



SOCIETY FOR LIBYAN STUDIES

Outside the Walls:

Cyrene's Suburban Zone between the Greek and Roman Eras

- Fieldwork Report, April-May 2017-

1. Introduction

This report provides a brief account of the second phase of my doctoral survey project; the Cyrene Archaeological Survey (CAS) undertaken in the urban periphery of the ancient city of Cyrene between April 17th and May 16th 2017. Most of the travel and accommodation costs were covered thanks to the grant provided by the Society for Libyan Studies. The main objectives of the CAS were:

1. To visit and record as many of the ancient physical sites scattered outside the city walls of Cyrene as possible, in particular recently discovered sites. This will offer an overview of the different activities and monument types situated in Cyrene's suburbs, to produce qualitative data about the location and general character of the sites and activities located in Cyrene's suburban zone.
2. To conduct systematic and intensive fieldwork on a series of sample transects in the suburban zone, to identify sites and collect qualitative data relating to the archaeology.
3. To assess the density of pottery sherds or any other materials observed on the surface in selected sample areas of Cyrene's suburbs, as well as to search for evidence of manufacturing activity (potteries, furnaces, kiln debris and so on).

2. Survey Methodology

This research has used both extensive and intensive surveys, which are the chief categories used in many different projects worldwide. I also used the Global Positioning System (GPS) and the Quantum Geographic Information System (QGIS) in the study. In other words, this research used a mixture of methods in order to focus more on the spatial organisation of the archaeological sites located in the target area. As part of my research, a new independent archaeological, topographical and landscape survey has been performed in the selected area of Cyrene's suburbs. Details on how these methods were used in this research are discussed below.

2.1 Cartographic and topographical studies

A baseline representation of Cyrene's suburbs was built in the first phase of the research. A thorough literature review of previous works was conducted, including data in the archives of the Department of Antiquities (DoA) responsible for the study area such as, site images, plans, maps, archaeological missions' reports, etc. Information held in publications and archives is essential as it allows us to review and develop a contextual understanding of all the archaeological sites located in Cyrene's suburbs. Many suburban sites which may have been noted by past travellers, archaeologists and early explorers were reviewed as part of this research. Recent excavations and surveys were also studied.

Topographical features can play a key role in attempts to reconstruct archaeological sites and their history. Studying the topography of the area around Cyrene thus helped in understanding the relationship between archaeological sites, their function, the reason for their location, and provide a framework for the surface survey.

2.2 Google Earth imagery

Satellite imagery (via Google Earth Imagery) is used in this research where needed to provide clear evidence of the location of archaeological sites scattered outside the city walls. They also help us to understand the distribution and typology of these sites, and possible routes of communication. This has also helped in mapping and planning the target area, in addition to monitoring the modern buildings that have been built in recent

years as well as noting and recording any other significant features that appear on the surface. My research also made use of high resolution orthorectified imagery, including both satellite images and air photographs of Cyrene, courtesy of the EAMENA project (Endangered Archaeology in the Middle East and North Africa) and Dr Louise Rayne (a Post-Doctoral Research Associate at Leicester University).

2.3 Using QGIS and GPS Approaches

This research project uses the QGIS to illustrate the spatial organisation of the ancient sites and their chronological, functional and topographical significance through assessing material distributions and site locations rather than focusing on the mechanics of the analysis. Moreover, the QGIS is useful to illustrate the progressive encroachment of modern buildings, as it allows us to obtain an accurate picture of their numbers, the areas they occupy, and the extent to which they have impacted on any nearby archaeological sites. This survey's use of the GPS was essential, particularly in locating sites with the grid squares, in planning the CAS survey transects, and in following the N-S and E-W lines of the grid in an accurate manner.

2.4 Extensive survey

An extensive survey was used to evaluate the different archaeological features that are still visible in the study area, and to produce qualitative data about the location and general character of the sites. For this reason, as many of the visible sites were visited as possible, including new ones identified by the researcher via satellite imagery. This was done in order to record dimensions, ensure the accuracy of past surveys, and to make any additions where needed. If no previous plan existed, a simple survey was performed to produce one.

In order to accurately map site locations, a square grid frame measuring 6.5 km east-west by 6.5 km north-south aligned with the UTM (Universal Transverse Mercator) grid was set up with the core site of Cyrene on the northwest side of the grid (Fig 1). Each square of this grid measures 500 x 500 m, and is numbered from A-1 to M-13. Archaeological structures around the core site within each square were mapped and recorded in detail. This allowed me to identify the exact locations of sites logged by GPS,

and to obtain co-ordinates for features identified on the imagery to allow follow-up visits. However, a number of these squares contain no features for a variety of reasons, whether because of their location in very deep Wadis or cultivated lands so they usually do not contain any archaeological sites, or because a number of squares are located within the modern city of Shahat, and therefore, they are completely covered by modern buildings.

As many of the sites are located within private farms and properties, I had to interview the owners to obtain information such as the name of the site and the presence of any adjacent archaeological remains. This also allowed any destroyed monuments or endangered features to be assessed and recorded, in addition to taking GPS coordinates which allowed the accurate location of features not visible on the satellite imagery. All these details were noted in a special record sheet designed for the extensive survey and included the grid square number, site number, UTM coordinates and other information (Figs 2 and 3).

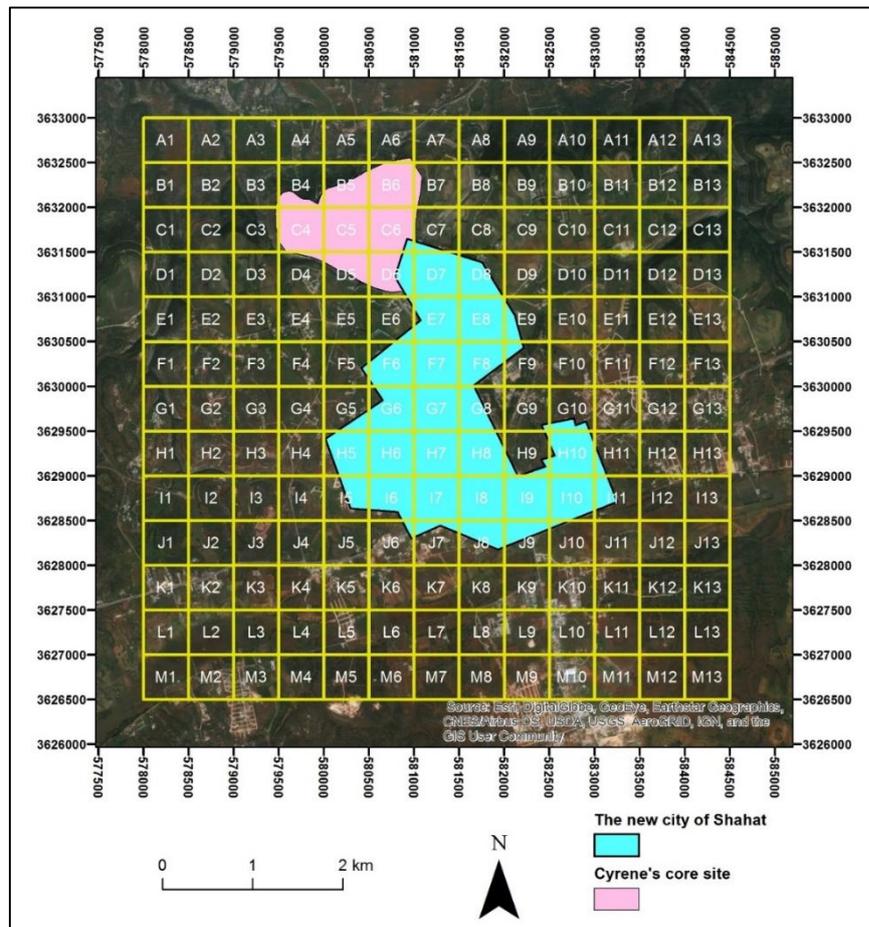


Fig 1: Square grid frame for Cyrene and its suburbs.

Completing the extensive survey involved working through several different stages. As mentioned previously, one of the initial stages was surveying the literature relating to previous works. Plans and sketches of several sites were located within the archives. Interviewing researchers in the Department of Antiquities and people who live near Cyrene was also vital to obtaining important information about recently-discovered sites and other information. Another essential stage involved visiting the target sites to record information and any significant details in the pro-forma sheets, and also to make a photographic record, using a scale of each unit is 10 cm. This stage was the most difficult for reasons discussed in the fieldwork reflection section below (Section 4).

2.5 Intensive survey

Intensive surveys of transects across Cyrene's suburbs were performed alongside the extensive survey. The transect lines investigated during the intensive survey were chosen carefully to provide a sample cross section of the suburban zone. This method of survey in particular played a vital part in this research, because it helped produce high-quality data regarding different structures and activities. This data was used to identify their functions and the factors influencing their location, and to assess the types and density of the artefacts found on the surface. It was also useful when examining the relationships between these suburban sites and activities with the city's urban core and the wider rural landscape.

At the outset, I knew that I was embarking on the survey of a large ancient city and that wide coverage was beyond the scope of my PhD. For this reason, intensive surveys were carried out on just three transects. These transects run along the edge of 500 x 500 m squares in the chosen area of the UTM grid. Transect 1 ran West to East and measured 100 m in width and 2,000 m in length, and is located to the east of Cyrene's ancient core. Transect 2 was 100 x 2,000 m, but was located to the South-West of the city, again running West to East. Transect 3 was situated on the south side of the urban core, and extended North to South measuring 100 m in width and 1,500 m in length, and intersected Transect 2 at its southern end (Fig 4) These transects were subdivided into 100 m sectors, and each unit of these linear sectors was traversed by teams of walkers.

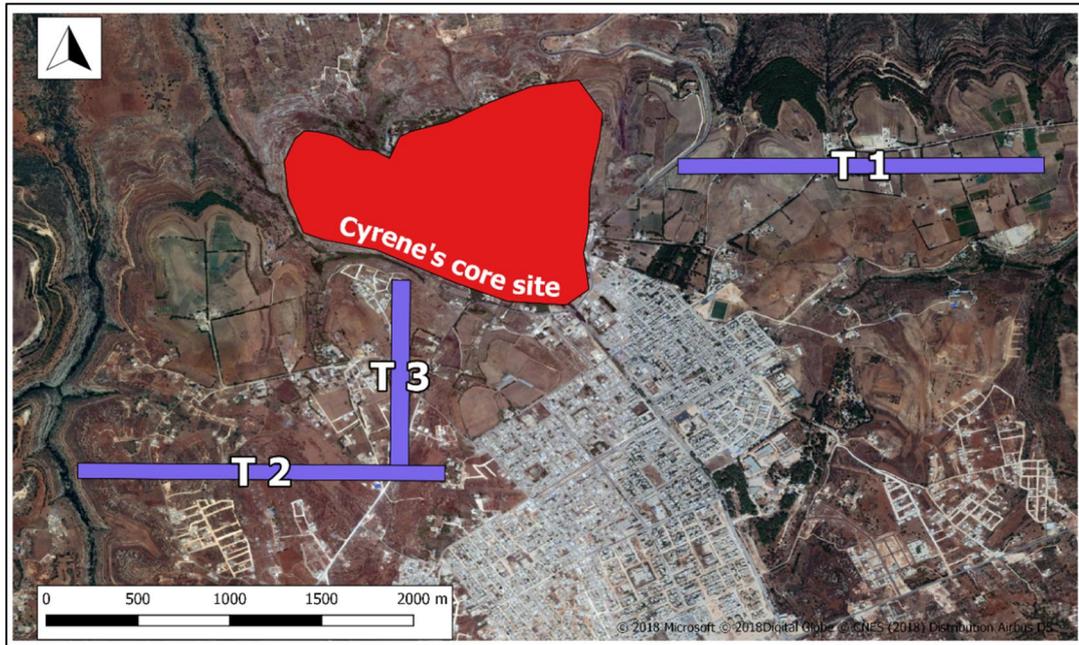


Fig 4: Transects 1, 2 and 3.

2.6 Walking strategy

My own research used a systematic walking survey with a team of five people to survey selected areas of Cyrene's suburbs, aiming to count diagnostic pottery sherds and other materials from the surface. The purpose of this was to expand our knowledge about the chronology of the sites, and identify any economic or industrial activity present in the area. The aim of my intensive survey was not to collect samples of various surface finds, but primarily to record any monuments and physical remains encountered, and assess the density of pottery sherds or any other materials observed on the surface in some selected areas. It also sought to identify evidence of manufacturing activity (furnaces, kiln, debris, etc).

As mentioned, the selected transects were subdivided into 100 m sectors, and each unit of these linear sectors was traversed by a team of 5 walkers, including four who were employed as researchers in the DoA of Cyrene, and myself (Fig 5). The walkers were spaced at 20 m intervals, and in the field each walker had to fill out specific information on a pro-forma sheet, recording information under various headings (Fig 6). These pro-forma sheets were written in both English and Arabic languages to make it easy for each walker to read and understand all the information on the record sheet (Figs 7 and 8).



Fig 5: Members during the survey with a spacing of 20 m (Author).

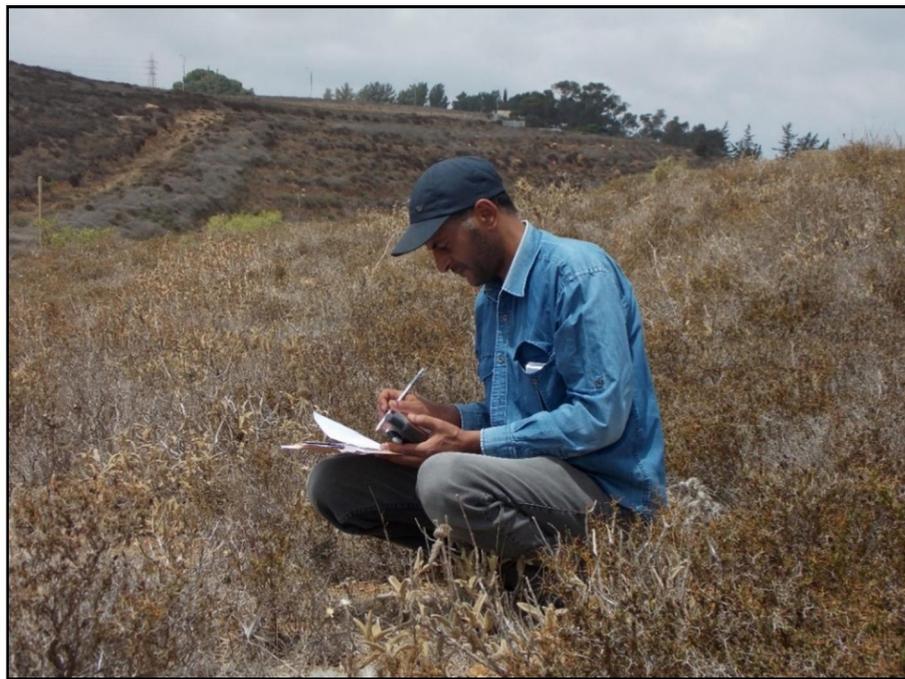


Fig 6: A survey team member fills in a pro-forma sheet after surveying 100 m (Author).

CYRENE ARCHAEOLOGICAL SURVEY

Transect pro-forma Sheet

نموذج تسجيل القطاع

Transect No: T رقم القطاع		Walker Name & Number: اسم المساح ورقمه			Date: / / 2015	
Starting GPS Coordinates احداثيات بداية القطاع	E		End GPS Coordinates احداثيات نهاية القطاع	E		
	N			N		
GPS Waypoint نقطة البداية				GPS Waypoint نقطة النهاية		

Transect Finds اللقى الصغيرة في القطاع	100	200	300	400	500	Total
Pottery فخار						
Marble رخام						
Mosaic فسيفساء						
Pottery Waster نغلية فخار						
Coin عملة						
Terracotta طين نضج						
Inscriptions نقوش						
Slag خبث/بقايا صهر المعدن						
Other Finds معثورات أخرى						

Sketch Plan of Transect Sector showing Topographic Features of Sites:

رسم تخطيطي للقطاع يظهر المعالم الطبوغرافية للمواقع

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Transect pro-forma sheet (front)

Page _____ of _____

نموذج تسجيل القطاع (وجه الصفحة)

Fig 7: Intensive survey sheet (front).

All walkers were assigned a strip of ground 4 m wide to survey, this meaning a 20% sample of the ground area of any given unit was scanned. After field recording was completed, information from the record sheets was entered into a computer database. This was created to calculate density figures for every unit of the field from the data and information on the transect area. All walkers were given a handheld clicker counter to facilitate the counting of number of surface pottery sherds as they walked. A digital camera was used by myself to record general images and any other significant details of sites encountered in a systematic manner. In addition, a digital voice recorder was used to record additional information about the site, which was helpful, quick and easy.

The initial stage of the CAS fieldwork revealed a large number of pottery sherds in some sections, along with possible pottery wasters. As this likely suggests pottery production, I therefore revisited the locations and conducted an additional intensive surface collection in the areas with the highest density of pottery sherds to try to verify this and to gain additional information on these pottery concentrations. What needed to be investigated further was whether there was conclusive evidence of manufacturing in certain selected sample areas. The observed pottery concentration suggests that some high density areas might be related to pottery production.

Two circles were chosen within each of the three transects in the areas where the highest densities of pottery sherds were recorded. All the materials observed on the surface within these circles were collected, cleaned and then classified according to their type and shape.

3. Presentation of Primary Results

3.1 Recording archaeological sites around Cyrene

Cyrene has many archaeological sites situated throughout the core site and the suburbs. Large cemeteries containing hundreds of tombs can be seen on all sides of the city. Many of these archaeological sites throughout Cyrene's suburban zone were visited by myself during the survey, and 55 were recorded in detail, including a number of sites situated within the modern city of Cyrene (Shahat) (Fig 9). Some of these 55 sites were discovered recently by chance and have yet to be fully studied. These included olive oil

and wine presses, ancient roads, cemeteries, quarries, fortified buildings (qsur) and a number of unidentified sites. In addition, other types of buildings were located in the suburbs, including temples, theatres, cisterns, aqueducts, roads and so on (see figs 10–19 for examples).

My work has shown the limitation of the current limits assigned to the UNESCO WHS of Cyrene based on major monuments and the area enclosed within Hellenistic walls. Site management and protection would be more effective if the extent and nature of the suburban archaeology are more fully engaged with.

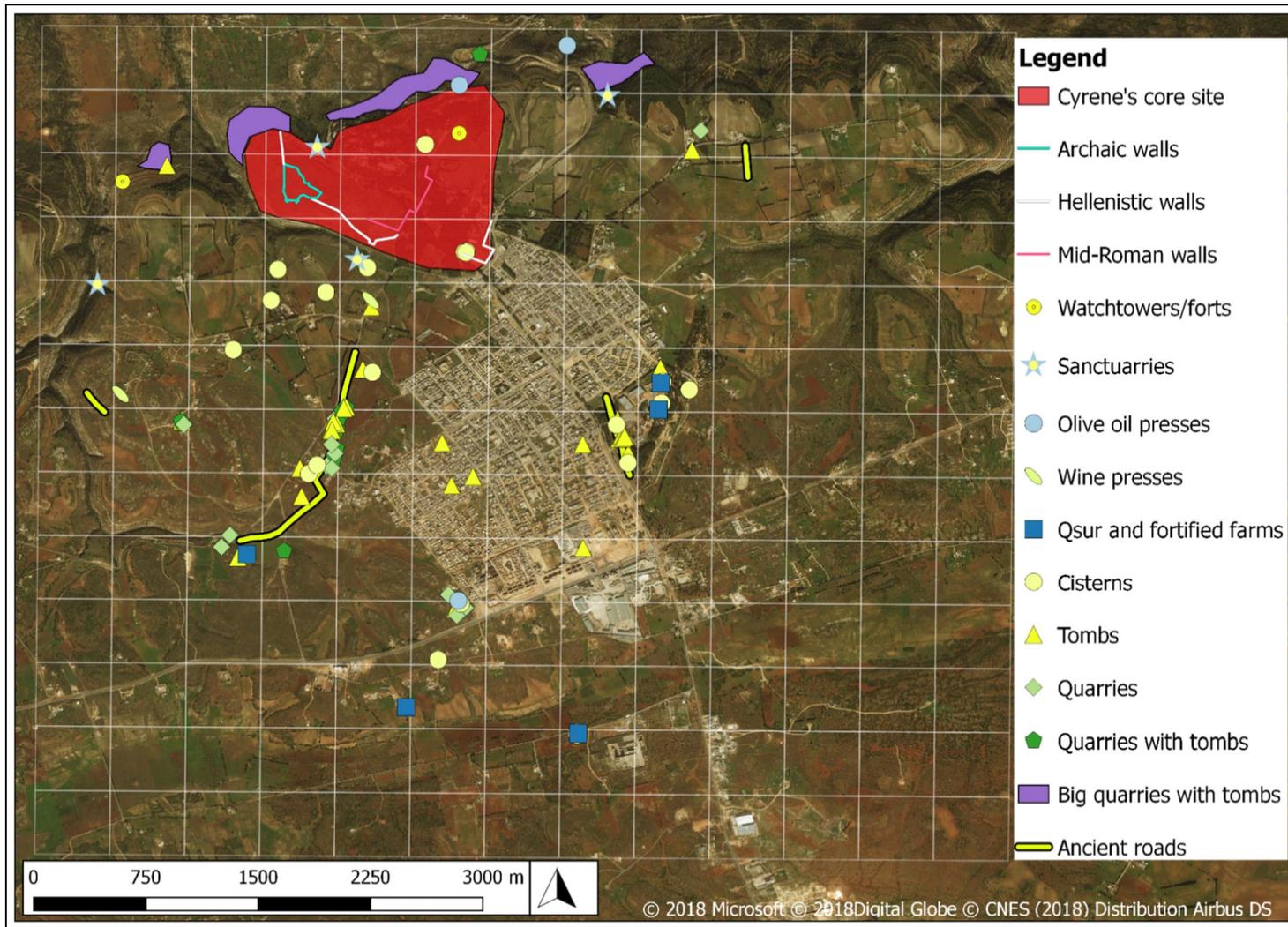


Fig 9: Distribution of the archaeological sites around Cyrene.



Fig 10: Entrance to the Hawa al-Khail olive press, located 1 km north-east of the sanctuary of Apollo, looking north (Author).



Fig 11: An internal view of the Hawa al-Khail olive press, looking north (Author).



Fig 12: A view of a watchtower located about 1 km west of the core site of Cyrene, looking southwest (Author).



Fig 13: A general view of Farm 1, located within the area of the Katiba on the south-east side of the new city of Shahat, looking northwest (Author).

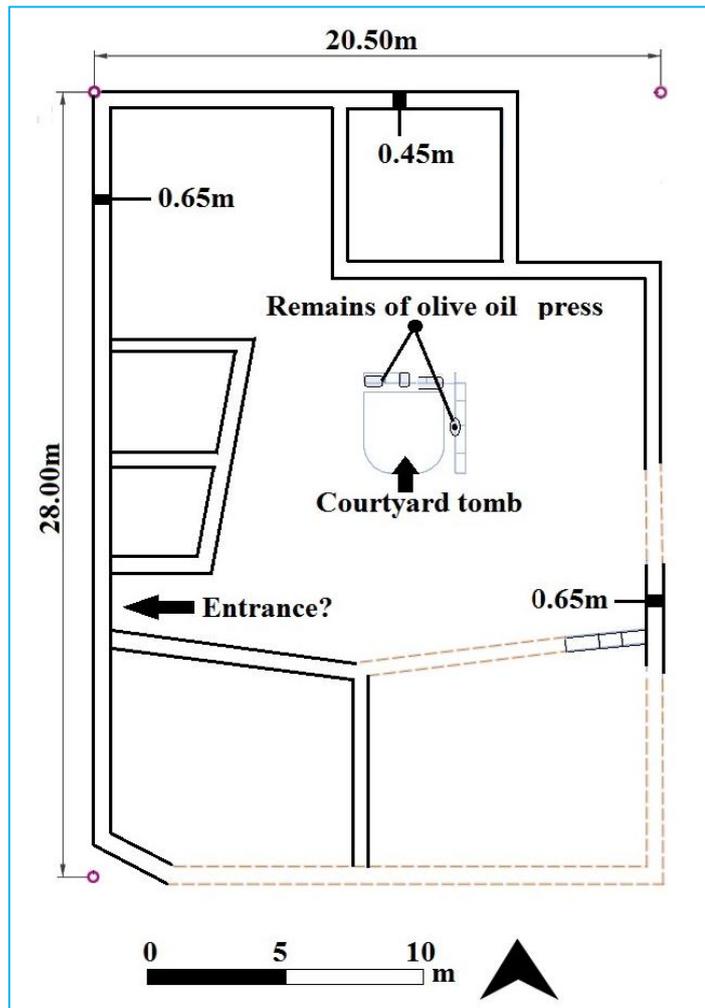


Fig 14: General Plan of Farm 1 (Author).



Fig 15: A view of a rock-cut cistern recently discovered south-west of the new city of Shahat, looking north (Author).



Fig 16: A general view of a road within the area of the Katiba, looking north (Author).



Fig 17: A circular tomb located in the new city of Shahat at a high risk of new buildings, looking north (Author).



Fig 18: A view of a built cistern within the area of the Katiba, looking northeast (Author).



Fig 19: A view of Qasr al-Raged located c. 4 km south-east of Cyrene, looking northwest (Author).

3.2 Possible evidence for pottery production and metal working at Cyrene

3.2.1 Pottery sherds and wasters

Some important questions arise here regarding Cyrenaica's pottery industry. Pottery kilns have been found in all the main cities of Cyrenaica, in addition to a number of settlements and other smaller sites in the region, with the exception of Cyrene. Why have no pottery kilns been recorded until now in Cyrene or its suburbs? Since kilns are considered to be conclusive evidence of pottery manufacturing, does this mean pottery production was unknown at Cyrene? Or is this a case of absence of evidence? In my research I attempted to answer these significant questions and investigated the potential evidence of pottery production in Cyrene.

As previously explained, three transects were investigated by the CAS intensive survey methods in certain selected areas around Cyrene. The main aim of this survey method was to assess the density of pottery sherds or any other materials observed on the surface. The surface materials which were found in the target areas of the survey were varied and included, pottery sherds, possible pottery wasters (Figs 20 and 21), marble, terracotta and small pieces of slag (see Figs 22-24).

The vast majority of the materials recorded in all three transects were pottery sherds (Fig 25). For this analysis, I have combined all 100 m recording units into each 500 m section of the three transects (for the details of these units see Tables 1-3).



Fig 20: Possible pottery wasters collected from T1.



Fig 21: Fragments of handles (possible wasters?) A1 and A2 collected from T3; B and C collected from T2.

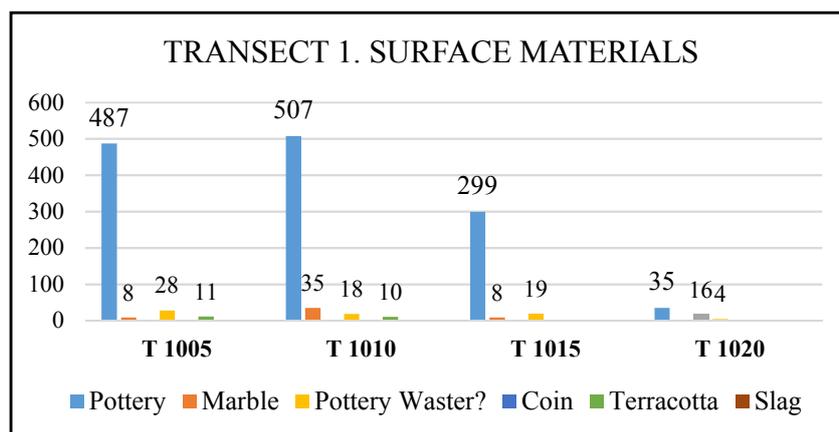


Fig 22: Density and types of the surface materials found in Transect 1.

(For locations of 500 m survey units - T1005, T1010, T1015, and T1020 – see Fig 26).

Section No.	Space of recording unit	Pottery	Pottery Waster?
T1005.1	100 m x 20 m	136	8
T1005.2	100 m x 20 m	118	6
T1005.3	100 m x 20 m	133	7
T1005.4	100 m x 20 m	55	2
T1005.5	100 m x 20 m	45	5
Total T1005	500 m x 100 m	487	28
T1010.1	100 m x 20 m	137	4
T1010.2	100 m x 20 m	116	4
T1010.3	100 m x 20 m	135	7
T1010.4	100 m x 20 m	63	0
T1010.5	100 m x 20 m	56	3
Total T1010	500 m x 100 m	507	18
T1015.1	100 m x 20 m	105	9
T1015.2	100 m x 20 m	62	3
T1015.3	100 m x 20 m	85	6
T1015.4	100 m x 20 m	23	1
T1015.5	100 m x 20 m	24	0
Total T1015	500 m x 100 m	299	19
T1020.1	100 m x 20 m	7	0
T1020.2	100 m x 20 m	11	2
T1020.3	100 m x 20 m	5	0
T1020.4	100 m x 20 m	8	2
T1020.5	100 m x 20 m	4	0
Total T1020	500 m x 100 m	35	4
Total	2000 m x 100 m	1328	69

Table 1: Number of pottery sherds and wasters in each 100 m recording unit of T1.

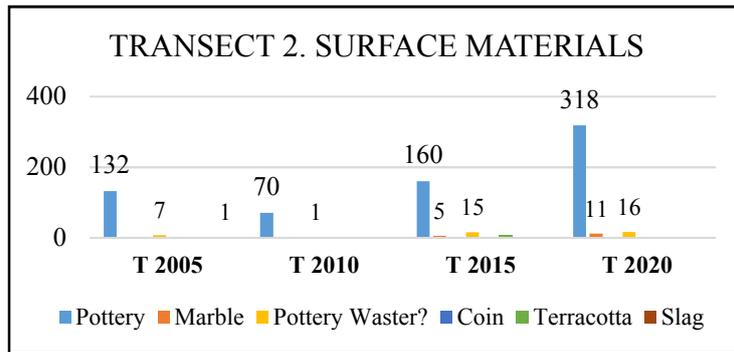


Fig 23: Density and types of the surface materials found in Transect 2.
(For locations of 500 m survey units - T2005, T2010, T2015, and T2020 – see Fig 27).

Section No.	Space of recording unit	Pottery	Pottery Waster?
T2005.1	100 m x 20 m	32	0
T2005.2	100 m x 20 m	9	0
T2005.3	100 m x 20 m	20	2
T2005.4	100 m x 20 m	31	2
T2005.5	100 m x 20 m	40	3
Total T2005	500 m x 100 m	132	7
T2010.1	100 m x 20 m	25	1
T2010.2	100 m x 20 m	10	0
T2010.3	100 m x 20 m	13	0
T2010.4	100 m x 20 m	11	0
T2010.5	100 m x 20 m	11	0
Total T2010	500 m x 100 m	70	1
T2015.1	100 m x 20 m	34	1
T2015.2	100 m x 20 m	35	2
T2015.3	100 m x 20 m	25	3
T2015.4	100 m x 20 m	38	7
T2015.5	100 m x 20 m	28	2
Total T2015	500 m x 100 m	160	15
T2020.1	100 m x 20 m	75	6
T2020.2	100 m x 20 m	39	2
T2020.3	100 m x 20 m	26	0
T2020.4	100 m x 20 m	75	4
T2020.5	100 m x 20 m	103	4
Total T2020	500 m x 100 m	318	16
Total	2000 m x 100 m	680	39

Table 2: Number of pottery sherds and wasters in each 100 m recording unit of T2.

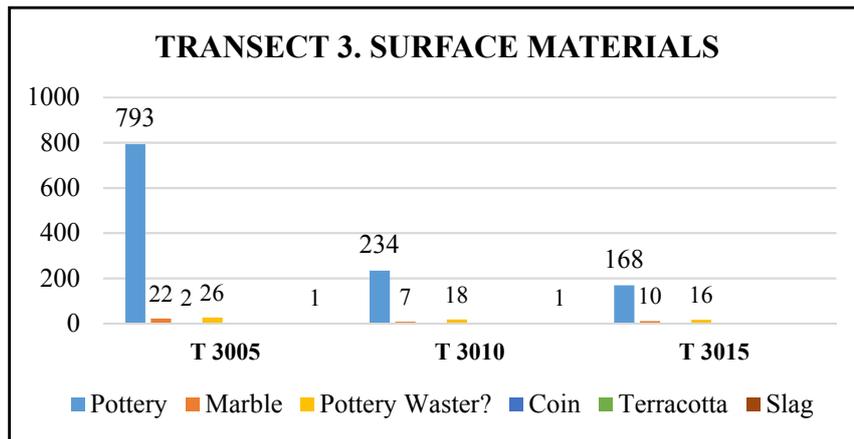


Fig 24: Density and types of the surface materials found in Transect 3.
(For locations of 500 m survey units - T3005, T3010, and T3015 – see Fig 28).

Section No.	Space of recording unit	Pottery	Pottery Waster?
T3005.1	100 m x 20 m	123	3
T3005.2	100 m x 20 m	159	7
T3005.3	100 m x 20 m	148	5
T3005.4	100 m x 20 m	235	7
T3005.5	100 m x 20 m	128	4
Total T3005	500 m x 100 m	793	26
T3010.1	100 m x 20 m	71	4
T3010.2	100 m x 20 m	31	2
T3010.3	100 m x 20 m	41	4
T3010.4	100 m x 20 m	34	2
T3010.5	100 m x 20 m	57	6
Total T3010	500 m x 100 m	234	18
T3015.1	100 m x 20 m	42	4
T3015.2	100 m x 20 m	69	8
T3015.3	100 m x 20 m	12	1
T3015.4	100 m x 20 m	15	1
T3015.5	100 m x 20 m	30	2
Total T3015	500 m x 100 m	168	16
Total	1500 m x 100 m	1195	60

Table 3: Number of pottery sherds and wasters in each 100 m recording unit of T3.

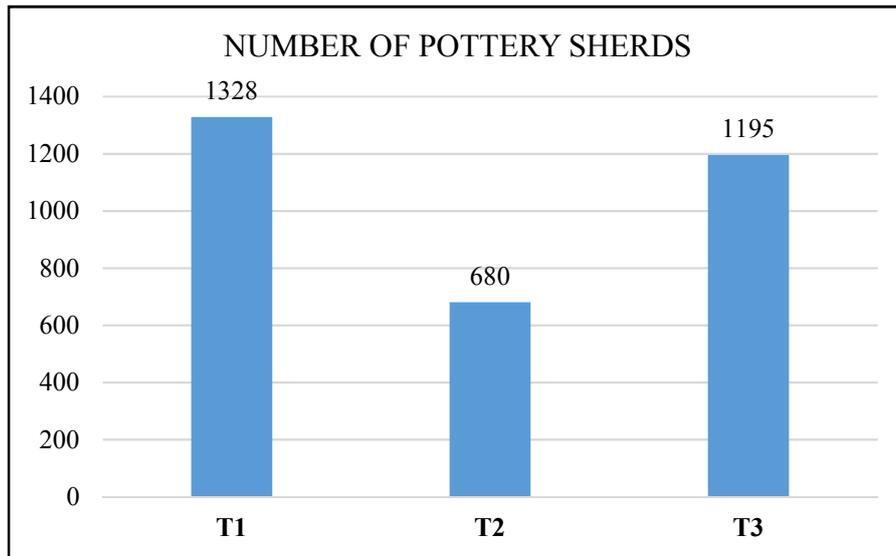


Fig 25: Total number of pottery sherds in the three transects.

There is a disparity evident in the density of the pottery in the three transects. This variation can also be noted between one area and another within the same transect. The largest number of sherds were found in Transects 1 and 3. However, in Transect 1 the density of pottery decreased gradually to the east, and in some areas only a few pottery sherds and other materials were recorded (Figs 26-28).

A low number of pottery sherds came from the west end of transect 2 near the eastern edge of Wadi Bunabeh (Fig 29). Although Transect 2 was the shortest, the density of pottery sherds and other various surface finds was low in each unit of all of its 100 m sectors.

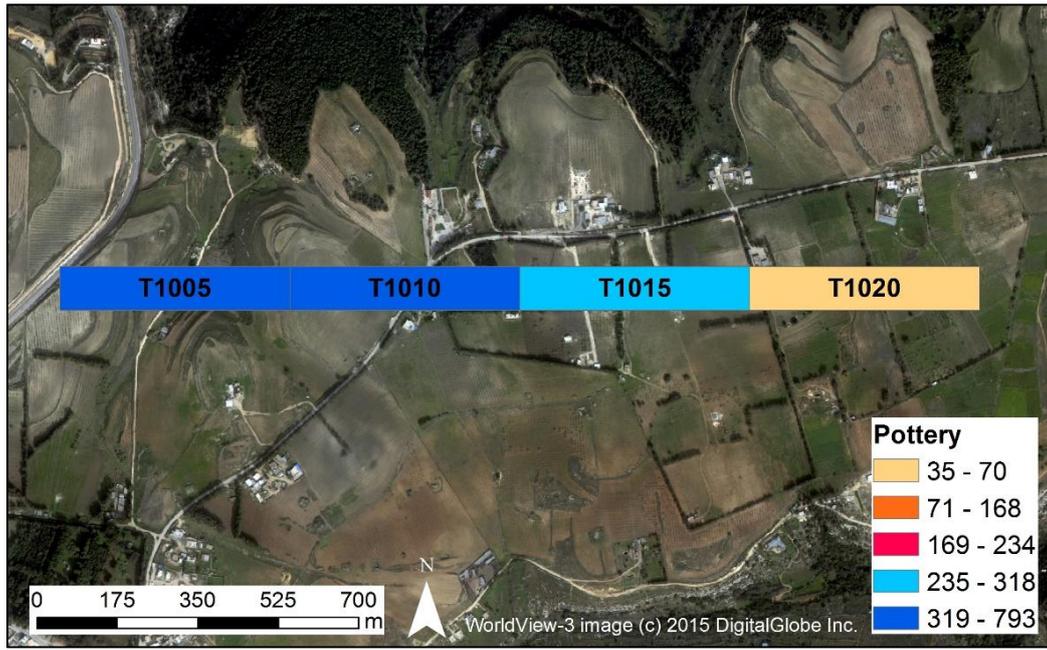


Fig 26: Density of pottery sherds in transect 1.

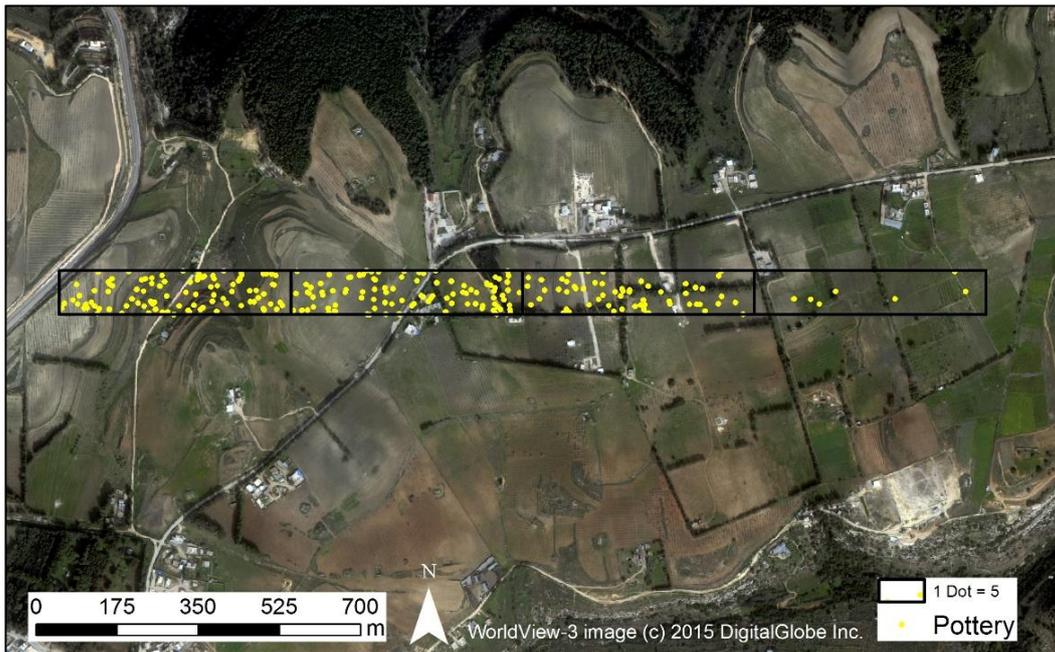


Fig 27: Distribution of pottery sherds in Transect 1.

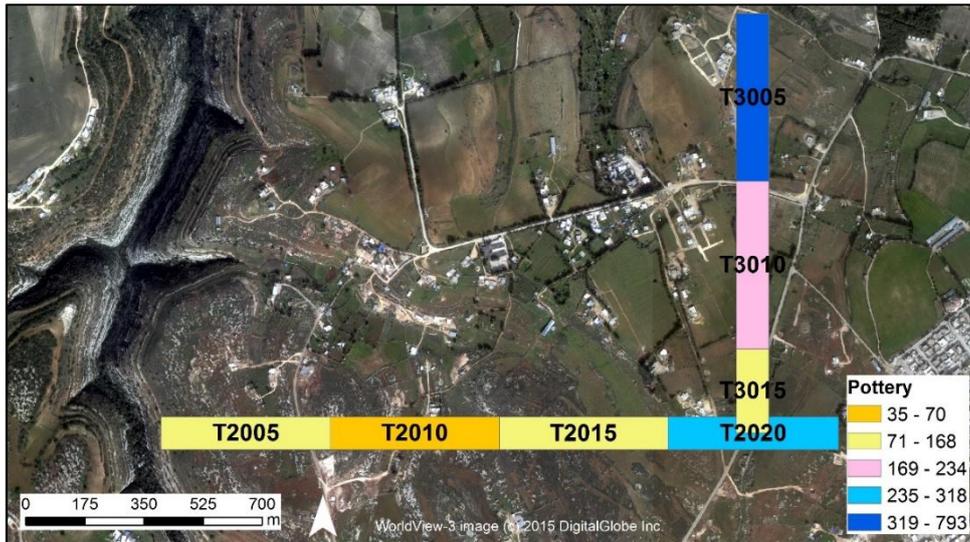


Fig 28: Density of pottery sherds in Transects 2 and 3.

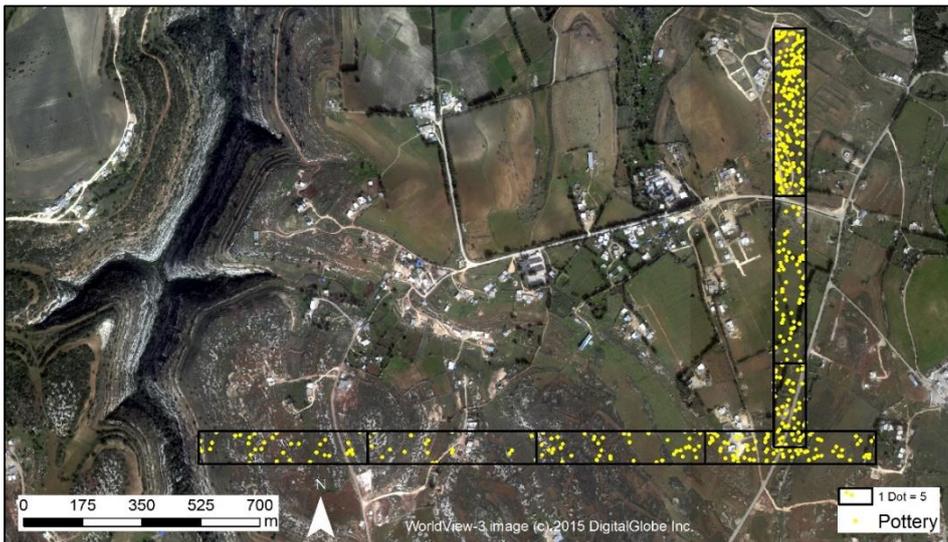


Fig 29: Distribution of pottery sherds in Transects 2 and 3.

In an additional phase of the field survey, two circles, each circle has an area of 10 m^2 with a radius of 1.78 m were chosen randomly within each of the three transects in the areas where the highest densities of pottery sherds were recorded (Fig 30). As shown in Table 4. Each circle was then given a code according to its location within each transect; for example, C01T1 is circle number 01 in Transect 1, and so on. While pottery sherds were recorded in all the chosen areas, small slag pieces were found only in T2 with 4 pieces and T3 with 6 pieces, whereas no slag was recorded from T1.

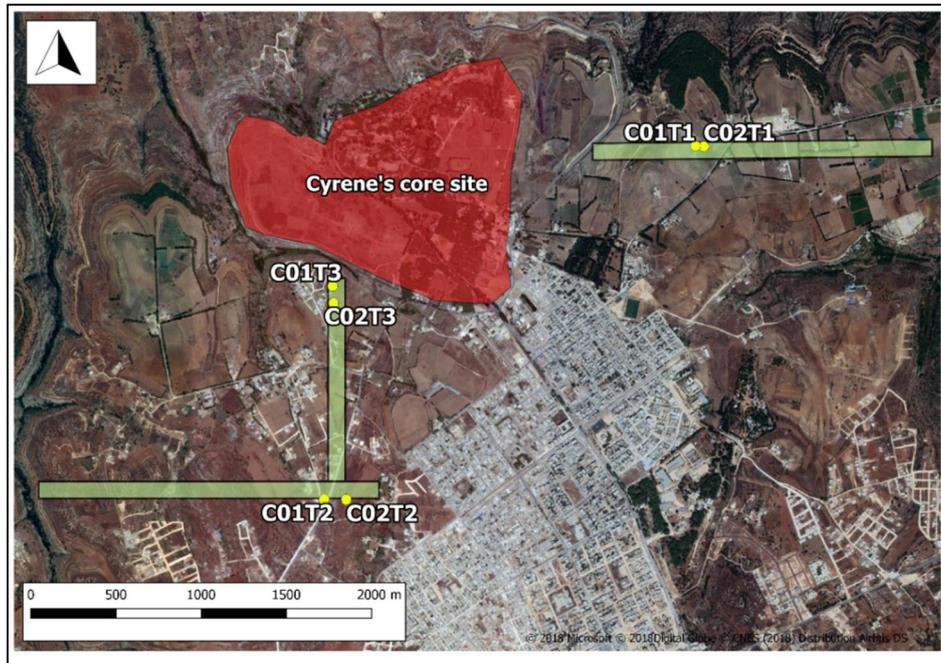


Fig 30: Locations of the highest densities of pottery sherds in the three transects.

Some chosen areas of the three transects, particularly in T2 and T3, were negatively affected by the construction of new private houses, walls and other buildings still under construction. Consequently, it was not possible to collect surface samples from some of the target areas initially selected, and therefore the survey had to be carried out in other adjoining areas which had lower densities of pottery sherds.

Category	C01T1	C02T1	C01T2	C02T2	C01T3	C02T3	Total
Number of surface finds	13	14	20	29	17	26	123
Weight	0.400 kg	0.290 kg	0.700 kg	0.800 kg	1.300 kg	0.800 kg	4.290 kg
Coarse pottery	9	9	16	19	12	14	80
Fine pottery	3	5	3	6	4	5	26
Handle	1	1	3	3	3	4	15
Foot	-	-	-	-	2	1	3
Lip/Neck	2	2	1	-	3	3	11
Shoulder/Body	10	11	15	20	7	9	72
Slag	-	-	-	4	-	6	10
Pottery Waster	1?	-	1?	-	1?	1?	4?
Total number of materials							344

Table 4: Types of materials collected from the six circles of the three transects.

In general terms, the evidence from my survey collection is not overwhelming as the densities of the materials from the total collection units seem comparatively low. There is no doubt that this could lower the possibility of the existence of kilns and pottery production at Cyrene. However, a further application of systematic collection could yet prove their existence in future study. Even though not conclusive, my combined survey evidence is suggesting that there was some local pottery production at Cyrene and that intensive survey may be able to locate it within the suburbs of the city.

3.2.2 Slag

At least 13 small metallic objects were found during the survey of the study area (Fig 31). These pieces of slag might be related to a metal working that could have operated somewhere within or around Cyrene's core site. However, it is unknown what type of metal production they relate to.

No furnaces have been found in Cyrene or its suburbs up to this date, and the number of metal materials recorded in the survey is small. However, these metal pieces were found only in Transects 2 and 3 (see Fig 32). This may be seen as encouragement to conduct additional field surveys to investigate the presence of ancient metalworking, especially in the western and southwestern areas of the ancient site of Cyrene where the samples were found.

As with pottery production, it is inherently probable that a city of Cyrene's size was a town of metalworking activity. The few scattered finds recorded in my survey may provide clues to the locations of activity in parts of the suburban zone of the city. However, further intensive survey work is needed to demonstrate this conclusively. My preliminary survey work has shown the potential of this sort of survey to help identify metalworking activity.



Fig 31: Slag found at the survey area around Cyrene.

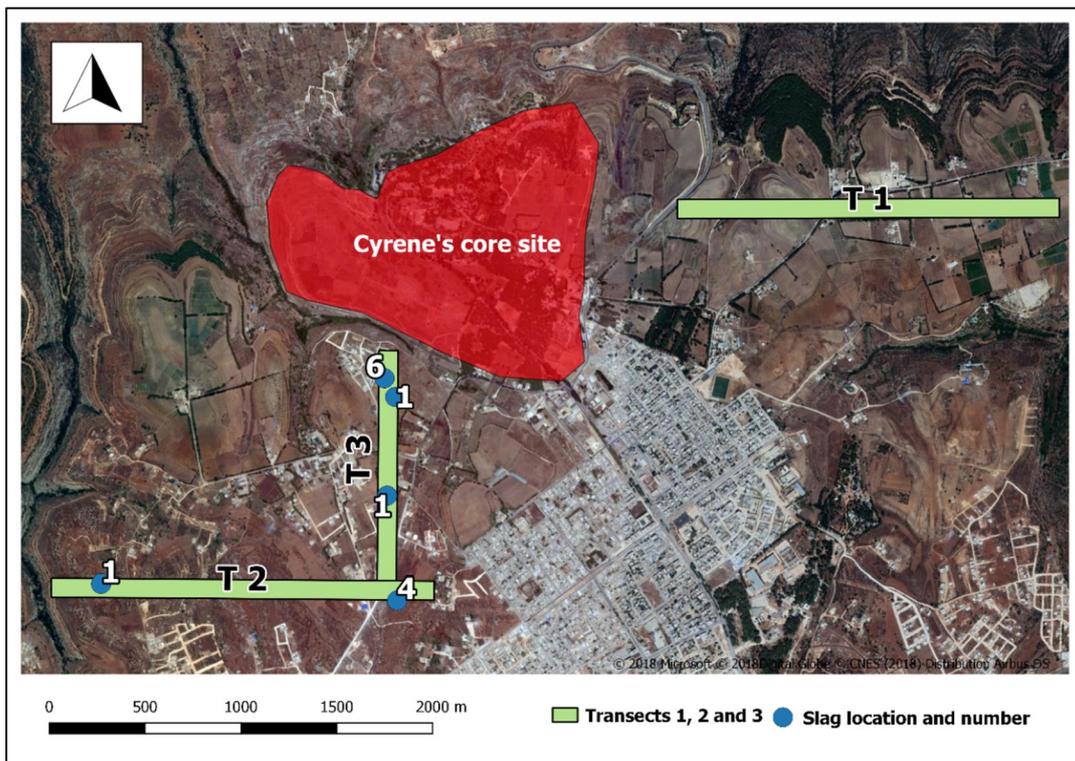


Fig 32: Distribution of slag pieces found at the survey area.

4. Field Survey Reflection

A number of factors had a negative impact on the field survey. Accessibility issues were always a concern, because the vast majority of the sites and study areas this research is concerned with were located on private land. For this reason, it was essential to use social contacts to facilitate access. I needed to speak personally to a number of landowners to explain what I needed to do and obtain their permission to visit the target sites. In some cases, especially if the landlord was not well known to me or refused access, I sought the assistance of a person better known to them in order to pursue my request. However, in some cases access was still refused, or else the landlord granted access as long as I did not take a camera, which meant that I was unable to record any details about the site.

Some sections of the three transects were also affected by accessibility issues, especially in Transects 2 and 3. For example, some areas could not be surveyed because they were greatly affected by the construction of modern private houses, or were occupied by new fences (Fig 33). In some place other buildings had been constructed recently, or were being built near and around a number of tombs and cemeteries (Figs 34 and 35). Consequently, I was unable to collect surface samples for the intensive survey from some target areas, and therefore I had to choose another nearby area to carry out the survey.

Other areas were being used to cultivate fruit or as irrigation farms, which meant that we were not allowed to access those regions. Unfortunately, there are now many fences and other new buildings being constructed near many of the city's archaeological sites, especially on the south and south-east and around Wadi Bel-Ghadir. As a result, the sites located in the wadi are now under greater threat and face a very high risk of destruction.



Fig 33: A new house being built on an archaeological site, view looking southeast(Author).



Fig 34: Some exposed tombs and cemeteries at high risk of urbanisation, view looking northeast (Author).



Fig 35: A view of new fences being built around some ancient tombs, looking east (Author).

Interruption was another issue that we faced several times. We were stopped from surveying several times by landowners who saw our survey team walking across their lands. These interruptions caused much time to be wasted, in addition to affecting the continuity of the survey. In some cases, after a discussion we were asked to leave the site in the middle of our work. Some landowners refused to respect the official letter granting us permission from the relevant authorities (the DoA) due to Libya's unstable political and security situation.

However, I managed to resolve most of these problems. In cases where we had to leave, we were usually able to use our social contacts to return later to complete the rest of the survey. On the other hand, many people whom we met were very helpful and understood the importance of the archaeological sites. They encouraged and supported what we were doing, and kindly allowed us access to their lands. In addition, they often gave valuable information about local archaeological sites, and guided us to others in the nearby area. Others generously provided us with cool water and meals, and offered to support us with any kind of assistance we might need.

5. Conclusion

Overall, the survey method was very successful in gathering information and recording sites. However, the location of the archaeological sites and the nature of the study area overall made it difficult to complete the field work. Moreover, if I were not a citizen of Cyrene and

well known by the majority of local people, the fieldwork would likely have been dangerous or impossible due to Libya's present security situation.

In fact, I have been told by some friends and relatives that some other sites were discovered recently, but unfortunately I have been unable to visit and record them because some landlords (sometimes without any obvious reason) refused to allow me access. I have therefore continued to make social contacts in the region in hopes of gaining admittance to as many sites as possible during my research. Moreover, more archaeological sites may be discovered in the near future. If so, it will be important to conduct research and carry out field work in order to obtain more data about them.

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7. Account of Expenditures

The table below details all travel and accommodation expenditures for the period spent in Cyrene (Libya) to conduct the field survey for the period from 17/04/2017 to 06/05/2017.

The currency conversion is based on the rates as of 20/03/-20/04/ 2017: 1 GBP = 7.00 Libyan Dinars (LD); 1 GBP = 1.23 American Dollars (\$); 1 GBP = 4.55 Turkish Lira (TL).

Description of expenditures	Date of payment	Local currency	Amount (GBP)
Flight tickets. British Airways. Heathrow (London) - Ataturk (Istanbul) BA0680 (15/04/2017) including 1 checked bag; Ataturk (Istanbul) - Heathrow (London) BA0677 (07/05/2017)	16/03/2017 & 26/04/2017	£	£273.07
Train tickets Leicester - Heathrow Terminal 5 (15/04/2017); Heathrow Airport - ST Pancras - Leicester (07/05/2017)	24/03/2017 & 07/05/2017	£	£112.50
Flight tickets. Afriqiyah Airways. Ataturk (Istanbul) - Beida Ly (Labraq) 8U973 (16/04/2017); Beida Ly (Labraq) - Ataturk (Istanbul) (07/05/2017)	17/03/2017 & 26/04/2017	LD 990.00	£141.42
Electronic Visa to enter the Republic of Turkey	09/04/2017	\$110.00	£89.05
Sahra Hotel (Istanbul) (1 night)	15/04/2017	TL 102.00	£22.03
30 m Long Measuring Tape	31/03/2017	£	£13.39
Fuel, groceries and other expenses		LD 595.00	£85.00
Total of expenditures		£	<u>£736.46</u>
Grant provided by the Society for Libyan Studies		£	<u>£450.00</u>
Total of overspend		£	<u>£286.46</u>

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Leicester 25-10-2018