997	Tweihina, cistern04	Trough		
JK 1998-2000	Tweihina, cistern04	E-arm	E	
JK 2043	Tweihina, cistern04	W-arm	SW	
JCM 00272, 00661, NA 0413-0414	Wadi Masek	Animal tracks		SW of Tweihina

Nr.	Site	GPS	Description	Direction	Details
JCM 00265-00270, NA 0463-0464	Shalalah		Overview	E - SSE	From hill
NA 0461-0462	Shalalah		Overview, fort	SE	From Hilltop
NA 0465-0466	Shalalah		Overview, springs	E - SSE	From hilltop
JCM 00001	Shalalah		Overview, plain	S	With camps
JCM-00002-000013, JK 5134-5135	Shalalah		Overview, W. Abyad	E - SSE	
JK 5138	Shalalah		Track to springs	N	From fort
JK 7406	Shalalah, springs		Spring area and fort	S	
JCM 00584-00585	Shalalah, springs		Spring area	E	
JCM 00020-00021	Shalalah, springs		Track to W. Abyad	E	Before 2008
JCM 00600-00601	Shalalah, springs		Ravine to W. Abyad	E	After heavy rainfall
JCM 00602	Shalalah, springs		Ravine to W. Abyad	W	End of Aqueduct
JCM 00553	Shalalah, springs		Spring area	NW	N-ravine, W-arm
JCM 00555	Shalalah, springs		Ravine W of springs	W	Middle-arm
JCM 00556	Shalalah, springs		Ravine W of springs	W	S-arm
JCM 00557	Shalalah, springs		Ravine W of springs	W	N-arm
JK 2072, 2075-2076, 2078-2079	Shalalah, springs		Ravine N of springs	W	S-arm
JK 2073-2074, 2077	Shalalah, springs		Ravine N of springs	E	S-arm
JK 5177, 5180, JCM 00040-00041	Shalalah, springs	N34.75846 E38.11713	Aqueduct		Before 2008
JCM 00590-00592, 00594	Shalalah, springs	N34.75846 E38.11713	Aqueduct	W	
JCM 00589, 00593, 00595	Shalalah, springs	N34.75846 E38.11713	Aqueduct	E	
JCM 00596	Shalalah, springs	N34.75846 E38.11713	Aqueduct	N	
JCM 00588	Shalalah, springs	N34.75846 E38.11713	Aqueduct	N	Tie for animals
JCM 00599	Shalalah, springs	N34.75846 E38.11713	Inscription	S	Arabic?
JK 2080	Shalalah, springs		Spring	E	Close to well 01
JCM 00558-00562, JK 2079	Shalalah, springs	N34.75778 E38.11555	Well 01		
JCM 00563-00568, 00100-00101	Shalalah, springs	N34.75805 E38.11574	Well 02		
JK 5174	Shalalah, springs	N34.75805 E38.11574	Well 02		

JCM 00569	Shalalah, springs	N34.75811 E38.11584	Well 03		
JCM 00570-00578, 00580	Shalalah, springs	N34.75825 E38.11597	Well 04		
JCM 00105-00109, JK 5175	Shalalah, springs	N34.75825 E38.11597	Well 04		
JCM 00581-00583	Shalalah, springs	N34.75814 E38.11616	Well 05		
JCM 00201-00203	Shalalah, fort	N34.75780 E38.12013	Overview	NE	
JCM 00205	Shalalah, fort	N34.75780 E38.12013		NE	
JCM 00209	Shalalah, fort	N34.75780 E38.12013			
JCM 00212	Shalalah, fort	N34.75780 E38.12013	Courtyard	SE	
JCM 00214	Shalalah, fort	N34.75780 E38.12013	Courtyard	S	
JK 5158	Shalalah, fort	N34.75780 E38.12013	NE room	E	
JK 5159	Shalalah, fort	N34.75780 E38.12013	NE room	N	Internal S-N wall
JK 5160	Shalalah, fort	N34.75780 E38.12013	SE room	S	
JK 5161	Shalalah, fort	N34.75780 E38.12013	SE room	SE	
JK 5162	Shalalah, fort	N34.75780 E38.12013	Entrance, E wall	W	
JK 5165	Shalalah, fort	N34.75780 E38.12013	E-wall	NW	
JK 5168, 5171	Shalalah, fort	N34.75780 E38.12013	SW-corner	E SE	
JK 5164, JCM 00211	Shalalah, fort	N34.75780 E38.12013	SE-corner	NW	
JCM 00210	Shalalah, fort	N34.75780 E38.12013	SE-corner	N	
JCM 00213	Shalalah, fort	N34.75780 E38.12013	NW-cornar	SE	
JCM 00250	Shalalah, village	N34.75044 E38.12151	Building A	E	N-wall
JCM 00706	Shalalah, village	N34.75044 E38.12151	Building A	E-wall	N
JCM 00707	Shalalah, village	N34.75044 E38.12151	Building A	NW	NE-corner
JCM 00251	Shalalah, village	N34.75044 E38.12151	Building A	S	NE-corner
JCM 00252	Shalalah, village	N34.75044 E38.12151	Building A	SE	NE-corner
JCM 00253	Shalalah, village	N34.75044 E38.12151	Building A	NW	SE-corner
JCM 00708	Shalalah, village	N34.75044 E38.12151	Building A	N	W-rooms
JCM 00703	Shalalah, village	N34.75044 E38.12151	Building A	S	W-rooms
JCM 00702	Shalalah, village	N34.75044 E38.12151	Building A	NW	NW-corner from interior
JCM 00704	Shalalah, village	N34.75044 E38.12151	Building A	E	NW-corner, N-rooms
JCM 00705	Shalalah, village	N34.75044 E38.12151	Building A	W	Partition-wall, NW part.

JCM 00709	Shalalah, village	N34.75083 E38.12100 Building B-E	N	East wall
JCM 00710	Shalalah, village	N34.75083 E38.12100 Building B-E	NNW	NE-corner,
JCM 00711, 00723, JCM 00258	Shalalah, village	N34.75083 E38.12100 Building B-E	S	Wall between E and W part
JCM 00722	Shalalah, village	N34.75083 E38.12100 Building B-E	SE	Overview
JCM 00712, JCM 00257	Shalalah, village	N34.75079 E38.12031 Building B-W	W	N-wall and rooms
JCM 00256	Shalalah, village	N34.75079 E38.12031 Building B-W	E	N-wall
JCM 00713, JCM 00255	Shalalah, village	N34.75079 E38.12031 Building B-W	NE	Digging in NW corner-room
JCM 00714	Shalalah, village	N34.75079 E38.12031 Building B-W	SE	NW-corner
JCM 00715, JCM 00259-00260	Shalalah, village	N34.75079 E38.12031 Building B-W	S	W-wall, and NW-corner
JCM 00716	Shalalah, village	N34.75079 E38.12031 Building B-W	E	Gate in W-wall
JCM 00261	Shalalah, village	N34.75043 E38.12039 Building B-W and C	S	End W-wall, building C
JCM 00717	Shalalah, village	N34.75043 E38.12039 Building B-W and C	E	SW-corner Building B, N-wall? Building C
JCM 00720	Shalalah, village	N34.75043 E38.12039 Building B-W and C	E	Overlapping walls
JCM 00721	Shalalah, village	N34.75043 E38.12039 Building B-W and C	N	Overlapping walls
JCM 00718	Shalalah, village	N34.75040 E38.12018 Building C	S	W-rooms
JCM 00719	Shalalah, village	N34.75040 E38.12018 Building C	SE	NW-corner
JCM 00262	Shalalah, village	N34.75040 E38.12018 Building C	NE	NW-corner
NA 0990-1000, JCM 00265-00271	Shalalah, village	Finds		JCM before 2008
NA 0435-0452	Shalalah, hilltop	N34.76191 E38.10740 Square structure		
NA 0984-0987	Shalalah, hilltop	N34.76191 E38.10740 Square structure		Finds
NA 0432-0434, 0453-0459	Shalalah, hilltop	N34.76323 E38.10694 Corrals		
NA 0680-0681, 0687-0688, 0691-0692	Shalalah, plain	Islamic tombs		
NA 0467-0470, 0682-0686, 0690	Shalalah, plain	N34.75281 E38.11247 Corral 05		
NA 0471-0472, 0674-0679	Shalalah, plain	N34.75352 E38.11219 Corral 06		
NA 0988-0989	Shalalah, plain	N34.75352 E38.11219 Corral 06		Finds
NA 0467-0472, 0664-0670	Shalalah, plain	N34.75397 E38.11150 Corral 07		
NA 0659-0661	Shalalah, plain	N34.75591 E38.10866 Corral 08		



Nr.	Site	GPS	Description	Direction Details
JCM 00724, 00743, 00744, 0752	Kshebar	N34.71372 E38.14035	Overview	Rock tombs and valley
JCM 0009-0010, JK 2121, 7337, 7352	Kshebar	N34.71372 E38.14035	Overview	Rock tombs and valley
JCM 00725, 00726, JK 7339	Kshebar	N34.71372 E38.14035	Tombs	Niches
JCM 00727-00730, 0005-0008	Kshebar	N34.71372 E38.14035	Tombs	Tomb A
JCM 00731-0733, JK 7332, 7338	Kshebar	N34.71372 E38.14035	Tombs	Tomb B
JCM 000734, JK 7334-7335	Kshebar	N34.71372 E38.14035	Tombs	Tomb C
JCM 00736-0742	Kshebar	N34.71372 E38.14035	Tombs	Tomb D
JCM 00745, JK 7336	Kshebar	N34.71372 E38.14035	Tombs	Tomb E
JCM 00735, 00744, 00747, JK 7351	Kshebar	N34.71372 E38.14035	Tombs	Steps from 1st to 2nd plateau
JCM 00746	Kshebar	N34.71372 E38.14035	Tombs	Steps from 2nd to 3rd plateau
JCM 00749-0751	Kshebar	N34.71372 E38.14035	Tombs	Cistern
JCM 00748, 00752	Kshebar	N34.71372 E38.14035	Tombs	Retaining wall
NA 0954-0964	Kshebar	N34.71372 E38.14035	Plain	Finds
JCM 0012-0013	Kshebar	N34.71372 E38.14035	Plain	Tabular fanscraber (2006)
NA 0698-0712, JK 2122	Kshebar	N34.71372 E38.14035	Plain	Stonestructures

Nr.	Site	GPS	Description	Direction	Details
JCM 0161-163, 165-166	Bir Al-Arfa	N34.74589 E38.07114	Area 1		Grotto. Rock-carving
JCM 0170-0172	Bir Al-Arfa	N34.74618 E38.06831	Area 2		Cistern. Stone structure. Pottery
JCM 0175-0178	Bir Al-Arfa	N34.74734 E38.06224	Area 3		Cistern 01
JCM 0179-0180	Bir Al-Arfa	N34.74734 E38.06224	Area 3		Cistern 02
JCM 0181-0190	Bir Al-Arfa	N34.74734 E38.06224	Area 3		Cistern 03
JCM 0164	Bir Al-Arfa		Overview	W	
JCM 0167-169	Bir Al-Arfa		Panorama	W-N	
JCM 0173	Bir Al-Arfa		Overview	WNW	Area 3
JCM 0174, 0188, 0699	Bir Al-Arfa		Overview	SE	

Nr.	Site	GPS	Description	Direction	Details
JCM 00133, 00796	Jazal	N34.6936 E38.008	Overview	N	
JCM 00148, 00156	Jazal	N34.6936 E38.008	Overview	NW	
JCM 00794-00795	Jazal	N34.6936 E38.008	Overview	NE	
JCM 00799	Jazal		Pass through Jebel Abyad	N	
JCM 00134-00135	Jazal	N34.6936 E38.008	Habitation		Wells in oasis
JCM 00136-00141	Jazal	N34.6936 E38.008	Habitation		Walls
JCM 00145-00147	Jazal	N34.6936 E38.008	Habitation		Finds
JCM 00130-00132	Jazal		South of Jazal		Cairns
JCM 00149-00159	Jazal	N34.683 E38.038	E of Jazal		Cairns
JCM 00160	Jazal	N34.704 E.38060	E of Jazal, Wai Thakara		Cairns

Nr.	Site	GPS	Description	Direction	Details
JCM 00218, 00208-00209	Shanaeh Fort	N34.7996 E38.0309	Hilltop	E - SE	View from wadi
JCM01	Shanaeh Fort	N34.7996 E38.0309	Panorama	SE	
JCM 00202, 00630	Shanaeh Fort	N34.7996 E38.0309	W-wall	S	
JCM 00629	Shanaeh Fort	N34.7996 E38.0309	W-wall	N	
JCM 00206	Shanaeh Fort	N34.7996 E38.0309	W-wall	SW	
JCM 00621	Shanaeh Fort	N34.7996 E38.0309	S-wall. SW-corner	W	
JCM 00626	Shanaeh Fort	N34.7996 E38.0309	S-wall. SE-corner	E	
JCM 00207	Shanaeh Fort	N34.7996 E38.0309	S-gate	N	
JCM 00624	Shanaeh Fort	N34.7996 E38.0309	S-gate	NW	
JCM 00625	Shanaeh Fort	N34.7996 E38.0309	S-gate	NE	
JCM 00622	Shanaeh Fort	N34.7996 E38.0309	SW-corner	N	Protruding wall
JCM 00203	Shanaeh Fort	N34.7996 E38.0309	NW-corner	N	
JCM 00205	Shanaeh Fort	N34.7996 E38.0309	NW-corner	SW	
JCM 00637, 00639-00640, JCM002	Shanaeh Fort	N34.7996 E38.0309	NW-corner	S	
JCM 00631	Shanaeh Fort	N34.7996 E38.0309	NW-corner	NW	Interior
JCM 00204	Shanaeh Fort	N34.7996 E38.0309	NE-corner	SW	
JCM 00636, 00641-06442, 00645	Shanaeh Fort	N34.7996 E38.0309	N-wall	SE	
JCM 00638	Shanaeh Fort	N34.7996 E38.0309	N-wall. NW-corner	E	
JCM 00643	Shanaeh Fort	N34.7996 E38.0309	N-wall. NE-corner	SE	
JCM 00644, JCM002	Shanaeh Fort	N34.7996 E38.0309	N-wall. NW-corner	S	
JCM 00628	Shanaeh Fort	N34.7996 E38.0309	E-gate	W	
JCM 00627	Shanaeh Fort	N34.7996 E38.0309	Cultural layer		E of E-wall
JCM 00632	Shanaeh Fort	N34.7996 E38.0309	Shrine	NW	
JCM 00634	Shanaeh Fort	N34.7996 E38.0309	Shrine	E	
JCM 00633	Shanaeh Fort	N34.7996 E38.0309	Shrine	N	W-wall
JCM 00635	Shanaeh Fort	N34.7996 E38.0309	Shrine	SW	SE-corner
NA 0001-0021, 1001-1011.	Shanaeh Fort	N34.7996 E38.0309	Finds		
JCM 00226	Shanaeh Wadi	N34.8004 E38.0302	Cistern	NW	East of wadi

JCM 00200-00201, 00223-00226, JCM005-006	Shanaeh Wadi	Overview	NW	
JCM 00206, 00208	Shanaeh Wadi	Overview	SW	Wadi Shanaeh
JCM 00623, 00646, NA 0586-0587	Shanaeh Wadi N34.798 E38.024	Fields	W	
JCM 00660	Shanaeh Wadi N34.80215 E38.03016	Station	SW	Overview
JK 2101	Shanaeh Wadi N34.80215 E38.03016	Station	NE	Overview from SW-corner
JK 2102	Shanaeh Wadi N34.80215 E38.03016	Station	NW	Overview from SE-corner
JK 2105	Shanaeh Wadi N34.80215 E38.03016	Station	W	N-wall
JCM 00211-00212, 00651, JK 2103	Shanaeh Wadi N34.80215 E38.03016	Station	E	N-wall
JK 2104	Shanaeh Wadi N34.80215 E38.03016	Station	S	NE-corner
JCM 00213-00215, 00652-00653	Shanaeh Wadi N34.80215 E38.03016	Station	SW	NE-corner
JCM 00654	Shanaeh Wadi N34.80215 E38.03016	Station	SW	NE-corner, N-wall
NA 0022-0026	Shanaeh Wadi N34.80215 E38.03016	Station		Finds
NA 0027-0034, 0313-0320, JCM 00940-00943	Shanaeh Wadi N34.80215 E38.03016	Station		Tetradrachma
JK 2112	Shanaeh Wadi N34.80267 E38.03031	Building	S	N-wall, NW-corner
JK 2113	Shanaeh Wadi N34.80267 E38.03031	Building	E	W-wall, NW-corner
JK 2114	Shanaeh Wadi N34.80267 E38.03031	Building	S	NE-corner
JK 2115	Shanaeh Wadi N34.80267 E38.03031	Building	W	NE-corner
JK 2106, 2109, JCM 0647	Shanaeh Wadi N34.80183 E38.03028	Well 01		
JK 2107-2109, JCM 00221, 00648	Shanaeh Wadi N34.80179 E38.03015	Well 02		
JK 2110-2111, JCM 00216-00217, 00655, 0659	Shanaeh Wadi N34.80247 E38.03075	Well 03		
JCM 0658	Shanaeh Wadi N34.80269 E38.03109	Well 04		
JK 2116	Shanaeh Wadi N34.80162 E38.02915	U-shaped depres.	W	
JK 2117	Shanaeh Wadi N34.80162 E38.02915	U-shaped depres.	E	



Nr.	Site	GPS	Description	Direction	Details
JCM 00751-0754	Circular structure	N34.77178 E38.00942	Structure		
JK 2118.2120	Circular structure	N34.77178 E38.00942	Structure		
NA 0751-0754, 0763-0766	Circular structure	N34.77178 E38.00942	Structure		
NA 0756-0760	Circular structure	N34.77178 E38.00942	Islamic burials		
NA 0755, 0761-0762	Circular structure	N34.77178 E38.00942	Corrals		

Nr.	Site	GPS	Description	Direction	Details
JCM 00759-60	Zer Dghelar	N34.75571 E37.99461	Overview	SE	Mountain pass
JK 2126	Zer Dghelar	N34.75571 E37.99461	Overview	SE	Mountain pass
JCM 00762 JK 2123	Zer Dghelar	N34.75571 E37.99461	Overview	N	Valley
JCM 00763 JK 2124	Zer Dghelar	N34.75571 E37.99461	Overview	WNW	Valley
JCM 00754	Zer Dghelar	N34.75571 E37.99461	Shrine	SE	
JCM 00755	Zer Dghelar	N34.75571 E37.99461	Shrine	ENE	Corner
JCM 00756	Zer Dghelar	N34.75571 E37.99461	Shrine	W	Wall
JCM 00758	Zer Dghelar	N34.75571 E37.99461	Well	ESE	
JCM 00757	Zer Dghelar	N34.75571 E37.99461	Stone wall	S	
JCM 00761	Zer Dghelar	N34.75236 E37.99373	Building	ESE	On hilltop
JCM 00764	Zer Dghelar	N34.75236 E37.99373	Tomb	W	On hilltop
NA 0971-0976	Zer Dghelar	N34.75571 E37.99461	Finds		Shrine

Nr.	Site	GPS	Description	Direction	Details
JCM 00765	Station098	34.76340N 37.96234E	Tell	W	
NA 00798	Station098	34.76340N 37.96234E	Tell	S	
NA 00799	Station098	34.76340N 37.96234E	Tell	E	
JCM 00697	Station098	34.76340N 37.96234E	Tell	N	Eastern wall
NA 00787	Station098	34.76340N 37.96234E	Islamic burial		
JCM 00696	Station098	34.76340N 37.96234E	S-wall	W	
JCM 00769	Station098	34.76340N 37.96234E	S-wall	E	Area 3
JCM 00767	Station098	34.76340N 37.96234E	SW-corner	S	
JCM 00698	Station098	34.76340N 37.96234E	SE-corner	W	
JCM 00695	Station098	34.76340N 37.96234E	W-wall	N	
JCM 00768, 00790	Station098	34.76340N 37.96234E	Wall east of tell	NE	
NA 00788	Station098	34.76340N 37.96234E	Wall east of tell	W	

Nr.	Site	GPS	Description	Direction	Details
JCM 00770, JK 2129	Station242	N34.75761 E37.91058	W-tell, wadi	N-S	
NA 0812	Station242	N34.75761 E37.91058	Tell	W	
JCM 00771	Station242	N34.75761 E37.91058	Overview	SE	Landscape
JCM 00772	Station242	N34.75761 E37.91058	Overview	SW	Landscape
JCM 00773-00774	Station242	N34.75761 E37.91058	N-wall	E	
JCM 00775	Station242	N34.75761 E37.91058	N-wall	W	
JCM 00776	Station242	N34.75761 E37.91058	NE-corner	S	
JCM 00777	Station242	N34.75761 E37.91058	E-wall. Gate	NW	
JCM 00778 NA0809	Station242	N34.75761 E37.91058	E-wall	N	Digging in SE corner
JCM 00779-00780. JK 2130	Station242	N34.75761 E37.91058	Rooms	S-wall	

Nr.	Site	GPS	Description	Direction Details
JCM 00274-00277, JCM 500, JCM 506	Khabar, Station	N35.002 E38.116	Overview	SE
JCM 507	Khabar, Station	N35.002 E38.116	Overview	SW
JCM 501-502, 505	Khabar, Station	N35.002 E38.116	W-wall	S
JCM 00278	Khabar, Station	N35.002 E38.116	E-Wall	S
JCM 508	Khabar, Station	N35.002 E38.116	N-wall	SW
JCM 504	Khabar, Station	N35.002 E38.116	N-wall	E
JCM 503	Khabar, Station	N35.002 E38.116	SW-corner, S-wall	E
JCM 509	Khabar, Station	N35.002 E38.116	NW-corner	S
JCM 00279-00283	Khabar, Station	35.00223326N 38.11691285E	Secondary building	
NA 0078-0129	Khabar, Station	N35.002 E38.116	Finds	
JCM 550	Khabar, Station	N35.002 E38.116	Finds 2006	
JCM 00303-00305	Khabar East	N350015 E381189	Wadi and mound	S
JCM 00306, JCM 531-536	Khabar East	N350015 E381189	Mound, walls in wadi profile	E
JCM 530	Khabar East	N350015 E381189	Wadi and mound	N
JCM 00289-291	Khabar East	N350015 E381189	Walls towards wadi. S-section	
JCM 00307	Khabar East	N350015 E381189	S-N wall. N-section	N
JCM 00308	Khabar East	N350015 E381189	NW- corner. N-section	W
JK 1846	Khabar East	N350015 E381189	Walls towards wadi. N-section	
JK 1856	Khabar East	N350015 E381189	E-Wall. N-section	N
JK 1858	Khabar East	N350015 E381189	Room. N-section	W
JK 1859	Khabar East	N350015 E381189	Eastern wall. N-section	
NA 0130-0178	Khabar East	N350015 E381189	Finds	
JCM 00288	Khabar	N35.00269 E38.11729	Well 1	W
JCM 00297, 581, JK 1848-1849	Khabar	N35.00517 E38.11855	Well 2	
JCM 00300, 582-583	Khabar	N35.00610 E38.11885	Well 3	

JCM 00318-00319, 584-585, JK 1869	Khabar	N35.00671 E38.11909	Well 4
JCM 00320, 586, JK 1870	Khabar	N35.00662 E38.11932	Well 5
JCM 00301, 00321, JK 1851	Khabar	N35.00699 E38.11952	Well 6
JCM 00302, 00322, JK 1852-1853	Khabar	N35.00748 E38.12029	Well 7
JCM 00313, JK 1863	Khabar	N35.00322 E38.11757	Well 8
JCM 00313	Khabar	N35.00335 E38.11766	Well 9
JCM 00314-00315, 587, JK 1864-1866.	Khabar	N35.00373 E38.11768	Well 10
JCM 00316, JK 1867	Khabar	N35.00413 E38.11742	Well 11
JCM 00317, 588, JK 1868	Khabar	N35.00400 E38.11767	Well 12
JCM 00324 JK 1871	Khabar	N35.00505 E38.11696	Well 13



Nr.	Site	GPS	Description	Direction Details
JCM 00886-00889, 00920-00921, 00921x, 00929-0930	Jebel Merah N		Overview	
NA 0035, 0038, JK 2244-2245, 2264-2265	Jebel Merah N		Overview	
JCM 001-006	Jebel Merah N		Overview (2005-2006)	2005-2006
JCM 00913-00916, JK 2247-2248, 2251.	Jebel Merah N		Various pictures	
NA 0069, 0071-0075, 0078-0080, 0082-0090, 0092-0109	Jebel Merah N		Various pictures	
NA 0039-0045, 0059-0060	Jebel Merah N	35.00492391N 38.17148960E	Cairn 1	
NA 0046-0051	Jebel Merah N	35.00574N 38.17169E	Cairn 2	
NA 0052-0058, JK 2243	Jebel Merah N	35.00618N 38.17295E	Cairn 3	
JCM 00890-00895, JK 2238, 2242.	Jebel Merah N	35.00730N 38.17158E	Cistern/hafir?	
JCM 00898-00897, JK 2239-2241	Jebel Merah N	35.00706N 38.17230E	Cistern/hafir?	
NA 0066-0068	Jebel Merah N		Square structure	
NA 0112	Jebel Merah N	34.99738N 38.16743E	Corral 1	
JCM 00898, 00922-00927, JK 2268-2269.	Jebel Merah N		Eastern valley. Corrals	
JK 2246	Jebel Merah N	N35.00276 E38.17187	Cairn B03	
JK 2249-2250	Jebel Merah N	N35.00240 E38.17189	Cairn B05	
JK 2254-2255	Jebel Merah N	N35.00246 E38.16874	Cairn B06	
JCM 00899-00912, NA 0081, JK 2256-2258	Jebel Merah N	N34.99716 E38.16845	Cairn B09 and B10	
JCM 00917-00919, NA 0091, JK 2262-2263	Jebel Merah N	N34.99374 E38.16694	Cairn B13	
NA 0110-0111, JK 2272-2273	Jebel Merah N	N34.99822 E38.16554	Cairn B20	
JK 2261, 2270-2271	Jebel Merah N		Kite	
JK 2274-2277, 2279-2281	Jebel Merah W	34.96120747N 38.14921990E	Cave	
NA 0117, 0121, 0124, 0126-0127, 0130-0131	Jebel Merah W	34.96120747N 38.14921990E	Cave	
JCM 00931-00933	Jebel Merah W	34.96120747N 38.14921990E	Cave	

Nr.	Site	GPS	Description	Direction	Details
JCM 00350-355, 707-709	Fasida	N35.165 E38.022	Overview	N	Panorama
JCM 00342	Fasida	N35.165 E38.022	Overview	N	N-part station
JCM 00362	Fasida	N35.165 E38.022	Overview	NE	N-part station
JCM 00363	Fasida	N35.165 E38.022	Overview	NE	NW-part station
JCM 00361	Fasida	N35.165 E38.022	Overview	NE	NE-part station
JCM 00349	Fasida	N35.165 E38.022	Overview	NE	SE-part station
JCM 00360	Fasida	N35.165 E38.022	Overview	E	S-part station
JCM 00340	Fasida	N35.165 E38.022	E-wall	N	NE-corner
JCM 00341	Fasida	N35.165 E38.022	E-wall	N	N-part
JCM 00343	Fasida	N35.165 E38.022	E-wall	S	S-part
JCM 00358	Fasida	N35.165 E38.022	E-wall	NE	
JCM 700, 702-703	Fasida	N35.165 E38.022	E-wall	S	S-part
JCM 00332, 720	Fasida	N35.165 E38.022	W-wall	N	SW-wall1 - W-wall
JCM 00333.00334, 721	Fasida	N35.165 E38.022	W-wall	N	
JCM 00337	Fasida	N35.165 E38.022	W-wall	SE	S-part
JCM 724	Fasida	N35.165 E38.022	W-wall	S	
JCM 723	Fasida	N35.165 E38.022	W-wall	NNE	N-part
JCM 00336	Fasida	N35.165 E38.022	N-wall	E	W-part
JCM 00338	Fasida	N35.165 E38.022	N-wall	W	
JCM 00339	Fasida	N35.165 E38.022	NE-corner	E	
JCM 00335, 705-706	Fasida	N35.165 E38.022	NW-corner	E	
JCM 00346-00348, 00357, 710	Fasida	N35.165 E38.022	S-wall	E	
JCM349	Fasida	N35.165 E38.022	S-wall	NE	
JCM 711	Fasida	N35.165 E38.022	S-wall	W	
JCM 00344-00345	Fasida	N35.165 E38.022	S-wall		E-end. A S-N wall?
JCM 00349, 00357	Fasida	N35.165 E38.022	SE-corner	E	
JCM 00356	Fasida	N35.165 E38.022	SW-corner	NW	

JCM 00359	Fasida	N35.165 E38.022	SW-corner	NE	
JCM 00364	Fasida	N35.165 E38.022	SW-corner	S	
JCM 00331-00332	Fasida	N35.165 E38.022	SW-wall 1	NNW	
JCM 00356	Fasida	N35.165 E38.022	SW-wall 1	NNW	Overview from SW-corner
JCM 00364	Fasida	N35.165 E38.022	SW-wall 1 and 2	S	Opening to W-wall
JCM 715	Fasida	N35.165 E38.022	SW-wall 1	N	Opening to W-wall
JCM 00329	Fasida	N35.165 E38.022	SW-wall 2	NW	
JCM 00330	Fasida	N35.165 E38.022	SW-wall 2	S	
JCM 00368	Fasida	N35.165 E38.022	Internal wall (S-N)	N	
JCM 00369	Fasida	N35.165 E38.022	Internal wall (E-W)	S	
JCM 00370	Fasida	N35.165 E38.022	Internal walls corner	S	
JCM 00365-00367	Fasida	N35.165 E38.022	Corrals? Interior		
NA 0259-0303	Fasida	N35.165 E38.022	Finds		
JCM 750	Fasida	N35.165 E38.022	Finds 2006		
JCM 00371	Fasida N	N35.16674 E38.02184	Wall north of station W		

Nr.	Site	GPS	Description	Direction	Details
JCM 00373-00374, 00389-00391	Khaled. Wells	N35.15456 E38.03232	Well01		
JCM 00376-00378, 00397-399, JK 1886-1888	Khaled Wells	N35.15552 E38.03116	Well02		
NA 0179-0184	Khaled. Wells	N35.15552 E38.03116	Well02 Finds.		
JK 1919	Khaled. Wells	N35.15378 E38.03140	Well03		
JCM 00396	Khaled. Necrop?	N35.15451 E38.03081	Overview	S	
JCM 00387	Khaled. Necrop?	N35.15451 E38.03081	Overview	W	

JCM 00383, JK 1894	Khaled. Necrop?	N35.15451 E38.03081	Diggings		
NA 0304-0312	Khaled. Necrop?	N35.15451 E38.03081	Finds		
JCM 00401	Khaled	N35.15552 E38.03116	Overview	NW	Towards Fasida
JK 1889	Khaled	N35.15552 E38.03116	Overview	N	Well 02
JCM 00384-00387, 00392-00393, 00400, JK 1893	Khaled. Tell	N35.15552 E38.03116	Overview	W	
JCM 00380	Khaled. Tell	N35.15552 E38.03116	Overview	N	
JCM 00394	Khaled. Tell	N35.15552 E38.03116	Overview	SW	
JCM 00400, NA 0038-0047, JK 1918, 1929-1932	Khaled. Tell	N35.15512 E.38.03056	E-part.		Diggings.Mudbricks and Architectural fragments.
JCM 00379, 00402-00415, JK 1890	Khaled. Tell.	N35.1555224 E38.0294950	N-part		Diggings. Architectural fragments.
JCM 00416, JK 1891	Khaled. Tell.	N35.15402 E38.02725 N35.1551182	W-part	E	Retaining wall
JCM 00381-00382, JK 1892, 1906	Khaled. Tell.	E38.0293448	S-part.	N	Diggings with mudbricks in S-tell
JK 1899	Khaled. Tell	N35.1551182 E38.0293448	S-part	S	
JCM 00417, 00420-00421, 00424.	Khaled. Tell	N35.1551182 E38.0293448	S-part, top		Mudbricks
JK 1909, 1912-1916	Khaled. Tell	N35.1551182 E38.0293448	S-part, top		Samples of mudbricks, droppings and organic mat.
NA 0185-0258, JCM 00944-00945	Khaled. Tell	N35.15547 E38.02941	Finds		