ARCHAEOLOGICAL EVIDENCE OF HELLENISTIC IMPACT IN THE ARABIAN PENINSULA

by

MUHSEN HADI S. ALYAMI

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College of Arts and Law
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Abstract:

Previous archaeological work in eastern Arabia has uncovered significant evidence for the cultural role which this region played in the ancient world, especially during the Iron Age. However, it seems that archaeologists overlooked the region. Therefore, one of the objectives of this research was to investigate in greater depth the extent of Greek influence on the eastern region of Arabia and to determine the results of this influence. My research also aims to redirect attention to some important sites that have been subjected to looting since the 1960s due to lack of security.

To reach my goals, I first started in Chapter 1 with a brief historical and archaeological survey to get a general picture of what was happening near our study area, especially in Mesopotamia, from the beginning of the first millennium BC until the Hellenistic era. In Chapter 2, I also took a close look at the results of the discoveries at sites in the Arabian Gulf from the 1st millennium BC, especially those of Hellenistic date.

This was followed by field work, including an archaeological survey in of the sites of Kanzan, Geriyah, and Ras Geriyah , are the sites where further research was needed in Chapter 3, as well as in Chapter 4 re-visits to some museums in Saudi Arabia. My results both corroborated previous studies and provided new information which confirmed that more attention should be paid to these sites. At Geriyah in particular locations were revealed which that need more extensive study than practical within the framework of my research.

Finally, the last two chapter (Ch.5 and Ch.6) I have reviewed the most important results of the cultural relationship between the Arabs and the Greeks

after Alexander the Great, especially in the economic field, in which the Gerrhaeans played an important role. Accordingly, I have discussed the location of Gerrha and its relation to Geriyah, the most likely site to be ancient Gerrha. Although it is important to find Gerrha, it is even more important to draw the attention of the authorities and archaeologists to Geriyah, to protect what remains of it, as previously it was left vulnerable to looting.

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Introduction

The geographical importance of the Arabian Peninsula arises from its strategic location between some important seas. The Arabian Peninsula is bordered on the west by the Red Sea, on the east by the Arabian Gulf and the Gulf of Oman, and on the South by the Arabian Sea and the Gulf of Aden. Therefore, Arabia played a critical role in human history as a cultural bridge that connected the ancient world via land and sea routes. This location was important from the Stone Age when it witnessed the earliest human migration from Africa to Asia. Its northern borders were important as well, where it continued to serve as a land bridge between the civilisations in Mesopotamia, the Levant, and Egypt.

Additionally, the economic/environmental element was the other factor that helped the Arabian Peninsula play a major role in the ancient world since south Arabia was the land that produced frankincense and myrrh (cf. Groom 1981). These incense products were very important because people used them in their rituals and for their spiritual needs. These products and the high demand for them led to finding successful trade routes over sea and land so that incense reached all the ancient world civilisations including those in far off destinations such as Greece (cf. Groom 1981).

Therefore, due to its geographical and environmental nature, located in the centre between the ancient world's nations, cultural communications were established between Arabia and the other civilisations. The strength of contact and the relations between Arabia and the World throughout ancient times is demonstrated by several pieces of evidence. First, the historical sources, where the relationships between Arab peoples and other ethnic groups were recorded in inscriptions and books. For example, . Herodotus

(3.8.1) and other classic sources mention Arabs as good trader, and the Neo-Assyrian inscriptions mentions Arabs as we will present in Chapter one. Second, linguistic studies which revealed that the Arabic language was among the earliest written languages in Arabia in the first century BC. Third and most important, the evidence for these cultural exchanges between the Arabian Peninsula is the archaeological finds. The archaeological discoveries in the Arabian Peninsula reveal evidence of influence from almost all the cultures of the ancient world especially in the impacts in trade.

However, the impact of Greek and Roman civilisations has not had the same share of focus in archaeological studies in the Arabian Peninsula. Usually, it is mentioned briefly in studies relating to a different period except for the Roman period studies of the sites in the northwest of the Arabian Peninsula and the Hellenistic period studies in Kuwait and Bahrain. The Greek and the Roman periods in Arabia are not widely discussed by archaeologists. Many of the archaeological mission reports in Saudi Arabia use general terminology (Greco-Roman impacts), the term 'Hellenistic' is not really used by archaeologists, further research will reveal more evidence of this periods. I must clarify that I use the term "Hellenistic" in this research to refer to the historical periods between the end of the 4th century BC and the 1st half of the 1st century BC which covers the time between the arrival of Alexander the Great and his commanders to the Near East until the end of the Greek political presence by the arrival of the Roman.

It is important to solve these issues: 1- the lack of studies that focused on the Greek impact on the Arabian Peninsula, and 2- the misunderstanding of the differences between the timeline of Greek civilisation phases until the Hellenistic era, and the phases of Roman civilisation. However, the scope of this research has only focussed on the investigation of the Hellenistic influences through re-examining the existing finds and

conducting fieldwork to examine previous theories that date some archaeological sites as Hellenistic in the northeastern part of the Arabian Peninsula. Nevertheless, this research has explored the historical and archaeological evidence to answer the question: To what extent did Hellenistic influence impact the cultural aspects of the study area? And what factors most reflect these Hellenistic impacts in the Arab societies?

Aims and Objectives

The aim of this research is to identify and understand the extent of Hellenistic influence on the cultural aspects of the Arabian Peninsula during the period from the 3rd to the 1st century BC. Moreover, it aims to answer some of the previous questions about the same study area raised by some scholars. Another aim is to re-examine some previous suggestions regarding the date or the location of specific finds or sites in the study area.

To achieve these aims my research plan had two principal objectives. First, identifying the archaeological evidence relating to the Hellenistic era by assembling as far as possible data about the Hellenistic finds discovered in the neighbouring Hellenistic sites, and collecting more archaeological evidence by conducting new fieldwork in the eastern province of Saudi Arabia. The analysis of this archaeological catalogue will provide more evidence of the nature of Hellenistic presence and its geographical extent in the study area. Moreover, it helps to 1- evaluate the finds from previous archaeological research to distinguish the Hellenistic finds from the non-Hellenistic, and 2- the result of the new fieldwork could answer some of the previous research questions, such as that left open by Bibby (1973) about the existence of a pre-Hellenistic layer at Geriyah.

Second, the results of the economic relationship between the Arabian Peninsula and the Hellenistic regions are going to be investigating based on the historical and archaeological sources of the Hellenistic period. And the trade developments at Arabian

cities and their impact on the Arabian traders is going be measured based on its geographical distribution during the Hellenistic period. This objective helps to draw an explanatory synthesis to 1- understand the extent of Hellenistic impact on aspects of Arabian culture, especially in the economic sphere, and 2- evaluate the previous theories regarding the location of Gerrha since the Gerrhaeans were significant players in the Hellenistic period based on the classics' sources.

Research Methodology

To accomplish the study aims and objectives, I apply four methodologies:

1- Practical approach:

To collect Hellenistic evidence from the study area to be researched in two ways: First, in Chapter 2, I collect archaeological evidence of the Hellenistic finds from previous archaeological studies conducted at several sites in the Arabian Peninsula. This will help to compile a database of the Hellenistic material for more critical study. Second, in Chapter 3 and Chapter 4, I report my fieldwork, both the field survey of the eastern province Saudi Arabia to collect Hellenistic data from the archaeological survey and excavations; and museum's collection. This adds more archaeological evidence to the Hellenistic catalogue as one of the aims of this research.

2- Descriptive approach:

In Chapter 3 and Chapter 4, I describe the Hellenistic finds collected during my archaeological survey and museum collections. This will help to study and classify the new data, and to define some of the old finds which have not been previously studied to add new readings of these artifacts.

3- Comparative approach:

This method is used first in Chapter 2 as my tool to re-examine the dates of some of the finds discovered in previous research. These finds are compared with others found at similar Hellenistic sites in the region or with similar finds discovered in other Hellenistic centres. The comparative approach is again used in Chapters 3 and 4 for data analysis to evaluate the data about the artifacts collected in my archaeological survey**.** In this section the new data collected from new fieldwork is compared with Hellenistic finds discovered in previous studies at neighbouring Hellenistic sites.

4- Deductive approach:

This method is used first in Chapter 6 to discuss all the arguments regarding the issue of the location of Gerrha. The discussion uses the results provided in the previous chapters to review all the opinions regarding the location of Gerrha including my own opinion, before concluding with a theory based on deductive logic. This approach helps to present all the information about Gerrha based on linguistic, geographical, historical, and archaeological facts.

Research outline:

Chapter 1:

The first chapter present A historical background for the regions of Mesopotamia during the first millennium BC until the arrival of Alexander the Great. And a historical background about the Southern Arabia during the same periods.

Chapter 2:

Then, in chapter 2, I tried to collect and analyse the most important information about the archaeological discoveries at a number of archaeological sites that flourished in the same era between Mesopotamia and southern Arabia in the north-east of the

Arabian Peninsula, including Failaka, Bahrain and Thaj, as well as Qaryat al-Faw in the south of the central region of the Arabian Peninsula. I also present new readings of archaeological artefacts in some of the Hellenistic cities, reviewed here based on a comparative approach.

Chapter 3

This chapter is a report of fieldwork part 1 where it presents the archaeological survey report of four archaeological sites: Kanzan, Geriyah, Ras Geriyah , and briefly Tel al-Zayer at Thaj. The results from the fieldwork are recorded and described in tables presented in finds tables. The last section of this chapter is the analysis of the data where I evaluate my results through a comparative approach with similar finds reviewed in the second chapter or found at similar sites.

Chapter 4:

This chapter is the fieldwork part 2 where I report separatly the result of my museums vists and study the selected artefacts from Thaj collections in some museum srored and from Burkholder's returned collections. I re-present additional Hellenistic artifacts stored at museums in Saudi Arabia discovered at Thaj in excavations and a collection from Tarut which was returned to the Saudi archaeological authority by Burkholder. Again, in the chapter I follow the same methodology used in chapter 3 where I register the record of the artefacts and present their discription in finds tables, and in the last section of this chapter I evaluate the previous study on the same artefacts via comparative approach with similar finds reviewed in the third chapter or found at similar sites.

Chapter 5:

Chapter five discusses the history of the trade relationship between Arabs and

Greeks and reviews the evidence for the economic growth promoted by Arabia and Arab traders in the Hellenistic era. The archaeological evidence that was reviewed in the previous two chapters enabled me to conclude that one of the most important signs of commercial prosperity in the Arabian Peninsula in the Hellenistic period was the establishment of cities and trade routes, and the emergence of new merchants.

Chapter 6:

Because ancient authors reported that Gerrhaeans and their city Gerrha flourished in the Hellenistic period in Arabia, the last chapter is devoted to a case study to discuss the issue of the lost city of Gerrha. The case study discusses the issue of Gerrha's location through a review of previous opinions, as well as my own, as I believe that Geriyah is the most suitable location for Gerrha. To examine all opinions, I evaluate each opinion based on its archaeological, geographical, and linguistic information to present which view logically meets the description of Gerrha in the ancient sources. The last chapter provides new proposals that the establishment of new trade routes, traders and cities in the Arabian Peninsula was the result of developing trade resulting from contact with the Hellenistic markets.

Principal achievements:

I have updated the archaeological information that was provided in some previous studies conducted in the same study area (Kanzan, Geriyah, and Ras Geriyah) at the end of the 60s. Additionally, this research provides new evidence which helps to answer some questions raised by previous scholars. All this up-to-date information will be added to the archaeological dataset of the study area to help in future studies and projects. Likewise, the results that this research has provided will draw attention to the importance of the archaeological sites such as Geriyah which has been neglected and left open to looting for far too long.

1 Mesopotamia and Southern Arabia: brief background

1.1 Mesopotamia in the 1st millennium BC

Introduction:

The ancient Near East witnessed many cultures and civilisations. Some of those were settlements started in the Stone Age, others started in the 4th & 3rd millennia, and in the 2nd and 1st millennium BC; Mesopotamia witnessed more complex and advanced societies. Conversely, the focus of this thesis is to investigate the Hellenistic influences in the Arabian Peninsula in order to comprehend how Hellenistic influences appeared in the culture of that region. In my opinion, it is imperative to provide a brief account of the main historical events that happened in Mesopotamia from the 1st millennium BC to the 1st century BC. This introduction will help to give a general picture of the sequence of events in Mesopotamia that happened before Hellenistic influence reached the Arabian Peninsula.

1.1.1 The Neo-Assyrian Empire (911- 612 BC) (Map 1.1).



Map:1. 1 The Neo-Assyrian Empire map (Britannica, 2011)

Lee (2003) reports that some scholars think that the first King of the Neo-Assyrian Empire was Adad-Nirari II in 911 BC based on the archaeological evidence of the Assyrian Eponym List since his name was the first listed when this chronological system started to associate the Assyrian official names with the years in 910 BC (Lee, 2003, p.12). The Neo-Assyrian Empire is divided into two phases, the first phase of which started with Adad-Nirari II (911 BC), and the second phase started in 744 BC and includes Tiglath-Pileser III with Sargon II and his Dynasty (Baqir 2009[1], Pp. 547-548). Since there is only room for a summary of the important historical events, I will not include all the Assyrian kings.

[1] This is the date for a reprint edition of volume (I), the original source of the author Taha Baqir was published in 1955.

- The first phase of the Empire (911-744 BC)

1.1.1.1 Adad-Nirari II (911–891 BC)

According to Lloyd (1978), Adad-Nirari II rebuilt the Assyrian empire by securing its cities and boundaries, particularly, the south boundary with Babylonia (Lloyd 1978, p.187). Adad-Nirari II also started the expansion of the empire by including several areas such as the Aramaean states (Lloyd 1978, p.187). In addition, Lee (2003) mentions that Adad-Nirari II continued his father's development of the city of Ashur (Lee, 2003, p.13).

1.1.1.2 Tukulti-Ninurta II (890–884 BC)

To extend the empire that his father Adad-Nirari II left, Tukulti-Ninurta II tried to conquer more territories by sending several military campaigns to attack Urartu on the northern boundary with Anatolia (Lloyd 1978, p.187).

1.1.1.3 Ashurnasirpal II (883–859 BC)

Lloyd (1978) believes that the reign of Ashurnasirpal II was the most important period in the Neo-Assyrian Empire because of his achievements both internally and outside the empire (Lloyd 1978, p.188). The author mentions that Ashurnasirpal II changed the capital from Ashur to Kalhu and protected the city with a military base. Moreover, during his reign he expanded the empire extensively to include Syria and reached the coast of the Mediterranean. Another scholar Baqir (2009) also admires this King and states that based on the archaeological evidence that dated to the period of Ashurnasirpal II, the Empire was prosperous (Baqir 2009, Pp.550-553).

1.1.1.4 Shalmaneser III (858–824 BC)

Shalmaneser III continued his father's strategy of expanding the Empire's borders (Baqir 2009, p.553). In his book, Lloyd also stated that this King sent some campaigns

to help Babylonia to suppress rebellions; that action by the King eventually led to the facilitation of trading contacts by the merchants of Dilmun, the Arabian Peninsula, and even India (Lloyd 1978, p.188). Shalmaneser III secured the trade route in the Persian Gulf at Dilmun and the eastern cost of the Arabian Peninsula (Lloyd 1978, p.188). This was the first evidence of contact between the Neo-Assyrian Empire and the Arabian Peninsula. Furthermore, Baqir (2009) remarks that as one of his notable achievements, he reconstructed the three old Assyrian capitals Ashur, Nineveh, and Kalhu (Baqir 2009, p.553). The author states that the first reference to the term Arab was in the Shalmaneser III inscription which described the battle of Qarqar in 853 BC against the allied army of Arabian, Israeli and some other tribes and states (Baqir 2009, Pp.554-555). This ancient event was inscribed on what is known as Kurkh Monolith (Fig. 1.1).

The inscription on Kurkh Monolith recorded the result of the victory in the battle of Qarqar with a description of the spoils of the war that included:

"1000 camels of Gi-in-di-bu-'u the ar-ba-a-a,…" (Retso 2003, p.126).

The author believes that the Arabian person named “Gindibu” in this inscription constitutes the earliest reference to Arabs in ancient sources (Retso 2003, p.126). Frahm (2017:299) says that the Arabs played a significant political role after they domesticated of camels at the end of the second millennium BC. The author adds that in the inscription, “Gindibu” is the Assyrian version of "Gundub" in Arabic, and that Gundub was the only one who provided camels in the Qarqar battel (Frahm 2017, p.300). After Shalmaneser III died the Empire went through almost 80 years of rule by weak kings that resulted in the loss of some provinces (Baqir 2009, Pp.555-557).

- The Neo-Assyrian Empire during the second phase (744-612 BC)

Baqir (2009) dates the beginning of the 2nd phase of the Neo-Assyrian Empire

from the reign of Tiglath-Pileser III and the Sargonid Dynasty (Baqir 2009, p.560). Yet, Frahm (2017: 161) states that Tiglath-Pileser III's era was the beginning of the imperial phase of the Neo-Assyrian kingdom.

1.1.1.5 Tiglath-Pileser III (744–727 BC)

Lloyd (1978) characterises Tiglath-Pileser III as the saviour who rescued the Assyrian kingdom. The author states that during his reign the king reorganised the Empire once again by securing the cities and the trade routes and he established stations to secure way stations. Tiglath-Pileser III also regained the liberated territories (Lloyd 1978, Pp. 188-189). Likewise, Baqir (2009) shows that in his military campaigns to expand his territory Tiglath-Pileser III occupied Damascus and destroyed most of the Israelite cities and towns (Baqir 2009, Pp.562-563). The author points out that this king also took tributes from some Arabian societies and rulers including an Arabian Queen named "Shamsi" (Baqir 2009, p.562). According to the description of one of the spoils of Tiglath-Pileser III (Fig. 1.2), it is suggested that this panel relief of women and camels depicts Shamsi as a prisoner and the booty from Tiglath-Pileser III's campaign against the Arabs (the British Museum, 2017). Moreover, in the Assyrian royal inscription there was also mention of another Arabian Queen, "Zabibe", who offered tributes to Tiglath-Pileser III as gifts to please him in order to avoid Shamsi's fate (Bennett 2015, p.17). This event shows the first military contact of the Neo-Assyrian army in the Arabian Peninsula, and names an ancient Arabian queen (Bennett 2015, p.17).

1.1.1.6 Sargon II (721–705 BC)

As previously mentioned, some researchers consider that Sargon II's reign was the starting point for the second phase of the Neo-Assyrian Empire. However, in my thesis the start of the 2nd phase is the reign of Tiglath-Pileser III and will also point to the

Sargonid Dynasty, which consisted of Sargon II and his family, as one of the most important Dynasties that ruled throughout the history of Assyria. In addition to all his great efforts to develop the Empire, Sargon II also built a new capital city, called “Dur-Sharrukin”, 19 km northeast of Nineveh (Lloyd 1978, p.189). The author says the remains of this city reflect the strength of its defensive fortifications. Baqir (2009), notes that the structure of Dur-Sharrukin is similar to the later plans and structures of the Roman cities which were based on a grid structure (Baqir 2009, Pp.566-568). Although Sargon II did not try to control the Arabs’ trade, yet in 715 BC he ordered his soldiers to secure the trade route via export some of the Arab tribes such Tamudi tribe because they were obstructing the trade caravans (Frahm 2017, p.301). After this tense relationship with the Arabs, Sargon's officer tried to have peaceful relation with the Arabs to guarantee a strong economic "Assyro-Arabian" relationship (Frahm 2017, p.302).

1.1.1.7 Sennacherib (704–681 BC)

After he returned to Nineveh which he made the capital again and expanded, Sennacherib continued his father’s campaigns in the west in the Levant and in Asia Minor where he mentioned Greeks, especially the Ionians, for the first time in the Assyrian inscriptions (Baqir 2009, p.569). The author also mentions that Sennacherib quashed rebellions in Elam and the Persian Gulf and destroyed Babylon in angers (Baqir 2009, Pp.570-571). Rawlinson (1916) added that in 694 BC Sennacherib built a huge fleet on the Tigris River to eliminate the Chaldean piracy network that controlled trade in the Persian Gulf. Moreover, the author adds that Sennacherib expelled the Chaldeans to Gerrha as mentioned in Strabo (Geog. 16. 3. 3), where the heat forced them to build houses from blocks of salt (Rawlinson, 1916, p.6). Baqir (2009) adds that later Sennacherib besieged Jerusalem and then started to plan for the first attempt to invade

Egypt which failed (Baqir 2009, p.570). Furthermore, one of the Assyrian inscriptions mentioned that Sennacherib went deeper into the northern Arabian desert to fight another Arabian Queen called "Te'elhunu" in Adummatu (Bennett 2015, p.25). The author, moreover, states that this was the earliest reference to this Queen and the city of Adummatu (Bennett 2015, p.25). Lloyd (1978), comments that this king loved to write about himself as the greatest warrior since the time of Hammurabi (Lloyd 1978, p.190).

1.1.1.8 Esarhaddon (681–669 BC)

To reverse what his father had done to Babylon and the Babylonians, Esarhaddon rebuilt Babylon and took care of the Babylonians and their temples to gain a good relationship with them (Baqir 2009, p.574). After Esarhaddon had built confidence in the southern territories, he sent his campaigns north. Baqir (2009) states that he considered fulfilling and realising his father's dream of invading Egypt. Thus, Esarhaddon marched a great army to Egypt, and to ensure the protection of the route for his troops he made agreements with the Bedouins in the South Levant and in the North Arabian Peninsula, such as with the people of Adummatu (Baqir 2009, Pp.575-576). Gerardi (1992) mentions that Esarhaddon made a peace agreement with King Yauta, son of Haza'el, who ruled the northern Arabian kingdom of "Qedar" (Gerardi 1992, p.72). According to Bennett (2015), Qedar refers to Arabian Tribes that played significant role in the 5th century BC, and the author explains that their settlement was near Adummatu (Bennett 2015, p.20). After these agreements in his road to Egypt, Esarhaddon and his army invaded Memphis the Egyptian capital (Baqir 2009, Pp.575-576). In his annual royal inscription about this campaign, Esarhaddon wrote:

> "l gathered camels from all the kings of KUR a-ri-bi and made them carry watersacks; I marched x 15 through great dunes of sand." (Retso 2003, p.159).

Retso (2003), interprets this letter as reflecting the strong relationship between Esarhaddon and the Arabs based on the assistance received from the Arabian kings (Retso 2003, p.159). Lloyd (1978) says that Esarhaddon took great delight in declaring himself the 'King of Upper and Lower Egypt' (Lloyd 1978, p.191). The occupation of Egypt lasted for only two years until King Tarku came back and regained the Egyptian kingdom. Esarhaddon attempted to fight for control of Egypt again, but he died in his way to Egypt. (Lloyd 1978, p. 191). According to Baqir (2009), another important event happened three years before his death in 669 BC, Esarhaddon appointed his younger son Ashurbanipal as crown prince of the Assyrian Empire and at the same time appointed his oldest son Shamash-Shum-Ukin the crown prince of Babylonia (Baqir 2009, Pp.576-577).

1.1.1.9 Ashurbanipal (668–627 BC)

Ashurbanipal continued his father's plan and invaded the capital of Egypt Memphis again which he accomplished and destroyed the city (Lloyd 1978, p.191). According to Baqir (2009), since most of the Assyrian Army was occupying Egypt, some territories took advantage of this and revolted (Baqir 2009, p.579). The leader of those rebels was Ashurbanipal's brother Shamash-Shum-Ukin, the King of Babylonia (Baqir 2009, p.579). Moreover, Qedar's king Yauta, son of Haza'el, attacked the western border of the Empire (Gerardi 1992, p.70). Ashurbanipal defeated this king and this event appeared in the inscription as the earliest Assyrian campaign against the Arabs (Gerardi 1992, p.72). Despite the eventual victory of Ashurbanipal in his wars of revenge, the Empire started to collapse and came to an end (Baqir 2009, Pp. 581-582). After the death of Ashurbanipal, there were several Assyrian kings who could not defend the Empire against the allied enemies, the Medes and Babylonians (Baqir 2009, Pp.582-583). In 612 BC the Assyrian Empire ended leaving very rich archaeological evidence in the form of

architecture, arts, and other aspects of culture (Baqir 2009, p.585).

1.1.2 The Neo-Babylonian Empire (626-539 BC) (Map 1.2)



Map:1. 2 The Neo-Babylonian Empire between 626-539 B.C (Bany 2017)

Although this Empire only lasted for a short period, it left a rich legacy that influenced and continued to appear in the culture of neighbouring civilisations after its end (Jursa 2014, p.121). The author adds that in the period following the Neo-Assyrian Empire, Babylon witnessed the arrival of other Semitic groups: Chaldeans, Aramaeans and Arabs (Jursa 2014, p.123).

1.1.2.1 Nabopolassar (626–604 BC)

After the victory which he accomplished with the help of the Medes against the Assyrian Empire, which was in its last days, Nabopolassar declared himself King of Babylon (Lloyd 1978, p.222). In the years that followed until the collapse of the Empire of the Assyrians, Nabopolassar rebuilt the infrastructure of Babylon and other southern cities of Mesopotamia, which he seized from the Assyrians, and strengthened the economy and military of his new country (Mohammed 1983, p.45). The author explains

that after Nineveh was destroyed in 612 BC, Nabopolassar shifted his Army from defensive to offensive and began occupying the rest of the Assyrian Empire (Mohammed 1983, p.46). Baqir (2009) reports that Nabopolassar seized Syria and Palestine. In 605 BC Nabopolassar died after he sent a military campaign led by his son Nebuchadnezzar II to repel an Egyptian attack on the Palestinian and Syrian territories (Baqir 2009, Pp.602-603).

1.1.2.2 Nebuchadnezzar II (604–562 B.C.)

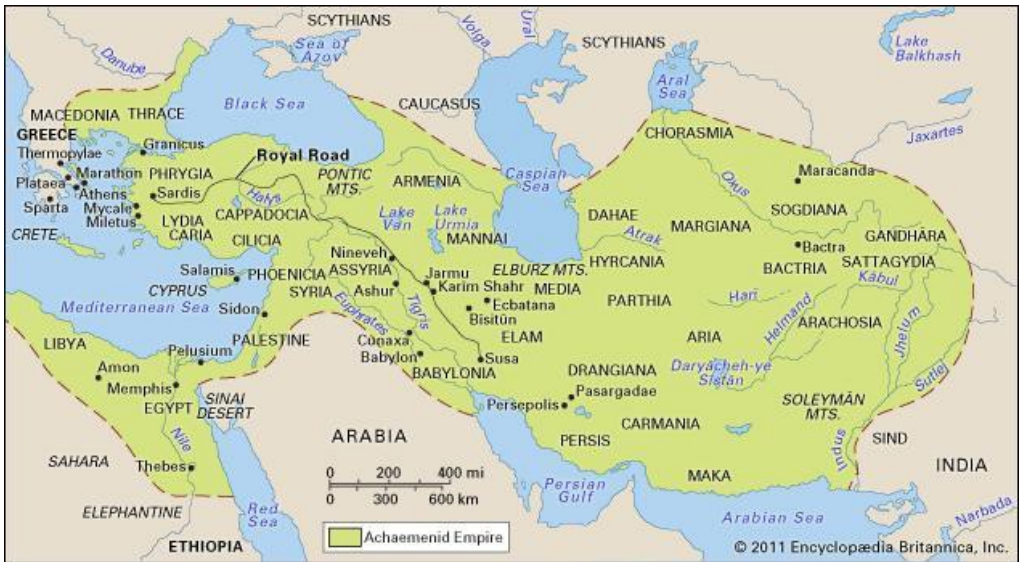
His era was the most important phase of the Neo-Babylonian period and one of the best periods of Mesopotamian history (Baqir 2009, p.605). After his victory over the Egyptians, he tried to occupy Egypt, but the news of the death of his father made him return to Babylon (Mohammed 1983, p.52). Although he did not continue to occupy Egypt after his victory, Lloyd (1978) points out that Nebuchadnezzar II was able to impose his authority on the Levant (Lloyd 1978, p.222). Furthermore, Nebuchadnezzar II besieged Jerusalem twice; the first time in 597 BC when he captured more than 3000 Jews who were deported to Babylon; the second in 586 BC when, as punishment for their alliance with his enemy the Egyptian Pharaoh Apries, Nebuchadnezzar II destroyed Jerusalem and its Holy Temple of Solomon and captured more than 40,000 people whom he moved to captivity in Babylon (Baqir 2009, p.604). Moreover, Baqir (2009) mentions that Nebuchadnezzar II also punished some Arabian tribes for the same reason (Baqir 2009, p.605). Apart from his wars and the consequent destruction, this king left distinctive architectural works in re-building what the previous wars had destroyed throughout Mesopotamia (Baqir 2009, p.606). For instance, Nebuchadnezzar II rebuilt Babylon to become one of the largest cities in his time around 3 square miles surrounded by huge walls and the river ran in through the middle of the city with the beautiful Gates (Kuhrt

1995, p.593). After the death of Nebuchadnezzar II in 562 BC several kings ruled the Empire, but they were not as strong as Nebuchadnezzar II (Baqir 2009, Pp.606-607). The last independent ruler of the Babylonian Empire was Nabonidus (Lloyd 1978, p.222).

1.1.2.3 Nabonidus (556–539 BC)

Lloyd finds this king an eccentric individual who with no understandable reason was absent from Babylon on many occasions and changed his belief from the worship of the Babylonian God "Marduk" to "Sin" the god of the moon in Harran (Lloyd 1978, p.222). On the other hand, Baqir (2009), argues that Nabonidus' absence for 10 years in Tayma was to solve economic crises linked to the trade route from Harran and North Arabian Peninsula (Baqir 2009, Pp.609-610). The King Nabonidus Chronicle (Fig. 1.3) records his actions as well as his residence in Tayma in the north of the Arabian Peninsula (the British Museum, 2017). In fact, Nabonidus' years in the Arabian Peninsula reflected the strong direct contact between both cultures that had significant impact on various aspects of Arabian culture (Baqir 2009, p.606). The author also comments that Nabonidus was the first archaeologist because of his passion for seeking out old inscriptions (Baqir 2009, Pp. 610-611). Both scholars Baqir (2009, p.612) and Lloyd (1978, p.223) agree that his absences led to weakening the Empire. Lloyd (1978) explains that the fateful event of the expansion of the Persian Empire was during Nabonidus' reign. As result, the Persian Empire, under the command of their leader Cyrus II, reached Babylon in 539 BC which led to the end of the Neo-Babylonian Empire (Baqir 2009).

1.1.3 The Achaemenid Empire (558-330 BC) (Map 1.3).



Map:1. 3 the Achaemenid Empire between 558-330 B.C (Britannica, 2011)

1.1.3.1 Cyrus II (558-330 BC)

Cyrus II the Great founded the Achaemenid Empire with his great conquers (Kuhrt 1995, p.647). Then, he started expanding the Empire by occupying territories including the Indus Valley, the Aegean Sea, Asia Minor, Assyrian lands (Baqir 2011[(2)], Pp.449-450). Kuhrt (1995:660) adds that Cyrus II conquest Babylon in 538 BC and appointed his son Cambyses as his coruler acting as King of Babylon. Baqir (2011) says that Cyrus' campaigns were the beginning that later built an empire larger than any previous empire in ancient history. The Author adds that although Cyrus II was known as a powerful king, he was also famous for his kindness towards all the occupied territories and was very respectful of their cultures until he died in 530 BC during one of his wars (Baqir 2011, p.450).

1.1.3.2 Cambyses (529–522 BC)

[(2)] This is the date for a reprint edition of volume (II), the original source of the author Taha Baqir was published in 1956.

Like his father, Cambyses continued expanding the Empire through military campaigns (Baqir 2011, p.451). However, el-Sayed (2012) argues that Cambyses succeeded in occupying Egypt in 525 BC which was the most important expansion in the era of the Empire (el-Sayed 2012, p.3). The author also indicates that, before moving with his armies to Egypt, Cambyses concluded treaties with the Arabs in order to ensure the safety of the road for his armies. The author says that the evidence of the excited of this treaty was by Herodotus (3.88.1) (el-Sayed 2012, p.4). Cambyses had his brother Bardia assassinated because he tried to rebel against the Empire (Baqir 2011, p.450). The author reports that Cambyses died in 522 BC while he was returning from Egypt (Baqir 2011, 452).

1.1.3.3 Darius I (522–486 BC)

His reign was one of best and the brightest periods for the Persian Empire during which he made many reforms by largely political rather than military solutions (Baqir 2011, p.454). He re-organised his Empire by dividing it into twenty provinces for each of which he appointed a Satrap to govern (Baqir 2011, Pp.463-464). Furthermore, the author points out that one of his successful methods to gain people's confidence was the rebuilding of the temple in Jerusalem. The author mentions that he improved the empire's road network to ensure smooth commercial communications (Baqir 2011, p.466). He also says that Darius I was defeated in by the Athenians in the battle of Marathon in 490 BC, and in his last days he was occupied with fighting the rebellions in Egypt until his death in 486 BC (Baqir 2011, p.454).

1.1.3.4 Xerxes I (486–465 BC)

He continued fighting rebellions in Egypt and Ionia, and also a new rebellion in Babylon (Baqir 2011, p.455). In 480 BC he went to fight the Greeks with a very large

army which won the first battle on land, however, the Greek fleet surprised him and defeated his troops, which caused him and his army shock and made him withdraw from the Greek territories (Baqir 2011, p.455). The author points out that these overambitious wars caused economic crises that led Xerxes I to focus his effort on the Persian provinces, which weakened the Empire in the other territories. In 465 BC his officials assassinated him (Baqir 2011, p.456).

1.1.3.5 The last kings: from Artaxerxes I to Darius III (465-330 BC)

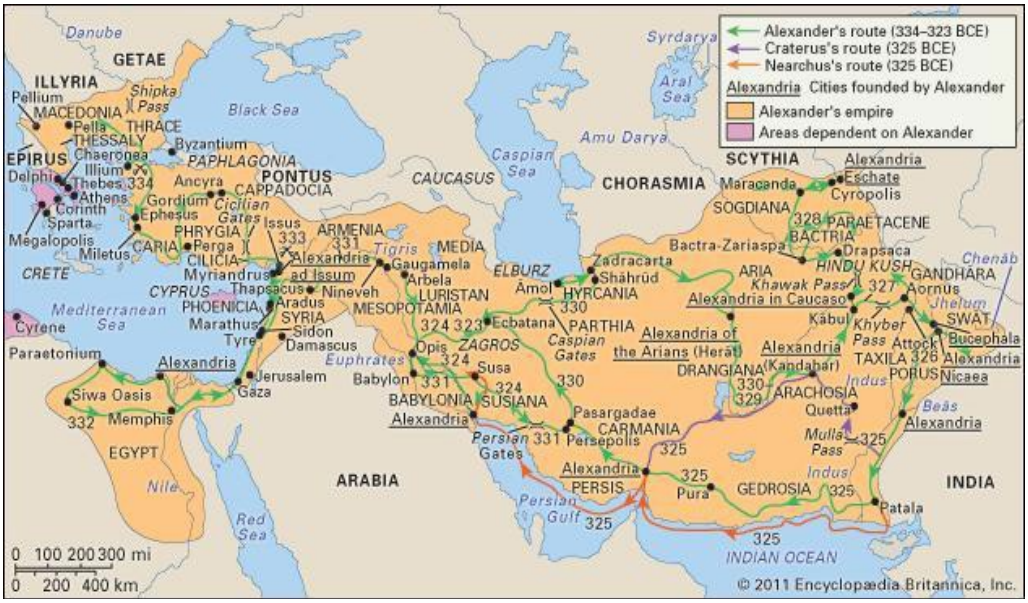
After the assassination of Xerxes I by senior palace officials, the empire began to enter a dark age full of assassinations and fighting between family members (Baqir 2011, p.456). It started with Artaxerxes I (465-424 BC) who began his reign by killing all his brothers because one of them revolted against him (Baqir 2011, p.456). According to Baqir (2011), besides the assassinations there were only a few important historical events to review in this dark age. Darius II (424-404 BC) was occupied by his war in Egypt and his intervention in the war between Sparta and Athens by supporting the Spartans with considerable amounts of money that caused difficulties in the Empire's economy (Baqir 2011, p.457). Darius III (336-330 BC) the last king who tried to repair the damage in the Empire, faced the new powerful forces of the union between the Macedonians and Greeks who denied him the opportunity to do so (Baqir 2011, p.461).

1.1.4 The Hellenistic era

This is the period when the Greeks controlled the ancient Near East, especially Mesopotamia, politically and economically after Alexander's victory in his war against the last Persian king, Darius III (336-330 BC) and inherited the Achaemenid Empire. However, the following will only review some of the historical events of Alexander the

Great. Then later, in Chapter 5, we will discuss more historical and archaeological information regarding the main actions taken by Alexander and his Seleucid successors in the confrontation with Arabia during the Hellenistic era.

1.1.4.1 The Empire of Alexander the Great (334–323 BC) (Map 1.4).



Map:1. 4 The Empire of Alexander the Great between 334-323 B.C (Britannica, 2011)

In 334 BC after Alexander won his fight against his enemy in Greece, he went to Asia Minor where he met the Achaemenid army at the river Granicus and defeated it (Baqir 2011, p.486). Next, he continued with his army to Syria and fought the Achaemenid army at the battle of Issus in 333 BC, led by Darius III who fled after losing the battle (Baqir 2011, 487). This victory encouraged Alexander in 332 BC to conquer Egypt and found his city Alexandria (Baqir 2011, Pp.488-489). He then went east again where he fought Darius III in 331 BC where his victory at Gaugamela finally crushed the Achaemenid Empire (Baqir 2011, Pp.489-490). Martin (2013) says that after Alexander's victory in 331 in the battle of Gaugamela, He declared himself the King of the Archimedean kingdom in Asia. The author adds that Alexander the Great mixed Persians with Greeks to work together and added new administration system without changing the

Persian system as his strategy to ensure the stability and the strength of this new kingdom (Martin 2013, p.247). After this Empire collapsed, all the Near East territories fell under his command in 329 BC and from Persia, he went east to India to more territories to expand his Empire (Baqir 2011, Pp.490-491). Finally, in 325 BC, he returned to Babylon which became the capital of his new Empire and was his last destination before he died in 323 BC (Baqir 2011, p.491). After the death of Alexander, his Empire fell apart because of the greed of the generals who succeeded him. In consequence the Empire was divided and ruled by some of Alexander's generals such as Antigonus II who ruled the Kingdom of Macedon in part of Greece and Macedonia, Ptolemy I Soter who ruled the Ptolemaic Kingdom in Egypt, and Seleucus I who ruled the Seleucid Kingdom in the region from the Levant to India including Mesopotamia (Baqir 2011, p.494). However, since the Seleucid Kingdom was the only Hellenistic kingdom which ruled Mesopotamia, the following review is a short summary regarding the Seleucid kingdom and more information will be added in Chapter 5 regarding Alexander and the Seleucids and their contacts during the Hellenistic era with Arabian Peninsula.

1.1.4.2 The Seleucid Kingdom (312–64 BC) (Map 1.5).



Map:1. 5 The Seleucid Kingdom between 312 – 64 B.C (Wikipedia 2008)

After King Seleucus I started this kingdom, there were 18 kings who came after him. The following is only some of the important events that happened during the period era of this Hellenistic kingdom.

1.1.4.2..1 Seleucus I (312–280 BC)

In his reign it was a very large kingdom which occupied the entire region from the Levant to India (Baqir 2011, p.494). Seleucus I was influenced by Alexander's opinions and ideas, especially his commitment to Greek culture, so he tried to spread it in the eastern provinces (Baqir 2011, p.494). His kingdom inherited the greater part of the Achaemenid Empire, but he ceded the eastern part to the Indian King (Baqir 2011, p.495). Potts (1992:10-11) says that the Seleucid fleet were in Arabian Gulf in Seleucus I based on the interpretation of the passage in Pliny (NH 2. 67.167) to protect their economic interests. Baqir (2011:495) adds that that Seleucus I founded two capitals for his kingdom, the first

one was Seleucia, built on the Tigris River as the capital of the eastern part of the kingdom, and the second was Antioch in the northern part of Syria, the capital of the western part of the kingdom. He appointed his son Antiochus I to be his deputy ruler in Seleucia.

1.1.4.2..2 Antiochus I (280–261 BC)

After his death, Antiochus I took over the kingdom and his reign were the beginning of the decline of the kingdom. The first sign of this was the independence of the Persian region (Baqir 2011, p.496). According to Baqir (2011), although the other two kings, who came after Antiochus I tried to solve these problems, they could not.

1.1.4.2..3 Antiochus III (223–187 BC)

Antiochus III was a strong king who started to reorganise and restructure the kingdom by regaining Persia and fighting the Parthians (Baqir 2011, p.496). Antiochus III led the army to India and achieved a new reconciliation with the Indian king. Moreover, as mentioned in (Polybius, 13. 9. 4-5), after Antiochus III returned, he sailed his fleet through the Arabian Gulf to regain the control of the trade route in this area and planned to continue to Gerrha, but the Gerrhaeans sent envoys begging him to leave them in peace when he agreed they sent him gifts as their expression of gratitude (Potts, 1992, Pp.93-94). These victories encouraged him to oppose the Romans during his campaign for the recovery of Asia Minor, so he crossed to Macedonia and fought Roman armies until 188 BC when the Romans won and imposed tributes on him. Three years later, he was killed during one of his military campaigns (Baqir 2011, p.497).

1.1.4.2..4 Antiochus IV (175-164 BC)

Baqir (2011), states that Antiochus IV was considered to be the last strong King of this kingdom. Antiochus IV around 166 BC re-built Antiochia-Charax on the same place of Alexandria-on-the-Tigris the city founded that Alexander the great (Potts 1992, p.16). He tried to prevent the kingdom from collapsing and to rally the Greek tribes but did not succeed. He also won the war against Ptolemy in Egypt, but that did not help the kingdom evade its fate (Baqir 2011, p.497).

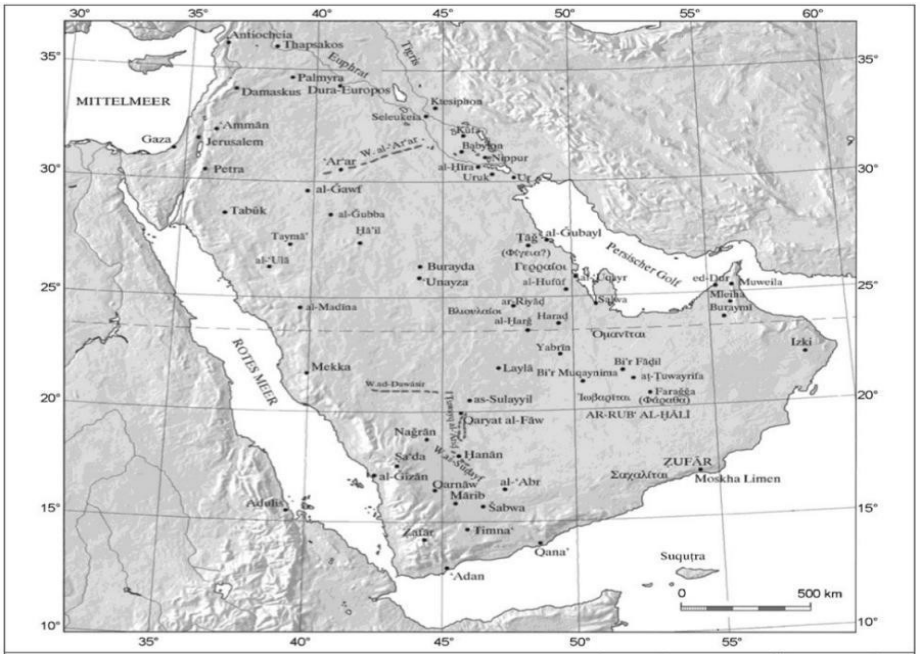
1.1.4.2..5 Antiochus VII (139-129 BC)

During his reign the Parthians became stronger and expanded until they reached the Euphrates River (Baqir 2011, p.497). After this war he committed suicide (Baqir 2011, p.497). According to Baqir (2011), after Antiochus VII the kingdom was divided into three small states in Syria until it was invaded by the Roman Empire that started the major role in the era in c. 64 BC (Baqir 2011, p.498).

1.2 Southern Arabia (Yemen) during the 1st millennium BC

The Arabian Peninsula was one of the most important strategic locations among the ancient civilisations, because of its location in relation to the earliest civilisations in Mesopotamia, the Levant, and Egypt. Several kingdoms existed in the north and east of the peninsula, but it was the southern part "Yemen" where there were powerful Arabian kingdoms. In the following sections I will briefly explore Yemen to point out the geographical importance, historical chronology, and some archaeological monuments. This historical and geographical introduction helps to understand the later economic development in other archaeological sites in the Arabian Peninsula, such as Geriyah, Thaj, and Qaryat al-Faw.

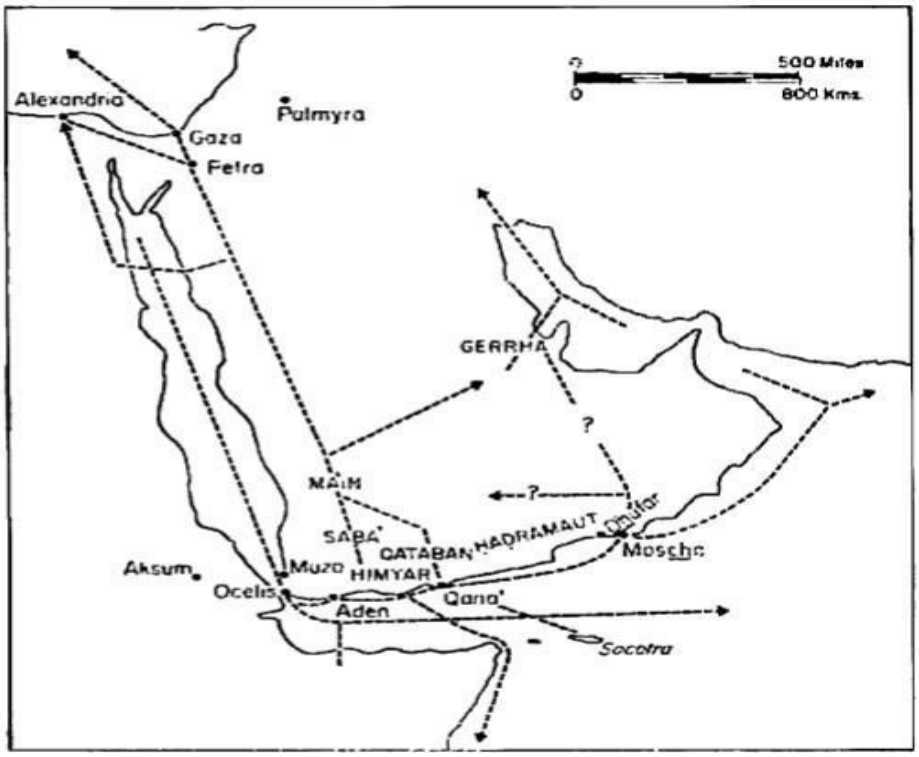
1.2.1 Geographical Importance: (Map 1.6)



Map:1. 6 The Arabian Peninsula (Bukharin 2007, fig.1, p.81)

The name southern Arabia refers to Yemen which is located in the southwest of the Arabian Peninsula (Bukharin 2007). Today it is bordered to the north by Saudi Arabia, to the south by the Gulf of Aden and the Arabian Sea, to the west by the Red Sea, and to the

east by Oman. Southern Arabia was mentioned in classical sources as Arabia Felix referring to its natural advantages over other parts of the Arabian Peninsula (Retsö 2000). Herodotus (3.107.1) was the first classical author who mentioned the trade in frankincense from South Arabia (Groom 1981, p.57). The author, moreover, states that the religious importance of frankincense and myrrh meant that southern Arabia's trade in it ensured permanent contact with most of the surrounding ancient civilisations such as Egypt, the Levant, Mesopotamia, and those of the Mediterranean (Groom 1981, p.9). Doe (1971) connects the important production of frankincense and myrrh with the ability of southern Arabia to control the ancient trade routes in the Arabian Peninsula (Map 1.7) (Doe 1971, 52).



Map:1. 7 The trade routes controlled by Southern Arabian cities (Doe, 1971, fig.2, p.51).

1.2.2 Historical background:

Brozyna (1999), reviews the arguments made by most scholars about the accurate date of these Arabian kingdoms. Moreover, he concludes that these scholars were

incorrectly dating them based only on classical sources, and he believes the appearance of those Kingdoms dated to the 2nd half of the 2nd millennium BC (Brozyna 1999, Pp. 144-145).

However, Alessandro de Maigret draws a very clear chronology which is more suitable for use in this short historical background of southern Arabia, especially the period from the beginning of the first millennium BC (de Maigret 2009, table: 3, p.199). The author explains that there were five states established in southern Arabia during the 1st millennium BC based on sovereigns' names and the geographical locations which were Saba- also known as Sheba-, Ma'in, Qataban (including Awsan), and Hadramawt (de Maigret 2009, p.196). The author says that based on the political titles of the Sabaean rulers he counts that there were four historical periods:

1.2.2.1 The Mukarribs of Saba:

De Maigret (2009) says that Mukarribs reigned between the beginning of the 8th century BC until the 5th century BC. He demonstrates the possibility that this period could have started earlier by two and half centuries before undetermined reigns of the Queen of Saba and King Solomon which he proposed to be 960 BC (de Maigret 2009, Pp.198-200).

1.2.2.2 Malik (Arabic title for king) of Saba:

De Maigret (2009) explains this phase started in the 5th century BC when the title of Malik replaced Mukarrib in the Sabaean inscriptions, and this phase of Kings of Saba ended in the 1st century BC (de Maigret 2009, p.200).

1.2.2.3 The Mountain Kingdoms and the Kings of Saba and Dhu-Raydan:

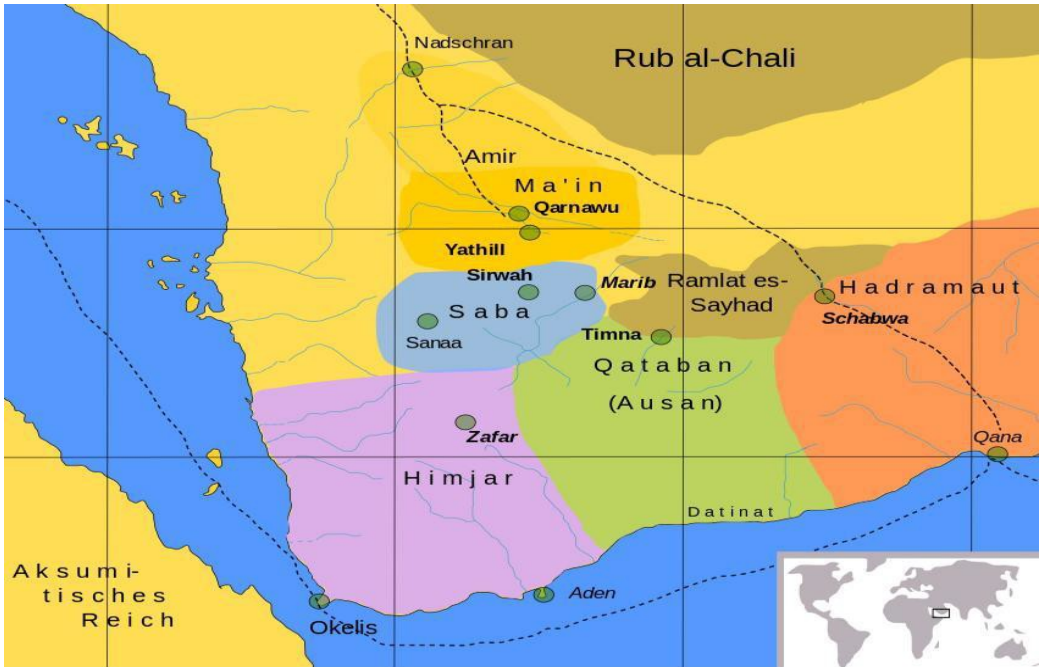
De Maigret (2009) say that this phase reigned between the 1st century BC and the 4th century AD. He says that this phase could be also called the commercial maritime kingdom where the old trade route changed and the seafaring trade route become more

important (de Maigret 2009, p.196).

1.2.2.4 The Empire of Himyar:

Between the 4th century AD and the late 6th century AD (c. AD 570).

De Maigret (2009) shows that before this phase each kingdom had its individual trade caravan and had its geographical and political strengths, and more importantly economic powers (Map 1.8). However, the Southern Arabia ruled and control of one empire the Himyarite kingdom (de Maigret 2009, Pp.196-197).



Map:1. 8 The five southern Arabian kingdoms in the 3rd century BC to the 4th century AD. centuries (source: postskriptum.org, 2016).

1.2.3 Archaeological Evidence:

The interactions between southern Arabia with other cultures also appeared in the Hellenistic and Roman periods between 323 BC and the first century AD (al-Aidarous 2012, p.71). This relationship influenced some artefacts that were found in several locations in Yemen (al-Aidarous 2012, p.72-74).

- **Statues:**

- Bronze bust of Athena

The Athena bust (Fig. 1.4) from the archaeological site at Jabal al-ʿAwd near Zafar is one of the best examples that reveals the contact between southern Arabia and the Hellenistic world. According to Simpson (2002:164), this artefact is imported and dates to the 3rd/2nd century BC. Despite the differences in the material and size, this bust has some parallels with the colossal statue of Athena (Picon & Hemingway 2016, p.3, fig: 2) from the library of Pergamon, a masterpiece which dates to the early Hellenistic period (Fig. 1.5).

The bust from Jabal al-ʿAwd has the same characteristics as those on the head of the Pergamon statue, especially in the helmet design, hair style, and facial features. According to Picon and Hemingway (2016), the statue of Athena from Pergamon is a smaller version of the famous 5th century BC statue of Athena Parthenos by Pheidias (Picon & Hemingway 2016, p.2). The Athena bust from Jabal al-ʿAwd also reflects the influences of Pheidias' school, based on Pliny's description:

> "Pheidias made an Athena of bronze of such outstanding beauty that she was called the Beautiful (*N. H.* 34. 54)" (Richter 1970, p.170).

The characteristics of the bronze bust of Athena undoubtedly match Pliny's statement and support the idea of the similarities of this artefact with other Hellenistic copies of Pheidias' work. However, the "Beautiful" Athena bust of Jabel al-ʿAwd has also a non-Greek feature. This takes the form of an ancient south Arabian inscription, which is known as Musnad script, which, according to Simpson (2002:) was added onto the neck of the Athena bust later, around the 1st or 2nd century AD. Simpson (2002), cites the reading of this inscription as follows:

> "We witness this document to Shams." (Read by Y. Abdullah

cited in Simpson 2002, p.164).

Shams in Arabic means the Sun, which was worshipped by the people of South Arabia and most of the ancient communities, not only in other parts of the Arabian Peninsula but in nearly all of the ancient Near Eastern civilisations under different names (Simpson 2002, p.164). Accordingly, Simpson (2002:164) raises questions about what the relationship is between the Greek goddess Athena and the Arabian god Shams? And why they dedicated Athena to their god. These questions, as well as those relating to other Greek gods and goddesses who received offerings in other temples in the Arabian Peninsula need more investigation to understand the scope of Greek influence on Arabian culture.

- Bronze statue of a woman

This female statue (Fig. 1.6) from Jabel al-ʿAwd reveals another significant sign of the relationship between south Arabia and Greece. Simpson (2002:164) dates this artefact to the 4th or 3rd century BC based on the style of her clothing with a high-girdled garment which the author says was more common in the fourth century BC.

- Lion riders

In Timna, the capital city of ancient Qataban, archaeologists found two bronze statues of children riding lions (Fig. 1.7; Simpson 2002, fig. 152-3, p.129). Segall (1955) believes that according to their characteristics these sculptures from Timna represent the Hellenistic 'infant Dionysos' based in their facial similarities to the other Hellenistic statues from Egypt (Fig. 1.8). The author notes that the riders from Timna represent the small children – erotes- which were only famous in the Hellenistic period. Segall (1955) and Simpson (2002) date the lion riders from Timna between the 1st century BC and 1st century AD.

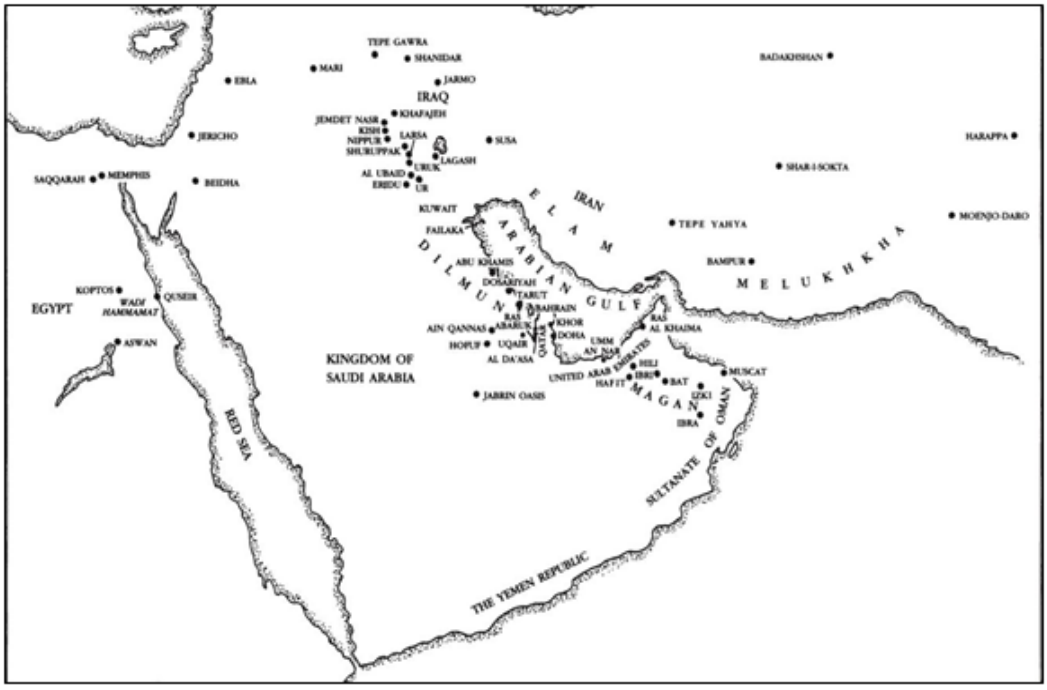
Conclusion

This chapter provides important historical events as the first mention of the Arabs and their trade beginning as reviewed in the Mesopotamian and South Arabia sections. The most important result from the brief review of this chapter is the background information that will help us better understand the study of the Arabian Gulf archaeological sites in Chapter 2.

2 Archaeological evidence from the Arabian Gulf

2.1 The Arabian Gulf during the 1st millennium BC

The Arabian Gulf played a critical role in the history of the ancient Near East. The archaeological evidence for that role appeared in several notable geographical locations in and on the Arabian Gulf, including sites in Bahrain, Kuwait, Qatar, the Arab Emirates, Oman and Saudi Arabia. Although the region had had relationships with the civilisations in Mesopotamia since the Al-Ubaid culture in the 5th and the 4th millennium BC (cf. Golding 1974), this section will review some archaeological sites that demonstrate the sequence of the impacts on the Arabian Gulf regions in the 1st Millennium BC from the Neo-Assyrian, Neo-Babylonian, Achaemenid, until the Hellenistic era to clearly understand the changes that were made in the region because of the Hellenistic influence (Map 2.1).



Map:2. 1 Archaeological sites in the Arabian Gulf. (after Rice 1994, map 1, p.15)

2.1.1 Bahrain: (Map 2.2).



Map:2. 2 Archaeological sites in Bahrain. (after Rice 1994, map 2, p.146)

– Dilmun during the 1st millennium BC:

This was the most important area in the Arabian Gulf and the archaeological finds reveal strong contacts with the civilisations in Mesopotamia during different periods and mainly in the first millennium BC. Dilmun continued its major historical role as an important location on the trade route. The recent archaeological discoveries provide more evidence that links Dilmun with the neighbouring empires such as the Neo-Assyrian, the Neo-Babylonian, the Achaemenid, and Greek. The archaeological evidence for the relationship between Dilmun and those civilisations was found at several sites, but Qala'at al-Bahrain is the one where the impact of these civilisations was all represented (Potts 1990, p.298).

2.1.1.1 Qala'at al-Bahrain (Bahrain Fort) (City IV)

The stratigraphy in Fig. 2.1 demonstrates that over several millennia Qala'at al-Bahrain was a very important site/settlement with evidence demonstrating continuous occupation without abandonment. City IV was discovered by Danish excavations in the 1950s at Qala'at al-Bahrain. There was some archaeological evidence from the 1st millennium BC in City IV which showed influences from the Neo-Assyrian, the Neo-Babylonian, and the Achaemenid eras (Potts 1990, Pp.315-317). The author points out that some archaeologists assume City IV is a Neo-Assyrian palace. On the other hand, the author mentions that there are also other archaeologists, such as Bibby, who believe that this important discovery belongs to Uperi, a King of Dilmun, who was a contemporary of the Neo-Assyrian King Sargon II (721–705 BC; Potts 1990, p.317). Additionally, Oates (1986) presents a theory that the internal structure of Uperi's Palace is divided into two joined structures. The author explains that the layout in one of these structures represents a type of Neo-Assyrian and Neo-Babylonian "reception suite" (Oates, 1986, p. 433) (Fig 2.2), the same as Fort Shalmaneser in Kalhu (Nimrud) which was a Neo-Assyrian palace (Oates 1986, p.433). Potts (2010) concludes that this monumental building termed the Uperi's Palace is an Achaemenid palatial building built as a residence for an Achaemenid satrap or other wealthy Iranian family. One of the main factors that Potts relies on are the snake-bowls (Fig. 2.3), which were discovered under the palace floor, and are in his statement definitely Achaemenid-style bowls (Potts 2010, p.525). He says that these bowls had shapes similar to others that have been found across the Achaemenid Empire (Potts 2010, p.524). His conclusion is supported by Lombard (1986) who said that the typological examination of two of these finds prove that they were "the

typical Achaemenid 'cream-bowls' from Pasargadae or other Iranian sites,…(Lombard 1986, p.230)".

It seems that the Uperi's Palace was similar to the other sites in Qala'at which experienced influence from different cultures throughout its occupation. Away from the debate about whose or what the influences on the palace were, the archaeological finds from City IV, present some other evidence of the presence of the Neo-Assyrian, Neo-Babylonian, and Achaemenid cultures. According to Rice (1994), in the Assyrian records, Dilmun was mentioned as an Assyrian territory by several Neo-Assyrian kings such as in the inscription (Cylinder B) of Assurbanipal's royal title as The King of "Tilmun":

> "Assurbanipal, the Great King, the legitimate King, the King of the world, King of Assyria, King of all the four rims of the earth, King of Kings, prince without rival, who rules from the Upper Sea to the Lower Sea, had made bow to his feet all the other rulers and who has laid the yoke of his overlordship upon them from Tyre which is an island in the Upper Sea as far as Tilmun which is an island in the Lower Sea—and they pulled the straps of his yoke" (Rice 1994, p.120).

Potts (1990:320) reports that amongst the finds from this site was a Neo-Babylonian stamp seal. Lombard and Kervran (1989), point out that this cylinder seal (Fig 2.4) was not found in the layer corresponding to City IV, but, according to the excavator from the Danish expedition, was found in the level above, the Hellenistic level City V (Lombard, P. and Kervran, M. 1989, cat. no. 289, p.159). However, the authors agree with Potts that based on its style this cylinder seal is a Neo-Babylonian Cut Style from the 9th to the 8th centuries BC (Lombard and Kervran 1989, p.159). Nevertheless, at the site of City IV there is other important archaeological evidence which links this level to the Neo-Babylonian civilisation. One example is the bath-tub coffin (Fig. 2.5) that was unearthed from Qala'at al-Bahrain and dated between the 7th and 5th century BC (Lombard and Kervran 1989, p.80). Lombard and Kervran (1989) say that there are

similar examples of such bath-tub coffins found in several locations throughout Mesopotamia, such as the ones found in Babylon, Nippur, and Nimrud. They also mention that similar coffins have been discovered at Karzakan, another site in Bahrain. In addition, in the same level with the bath-tub coffin, there was an "inhumation-bowl" (Fig 2.6) which had been used for a child burial (Lombard and Kervran 1989, p.80). The authors date this child burial to the late Iron Age between the 7th and 5th centuries BC based on the other finds in the same level and in comparison, with other burial jars dated to the same period found at the sites of al-Hajjar and Janussan in Bahrain (Lombard and Kervran 1989, p.80). There are other intrusive finds such as the coffin in Qala'at al-Bahrain City IV dated between the 7th and the 5th century BC, for example, various bronze objects, such as what Lombard and Kervran called a "Bronze drinking set" include dish, strainer, ladle, and situla (Fig. 2.7) (Lombard and Kervran 1989, cat nos.131-134, Pp.73-74). Lombard (1986) records that this bronze 'wine-set' was reviewed by R. Moorey who dated them to the 5th century BC, and Lombard says that in his conclusion Moorey (1980: 180) described this type of strainer as west Achaemenid Syro-Palestine strainers (Lombard 1986, p.227). Lombard and Kervran (1989) agree that the drinking or wine set was well known throughout the Achaemenid period in Mesopotamia and in the Syro-Palestine region (Lombard and Kervran 1989, p.54 & Pp. 73-74). Furthermore, a remarkable silver hoard (Fig 2.8) was discovered in the city IV level in Qala'at al-Bahrain (Lombard and Kervran 1989, Pp.75-77). Potts (1990) counted around six hundred silver objects of different types, fragments of silver finger-rings, arm-rings, tubular-rings, earrings, incised sheet silver, and smelted silver. According to Lombard and Kervran (1989) the silver hoard from Qala'at al-Bahrain dates to the 7th and 5th centuries BC and is comparable with the finds from different sites

in Mesopotamia. Additionally, the authors observe that based on the newer studies the functional use of the finds in the silver hoard was as currency (Lombard and Kervran 1989, p.54).

2.1.1.2 Tylos (City V) - Bahrain during the Hellenistic period

Tylos was the Greek name of Dilmun, that was mentioned by several classical authors such as Arrian (Rice 1994, p.123). Before Alexander died, he had sent his admiral Archias to explore the Gulf (Potts 1992). The author explains that, based on Arrian's report (*Anab.* 7. 20. 6), Archias described Tylos to Alexander as a big island (Potts 1992, Pp. 125-126). This military report might be the only link between Alexander and Tylos. There is some archaeological evidence of Hellenistic influences in several areas of this site (City V) in Qala'at al-Bahrain that dates between the 3rd and the 1st centuries BC (Lombard and Kervran 1989).

City V (Fig. 2.9), the Danish archaeological mission dated this stratum as a Seleucid/Hellenistic phase in Qala'at al-Bahrain based on its finds. The finds from this stage two "Greek black-glazed" sherds by the excavators (Fig. 2. 10) (Potts 1992, 106). Lombard and Kervran (1989) explain that these imported Greek sherds were found in the earliest Hellenistic phase of City V that dated to the 3rd century BC. However, the excavation in City V unearthed other glazed pottery sherds of the 3rd century BC of types without any clear Greek influence (Lombard and Kervran 1989, p.87). The author points out that this significant Hellenistic group of glazed pottery defines the layer of City V in Qala'at al-Bahrain as the Hellenistic level. Moreover, among the finds of this type of pottery, there were two green-glazed "lagynoi" (Fig. 2.11) which show western Hellenistic influences of this well-known type during the 3rd and 2nd centuries BC in the Levant (Lombard and Kervran 1989, Pp..87 & 90).) The authors stated that this type

found at sites in Bahrain and in the east region of Saudi Arabia (Lombard and Kervran 1989, p.90). The authors also report other important examples of glazed pottery in the shape of bowls and pilgrim flasks. One type of glazed bowl (Fig. 2. 12) is a carinated shape found in the earliest level of City V at Qala'at al-Bahrain (Lombard and Kervran 1989, p.97). Although the authors report that this artefact was found in the earliest Hellenistic level in City V or on the top of City IV, which they date to the 3rd century BC, they say that this bowl dates to the 1st century BC. They date it based on the same type, so called category "BI ware" found in Failaka in the first century BC. They also mention that examples of this type were well known in Syria in the second century BC, and it seems more accurate to compare this bowl with these and date it to the 2nd century BC (Lombard and Kervran 1989, p.97).

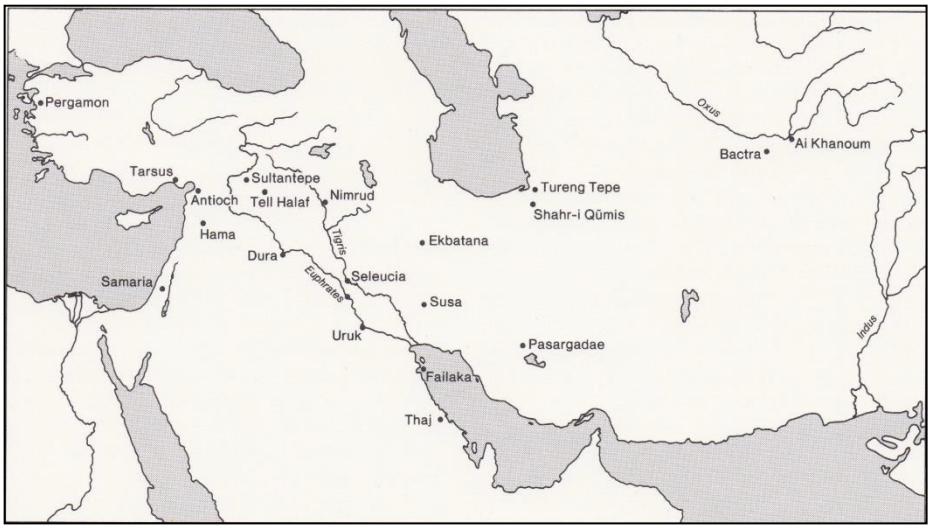
The other type of glazed pottery is a pilgrim flask (Fig. 2.13) that was found in the Hellenistic level of Qala'at al-Bahrain (Lombard and Kervran 1989, p.98). the authors also mention decorated glazed pilgrim flask with a Greek inscription dated between the 1st and 2nd century BC found in Bahrain in the Budaiya road cemetery (Lombard and Kervran 1989, cat. no. 172, p.99). The other significant archaeological evidence that connects City V in Qala'at al- Bahrain to the Hellenistic period are the terracotta figurines. These finds of terracotta include unique figurines which had Greek inspiration dated to the Hellenistic era (Fig. 2.14) such as girls' heads (cat nos. 232 and 233), part of a female figurine (cat no. 229), male figurines (cat. no.230), and animal heads (cat. nos. 236 and 237; Lombard and Kervran 1989, Pp.126-128). These examples were popular in the Hellenistic period during the 3rd century BC in Mesopotamia and in the east Arabian region they have been found at Thaj (Lombard and Kervran 1989, p.128). The terracotta figurines from City V were another important evidence to date this level in Qala'at al-

Bahrain to the Hellenistic period. Nevertheless, after the discovery of the coin hoard shown in Fig. 2.15, archaeologists were certain of the Hellenistic influence in Qala'at al-Bahrain (Lombard and Kervran 1989, cat. no.238, p.129). The authors report that there were 292 Hellenistic-type tetradrachms with the head of Herakles dating to the 3rd century BC. The authors, moreover, record that according Morkholm there were two series of these coins from archaeological sites in Eastern Saudi Arabia and one of these series might be from the Gerrha mint (Lombard and Kervran 1989, 129). This suggestion that Gerrha issued coins found in Bahrain will be discussed later in chapter 6 with more detailed analysis supported by another study by O Callot published in 1990.

2.1.2 Kuwait

Geographically, Kuwait is located south of Mesopotamia (Iraq) in the northeast corner of the Arabian Peninsula on the northwest coast of the Arabian Gulf. Its location put Kuwait at an important position on the trade routes by both land and sea. Historically, the region witnessed influences from Mesopotamia and Dilmun in the Bronze Age, such as the Al-Ubaid culture, and the Dilmun civilisation. Also, there were strong presence of archaeological monuments that date back to the Greek civilisation specifically during the period between 323 BC until 65 BC which is the time between the death of Alexander the Great until the end of the Seleucid kingdom. Yet, the archaeological finds relating to the first millennium BC during the era of the Neo-Assyrian, Neo-Babylonian, and Achaemenid cultures were limited. Although there are several important archaeological sites on mainland Kuwait, Failaka Island has the most important archaeological discoveries.

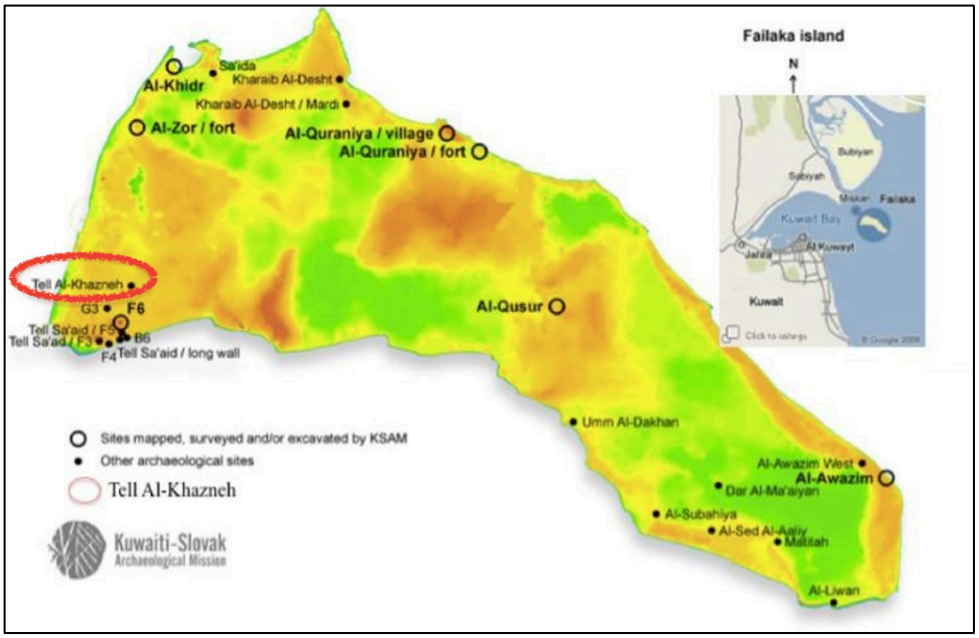
– Failaka Island (Map 2.3).



Map:2.3 Failaka in the Arabian Gulf (after Potts 1992, general map, p.XX)

The island of Failaka is in the north of the Arabian Gulf off the west coast of Kuwait. This island attracted archaeologists to excavate its settlement mounds through several missions (Fig. 2.16). The missions were impressive, especially for the diversity of the finds (Hojlund 2008). The number of archaeological missions to Failaka reflects the importance of this island, and also the differences between sites symbolise the cultural diversity that Failaka represents. For the reason mentioned above concerning the lack of archaeological finds dating back to the periods of the Neo-Assyrian, the Neo-Babylonian, and Achaemenid cultures compared with the abundant archaeological evidence of the Hellenistic period, the artefacts of the 1st millennium BC will be reviewed in two phases: pre-Hellenistic and Hellenistic.

2.1.2.1 Pre-Hellenistic: Tell Khazneh (Tell al-Khazneh) (Map 2.4).



Map:2. 4 Tel al-Khazneh in Failaka, Kuwait (KSAM, 2017)

Pre-Hellenistic here refers to the archaeological finds in Failaka that could be dated back to the Neo-Babylonian, the Neo-Assyrian, or Achaemenid periods. An important mound is located in the northwest corner of the island of Failaka. This mound is the only

site in Failaka that had archaeological evidence associated with the neighbouring civilisations in the 1st millennium BC (Potts 1990, p.239). Potts 1990 bases this statement on the French mission report that was published in 1984-1985 by J. –F. Salles et al.; this mission revealed this information after analysing the finds from their excavations at F5, F6, B6, G3, al-Qusur and Tell Khazneh. However, the artefacts from Tell Khazneh reveal that the site was occupied for a long period. According to Salles (1986a), the stratigraphy of Tell Khazneh can be dated in the following order:

Level (4): 4th century BC or earlier.

Level (3): 3rd century BC

Level (2 & 1): 2nd century BC

Although the author mentions that this chronology was written "with some caution", the period before the 3rd century BC in level 4 can be described as pre-Hellenistic. Therefore, the archaeological artefacts of level 4 are the ones that might indicate influence from the Neo-Assyrian, Neo-Babylonian, or Achaemenid civilisations. In general, Salles (1986a), classifies the finds from Tell Khazneh into three groups: (A) figurines, (B) pottery, and (C) other objects. The following section will focus only on the finds from Level 4.

- Figurines:

According to Salles (1986b) human and animal figurines, especially, horse and riders are the most numerous artefacts among the finds from this level in Tell Khazneh. Although they were mostly unfamiliar in other levels in Tell Khazneh, some of them clearly reflect Neo-Babylonian and Achaemenid influences.

– Persian riders:

Salles (1986b) dates the group of the so-called "Persian rider" figurines to the pre-

Hellenistic period because they have not been found in any Hellenistic layers in Failaka and they are similar to those found at Babylon and Nippur. The similarities between the finds from Tell Khazneh and those in Mesopotamia show the impact of Neo-Babylonian and Achaemenid images (Salles 1986b, p.152). The author supports his statement by linking these Persian rider figurines with examples from the Nippur excavations that were analysed by scholars such as (McCown et al. in 1967:Pl.131 no.2, p.399; and Gibson in 1975: fig.33 no.6, p.50). Salles (1986b) chooses unusual examples from his figurine group (numbers 235 to 240 in Table 1) matching those discovered by McCown and Gibson at Nippur in level II and level III, the Neo-Babylonian and Achaemenid layers. To have a clear look at Salles' examples and their similarities to the other examples from the Nippur expeditions, these examples need to be presented as a group to test Salles' chronological statement (Fig. 2.17).

There are some differences between the figurines from Tell Khazneh such as the direction of the hats (237, 238), the noses appear to be longer than the size of the Nippur noses, and some other differences that come as the result of variation in size and completeness of these objects. However, there are more similarities such as: they are all handmade of clay; they also have common features such as the mould-made heads (Salles 1986b); the eyes are similar in size and were probably created in the same way. Moreover, figurine number 235 from Tell Khazneh has greater similarity with the complete example from level II in Nippur with features in common such as: standing away from the head of the horse; arms without details; and one figurine from Tell Khazneh matches the pose of McCown's example with one hand on the head of the horse. In my opinion, these similarities support Salles' (1986b) statement that these figurines in level IV at Tell Khazneh belong to the Neo-Babylonian and Achaemenid eras.

- Pottery:

In their report on the French excavation at Failaka, Calvet et al., (1985) review the pottery discovered at Tell Khazneh to prove that there were no finds of Hellenistic type by linking some discovered pottery to Bahrain, the Arabian Peninsula, and the Achaemenid traditions. Although, there were several pottery types found at Tell Khazneh, they only define one group as "true Achaemenid potteries" (my Fig. 2.18; Calvet *et al* 1985, p.15 & fig.5;9-14 p.24). This Achaemenid pottery has good parallels with other pottery found at sites dated to this era such as Susa and Pasargadae (Calvet *et al* 1985, p.15). It is difficult to investigate whether these wares belong to a period before the arrival of the Greeks because this type of pottery continued to be used even in the Hellenistic period.

- Other objects:

– Bronze Arrowheads (Fig. 2.19)

Salles (1986c) mentions that these bronze arrowheads were found in same area, and they belonged to an Achaemenid military force based on their similarities to those found in Bahrain and Emirates in Lombard (1984) and Lombard (1985) (Salles, 1986c, p.246). Moreover, the author notes that these bronze arrowheads can be compared to similar groups found at Uruk dated back to the 5th century BC (Salles, 1986c, p.246).

– Aramaic inscription (Fig. 2.20) and (Fig. 2.21)

Although this inscription is not evidence of Neo-Babylonian or Achaemenid influences, it is a very important archaeological source from Tell Khazneh as it proved that Failaka was in contact with neighbouring cultures in the 1st millennium BC. According to Calvet et al. (1985), this inscription was found on a broken block at the site.

Sznycer (1984), after his reading and analysis of the Aramaic inscription from Tell Khazneh, states that this inscription matches the type of Aramaic inscriptions that were discovered in the north Arabian Peninsula, especially those found in Tayma which date to the 5th and 4th centuries BC. He built his argument based on the analysis of the parallels in letter forms (Sznycer 1984).

Nonetheless, I consulted Professor Charlotte Hempel, and she points out that J. Naveh in his writing proposes another more accurate date. Based on several convincing pieces of evidence Naveh (1995) was able to re-date this Aramaic inscription from Failaka to the Hellenistic period. First, the author revises the reading and translation of this script as follows:

Reading:

"STNY QDM BL 'KR DKR." (Naveh 1995, p.1).

Translate:

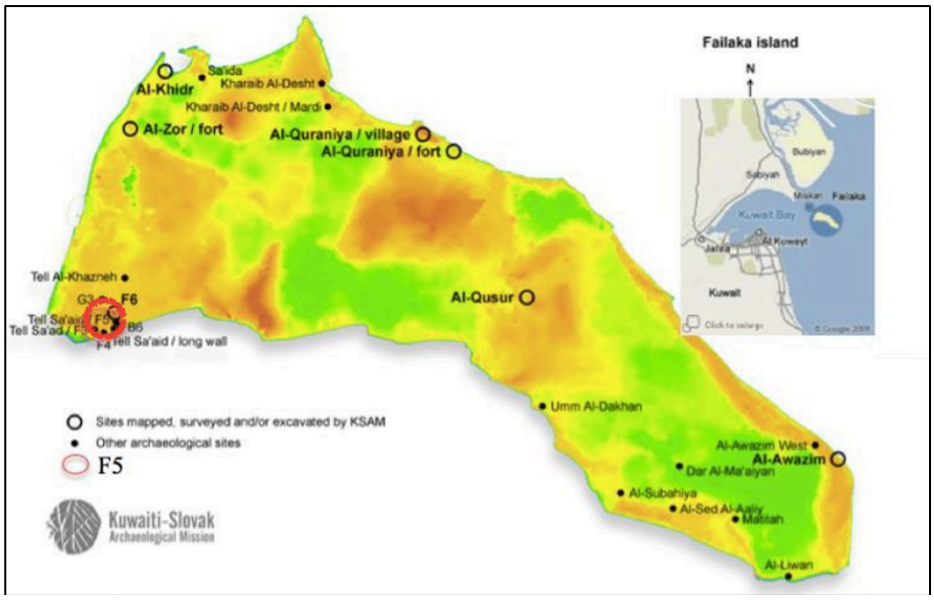
"STNY (PN) may be remembered before Bel (Zeus) of Ikaros." (Naveh 1995, p.1).

The author notes that he translates the letters "KR" in Aramaic to "Ikaros", the Hellenistic name of Failaka (Naveh 1995). The use of this name for the island Failaka shows the Aramaic inscription to have been written in the Hellenistic period not before the 3rd century BC. Secondly, to support his date the author argues that the Iranian name "STNY" does not mean that the inscription is from the Achaemenid period, but it could belong to an Iranian soldier who served in the Seleucid Army in Ikaros since there were non-Greek Iranian soldiers in the Army (Naveh 1995). Third, Naveh thinks that the Aramaic and the two Greek inscriptions may have come from the same sanctuary, based on the similarities between them as both used the same type of stone. In regard to this similarity, the author Naveh (1995) cites Salles (1986) who reported that "STNY" in the

Aramaic script and “Soteles I” in the Greek script were cut on blocks of similar thickness between 19 and 20 cm. Consequently, the author states that this evidence supports the suggestion that the Aramaic inscription from Tell Khazneh is a survival of lapidary Aramaic script in the Hellenistic period (Naveh 1995).

2.1.2.2 Failaka during the Hellenistic period:

Ikaros -Tell Sae'ed – (known also as F5) (Map 2.5).



Map:2. 5 The archaeological site F5 in Failaka, Kuwait (KSAM, 2017)

Ikaros was the Hellenistic name of Failaka according to Arrian (*Anab.* 7. 20. 5): “this island was named after the Ikaros Island in the Aegean Sea” (Naveh, 1995, p.3). The archaeological evidence from the Hellenistic period in Failaka was clearer than any other cultural remains of the 1st millennium BC. In fact, Failaka is considered to be one of the most important Hellenistic settlements in the east region of the Arabian Peninsula. Since Tell Khazneh had some issues regarding its chronology, I will focus here only on Hellenistic sites in Failaka, especially F5 the Hellenistic Fortress site.

F5 (Tell Sae'ed) is a hill located on the southwest coast of Failaka. There were some

significant archaeological finds from here discovered as the result of more than five archaeological missions since the first mission by Danish archaeologists in 1957. More excavation has been carried out at Tell Sae'ed than at any other site in Failaka which reflects its importance (Fig. 2.22). These archaeological missions unearthed abundant evidence that reveals the Hellenistic presence on the island of Failaka.

- Hellenistic impact on architecture:

According to Jeppesen (1989), the excavations at Tell Sae'ed revealed a square fortress structure with four towers, one on each corner (Fig. 2.23). The author of the Danish mission report also describes that in the middle of this fortress there are two temples which she defines as Temple (A), and Temple (B) (Jeppesen 1989). The layout of this fortress replicates Hellenistic styles (Carter 1972). Boucharlat and Salles (1981) noted that Temple (A) has the same structure as a Greek temple. The entrance to Temple (A) has two columns in antis; their bases had some Achaemenid influences, and the capitals are Ionic (Jeppesen 1960, cited in Boucharlat and Salles 1981, p.73).

- Terracotta figurines

Mathiesen (1982) investigates the terracotta figurines that the Danish expeditions found at the archaeological site F5 in Failaka, mostly in the temples. Some of these finds had Hellenistic characteristics:

- Male Head:

According to Mathiesen (1982:39), the male head (Fig. 2.24) is part of a statuette dated to the middle of the 2nd century BC. The author also links this male head to a youthful Herakles based on some of the features of this example especially the laurel or olive wreath that appears on his head. (Mathiesen 1982, fig. 25 no:71, p.39).

- Female Head:

This woman's head from Failaka with its high kalathos (Fig. 2.25) matches that of a bronze statuette from Seleucia-Tigris. However, it is closer to an example from Egypt, which is dated to the 2nd century BC (Mathiesen 1982, fig. 26 no. 72. Pp.41-42). In site B6 – the Hellenistic Sanctuary the French Team discovered a similar female head with a kalathos dated to the same period (Caubet and Salles 1984, fig.67:135, p.151).

- Female figurine:

According to Mathiesen (1982:43), the female statue (Fig. 2.26) with a chiton with buttons was found broken with the head separated from the body, which was reattached later. The author dates this figurine to the Early Hellenistic period around 250 BC based on a similar statue from Myrina in Greece (Mathiesen 1982, fig.31 no.77, p.43).

- Pottery

The excavations in the Hellenistic fortress in Failaka unearthed different types of pottery: some of these types were Hellenistic. Hannestad (1983) describes these Hellenistic types in the following groups:

- Greek black-glazed ware:

During the Danish mission at this site, the archaeologists discovered five sherds of Attic origin (Hannestad 1983, cat nos.427-431, p.53). This author consults Susan Rotroff who said that these finds should be dated to the first half of the 3rd century BC based on the position of the groove under the outside edge of the rim of two of these Attic sherds (Hannestad 1983, p.53).

- Greek wine amphorae:

There were some fragments of the so-called "Greek wine amphora" (Fig. 2.27) found in different layers of F5 (Hannestad 1983, cat. nos. 689 &.680, Pp.117, 128). The

author, moreover, notes that some of these fragments have names stamped on them such as Mytion, the same stamp as on “an amphora from the Athenian Agora” (Hannestad, 1983, p.70). The author emphasises that based on the stamp on this amphorae fragment, it can be dated to the 3rd century BC (Hannestad, 1983, p.70).

- Lamps:

Hannestad (1983:73) says that Lamps are common finds all over the site of F5 (Tell Sae'ed). The author also mentions that according to their shapes these lamps can be divided into two types (Fig. 2.28) (Hannestad 1983, Pl.68, p.118); one with a high-collared rim, some of which have a handle added to the rim, and the second type which has no handle and has a ring-shaped rim (Hannestad 1983, p.73). Hannestad (1983) mentions that some of these lamps were imported from Greek areas such as Seleucia in the 3rd century BC. Although some of the lamps from this site are similar to lamps found in Uruk that belong to the Seleucid/Parthian periods, the author says that the examples from Failaka can be dated only to the early Seleucid period (Hannestad 1983, p.73).

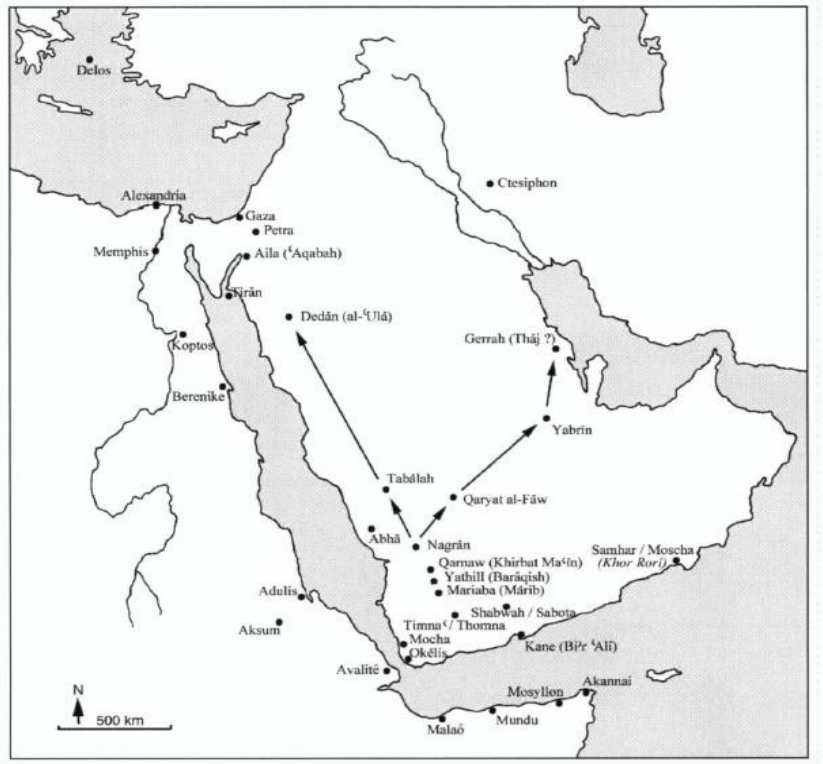
2.1.3 Saudi Arabia

The northeast side of the Arabian Peninsula (today the Eastern province of Saudi Arabia) was a critical region where a large number of antiquities have been recovered from a vast number of ancient sites. Some of these noteworthy sites showed influence from neighbouring cultures during the 1st millennium BC (Neo-Assyrian, Neo-Babylonian, Achaemenid, and Hellenistic civilisations). The large number of examples of artefacts influenced by Hellenistic civilization discovered in Saudi Arabia demonstrate the greater impact in comparison to those that were influenced by earlier civilizations of the 1st century BC. Therefore, in this section I am focussing specifically on tracking Hellenistic influences and sites where this can be demonstrated.

– The Hellenistic period:

2.1.3.1 Thaj

Thaj lies 100 km to the west of the Arabian Gulf coast on the ancient trade route linking the Gulf region in the east with the south of the Arabian Peninsula, passing through Qaryat al-Faw, and Najran to the other caravan cities in Southern Arabia. The archaeological site of Thaj is the largest site of the 3rd century BC in the Eastern Arabia region. Potts said that the large size of the site of Thaj is probably because of its prominent location on the ancient caravan route (Map 2.6).



Map:2. 6 Thaj on the ancient trade route (after Beeston 2005, fig.2, p.54)

There is disagreement between archaeologists about whether Thaj was the location of Gerrha, which was famous in ancient sources as a trade city during the Hellenistic period. On the one hand, V. Glob (1968), O. Morkholm (1973), A. Beeston (1979), and D.T. Potts (1984) support the idea that Thaj is probably the location of the lost city Gerrha, mostly because of its size (Potts 1992, p.88). On the other hand, archaeologists such as J. Mandaville (1963) and N. Groom (1986) suggest that Thaj could be the ancient Phigeia on Ptolemy's map based on its name (Mandaville 1963, Groom 1986). The authors link Thaj with Phigeia based on linguistics characteristics where the Arabic dialect in the eastern part of the Arabian Peninsula sometimes pronounces the Arabic letter 'tha' as 'Fa' and vice versa. On this basis, therefore, Thaj could be "Faj or Phaj" which the authors believe could be Phigeia. This problem of the location of Gerrha will be discussed in more detail in the next chapter. However, the role that played by the Garrhaean as important

economic entity and the argument of Gerrha's location will be discussed in chapters 5 and 6.

Although Thaj is an important archaeological site, only limited fieldwork has been conducted. One of the studies was a survey by the Danish expedition in 1968. This was followed by four excavation seasons carried out by teams from the Saudi Department of Antiquities and Museums in the years 1977, 1983, 1984, and 1998. These surveys and excavations were not enough to identify and explore such an important and wealthy site as the archaeological site of Thaj. As a result, recently, fieldwork at Thaj has resumed with the 'Thaj Archaeological Project (2016-2020)', led by joint teams from the Saudi Commission for Tourism and National Heritage, Saudi Arabia, Leiden University, Netherlands and CNRS, France.

– Archaeological evidence:

Archaeologists classify Thaj as a Hellenistic site where the period of the settlement arose in the 3rd century BC, but there is disagreement between archaeologists about the end date of settlement at the archaeological site. Therefore, in the following, I will review the archaeological evidence to understand more about Thaj and the influences on its cultural material.

- Pottery:

Bibby (1973) classifies Thaj pottery, which he found in his excavation, in the date range from the 3rd century BC to the 1st century AD (Bibby 1973, Pp.20-25). He built his chronology on his catalogue of pottery especially sherds of black-glazed Attic ware (Fig. 2.29) (Bibby 1973, fig.6, p.16). Bibby (1973) dates these Attic sherds to the 3rd century BC based on similar sherds found in the Hellenistic fort in Failaka. In 1984 Gazdar, Potts, and Livingstone supported Bibby's chronology for the occupation period in Thaj based

on the pottery dating between the 3rd century BC and the 1st century BC found during their fieldwork (Gazdar *et al* 1984).

Bibby also found a unique jar (Fig. 2.30) with an Aramaic inscription painted on its shoulder (Bibby 1973, fig.18, p.25). Bibby (1973) mentions that this vase was found in a grave on the north side of the archaeological site. Potts (1984a) dates this vase to the first century BC based on the writing style of the Aramaic inscription. Therefore, based on the pottery finds of Attic black-glazed sherds and the vase with Aramaic inscription both excavation teams agree that Thaj was occupied from the period starting in the 3rd century BC until the 1st century BC.

- Coins

There were several coins found in Thaj, mostly of Eastern Arabian types and a few Hellenistic/Seleucid coins. One of these examples has been recently discussed by A. al-Zahrani in 2014 (Fig. 2.31). According to al-Zahrani, this coin was found on the surface of the city wall in Thaj. He describes this coin as a bronze Seleucid Drachma, which weighs 12.9 g and has a diameter of 2.5 cm (al-Zahrani 2014, p.118). The author said that the head on the obverse of the coin is a depiction of the Seleucid king Demetrius I Soter 162-150 BC. al-Zahrani (2014:118) identifies the figure on the reverse as Apollo set in the centre of the universal 'Omphalos'. The author explains that the Greek inscription on the reverse, Soter, was the honorific title of King Demetrius I (al-Zahrani 2014, Pp.118-119). This coin along with other evidence from Thaj is proof of the prosperity of this caravan city through the Seleucid period as we discussed in chapter 5.

Gold objects

In 1998 archaeologists from the Department of Antiquities and Museums found a significant burial in the mound al-Zayer on the eastern side of Thaj (al-Hashash et al.

2001). Excavation of this burial revealed the grave of a young girl on a funeral couch. The skeleton was surrounded and covered with various shaped pieces of gold (Fig. 2.32). Some of these gold finds show Hellenistic influences which can be seen in the images or stamps as in the following:

- Circular shaped group:

In this group of circular gold pieces that were discovered around the skeleton, there were some pieces with images on them. One of them had the image of the Greek god Zeus and another a goddess (al-Hashash et al. 2001). The authors describe the first image as Zeus holding on his right hand a pigeon or a platter, and his left hand leaning on his stick, surrounded by zigzag lines resembling sunlight (Fig. 2.33). In my opinion, Zeus in this image is holding his lightning bolt and the lines in the background are the lightning. The authors compare this gold object from Thaj to a gold coin of Zeus Ammon found in Cyrene in North Africa which has been dated to 322-313 BC (Fig. 2.34) (al-Hashash et al 2001).

Although there are some differences in e.g., the quality of the shape of the figure of Zeus in both examples, there are similarities in the pose with Zeus depicted standing, facing right, holding a sceptre in his left hand. However, the comparison might not prove that the Thaj object can be dated to the same period as the coin from Cyrene which could be dated later, for instance, to the third century BC based on the other artefacts found in the same burial. The important issue here is that the circular gold find is substantial evidence of the Hellenistic impacts on Thaj's economy. Additionally, amongst the group of gold discs is another, on which is an image that probably portrays a Greek goddess (Fig. 2.35).

According to al-Hashash et al. (2001), the second image is a symbol of the classical

goddess. The authors interpret this image as the Greek goddess Artemis (al-Hashash *et al* 2001). They draw this conclusion for two reasons. First, they believe it was included to protect this young girl as this is one of the roles of Artemis in Greek myths. The other reason is based on comparison with another image that appears on a ring discovered in the same burial, which will be reviewed below.

- Jewellery:

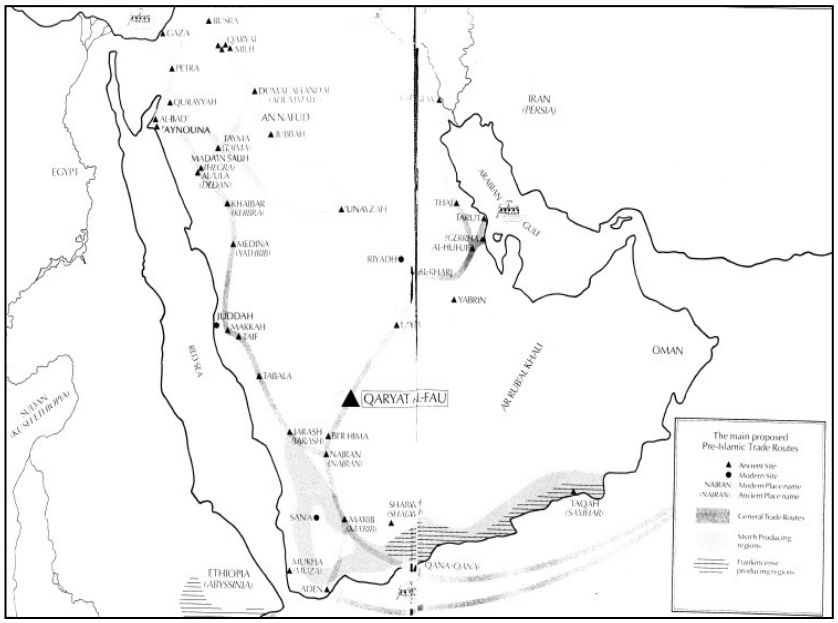
Among the discoveries of jewellery from al-Zayer, the archaeologists unearthed two rings with images on their gemstones of a man wearing a helmet on his head and the other had an image of a standing female figure. The depictions on both rings show the advanced abilities of the craftsmen (al-Hashash *et al* 2001). The authors indicate that the ring with a standing female figure (Fig. 2.36) is Artemis/Diana the Greco-Roman goddess based on its similarities to a Greek ring dated back to the second century BC (Fig. 2.37). The figure on the ring from Thaj is similar to this example from Greece in standing in front of the altar and also wearing a crown. These similarities support the authors' argument, naming the figure on the Thaj ring as Artemis. Moreover, this picture of a full standing female on the ring also similar to the image of the female's head found at the same burial mound as a circular gold object, and they both symbolised the Greek goddess Artemis (al-Hashash *et al* 2001).

- Metal objects:

The metal finds from the girl's burial in the al-Zayer mound reveal other significant evidence of the relationship between Thaj and the Hellenistic world. The most valuable metal objects found in the burial were four figures (Fig. 2.38), used as the legs of the bed of the deceased. These metal sculptures reflect Hellenistic influence in two ways: its realistic art which separated the Hellenistic period from the earlier Greek idealistic era,

and the clothing style which follows the same style that which was familiar in the Eastern Hellenistic region (al-Hashash *et al*,2001). Although these objects from Thaj are certainly not from fifth or fourth-century Greek art, they seem to have derived from the classical architecture of the caryatids since these finds from Thaj followed the same design of using female sculptures to support a structure instead columns or poles.

2.1.3.2 Qaryat al-Faw: (Map 2.7).



Map:2. 7 Qaryat al-Faw (after Alansary 1982)

Although Qaryat al-Faw is not located in the east of the Arabian, it is an important site and included in this chapter for the following reasons:

- Its location was at the heart of the trade route that made Qaryat al-Faw play a significant role in connecting all Arabian civilisations with each other and as well as connecting them with more distant civilisations. It also was in contact with Eastern Arabian settlements such as Thaj.
- The settlement on Qaryat al-Faw dates to between the 3rd century BC and the 3rd century AD, and the influence of Hellenistic city planning is evident.

- The archaeological evidence discovered at Qaryat al-Faw reveals one of the clearest indications of contact between the Arabian Peninsula and the Hellenistic World.

Although I have attempted to present all the evidence of the relationship between the Hellenistic World and Arabian region, a specific reason to include Qaryat al-Faw is the same as that for Thaj; Qaryat al-Faw is also a candidate among archaeologists for the site of the lost classical city Gerrha. A. al-Ansary and A. al-Gamday believe that Qaryat al-Faw could be the city of Gerrha and that it had a port on the Arabian Gulf coast. This proposal by both archaeologists will help the research in further discussion about Gerrha and will provide a useful comparison with the other potential location of Gerrha, such as 'Geriyah', which is one of the sites included in the fieldwork study area.

– Background:

The archaeological site of Qaryat al-Faw is in the southern part of the centre of the Arabian Peninsula, located 280 km northeast of Najran and 700 km south of Riyadh in Saudi Arabia. The archaeological site of Qaryat al-Faw covered approximately 6 km² (al-Ansary 1982).

According to al-Ansary (1982), the first discoveries at the archaeological site were in the 1940s by the staff of the Saudi oil company ARAMCO. Then, in 1952 the site was visited by H. J. Philby, J. Ryckmans, and H. Lippens who studied some inscriptions, drew a map, and mentioned some important monuments that appeared in Qaryat al-Faw, such as its tombs (al-Ansary 1982, p.15). Later there were visits by specialists to the site including that of Fr Albert Jamme who studied rock inscriptions from the Tuwaiq Mountain east of Qaryat al-Faw (al-Ansary 1982, p.15). However, the important exploration started in the 1970s by Riyadh University (now King Saud University). Initial visits aimed to assess the extent and layout of the archaeological site. In 1978 the

department of archaeology at King Saud University began the first excavation in Qaryat al-Faw which was supervised by Dr Abdulrahman al-Ansary (al-Ansary 1982). The excavation teams consisted of faculty members and students of the archaeology department and for almost 30 years continued to unearth quantities of archaeological evidence. Some of these important artefacts from Qaryat al-Faw are on display in the Museum of the Department of Archaeology at King Saud University. No publication reports were made for a very long time but finally some have been published at the end of 2019 which I have been able to use to add important artefacts to this study.

However, al-Ansary (1982) states that continuity of settlement at the site lasted almost six centuries, starting from the third century BC until the third century AD based on the stratigraphy of the site and the artefacts discovered. Moreover, he points out that according to the inscriptions found in Qaryat al-Faw the name of the city was 'Qaryat Dhat Kahl' which means the Village of Kahl, who as he explains, was one of the gods worshipped by the community of Qaryat al-Faw (al-Ansary 1982:15).

– Archaeological evidence:

The large area of Qaryat al-Faw provided a variety of archaeological evidence including architecture, artworks, and inscriptions. The following passages will only concentrate on a few examples to determine the identity of this archaeological site and present some indications of the influence of Hellenistic culture.

- Architecture:

There are several general types of architecture like the residential areas, tombs, temples, and markets (al-Souq). Although the archaeological evidence that is represented in these buildings is very important, the following section only presents evidence for any Hellenistic impact on artefacts from Qaryat al-Faw. Although al-Ansary describes the

domestic structures as built in the pre-Islamic Arabic design, there are some signs of Hellenistic influences on the city layout. One of these signs can be seen in the satellite image of Qaryat al-Faw (Fig. 2.39), which shows they used the grid layout system which was well known as the planning technique used to build new Hellenistic cities. And since Qaryat al-Faw was first established around the 3rd century BC (al-Ansary 1982), I think it is reasonable to suggest that the people who built this city were influenced by the Hellenistic cities in the neighbouring areas and followed their cities design.

Metal objects:

The metal objects are the best preserved artefacts among the finds from Qaryat al-Faw that reflect Hellenistic influences.

- Human Statues:
- Herakles

The statue of Herakles (Fig. 2.40) is one of the most important artefacts found at Qaryat al-Faw because of its high artistic quality. According to al-Senan (2009), the high level of skill with which this masterpiece was formed is evidence that it was imported from a Hellenistic settlement (al-Senan 2009, p.110). Moreover, in my opinion, the precision in the details of its artistic style shows that it was imported from Greece. As well as the pose of the statue the attributes indicate that it can be compared with a 1st century BC Roman statue from Italy (Fig. 2.41) which was a copy of the original Greek statue of the 4th century BC. Moreover, the Qaryat al-Faw Herakles can be compared with another Hellenistic bronze statue of Herakles from Egypt (Fig. 2.42).

Despite the differences in the stylistic characteristics and the accuracy of the details from the statue of Qaryat al-Faw, this Hellenistic statue is the only example of a small bronze statue that matches the standing pose and the left hand holding the upright club

and the lion's skin over the forearm. Many scholars identify this series of small bronze Herakles statues to be Roman replicas of the original Greek bronze statue of Herakles at rest made in the 3rd century BC by Lysippos, who was a famous Greek sculptor during the time of Alexander the Great. The link between these statues and the original work is first indicated by the subject representation that illustrates Herakles laying his left hand on the club covered by the lion's skin as it is depicted in the bronze statue of the Weary Herakles from Sulmona in Italy (Fig. 2.43) (Picon and Hemingway 2016, cat. 14, fig.74).

According to Picon and Hemingway (2016) this statue was made in the Hellenistic period on account of its stylistic proficiency which makes it closer to the time of Lysippos (Picon and Hemingway 2016, Pp166-167). On the other hand, Richter (1970), says that this statue and other small bronze statues of Herakles date to the Roman period because they were popular as table decorations (Richter 1970, p.76).

Thus, the second link that made scholars associate these statues with Lysippos' original work is based on the stylistic characteristics he employed which were described by Gisela Richter:

> "…his new scheme of proportion with a slimmer body and with trunk, head, and limbs placed in slightly contrasting planes, as well as his carefully worked hair…" (Richter 1970:226).

I believe that, regardless of the demonstration of a different subject and mobility, Qaryat al-Faw's Herakles shows obvious influence of the Lysippos school of art through the application of all his artistic standards. To support this conclusion, I will apply comparison analysis with Herakles from Sulmona proves that they both reflect a skilled execution of Lysippos' style techniques such as the correct canon proportions, the realistic shape of the body - in my opinion it appears to be more accurate in Herakles of Qaryat al-Faw- and follow the same method of contrasting the body parts. Furthermore, unlike

the Herakles from Sulmona, Qaryat al-Faw's example reveals a dynamic motion, the same as those that characterise Greek statues in the Classical period in the 5th and 4th century BC. This movement can be seen clearly in the lion's skin on the left arm of the statue which is being moved back by the wind while Herakles walks forward. Even though, this feature is a strong signal that could support dating this statue earlier, to the fifth or fourth century BC, in the Classical period, other archaeological evidence proves that city of Qaryat al-Faw itself was established in the 3rd century BC. Either this eliminates the possibility of this date or assumes that these artefacts had been made earlier in the 5th or 4th century BC or had been brought to the new city as heirlooms. However, there is another feature which links this Herakles to Greek art especially in the Hellenistic era. Lysippos' style was well known for his use of contrapposto such as in his well-known work the Apoxyomenos. Moreover, in the second century BC his followers made statues showing the transition from relaxation to action (Charbonneaux et al 1973:221). The authors identify several examples that relate to these transitional poses in the Hellenistic period such as the Hermes at rest and the Herakles Epitrapezios.

Comparing the Hellenistic example from Egypt (Fig. 2.42), with Herakles from Qaryat al-Faw based on the application of Lysippos' stylistic characteristics that appear on the copy of the Weary Herakles for example, The Herakles from Qaryat al-Faw is much closer to that and suggests that it was made earlier in the period of Lysippos himself or by his followers in the early Hellenistic era.

However, according to Kaizer (2000), Herakles figures found at Hatra and Palmyra were from the Roman period based on their religious functions in these ancient Near Eastern cites. The author made a very strong argument based on the theological point of view which is very realistic, and could be applied to Herakles and other Greek

mythological statues found at Qaryat al-Faw, and consider it related to the first three century AD.

- Harpocrates:

The bronze statue of Harpocrates is another important example which supports the contact between Qaryat al-Faw and the Hellenistic world (Fig. 2.44). al-Ansary (1982) reported that this statue was found in one of the temples at Qaryat al-Faw (al-Ansary 1982, Pp.25-26). He also believes that this statue is a unique example of Harpocrates for two reasons: 1- the addition of Egyptian religious symbols is not seen in other examples of Harpocrates; 2- usually the facial features reflect the innocence of the child-God in other Harpocrates statues, while the face of the Qaryat al-Faw example shows some maturity. However, according to al-Senan (2009), there is a Hellenistic example found in Egypt (Fig. 2.45), which shares similar characteristics with the Qaryat al-Faw statue, and the maturity of the facial features is found in similar Hellenistic examples in Palmyra (al-Senan 2009, p.125). Again, I must point out that the dating of Palmyra figures to be from later than the Hellenistic period in Kaizer (2000) argument is more accurate.

Thus, al-Senan agrees with al-Ansary that the quality of the artistic style is evidence of an imported artefact. The assumptions that al-Senan makes that it is a criterion for differentiating the locally made statues from the imported ones might be valid on the basis of the comparison between this Harpocrates and other versions found in Qaryat al-Faw attached to other metal objects (Fig. 2.46).There are some similarities between both examples of Harpocrates from Qaryat al-Faw such as the mature facial features which are Hellenistic, the Egyptian symbols, and the finger of the right-hand raised to the mouth, but the second example with other attached objects were different in the quality of the artistic style which suggests that it actually could have been made at Qaryat al-Faw.

Moreover, the other evidence to indicate that the second example is locally made is the addition of moon symbols as an additional part of his crown. This symbol of the moon was used to refer to the worship of the moon in southern Arabian culture.

- Other metal Objects:
- Dolphin

A Hellenistic bronze Dolphin (Fig. 2.47) found in a temple at Qaryat al-Faw is one of the least familiar objects in the region. Moreover, in Greece the dolphin usually appears with Greek gods such as Apollo or with Palaemon found at Qaryat al-Faw in the Sun temple (al-Senan 2009, p.178). Therefore, this dolphin raises the question about the impact of classical mythology on Arabic beliefs. al-Ansary (1982) believes that these Hellenistic objects which were found in Qaryat al-Faw are strong evidence of the impact of the Hellenistic temples in the Levant on the temples in Qaryat al-Faw (al-Ansary 182, p.27). All these analyses of the presence of the Dolphin point out the potential changes to cultural aspects of Hellenistic civilisation at Qaryat al-Faw.

- Fitting from a funeral couch

In one of the royal tombs in Qaryat al-Faw, archaeologists found an interesting funeral couch with sculpted fittings which show a classical style woman and the head of a horse (Fig. 2.48). According to al-Senan (2009), the figure of the woman on the funeral couch is comparable to the sculptures of women that were added as the legs of the couch in the Thaj burial. The author also claims that the female figure from Qaryat al-Faw represents the Greek goddess Artemis (al-Senan 2009, Pp. 254-255).

This bronze object from Qaryat al-Faw might date to the Hellenistic period based on comparison with the objects from Thaj, however, it is more appropriate to make comparisons with similar fittings based on the shape and design. Although there are

similarities between the examples from Thaj and Qaryat al-Faw, the example from Qaryat al-Faw again shows a higher level of artistic competence. A Roman inlaid couch (Fig. 2.49 and Fig. 2.50) can be compared with the artefact from Qaryat al-Faw. According to Lamb (1929), this inlaid couch was found in a tomb at Amiternum in Italy (Lamb 1929, p.234). She mentions that this type of couch was familiar from several locations in the Roman period such as Boscoreale, Pompeii, and Priene. This author explains that the animal heads seen in Fig. 1.58 are mules rather than horses. Moreover, the busts are maenads which can be better related to the Trajanic period between 98 – 117 AD. (Lamb 1929, Pp.234-235). Despite the differences in the shape of the busts, the shape of this Roman bronze fitting is identical to the one discovered in Qaryat al-Faw which suggests that they both belonged to the Roman era in the 1st century AD.

- Artefacts from the tombs of Qaryat al-Faw
- Tomb O/15-16:

According to Elhassan et al. (2019), the discovery of this tomb in which they found an intact burial, is one of the most important made by the excavation teams at the site (Elhassan et al. 2019, p.157). The finds from this burial included gold and two glazed pottery vessels, one of which was a glazed jug (artefact no: F.10-58), which had food remains inside. They dated this sample using C-14 to the period 150 ± 55 BC (Elhassan et al. 2019, p.117). This significant result demonstrates some influence from pre-Roman periods on the artefacts from Qaryat al-Faw.

Artefacts from this tomb:

- Artefact no: (F.10-58): Description:

A jug of a green/blue glaze with a ring base and two handles. Its outside surface is decorated with incised geometric patterns under the glaze and has a thick out turned rim.

(Fig. 2.51) (Elhassan and Tayran 2021, Pl. 218, p.339). Although the authors described this vessel as Parthian, which in my opinion, it is a Hellenistic for two reasons: 1- the analysis of the sample of the food remains that dated it to between the third century BC and the first century BC, i.e., the Hellenistic period; 2- a similar vessel was discovered in the Hellenistic fort at Failaka (see. Hannestad, 1983, cat. no. 497, p.100) which has the same shape but different glaze colour.

- Artefact no: (F.10-63) Description

A gold necklace comprised of twelve perforated disk-shaped pieces decorated with geometric motifs in blue and red enamel (Elhassan and Tayran 2021, p.103 & Pl. 271: p.363). Based on the date of the glazed jug from the same burial, this can be dated to the Hellenistic period (Fig. 2.52).

- Artefacts from other tombs at Qaryat al-Faw:
- Artefact no: (F. 14-19): Description:

A perforated glass, framed in gold with granulation and including an inscription in the Greek alphabet (Elhassan and Tayran 2021, Pl.283, p.284). The Greek writing on this artefact suggests that it is a Hellenistic object, probably imported (Fig. 2.53).

- Artefact no: (F. 9-48): Description

A female bust cast in plaster found in a tomb at Qaryat al-Faw(Elhassan and Tayran 2021, Pl.321, p.386). Its shape is very similar to the Artemis/ Diana bronze bust that was attached to the funerary couch as decoration (Fig. 2.54).

- Artefact no: (F. 15-61): Description

The foot of a funerary couch cast in plaster (Elhassan and Tayran 2021, Pl.340, p.395). It is also similarly shaped to the bronze foot from the same funerary couch that was decorated with a bust of Artemis. Both plaster casts indicate that the people of Qaryat

al-Faw made their own copy of the Greco-Roman funerary couch locally (Fig. 2.55).

- Coins
- Artefact no: (F. 3-117)

Qadous et al. (2019), describes this artefact (Fig. 2.54) as a copper coin and its measurements (weight: 5.2 g, diameter: 1.5 cm, and thickness: 4 mm). He adds that it was found on the surface among the eastern tombs. The author characterises the figure on the obverse of the coin as the head of the goddess Artemis facing to the right. On its reverse in the centre is Apollo-on-the-omphalos, where Apollo appears sitting on the centre of the universe (Omphalos) facing to the left, carrying in his right-hand an arrow; a bow appears behind Omphalos. The author dates this coin to the end of the 3rd century BC (Qadous et al., 2019, p.372).

Conclusion

Chapter 2 provides us with very important archaeological information about some of the archaeological sites in the Arabian Gulf in Bahrain, Kuwait and Saudi Arabia. This chapter aims to not only present the Hellenistic sites or layers in these archaeological sites, but to help understand the importance of these sites through understanding the settlement continuity in these sites which will help us to discuss other issues in the next chapters. Moreover, the chapter here provides significant information regarding to the previous archaeological studies in this region. And it was important to not only provide the result from those studies as facts, but we hope to critically study some of their results to have a more accurate outcome to help us in our study in the next chapters. This chapter provides a very important archaeological guild which is important for this research to compare the approach in the next chapters.

3 Fieldwork Part 1: Archaeological survey

3.1 Archaeological survey report:

In order to explore the questions of this research and hypotheses, archaeological fieldwork was conducted in Saudi Arabia, including a preliminary archaeological survey, and test excavations. Therefore, this chapter will cover a report of the archaeological survey on sites, the results, and the results analysis.

The fieldwork was planned to start on the 15th of January to the 15th of April 2018. The field work process started with contacting the Saudi Commission for Tourism and National Heritage (SCTH), which is the official administration that gives permission for any archaeological work in Saudi Arabia. However, the SCTH approved the fieldwork request by email, and the authorisation letter was issued on the 23rd of March 2018 for one month, from March 24th to the 23rd of April 2018.

On the 24th of March, fieldwork started in al-Hofuf in the Eastern province of Saudi Arabia with the SCTH inspector who was to join the field activities for one month. Therefore, the fieldwork's schedule and plan changed due to the lack of the time, so we tried to get most of the significant archaeological evidence needed for this study during that cover.

Archaeological survey covered the area planned for investigation archaeological sites in Kanzan, Geriyah, Ras Geriyah and briefly Tel al-Zayer in Thaj. Kanzan, Geriyah, Ras Geriyah were surveyed in 1964 by the Danish archaeological expeditions directed by T. G. Bibby. This pioneering research made important archaeological discoveries in this part of the Arabian Peninsula. The other significant survey, a Saudi-American project by R. Adams, P. Parr, M. Ibrahim, and A. al-Mughannum, was conducted later in 1976

(Adams et al 1977). This team was assigned by the archaeological authority in Saudi Arabia to conduct comprehensive archaeological survey project to register all archaeological sites throughout the Eastern providence of Saudi Arabia. However, for unreasonable reason they did not include Geriyah in their comprehensive survey, and this was my reason to include Geriyah in my preliminary survey to present the importance of this site to include it for a future work.

The study area was located in the Eastern part of Saudi Arabia between Kanzan and Ras Geriyah (coordinates: N 25 33 33.1, E 49 42 09.9 and N 25 55 52.5, E 50 07 10.0). The area of the survey is irrigated land characterised by different topographical landscapes; desert, Sabkha, which is an Arabic term to describe a flat area covered by salt and sometimes flooded by seawater, and beach. Kanzan is located in the desert zone, where the archaeological survey recorded potsherds on Kanzan mountain and other site in the desert near the edge of a high sand dune. Geriyah has a complex topography of Sabkha with evidence of an irrigation channel, burial mounds, and settlements. In the sand dunes on the east side of al-Jafurah there are some burial mounds and other mounds. Ras' Geriyah is located in the coastal region, where there are traces of a small village. In order to have more evidence about Tel al-Zayer at Thaj, we expanded our survey to briefly include this burial site that was previously mentioned in Chapter 2.

- Aims:

The field work aimed to conduct a preliminary archaeological survey in this area 1- to define a risk assessment report on these sites where no archaeological attention has been given since late 1960s. 2- To update the archaeological and geographical information of theses archaeological sites, and present their significant to support my proposal, so that I requested from the archaeological authorities five years archaeological

project contract. 3- To try answering and solving some archaeological issues that have been raised by the previous scholars.

- Objectives:

Through covering the previous studies maps especially the Danish archaeological expeditions' maps in Kanzan, Geriyah, and Ras Geriyah, our survey was able: to investigate any damage that could happened to some sites and antiquities as a result from the recent development projects taking place in the area. Adding more recent geographical information and providing up to date maps of the study area. Searching for more archaeological discoveries will help understanding the chronology of these sites and identify their importance after assessment the results.

- Methodology:

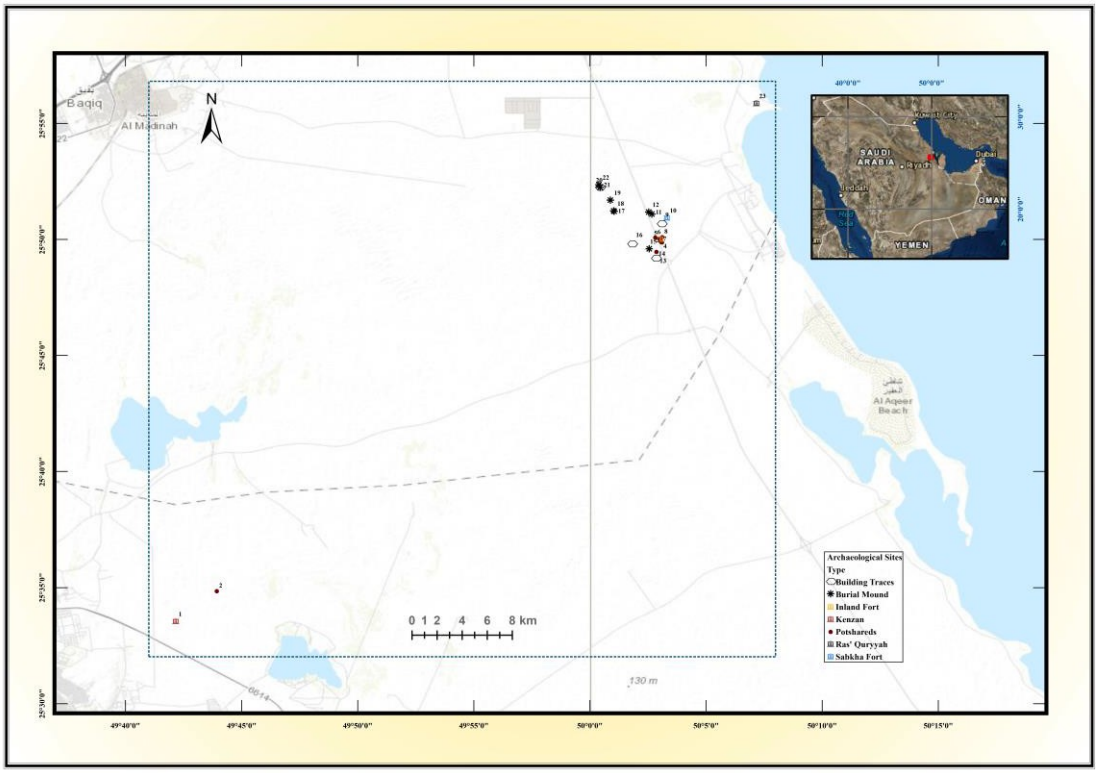
In this study the field survey I chose a variety of archaeological sites of different size, location, and environment including sites located in areas difficult of access such as in sabkha or sandy areas. The team used my own car for transportation which was not suitable for some difficult areas such as in sabkha or sandy areas. We managed to obtain acceptable GPS and camera equipment and benefited from the maps of previous missions which were very helpful at this stage. Hence, the details of the location and altitude of each site were recorded together with contextual information about the landscape, and some were tested by small scale excavation to explore the nature of each of these and obtain dating information. The archaeological sites selected for test excavation were chosen based on the surface finds at the site. This was then compared with characteristics of the finds discovered on other Hellenistic sites in the region. The survey was only for one week, and because it took an hour to arrive at the destination from our accommodation, we started every day - including the weekend - at 3:00 A.M. and worked

until sunset at 7:00 P.M. The survey route began in the Kanzan area in the south to the north-east to Geriyah then to Ras Geriyah.

The archaeological sites discovered during the survey were documented. A site's geographical position was added digitally to our map and the general description of the site, such as the topographical nature and the artifact distribution on the surface, were recorded. That was followed by recording of the site's topography and the landscape of the surrounding area to combine the various finds from each site. Archaeological test excavations were based on a variety of sites and locations, for example, I attempted to conduct test excavation, but I could not be due to the nature of the site, which is located in difficult salty area known as Sabkha. My aim was to protect remain of the site from an ongoing project which began working close to this location. Therefore, samples were collected from each site for further study, classification, and eventual recording.

3.2 Archaeological survey results:

The archaeological sites discovered during the survey revealed large areas of settlement and cemeteries. The settlement sites were of different sizes and had varied densities of antiquities/sherds on the surface. The sites were located in different topographical settings (Map 3.1).



Map:3. 1 The archaeological survey area and the archaeological sites discovered during this survey.

As for the sites recorded in different zones, a methodology was built to describe each site and to compare it with neighbouring sites (Table 3.1)..

Table :3.1 Archaeological sites recorded during the survey.

Site No	Site ID	Site Survey Name	Region	N	E	Type	Finds
1	K 1	Kanzan Mountain	Kanzan	25 33 33.1	49 42 09.9	Settlement	Potsherds (surface)
2	K 2	Kanzan	Kanzan	25 34 50.5	49 43 56.2	Settlement	Potsherds (surface)
3	GA 1	Potsherd 1	Geriyah area	25 49 52.4	50 03 06. 5	Settlement	Potsherds
4	GA 2	Potsherd 2	Geriyah area	25 49 53.2	50 03 04.5	Settlement	Potsherds
5	GA 3	Building Traces 1	Geriyah area	25 49 54.8	50 03 05.0	Settlement	Potsherds, Stone bricks
6	GA 4	Inland fort 1	Geriyah area	25 50 01.4	50 03 03.5	Residential	Potsherds, Building traces, bead. (Test-pit)
7	GA 5	Inland fort 2	Geriyah area	25 50 01.6	50 03 08.6	Residential	Potsherds
8	GA 6	Inland fort 3	Geriyah area	25 50 02.0	50 02 58.4	Residential	Potsherds
9	GA 7	Inland fort 4	Geriyah area	25 50 04.7	50 02 48.8	Residential	Potsherds
10	GA 8	Inland fort 5	Geriyah area	25 50 05.9	50 03 08.8	Residential	Potsherds
11	GA 9	Building Traces 2	Geriyah area	25 50 40.5	50 03 06.9	Residential	Stone bricks
12	GA 10	Sabkha Fort	Geriyah area	25 50 56.7	50 03 18.8	Residential	-
13	GA 11	Burial Mound 1	Geriyah area	25 51 05.8	50 02 39.9	Cemeteries	Burial Mound
14	GA 12	Burial Mound 2	Geriyah area	25 51 11.1	50 02 31.8	Cemeteries	Burial Mound
15	GA 13	Building Traces 3	Geriyah area	25 49 11.2	50 02 51.9	Residential	Potsherds and building traces

Site No	Site ID	Site Survey Name	Region	N	E	Type	Finds
16	GA 14	Burial Mound 3	Geriyah area	25 49 35.9	50 02 33.3	Cemeteries	Burial Mound, black granite stone, potsherds
17	GA 15	Building traces 4	Geriyah area	25 49 48.5	50 01 56.4	Cemeteries	Building traces, / soap stone fragment, Potsherds
18	GA 16	Burial Mound 4	Geriyah area	25 51 13.1	50 01 02.8	Cemeteries	Burial Mound
19	GA 17	Burial Mound 5	Geriyah area	25 51 14.0	50 01 01.2	Cemeteries	Burial Mound
20	GA 18	Burial Mound 6	Geriyah area	25 51 41.7	50 00 52.7	Cemeteries	Burial Mound and Potsherds
21	GA 19	Burial Mound 7	Geriyah area	25 52 14.7	50 00 26.3	Cemeteries	Burial Mound
22	GA 20	Burial Mound 8	Geriyah area	25 52 19.9	50 00 22.8	Cemeteries	Burial Mound
23	GA 21	Burial Mound 9	Geriyah area	25 52 21.6	50 00 22.9	Cemeteries	Burial Mound
24	RG 1	Ras Geriyah	Ras Geriyah	25 55 47.4	50 07 11.6	Residential	Potsherds and glass
25	RG 2	Seashore Underwater collection	Ras Geriyah	25 55 46.2	50 07 13.5	Residential	Potsherds
28	TZ1	Tel Al Zair	Tel Al Zair			Cemeteries	Potsherds
29	GA 4	Test-Pit	Inland Fort/ Geriyah area	25 50 01.9	50 03 02.6	Residential	Potsherds, bead.
30	RQ 1	Test-Pit	Ras Geriyah	25 55 47.4	50 07 11.6	Residential	Potsherds, fish bones, glass,

3.2.1 Kanzan area:

The site is located 23km east of al-Hofuf and 58 km southwest of Ras Geriyah. The site is named after the Kanzan Mountain. It is situated in the desert at the western end of the al-Jafurah sand dunes, while the eastern end of al-Jafurah is closer to Geriyah. The site is surrounded by a number of dry lakes and there are other freshwater lakes located in the northern and southern regions. Asfar Lake is the nearest, about 8 km south-east of the Kanzan mountains.

Previous archaeological research conducted in this area was mostly surface collection by Aramco employees. Some of them collected hundreds of coins that were taken out of the country illegally, some of which were mentioned by Potts (2018) in his book "The pre-Islamic coinage of eastern Arabia." Grace Burkholder in her book “An Arabian Collection: …”, tried to study and document her personal collections from the site of Kanzan. She also described and drew a map of the archaeological sites, including a large number of burials, which were discovered during her survey.

- K1: Kanzan Mountain site:

The site is covered with scattered potsherds on the foot of the mountain (Fig. 3.1). Many parts of the site are covered by sand dunes. Archaeological survey has been undertaken along the mountain, where many concentrations of potsherds were recorded.

Artefacts scattered on the surface were mainly potsherds, with a few traces of settlement debris. The potsherds are different in density and types (Fig. 3.2), and (Fig. 3.3).

- K 2: Kanzan site:

The archaeological site consists of large spread of pottery sherds on the surface of a small mound close to sand dunes. Potsherds covered the surface of the site in different concentrations; in some parts they seem to have been buried by the sand (Fig. 3.4). The survey in the Kanzan area continued toward the north where a high density of potsherds was recorded (Fig. 3.5). The site is located next to a high sand dune. In addition, archaeological survey recorded some kiln debris (Fig. 3.6) which might indicate a pottery kiln at this site.

3.2.1.1 Kanzan Area finds descriptions (samples) (Table 3.2):

Table :3.2 Kanzan area

Site name	Card no.	Finding location	Group no.	Number of sherds	Diagnostic find no.	Description	Proposed Date
Jabal Kanzan (K1)	1	Surface	S/1	5		A group of sherds of varied shapes, function, thickness, paste and colour. The colour of three sherds is red ware with sand tempering, and one sherd is red brown with white slip, and the last sherd is white is gray ware decorated with a solid black line (Fig. 3.56).	
Jabal Kanzan (K1)	1	Surface	S/1	1	K/S/1/49	A vertical rim sherd of fine paste. The surfaces slipped with a white slip; some parts of the slip were eroded. The colour of its paste is grey. The lip is slightly rounded. And It is decorated below the neck with a solid black vertical line (Fig. 3.57), (Fig. 3.58).	Hellenistic period 3rd - 2nd B.C (Thaj pottery type).
Kanzan desert (K2)	2	Surface	S/2	6		A group of six wheel made sherds of varied shapes, function, thickness, pastes, and colours. Three of the body sherds are decorated on their external surfaces with wide ribbing (Fig. 3.59).	

3.2.2 Geriyah Area:

Locally the name of this area is Geriyah, but it was wrongly named by previous researchers like Bibby (1973), who called it 'Irrigation Area' and by Potts (1984), and Lombard (1988), who called it "The Salt Mine Site". Burkholder (1984) even changed its name to Gerrha which was also used by Golding (1984). However, I will use only the name Geriyah as it is the correct name of the area. Golding (1984) pointed out there was an old river named the Aftan River which she believes was the water source for the irrigation canals that were discovered in the Geriyah area. Bibby (1973) reported that the ecological nature of Geriyah divided the site into two parts: one, an area of Sabkha in the east, which is a local name for salt flats; and the second on the western side, which is covered by the al-Jafurah sand dunes. The irrigation channels, or the remains of them, extended for several miles from the east to the west of the Sabkha and rise above ground level between 5 and 10 cm (Bib 1973, p.40). Bibby said that in the opinion of geological

experts from Aramco who analysed these geographical phenomena, they resemble the beds of ancient irrigation channels. Moreover, the author added that this irrigation system was likely used to supply an agricultural area during the Hellenistic period (Bibby 1973, p.40). As for the relationship between this site and the location of Gerrha, he argued, based on the archaeological discoveries in the survey, that there was not enough evidence to support it as the location of Gerrha unless the rest of the settlement was buried under the al-Jafurah sands (Bibby 1973, p.47).

My survey extended the area of the previous study to examine Bibby's opinion about the possibility that the high sands of al-Jafurah '…could easily hide more than one considerable city, …etc. (Bibby 1973:47).' Mostly, this survey updates the Danish report on sites discovered in Geriyah, particularly, the area between the Sabkha fort and the Inland fort which was the entire Sabkha region and the beginning of the al-Jafurah sands. However, the search also aimed to discover if there was any continuity of human activities to the west of the Sabkha, to track any archaeological evidence and to pursue the extension of the irrigation channels into the sands area to the west.

The area was divided by a highway into east and west sectors. On both sides, the survey started in the south and worked to the north.

The Eastern side of the highway (following the Danish Survey):

The Danish team registered all the archaeological evidence from the survey in the area to the east of the highway. Unfortunately, some of the burial sites mentioned in the Danish report have been destroyed by a rerouted highway.

However, our survey went further and covered more of the al-Jafurah sands area east and northeast of the boundary marked on Bibby's survey map.

- GA 1 (Geriyah area - Potsherds):

The site is flat land covered by some grass (Fig. 3.7). On the surface there were scattered potsherds (Fig. 3.8), some partly covered by sand which were documented, and samples were collected for study and classification.

- GA 2 (Geriyah area - Potsherds):

As with the previous area, pottery sherds were recorded from the top of the sand dunes and in between the sediment and dunes (Fig. 3.9). Survey continued north from the previous site and located another scatter of potsherds. The potsherds (Fig. 3.10) at this site were less affected by the salinity of the soil.

- GA 3 (Geriyah area - Building Traces 1):

The site consists of a high mound covered by sand with ancient traces of human activity spread on the surface (Fig. 3.11). On the north side near to site GA 2, were traces of a structure indicated by the spread of stone blocks and fragments (Fig. 3.12).

- GA 4 (Geriyah area -Inland fort 1)

Archaeological site indicated by small mounds on the bank of old water channels (Fig. 3.13). This site is called “the Inland fort” as it was named by Bibby in his 1968:43 'Preliminary Survey in East Arabia'. The Danish expedition was the first to discover the site and reported that it had some Hellenistic remains. Although this site was marked on the map in that report, like other locations mentioned there were difficulties in finding it in our survey because of the changes that have happened in the area over the last sixty years, including the construction of the new highway just next to this site which also destroyed some of the sites that Bibby and his team discovered. This site was chosen for further archaeological test-excavations.

- GA 5 (Geriyah area – Inland fort 2):

The site consists of a small mound in the middle of a sandy area, where settlement debris

and a spread of potsherds were recorded on the surface (Fig. 3.14). The site has high densities of pottery sherds on the surface, especially on top of the mound (Fig. 3.15).

- GA 6 (Geriyah area – Inland fort 3):

Potsherd concentrations were found on the sandy mound along the bank of an old channel (Fig. 3.16). The types of potsherds recorded along the top of the mound were different from those among the sand dunes. Fragments of pottery were documented from single examples and concentrations (Fig. 3.17).

- GA 7 (Geriyah area - Inland fort 4):

The remains of another settlement on a sandy mound were recognised from the spread of potsherds (Fig. 3.18). The site is located to the northwest of the inland fort. The spread of the pottery was documented along the sandy mound in similar situation to the previous site (Fig. 3.19), which indicates the extent of the settlement in the area.

- GA 8 (Geriyah area – Inland fort 5):

In the middle of huge sand dunes, a small mound of earth shows scattered pottery sherd with settlement debris (Fig. 3.20). This site is located very close the Inland fort from its north side. The vast amount and the variety of the potsherds (Fig. 3.21) on the surface of this site made it look like natural mosaic art. It was different from all previous pottery sites, including the site at Kanzan. However, it was noted that the sites with concentrations of potsherds: (Inland Fort 1 – 5) in the Geriyah area are possibly related to the Inland fort as they closely surrounded the site of the fort.

- GA 9 (Geriyah area -Building Traces 2):

Building remains of small structures observed in the sandy area indicate settlement (Fig. 3.22). This site is located north of the previous locations. It includes traces of a square structure (Fig. 3.23) on the border between the dunes where the Inland fort is located and

the Sabkha area.

- GA 10 (Geriyah area -Sabkha fort): (Map 3.2).



Map:3. 2 Satellite Image showing the Sabkha fort boundary (esri imagery basemap).

Sabkha fort is located in middle of a very inaccessible area. Archaeological survey here did not reveal many surface finds, the only discoveries were the traces of the boundary of the square fort, and some eroded potsherds (Fig. 3.24). The site was discovered in 1968 by Bibby and named the Sabkha fort because it is located in a salty area using the local name of the environmental phenomena al-Sabkha. However, an oil company started a new project very close to this site which made me inform the regional authority about the threats endangering the archaeological site, however, their response was disappointing. I also attempted to dig a rescue pit (Fig. 3.25) but it was difficult to break the surface and the sand of the Sabkha was as solid as if digging through a cement slab.

- GA 11 (Geriyah area –Burial Mound 1):

There were two mounds to the northwest of the Sabkha fort on the east side of the highway. The first one was a large mound of rocks in the middle of a sandy area (Fig. 3.26). This suggested an irregular form of construction, and there were some traces on the top of the mound indicating that the site had been looted (Fig. 3.27).

- GA 12 (Geriyah area - Burial Mound 2):

A large flat mound was recorded a few metres to the north of burial mound 1 (Fig. 3.28). It was a more regular structure indicating the architectural form of a burial site (Fig. 3.29). It has been noticed that there was a repetition of this phenomenon of finding two mounds, one of them apparently used for burial(s), and the other an irregular structure. This pattern needs further analysis to determine if there is any explanation. This site was the last site discovered on the eastern side of the road in the Geriyah area.

- GA 13 (Geriyah area - Building Traces 3):

Archaeological survey was carried out on the western side of the highway to the west of Geriyah in the sand dunes of al-Jafurah, where many archaeological features were recorded. The distributions of sherds on the surface indicated many separate sites. This site consists of building debris extending along a sandy mound and covered by sand dunes (Fig. 3.30). Potsherds were collected from surface among the traces of building debris.

- GA 14 (Geriyah area - Burial Mound 3):

In this location a large burial mound was recorded (Fig 3.31). On top of this mound were traces of a regular structure for a burial (Fig. 3.32). It had the same structure as the first Burial Mound (2). Moreover, near this burial mound to the south, there were also traces of another irregular mound, but smaller than mound 1.

- GA 15 (Geriyah area – Building traces 4):

A large mound was documented in the northern part of the area on the top of sandy dunes.

This mound was different from the mounds already mentioned since the remains of walls on the top suggested a square (Fig 3.33).

- GA 16 (Geriyah area – Burial Mound 4):

A large mound with scattered remains was recorded in the middle of a flat area (Fig. 3.34). On the top of this mound there were some remains of burial structures. (Fig. 3.35).

- GA 17 (Geriyah area – Burial Mound 5):

A large burial mound, which was attached to another, and both had an irregular form of construction.

- GA 18 (Geriyah area – Burial Mound 6):

An oval burial mound in the sandy area with some stones scattered around it (Fig. 3. 36).

- GA 19 (Geriyah area – Burial Mound 7):

Small burial mound similar to the previous in shape, but smaller. Some scattered potsherds were recorded around the mound.

- GA 20 (Geriyah area – Burial Mound 8):

A large, eroded mound with irregular structure. Some potsherds around this mound were recorded in our survey.

- GA 21 (Geriyah area – Burial Mound 9):

This burial mound (Fig. 3.37) was the last site located in the Geriyah area, and it forms large oval in the middle of a sandy area. The mound seems to be intact and covered by salt sediments and sand.

3.2.2.1 Geriyah Area finds' descriptions (samples) (Table 3.3)

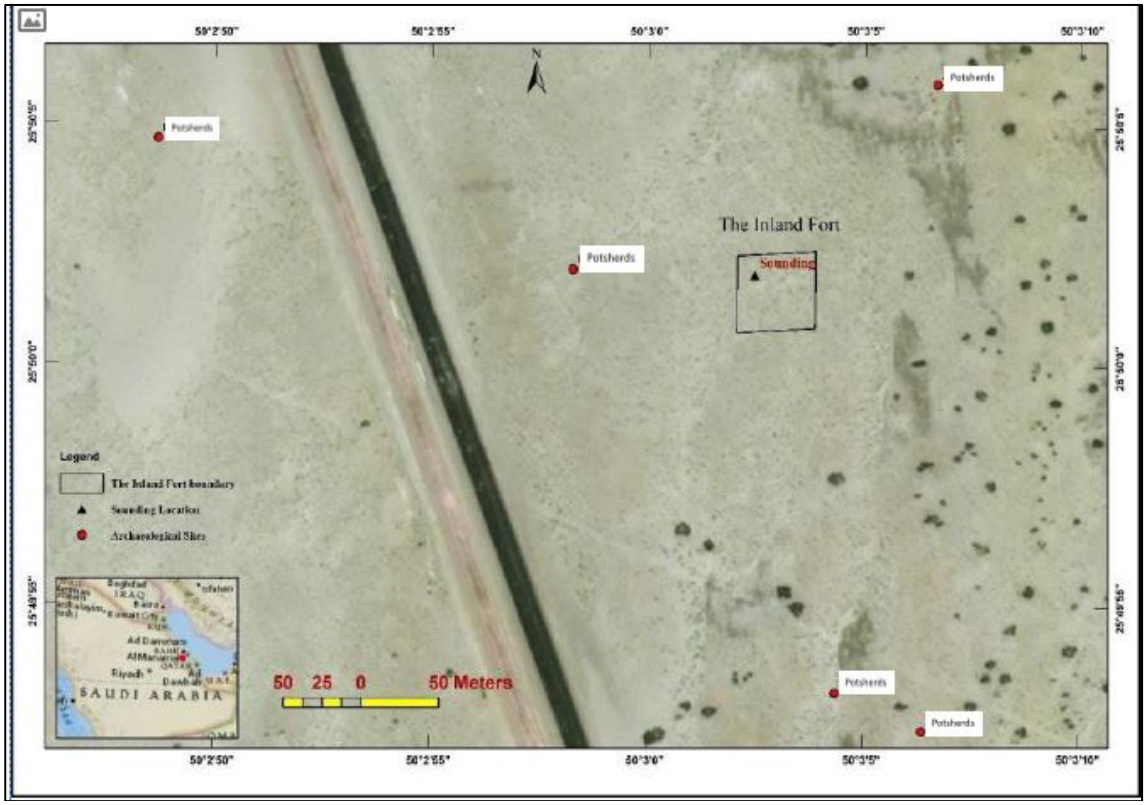
Table: 3.3 Geriyah Area

Site name	Card no.	Finding location	Group no.	Number of sherds	Diagnostic find no.	Description	Proposed Date
Geriyah area (GA 1)	3	Surface	S/1	6		A collection of six sherds. Five sherds of red wheel made body sherds of medium coarse wares. Their surfaces are wet self-smoothed. And the sixth sherd is a black/grey rim sherd of a bowl made on the wheel of fine paste. The internal and external surfaces are black/grey and self-wet smoothed. The rim is extending outward and with flat lip (Fig. 3.60).	
Geriyah area (GA 1)		Surface	S/1	1	GA1/S/1/25	A black/grey rim sherd of a bowl made on the wheel of fine paste. Its surfaces are black/grey in colour, and self-wet smoothed. The bowl is shallow with a rim extending outward and flat lip (Fig. 3.61), (Fig. 3.62).	Hellenistic period 3rd- 2nd B.C (Thaj pottery type).
Geriyah area (GA 2)	4	Surface	S/2	26		A collection of twenty-six wheel made sherds of medium coarse wares. They vary in shapes, paste, colours and thicknesses and possibly functions. Their colour varies from black/dark grey to white/grey and red/brown (Fig. 3.63).	
Geriyah area (GA 2)		Surface	S/2	1	GA2/S/2/26	A wheel made rim sherd of a bowl or a cooking pot of fine paste. The paste is red while the surfaces are slipped with a white/grey slip. It has a thick rim which extends outward with a flat lip. The rim is decorated with a vertical incised line (Fig. 3.64), (Fig. 3.65).	Hellenistic period 3rd- 2nd B.C (Thaj pottery type).
Geriyah area (GA 2)		Surface	S/2		GA2/S/2/27	A wheel made rim sherd of a cooking pot or bowl of medium coarse paste. Its internal surface is red while its external surface is slipped with a white slip. Its paste is white/grey. The rim is vertical with a lip slightly leaning down to the external surface. It is decorated on its external surface with incised vertical line below the rim (Fig. 3.66), (Fig. 3.67).	Hellenistic period 3rd- 2nd B.C (Thaj pottery type).
Geriyah area (GA 2)		Surface	S/2	1	GA2/S/2/28	A wheel made rim sherd of a cooking pot, of medium coarse paste. Its Internal and external surfaces are red while its exterior surface is slipped with a white slip. The Internal surface is self-wet smoothed. Its paste is dark grey. The rim is vertical with a half-rounded lip. It is decorated on its external surface with incised vertical line (Fig. 3.68), (Fig. 3.69).	Hellenistic period 3rd- 2nd B.C (Thaj pottery type).
Geriyah area (GA 5)	5	Surface	S/3	4		A collection of four eroded wheel made sherds of fine wares. Their colour ranges from white/ grey to red/brown. The surfaces of three sherds are wet self-smoothed, while one sherd is slipped with a white/grey slip (Fig. 3.70).	
Geriyah area (GA 6)	6	Surface	S/4	12		A collection of twelve wheel made sherds of medium coarse wares. They vary in shapes, paste, colours and thicknesses and possibly functions. Their colour ranges from white/grey to red/brown. Their surfaces are wet self- smoothed (Fig. 3.71).	
Geriyah area (GA 6)		Surface	S/4	1	GA6/S/4/29	A wheel made rim sherd of a jug or vase. It is made of fine paste, white/grey in colour. Its internal and external surfaces are self-wet smoothed. The rim is vertical with a half-rounded lip and its neck is short. It is decorated on its exterior surface with two incised vertical lines (Fig. 3.72), (Fig. 3.73).	Hellenistic period 3rd- 2nd B.C (Thaj pottery type).
Geriyah area (GA 6)		Surface	S/4	1	GA6/S/4/30	A wheel made rim eroded sherd of a bowl. It is made of medium fine paste, white/grey in colour. Its internal and external surfaces are self-wet smoothed. The rim extends outward with a flat lip (Fig. 3.74), (Fig. 3.75).	Hellenistic period 3rd- 2nd B.C (Thaj pottery type).

Geriyah area (GA 6)		Surface	S/4	1	GA6/S/4/31	A flat wheel made base sherd of medium fine paste. Its paste and its surfaces are red. Its internal surface is eroded. The exterior surface is slipped with a red slip (Fig. 3.76), (Fig. 3.77).	Hellenistic period 3rd- 2nd B.C (Thaj pottery type).
Geriyah area (GA 7)	7	Surface	S/5	3		A collection of three wheel made sherds of fine of one base sherd and the other two sherds made of medium coarse wares. They vary in shapes, paste, colours and thicknesses and possibly functions. Their colour ranges from white/grey to black/red. Their surfaces are wet self-smoothed (Fig. 3.78).	
Geriyah area (GA 8)	8	Surface	S/6	48		A collection of forty-eight wheel made sherds of fine and medium coarse wares. They vary in shapes, paste, colours and thicknesses and functions. Their colour ranges from white/grey to red/black. Their surfaces are wet self- smoothed. Some of these sherds are decorated with vertical incised lines (Fig. 3.79).	
Geriyah area (GA 8)		Surface	S/6	1	GA8/S/6/32	A flat wheel made base sherd of a small bowl of fine paste. Its paste and surfaces are grey. Its internal surface is eroded. Both the external and the internal surfaces are self-wet smoothed (Fig. 3.80), (Fig. 3.81).	Hellenistic period 3rd - 2nd B.C (Thaj pottery type).
Geriyah area (GA 8)		Surface	S/6	1	GA8/S/6/33	An eroded wheel made rim sherd of medium fine paste. Its paste is dark grey while its internal and external surfaces are red and self-wet smoothed. The rim is vertical and extend to outside with a slightly flat lip (Fig. 3.82), (Fig. 3.83).	Hellenistic period 3rd - 2nd B.C (Thaj pottery type).
Geriyah area (GA 8)		Surface	S/6	1	GA8/S/6/34	A wheel made rim sherd of a bowl of medium fine paste. While its paste is dark red/brown, its internal and external surfaces are red and slipped with a red slip. The rim is vertical with a pointed lip. The traces of the wheel made are visible as horizon lines (Fig. 3.84), (Fig. 3.85).	Hellenistic period 3rd - 2nd B.C (Thaj pottery type).
Geriyah area (GA 8)		Surface	S/6	1	GA8/S/6/35	A medium wheel made rim sherd of a bowl of fine paste. Its paste is dark grey, while its internal surface is black; its external surface is dark grey. The rim is vertical with a flat lip (Fig. 3.86), (Fig. 3.87).	Hellenistic period 3rd - 2nd B.C (Thaj pottery type).
Geriyah area (GA 8)		Surface	S/6	1	GA8/S/6/36	An eroded wheel made base sherd of a small pot or bowl of fine paste and thin walls. Its paste and its surfaces are red. Its surfaces are wet self- smoothed (Fig. 3.88), (Fig. 3.89).	Hellenistic period 3rd - 2nd B.C (Thaj pottery type).
Geriyah area (GA 13)	9	Surface	B/3	7		A collection of seven wheel made sherds varying in wares, shapes, functions, and colours. Three are body sherds, the fourth is a rim sherd. Five of the collection are of fine white/grey eggshell ware (Fig. 3.90).	
Geriyah area (GA 13)		Surface	B/3	1	GA13/B/3/37	A wheel made rim sherd of red medium coarse bowl. Its paste is tempered with organic material as the traces of plant remains indicate. All its surfaces and the paste are red. Its surfaces are eroded and badly encrusted with salts. Its rim is thick and extending to outside (Fig. 3.91), (Fig. 3.92).	Hellenistic period 3rd - 2nd B.C (Thaj pottery type).
Geriyah area (GA 13)		Surface	B/3	1	GA13/B/3/38	A wheel made rim sherd of fine eggshell ware. While its internal surface and paste are red, its external surface is slipped with white slip. Its rim is vertical with a slightly rounded lip (Fig. 3.93), (Fig. 3.94).	Hellenistic period 3rd - 2nd B.C (Thaj pottery type).

Geriyah area (GA 14)	10	Surface	M/3	5		A collection of five sherds varying in wares, thickness, shapes, functions, and colours. Four of them are wheel made pottery sherds, while the fifth find is a black granite stone (Fig. 3.95).	
Geriyah area (GA 15)	11	Surface	B/4	4		Four wheel made thin sherds of fine red paste (eggshell ware) with wet self- smoothed surfaces. The collection also includes a decorated soap stone fragment of grey/ black colour decorated with incised parallel line (Fig. 3.96).	
Geriyah area (GA 15)		Surface	B/4	1	GA15/B/4/39	A wheel thin bowl rim sherd of red fine paste with self-wet smoothed surfaces. The rim is vertical with pointed rim lip. It is decorated with a thin incised line near the lip. The upper part on the exterior surface is white slipped. The internal surface is covered with layer of salt (Fig. 3.97), (Fig. 3.98).	Hellenistic period 3rd - 2nd B.C (Thaj pottery type).
Geriyah area (GA 15)	12	Surface	B/4	3		This is a further collection from the same mound No M/3. It is a group of three wheel made sherds of varied shapes, function, thickness, pastes, and colours. The group also includes a polished grinder of volcanic stone that shaped to be used as a tool (Fig. 3.99).	
Geriyah area (GA 16)	13	Surface	M/4	7		A collection of seven wheel made sherds varying in wares, thickness, shapes, surface treatment, functions, and colours. Six of them are body that had been fired in oxidized atmosphere (Fig. 3.100).	
Geriyah area (GA 17)	14	Surface	M/5	1		A wheel made body sherd of medium thickness and medium coarse ware. Its paste is tempered with non-organic matter as sand. Its paste and the external surface are white/grey, while its internal surface is red. All its surfaces are wet self-smoothed. Its external surface is decorated with a band of mat impression (Fig. 3.101).	
Geriyah area (GA 20)	15	Surface	M/8	1		A wheel made body sherd of medium thickness and medium coarse ware. Its paste and the surfaces are white/grey. Its internal and external surfaces are wet self-smoothed (Fig. 3.102).	

3.2.2.2 Archaeological test excavation at the site of the Inland fort site GA4 (Geriyah area): (Map. 3.3)



Map:3. 3 The location of the test-pit at the Inland fort (esri imagery basemap).

The site location and its contents are the main reasons it was selected for excavation. The site is on the margin of the large mound area (Map. 3.3), close to a water channel and the recently constructed road. A test excavation 2x2 metres was conducted in the middle of the site, where there were traces of buildings with scattered potsherds (Fig. 3.38).

Stratigraphic sequence of the excavation described from the upper to the lower level:

Level (1):

This stage revealed a structure in almost the first 10 cm of excavation. This formed a square with well-shaped stones that look like floor tiles. What made me assume that these stones were tiles is that the area around them, 10 cm lower to the north and west had a

very solid floor which I found extremely hard to dig. I tried to break through a part of the floor, but it was as hard as stone mixed with bitumen. The character of the soil in this first level was sandy mixed with rock fragments forming a layer of rubble 10 cm deep. A layer of ash was found directly above the previously mentioned solid layer/floor, which was to the north and west of the feature formed by four square blocks in situ (Fig. 3.39). Although the finds from this stage of excavation were limited, there are clear remains of settlement-structure and blocks, as well as many pottery sherds recorded from this level (Fig. 3.40).

Level (2):

Excavation continued from 20 – 80 cm below the surface. Here the soil became compact and very solid, which indicated a Sabkha fort level. This level revealed different materials from those above. In the southern edge side of the excavation square is another building structure and as a result we expanded the length of the excavation trench to understand this phenomenon (therefore, the excavation trench became 3 x 2 m^2). The excavations revealed that the structure was a wall with a width of about 60 cm, like the wall that was found in the Danish Mission excavations (Bibby 1973:43-45). The location of my test pit was inside the walls of the fort and this structure ran from east to west. The nearest boundary wall of the fortress is its western wall running from north to south. Unfortunately, I did not have enough time to trace the wall to discover if it intersects with the western wall or not. As mentioned earlier, I was obliged to finish my work on the same day in order to preserve the site from looters (Fig. 3.41). The nature of soil at that depth/level was slightly different in terms of its composition. Unlike, the first 20 cm (level 1) the soil here contained less rubble and no patches of ash. Finds collected from level 2 were comparable to those found in the Ras Geriyah excavation. A small bead was found

in addition to the pottery (Fig. 3.42). The excavation trench was fully documented and refilled with sand for protection. The assemblages collected from each excavation level were shipped for study in the Archaeology Department of King Saud University, with an attached report requesting additional protection for this site as well as for the Sabkha site. The site needs extensive excavation in future.

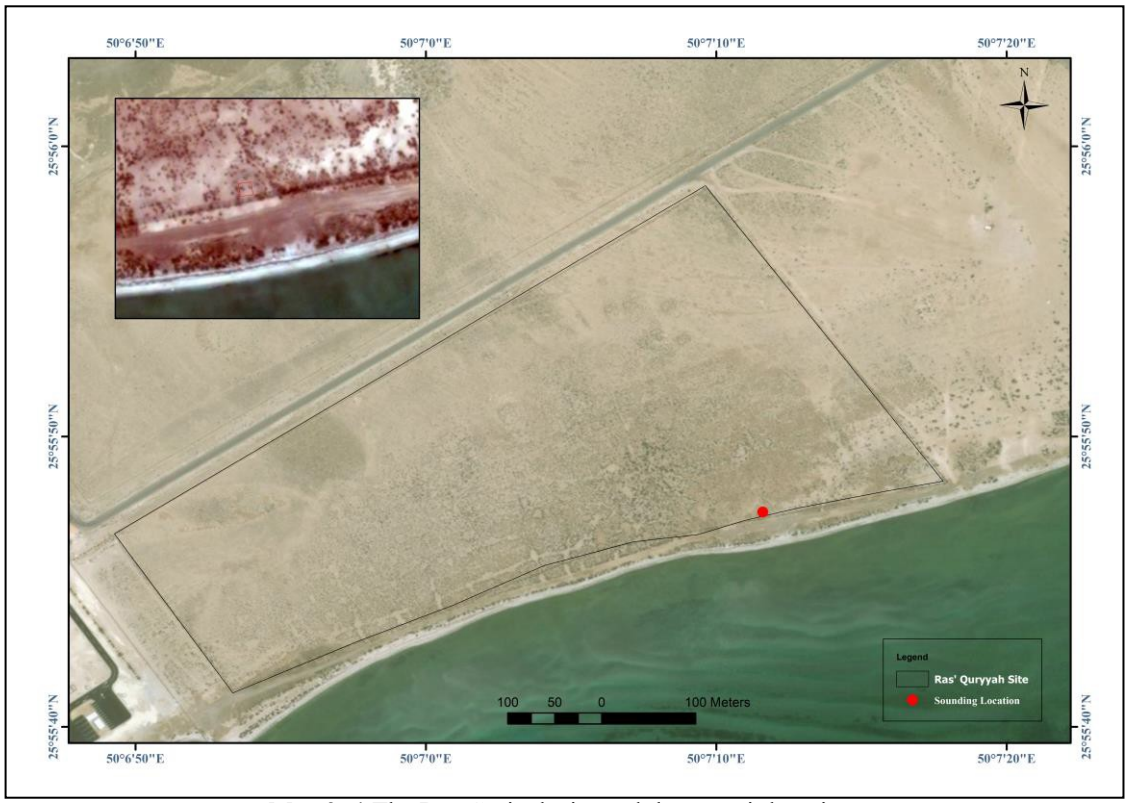
3.2.2.2..1 Geriyah Area finds from test excavation (GA4) finds descriptions: (Table 3.4):

Table:3.4 Geriyah area GA4 test excavation

Site name	Card no.	Layer Number	Group no.	Number of finds	Diagnostic find no.	Description	Proposed Date
Geriyah-Inland fort sounding (GA 4)	16	1	L/1	5		A collection of five body sherds of medium coarse and medium thick paste. Their surfaces are wet self-smoothed. These sherds colours are four sherds white/grey, and one sherd is red. Some sherds were tempered with organic materials as plant imprints (Fig. 3.103).	
Geriyah-Inland fort sounding (GA 4)	17	1	L/2	9		A collection of nine eroded body sherds of medium coarse and medium thick paste. Their surfaces are wet self-smoothed. And their colours range between green/grey, red, and black. Some sherds were tempered with organic material as straw and chaff (Fig. 3.104).	
Geriyah-Inland fort sounding (GA 4)	18	1	L/3	21		A collection of twenty-one eroded body sherds of medium coarse and medium thick paste. Their surfaces are wet self-smoothed and range in colours between white/green, grey, and red/brown. Some of these sherds were tempered with organic material such as plant traces (Fig. 3.105).	
Geriyah-Inland fort sounding (GA 4)	19	1	L/4	14		A collection of fourteen body sherds of thin and medium fine paste. Their surfaces are wet self-smoothed and range in colours between red/brown and dark grey. Some of the red sherds (of probably Thaj type) are slipped with red/orange slip and polished. Some are decorated with vertical incised lines (Fig. 3.106).	
Geriyah-Inland fort sounding (GA 4)	20	2	L/4	0			
Geriyah-Inland fort sounding (GA 4)		2		1	GA4/L/2/1	An eroded wheel made base sherd of a bowl of fine paste. The paste and surfaces are red. The surfaces are wet self-smoothed. The base is flat. Traces of the wheel are visible on the internal surface (Fig. 3.107), (Fig. 3.108).	Hellenistic period 3rd - 2nd B.C (Thaj pottery type).

Geriyah-Inland fort sounding (GA 4)	21	2		1		A small red agate (stone) perforated spherical bead. It was found near the red base sherd of a bowl at the same level which indicates it can be dated to the same period (Fig. 3.109). Furthermore, Hellenistic period beads similar to our bead was found at Geriyah dated by Burkholder to the period between the seventh to the first century B. C (Burkholder 1984:203, Pl. 42).	
Geriyah-Inland fort sounding (GA 4)	22	2					
Geriyah-Inland fort sounding (GA 4)		2		1	GA4/L/2/2	A handmade rim sherd of a storage jar of medium coarse paste. Traces of plants temper are visible on the surfaces. The paste and surfaces are green/yellow. The surfaces are wet self-smoothed. The rim extends to the outside and the lip is flat (Fig. 3.110), (Fig. 3.111).	pre-Hellenistic period (Mesopotamian tradition)

3.2.3 Ras Geriyah: (Map 2.4)



Map:3. 4 The Ras Geriyah site and the test-pit location.

Ras Geriyah is located on the coast as a part of a promontory in the Arabian Gulf. According to Potts et al. (1978) the site is also called "Salt Mine Point". However, the

official name of the whole area is Geriyah, which is also the name of a private beach for Aramco; " Geriyah Beach" is located just next to the archaeological site on the western side. The name Ras Geriyah followed the Arabic tradition of naming the part of land that enters the sea as "Ras". "Ras Geriyah " is in my opinion the most obvious name to avoid any confusion with other locations, especially the location near Ras Geriyah on the north side, which is called Geriyah, or to avoid researchers becoming confused by 'The Salt Mine Site' that is used by some scholars to identify the Geriyah area, part of which will be discussed later in Chapter 6.

In 1977 as part of a comprehensive survey project conducted by the Saudi archaeological authorities, their team studied the site, and in their report, they concluded out that the site may have been a temporary settlement for fishermen (Potts et al., 1978). They also indicated that there is reason to date the site to the Sasanian period based on some surface potsherds. They also thought the finds were insufficient to date all of the site to the Sassanian period. In addition, they found a green-glazed sherd that they supposed could be dated to the Hellenistic period based on its similarities to what was found in the tombs of southern Dhahran. It should be noted that, we found a fragment of similar pottery among the finds from our test pit at Ras Geriyah.

The archaeological site of Ras Geriyah is bordered by a security fence built by the Department of Antiquities. Inside the fence there is a group of several large mounds located in the middle and surrounded by other smaller mounds. It is to be noted that on most of these mounds the architectural remains were built with stone composed of fossil shells and sand, which is a common stone known locally as "Al Farosh" stone, that was used in most coastal sites in the Eastern region until recently.

My archaeological survey was carried out at the site of Ras Geriyah on the foot of

a sandy topographical zone (Fig. 3.43), where many sites were documented. The survey was carried out to discover the extent of the archaeological area within the site boundary fence where we found fragments of different kinds of pottery in varied shapes and sizes. Fragments of small glass vessels were also found.

The archaeological survey continued in the area outside the fence, first on the southern side, beside the sea, where we were able to explore underwater and found fragments of large pottery jars. Further survey took place on the eastern side where potsherds were spread over the surface and some of them were different from those found inside the fence.

After completion of the archaeological survey of the site of Ras Geriyah, the location of my test pit was chosen in an area which is easy to excavate, bearing in mind that I was working alone to finish the task in less than three weeks. The test pit was 2 x 2 m.

- RG1 (Ras Geriyah site – Main site):

One of the main archaeological settlement sites is within the area of the survey. It contained a mound (Fig. 3.44), different features of settlement and surface finds spread over the site (Fig. 3.45). It was important that the survey included the site of Ras Geriyah in order to understand the nature of the study areas and then select one for excavation.

- RG2 (Shore line - Ras Geriyah):

Archaeological survey was also conducted on the shoreline to find out the extent of the archaeological remains close to the coast (Fig. 3.46). The seabed was like another site as it is full of a diversity of potsherds (Fig. 3.47). Although I am not an expert in underwater archaeology, the search underwater convinced me of the richness of this site.

- RG3 (Surface collection outside the fence of Ras Geriyah site)

As the archaeological survey was carried out on the eastern side of the area outside

the fence, many concentrations of potsherds were located (Fig. 3.48). The surface sherd samples from this location were of different types (Fig. 3.49).

3.2.3.1 Ras Geriyah finds' descriptions (samples) (Table 3.5)

Table: 3.5 Ras Geriyah

Site name	Card no.	Finding location	Group no.	Number of sherds	Diagnostic find no.	Description	Proposed Date
Ras Geriyah (RG 1)	23	Surface	S/1	5		Four sherds of blue alkaline glazed pottery of white fine paste, and a thin wheel made red sherd of fine paste (eggshell ware). Two of the glazed sherds are parts of handles (Fig. 3.112).)	
Ras Geriyah (RG 1)	24	Surface	S/2	4		Four sherds of blue/green glazed wheel made pottery of white/yellow fine paste (Fig. 3.113).	
Ras Geriyah (RG 1)	25	Surface	S/3	29		A group of twenty-nine wheel made of thin fine red paste (eggshell ware) and wet self-smoothed white/greenish surfaces (probably late Sassanid- early Islamic type). The collection of the sample includes rim sherds, base sherds, and a handle sherd (Fig. 3.114).	
Ras Geriyah (RG 1)		Surface	S/3	1	RG1/S/3/40	A broken flat base sherd of a mould made thin vessel of red fine paste and white greenish slip on the outside surface. It is decorated on its exterior surface with vertical impressed decoration (Fig. 3.115), (Fig. 3.116).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 1)		Surface	S/3	1	RG1/S/3/41	A rim sherd of a wheel made vessel of red, fine paste and thin walls (fine eggshell ware). The rim flares to the outside with a pointed lip. It is decorated on its exterior surface with two vertical incised line (Fig. 3.117), (Fig. 3.118).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 1)	26	Surface	S/6	1		Part of a handle of a jug or jar of medium fine ware. Its paste is red in colour while its surfaces are white /grey (Fig. 3.119).	
Ras Geriyah (RG 1)	27	Surface	S/7	22		A collection of twenty-two wheel made sherds of varied thickness, colours, forms, and functions. Some of the sherds are of fine paste (fine eggshell ware) whereas, a few are decorated with geometric incisions. All surfaces are wet self-smoothed (Fig. 3.120).	
Ras Geriyah (RG 1)		Surface	S/7	1	RG1/S/7/44	A thick wheel made rim sherd of a storage jar with a flat rim extending inside. It is made of medium fine paste. Its surfaces and paste are red in colour. Its Internal and external surfaces are self-wet smoothed. It is decorated on the external surface below the rim with excised zigzag (Fig. 3.121), (Fig. 3.122).	Early Islamic period (ca. 8th-9th cent. A.D).

Ras Geriyah (RG 1)		Surface	S/7	1	RG1/S/7/45	A medium thick wheel made rim sherd of a bowl, extending outward with a slightly rounded rim stance. It is made of medium fine paste. Its surfaces and paste colour are white. And its internal and external surfaces are self- wet smoothed. It is decorated below the rim on its exterior surface with a vertical incised line (Fig. 3.123), (Fig. 3.124).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 1)		Surface	S/7	1	RG1/S/7/46	A medium thick wheel made sherd of a flat base with part of the body. It is made of medium coarse paste with black and red particles (granite temper!). Its surfaces and paste are white/grey in colour. Its internal and external surfaces are self-wet smoothed (Fig. 3.125), (Fig. 3.126).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 1)		Surface	S/7	1	RG1/S/7/47	A medium thin wheel made body sherd, possibly of a jug. It is made of medium fine paste. Its surfaces and paste are pink in colour. Its internal and external surfaces are self-wet smoothed. It is decorated on its external surface with four geometric vertical incised lines, and incised zigzag line below in the geometric lines (Fig. 3.127), (Fig. 3.128).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 1)	28	Surface	S/10	2		Two wheel made sherds of medium fine ware, with wet self-smoothed surfaces. One sherd is probably part of a jug with a handle, while the second one, is a base sherd of a bowl (Fig. 3.129).	
Ras Geriyah (RG 1)		Surface	S/10	1	RG1/S/10/48	A flat base sherd of a bowl of medium fine ware with traces of the wheel are visible on its internal surface. Its paste and internal surface are red, and the external surface colour is pink. Its surfaces are wet-self smoothed (Fig. 3.130), (Fig. 3.131).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 1)	29	Surface	S/11	4		Three base fragments of translucent white glass of may be bottles, and a white rim and body of a small translucent glass bowl (Fig. 3.132).	
Ras Geriyah (RG 2)	30	Under-water	U/1	4		A collection of four wheel made sherds of medium fine wares. They vary in shapes, colours, thickness and possibly functions (Fig. 3.133).	
Ras Geriyah (RG 2)		Under-water	U/1	1	RG2/U/1/42	A wheel made rim sherd of grey/black fine paste of medium thickness. Its outside and inside surfaces are wet-self smoothed and grey/black in colour. The rim is vertical and extend to the outside. It has a wide lip while the neck is very short. The sherd is probably part of a cooking pot (Fig. 3.134), (Fig. 3.135).	Early Islamic period (ca. 8th-9th cent. A.D).

Ras Geriyah (RG 2)		Under-water	U/1	1	RG2/U/1/43	A wheel made body sherd of medium fine ware of thick jar. The sherd surfaces and paste are grey in colour. Its internal and external surfaces are wet-self smoothed. It is decorated with two vertical lines of fingernail bands. Traces of the wheel are visible on both internal and external surfaces (Fig. 3.136), (Fig. 3.137).	Early Islamic period (ca. 8th-9th cent. A.D).

3.2.3.2 Archaeological test excavation at the site of Ras Geriyah RG1:

Although the methodology of selecting archaeological sites for test excavation has been discussed above, the location of the site and the artefact distribution densities on the surface were the main indicators used to select the excavation area. The archaeological excavation followed the stratigraphy of the site (Fig. 3.50).

Excavation stratigraphy:

Surface layer: 0 – 10 cm

The surface layer was about 10 cm deep, but the hardest layer to dig. It consisted of a concrete layer of shells and soil. After they were removed, the layers of human occupation were numbered from the uppermost (1) to the lowest (4).

Layer (1): 10 – 30 cm.

This layer was the first archaeological layer with a settlement depth of approximately 20 cm. The soil in this layer was chalky white and overlapped with concrete plates of soil with seashells which I think came from the surface layer. In this layer were found fish bones, small shells and one large one. The finds from this layer also include potsherds from a variety of pottery vessel shapes among which was a distinctive rim, as well as fragments of glass vessels (Fig. 3.51).

Layer (2): 30 – 50 cm.

The second layer differed from layer 1, it consisted of homogenous brown soil about 20

cm thick. It was also characterized by the absence of any intrusion of the surface concretion with fossilised shells but included small water-worn pebbles which is normal considering the nature of the coastal location. Fish bones were found in this layer as well and also a fragment of a bone tool/spatula. Various types of pottery were also found, including a fragment of what seems to be green-glazed ware, as well as fragments of glass vessels (Fig. 3.52).

Layer (3): 50 – 65 cm.

The third layer was a burnt layer that extends to a depth of 15 cm. A variety of pottery fragments were found in this layer, some of which indicate the effects of fire though it is not yet clear whether it was a cooking or a destruction fire. Although a small ash layer, it revealed richer finds, including a glass fragment and diagnostic potsherds. There were also bones and shells, as well as small smooth pebbles found in this layer but in fewer numbers than in the previous layer (Fig. 3.53).

Layer (4): 65 – 90 cm.

This lowest layer was characterised by sandy soil with a light yellowish-brown colour that continued to a depth of about 25 cm. large amounts of pottery were found which was more varied and diagnostic, especially in size and in quality, than those found in the previous layers (Fig. 3.54). A fragment of a glass vessel was also found. The number of bones and shells found in this layer was less and pebbles were absent. The excavation was completed after reaching the virgin soil, which was beach sand without any traces of human activity.

3.2.3.2..1 Ras Geriyah finds from test excavation (RG3) finds descriptions: (Table 3.6):

Table:3.6 Ras Geriyah - finds from test excavation (RG3)

Site name	Card no.	Layer Number	Group no.	Number of finds	Diagnostic find no.	Description	Proposed Date
Ras Geriyah (RG 3)	31	1	L/1/1	2		Two sherds of fine white paste. One is part of a handle of a jug or a jar. The other sherd is a body sherd of a wheel made vessel. Its surface is smoothed (Fig. 3.138).	
Ras Geriyah (RG 3)		1	L/1/1	1	RG3/L/1/1/ 49	A part of a jug or jar handle of fine white paste (Fig. 3.139), (Fig. 3.140).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	32	1	L/1/2	5		Five thin sherds made with fine white/green paste. They are wheel made, and they have different shapes. Their surfaces are wet self-smoothed (Fig. 3.141).	
Ras Geriyah (RG 3)		1	L/1/2	1	RG3/L/1/2/ 50	Part of a thin rim and body sherd of a bowl of white fine paste. The rim is thick with a pointed lip. Its surfaces smoothed (Fig. 3.142), (Fig. 3.143).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	33	1	L/1/3	4		A group of four wheel made sherds of medium fine paste. Three of them are rim sherds while the fourth is a base sherd (Fig. 3.144).	
Ras Geriyah (RG 3)		1	L/1/3	1	RG3/L/1/3/ 51	A wheel made rim sherd of a bowl. The paste is brown medium fine. The interior and exterior surfaces are white. The rim extends to the interior and has a flat lip (Fig. 3.145), (Fig. 3.146).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)		1	L/1/3	1	RG3/L/1/3/ 52	A weathered flat base sherd. The paste is fine (with no visible tempering material), with brown/red colour. The colour of the interior and exterior surfaces is grey/ black (Fig. 3.147), (Fig. 3.148).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	34	1	L/1/4	10		A collection of ten of wheel-made body sherds of medium fine white/grey paste. They are varied in thickness. Some sherds have remains of black bitumen on its interior surfaces which is well known on interior surfaces of early Abbasid water jars (Fig. 3.149).	
Ras Geriyah (RG 3)	35	1	L/1/5	11		A collection of eleven wheel made body sherds of medium fine paste. The sherds vary in thickness, and possibly in functions. Their colours also differ in colours from grey/black to brown/red. Some of the sherds are decorated with slightly incised lines (Fig. 3.150).	
Ras Geriyah (RG 3)		1	L/1/5	1	RG3/L/1/5/ 53	A wheel made body sherd of medium thickness, and of medium fine paste. The interior surfaces and paste are red while the exterior surface is grey/black. It has a slightly incised lines as a decoration from outside surface (Fig. 3.151), (Fig. 3.152).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)		1	L/1/5	1	RG3/L/1/5/ 54	A wheel made body sherd of medium thickness, and of medium fine paste. Their surfaces are smoothed. Its interior surfaces and the paste are red while the exterior surface is grey/black. This shard is decorated on its external surface with incised lines (Fig. 3.153,) (Fig. 3.154).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	36	1	L/1/6	15		A collection of fifteen wheel made body sherds of medium thick and coarse paste. Their surfaces are smoothed, and they range in colours between red and brown (Fig. 3.155).	

Ras Geriyah (RG 3)	37	1	L/1/7	6		A collection of six wheel made body sherds of medium coarse and medium thick paste. Their surfaces are smoothed. Their colours vary from red/brown to grey. Some sherds have remains of bitumen in the interior surfaces (Fig. 3.156).	
Ras Geriyah (RG 3)		1	L/1/7	1	RG3/L/1/7/55	A medium thick wheel made rim sherd of medium coarse paste. The colour of the paste and the Interior and exterior surfaces are red/grey. It is decorated finger impressions in the exterior surface (Fig. 3.157), (Fig. 3.158).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	38	1	L/1/8	6		A collection of six sherds of medium coarse and medium thick paste. Their surfaces are smoothed, and their colours ranges between red/brown and grey (Fig. 3.159).	
Ras Geriyah (RG 3)		1	L/1/8	1	RG3/L/1/8/56	A weathered rim sherd of wheel made of medium coarse. Its surfaces and paste are red in colour. The rim is vertical in shape with a pointed lip (Fig. 3.160), (Fig. 3.161).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	39	1	L/1/9	10		A collection of ten body sherds of medium coarse and medium thick paste. Their surfaces are smoothed. Their colours vary from red/brown, grey, and black. There are some remains of black bitumen can be seen on the interior surfaces of some sherds (Fig. 3.162).	
Ras Geriyah (RG 3)	40	1	L/1/10	6		A weathered collection of six wheel made body sherds of medium fine paste. Their surfaces are varying in colours between brown to red (Fig. 3.163).	
Ras Geriyah (RG 3)	41	1	L/1/11	2		Two marine shells with different sizes and shapes (Fig. 3.164).	
Ras Geriyah (RG 3)	42	2	L/2/1	14		A collection of fourteen body sherds of medium coarse and medium thick paste. Their surfaces are smoothed. Their colours vary from red/brown, to white, grey and black. Some of the sherds have traces of black spots from the uses on fire (Fig. 3.165).	
Ras Geriyah (RG 3)	43	2	L/2/2	2		Two flat base sherds of wheel made pottery. The first one on the left in below picture belongs to a medium thick vessel of a medium coarse paste. Its exterior and interior surfaces are coloured in grey/red and its paste is red. The second sherd on the right side of the picture is a glazed one belonging to celadon which is a well-known early and late Islamic ceramic (Fig. 3.166)	
Ras Geriyah (RG 3)		2	L/2/2	1	RG3/L/2/2/57	A flat wheel made glazed thick base sherd of a storage jar, of '*celadon*' with olive green layer of glaze on its exterior surface. It is made of fine reddish paste (Fig. 3.167), (Fig. 3.168).	dated to early Islamic 8^{th}-9^{th} A.D. based on personal communication with Elhassan
Ras Geriyah (RG 3)	44	2	L/2/3			Bone fragment.	
Ras Geriyah (RG 3)		2	L/2/3	1	RG3/L/2/3/58	A bone harpoon with a pointed head and polished surfaces. Possibly used for fishing (Fig. 3.169), (Fig 3.170).	Based on its association with the celadon potsherd it is dated to the same period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	45	2	L/2/4	1		Glass sherd.	

Ras Geriyah (RG 3)		2	L/2/4	1	RG3/L/2/4/59	A piece of a rim and body of a green glass bottle. The rim is vertical (Fig. 3.171), (Fig. 3.172).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	46	2	L/2/5	4		A collection of four wheel made sherds of medium coarse ware. Three rim sherds were part of cooking pots, and the fourth sherd was part of a jug with a remain of one handle. They vary in colour and thickness (Fig. 3.173).	
Ras Geriyah (RG 3)		2	L/2/5	1	RG3/L/2/5/60	A sherd of a cooking pot of medium coarse ware. Its surfaces and paste are black. The rim extends slightly to the outside. The surfaces are smoothed. The shoulder of the pot is decorated on the outside with two horizontal incised lines (Fig. 3.174), (Fig. 3.175).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)		2	L/2/5	1	RG3/L/2/5/61	A sherd of a wheel made of cooking pot of medium fine ware. Its surfaces are white/grey and paste in colour. It has a thick rim extends to the interior with a rounded lip (Fig. 3.176), (Fig. 3.177).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	47	2	L/2/6	9		A collection of nine wheel made body sherds of medium coarse ware. They vary in paste, colour and thickness and possibly functions. Some of the sherds show remains of black bitumen on its interior surfaces. This usage of bitumen on surfaces of storage jars is well known in early Islamic pottery. (Fig. 3.178).	
Ras Geriyah (RG 3)	48	2	L/2/7	9		A collection of nine wheel made body sherds of medium coarse ware. They vary in paste, thickness, colour, and possibly in functions. Two of the sherds have remnants of black bitumen on its interior surfaces (Fig. 3.179).	
Ras Geriyah (RG 3)	49	2	L/2/8	3		A collection of three wheel made body sherds of medium coarse ware. Their paste and surfaces are red. Their surfaces smoothed and had traces of the wheel in the interior surfaces (Fig. 3.180).	
Ras Geriyah (RG 3)	50	2	L/2/9	9		A collection of weathered nine wheel made body sherds of medium coarse ware. They vary in paste, thickness, and possibly in functions. Their colours vary from black to white/grey, and red. Some of the sherds have traces of black bitumen on their interior surfaces. One of the sherds has a hole that indicates evidence of old restoration or that the sherd is part of a strainer. Their surfaces are wet self-smoothed (Fig. 3.181).	
Ras Geriyah (RG 3)	51	2	L/2/10	6		A collection of six wheel made body sherds of medium coarse ware. They vary in paste, thickness, and possibly in functions. Their colour varieties from red to white/grey. Their surfaces are smoothed (Fig. 3.182).	
Ras Geriyah (RG 3)	52	2	L/2/11	5		A collection of a green glazed body sherd, a glass rim of pale blue/green bottle, and three pieces of a broken bones. The green glazed sherd made of medium thickness of white/pale yellow fine paste (Fig. 3.183).	
Ras Geriyah (RG 3)	53	2	L/2/12	1		Stone.	
Ras Geriyah (RG 3)		2	L/2/12	1	RG3/L/2/12/62	A small solid limestone with some traces of knapping in the middle. It was probably used as a hammer stone tool (Fig. 3.184).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	54	3	L/3/1				

Ras Geriyah (RG 3)		3	L/3/1	1	RG3/L/3/1/63	A sherd of rim and body of a wheel made jar. The paste is medium fine with smoothed surface. Its colour is white / grey in colour. It has thick vertical rim with a rounded lip. Also, it has a handle underneath the rim on the outside surface (Fig. 3.185), (Fig. 3.186).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	55	3	L/3/2	5		A collection of five wheel made sherds of medium coarse wares. The colour of three sherds is black, one sherd is red, and the last one is white/grey. They differ in shapes, paste, thickness, and possibly functions. Their surfaces are smoothed (Fig. 3.187).	
Ras Geriyah (RG 3)		3	L/3/2	1	RG3/L/3/2/64	A rim sherd of a small bowl. The rim is vertical. The paste is medium fine of grey/black colour (Fig. 3.188), (Fig. 3.189).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)		3	L/3/2	1	RG3/L/3/2/65	A sherd of flat base of with a remain of the wall of a green/ grey bowl. The paste is medium fine. The base is thicker than the wall (Fig. 3.190), (Fig. 3.191).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)		3	L/3/2	1	RG3/L/3/2/66	A broken red base sherd of a small bowl. The paste is medium fine. It has wheel traces on its interior surface. And the exterior surface show traces of red slip (Fig. 3.192), (Fig. 3.193).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	56	3	L/3/3	1		A volcanic black stone with traces of green copper scraps (Fig. 3.194).	
Ras Geriyah (RG 3)	57	3	L/3/4	21		A collection of twenty-one wheel made body sherds of medium coarse wares. They vary in paste, colours, and thickness. Also, they might have different functions. Their colours range between red to white/grey and black. Their surfaces are self-wet smoothed (Fig. 3.195).	
Ras Geriyah (RG 3)		3	L/3/4	1	RG3/L/3/4/67	A body sherd of medium fine paste. This sherd has grey/black colour, and its surfaces are smoothed. The holes indicates that the sherd was probably part of a strainer (Fig. 3.196), (Fig. 3.197).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)		3	L/3/4	1	RG3/L/3/4/68	A medium thick wheel made body sherd. The paste is medium fine. Its surfaces are smoothed. It has ribbing decoration on its exterior surface (Fig. 3.198), (Fig. 3.199).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)	58	3	L/3/5	16		A collection of sixteen wheel made body sherds of medium coarse wares. They differ in paste, and thickness, and possibly had different functions. Their colours also vary from red/brown to white/grey. Their surfaces are smoothed. Some sherds have traces of black bitumen on its interior surfaces (Fig. 3.200).	
Ras Geriyah (RG 3)	59	3	L/3/6	6		A collection of six wheel made body sherds of medium coarse wares. They vary in paste, thickness, and possibly had different functions. They have also different colours red/brown, white/grey, and black. Their surfaces are smoothed (Fig. 3.201).	
Ras Geriyah (RG 3)	60	3	L/3/7	1		A part of a base and wall of green glass vessel. The surfaces on both sides have sand remains. Its base has flat shape (Fig. 3.202).	
Ras Geriyah (RG 3)	61	4	L/4/1	1		A body sherd of a goblet (Fig. 3.203).	
Ras Geriyah (RG 3)		4	L/4/1	1	RG3/L/4/1/69	A part of wheel-made conical body sherd (of a goblet?), of medium coarse ware. Its surfaces and paste are brown. The exterior	Early Islamic period (ca. 8th-9th cent. A.D).

						surface is corroded, and the interior surface has traces of black bitumen (Fig. 3.204), (Fig. 3.205).	
Ras Geriyah (RG 3)	62	4	L/4/2	4		A collection of four wheel made rim sherds of medium coarse wares. They are different in their paste, colour, and thickness. They also may be had different functions. Three of these sherds' colours are white/grey, and one sherd is red. Their surfaces are smoothed (Fig. 3.206).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)		4	L/4/2	1	RG3/L/4/2/ 70	A sherd of thickened rim spreading outward with rounded lip. The paste is medium fine. The rim has medium thickness, and it seems to be part of a large bowl. Its paste and surface are made of white/grey colour. The surfaces are smoothed (Fig. 3.207), (Fig. 3.208).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)		4	L/4/2	1	RG3/L/4/2/ 71	A sherd of thickened rim protruding outward with a rounded lip. The paste is medium fine. The rim has medium thickness and it seems to be part of a big bowl. Its paste and surface are made of white/grey colour. The surfaces are smoothed (Fig. 3.209), (Fig. 3.210).	Early Islamic period (ca. 8th-9th cent. A.D).
Ras Geriyah (RG 3)		4	L/4/2	1	RG3/L/4/2/ 72	A thick sherd of a rim that is spreading outward with a rounded lip. The paste is medium fine. The rim has medium thickness. It seems to be part of a small bowl. Its paste and surface are made of white/grey colour. The surface is smoothed (Fig. 3.211), (Fig. 3.212).	
Ras Geriyah (RG 3)	63	4	L/4/3	5		A collection of five wheel made body sherds of medium fine wares. They vary in paste, colour, thickness and perhaps in their functions. These five sherds have different colours where three of the body sherds are black/dark grey, one sherd is white/grey, and the last sherd is brown. Their surfaces are wet self-smoothed (Fig. 3.213).	
Ras Geriyah (RG 3)	64	4	L/4/4	12		A collection of twelve wheel made body sherds of medium coarse wares. Their paste, colours and thickness are varied. And possibly could have different functions. The colours in this collection range from red/brown to white/grey and black. Their surfaces are wet self-smoothed (Fig. 3.214).	
Ras Geriyah (RG 3)	65	4	L/4/5	17		A collection of seventeen wheel made body sherds of medium coarse wares. They vary in paste, thickness and possibly had different functions. Their colours also range from red/brown to white/grey, and black. Their surfaces are smoothed (Fig. 3.215).	
Ras Geriyah (RG 3)	66	4	L/4/6	10		A collection of ten wheel made body sherds of medium coarse ware. They vary in paste, colours. They also possibly had different functions. Their colours range from white/green to red. And their surfaces are smoothed. Two of the sherds are decorated with slightly incised vertical lines on their exterior surfaces (Fig. 3.216).	
Ras Geriyah (RG 3)	67	4	L/4/7	15		A collection of fifteen wheel made body sherds of medium coarse ware. They differ in colours, which are range from red/brown to white/grey and black. Moreover, they vary in thickness and possibly functions. Their surfaces are smoothed (Fig. 3.217).	
Ras Geriyah (RG 3)	68	4	L/4/8	1		A fragment of a small soapstone vessel. Its interior surface is polished (Fig. 3.218).	

3.2.4 Tel al-Zayer (Thaj site):

Exploration was carried out to revisit this site for more data about its location and finds. More potsherds were collected from the surface for detailed analysis of the Hellenistic archaeological evidence in the area (Fig. 3.55).

3.2.4.1 Tell al-Zair-Thaj finds' descriptions (samples) (Table 3.7)

Table: 3.7 Tell al-Zair-Thaj

Site name	Card no.	Finding location	Group no.	Number of sherds	Diagnostic find no.	Description	Proposed Date
Tell al-Zair (Z1)	69	Surface	S/1	25		A collection of twenty-five wheel made sherds of varied shapes, function, thickness, pastes, and colours. Only seven sherds were chosen as sample sherds for more detailed study (Fig. 3.219).	
Tell al-Zair (Z1)		Surface	S/1	1	Z1/S/1/73	A part of complete wheel made small bowl. Its surfaces are eroded. It is made of medium coarse ware with wet self-smoothed surfaces. Its surfaces and paste are red. Its rim is folded vertically with a slightly rounded lip. Its base is unevenly flat (Fig. 3.220), (Fig. 3.221).	Hellenistic period.
Tell al-Zair (Z1)		Surface	S/1	1	Z1/S/1/74	A base of complete wheel made vessel with traces of trimming on its external surface. It is made of medium coarse ware with wet self-smoothed surfaces. Its internal and external surfaces are red/grey while its paste is dark grey. Its base is flat (Fig. 3.222), (Fig. 3.223).	Hellenistic period.
Tell al-Zair (Z1)		Surface	S/1	1	Z1/S/1/75	A wheel made rim sherd of a big bowl. It is made of medium coarse ware. Its surfaces and paste are red. Its surfaces are self-wet smoothed. Its rim is vertical with slightly flat lip. It is decorated on its external surface below the rim with deeply incised vertical hollow and with wide ribbing on the remaining external surface (Fig. 3.224), (Fig. 3.225).	Hellenistic period.
Tell al-Zair (Z1)		Surface	S/1	1	Z1/S/1/76	A wheel made rim sherd of a cooking pot of medium coarse ware. All surfaces and paste are red. Its surfaces are self-wet smoothed. The rim is vertical with slightly round lip and a short neck. It is decorated on its external surface on the rim and underneath it with deeply incised vertical parallel lines (Fig. 3.226), (Fig. 3.227).	Hellenistic period.
Tell al-Zair (Z1)		Surface	S/1	1	Z1/S/1/77	A wheel made rim sherd of possibly a small cooking pot, of medium fine ware. All its surfaces and paste are red. Its surfaces are self-wet smoothed. Its outside surface is mostly covered by salt. Its rim is vertical with slightly round lip and a short neck. It is decorated on its external surface on the shoulder and upper body with wide ribbing (Fig. 3.228), (Fig. 3.229).	Hellenistic period.
Tell al-Zair (Z1)		Surface	S/1	1	Z1/S/1/78	A wheel made rim sherd of a large storage jar of medium coarse ware. While its internal surface is dark grey, its external surface is covered with white slip. All Its surfaces are self-wet smoothed. It is decorated on its external surface with wide vertical hollows (Fig. 3.230, Fig. 3.231).	Hellenistic period.
Tell al-Zair (Z1)		Surface	S/1	1	Z1/S/1/79	A wheel made body sherd of medium size pot of white medium coarse ware. Its surfaces and paste are white. Its surfaces are self-wet smoothed. It is decorated on its external surface with finger and fingernail impressions (Fig. 3.232), (Fig. 3.233).	Hellenistic period.

3.3 Results analysis:

- Objectives and approach:

The major aim of studying artefacts was to establish a tentative date for the sites included in the survey. During the archaeological survey conducted by the writer many finds were documented on the surface and in test pits. All the surface finds were random samples collected after documentation in the field (note taking, photography and location). Additional finds were made during the test excavations undertaken by the writer. All finds from this archaeological survey were recorded and described in tables based on their provenance and are presented in the finds tables discussion above will only focus on some samples to evaluate the finds using a comparative approach. Most of the finds found during the survey were potsherds. A few were fragments of glass vessels, one bead and two stone artefacts, one a decorated soap stone fragment and the other a granite stone fragment. Other finds included a bone in the form of a tool that could be used to make fishing nets and several marine shells and remains of fish bones. To carry out preliminary study of these finds they were classified according to the record cards designed by the writer. Each group of finds was then photographed, sorted and then each diagnostic find was studied in more detail (individual record cards). Each diagnostic find was then photographed, drawn and studied. Due to the fragmentary nature of the pottery, the typology is based on the classification of rims, bases and body sherd types. The analysis of the individual potsherds focused on the identification of the fabric, morphology, type of firing, surface finish, texture and colour of the wares. The temper and texture of the fabric were observed with the use of a hand lens of 10X1 magnification. I used these characters of the pot sherds in the compression approach to compare their similarities with those of Hellenistic aspects were discovered in Kuwait, Bahrain, and

Saudi Arabia especially those known as Thaj type.

- Relative and tentative dating of the corpus of finds found during the archaeological survey:

Limitations:

Samples of potsherds were collected during the survey from both surface and test pits, but the majority were from the surface. However, during the process of analysing the archaeological finds, we encountered some obstacles that reduced the significance of the discoveries for more accurate dating of the study area. First, the size of these samples did not help us to classify these sherds into types. Second, the surface potsherds usually provided limited information. Third, most of the sherds that were collected were body sherds which also provide limited information. Fourth, some of the sherds that were selected as diagnostic have no known parallels. Fifth, there were some local variations which affected the sample, such as most of the potsherds from the surface were eroded, as a result of natural factors. There were only a small number of finds on the surface of the burial mounds as a result of looting.

In general, the pottery corpus under study can be classified into two groups: plain wares and glazed wares. Plain ware was found at all the sites from both surface collection and test pits). Glazed wares which were fewer in number were found only at Ras Geriyah from both surface collection and test pits.

Reliability:

Our survey data is satisfactory for dating even though the evidence is limited. A reason for the reliability of our pottery survey data is that some from the test pits could be associated with other finds discovered in our test pits such as the sherd of ‘Celadon Ware’ found in the Ras Geriyah test pit which helps to date the site to the Islamic period.

In the same way we confirmed the existence of a pre-Hellenistic occupation level at the Inland Fort in Geriyah. However, the absence of imported Attic ware such as had been found in Thaj, Failaka, and city V in Qala'at al-Bahrain affected the accuracy of dating of the Hellenistic pottery corpus of the survey. The dates for our finds from the survey were based mostly on comparisons with published reports on pottery and other finds found during previous surveys and excavations in north-eastern Arabia especially those at the same study sites and in south central Arabia.

Archaeological studies, either through excavations or survey in East and Central Arabia have produced information about some sites belonging to the Hellenistic period. However, it is important to remember that the archaeology of this period has only begun to be studied in recent years. The comparisons rely only on a few scientifically excavated sites such as Geriyah (Bibby 1973), Failaka (Hannestad 1983), Qala'at al-Bahrain (Hojlund and Andersen 1994), Thaj (Bibby 1973, and other excavation reports published in the Saudi Journal ATLAL), and al-Faw (al-Ansary et al. 2019). Other information came from studies of limited surface finds from Kanzan and Geriyah (Burkholder 1984; Lombard 1988; Potts 1992, …etc). Most of the Hellenistic material which was found at sites in North-East Arabia could be dated to the Hellenistic period from the 3rd to the 1st century BC. Comparisons were made with major sites where Hellenistic influences had already been identified in Eastern Arabia such as Thaj, Failaka, Qala'at al-Bahrain and al-Faw in south central Arabia. Finally, our finds from Ras Geriyah were compared with other studies such as (Whitcomb et al. 1978); Kennet 2004; and al-Thenyian 2006), to date the finds to the Islamic period, on the basis of comparison with the finds of a similar era that have been discovered at several Islamic sites across Arabia such as al-Hasa, Rabadhah, and Mabiyyat etc…

3.3.1 Kanzan area: (K. 1 and K. 2)

Pottery: (Fig. 3.56)
Plain ware:

All the pottery from this site was from surface collections and is fragmentary. The first sample from Jabal Kanzan included four body-sherds and a rim-sherd decorated with a black line, on the outside, underneath the rim. The second sample is from the residential area of Kanzan and included five body-sherds and a handle. The body-sherds had broad ribbing on their exterior surfaces.

3.3.1.1 Kanzan finds (samples): Comparison and relative dating:

There were some difficulties in comparing Kanzan potsherd samples with Hellenistic pottery types from Thaj, Qala'at al-Bahrain and Failaka due to the small size and fragmentary nature of our sample. However, like Thaj pottery types, the wares of Kanzan samples (Fig. 3.56) are all wheel-made, well-fired and hard. The red and black wares are similar to Thaj types especially the pottery bowls from the Tel al-Zayer mound. However, the most common fine red thin ware of the Thaj bowl types is absent from our potsherd samples from Kanzan. Also, we did not find any glazed wares, and the common incised decorative style of zigzag or straight lines which is usually found on bowls and jars at Thaj is absent. The survey samples from Kanzan show similarity to the description of Thaj wares that was made by Gazdar et al. (1984). However, Burkholder (1984) dated Kanzan pottery earlier than that from Thaj. Finds from Jabal Kanzan are also associated with the Hellenistic coins which were found at the same site and studied by Potts (2018).

3.3.2 Geriyah area:

Pottery:
Fine ware (local):

Samples collected from the surface of some of the disturbed burial mounds were spread as the result of looting. These sherds match the pottery from the Inland Fort.

3.3.2.1 Geriyah finds (samples): Comparison and relative dating:

This site has already investigated by several scholars such as Bibby (1973); Golding (1974); Burkholder (1984); Lombard (1988). Although all of them agreed that some finds could be dated to the Hellenistic period as they showed some parallels with Thaj finds, some of them argue that there is evidence dating this site back to the earlier periods of the Neo-Assyrian and Neo-Babylonian eras. Lombard (1988) summarises most of the finds of pre-Hellenistic date collected from the surface at Geriyah in a table (Lombard 1988, Fig. 4 pp. 122-123). The table includes various types of finds such as: 1- Cylinder-seals one of which (marked as Cylinder-seal number 7) Lombard dated to the 8th century BC (Lombard 1988, fig. 8, p. 126); 2- Bowl of 'olive-green ware' which Lombard agrees with Burkholder (1984) should be dated earlier than the Hellenistic period and he compared it to the snake-bowl series found in the pre-Hellenistic layer (City-IV) at Qala'at al-Bahrain. Although, these and other pre-Hellenistic finds in Lombard's table are very important archaeological evidence, detailed discussion is reserved to the next chapter, in relation to the timeline of Geriyah. Here the Hellenistic evidence from Geriyah is more important as it provides the dating parallels to support the Hellenistic finds in this survey. For example, Lombard mentioned two silver tetradrachms found in Geriyah which are very important for our dating. As this survey documented mostly potsherds, the most important comparative evidence for a date in the Hellenistic period is the results of the Danish survey published in Bibby (1973), and pottery finds from other excavations at Thaj. However, to check our results, the survey expanded the geographic study area to visit Tel al-Zayer at Thaj to collect some samples from the burial

mound where other Hellenistic objects had been found, such as the gold finds that was discussed in Chapter 1. Similarities between Geriyah potsherds (Fig. 3.61), (Fig. 3.64), (Fig. 3.68), (Fig. 3.84), (Fig. 3.88) and the Thaj types were demonstrated by comparison with the samples collected from Tel al-Zayer (Fig. 3.219).

3.3.3 Ras Geriyah :

3.3.3.1 Ras Geriyah finds (samples): Comparison and relative dating:

Other sherds of plain ware and glazed sherds similar in fabric, shape and decoration to our finds, date to the early Islamic period (8^{th}-9^{th} centuries AD). This dating of our finds from this site is firstly based on the well-known Islamic 'Celadon' ware (Fig. 3.166) imported from China which was found in the second layer of our test pit. The finds discovered at this site relate to those discovered in other Islamic sites in the United Emirates (Kennet 2004), Bahrain (Kervran et al. 1982; Larsen 1983) and Saudi Arabia (al-Thenyian 2006). al-Hasa Islamic pottery discovered by Whitcomb et al. (1978) is the nearest parallel to our pottery. However, as the Celadon base fragment was the key find that dated this site to the Islamic period, I am including as parallels only the Celadon finds from the region. For example, Celadon potsherds of the middle and late Islamic period were found in many sites in Saudi Arabia such as at al-Hasa at sites 3 and 18 (Whitcomb et al. 1978, Pl.84, nos. 39-40), and at al-Sireen in Tihama (al-Thenyian 2006 table no. 8, p.201).

3.3.4 Tel al-Zayer

Pottery: (surface potsherds):

The samples (Fig. 3.219) were collected from the burial area. It is dated to the Hellenistic period based on previous study in the area (see the table of finds: (al-Hashash et al. 2005). The collections under study were potsherds from bowls, cups, and handles.

These are mainly of well-fired red, black, and grey wares. There is no imported Hellenistic black glazed pottery.

3.3.4.1 Tel al-Zayer finds (samples): Comparison and relative dating:

Based on the above description of the samples and comparison with previous fieldwork on the site, the material under study probably dates to the Hellenistic period, as that found by al-Hashash et al. (2001: 23-26; 2005: 58).

Conclusions of the archaeological survey:

The sites documented in our survey showed widespread archaeological remains in the study area. The variety of the evidence revealed different human activities which are represented at archaeological sites. These sites, moreover, vary in their chronology as some of them, like Geriyah witnessed pre-Hellenistic and Hellenistic periods, Kanzan, like Tel al-Zayer, both date to the Hellenistic era while some of them like Ras Geriyah date to the Islamic period.

4 Fieldwork Part 2: Museum collection

Introduction

The second part of my fieldwork, moreover, was supplemented by museum visits to re-examine some finds already collected from Thaj and in Burkholder's collection. The collections chosen for study were based on the labels accompanying each find, especially those labelled as Hellenistic which were mostly pottery. The finds studied here are in three museums in different cities in Saudi Arabia, the National Museum in Riyadh, the al-Hofuf Museum in al-Hasa and Dammam and the artefacts stored at the archaeological site of Thaj because there is no regional museum at present.

Therefore, this chapter will review the report of the museum collections from Thaj and Burkholder's collection, review the results and the descriptions, and the last sections will be the interpretation.

Objectives:

Reclassify museum collection was to register and present some of the artefacts that have been left on the storeroom shelves for very long time. Thus, studying the artefacts has added more archaeological evidence related to the Hellenistic period to answer my research questions, and to present more data to other researchers. And, to locate the origin of some of the collections of returned artefacts which are mostly described as discovered in 'the Eastern province of Saudi Arabia' without any other information. The survey also aimed to investigate the dates given to these returned artefacts, and to present more information about the returned museum finds in order to understand their history and context, because most of it was never published and some only published in catalogues.

The finds had been collected from two collections: 1- artefacts from Thaj

discovered by several archaeological missions during the last 40 years by the Saudi archaeological department team and stored in the three museums mentioned above. 2- The finds that have been returned to Saudi Arabia recently by Grace Burkholder. The following will discuss each collection separately.

4.1 Thaj Museum collection:

I have already pointed out in Chapter 2 some historical and archaeological information which reflected the importance of Thaj based on the Hellenistic influence which is apparent from its archaeological evidence. Although researchers studied some of the artefacts from Thaj, many of the finds from this site were only registered and then placed in storage. The excavators who discovered these artefacts achieved a great deal considering the vast size of the archaeological site of Thaj and its enormous number of archaeological finds. Alongside my fieldwork I recorded pottery wares from the stored Thaj artefacts. This study uses the museums registration numbers to identify each artefact. Moreover, some of the technical descriptions and the dates were provided in the information from the registration cards which were kept with these artefacts. All the dating previously assigned has been reviewed.

4.1.1 Thaj Museum artefacts descriptions: (Table 4.1)

Table: 4.1 Thaj- Museums revisiting samples

This Table no.	Saudi Archaeological Registration Number	Hight (cm.)	Width (mm.)	Rim diameter (cm.)	Base diameter (cm.)	Description	Proposed Date
1	2/162	4.5	-	11.5	4	Small bowl made of red pottery, missing part of the rim and the body. It has a small base, and the body extends to the top where it ends with a straight lip (Fig. 4.1).	Between 3rd century BC - 2nd century AD.
2	783	3	3	10	4.5	A small bowl of red pottery painted from the outside with a cream layer. The base is unlevelled, and the body expands to the top where it ends with a wide-angle rim (Fig. 4.2).	Between 3rd century BC - 2nd century AD.
3	26	4.2	4	10.5	4.8	A small bowl was missing part made of coarse black pottery. It has a wide inverted edge, and dipped base (Fig. 4.3).	Between 3rd century BC - 2nd century AD.

4	25	4	4	12	5	A small bowl was missing a part made of red pottery and greased with a creamy slip. It has a flat base and the body to the top and ends with a wide-angle rim where its lib bows slightly to the inside (Fig. 4.4).	Between 3rd century BC - 2nd century AD.
5	1/164	**6.5**	-	-	**4.5**	Part of grey pottery small bowl still has its small round base and section of the body and the rim. The part of the rim has flaring shaped lib (Fig. 4.5).	Hellenistic period.
6	1043	6	-	17	5	A small bowl of red pottery painted in red with a flattened shape. It has a small base, and the body extends to the top where it ends with a straight edge. In the inner layer, there are three black colour painting as decorations one of them like the letter "S" (Fig. 4.6).	Between 3rd century BC - 2nd century AD.
7	2/163	6	-	16	5	A bowl made of red pottery decorated in its upper part in the shape of incised decorations with a cream coating. Three cusps formed the base as the foot of the vessel (Fig. 4.7).	Hellenistic period.
8	2/165 & 2/166	-	-	-	-	Two parts of the same red pottery bowl. It decorated in the edge of the outside surface of the rim by white colour zigzag shaped, while it is painted from the inside the rim with red colour. The rest of the inner side of the bowl decorated with pink undertone. One of these parts 2/166 still has the half of the base (Fig. 4.8).	Hellenistic period.
9	5	7.5	9	20	5.5	A bowl of red pottery painted in cream colour, the base bearing a conical body with a prominent outward appearance (restored) (Fig. 4.9).	Between 3rd century BC - 2nd century AD.
10	7	6.5	-	14.5	3	A Bowl of red pottery with conical shaped. Some parts are broken from the rim and the body. It has a small base. The body has a ribbing decorated and a wide-angle rim which has a slightly inverted lip (Fig. 4.10).	Between 3rd century BC - 2nd century AD.
11	2/155	-	-	12	1	A thin grey pottery bowl with V-shaped form, it is missing parts of the rim and the body. It has a small base and a wide-angle rim with an inverted lip (Fig. 4.11).	Hellenistic period.
12	2/160	17	-	27	8	A relatively large cooking pot made of red pottery and painted from the outside in the upper half in cream paint. Its base is flat, and the edge is straight (Fig. 4.12).	Hellenistic period.
13	1073	13	1.5	19	-	Medium-sized pottery cooking pot made of red pottery and slipped from the middle to the upper part of the exterior in cream slip. Its base is dipped, and the rim is inverted (Fig. 4.13).	Between 3rd century BC - 3rd century AD.
14	130	16	-	17	-	A medium cooking pot made of yellow pottery. It is characterised by its wide ribbed body, which is also observed on it calcareous remains in both surfaces the outside and the inside of the vessel. It had a dipped base and thick flaring rim (Fig. 4.14).	Between 3rd century BC - 3rd century AD.
15	2/172	17	-	25	-	A medium cooking pot made of red pottery. It has some cracks in the middle of the body. The base is dipped, and the lip is flaring outside (Fig. 4.15).	Between 3rd century BC - 3rd century AD.

16	1045	12.5	4	12	5	A two handled red pottery small jar. It has ledge handles, and the small part that remains of the rim reveals that it had a flaring rim formed. The base is small and flat (Fig. 4.16).	Between 3rd century BC - 3rd century AD.
17	2/167	7.5	6.5	-	3	A small jar made of red pottery broken parts of the rim and neck. The remaining part of the rim formed in a flaring shape. The body is Carinated, and the base is flat (Fig. 4.17).	Between 3rd century BC - 3rd century AD.
18	915	-	5	-	-	Part of the base and body of an Attic pottery ware glazed with a black layer inside and out (Fig. 4.18).	Hellenistic period.
19	2/179, 2/180, 2/184, 2/186, 2/187, 2/ 191, 2/192, 2/194, 2/196, 2/198, 2/199, and 2/200.	-	-	-	-	Attic potsherds were gathered of different vessels. Some of these Attic sherds is part of the rim and part of the body. And other sherds are parts of Attic bases. There are also sherds as parts of vessels body (Fig. 4.19).	Hellenistic period.
20	1056	10	8	3.5	-	The remains of the upper part of a small vessel of golden/hazel glazed pottery with appears of the rim and the neck, and two handles are connected by the neck and from the other end by the remains of the body (Fig. 4.20).	Between 3rd century BC - 3rd century AD.

4.2 Grace Burkholder museum collection:

The Saudi Commission for Tourism and National Heritage (SCTH) -the name changed to Heritage Commission- put on in 2012 an exhibition that displayed hundreds of artefacts voluntarily returned to Saudi Arabia from USA, UK, France …etc. The exhibition aimed to encourage people in or outside Saudi Arabia to return any other artefacts that have been taken from archaeological sites in the country. SCTH also published a catalogue of these returned artefacts with a 'list of honour' containing the names of the people who returned them. Grace Burkholder was one of those people who has a chapter in that catalogue illustrating some of the artefacts that she returned to the National Museum in Riyadh (SCTH 2012). Some of the artifacts she returned were dated broadly between the 3rd century BC and the 3rd century AD and from the Eastern Province of Saudi Arabia which is a very large region where there are many archaeological sites. Therefore, I decided to investigate these returned artefacts, not only to correct any incomplete information but also because of its significant relation to my study area and the period covered by this research. I asked specialists in the National Museum who

participated in writing this catalogue what their reasoning was for their description of the date and provenance of these artefacts. They told me that their information was based on the small amount of information that was associated with each object. They added that Grace Burkholder collected artefacts from many locations in the Eastern Province and handed them over without any information regarding which archaeological site they came from. However, in my investigation, I found that Grace Burkholder wrote a book "An Arabian collection: Artefacts from the Eastern Province" (Burkholder, 1984) which provided more information about these returned artefacts, information that the specialists in the National Museum failed to include in the catalogue. Her book helped me not only to narrow down my investigation about the location and date of these artefacts, which I selected from the catalogue for study, but provided very important archaeological evidence for my study from 'Tarut Island', an important archaeological region which has received very little attention.

4.2.1 Burkholder museum artefacts descriptions: (Table 4.2)

Table :4.2 Burkholder's restored collection- Museum revisiting samples

This Table no.	Saudi Archaeological Registration Number	Hight (cm.)	Width (mm.)	Rim diameter (cm.)	Base diameter (cm.)	Description	Proposed Date
1	1291	28	-	4	12	A golden glazed jug, with a circular base, a bulging body in the centre, and a long neck that ends with a rim flaring to the outside. At the top of the body is a handle that connects to the neck with the bulging middle of the jug (Fig. 4.21).	Hellenistic period.
2	1292	24	-	3.5	8.5	A jug of buff/cream paste slipped with brown colour. It has a circular base, a spherical body and a long neck that ends with a flaring rim. It has one handle that connects the body to the top of the neck. It has an incised decoration underneath the rim shaped in horizon lines (Fig. 4.22).	Hellenistic period.
3	1293	15	-	7.5	6.5	A golden/copper glazed two handled jar of cream paste. it has a ring base with circular bulb shaped body and two small handles. It has a flared rim shaped with two circule lips (Fig. 4.23).	Hellenistic period.

4	2108	25	-	7.5	5	A two handled jar of yellow/buff paste slipped with a greenish-golden colour glaze. It has a ring base and two handles where it attached to a decoration with horizon rows incised on the shoulder. It has a broken rim which appeared to have a thick outward lip (Fig. 4.24).	Hellenistic period.
5	1295	7	-	35.5	12	A large flat plate of buff /cream paste with glazed with copper-colour. incised its inner centre surfaces forming its base. And it also has incised on both sides of its edge/lib and painted with a black circular line colour (Fig. 4.25).	Hellenistic period.
6	1294	5.5	-	12	-	A Bowl of cream pottery that glazed with golden/copper colour. It has a circular base and a body that widens upward where it ends with a wide rim with a lip that turns outward. Decorated with incised appears in its centre as a circular that surrounds the body horizontally (Fig. 4.26).	Hellenistic period.
7	269	10	-	19	-	A bowl of yellow /cream paste glazed with golden/copper colour. It has a flat base and a body that widens upward ends with circle incised decorated underneath its rim (Fig. 4.27).	Hellenistic period.
8	258	9.5	-	18	-	A bowl of pink / red pottery, slipped in a white/grey colour, with a spherical shape. It has a flat base with a wide body that ends with wide-angle rim where its lib leans slightly inward (Fig. 4.28).	Hellenistic period.

4.3 Results analysis:

- Objectives and approach:

It was imperative to add these artefacts museum collections to present more archaeological data relating to the Hellenistic periods at the study area. However, some of the dates or locations of these artefacts need to be re-examined for more accurate information. However, I use comparison approach to investigate samples of Thaj's collections to other finds from Thaj presented in chapter 2 in this research or in other previous studies. Moreover, I add more information to some of Burkholder's collections from other studies and also use comparison approach to evaluate some of these artifacts.

- Relative and tentative dating of the museum collections:

Limitations:

Although dates for the two groups selected here from Thaj and from Burkholder's collection have already been suggested in other studies, it is difficult to rely on these studies entirely as there are some limitations about provenance in both groups. Firstly, although the selection of Thaj pottery in the museum was unearthed in formal archaeological missions, there is information missing on some of the registration cards such as the date of the excavation season. These errors affect the reliability of linking them either to an archaeological layer or even to the location of discovery. There were several excavation missions, not only at different times but in different locations within the same site, some conducted in residential areas while others focused on tombs. Perhaps these errors have no major impact on the accuracy of the dating as Thaj is dated to a single era, the Hellenistic, yet it caused some limitation in understanding the real function of each artefact. In my opinion, the distribution of the finds from Thaj between three museums in three different cities caused an improper recording of these artefacts. The archaeologists were not able to store their finds in one place because there was no local museum near the archaeological site of Thaj.

I confronted other obstacles with the second museum selection from Burkholder's collection, even though her book helped in establishing the provenance of these artefacts as Tarut and solved the issue of the generalised description by the authors of the catalogue who described the provenance of Burkholder's collection as the whole Eastern Province of Saudi Arabia. Burkholder, however, did not systematically point out how and where she discovered these artefacts. She only described her methods of finding these artefacts - "...[they] keep turning up on Tarut as today's gardeners cultivate and expand their gardens… (Burkholder, 1984. p.23)." We believe the information of how she got these

artefacts, is factually untrue; the discovery of such complete undamaged artefacts by farmers is improbable.

Reliability:

Despite the abovementioned obstacles, the material selected from the Thaj and Burkholder collections in the museums is still unquestionably very useful as it has already been studied and published in part by experts such as Gazdar, Potts, and Livingstone (1984) in their excavation report (Gazder et al. 1984). The accuracy of the date for the Thaj pottery vessels is reliable as it arises from excavation at a well-known settlement where archaeologists have already classified the pottery as a standard type of Hellenistic date for use in comparison with pottery discovered at other sites in the region. Although Burkholder's work is missing references to precise provenances for the finds, it still provided very significant information, especially in linking the Hellenistic artefacts from Tarut Island with similar evidence from nearby Hellenistic sites.

4.3.1 Thaj museum collection: samples for comparison and relative dating:

In these selections the pottery was mostly plain wares with several examples of black glazed wares including Attic fragments. The small bowls from Thaj such as the examples selected here (Fig. 4.1, Fig. 4.2, Fig. 4.3 and Fig. 4.4) were distinctive and classified by archaeologists such as Bibby (1973); Potts et al. (1983); Gazdar et al. (1984), Eskoubi (1985)…etc. Bibby (1973) classified them as Thaj type 8 and described their function as ritual offering bowls.

As previously mentioned, Thaj pottery whose chronology was already known became the standard type used for comparison with pottery wares from Hellenistic sites in the region (cf. Bibby 1973, Gazder et al. 1984, Potts 1993…etc). An attempt will not be made to re-date it here, but we will summarise the most frequent styles of the pottery

and its equivalents and similarities in neighbouring Hellenistic sites.

However, it is noticed that there are different classifications suggested scholars such as Bibby (1973) who only included one type in his study (type 3) such as the ones selected here in figures: (Fig. 4.10), and (Fig. 4.11), while Eskoubi & Abu al-Alia (1985) added other pottery types presented here in figures: (Fig. 4.1), (Fig. 4.2), (Fig. 4.3), and (Fig. 4.4). Bibby (1973) supported his conclusion by comparing his discovery with 'snake offering' bowls found in the Neo-Babylonian layer at Qala'at al-Bahrain. However, Eskoubi & Abu al-Alia (1985) offer no explanation for their classification which, I think, was driven only by the quantity of the other type to be included in this category which they called 'Sacrificial Dishes.' Although Bibby found his examples in a context which might suggest religious ritual, neither of these teams of archaeologists have definitive evidence, since no temple has been found at Thaj to date. These vessels were not only found in burial mounds but also in domestic contexts. This argument about the function of these vessels does not change the fact that this type of small bowl was discovered in Thaj is dated to Hellenistic period.

In our visit to the ancient site of Thaj during the survey I met Dr Jérôme Rohmer - the director of the ongoing archaeological project at Thaj- who kindly gave a brief account of their discoveries. However, in our discussion about the chronology of Thaj in general and specifically regarding the discoveries from Tel al-Zayer Dr Jérôme said he considers that this burial mound dates to the 4th century AD. In addition, he said that the 'black glazed Attic ware' discovered at Thaj was only an imitation imported from the Levant. When I returned from my fieldwork, I did more investigation into this claim and search for more information about a significant black glazed Attic sherd registered in al-Hofuf museum under no. 2/186 and pictured here with a group of other discovered black

glazed Attic sherds (Fig. 4.19). Although there are many other scholars such as Bibby (1973), Gazdar et al. (1984), and Potts (1993) who had already demonstrated that these sherds were genuine Attic Greek, and the finds from Tel al-Zayer discussed in chapter 2 are without doubt of Hellenistic origin, it is important to add more dating evidence to support our point. I did a search for a comparative example to the potsherd no. 2/186 (Fig. 4.19) to examine its date, and luckily, I found a close parallel from the early Tylos layers (City V a-b) at Qala'at al-Bahrain (Hojlund & Anderson 1997, figs: 878 1:2 & 880 1:2, p.212). However, as mentioned above Thaj pottery finds have already been studied and dated to the Hellenistic period based on parallels found at Failaka and Qala'at al-Bahrain. Therefore, Dr Jérôme's theory was not accurate as the identical parallels I found proof that these attic sherds that found in Thaj were genuine imported, and they belonged to the Hellenistic era, and dated earlier than the 4th century AD as Dr Jérôme proposed. I have provided this information to assist future researchers and highlight some issues that appeared in previous studies.

4.3.2 Burkholder museum collection: samples for comparison and relative dating:

Even though Burkholder dated these pottery wares based on comparisons with Hellenistic parallels from a well-known Hellenistic site in the region such as city V at Qala'at al-Bahrain, as mentioned above, she missed the opportunity to provide crucial information about how or where she found these artefacts on Tarut Island. Therefore, to solve this issue we searched several reports and found more persuasive information provided by Potts (1992) and Bibby (1973) about some of these artefacts that Burkholder said had come from farmers. First, Potts (1992) mentioned a Hellenistic mound near the old fort

on the coast that had been used as a necropolis. He said that some of these graves were built the same way as those discovered at Janussan in Bahrain. Potts (1992) cites in his note that one of the mounds has some pieces of broken coffins on the top broken coffins (Potts, 1992, p. 51). He explains that this site dates to the Hellenistic period based on the two pieces of evidence that were discovered at the site, a small funerary stele and black glazed fish plates (Potts, 1992, p. 52). The funerary stele's number is 1289 (Fig. 4.29), and the number of one of the black glazed fish plates is 1295 (Fig. 4.25). Both are listed as artefacts returned by Burkholder in the catalogue. Furthermore, Bibby (1973) provided more information in the Danish report that could help to locate potential sites as provenance for Burkholder's finds on Tarut Island. Bibby listed three sites on Tarut Island and named each after the village nearest to it. 1- Tarut town, where the survey found that Tarut Fort had a 16th century AD castle built on the remains of a settlement of long duration. Some of its structure can be seen under the fort's walls. 2- al-Rafi'ah which is located 1.5 km south-east of Tarut town. The name al-Rafi'ah was given by Bibby (1973:31) for the necropolis mound that Potts described (above). 3- Fariq al-Akhrash located 1.5 kilometres north of Tarut town (Bibby, 1973:35). Although Bibby (1973) mentioned that there were some irrigation ditches cutting into the surface of the site at Fariq al-Akhrash where pottery can be seen, he states even though no burial was discovered that 'the completeness of the vessels on discovery must presuppose that they derive from burials' (Bibby, 1973:35). Again, Bibby located other finds listed under Burkholder's collection such as number 1292 (Fig. 4.22) from Fariq al-Akhrash which Bibby described in the Danish report (Bibby 1973, fig.32.a, p.36). Therefore, the information from both archaeologists, Potts and Bibby, confirms that Burkholder's collection from Tarut could only come from the two Hellenistic mounds al-Rafi'ah and

Fariq al-Akhrash as both scholars provided an exact location for some of Burkholder's artefacts. Moreover, Bibby's opinion was based on the condition of the whole vessels that were discovered in Tarut as it was not possible for them to have been unearthed accidentally by farmers. They must have been found through careful but illicit digging or in opening a closed structure such as the broken coffins found in al-Rafi'ah site.

Conclusions

This chapter helps me and other researchers to fill some missing information, some artefacts especially the location of the artefacts that collected by Grace Burkholder. Moreover, it provides more archaeological evidence from Thaj. All these artefacts study in this chapter were evaluated for more accurate dating. Again, this part of the fieldwork will also make these artefacts available to future studies.

5 The economy of the Arabian Peninsula during the Hellenistic period

Introduction

The archaeological evidence that we reviewed in the previous chapters is proof of the importance of north-east Arabia during the first millennium BC. This archaeological evidence reflected a strong relationship between the Arabian Peninsula and its neighbouring civilisations especially in respect of commercial activities. However, this trade relationship was stronger during the Hellenistic period, even though the Greeks were not able to conquer the Arabian Peninsula. These Hellenistic trade contacts were also attested at the sites, the archaeological evidence for which was discussed in Chapter 2. While the archaeological evidence from Failaka in Kuwait and Qala'at al-Bahrain revealed continuity of settlement during the pre-Hellenistic era, the sites in this study in the Saudi Arabia such as Thaj and Qaryat al-Faw came into being in the Hellenistic era with the exception of the site of Geriyah where there were earlier finds (cf. chapter 2 in this research). However, to understand the Hellenistic impact on the Arabian economy, I will first review the economic development in Arabia before the Hellenistic era and before the events relating to the conquests of Alexander the Great and its economic impact on the developments in Arabia.

5.1 Arabian Trade History

Although some information was mentioned, in Chapter 1, about the importance of the Arabian Peninsula with reference to its location and role in ancient trade and the Arab control of the trade routes, it is important to review aspects of the history of trade in

more detail in order to understand the motives that attracted major civilisations to try and exploit Arabian trade. These attempts were partially successful in conquering some parts of Arabia or creating alliances with the Arabs.

5.1.1 Arabian Gulf and Seafaring

According to Bin Seray (1993), the interest in maritime trade via the Arabian Gulf began early in the third and second millennia BC. The Sumerians then the Babylonians controlled seaborne trade passing through the "Lower Sea" of the Arabian Gulf, where their ships transported goods to the Gulf of Oman and the Arabian Sea, and from there to the Red Sea. This maritime trade contributed to the prosperity of the Eastern Arabian regions as at Dilmun, Meluhha, and Magan (Bin Seray 1993, p.26).

Likewise, in the 1st millennium BC the Neo-Assyrian kings continued to maintain the seafaring routes especially via the Arabian Gulf (Hourani, 1951). However, the northeast region of the Arabian Peninsula and the Gulf experienced a period of instability and became a field of conflict between the Assyrians and the Chaldeans (al-Bader, 1978). After the Neo-Babylonians became dominant, maritime trade returned to stability and prosperity.

During the time of Nebuchadnezzar II, the city of Teredon was built as a port and commercial centre west of the Euphrates, supporting the commerce between Mesopotamia and India through the Persian Gulf, through Dilmun, Meluhha, and Magan (Wilson 1928, p.33). al-Bader (1978:93) thinks that this maritime trade in the Persian Gulf continued during the period of the Achaemenid Empire's domination of the ancient Near East. He adds that the archaeological evidence discovered at several sites in the area which date to the Achaemenid period reflect the continued economic improvement in the

region. However, during the Achaemenid conflict with the Greeks, merchants were satisfied with transporting goods to Mesopotamia and the east of the Arabian Peninsula from the Red Sea using the Inland routes (Periplus 27–28) (al-Badar, 1978, p.106).

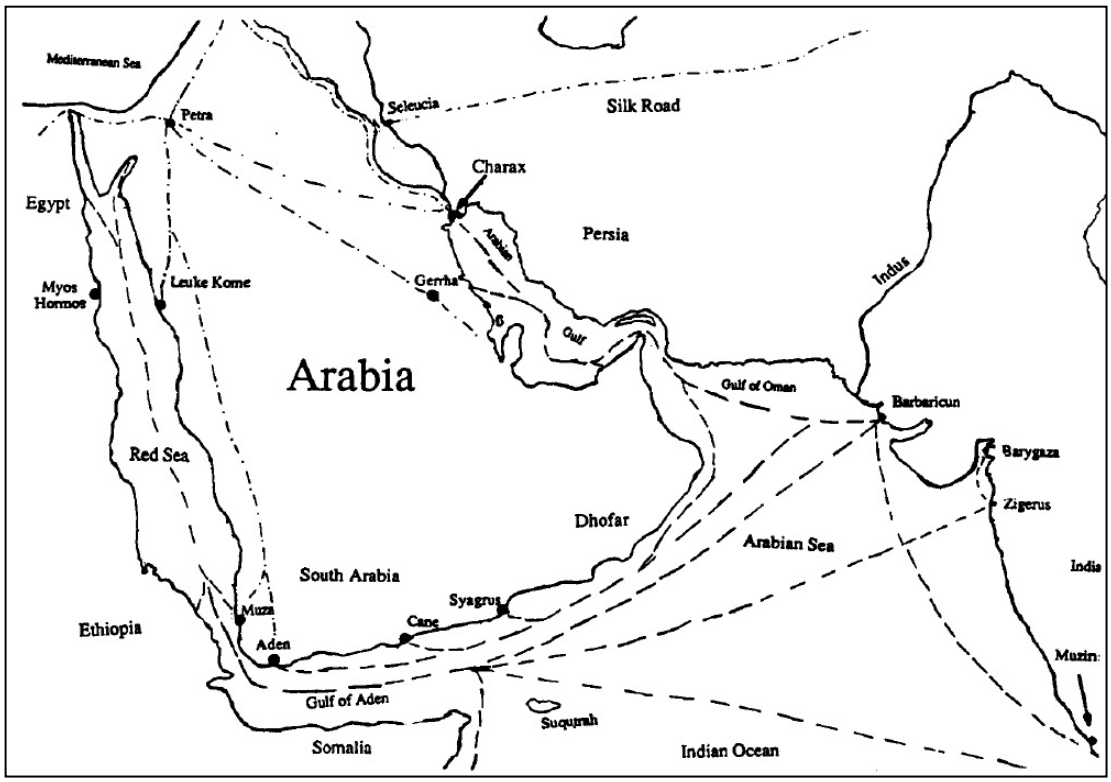
5.1.2 Arabian Caravan Trade

At that time the Arabs were in control of the incense trade from southern Arabia to the northern regions. Scholars have not agreed when this inland Arabian trade began. This brief introduction will only focus on the views discussed above (Chapter 1) about the importance of two of the main commodities which were frankincense and myrrh, as important products for the religious practices of ancient civilisations. The establishment of the southern kingdoms that began around the 8th century BC played an important role in developing and securing the inland trade.

Groom (1981:63), additionally, argues that there was not any significant evidence to link the domestication of camels at the end of 2nd millennium BC with the start of the inland trade- the caravan trade - which was proposed by some archaeologists such as Ripinsky (1975). The author supports his argument with rock art from Najran dated to 8th century BC (Fig. 5.1) which show camels being hunted. He uses this evidence as a proof that the camels were not domesticated or used for carrying goods for trade before this period (Groom 1981, Pp.36-37). It is reasonable to agree with Groom's assessment that the start of the trade belongs to the period around the 8th century BC. This is supported by de Maigret's (2009) chronology of the Sabaean Kingdom in the Mukarrib phase (Chapter 1). Additionally, there are no Mesopotamian records mentioning Arabs before the reign of Shalmaneser III in the 2nd half of the 9th century BC (Chapter 1). Moreover, the first reference associating Arabs with camels did not appear in Neo-

Assyrian sculptures until the reign of Tiglath-Pileser III in the 2nd half of the 8th century BC when he captured the Arabian Queen Shamsi who is depicted leading camels (Fig. 1.2). Therefore, I think it is reasonable to choose the 8th century BC as the correct date for the beginning of the Arabian inland trade route.

Another issue of interest in reviewing this period is that scholars drew maps of the Arabian incense trade routes in Arabia mostly presenting all the routes of the whole period of the 1st millennium BC without separating the early trade routes from those that did not exist until the Hellenistic period. Bin Seray (1993:25) illustrates the probable incense route before the Hellenistic era (Map: 5.1).



Map:5. 1 The old Arabian trade routes before the Hellenistic period (after Bin Seray 1993, map 1.1, P.365)

In contrast Groom (1981:9) asserts that this early inland route started from the Southern incense kingdoms, headed north to Najran then to northwest Arabia where it reached Dadan, Quriyah, Tayma, and Dumatu. Finally, the route continued from these

north-western caravan cities to the Levant, Mesopotamia, and Egypt then further afield transporting frankincense and myrrh to other places such as Asia Minor and Greece (Groom 1981, p.9-10). This is the primary incense trade route that continued as the main route until the arrival of the Greeks. Kuleeb (2011) says that the Sabaean Kingdom in the Mukarrib phase controlled the incense trade from the early 8th century BC until the beginning of the 2nd half of the 1st millennium BC.

Frankincense and myrrh were important in ancient civilization because of their multiple uses in temples during the performance of religious rituals and funerary rites, in the medical field, as well as its use as a perfume. However, Kuleeb (2011) says that the Sabaeans and other incense kingdoms developed the irrigation system after the increasing demand for frankincense and myrrh from the countries of the Near East and the countries of the Mediterranean Basin including Asia Minor and Greece. According to Groom (1981:57), the earliest classical author who mentioned the Arabian trade in frankincense and myrrh was Herodotus (3. 107. 1-2) in the 5th century BC. The author added that Herodotus (3. 107. 1) described Arabia as the only country that produced frankincense and myrrh, and he mentioned how the Arabs faced difficulties in harvesting it (Groom 1981, p.59). Herodotus described the Arabian traders as:

> "There are no men who respect pledges more than the Arabs. …"(Herodotus 3.8.1)

Groom (1981:60) concludes that although Herodotus did not provide information about incense trade routes, his references demonstrate that the inland routes became more organised in his time.

However, increasing demand caused an increase in prices which led to increasing prosperity for the economy of the incense Kingdoms and the cities on the caravan route (Kuleeb 2011). This economic growth led to the envy of neighbouring

civilizations, especially the ambitions of the Mesopotamian civilization to take over the cities of the northwest caravans of the Arabian Peninsula (Chapter 1). Likewise, this prosperity caused internal struggles, especially in the 6th century BC when this conflict between the Sabaeans and some groups of traders in the Minaean region to control the incense trade resulted in establishing the Maʿin Kingdom as a new economic power (Kuleeb 2011).

5.2 The Hellenistic Empires and the Arabian Peninsula

In Chapter 1, there is a brief review of the main historical events relating to Alexander the Great and his successors, the Seleucids, and their domination of the ancient Near East. My research, moreover, provided some important archaeological evidence that demonstrated their strong presence in Northeast and Central Arabia. Nevertheless, in order to understand the results of the contact between the Greeks and the Arabs, we will once again review these historical events with more focus on the Arabs and Arabia in the ancient sources. Likewise, it is also important to review the archaeological evidence to understand the economic impact on the Arabian Peninsula.

The contact between the two civilisations involved multiple major changes in the region that the scope of this research will not permit discussion in full (cf. Boucharlat and Salles 1981). This section will focus on reviewing only five points. First, to identify the motives of Alexander the Great and later the Seleucids, that led them to be interested in Arabia. Second, the nature of the Arab economy at that stage and evidence of the impact of trade relations between the Arabs and the Hellenistic markets. Third, reviewing the stages of Seleucid control of Arab trade by relying on archaeological evidence, especially coins. Fourth, after knowing the geographical extent of the impact of Hellenistic influences, we will discuss the duration of these Hellenistic influences on Arab culture,

depending on a number of factors, including Arab literature in the Islamic period. Finally, discussing the problem of the location of Gerrha and trying to determine this through several factors including the archaeological finds from previous studies and the evidence presented in the archaeological survey in Chapter 3, along with presenting information from my recent additional discoveries.

5.2.1 The motivation behind the interest in the Arabian Peninsula

According to Arrian *(Anab.* 7. 19. 1-6) after Alexander the Great arrived in Mesopotamia, he began preparing a large fleet to facilitate the invasion of the Arabian Peninsula. Arrian, furthermore, provided the reasons for that plan. There are some points that Arrian raised that confirm the fact of Alexander's motives were economic in character. Arrian's other reasons, in my opinion, have no logic. For instance, Arrian *(Anab.* 7. 19. 6) said that Alexander planned to invade Arabia because he was not happy that he had not been welcomed, and that he was simply greedy. Arrian *(Anab.* 7. 20. 1) also mentioned that Alexander wanted to be the third God for the Arabs as he heard that they worshiped only two gods. The lack of a welcome makes no sense at all because he was already an Emperor ruling almost the whole of the known ancient world. The second was his desire to be the third God for the Arabs. Why Alexander did not choose to be one of the Mesopotamian or Egyptian gods who were more famous than any ancient gods worshiped by the Arabs. Alexander was famous for respecting the beliefs of other nations, for example, after he conquered Egypt '…he paid homage to the native gods,... (Bell 1948, p.29)'.

In fact, one motive that drove Alexander to plan to control Arabia was his intention to tighten his grip on the global commercial markets and secure their supply lines. Alexander's attention was concentrated on the economy as Arrian wrote in his

book:

> "Alexander had an idea of colonizing the coast along the Persian Gulf, and the islands that lie near: for he thought that it would be just as prosperous a country as Phoenicia." *(Anab.* 7. 19. 5).
>
> "Then the prosperity of the country incited him, … Then there was also the size of their territory,…" *(Anab.* 7. 20. 2).

This explanation for Alexander's actions comes before the paragraphs where he sent his commander Niarchos to explore the sea routes from the Arabian Gulf to the Euphrates, to make ships, to build a huge harbour in Babylonia and to hire skilled sailors from Phoenicia *(Arrian. Anab.* 7. 19. 3). Moreover, the other action that Arrian mentioned was about Alexander sending three of his commanders to explore the Arabian coasts. The first explorer was Archias, who sailed until he reached the island of Tylos, then Androsthenes who went further and discovered more of the Arabian coast, while Hieron was the last explorer who navigated even further and learnt about vast parts of the Arabian shores *(Arrian. Anab.* 7. 20. 7). Obviously, these voyages sought more knowledge about the commercial centres, the routes of transport and the potential places suitable for establishing docks for Alexander's fleets. Once more, these actions emphasized that Alexander's interest in controlling Arabia was for economic purposes. Ali and Parpas (2017), stated that the reason for these measures was to establish a marine commercial infrastructure to connect the Arabian Gulf with the Mediterranean Sea through the Mesopotamian rivers. Potts (1992) cited Pliny (*N.H.* 6. 138-46), who said that Alexander built an important city in the far south of Babylonia known as Alexandria-on-the-Tigris. Potts commented that Alexander was copying Nebuchadnezzar's economic plans by founding this new city at the same location that the Babylonian king had chosen for Teredon with the same goal of controlling trade activity in the Arabian Gulf. All this evidence extracted from the ancient sources and presented by scholars confirms that

Alexander's motivation was the control of the trade routes.

Furthermore, Alexander's maritime network project was continued by his successors, the Seleucids who had equal interest in the Arabian trades. Potts (1992:10-14) reviewed some of the arguments made by scholars about the first presence of a Seleucid Navy in the Arabian Gulf and whether this started in the reign of Seleucus I Nicator (312–280 BC) and his son Antiochus I Soter (280–261 BC), or in the reign of Antiochus III the Great (223–187 BC). Although discussion of the date of their military control of the Arabian Gulf is an important matter, this section focuses more on the Seleucids' continuing interest in the Arabian Gulf. Bin Seray (1993:44-46) says that their interest in controlling Arabian trade is reflected in their actions: the presence of their navy and military authority in the Arabian Gulf; the establishment of trade centres; the return to the Achaemenid administration system by dividing the kingdom into territories and appointing a satrap for each of these divisions. Potts (1992) says that according to Polybius (5. 54. 12), Antiochus III assigned his military commander Tychon to be the satrap of the Arabian Gulf. Bin Seray (1993) cites Tarn (1951) who registered nine Seleucid trade cities in Mesopotamia and on the Arabian coast (Bin Seray, 1993, p.58). This author listed the Mesopotamian cities as the following: Antioch in Persia, Seleucia-on-the-Erythraean Sea (the Greek name for the Arabian Gulf), and Antioch-Charax Spasinou (Alexandria-on-the-Tigris) after it was rebuilt and renamed by Antiochus IV. The cities on the Arabian coast were listed as the following: Arethusa, Larisa, Chalcis and Artemita, and two other cities the precise locations of which are unknown: Trapezus and Gerrha (Bin Seray 1993, p58). The Seleucid urban developments led to economic growth in Arabian trade on both the inland and the sea routes.

5.3 Hellenistic Impact on the Arabian Economy

Hellenistic impact on the economy commercial relationships and Arab markets in the Arabian Peninsula caused an enormous economic revolution. Morris (2004) demonstrated that the economic growth in Greece was higher in 300 BC than in 800 BC. Although there are no similar studies on the growth of the ancient Arabian economy, but the archaeological and geographical evidence clearly reflects the economic developments in the Arabian Peninsula in the Hellenistic era. and I think this discussion could be incorporated at this point, and this chapter will chapter will review the general trade history of the Arabian Peninsula to identify the most important traders who controlled the Arab market in the Hellenistic era, the significant changes that appear in both the inland and seafaring trade routes and the new trade centres in Arabia.

5.3.1 Hellenistic Influence on Trade and Traders in the Arabian Peninsula

In the previous discussion about Arabian trade before the Hellenistic period, we observed that by the second half of the 5th century BC the incense trade had become more organised and Maʿin entered the trade market as the new economic power in Southern Arabia. Thus, in the Hellenistic era Minaean had greater control over the incense trade alongside the Gerrhaeans from North-eastern Arabia who had become new powerful competitors in this industry (Kuleeb 2011). According to Potts (1992:17) in the Seleucid period, Gerrhaeans were the only important commercial entity in Arabia which supplied Arabian incense from Hadramawt to Gerrha and then distributed it to the ancient markets. Although in the ancient texts there were references to other traders appearing in the Hellenistic era, the Minaean and the Gerrhaeans were recognised in those sources as the most famous merchants. Hoyland (2001), quoted a text from Agatharchides (in Photius 250; in Muller 5.87 = Burstein 89b) describing the Gerrhaeans and the Minaean along

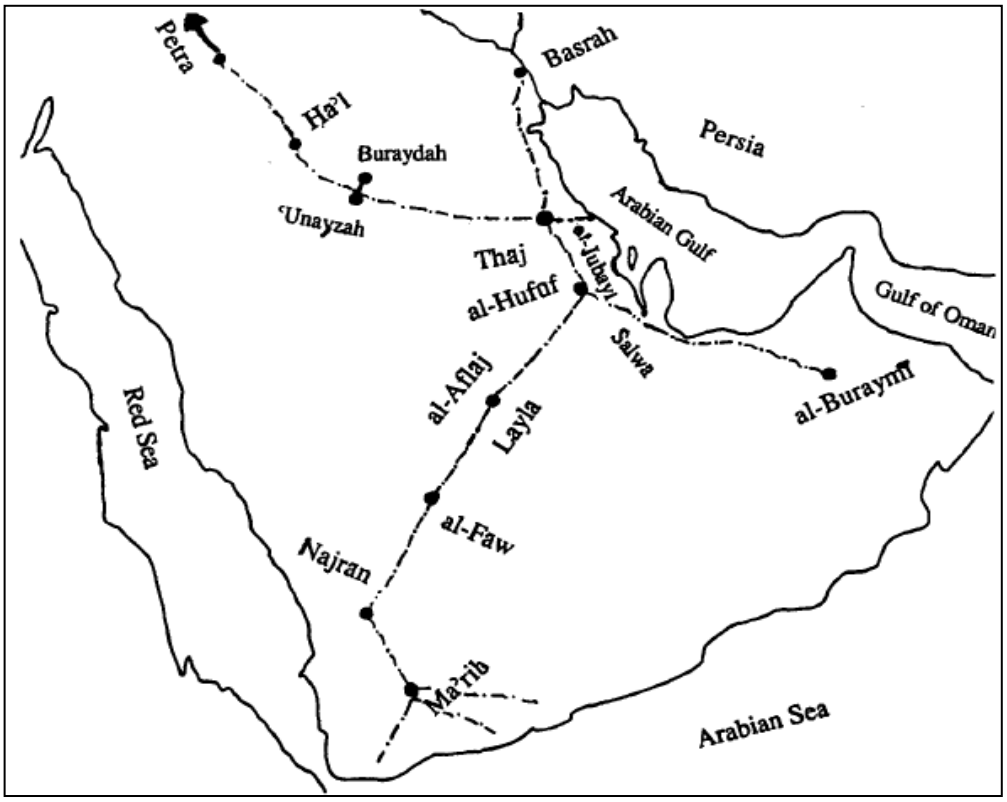
with other Arabs who were transporting incense from the highlands to Petra and Nabatiaeans (Hoyland 2001, p.25). Moreover, their reputation led the types of incense were identified as Minaean incense or Gerrhaeans incense (Kuleeb 2011). Groom (1981) argues that although the incense types were sometimes named after the names of the traders, myrrh was in fact produced in Qataban and frankincense in Hadramawt. The success in their trade reflected their economic prosperity and commercial growth in the Hellenistic era. In fact, the entry of the Gerrhaeans as new incense merchants had more noticeable impact on the economic prosperity in Eastern Arabia, where they had not been previously involved.

The other evidence for the Hellenistic impact on Arabia appeared also on the trade routes as the result of the economic growth. The Minaean continued using the primary route that has been mentioned previously which ran from the south to north along the west side of the Arabian Peninsula. And since Minaean expanded their incense trade network to reach almost all the ancient civilisations including Greece, they also established several settlements along this route, such as Dedan (al-Ula today) in the north-west of the Arabian Peninsula, to protect their caravan trade (Kuleeb 2011). However, Gerrhaeans trade added more developments to the trade routes in Arabia on the overland and the sea routes. Potts (1988), quoted a text from Strabo:

> 'the Gerrhaeans arrive at Chatramotitis- meant Hadramawt- in forty days.' Strabo (Geog. 16. 4. 4).

Since there was no previous inland trade between southern and north-eastern Arabia, new inland route(s) were established in order for the Gerrhaeans to transport frankincense from Hadramawt. However, there are debates among scholars about which route that the Gerrhaeans used in this trade. According to Potts (1988) some scholars such as Sprenger (1875) and Brice (1979) suggested that the Gerrhaeans used the route from Hadramawt

around the Empty Quarter via Oman (Potts 1988, p.133). Bin Seray (1993) also suggested this route. Philby (1949) and Caskel (1953) suggested that the Gerrhaeans trade was along the route from Najran route through Qaryat al-Faw towards Hajar (modern al-Hasa) then Thaj (Potts 1988). In addition, Potts (1988), believed that the route mentioned in Strabo's text is the route that started from Shabwa, passed through Marib, then on to Najran to the northeast passing Qaryat al-Faw, Sulayyil, Aflaj and al-Kharj (Map: 5.2).



Map:5. 2 The new trade routes of the Hellenistic period (after Bin Seray 1993, map 1.5, P.368)

Although it is the same as the route that suggested by Philby and Caskel, Potts suggested a route slightly to the west, going via al-Kharj instead of Hajar. Both these routes were used for Gerrhaean, as we know from the fact that Hellenistic artefacts were found along both routes. The existence of these routes or even one of them is evidence of Hellenistic influence on the Arabian economy which led to the expansion of the inland routes.

The Hellenistic influence that led to the rise of new trade and new trade routes led to establishing new centres which are known as the caravan cities. Previously we mentioned that the Minaean built some settlements on the original route; Gerrhaeans merchants, likewise, led to the founding of new commercial settlements on the trade route from Najran to the northeast of Arabia such as Qaryat al-Faw and Thaj. In Chapter 2, I reviewed some of the abundant archaeological discoveries that reflected the level of prosperity that these cities reached. Moreover, in Chapter 3 the archaeological survey in Kanzan and Geriyah provided more significant evidence of the Hellenistic impact that led to establishing new Caravan centres in new areas.

Conclusion

In this chapter we reviewed information regarding the Arab trade history in the beginning of the first millennium BC. Then we discuseds the arrival of the Alexander the Great and tried to understand why he sent his commanders to explore Arabian Peninsula. Moreover, this chapter discussed the changes in the trade of Arabian Peninsula during the Hellenistic periods, and it provides evidence of these changes, such as the establishing of a new trade route and cities. And among these changes we see the important role that Gerrha and Gerrhaean played in these economic developments in the Arabian Peninsula which led us to have more investigations regarding Gerrha and the Gerrhaean in the next chapter.

6 Gerrha: a case study

Introduction

In the previous Chapter 5, I mentioned the important role of the Gerrhaeans in the trade between Arabia and the Hellenistic markets. The Gerrhaeans and their city Gerrha have enchanted the minds of many historians and archaeologists, although no one has actually found Gerrha yet (cf. Groom 1982, Potts 1984a, …etc). Thus, the discussion here is only to add more information to the ideas about the potential location of Gerrha, in the hope that we could all find it. Even though this study ends up without specifying a location for Gerrha, the important issue behind discussing this case is to help in protecting the site of Geriyah, one of the possible locations of Gerrha, because some previous scholars had reduced its importance until it was left without any protection. Although, several locations suggested to be the most likely location for Gerrha, I will present the sites that were proposed by the scholar in this discussion including my suggestion (Map 6.1).



Map 6.1: Gerrha suggested locations in this discussion (google earth)

6.1 Some Opinions Regarding the Location of Gerrha:

Before starting I must say there are many important previous studies about Gerrha, and here I will only review some of them and add my own suggestion for the location of Gerrha. In the following, I will outline the suggestions made by scholars and the evidence they rely on, including my own. However, although most opinions are positive arguments supporting a potential site to be a candidate for identification as Gerrha, I have added Lombard's (1988) negative argument against nominating Geriyah as Gerrha because he, in my opinion, actually provided more significant information in support of Geriyah than to weaken its nomination.

6.1.1 T. G. Bibby (1970 & 1973):

Bibby (1970:325) stated that the discoveries at Geriyah did not correspond to the city of Gerrha. Later Bibby (1973:40-48) reported that these significant discoveries at Geriyah included the ancient irrigation system which reflected a cultural and agricultural region that flourished in the Hellenistic period based on the Hellenistic pottery discovered in both fortresses. Bibby (1973) added that this prosperity could, to some extent, have existed before the Hellenistic period based on his discovery of an older layer beneath the Hellenistic layer that he unearthed at the Inland Fort. He reported this as belonging to a period of settlement that preceded the construction of the fort. Moreover, Bibby (1973) observed that its geographical location as a northern extension of the Uqair Bay coincides with Strabo (Geog. 16.3.3) description of Gerrha "on a deep bay 23 miles from the sea" (Bibby, 1973, p.47). The tiles of the tomb he found were made of salty sabkha clay which resembles Strabo (Geog. 16.3.4) description of Gerrha as being made of clay mixed with salt. Bibby (1973) notes that there is a ruined Islamic city called Qariyah in the south of

the bay of Dohat Dhalum, and there is another area called Jabel Qarah where both are considered as candidate for Gerrha (Bibby, 1973, p.48).

However, Bibby (1973) concluded that due to the absence of any traces of a city with walls, which might be under the high dunes of al-Jafurah, the issue of the location of Gerrha must be left unresolved.

6.1.2 Nigel Groom (1982):

Groom (1982) considered in his article that the possible location of Gerrha city was at the al-Hasa Oasis and that the port of Gerrha was located close to the port of Uqair, although he did not rely much on the archaeological evidence. However, Groom (1982) supported his opinion with other important evidence such as environmental, ethnographic, geographic, and linguistic evidence.

Groom (1982) discussed the issues of the environmental changes that have occurred in the Arabian Peninsula since the time of the Gerrhaeans, nearly two thousand years ago. Groom (1982) believes that these changes led to differences from the topography of the geographical locations specified on the map of Ptolemy and others described in ancient sources. Among these changes was geological upthrust, which indicates that the western landmass of the Arabian Peninsula was slowly rising along the coast of the Red Sea. Groom (1982), moreover, thinks this change also affected the rise in sea level, by nearly 1.52 m., in the east coast of Arabia during the past two thousand years. This consequently led to major changes in the shape of the coastline with the sea becoming shallower and some of the original shoreline receding from the sea (Groom 1982). In consequence the marshes expanded, and seawater infiltrated wells, periods of drought led to the desertification of some areas and the depletion of some wells (Groom

1982). These factors were a reason for the abandonment of wells and the settlements that relied on them. Because of these environmental changes, Groom (1982) believes that the site of the port of Gerrha may no longer have the same coastal location as it did two thousand years ago.

Moreover, Groom (1982) thinks that the al-Hasa Oasis was lucky that these factors did not affect it. He believes that agricultural production in al-Hasa Oasis was not greatly affected by drought or by the mixing of the salty Gulf waters with freshwater in the al-Hasa wells. Groom (1982) added that al-Hasa farmers were among the most important producers of cereals, fruits and vegetables in the Arabian Peninsula and its crops still play an important role in the economic development of the city. Moreover, Groom (1982) described the al-Hasaeans as being famous not only for farming but also for their craftsmanship which resulted in high-quality products. They were distinguished by their commercial skills as well which he thinks may be an inheritance of the legacy passed on from the Gerrhaeans (Groom 1982).

Groom (1982) relies on these geographical changes in discussing the names of the sites and their locations on the map of Ptolemy. Additionally, Groom (1982) questioned the results of some previous studies and opposed some of the researchers' opinions in interpreting this map. However, in his analysis, Groom (1982) tried to make some reasonable assumptions in order to match the ancient names given by modern cities, especially those in the region of Gerrha. Groom (1982) determined the locations of other cities that the ancient authors such as Ptolemy (6, 7, 16) referred to as 'belonging to Gerrha,' especially the cities of Magindanata and Bilbana, for instance. He said that Ptolemy who described these two cities belonging to the Gerrhaeans and that Gerrha was located equidistant between them. Groom (1982) thus identifies Magindanata as the

modern city of al-Majan near Salwah, south of the Qatar Peninsula, and Bilbana as the modern city of as Dhahran or Dawhat Zalum -the correct name is “Geriyah” not Dawhat Zalum-. This is one of the examples that Groom (1982) used to find the accurate geographical locations of the toponyms of Ptolemy's map to support his view that Gerrha was in the oasis of Al-Hasa between Magindanata and Bilbana. Furthermore, Groom (1982) considered that Al-Uqair is the closest point to the ancient port of Gerrha, especially a place called Barr al-Qarah about 20 miles south of the port of Uqair.

Groom (1982) said that ‘Hagar’ is a common term in the Arabic language which means a city containing administrative and tribal headquarters. In another linguistic link, Groom (1982) recognised that the name of Jabal (mountain) al-Qarah in al-Hasa and the village of the same name use similar letters like those used for Gerrha. Moreover, Groom (1982) said that the local Arabic dialect in al-Hasa sometimes pronounces the letter “q” as “g” or “j”. He continued by demonstrating the similarity of the name of al-Qarah to Gerrha and linked another coastal site that he said is called Barr al-Qarah. In his analysis Groom (1982) thinks that Barr al-Qarah may be the port of Gerrha as there is a possibility that the name of this place was pronounced al-Garrah instead of al-Qarah.

6.1.3 Daniel T. Potts (1984a and1984b):

The first evidence that Potts (1984a) depended on was the distance between Teredon and Gerrha which was 384 km. He relied on the calculation made by Schoff (1912:54) and Huntingford (1980:59), which was 10 stadia to the mile for Eratosthenes (Potts 1984a, p.87).

Further evidence starts with coins from north-eastern Arabia that bear the name of the place of mint as HGR with the legend king of Hager, also other coins issued which

he identified with the kings of Hagar, Abyata and Abi'el. Potts (1984a) concluded that since these HGR coins were discovered only in Thaj, Thaj must be Hagar and:

> 'HGR is a common South Arabian designation for a walled, fortified city. Of all the archaeological sites discovered thus far in northeastern Arabia, only Thaj has a city wall complete with towers which merits the South Arabian designation HGR. (Potts, 1984b, p.25)'

Then, Potts (1984a) argued that the ancient Arabic HGR is similar to the name Gerrha in the Greek sources, thus he concluded:

> "…Thaj = HGR = Gerrha,.." (Potts 1984a, p. 89).

Finally, Potts (1984a) chose 384 km for the distance between Teredon and the port of Gerrha, suggesting that this was the distance between Basra, which is a potential location for Teredon, and Jubayl which he implies was Gerrha's port. Thus, he concluded that Thaj was the inland city of Gerrha, and Jubayl was its port. He added that these two locations, Thaj and Jubayl, were connected by an ancient trade route 'Darb al-Kunhuri' (Potts 1984a, p.89). He recommends reading more about this 'ancient trade route' in Mandaville (1963).

Therefore, Potts (1984a) ended up with Thaj/HGR as Gerrha, and Jubayl its port and then changed the name of Thaj on all of his maps to Gerrha.

6.1.4 Grace Burkholder (1984):

Burkholder (1984) supports the nomination of Geriyah as the site of Gerrha for several reasons, which include the geographical location, environmental factors, and the archaeological finds. She believes that Geriyah is situated in an ideal location that corresponds to that mentioned in the ancient authors who describe Gerrha as being equidistant between Attene (al-Hasa), where the Gerrhaeans revived poor land with

cultivation, and Tyros (Bahrain) 'the pearl island' (Burkholder, 1984). She explained that Geriyah is located around 60 km. away from the eastern oasis of al-Hasa near Kanzan and that Geriyah is located the same distance from the island of Tyros (Burkholder, 1984). Burkholder (1984) added that even if the few Hellenistic finds that were made in Kanzan did not support its identification as Attene, the location of Geriyah can also be matched to the distance between Gerrha and Balbana that Ptolemy (6, 7, 16). placed north of Gerrha, since Geriyah is some distance from Ain Juan, which is the candidate site for Balbana (Burkholder, 1984). Furthermore, the size of Geriyah was compatible with the size of Gerrha Pliny (*N. H.* 6. 32. 147) described that it is covered five miles as the archaeological remains covered area of more than five miles, as the site extends from the northern entrance of Uqair to the sand dunes of al-Jafurah (Burkholder, 1984).

Burkholder (1984) believes that the absence of stones at the site of Geriyah made people use materials such as mud taken from the salt flats that are around the site for their buildings. Therefore, the buildings at Geriyah correspond to the ancient authors' descriptions of the Gerrhaeans living in houses and towers that were made of salt. Moreover, Burkholder (1984) suggested that the irrigation channels on the site were only to control the local distribution of water from the old wells of al-Hasa (Burkholder, 1984).

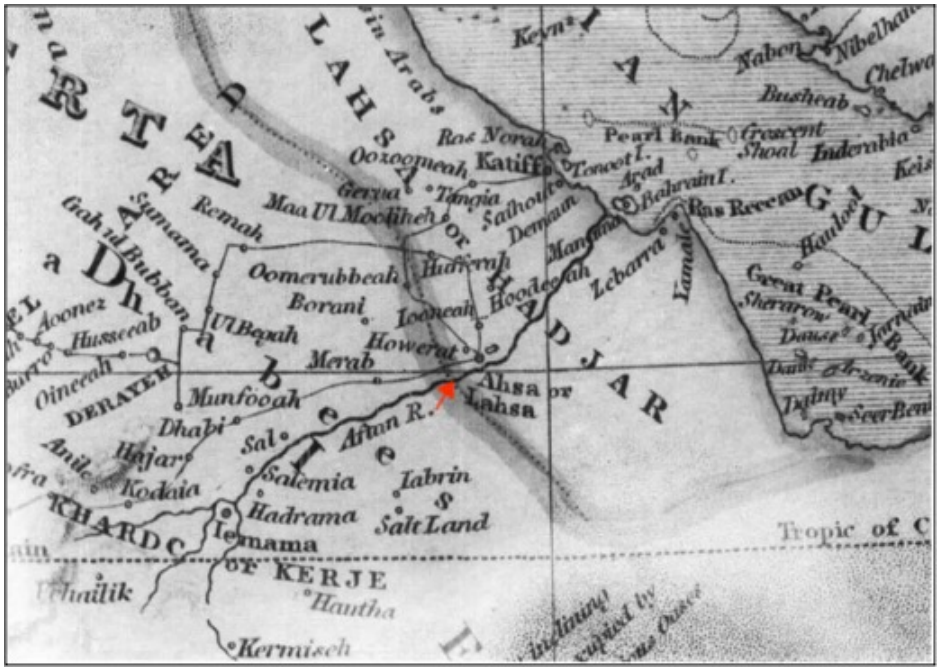
Burkholder (1984) also said that the absence at Geriyah of any remains of the Christian era was important evidence that supports Geriyah being Gerrha, since there are no references to Gerrha in early Christian literature. Burkholder (1984) also reviewed the artefacts from Geriyah that confirmed settlement in the Hellenistic period, as well as artefacts belonging to earlier periods. These artefacts led her to the identification of a third fortress in the north-western part in the direction of the dunes of al-Jafurah, which extended 80 metres from east to west and 110 metres from north to south (Burkholder,

1984). Unfortunately, Burkholder (1984) did not give any information about the location of this fort. However, she mentioned that at the site of this fort ‘a frit seal’ was found which was dated later by the British Museum to the period of Jamdat Nasr (Burkholder, 1984). Likewise, Burkholder (1984) reported that there were several small mounds in this area. In addition, Burkholder (1984) described that she found several rims of pottery vessels dating back to the Jamdat Nasr period in this north-west region of Geriyah. As for the area near to the sabkha and the Inland fortress, surface collections included pottery vessels (Fig. 6.1) and (Fig. 6.2), which were from the Hellenistic period or possibly earlier (Burkholder, 1984).

Burkholder (1984) also mentioned that several cylinder seals were found on the surface in the same area. She also reported that over the years people collected beautiful beads from the surface of Geriyah (Fig. 6.3). She remarked that these finds from Geriyah, especially the seals, helped archaeologists not only to establish the chronology of the site, but also as evidence of commercial relationships with foreign ports (Burkholder, 1984).

6.1.5 Marny Golding (1984):

Golding (1984) said that her study aimed to publish archaeological finds from neglected sites, and among these was Geriyah which she calls Gerrha. Golding (1984) first began by analysing the source of the water that supplied the ancient irrigation channels. She suggests that these channels were supplied from the ancient Hofuf River, which was known in the past as the "Aftan River" (Map:6.2).



Map:6.2 Early 19th century map showing 'Aftan River' (after Golding, 1984, Pl.132b)

Golding (1984) believes that the 'Aftan River' was flowing slightly further to the east between the 8th century BC and the Sasanian period (Golding, 1984). Moreover, Golding (1984) added that according to the opinion of geologists it is unlikely that these channels used water extracted from the salty sabkha at Geriyah.

Golding (1984) reported that various artefacts were found at Geriyah including pottery vessels, coins, beads, gold, bronze, and several seals. She found pottery vessels near the Inland Fort where Bibby had excavated, which were similar to those Ghirshman (1954: Pl. XXXVIII) found at the Achaemenid site, dating to the fourth and third centuries BC. such as a jar with two handles (see Golding 1984, pl. 134a). Also, Golding (1984) said that she found a small pot similar to the Achaemenid tradition about a kilometre away from these two jars.

Golding (1984) added that most of the artefacts were found on the surface at a location she called 'Seal Flat' about 2.5 km from Sabkha Fort to the west and southwest. She says that many of these finds from the Seal Flat area were kept as a personal

collection, except one coin, one seal and several impressions of other seals which are in Moesgaard museum in Denmark (Golding, 1984). In her article Golding (1984) described some of the seal impressions and seals but only two examples were dated. First, she cited James (1969:51) who said that the seal impression in Fig. 6.4 dates to the 8th century BC (Golding, 1984, p.166). Fig. 6.5 illustrates the seal which is now in Moesgaard museum. The author says that this seal should originate from Southern Arabia as it is inscribed with Musnad letters which read 'kaibum'- corrected by Prof. J. Healy to 'KLBM'- with a scorpion beneath. Golding (1984) consulted two experts in the Musnad script, A. Jamme, and J. Ryckmans, about the seal. Jamme responded that based on the shape of the last two letters it dates to the early Sabaean period around the 9th or the 8th century BC, but the scorpion image suggested influences from northern traditions. Ryckmans, however, suggested that it belongs to the fourth century BC (Golding, 1984).

Golding (1984) also reported that Markholm described a silver drachma with an Aramaic inscription which imitated issues of Alexander (Fig. 6.6). Markholm dated this silver coin to the 3rd century BC (Golding, 1984). Golding (1984) said that two coins of Arados were found at Geriyah at the site known by the illicit Aramco 'collectors' as 'the Seal Flat' which were dated by Altheim & Steihl (1968: 69) to the 4th century BC. However, this 4th century BC Phoenician coin was listed by mistake in Golding (1984) with the wrong plate number and miscaptioned. Thanks to Potts (1991, p24) who noticed the mistake and corrected it as presented here (Fig. 6.7).

Golding (1984) says that according to Porada (1967: 106-107, Pl. XXIV 4a & b) there was a gold earring found in the Seals Flat area at Geriyah with the shape of a crescent from which pomegranates hang, attributed to the 4th century BC. Golding (1984) also found some bronze arrowheads near the Sabkha Fort.

6.1.6 Pierre Lombard (1988):

Lombard (1988) discussed the discoveries at Geriyah - he called this site 'the Salt Mine'- to argue that Geriyah is not Gerrha as suggested by some scholars such as James (1969), Burkholder (1984), and Golding (1984). Although, Lombard does not support Geriyah as a candidate for Gerrha, he still provided significant information through investigation of the discoveries found at the site.

Lombard (1988) agreed that Geriyah was in a geographical location that matches what Strabo said about the distance between Gerrha and Teredon if we use 445 km as the equivalent of 2400 stadia. However, he argued that the issue of the distances between these ancient cities is still a subject of controversy. Lombard (1988) also argued that although Geriyah location beside the bay of Dohat Dhalum, which can be equated with the fifth Arabian Gulf Bay 'Capeus' listed by Ptolemy, Pliny (*N. H.* 6. 32. 147) did not agree with Ptolemy and put Gerrha on a different bay "Gerraicus" which is located further to the south of the bay of Dohat Dhalum.

Lombard (1988) said the environment of the Geriyah site is identical to that described for Gerrha by Strabo (Geog. 16. 3. 4) and Pliny (*N. H.* 6. 32. 147) , especially the salt flats found around Geriyah and could provide the salt blocks and saline mud that the Gerrhaeans used in building their houses. Lombard (1988) added that evidence for using salt as a building material was found by Bibby (1973) since clay bricks mixed with salt were used in one of the burial mounds at Geriyah. Lombard (1988) suggested that the ancient irrigation channels at Geriyah could link the site to Chattenia, which Polybius (Plb. 13.9) described as a poor area cultivated by the Gerrhaeans. However, he said that Geriyah's irrigation channels were incompatible with the image of the rich city of Gerrha

which Lombard (1988) said had stable and exceptional agriculture.

Despite Lombard (1988) opposition to linking Geriyah with Gerrha, he presented important chronological evidence of artefacts found at the site of Geriyah. The author provided a table (Fig 6.8) to summarise some of the significant finds from Geriyah. Lombard (1988) started by examining two pottery vessels collected from Geriyah by two scholars M. Golding and G. Burkholder. The first was a small pot found by Golding (1974:29; 1984: p.165 and Pl.143c) at southwest Geriyah near the Inland Fort which she dated between the 6th and 5th century BC based on its exact resemblance to a pot found by Ghirshman (1954:Pl. XXXVIII) at an Achaemenid village. However, Lombard (1988) rejected the date suggested by Golding because as he said that the proposed date was based on an unconvincing link with a better quality pottery vessel found at Susa. The second was a bowl of olive-green paste found by Burkholder (1984: Pl.35b) (my Fig.6.1) near the third fort in the northern area of Geriyah which she dated to the Hellenistic period, but Lombard (1988) said that it could be dated to an earlier period – 7th-5th century BC. - based on its similarity in shape and fabric with the snake-bowl group found at city IV Qala'at al-Bahrain.

Second, Lombard (1988) reported there were some unique coins found at Geriyah such as an Arados which he noted was one of two early 4th century BC two staters found with a male god facing right on the obverse (Lombard 1988). Although Lombard (1988) said that this coin had not been described, Golding (1984) does describe one of these staters from Geriyah (Fig. 6.7). However, Lombard (1988) studied another important coin (Fig. 6.9) which he described as a well-worn silver coin of the regular Byblos series of Alexander issues.

Finally, Lombard (1988) studied the stamp and cylinder seals discovered at

Geriyah and provided more accurate dates for them. While all these stamps and cylinders discovered at Geriyah provide important evidence, I will review only two of them using the same numbers Lombard assigned to them. Cylinder seal number 4: Lombard (1988) argued that although the seal with a geometric design (Fig. 6.10) had some features resembling those from the Jamdat Nasr period -the end of the 4th millennium BC in Mesopotamia-, as Burkholder (1984) suggested, Lombard (1988) clarified that the seals from that era were bigger and made using materials such as polished steatite which is harder than this frit seal. Lombard (1988) suggested that it is more appropriate to compare this geometric design with the Elamite glyptic of the late centuries of the 2nd millennium BC. Cylinder seal number 7 Lombard (1988) reports that the style of this seal (Fig. 6.11), according to studies by Porada (1948: 49) & Teissier (1984: 43, 180) can be associated with the Liner Style seals of 8th/7th centuries BC in the Neo-Assyrian period, on the basis of carved scenes of two gazelles being chased by a winged griffin (Lombard, 1988, p.127).

However, Lombard (1988) suggests that this seal from Geriyah was of Babylonian origin and imported from Mesopotamia and belongs to a later style of seals, the Late Cut Style, based on the well-finished engraving of the figures in the scenes. Lombard (1988) also said that despite the significant evidence of these finds from Geriyah, this site is not a candidate for ancient Gerrha since it did not have any traces of the walls of an important city. Lombard (1988) added that Geriyah is simply a rare Iron Age site in the Eastern province of Saudi Arabia occupied from the 8th century BC until the end of the Hellenistic era, with no evidence of later inhabitation.

6.1.7 Christian J. Robin & Alessia Prioletta (2013):

In their study Robin and Prioletta (2013) suggested that Gerrha is the Greek name of the Semitic Hager (al-Hasa) and its port is Uqair which they believe is called Chattenia in Greek and Khatt in Semitic. Although this suggestion is only a reworking of Groom's (1984) suggestion, the authors strangely ignore his study and although they supported the same idea they used different archaeological evidence, especially palaeography and historical sources. Their study is very rich with important information about Arabia and the tribes, religion and language of the Arabs. However, I will refer only to those points necessary to sum up their view about the location of Gerrha.

Robin and Prioletta (2013) said that previous scholars who searched for Gerrha were relying on four general factors: similarities with modern names, the presence of Hellenistic material, a region matching the topographic description mentioned by Strabo and Pliny, and an important city with water sources and agricultural potential. The authors offered a fifth factor where they discussed all the toponyms associated with Gerrha and Hagar. Robin and Prioletta (2013) said that the Greek word 'Gerrha' was derived from the Semitic name of Hagar, and it might be written in this form 'Gerrha' because the Macedonian conquerors invented it to associate it with their native land where there were similar toponyms such as two rivers called Gerrhos. The authors provide the later claim without any evidence to support the relationship.

However, to link Gerrha with Hagar Robin and Prioletta (2013) presented some numismatic evidence to support their argument that Hagar was a kingdom in eastern Arabia in the Hellenistic era. Additionally, in their study the authors reviewed some ancient inscriptions found in the southern Arabia. However, they formed their view of the Hagar Kingdom on the basis of only three coins imitating issues of Alexander where his name had been replaced in the legend with " Ḥārithat king of Hagar (Ḥrṯ mlk Hgr) (Robin

& Prioletta 2013, p.132)". Although these Ḥārithat coins were discovered outside the Arabian Peninsula in Turkey and Iran and dated to 140 BC, Robin and Prioletta (2013) used this legend to suggest that these coins were proof that there was a kingdom called Hagar in the Hellenistic era, ruled by a king named Ḥārithat in the same geographical area. However, Robin and Prioletta (2013) said that the reason these Ḥārithat coins were only found outside the Arabian Peninsula was because of the looting of 'Failaka's treasure' or from a tribute the Gerrhaeans paid to Antiochus III. Since the provenance of these coins did not help to link them to Hagar in Eastern Arabia, Robin and Prioletta (2013) suggest that they are similar to other imitations of Alexander's issues known as Shams' coins, Abīyathaʿ, and Abīʾēl discovered in Eastern Arabia and dated between the 3rd and the 2nd century BC. Robin and Prioletta (2013) assumed that these other coins were somehow derived from those of Ḥārithat and all belonged to the Hagar Kingdom. They further explained that the coins depicting Shams represented the principal deity of the Hagraeans and that those with legends Abīyathaʿ and Abīʾēl were for other kings of 'Hager'. In addition, Robin and Prioletta (2013) discussed the problem of not being mentioned any of the Gerrhaean's king in their begging message to Antiochus III and explained that it may be because Hagar was the centre of a group of trade allies who worshipped Shams.

The second category of evidence which Robin and Prioletta (2013) used to support their suggestion was the archaeological and historical sources which mentioned HGR (as the rendering of Hagar) as proof that there was a place called Hagar in Eastern Arabia which could be identified with the name Gerrha. For example, Robin and Prioletta (2013) review the references to Hagar in Arabian inscriptions which vary in date and provenance. They present two inscriptions discovered in southern Arabia, Maʿīn 93 D/36-

39 dated to the 3rd century BC and Haram 26 = *CIH 715* dated to the 2nd - 1st century BC. Robin and Prioletta (2013) explained that these two inscriptions about the Minaean recorded foreign wives some of whom were from Hagar. Although the authors said there were other places called Hagar in South Arabia, they believed these women came from Hagar in Eastern Arabia. Robin and Prioletta (2013 discussed other inscriptions found in Eastern Arabia dated to the Hellenistic period. Although these inscriptions did not mention Hagar; moreover, the authors changed the name of these inscriptions from "Hasaitic" to "hagaric" inscriptions (Robin & Prioletta 2013).

However, Robin and Prioletta (2013) also commented on other inscriptions written in Aramaic scripts found in Eastern Arabia that had mentioned some ancient Arabian deities including Shams. In their discussions regarding this inscription, they reviewed the inscription Sima 21, which was one of the bilingual Aramaic/Hasaitic inscriptions from Thaj. They read this inscription *(s¹nt ʾḤdy ʾtbl mlkʾ)* which the authors translated to '(the first year of the reign of Attambelos I)' who was one of the kings of Mesene (Robin & Prioletta 2013). Robin and Prioletta (2013) interpreted the existence of this inscription at Thaj as evidence that the Hagar kingdom became part of the Characene kingdom (known also as the Mesene kingdom) territory in the second half of the 1st century BC.

In their quest to find the Hagar kingdom (Gerrha) or Khatt (Attene), Robin and Prioletta (2013) presented sources belonging to late antiquity and the Islamic period such as the Himyarite, Syriac and Islamic-Arab. They gather all these sources to prove that there were the toponyms Hagar and Khatt (al-Khatt in Arabic sources) in Eastern Arabia, but there is no proof in their study to confirm their existence during the Hellenistic era. Robin and Prioletta (2013) suggested that the mention of Hagar and Khatt together in

some of these sources of a thousand years later was similar to the pairing in ancient authors of Gerrha and Chattenia/Attene. Furthermore, Robin and Prioletta (2013) in their discussion of the several references to Agraioi/ Agraei in some ancient sources, thought that these Agraeans were the Hagareans, and to support this view the authors draw the following diagram:

Hagar > *hagarī (hagarite) > *ahgār/*Ahgūr (hagarites) (Robin & Prioletta 2013, p.149).

Based on this theory, Robin and Prioletta (2013) concluded that Gerrha and Hagar were two names of one entity whose inhabitants by the ancient Gerrhaeans based on information which came via Greek trade, and Agraeans based on information which came from Arab trade. Additionally, Robin and Prioletta (2013) assumed that Gerrha was the capital of the kingdom of Hagar.

Finally, in their discussion about the references to Gerrha by the ancient authors, Robin and Prioletta (2013) commented briefly on the important information in the descriptions of Gerrha in Strabo (Geog. 16. 3. 4) and Pliny (*N. H.* 6. 32. 147) who wrote that it was built in salty land and that salt was used as a building material. Although Robin and Prioletta (2013) commented that Geriyah which they called the “Salt Mine Site”, is a site matching this description, Robin and Prioletta (2013) argued it was not necessary to build a city with blocks of salt in a salty land as it was possible to transport the building materials from any distance. Moreover, Robin and Prioletta (2013) discussed whether Aramaic was spoken among Eastern Arabian communities in their comment on the Chaldean origin of the Gerrhaeans who Strabo (Geog. 16, 3, 3) mentioned that they were exiled from Babylon without mentioning the date of this event. Robin and Prioletta (2013) attempts to link Khatt with Chattenia by using ancient sources were unclear.

6.1.8 My proposal based on the previous results of this research (2022)

My proposal suggest that the inland area of Geriyah is the most likely location of the city of Gerrha, not only based on its environmental aspects, but also other factors such as linguistic, geographical and archaeological evidence.

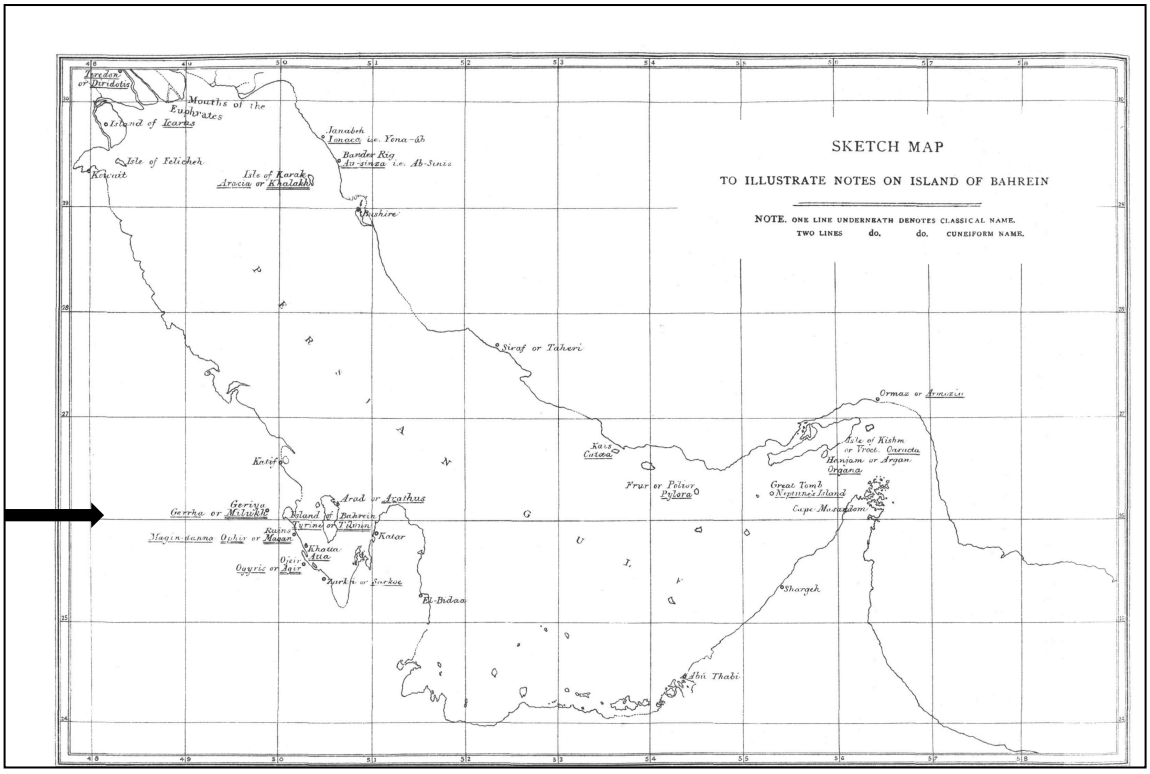
Geriyah had already been suggested to be the location of Gerrha by previous scholars such as James (1969), Burkholder (1984), and Golding (1984) who provide significant evidence. However, I will add additional evidence to support Geriyah as Gerrha, by referring to discoveries in my field survey of the Geriyah area.

I believe that similarities in names are significant, which is why my suggestion that 'Geriyah' is the most suitable word to be linked linguistically with Gerrha. In 1979 Beeston suggested that 'the name Gerrha may simply correspond to the modern Arabic 'qaryah' (plural 'qura')' (Beeston, 1979). People of Eastern Arabia, as explained above by Groom (1982), sometimes pronounce Q as G which in this case means Qaryah would be pronounced Garyah or Geriyah in Arabic. The linguistic similarities between Geriyah and Gerrha is stronger than any other suggested of archaeological site names.

Our suggestion is also supported by its geographical position, environmental sources, and archaeological evidence. Although the geographical evidence is one of the most important factors in discussing Gerrha's location, this is a sterile debate since the ancient authors did not present accurate geographical information. It is a controversial topic because scholars did not agree about any of the related issues, not even the distance of 2400 stadia between Teredon and Gerrha, or the locations of the other sites like Chattenia/Attene, Balbana, and Magindanata which were mentioned in Ptolemy's map. Therefore, I will only provide the geographical evidence that supports our candidate site

Geriyah, using the evidence from some of the previous studies, a new GIS study, and our maps.

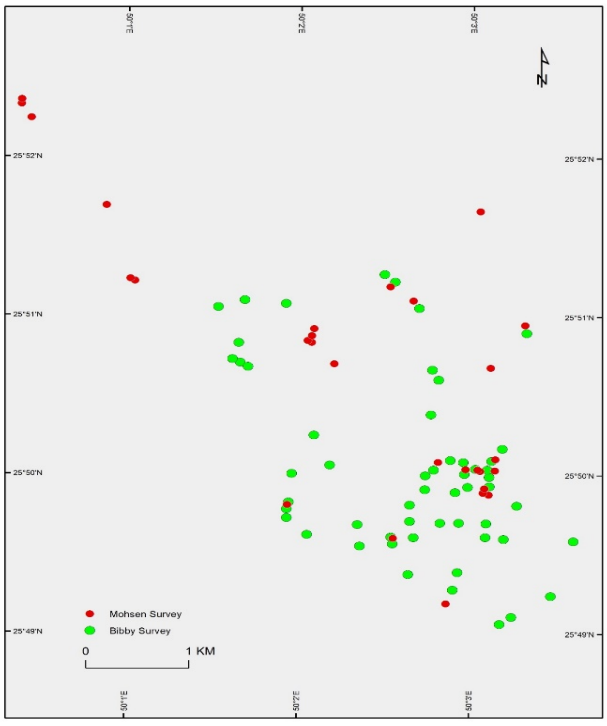
Before discussing Geriyah's location and its potential identification as Gerrha, we must review the existence of Geriyah as a toponym in modern studies. Although there was ignorance of the name 'Geriyah' in almost all previous studies of this archaeological site by scholars who replaced its real name with incorrect names, Geriyah is the name of our site which is known not only by the locals but even by some of the pioneers of archaeological studies in Arabia. Captain E.L. Durand in 1879 and 1880 was one of the first 'archaeologists' of Arabian Gulf Archaeology as Rice (1994) described him in his review of the history of archaeology in the area. Rice (1994:26) noted that as Captain Durand reported that the captain himself had added several toponyms onto the map in the report, one of which was called 'Geriyeh'. Therefore, to verify this valuable information, we found this map (Map: 6.3; Durand and Rawlinson, 1880) as extracted from Captain Durand's report.



Map:6. 3 Arrow added to show Durand's annotation "Gerrha or Geriya" (after Durand and Rawlinson, 1880, p.1)

This map does not only confirm that Captain Durand wrote the toponym on the map as Rice (1994) mentioned, but also that the captain wrote the name 'Geriya' correctly as it is pronounced in Arabic, and not 'Geriyeh' as Rice said in his book. The difference is of special importance because Geriyeh is a common name in Arabic used to define any small village, while Geriyah is a diminutive name of Gariyah. The only two archaeological sites with the toponym Geriyah known about in the Arabian Peninsula are Geriyah in Eastern Arabia and Qeriyah in Northwest Arabia. However, Captain Durand marks 'Gerrha' or 'Geriya' above another name 'Milukh' located in mainland Arabia toward the west of Bahrain and the shore of Arabian Gulf (Durand and Rawlinson, 1880). Although he locates Geriya (Latin) Geriyah (Arabic) a few kilometres away to the north-west of our Geriyah, the most important information is that the toponym Geriyah mentioned on this map is a very early suggestion that it is Gerrha.

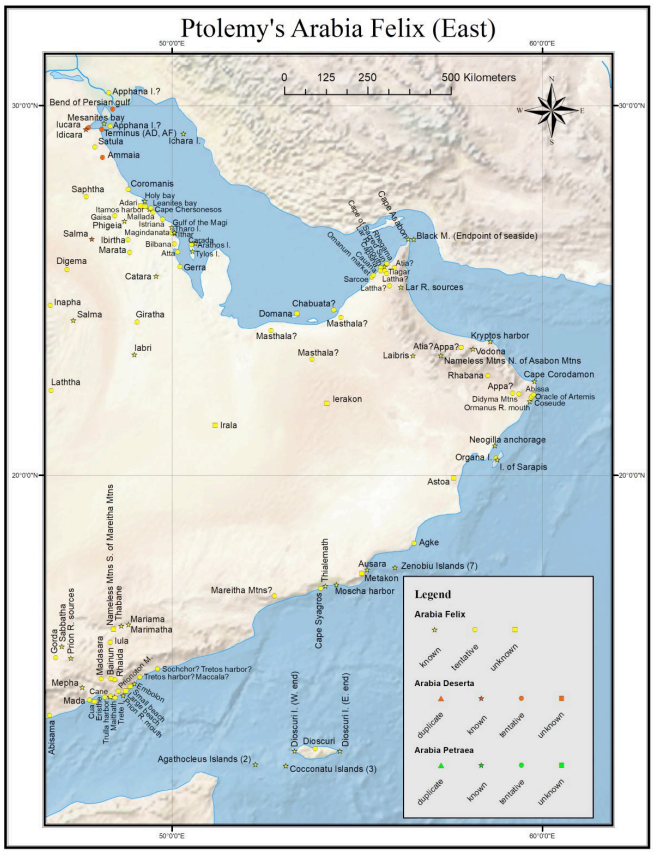
Burkholder (1984) proposed that Geriyah the most likely candidate for Gerrha based on its geographical location. Burkholder (1984) presented, as mentioned above, geographical evidence to support her proposal that Geriyah is Gerrha. Burkholder (1984) argued that Geriyah is located equidistant between Attene (Kanzan) and Tyros (Bahrain), and it is the same distance from both the site of Tylos and that of Attene. It is really an interesting idea but until now we found only surface finds dated to the Hellenistic period in Kanzan - of course more studies should be conducted. However, another suggestion was made by Bibby (1973), when he concluded his report on Geriyah by stating that Gerrha might be under the dunes of al-Jafurah which extend to the west and north-west of the Geriyah area and which might conceal Gerrha as a walled-city. Taking this into account I expanded my surface area to search in al-Jafurah dunes. However, as the geographical evidence is mostly presented in maps, I prepared an overlay map (Map: 6.4) to show our new archaeological discoveries in relation to Bibby's survey discoveries.



Map:6.4 Geriyah overlay map of Bibby survey sites as green dots and my survey sites red dots.

The map demonstrates that I followed Bibby's (1973) suggestion that it would be impossible to find Gerrha under in the desert area of Geriyah. The map presents both surveys in the area of Geriyah, the first one by Bibby (1973) and its discoveries are shown as green dots, while my survey's discoveries are shown as red dots. Since it appears from this overlay map that in the north-west there is additional archaeological evidence on al-Jafurah side of Geriyah, it is possible that Geriyah may yet reveal more evidence relating to Gerrha.

Archaeologists in previous studies have attempted reasonable interpretations of Ptolemy's map. The Geographical Information Systems (GIS) technology has the power to geo-reference and correct any map. It can also be applied to check the coordinates of Ptolemy's map. I decided to rely more on the recent GIS studies to get more accurate results of the spatial distribution of the sites mentioned in Ptolemy's map. The GIS software presents more accurate maps since it is based on mathematical principles. Abshire et al. (2020), presented one of the most recent studies that applied the new mapping technologies to evaluate the suggestions made by scholars during the last centuries based on geo-correction/geo-reference methods (Map: 6.5).



Map:6. 5 Ptolemy's Arabia Felix (East) (after Abshire et al. 2020, fig: 5, p.9)

Abshire et al. (2020) use the statistical prediction analysis model as the evaluating tool to examine almost all coordinates suggested by recent geographers and archaeologists in their attempt to read Ptolemy's ancient map correctly. The results of this latest technology supported some suggestions and rejected others. For example, it supported the scholars who choose al-Uqair to be the port of Gerrha and Thaj as Phigeia. Although, this new map does not locate the inland city of Gerrha, I believe its results strengthen the view that Geriyah was correctly located to be the city of Gerrha since it is located (32 km) 200 stadia north-west of al-Uqair port which precisely matches the distance between the port and the city of Gerrha as Strabo described it:

> 'The city is two hundred stadia distant from the sea' (Geog. 16, 3, 3).

Bibby (1973), and Burkholder (1984) already suggested the same view, but

Burkholder (1984) added that the archaeological evidence Geriyah area covered more than five miles which Pliny (*N. H.* 6. 32. 147) described as the size of the city of Gerrha. I agree with Burkholder (1984) especially with the continuing discoveries of the archaeological evidence at the north-east side of Geriyah as can be seen in the overlay map above. Therefore, based on this measurement of five-mile area as described for Gerrha, Geriyah is a better candidate for Gerrha than any other site including Thaj.

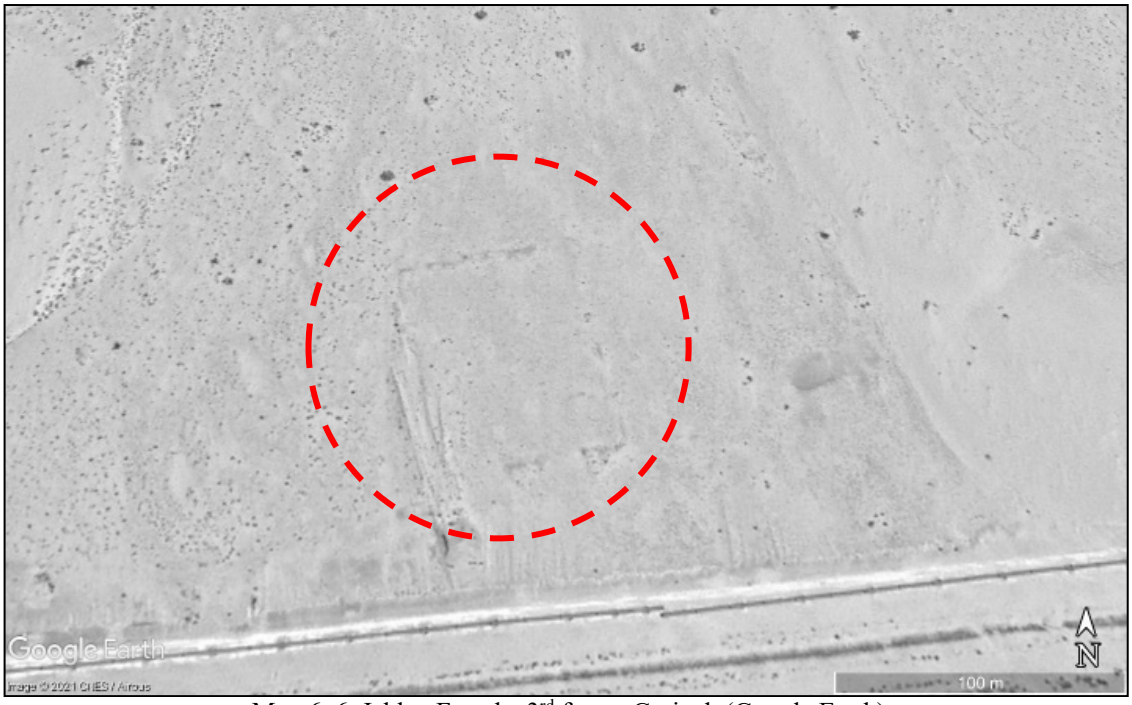
Although there are only few archaeological artefacts discovered at the site of Geriyah, these artefacts indicate an exceptional longevity not found at other sites in Saudi Arabia. According to Lombard (1988) the finds discovered so far from Geriyah have suggested that the site was inhabited for 750 years of the 1st millennium BC. Therefore, in my review in (Chapter 2) of some important Iron Age sites from the Arabian Gulf, besides the Iron Age sites in Bahrain and Kuwait I noted that there are no sites in Saudi Arabia that have settlement continuity before the Hellenistic era except for Geriyah. This early date for Geriyah makes it the only candidate to match Strabo's description of Gerrha -at least in Saudi Arabia- which was inhabited by the people who were exiled from Babylon during the Neo-Assyrian period around the 7th century BC.

However, in my survey I found additional archaeological evidence in Chapter 3 such as surface potsherds of Hellenistic date that support the theory suggested by Bibby (1973). I recorded new ancient mound, including a high square tower. I detected the phenomenon of double burial mounds which were mostly intact with surface finds of pottery and steatite.

In our test pit at the Inland Fort, I found in the lower level (2) a potsherd of green/yellowish colour (Fig. 3.110) and (Fig. 3.111) of Mesopotamian origin similar to those discovered at Qala'at al-Bahrain cities III and IV which can be associated with the

Neo-Babylonian /Neo-Assyrian era. This supports Bibby's (1973) suggestion of a potential previous occupation at the Inland Fort.

Recently, I found the third Fort that Burkholder (1984) mentioned, but for which she had provided no information about its location. Unfortunately, I found this location too late -at the end of my research period - to excavate. In my visit to the site I recorded preliminary information in the hope that I or other archaeologists could continue the investigation in the future. Jahlan Fort (Map: 6.6) is located to the west of the other new discoveries that our survey registered in the north-west of Geriyah in the al-Jafurah sand.



Map:6. 6 Jahlan Fort the 3rd fort at Geriyah (Google Earth)

The dimensions of this fort are 98 x 75 m. It is clearly bigger than the other two forts discovered previously in Geriyah. In the brief visit I managed to take some photographs and collect some surface finds. First, I recorded the damage that had happened to the western wall which had collapsed at the southern end of the wall (Fig. 6.12) and (Fig. 6.13). However, as the result of the disturbance on the west wall I made some finds that I would like to comment briefly on a wall fragment and some potsherds

were preserved in better condition than those discovered near the Sabkha or Inland Forts (Fig. 6.14). The wall fragment is very interesting and needs more analysis in the future but in general it clearly shows that the wall was painted in white colour with some marks of the painter's fingers (Fig. 6.15). It resembles the building material that Bibby (1973) found in one of the burials in Geriyah. The results from my recent survey added significant evidence that not only supported the previous discoveries at Geriyah, but also confirmed that the Geriyah settlement extended further into the al-Jafurah area.

6.2 Discussion

All Gerrha's suggestions reviewed above, including ours, will be evaluated carefully since they are very important to find Gerrha or at least help in finding Gerrha in future studies. There are three geographical locations suggested in the opinions reviewed in this study as the candidate locations of Gerrha: Thaj, al-Hasa, and Geriyah. We will discuss these suggestions as one topic where the linguistic, archaeological, and geographical issues presented as one factor lead from one to another. Then, we will use them as chain of indications to finally determine which candidate has most logical reasons in their suggestion candidate to be Gerrha.

6.2.1 Linguistic issues

There are some issues in the previous arguments of those who try to link 'Hagar' with Gerrha based on the linguistic similarities. Some archaeologists such as Potts (1984a), Groom (1982), and Robin and Prioletta (2013) are specialists in the study of ancient Arabic texts or have a very good background in Arabic language, but they all built their hypotheses of linking Hagar with Gerrha on has some linguistics issue. Likewise, Potts (1984), and Robin and Prioletta (2013) were writing the second letter of the Arabic

word [هجر] using Latin letters **'G'** as if it sounds like the Arabic letter JEEM [ج], while in my opinion they should use 'J' like how it is used when we write an Arabic city name starting with JEEM like the Saudi city Jeddah or those cities in which the JEEM is in the middle like Najran. Arabic-speaking people of the Arabian Peninsula today use **'J'** to pronounce any words with the letter 'JEEM'. Yes, there are no evidence about how the early Arabian peoples pronounce it, but one of the earliest sources of a place name [هجر] were the classic Islamic scholars who pronounce it as JEEM as they pronounce other Arabic words from the Qur'an's scripts. In my opinion, archaeologists such as Potts (1984a) and Robin & Prioletta (2013) probably build incorrect theories when they linked Hajar to Gerrha based on the Proto-Semitic root HGR instead of a later Arabic root HJR. The link made by Mandaville (1963) and Groom (1986) of Thaj with Phigeia is based on a linguistic reasoning. Mandaville (1963) and Groom (1986) explained that the Arabic accent in the eastern part of Arabian Peninsula sometimes pronounces the Arabic letter [ث] 'tha' as [ف] 'Fa', therefore, Thaj could be "Faj or Phaj" which the authors believe it could be Phigeia. This accent continues to be used today by the people of Qatif who say 'Falafa' instead of 'Thalatha' when they want to say the number three '3' in Arabic.

Writing 'G' instead of 'J' in Hajar was not the only linguistic issue that some of these experts made in their reading of/writing Hajar, they also committed a pronunciation inaccuracy that led them to interpret Hajar differently. Although it important to mention that the ancient script had no vowels and there are no correct or incorrect pronounce of some places, Hajar still a name of the same place today and read with short-vowels.

To help the non-Arabic-speaking people who converted to Islam in reading/understanding the Holy Qur'an correctly, Arabs started from the beginning of Islam to write what we call 'harakat' to make the difference in the sound of the letter

which is important for both grammar and meaning. These 'harakat', such as *Kasrah, Fatha, and Dammah* are diacritics or marking-vowels which give letter sounds like short vowels in Arabic script so that each one gives different short-vowel sound. The different position of the 'harakat' not only gives a different sound but also a different meaning. Therefore, archaeologists, especially Groom (1982) and Potts (1984b) misinterpreted Hajar as a plural term meaning small villages. The Arabic word that Groom (1982) and Potts (1984b) misinterpreted, Hajar, has the same letters but with a different 'harakat' where it sounds like Hejar [هِجِر] which is written in Arabic with a *Kasrah* underneath the first letter *h* to be pronounced (*he* هِـ). In this case, it is truly a plural term meaning small villages. However, Hajar (al-Hasa today) pre-Islam and until today is written [هَجْر] with a *Fatha* above the first letter *h* هـ to be pronounced (*ha* هَـ) which is the old name 'Hajar' (cf. al-Hamdānī 1953:86) of modern al-Hasa. It is singular with several meanings, such as heat wave or deserted/abandoned but none of its meanings can be interpreted as a small village/s. Moreover, Potts (1984b) proposed a theory saying that Hajar meant walled city in Southern Arabian inscriptions without support his claim with any Arabic dictionary or provide any other examples of ancient Arabic inscription. As for Groom (1982) it is true that Hejar (villages) sometimes contained administrative and tribal headquarters, but as discussed above this Hajar in Eastern Arabia has nothing to do with this meaning.

There are other doubtful issues that need more clarification from these experts, especially Robin & Prioletta (2013) and Potts (1984) who used their reading of the language as a factor to support their opinions regarding Hajar. First, how could Robin & Prioletta (2013) tell the difference in reading HJR in the inscriptions Maʿīn 93 D/36-39 and Haram 26 = *CIH 715*, between Hajar or Hejar? since there were no vowels of any kind - short or long - written in those ancient inscriptions. Therefore, it is difficult for us

to agree or disagree with them that it could be Hejar (villages), of which there were many in Arabia such as the Hejar that belongs to the Hamdan tribe in southern Arabia.

6.2.2 Archaeological issues

In the ancient Arabic ‘Musnad’ alphabet, there were close resemblances in the shape of two letters (ha 𐩢 ح) and (h 𐩠 هـ) especially in the Thamudic script, therefore it is possible to read the legend on the Harithat coins as King of Ḥegrā -in Proto-Semitic- and Hejr -in the Qur'an script- which refer to what known in Saudi Arabia today as Mada'in Salih. This suggestion is supported by the fact that the Nabataean Kingdom had several kings with the name Aretas which is Harithat in Arabic, such as the first two kings Aretas I and Aretas II who ruled at the end of the second century BC which matches the dates of these coins. Moreover, there was any archaeological or historical evidence attesting to the presence of a Hajar kingdom in Eastern Arabia in the Hellenistic, Mesopotamian, or Southern Arabian sources.

The issues of Harithat coins and the other so-called Hajar kings’ coins is important especially in determining the chronology of any archaeological site. Among all the candidates for Gerrha reviewed above, Geriyah is the only one at which early Hellenistic coins have been found such as the ‘Archaic’ stater from Arados and the Byblos silver tetradrachms of the Alexander series which are significant for the date of Gerrha. However, scholars who suggested that Thaj or al-Hasa were candidates based their theories only on some coins imitating Alexander’s coins. In their studies, Potts (1984a), and Robin & Prioletta (2013) tried to fill the gap of the absent Alexander issues or any other coins from Seleucid mints. The only coins which were found in their suggested locations were those of the kings of as they claim ‘Hagar/Gerrha’ and other types known as coins of ‘shams. They are important Hellenistic era finds along with these imitation

Alexander coins, which in my opinion, are better used to discuss the decline of Gerrha than used as evidence for searching for and identifying Gerrha. Regarding the first types of the issues of 'Hagar' kings, Potts (1984a) stated that Thaj is the only site where these coins of Hagar kings have been found, whilst Robin & Prioletta (2013) suggested that the coins of Harithat were the model used for other issues - the so-called coins of the kings of Hagar - and other types of Shams as identified in both studies as coins minted in Gerrha. However, Callot (1990) presented more reasonable numismatic analyses where he concentrated his focus on studying these coins without referencing the search for the location of Gerrha. Callot (1990) rejected the idea that the Hajar kings' coins were connected to a single political or economic entity. Callot (1990) argued that although they had some resemblance in design, there were significant differences the skills of engraving seen in the quality of the characters in and the mint workshops. Callot (1990) added that it is not possible to have this discrepancy between the coins of one entity at the same time or with only a few decades difference. The quality dropped very rapidly from the coins of Abyatha' which closely imitated the original Greek archetype and then minted derivatives of poor-quality coins such as Abi'el and Harithat (Callot 1990). Additionally, Callot (1990) said that since Abi'el and Harithat coins were issued at the same time in the middle of the 2nd century BC, it is unlikely that there were two kings issuing two different coins for the same kingdom at the same time. Regarding the other coins that are known as Shams, Callot (1990) concluded that since Gerrha was the major trading centre in that region of the Gulf, the city would have issued coins of high quality. Callot (1990) added that the only coins with that high standard which could be linked to Gerrha were the few numbers of Shams [𐤔𐤌𐤔] and its later series of vertical *shin* [𐤔] coins discovered in Bahrain (see Callot 1990, fig. 6-7, p. 226). Like those from Abyatha', the *shin* series from

Bahrain were of excellent quality while the other series of *shin* coins found in Failaka and other sites with a horizonal *shin* were of poor quality (Callot 1990). Finally, Callot (1990) suggested on the basis of the discovery of the first few excellent issues of shams and around 310 vertical *shin* coins in Bahrain, the currency of Gerrha was minted by very skilled craftsmen at a workshop in Bahrain. Callot (1990), proposed that Gerrha tried to be economically independent for a short period in the early years of the reign of Antiochus III which was a logical reason for the king to travel to Gerrha in order to regain control of the trade in this region. Callot (1990) supported his view by suggesting that the vertical *shin* coins from Bahrain were not issued again as the result of the actions of Antiochus III who stopped to regain his control in Tylos on his way back from Gerrha.. Callot (1990) suggested that all the other types of derivative coins discovered elsewhere in Eastern Arabia, were attempts by other traders to follow Gerrha's short-lived moment of independence. Callot (1990) concluded that due to the large number of valuable gifts that the Gerrhaeans sent to Antiochus III their economy was affected and a few years later Gerrha's status as a powerful trade entity declined. I agree with Callot's (1990) logical evidence that 'Gerrha's coins' – which some scholars called Hajar's coins- were a sign of the decline of Gerrha rather than a proof of its location. In addition, Geriyah provided a coin from the earliest times of Gerrha's trade, moreover, Potts (2018) said there were other *shin* coins of Gerrha in its last days which were found at Geriyah. These had the vertical *shin* type such as a silver obol derived from Seleucid types (see Potts 2018, fig. 60, p.46).

6.2.3 Geographical issues:

However, we need to discuss the geographical theory proposed by Potts (1984a) when he suggested that Thaj, (in his opinion, Gerrha) was connected with its port (he

suggests Jubayl) during the Hellenistic period via an 'ancient trade route' known as 'Darb al-Kunhuri', about which Mandaville (1963) wrote:

> "…the well-known camel trail known as Darb al-Kunhuri, was an important and perhaps ancient route for east-west trade between the Persian Gulf and Najd before the coming of the motor car (Mandaville 1963, p.10)."

Potts (1984a) built his Darb al-Kunhuri theory based on what Mandaville (1963) described as 'perhaps ancient'… and before the invention of the motorcar. There is no archaeological evidence to support that this camel trail was used as trade route linking Thaj with Jubayl during the time of Gerrha. Furthermore, there were neither any geographical nor historical sources that mention Darb al-Kunhuri as a trade route either during the 1st millennium BC or indeed before the end of the first millennium AD. The earliest source providing an indirect reference to Darb al-Kunhuri was in the writings of the Islamic scholar al-Asfhani in the 9th century AD. However, this author did not describe a trade route but only a water source with the name Kanhal (ending with 'L') near Jubayl, however, the modern editors of al-Asfhani's book, al-Jassir & al-Ali (1968:344) added in the note 3, that there was a water source on the route known as Darb al-Kunhuri between al-Hasa and Najd. However, we should point out that this issue about this assumed ancient route does not affect the existence of Thaj as an important new trading station/city on the caravan trade route that was established between south and northeast Arabia during the Hellenistic era, as I discussed earlier. In the previous chapter 5, we discussed how Thaj and Qaryat al-Faw and the later trade route were only a result of the economic evolution in Arabia which occurred after the success of the trade by the Gerrhaeans and the Minaean with the Hellenistic markets. Finally, it is misleading that some scholars replaced well-known toponyms with the name Gerrha as Potts did with Thaj and Burkholder with Geriyah.

Groom's (1982) suggestion that al-Hasa is the most likely candidate matching the descriptions of the Gerrhaeans' agricultural potential on environmental grounds. Groom's suggestions could be further evidence to support Golding's (1984) idea that the Aftan River which flows from al-Hasa was the water source for the Geriyah irrigation channels. Potts (1992) moreover, supported this theory when he stated that these channels '…were undoubtedly fed by the Multallim or Wadi Aftan, … (Potts, 1992, 57).' Therefore, like Al-Hasa, Geriyah had agricultural potential demonstrated by the irrigation banks that survive on the site.

However, the scholars who suggested the sites in Hajar (al-Hasa today) and al-Uqair as the candidates for Gerrha and its port, have not been supported by the discovery of any Hellenistic period evidence. Although very significant archaeological finds came from Thaj the economic evolution in Arabia in the Hellenistic era resulted in establishing a new trade route that caused the emergence of new caravan cities such as Thaj and Qariyat al-Faw. The Gerrhaeans' thriving trade in particular led to the establishment of Thaj and Qariyat al-Faw, thus, it may be concluded that Gerrha existed somewhere in northeastern Arabia before these cities were founded. However, the archaeological evidence reviewed previously supported that Geriyah is one of the best candidates to be the location of Gerrha, yet some experts such as Bibby (1973), Potts (1984a), Lombard (1988), … etc. rejected any possibility to consider Geriyah as Gerrha because they said there is no discovery of a wall surrounded Geriyah, therefore, Geriyah is not a city of Gerrha because Gerrha was a fortified-city. Potts (1984b) even claimed that HGR meant in ancient Arabic inscriptions from South Arabia a fortified city or walled-city, which we discussed in the language topic that Hejar or Hejrah has never meant walled-city in Arabic. Indeed, I searched almost every ancient source for a description of the city of

Gerrha as fortified, walled or a city with wall, none of them described Gerrha as surrounded by a wall. Moreover, Scholars who support the identification of Gerrha with Thaj suggested that the ancient authors were confused when they saw the limestone walls of Thaj and thought it was built of salt - as if they had never seen limestone throughout all the Hellenistic cities!

In summary, some scholars tried to deny the importance of Geriyah based on the number of the finds, although archaeology is a science that appreciates the quality of the results more than their quantity. For instance, the Rosetta Stone is only one stone, but it was the key to read ancient Egyptian scripts. In my opinion Geriyah is Gerrha, yet my aim in this discussion is only to achieve acknowledgement of the importance of an archaeological site that had been left for a long time without any attention. I hope the summary of all the archaeological evidence will at least highlight the importance of the site of Geriyah which is endangered today by the expanding works of the oil companies and urban development projects in the area.

Summary and Conclusions

Demonstration of the steadily increasing contact with Mesopotamia and the Greek world

Chapter 1 of the research highlighted some historical events especially those which linked the Arabs or the Arabian Peninsula with the Mesopotamian empires during the 1st millennium B.C. First, during the Neo-Assyrian the first mentioned of Arabian person "Gindibu" in the reign of the Assyrian king Shalmaneser III (858–824 BC), and the mention of Arabian queens Shamsi and Zabibe during the military campaigns against the north in the reign of Tiglath-Pileser III (744–727 BC), and the exiled of the the Chaldeans to Gerrha in the nort east Arabia by Sennacherib (704–681 BC). Second, during the Neo-Babylonian empire there were some historical events mentioned contact with the Arabs tribes and Arabia, yet the most historical event was during the Babylonian king Nabonidus when he chose to move to Tayma in northwest Arabian Peninsula. Third, During the Achaemenid Empire there were other historical event represent some of the Arabs and Arabia history especially their role in the political changes in the ancient Near East when they alliance with the Achaemenid Cambyses (529-522 BC) during his military campaigns against Egypt. Finally, in the Hellenistic era especially during the Seleucid Kingdom one of the most important historical event the military campaigns toward the Arabian Gulf by Antiochus III (223-187 BC) to Gerrha where we have some economical understanding of that part of Arabia during the end of the 1st millennium BC. Then there was a brief review of the historical changes in Southern Arabia politically. In this section we want only to have the historical boundary in southern Arabia to be identified since it is important to understand the historical events in this part of Arabian Peninsula which

was the economic centre where the myrrh and frankincense were produced which help to develop all the region in the first millennium BC.

Demonstration of the extent of Hellenistic influence through imported and imitated objects such as pottery and sculptures

In Chapter 2, I continue to review the archaeological background with more focused review of some important archaeological sites in the Arabian Gulf which were prosperous due to their contacts with Mesopotamia and Southern Arabia. In this second section I reviewed some of the archaeological discoveries related to the 1st millennium in Bahrain at Qala'at al-Bahrain the layers known as city IV and the Hellenistic city V, in Kuwait at Failaka the sites of Tell al-Khazneh and the Hellenistic Fortress (F5), and in NE Saudi Arabia the Hellenistic period sites at Thaj and Qaryat al-Faw. I evaluated the previous results from these sites to have a clearer image of an accurate timeline for this region. In these sites I attempted to resolve some archaeological issues such as Tell al-Khazneh and in the sites of Saudi Arabia. One of the issues is that the discoveries from Tell al-Khazneh were the subject of controversy among archaeologists. Some finds appeared to reflect, through comparison, earlier influences from the Neo-Babylonian and Achaemenid periods, however, the Aramaic inscription (Figs. 2.20 and 2.21) found at the site was more complicated since some scholars date it to the 5th or 4th century B.C. After consulting an Aramaic expert Prof. Hempel, I was able to have more accurate study by Naveh (1995) who date this inscription to the 3rd century B.C. The other issue was that in the sites in Saudi Arabia the archaeological reports mostly describe the finds as 'Greco-Roman finds and this generalisation was resolved in my study using a comparative

approach where I was able to separate what belonged to the Hellenistic era from those clearly relating to the Roman period especially those from Qaryat al-Faw. There were other archaeological issues especially regarding the archaeological sites in Saudi Arabia which we were able to solve using practical methods in the second chapter and a theoretical approach in the third chapter.

Identification through survey of a selection of sites in NE Saudi Arabia for testing by excavation to determine their date and character.

In Chapter 3 via archaeological survey field works, I aimed to solve some issues regarding inaccurate information and lack of adequate studies and publications of some archaeological sites and their finds in the eastern province of Saudi Arabia. Therefore, I conducted archaeological surveys in Kanzan, Geriyah, Ras Geriyah, and Tel al-Zayer. First the introductory report where I reviewed the background of the previous research conducted in our study area especially the Danish mission in 1973 and the Saudi survey which did not cover one site listed in our survey plan. Next, the report defines the extent of the study area using both the names of the archaeological sites and the geographical coordinate information. Therefore, my field surveys covered the areas Kanzan, Geriyah, Ras Geriyah, and briefly Tel al-Zayer.

Recorded all material from survey and test pits, whether Hellenistic or not, to assist future research and dated through comparison with existing material from and beyond this region.

In the second section of chapter 3 I tabulated my field observations under the name of each archaeological site including the initial description of each with the addition of

coordinates and general views. I illustrated and created record cards of all the finds which were collected from a) surface survey - including what was collected from underwater at Ras Geriyah -, b) the finds discovered in the two test pits.

Excavation of test pits

This section, moreover, includes my excavation reports of the two soundings I performed at Ras Geriyah and Geriyah at the Inland Fort. Both reports define the area where I made my soundings and the excavation methods and results for each of these test-pits. My results from these two soundings are different, especially in terms of the occupation periods of each site since the sounding at Ras Geriyah revealed four strata all belonging to the Islamic period and the sounding in the Inland Fort at Geriyah revealed two strata both belonging to the late Iron Age.

Generally, I conclude on the basis of comparison that the finds (potsherds) from the Kanzan area from both sites were of Hellenistic type especially those found at the top of Kanzan mountain where some were of very fine buff paste (see. Fig. 3.56). For the finds from Geriyah area, I believe that the majority were similar to those discoveries reported in the previous archaeological survey by the Danes published by Bibby (1973). In addition, however, I added important geographical and archaeological updates and provided new archaeological evidence. For example, one potsherd (fig: 3.110) from the sounding at the Inland Fort supports Bibby's (1973) suggestion of the existence of pre-Hellenistic occupation at this fort. We also expanded the survey to search further on the desert side of Geriyah where we discovered more than six archaeological mounds and one of these was a high mound shaped like a tower. These new sites prove that there is much more to be discovered around Geriyah and it is not improbable that other traces of

an important metropolis, as Gerrha was, will be discovered. Furthermore, although my results demonstrate even more strongly the importance of Geriyah, I also discovered that this site is at risk of destruction supported with a demolition of six burial mounds which Bibby (1973) located in his report. Moreover, at Ras Geriyah the sounding unearthed several types of pottery which can be closely dated to the Abbasid period 8th-9th century AD, in particular, a sherd of Chinese 'Celadon Ware' and sherds of green vessels coated on the interior with bitumen. I arrived at these conclusions by consulting Elhassan, an Islamic pottery expert who assisted me by drawing the sherds found during this research. Next, although Tel al-Zayer was discussed as a Hellenistic burial mound in Chapter 2, our survey provides other information that was not mentioned in the earlier report especially pottery samples (see. figs: 3.220 and 3.221). Moreover, I noticed that the mound itself was buried using the remains of heaps of kiln debris which appeared in the stratigraphic level revealed during the excavation which could date back to an earlier period.

Testing the accuracy of the suggested dates for the finds discovered.

In the last section of chapter three, to obtain more accurate dates for my finds, which I reviewed in the description section for each site, and evaluated the chronological information through comparison and relative dating methods with comparable finds discovered at some archaeological sites in the region. Thus, the surface finds from the archaeological survey at Kanzan and Geriyah were dated on the basis of their similarities with finds from Thaj. For example, the potsherds from the Kanzan samples (Figs. 3.56 – 3.59) are similar to Thaj pottery types which are all wheel-made of hard, well-fired paste. The red and black ware types of these samples are like Thaj types especially the pottery

bowls from the Tell al-Zayer mound. The potsherds from Geriyah (figures: 3.61, 3.64, 3.68, 3.84, 3.88) were dated to the Hellenistic period based on the similarities with the samples I collected from Tell al-Zayer (fig. 3.219).

Furthermore, our dating of the finds from soundings in the Inland Fort at Geriyah were from two occupation levels. The earlier level (1) revealed finds of the Hellenistic period similar to those found on the surface of the site, the older level (2) revealed a greenish/yellow potsherd of a medium-sized vessel comparable to those belonging to the Mesopotamian tradition as found at Qala'at al-Bahrain City IIIc and IVa of the early centuries of the first Millennium BC. This discovery supports Bibby's theory of the existence of earlier occupation before the Hellenistic at the Inland Fort.

The Ras Geriyah site was determined to be an Islamic site based on Elhassan's identification of a Chinese 'Celadon Ware' (Fig. 3.167) sherd found in layer 2 of the test pit which he said is a well-known imported ceramic type attested at several sites of Abbasid period (8th -9th century AD). However, to confirm this conclusion by Elhassan, I searched for comparable 'Celadon Ware' finds at several well-known Islamic sites. For example, at Al-Hasa there are very similar base sherds almost identical to our find at the site no 208-49 (Whitcomb et al., 1978, Pl.82, fig:32). Whitcomb et al. (1978) date this site to the later Islamic period II (7^{th}- 9^{th} century AD) based on a comparative approach to other finds found in the same excavations and with other Islamic sites in the region. However, it was enough for my research to present the data from this site as it is not Hellenistic but dates to late Islamic periods, and is now available for any further research in that era.

Review of new and existing material, from both licit and illicit museums collection to improve knowledge of date and provenance.

In Chapter 4, I review museum collections where I visited to add more archaeological evidence from Thaj, and other artefacts returned to the country by Grace Burkholder. Thaj collections were stored in three museums: Riyadh, al-Hofuf at al-Hasa, and Dammam; and Burkholder's returned collections were in museum in Riyadh. My goals were first to solve some issues regarding some incomplete information about these finds from archaeological site in the eastern province of Saudi Arabia. Second goal was to make these finds available to future studies.

Identified and recorded selected artefacts from museums collection

After I reviewed the background of these museum's collection, I add my own high-resolution illustrations of selected samples from two collections stored in museums (Thaj and Burkholder collections). For the most part I have used the museums' record card descriptions of the artefacts from the Thaj and Burkholder collections. The description and information of these artefacts were presented in description table for each group.

Examine the accuracy of their suggested dates.

The last section of chapter four, I evaluated the previous proposed dates and information for these collections' artefacts through comparison and relative dating methods with comparable finds discovered at the same site or from other archaeological sites in the region. It was important to include pottery vessels from the Thaj Museum collection which expanded the range of artifacts from this site to use in the data analysis section. Moreover, based on the information in Burkholder's book I could narrow to Tarut Island, the provenance of some artifacts which had not been attributed to a specific site in the SCTH published catalogue to present some restored artifacts including those

returned by Grace Burkholder. In the analysis for Burkholder collection, I used the earlier archaeological studies of Tarut to add more accurate information which locates the precise provenance of those artifacts. I have established their date through comparison with those of the Hellenistic layer of City V of Qala'at al-Bahrain rather than the Parthian period. I compared the material from Thaj to similar finds in Failaka and Qala'at al-Bahrain to re-assess the information existing previously. Both collections provide very significant additional evidence within the scope of my research.

SCTH also published a catalogue of these returned artefacts with a 'list of honour' containing the names of the people who returned them.

Evidence of the role of the Greeks in the economic developments in Arabia

In Chapter five I attempted to solve some missing and misleading archaeological information regarding the Hellenistic sites in Saudi Arabia Thaj, Qaryat al-Faw, and Geriyah. I began by reviewing the history of Arab trade since its entry into the commerce of the ancient world. This started with trade with Mesopotamia via the Arabian Gulf by the long-established traders of Dilmun, Mulokha, and Magan. Subsequently, overland trade intensified when the communities of the southern Arabia established political entities that controlled the trade routes and employed camels for transport. The arrival of Alexander the Great in Mesopotamia greatly accelerated economic development since one of his reasons for invading the Arabian Peninsula was to gain commercial control of the region. The interests of the Greeks in the Arabian market led to the establishment of extensive commercial relationships between the Hellenistic markets and trade entities in the Arabian Peninsula, especially with the new Minaean and Gerhaean traders. The results of this economic companionship are evident in the Hellenistic period in the establishment

of new trade routes which linked southern Arabia with Mesopotamia and the foundation of new commercial cities such as Qaryat al-Faw and Thaj.

Exploration of the area of Geriyah to determine the extent of the ancient site.
Review of the candidates for the identification of ancient Gerrha
Demonstration on archaeological and linguistic grounds that Geriyah is the strongest – perhaps the only candidate.

In the last Chapter 6, I explored the issue of the location of ancient Gerrha which was one of the most important commercial cities that played a major role in this economic revolution in the Arabian Peninsula. Due to the ambiguous descriptions by Classical authors, several candidate sites were nominated based on each researcher's understanding of these sources. In addition to my own suggestion that Geriyah is the strongest candidate for the site of Gerrha, I discussed previous important suggestions, in terms of the reasons and evidence presented for each. The linguistic similarities were one of the factors that these suggestions relied on for support. Also, Potts incorrectly defined the word Hajar to mean in Arabic a walled city. In contrast Geriyah was, linguistically, the closest candidate in terms of its similarity to 'Gerrha'. All the links of Gerrha with Hajar rely on the discoveries of coins imitating Alexander's issues which are known as the coins of the kings of Hajar which were minted at Gerrha. Callot (1990), however proved that the only possible coins that could be coins of Gerrha are those of Shams' series of Qala'at al-Bahrain. Besides, Geriyah was the only site among these candidates that where imported standard coins from Phoenician and Hellenistic centres were found. The environmental and the geographical factors, moreover, support Geriyah as the most likely site for Gerrha. Finally, the evidence discovered at Geriyah proved that the chronological sequence of

settlement periods at Geriyah corresponds to the history of settlement at Gerrha which started with the exile of the Gerrhaeans by the Neo-Assyrian king Sennacherib in the seventh century BC. No such chronological evidence is available for the other sites suggested as candidates.

Emphasised the significance of the archaeological sites of the region to encourage their protection and preservation.

I should make it clear that the main objective in this research was not to find Gerrha but to demonstrate the importance of Geriyah, even if I have ended with supporting it as the most likely location of the city of Gerrha; Geriyah needs more attention from the archaeologists the same as the attention that Thaj and other sites have received. Geriyah needs to be thoroughly explored though a substantial programme of archaeological excavation which will also encourage the officials of our antiquities service to protect it from the corporate greed which ignores both environment and heritage. I recommend that the archaeological work should also include the site of Kanzan, which I believe is closely related to the site of Geriyah.

Recently, I have presented the result of my survey at Geriyah to some people in the Heritage Commission (Saudi Arabia Archaeology Authority) and explained to them the importance of this site and the needs to protect the archaeological evidence at this site. Fortunately, they were interested and approved to conduct larger archaeological excavation project at Geriyah and give me the chance to participate in this near future project.

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I- Illustration

Figures



Fig:1. 1 The Monolith of Shalmaneser III (British Museum, 2017)

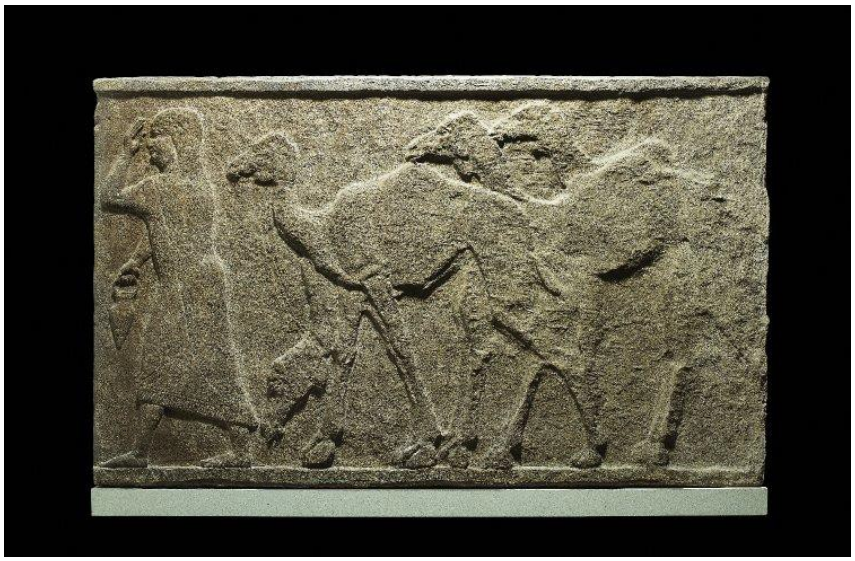


Fig:1. 2 Tiglath- Pileser III Wall relief illustrates Shamsi captured (British Museum, 2017).

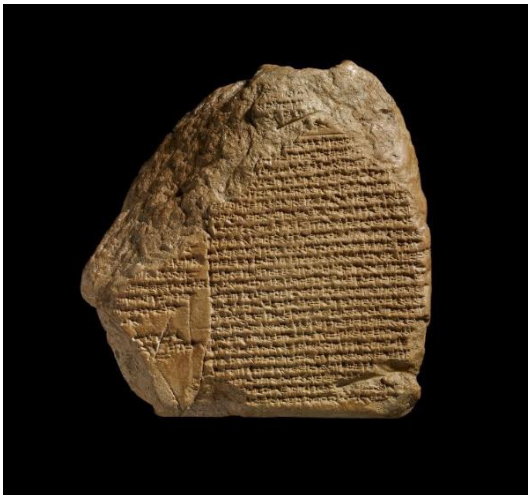


Fig:1. 3 Nabonidus Chronicle (British Museum, 2017)



Fig:1. 4 Athena from Jabal al-ʿAwd (after Simpson 2002, fig.162 p.133)

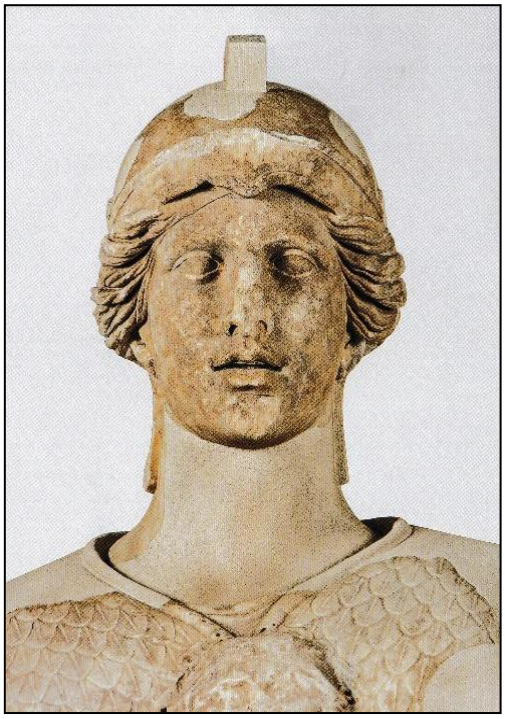


Fig:1. 5 : Detail from Athena statue from (after Picon & Hemingway 2016, p.3, fig: 2)



Fig:1. 6 Female bronze statue from Jabal al-ʿAwd (after Simpson 2002, fig. 164, p.133)



Fig:1. 7 Two bronze statues of lion riders from Timna (after Simpson 2002, fig.152-3, p.129)

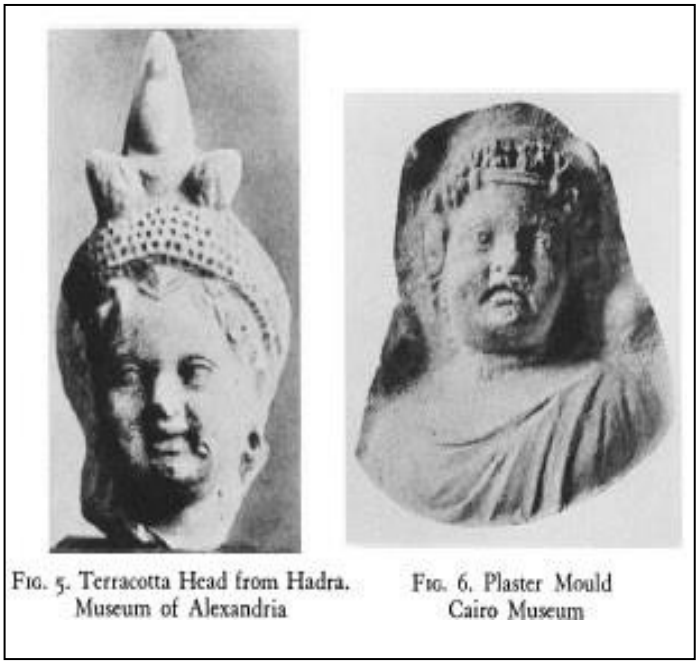


FIG. 5. Terracotta Head from Hadra. Museum of Alexandria

FIG. 6. Plaster Mould Cairo Museum

Fig:1. 8 : Hellenistic examples of Dionysos found in Egypt (Segall 1955, p.11)

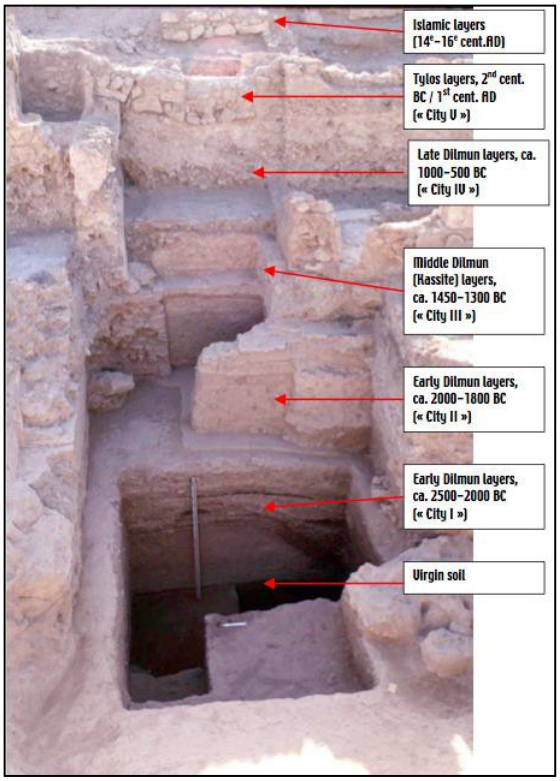


Fig:2. 1 The stratigraphy of Qala'at al-Bahrain (UNESCO, 2005)

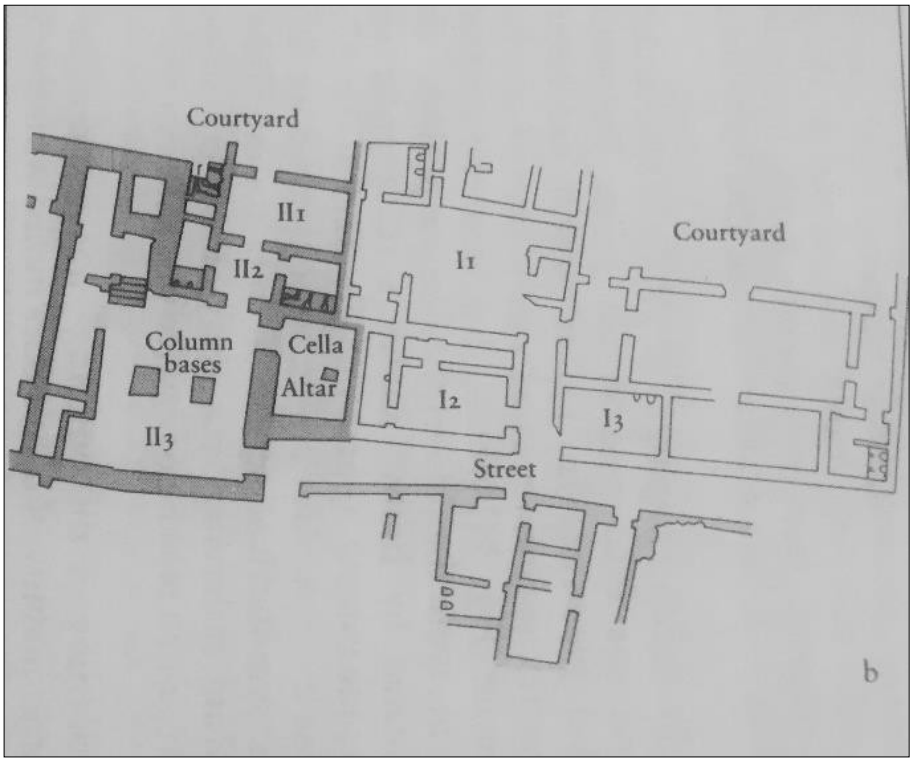


Fig:2. 2 Plan of the Palace (after Potts 1990, fig:34, p.300)

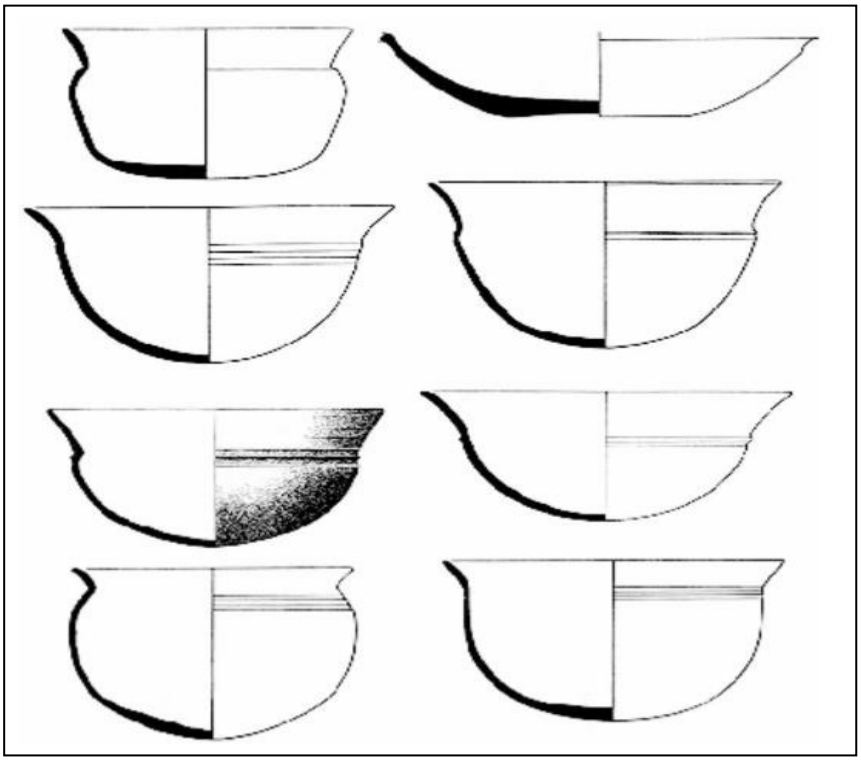


Fig:2.3 Snake-bowls from City V in Qala'at Al-Bahrain (after Potts 2010, Fig. 94.4, p.527).



Fig:2.4 Cylinder Seal from City V in Qala'at Al-Bahrain (after Lombard & Kervran, 1989, cat. no. 289, p.159)

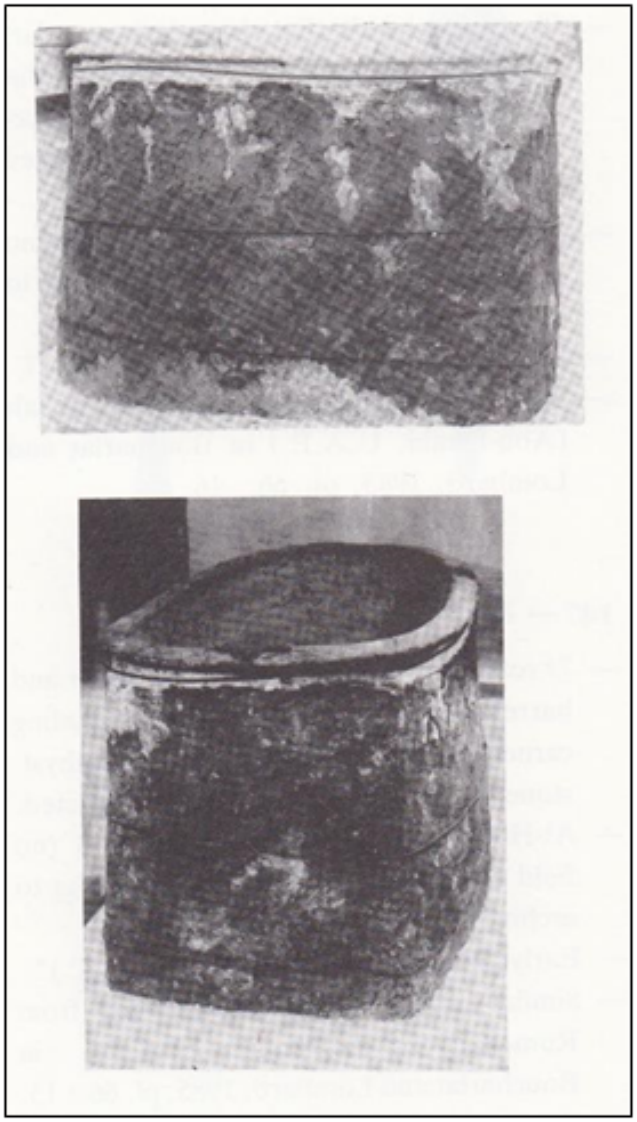


Fig:2. 5 Bath-tub coffin from City IV in Qala'at Al-Bahrain (after Lombard & Kervran 1989, cat. no. 149, p.80)

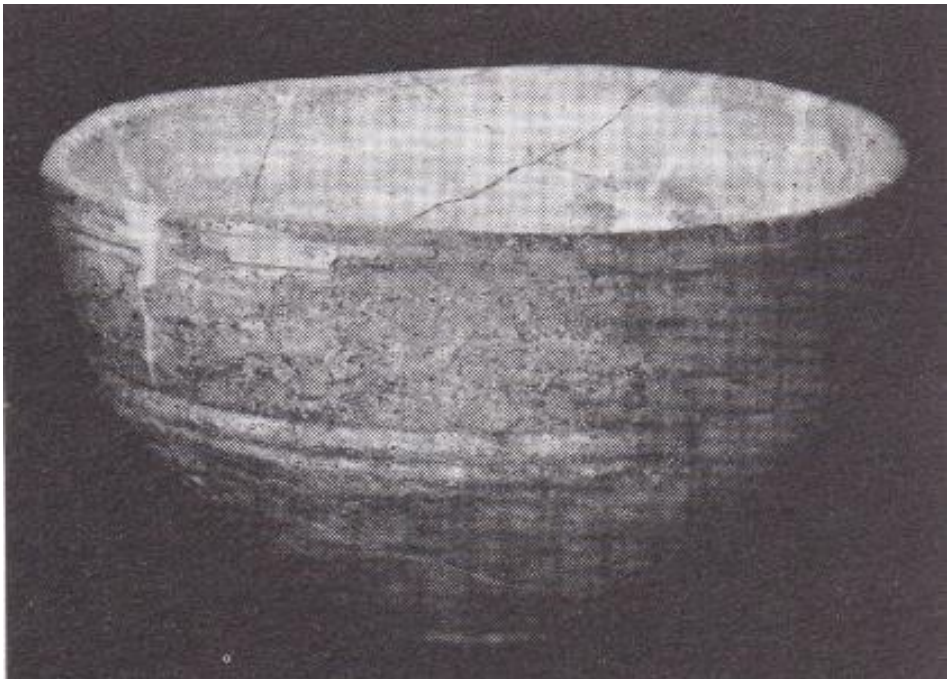


Fig:2. 9 Child burial from City IV in Qala'at Al-Bahrain (after Lombard & Kervran 1989, cat.no.150. p.80)

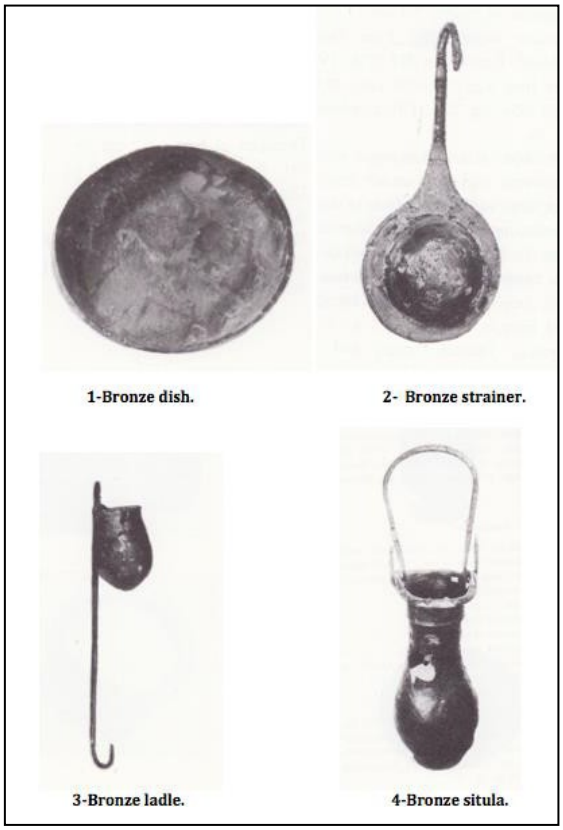


Fig:2.7 Bronze drinking –set from City IV in Qala'at Al Bahrain (after Lombard & Kervran 1989, cat. nos:131-134, Pp.73-74)



Fig:2.8 Silver Hoard from City IV in Qala'at Al-Bahrain (after Lombard & Kervran 1989, cat. nos. 135-142, Pp.75-77)

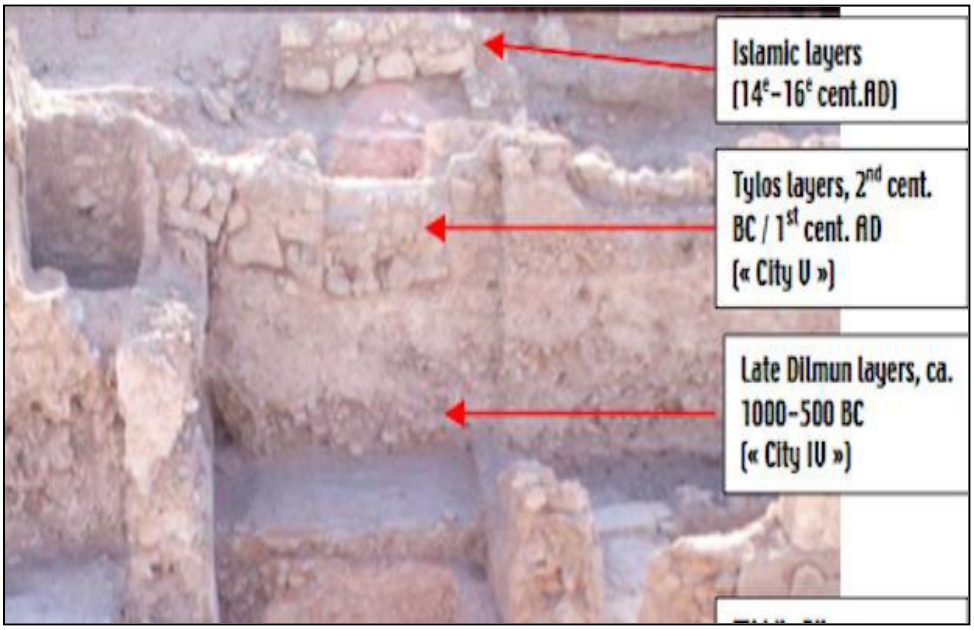


Fig:2.9 The layer of City V in Qala'at Al-Bahrain (UNESCO, 2005)

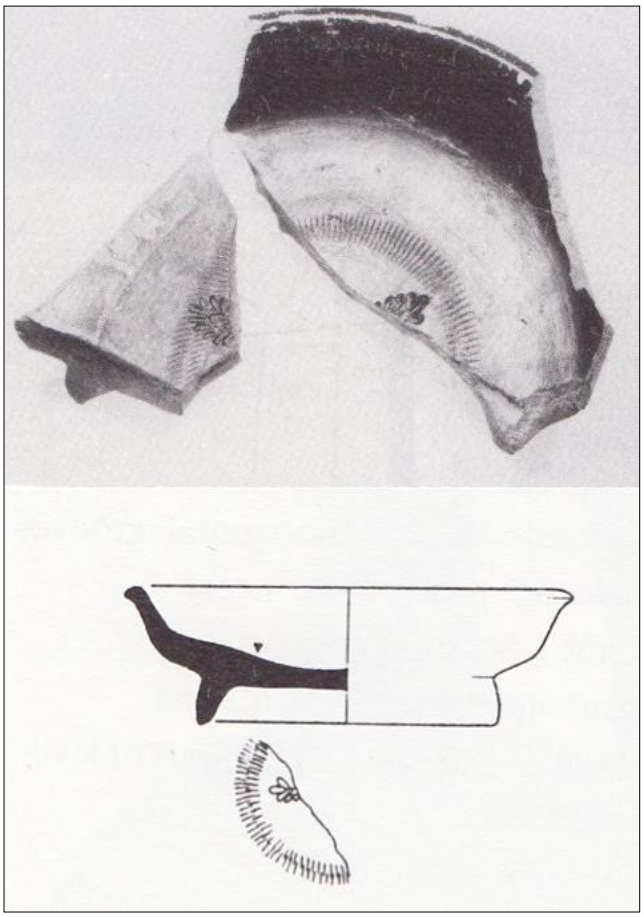


Fig:2. 10 Sherds of Greek black-glazed pottery from City V in Qala'at Al-Bahrain (after Lombard & Kervran 1989, cat. no.153, p.89)

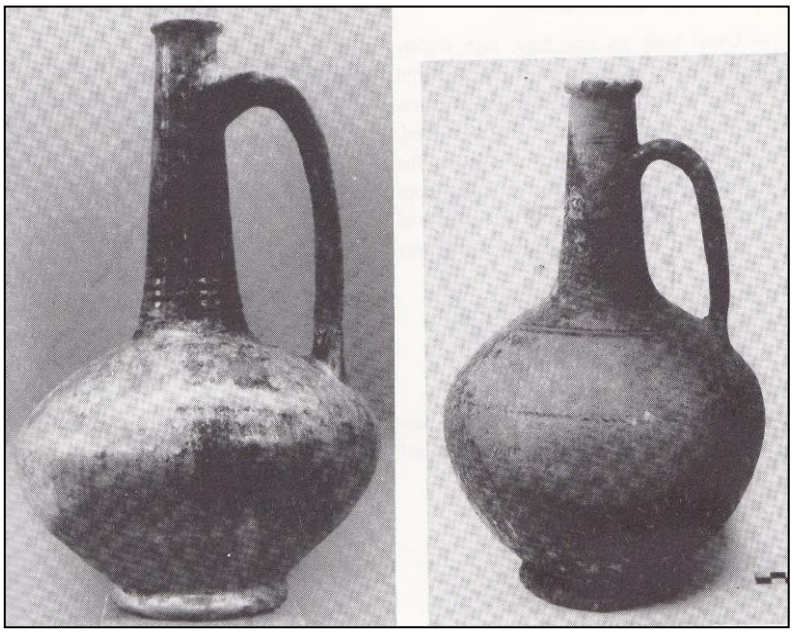


Fig:2. 11 Two Green-glazed vessels found in the earliest Hellenistic phase of City V in Qala'at Al-Bahrain (after Lombard & Kervran 1989, cat. nos.154 & 155, Pp.90-92)

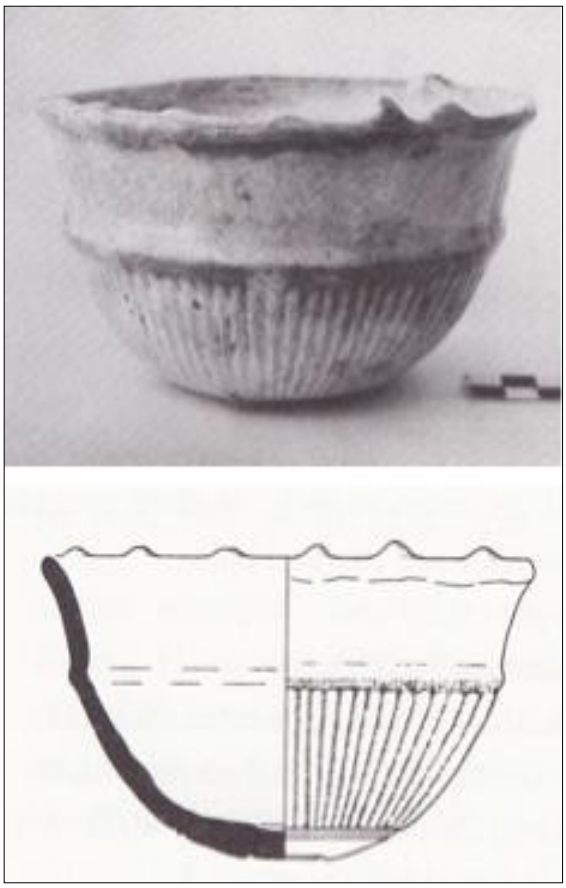


Fig:2. 12 Carinated glazed bowl from Qala'at Al- Bahrain (after Lombard & Kervran 1989, cat. nos.169, p.97)

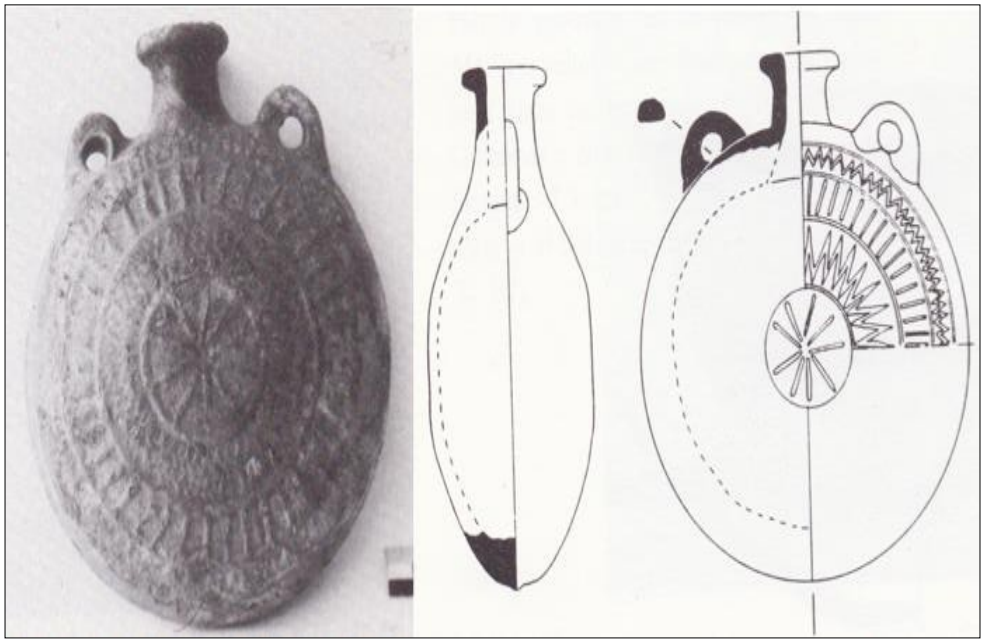


Fig:2. 13 Glazed pilgrim flask from Qala'at Al- Bahrain (after Lombard & Kervran 1989, cat. no. 171, p.98)



Fig:2. 14 Examples of terracotta figurines from City V in Qala'at Al- Bahrain (after Lombard & Kervran 1989, cat. nos. 232, 233, 229, 230, 237, and 236. Pp.126-128).

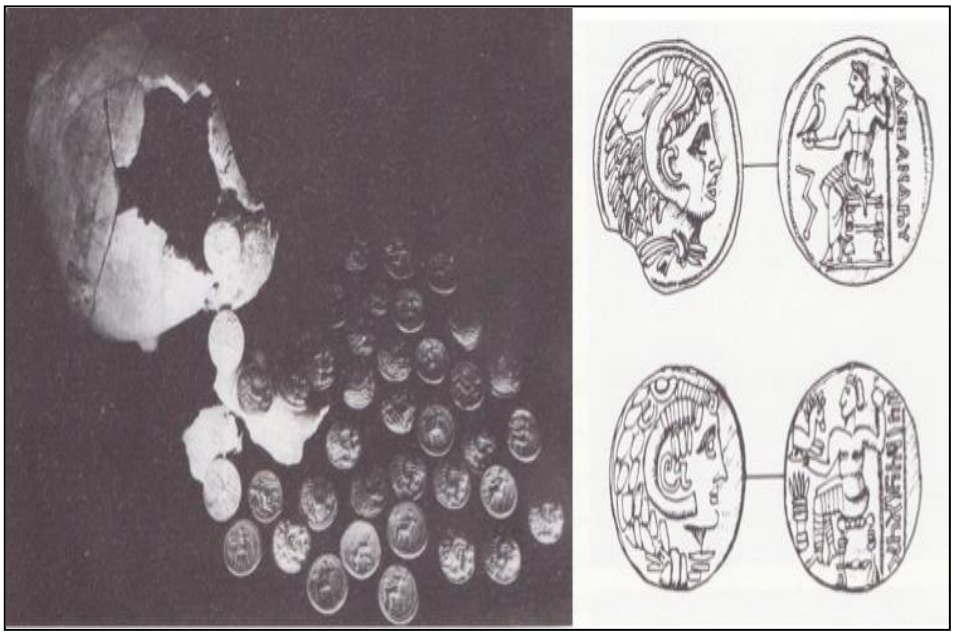


Fig:2. 15 Coin hoard from City V in Qala'at Al- Bahrain (after Lombard & Kervran 1989, cat. no.238, p.129).

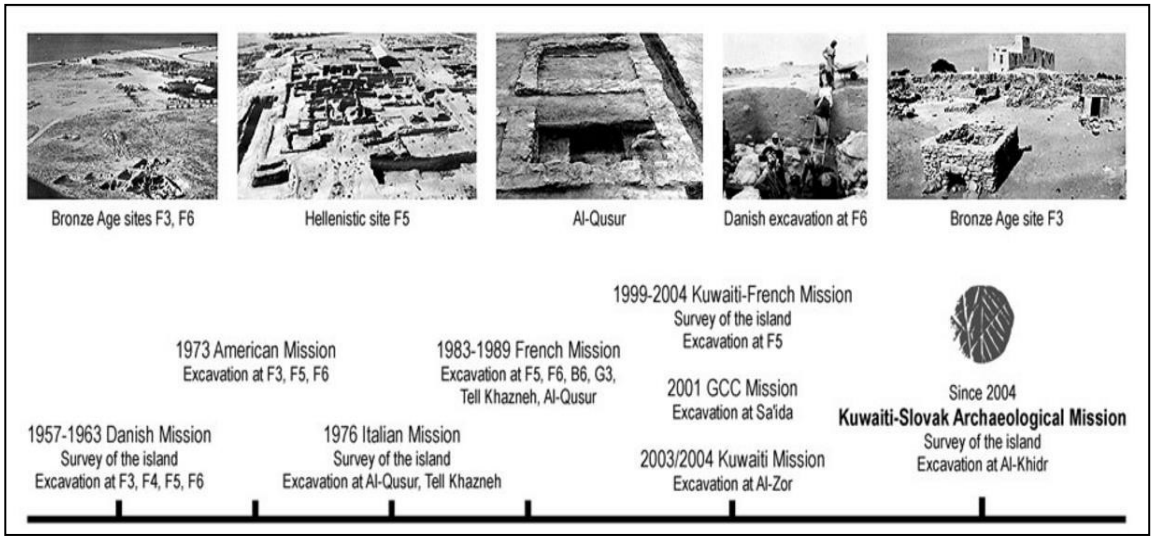


Fig:2. 16 The history of the archaeological missions in Failaka, Kuwait (KSAM, 2017)

Author & site	Figurines		
(after Salles,1986, fig.74:234-240, p.198). Tell Khazneh Level IV Pre-Hellenstic			
(after McCown, 1967, Pl.131:2, p.399). Nippur Level II Neo-Babylonian		(after Gibson,1975, fig.33:6, p.50). Nippur Level III pre-Achaemenid	

Fig:2.17 gathering the figurines examples for comparing

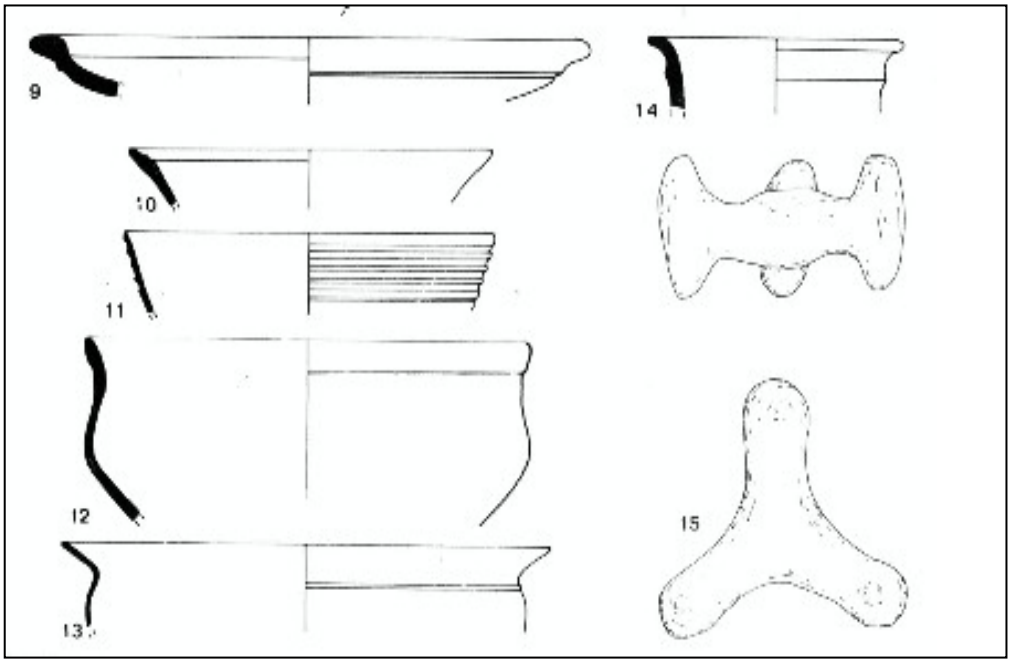


Fig:2. 18 Achaemenid pottery from Tell Khazneh (after Calvet et al., 1985, fig.5: 9-14, p.24)

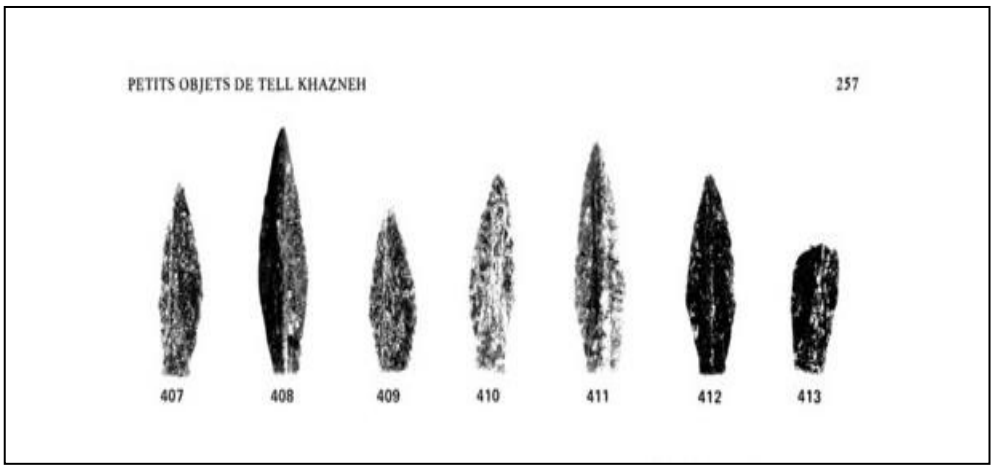


Fig:2. 19 Achaemenid Bronze Arrowheads from Tell Khazneh (after Salles 1986, fig.94: p.257)



Fig:2. 20 Aramaic inscription from Tell Khazneh (after Sznycer 1984, fig.94: p.279)



Fig:2. 13 Drawing of the Aramaic inscription from Tell Khazneh (after Sznycer 1984, fig.94: p.274)

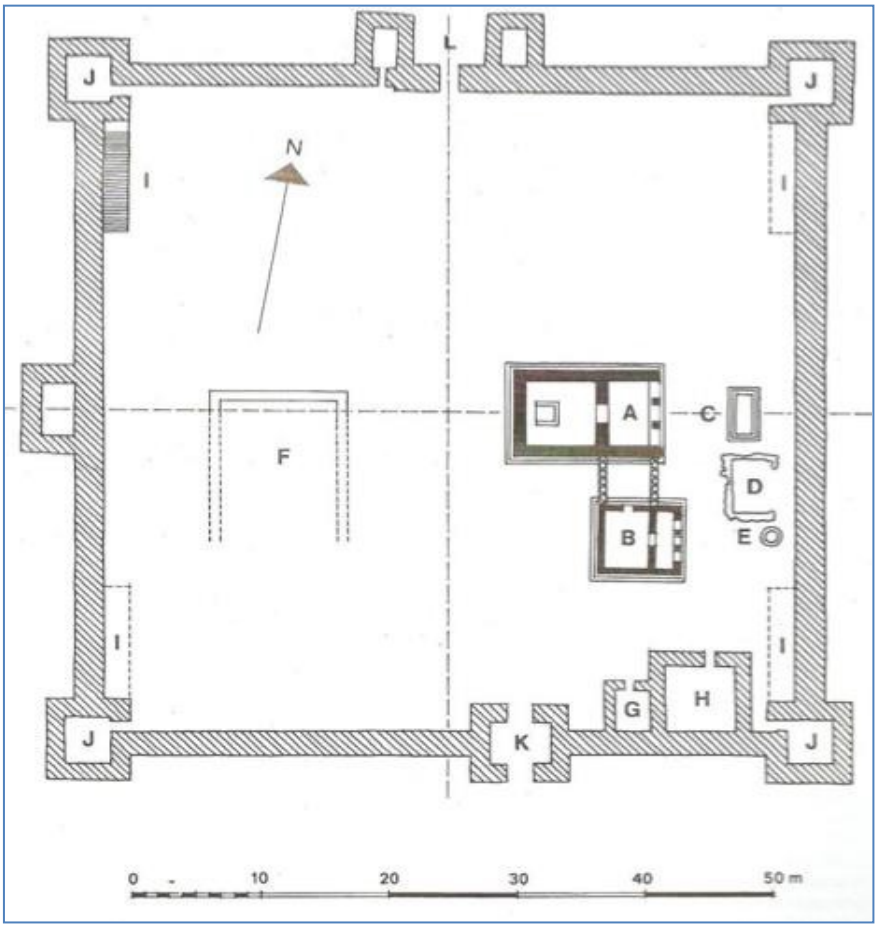


Fig:2. 14 The Tell Sae'ed plan (after Jeppesen 1989)



Fig:2. 23 The Hellenistic settlement in Failaka (after Rice 1994, fig. 8.1, p.208)



Fig:2. 24 Male head from F5 in Failaka (after Mathiesen 1982)



Fig:2. 25 Female head wearing high kalathos from F5 in Failaka (after Mathiesen, 1982)



Fig:2. 26 Female Statue from F5 in Failaka (after Potts 1992, Pl.V, fig.b)

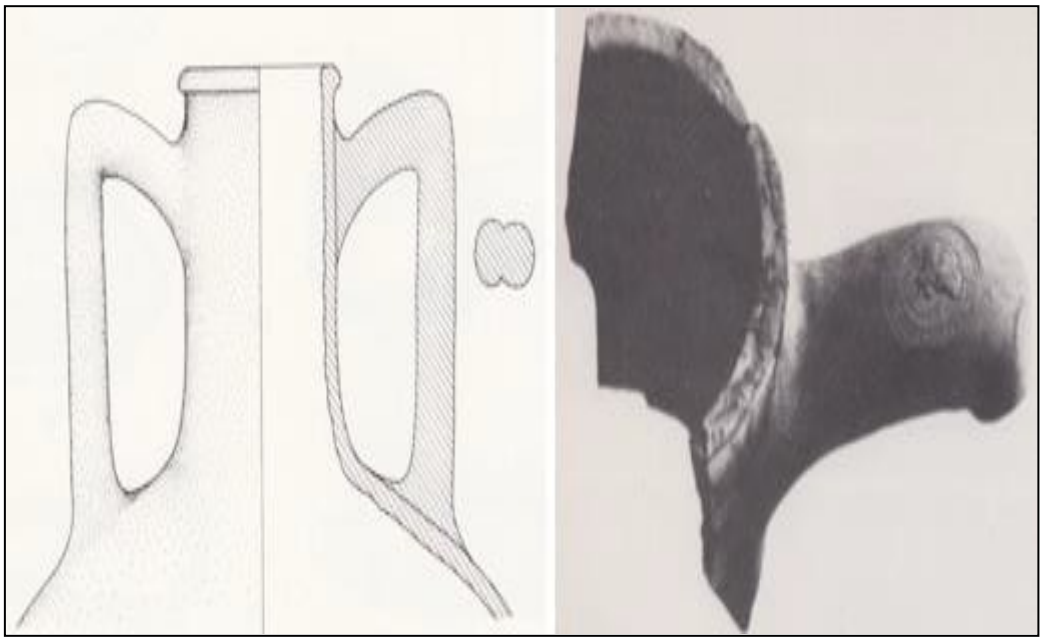


Fig:2. 27 Fragment of Greek wine amphorae from F5 in Failaka (after Hannestad 1983, pl.67 cat. 689, p.117 & Pl. cat. 680, p. 128)

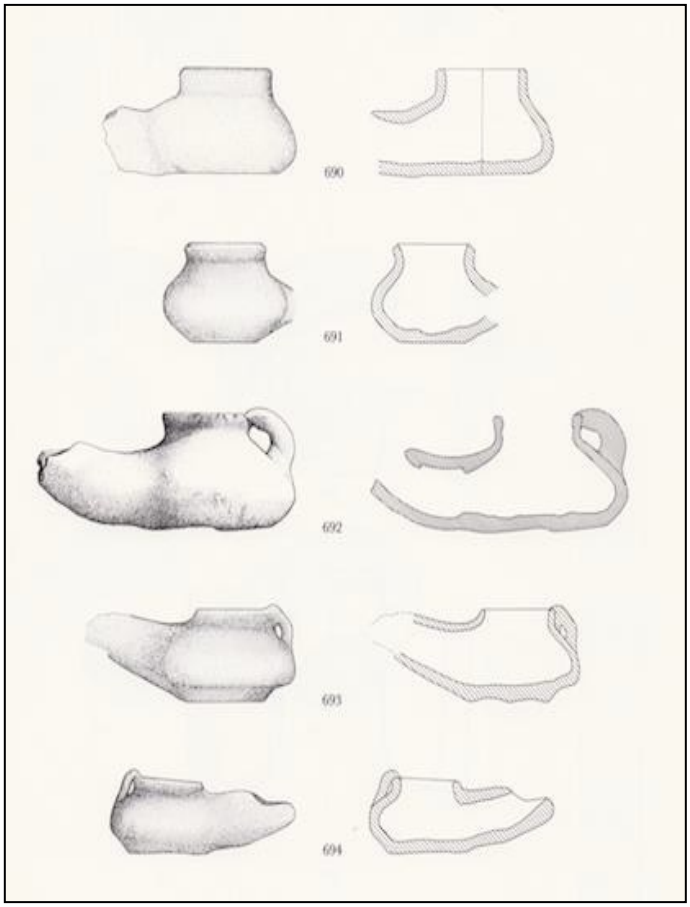


Fig:2. 28 Two types of Lamps from F5 in Failaka, Kuwait (after Hannestad 1983, pl.68: p.118)

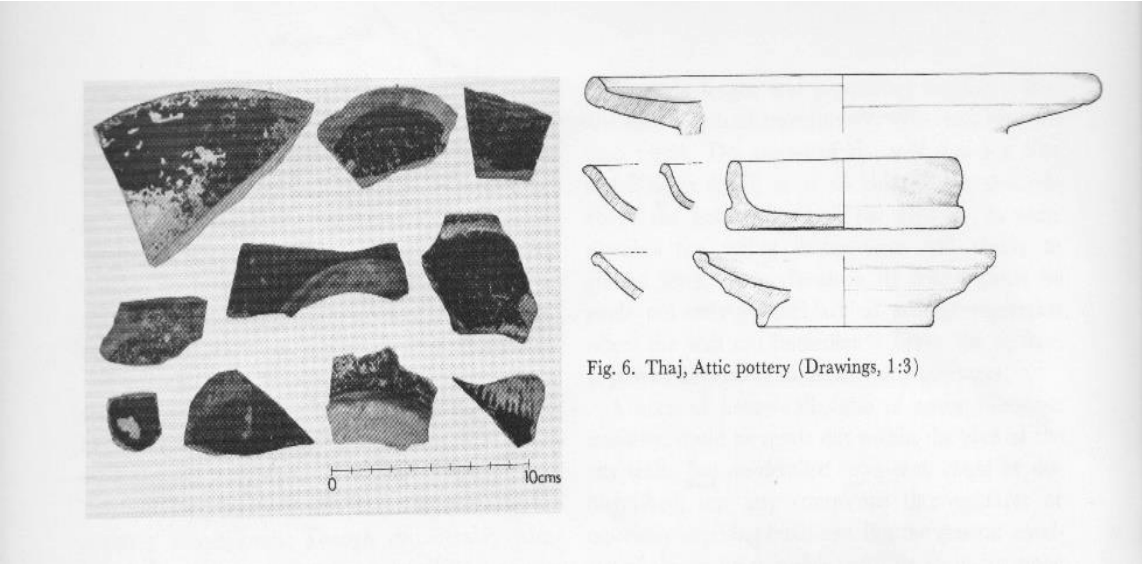
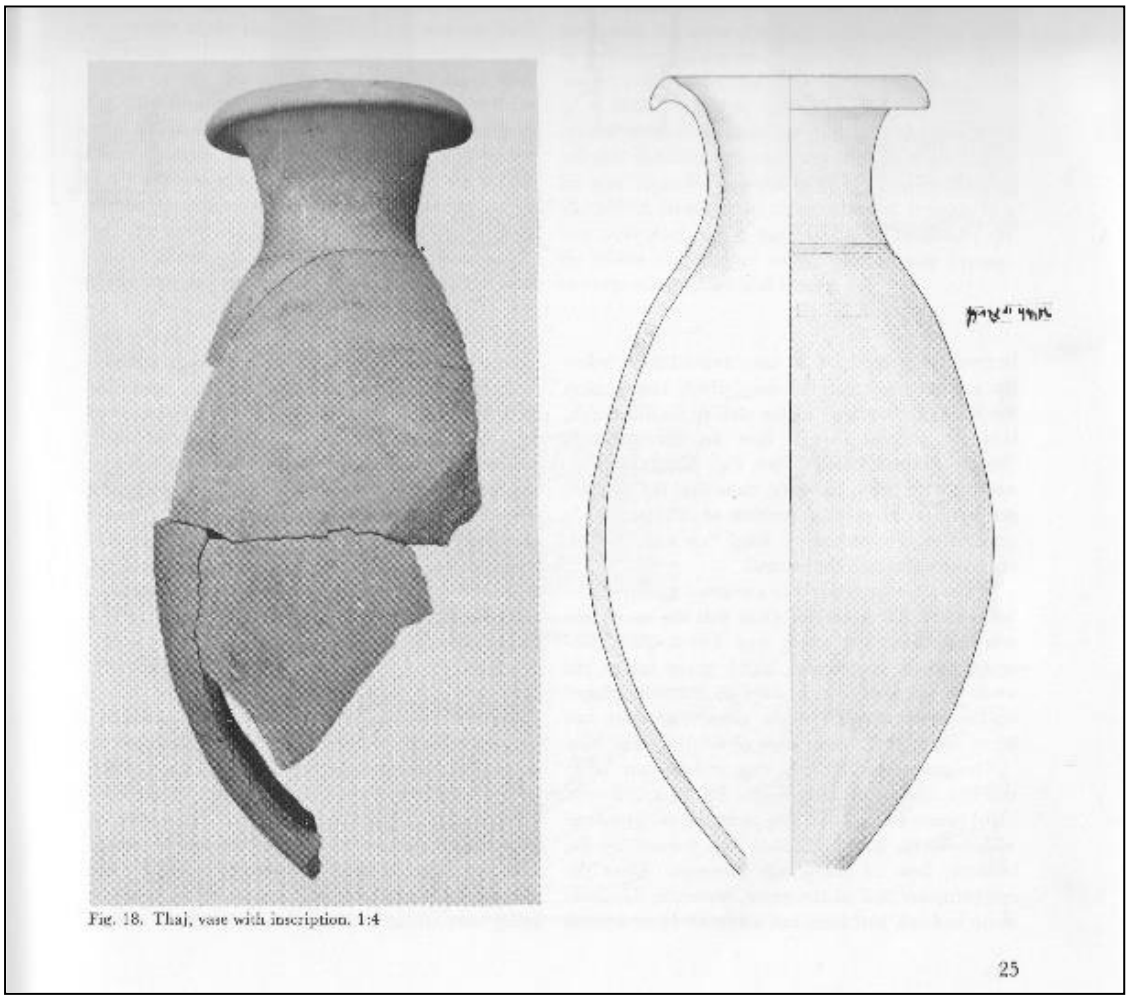


Fig. 6. Thaj, Attic pottery (Drawings, 1:3)

Fig:2. 29 Attic black glazed sherds from Thaj (after Bibby 1973, fig.6, p.16)


Fig. 18. Thaj, vase with inscription. 1:4

25

Fig:2. 15 Vase with Aramaic inscription from Thaj (after Bibby 1973, fig.18, p.25)



Fig:2. 16 Seleucid coins from Thaj (after al-Zahrani 2014, Pl. 50:15 & 77:15, Pp. 240 & 269).



Fig:2. 17 Gold finds from Tel al-Zair in Thaj (after Saudi Press Agency-SPA, 2015)



Fig:2. 33 Zeus figure from Tel al-Zair in Thaj (after al-Hashash 2001, Pl.55: b)



Fig:2. 18 Zeus Ammon gold coin 332-313 B.C. Cyrene (after wildwinds.com)



Fig:2. 19 Artemis figure from Tel al-Zair in Thaj (after al-Hashash 2001, Pl.56: a)

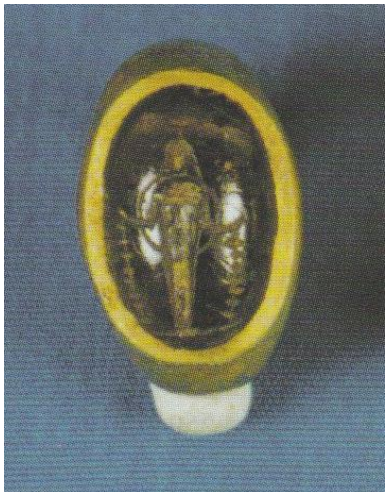


Fig:2. 36 Artemis figure on ring from Tel al-Zair in Thaj (after al-Hashash 2001, Pl.51: b-left)



Fig:2. 20 A Greek example of Artemis (after al-Hashash 2001, Pl.53: a)



Fig:2. 21 Metal figures used as legs for the bed of the deceased from Tel al-Zayer in Thaj (after Saudi Press Agency-SPA, 2015)



Fig:2. 39 Satellite imagery of Qaryat al-Faw (google earth 2017)



Fig:2. 22 Herakles from Qaryat al-Faw (after al-Senan, 2009, fig.9, p.95)



Fig:2. 23 Herakles: Roman copy from Italy (after al-Senan 2009, fig.123a, p.302)



Fig:2. 24 Hellenistic statue of Herakles in the Egyptian Museum (after al-Senan, 2009, fig.123c, p.302)



Fig:2. 25 The Weary Herakles from Sulmona in Italy (after Picon, C., & Hemingway, S., 2016, fig.14, P.113)

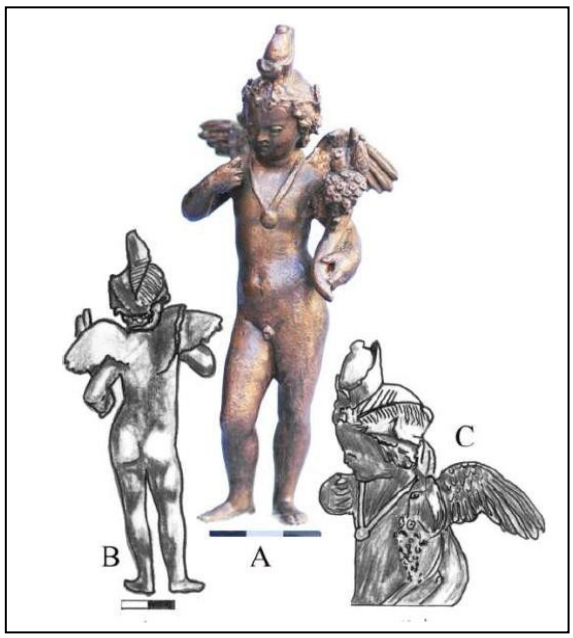


Fig:2. 26 Harpocrate with Egyptian aspects (after al-Senan, 2009, fig.19, p.119)



Fig:2. 27 Harpocrate from Egypt (after al-Senan, M., 2009, fig.134a, p.315)



Fig:2. 28 Harpocrate with other metal objects (after al-Senan, M., 2009, fig.20, p.121)

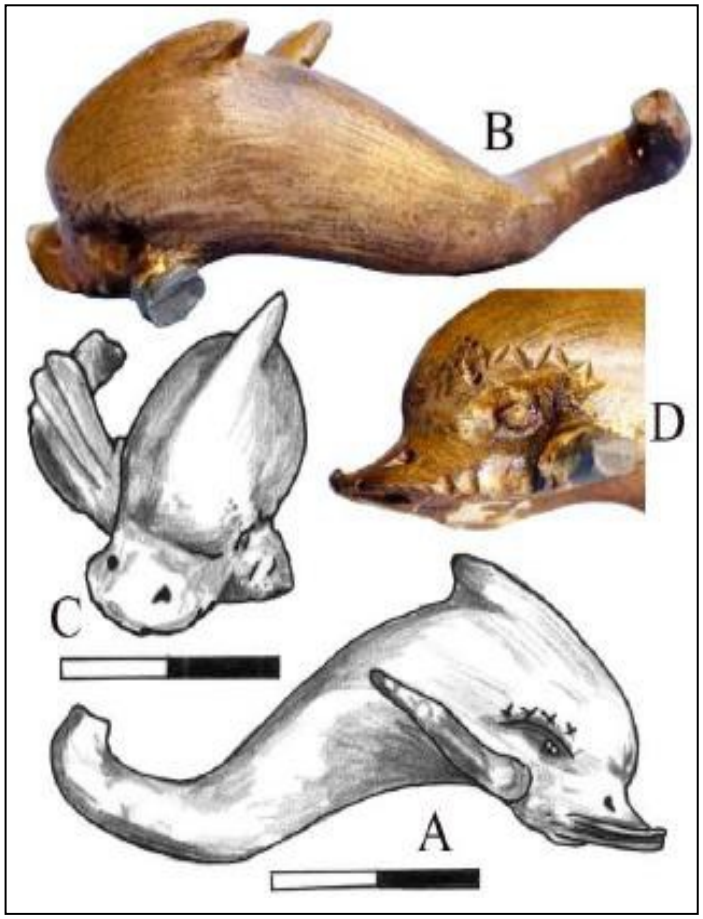


Fig:2. 29 Dolphin (after al-Senan 2009, fig.51, p.175)

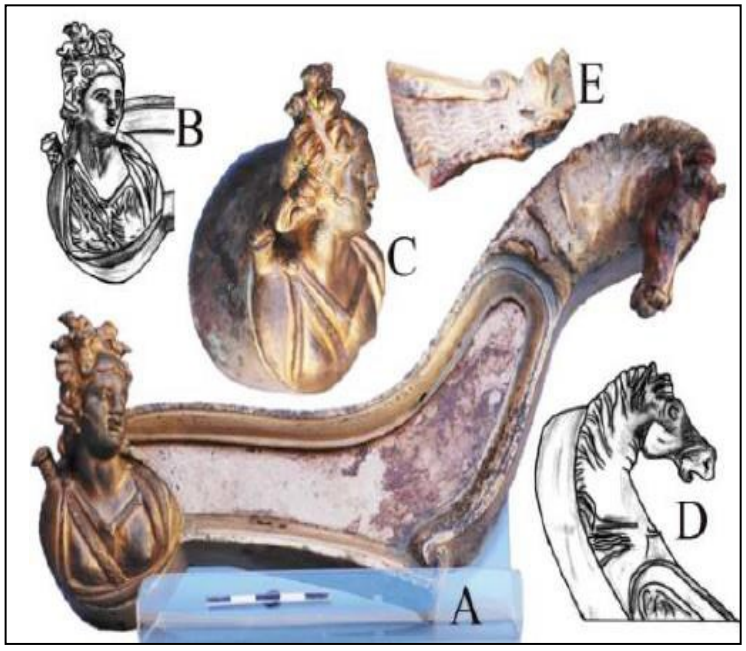


Fig:2. 48 Figures of women and horses from a funeral bed (after al-Senan 2009, fig.92, p.241).

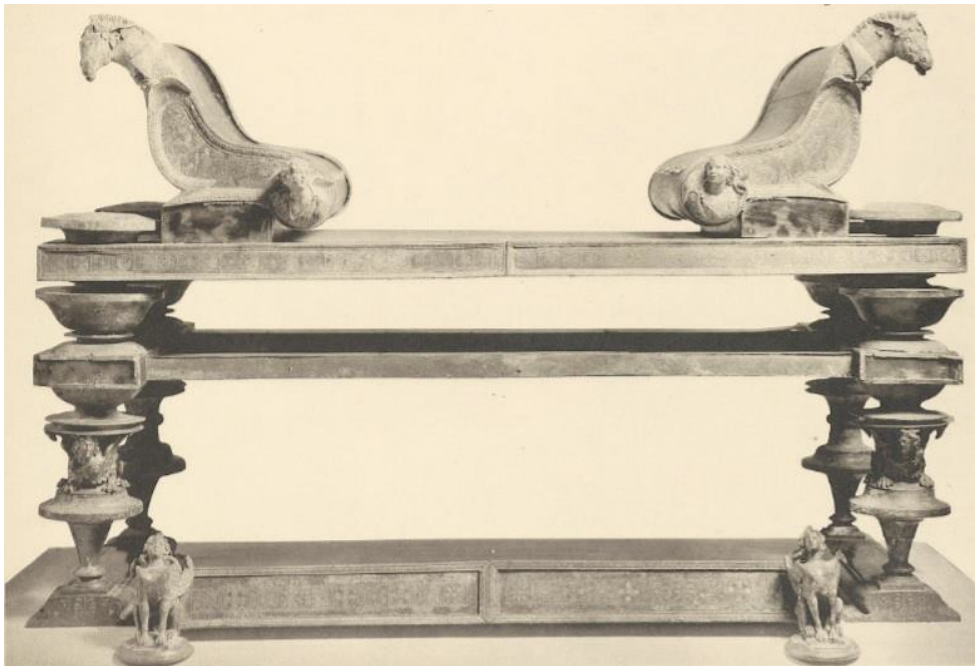


Fig:2. 30 1st century A.D. inlaid couch from Italy (after Jones 1912, Pl.62).

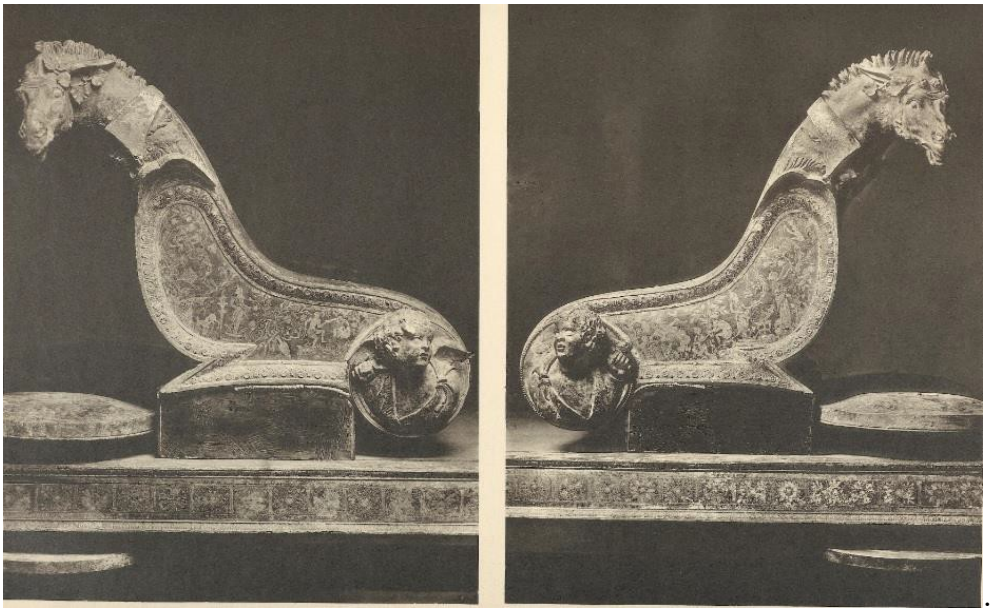


Fig:2. 31 Closer view of busts and animal heads from the inlaid couch (after Jones 1912, Pl.62).



Fig:2. 32 A green/blue glazed jug with two handles (after Elhassen and al- Tayran. 2021, Pl.218, p.318).



Fig:2. 33 Necklace of enamelled gold beads (after Elhassen and al- Tayran. 2021, Pl.271, p.363).



Fig:2. 34 Glass pendant with Greek letters (after Elhassen and al-Tayran. 2021, Pl.283, p.284).



Fig:2. 35 A plaster mould of a female bust (after Elhassen and al-Tayran 2021, Pl.321, p.386).



Fig:2. 36 A plaster mould of the foot of a funerary bed (after Elhassen and al- Tayran 2021, Pl.340, p.395).



Fig:2. 37 Hellenistic coin from Qaryat al-Faw (after Qudos et al, 2019, F3/117, p.372).



Fig:3. 1 General overview of site of K1: Kanzan Mountain.

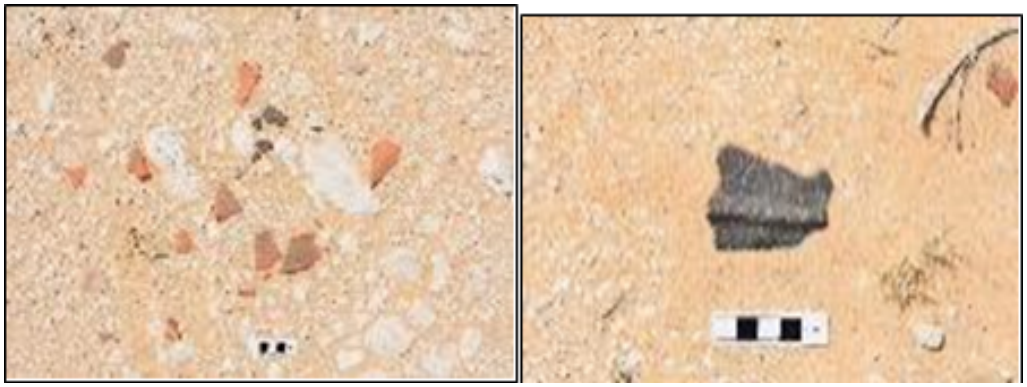


Fig:3. 2 Potsherds concentration on the surface of site K1: Kanzan Mountain.



Fig:3. 3 A single potsherd on the surface of site of K1: Kanzan Mountain.



Fig:3. 4 : General view of the site K2 (Kanzan).

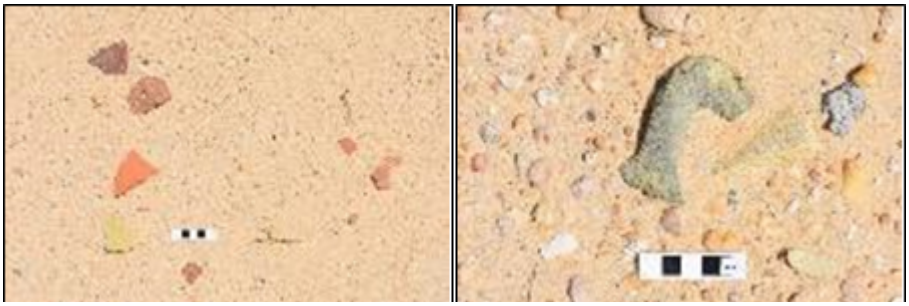


Fig:3. 5 Potsherds scattered on the surface, site K2, Kanzan.



Fig:3. 6 Pottery wasters scattered on the surface of site K2, Kanzan



Fig:3. 7 General view of the site GA 1 (Geriyah area).



Fig:3. 8 Potsherds on the surface, GA 1 (Geriyah area).



Fig:3. 9 General view of the site of GA 2 (Geriyah area).

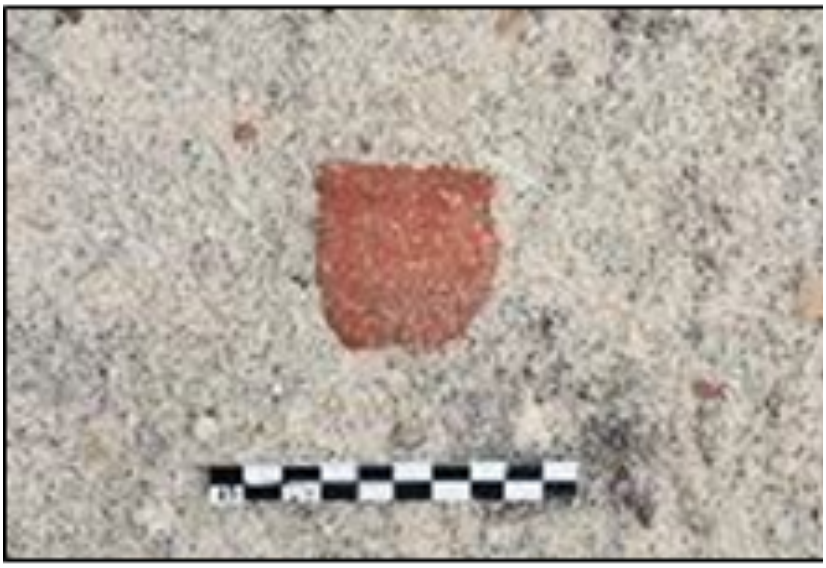


Fig:3. 10 Pottery sherd from the surface of the site GA 2 (Geriyah area).



Fig:3. 11 General view of the site of GA 3 (Geriyah area).



Fig:3. 12 Building debris and bricks spread on the surface, site GA 3 (Geriyah area)



Fig:3. 13 General view of the site GA 4 (Geriyah area -Inland fort 1).



Fig:3. 14 General view of the site GA 5 (Geriyah area -Inland fort 2)

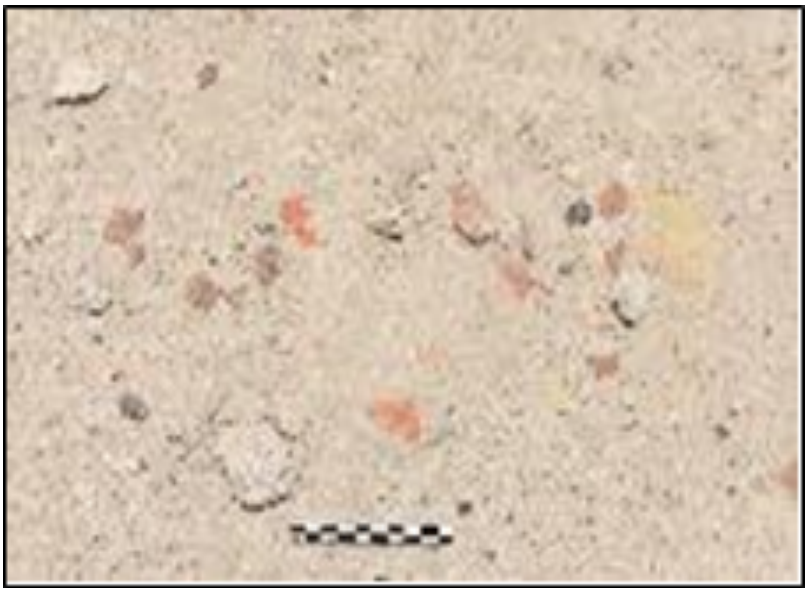


Fig:3. 15 Concentration of pottery sherd from of the GA 5 (Geriyah area -Inland fort 2) site.



Fig:3. 16 General view of site GA 6 (Geriyah area – Inland fort 3).



Fig:3. 17 Pottery sherd from the surface of site GA 6 (Geriyah area – Inland fort 3).



Fig:3. 18 General view of site GA 7 (Geriyah area –Inland fort 4).



Fig:3. 19 Pottery sherd concentration on the surface of GA 7 (Geriyah area –Inland fort 4).

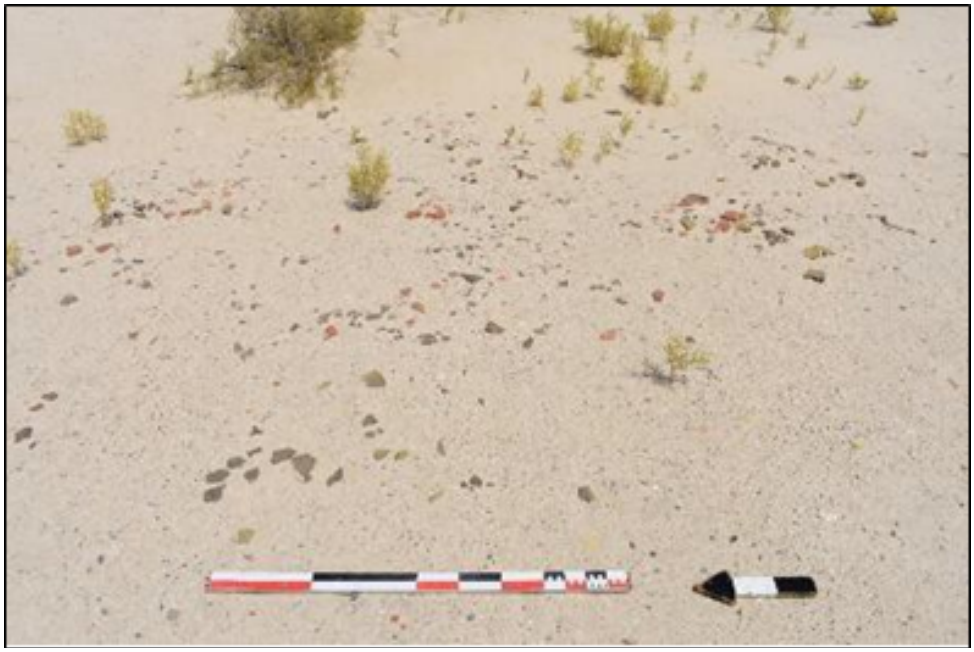


Fig:3. 20 A view of site GA 8 (Geriyah area – Inland fort 5).



Fig:3. 21 Pottery sherd concentration on site GA 8 (Geriyah area – Inland fort 5).

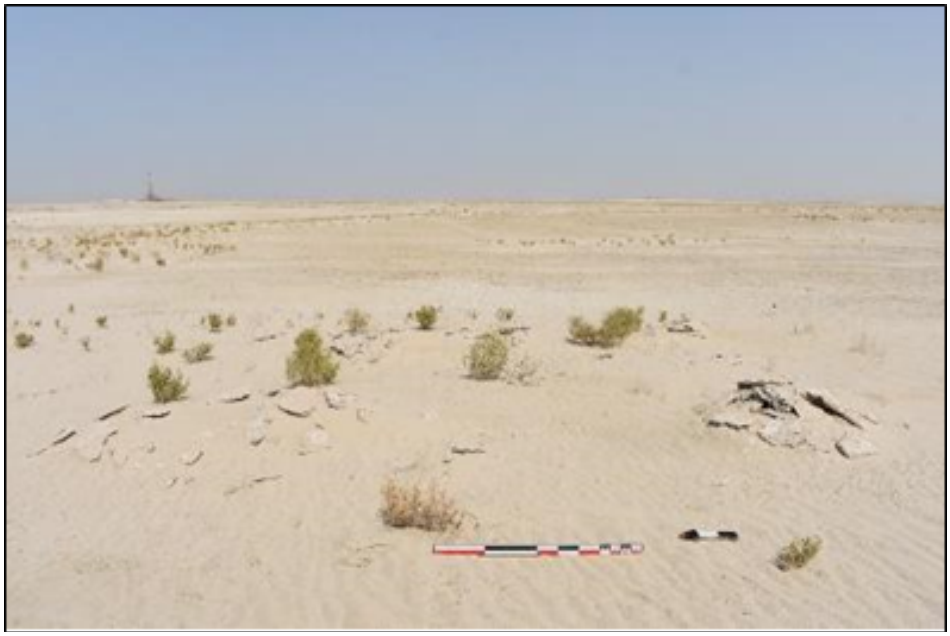


Fig:3. 22 General view of site GA 9 (Geriyah area -Building Traces 2).



Fig:3. 23 Building remains at site GA 9 (Geriyah area -Building Traces 2).



Fig:3. 24 General view of site GA 10 (Geriyah area -Sabkha fort).



Fig:3. 25 Failed test pit in the site of GA 10 (Geriyah area -Sabkha fort).



Fig:3. 26 Burial Mound GA 11 (Geriyah area –Burial Mound 1).



Fig:3. 27 Profile of GA 11 (Geriyah area –Burial Mound 1).



Fig:3. 28 A view of GA 12 (Geriyah area –Burial Mound 2).

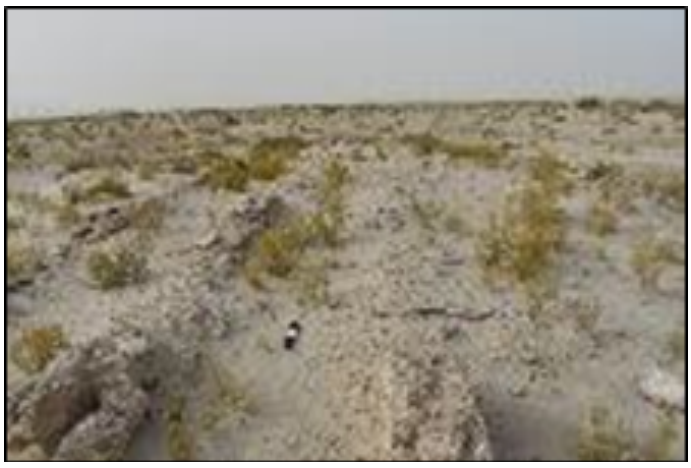


Fig:3. 29 Overview of the cemetery site at GA 12 (Geriyah area –Burial Mound 2).

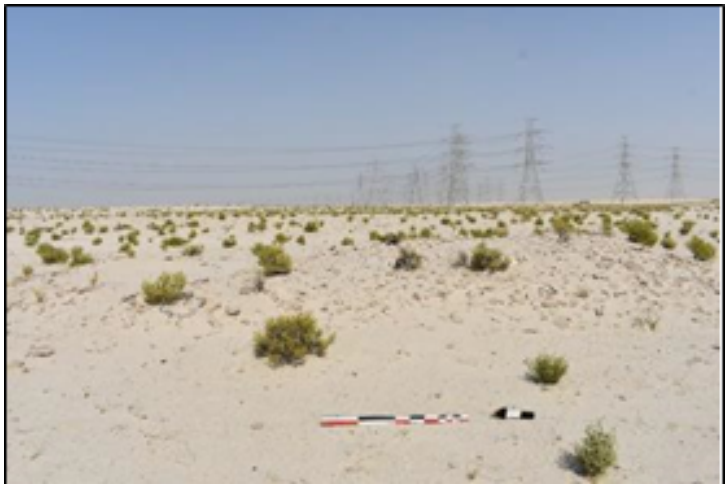


Fig:3. 30 General view of site GA 13 (Geriyah area –Building Traces 3).



Fig:3. 31 General view of site GA 14 (Geriyah area – Burial Mound 3).



Fig:3. 32 Superstructure of burials in the site GA 14 (Geriyah area – Burial Mound 3).

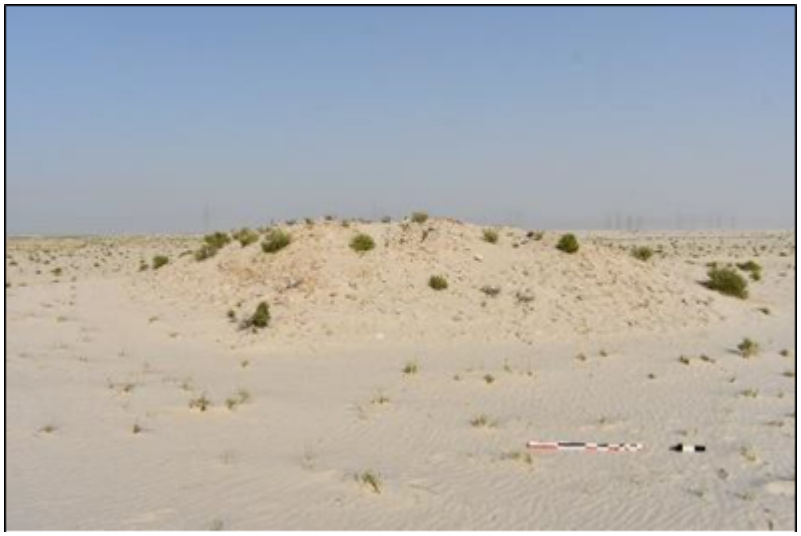


Fig:3. 33 Large mound in the site GA 15 (Geriyah area – Building traces 4).

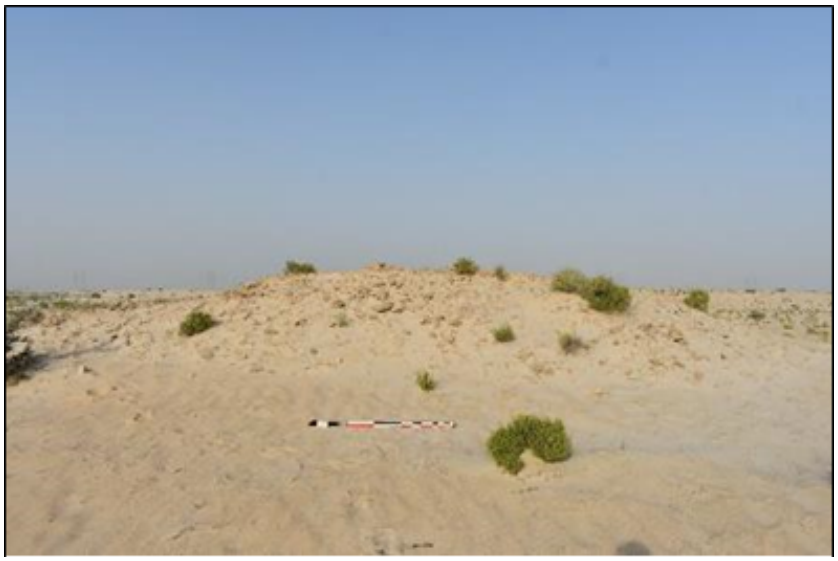


Fig:3. 34 Overview of large mound in the site GA 16 (Geriyah area – Burial Mound 4).



Fig:3. 35 Structure on the grave mound in the site GA 16 (Geriyah area – Burial Mound 4).



Fig:3. 36 General view of the site GA 18 (Geriyah area – Burial Mound 6).



Fig:3. 37 General view of the site GA 21 (Geriyah area – Burial Mound 9).

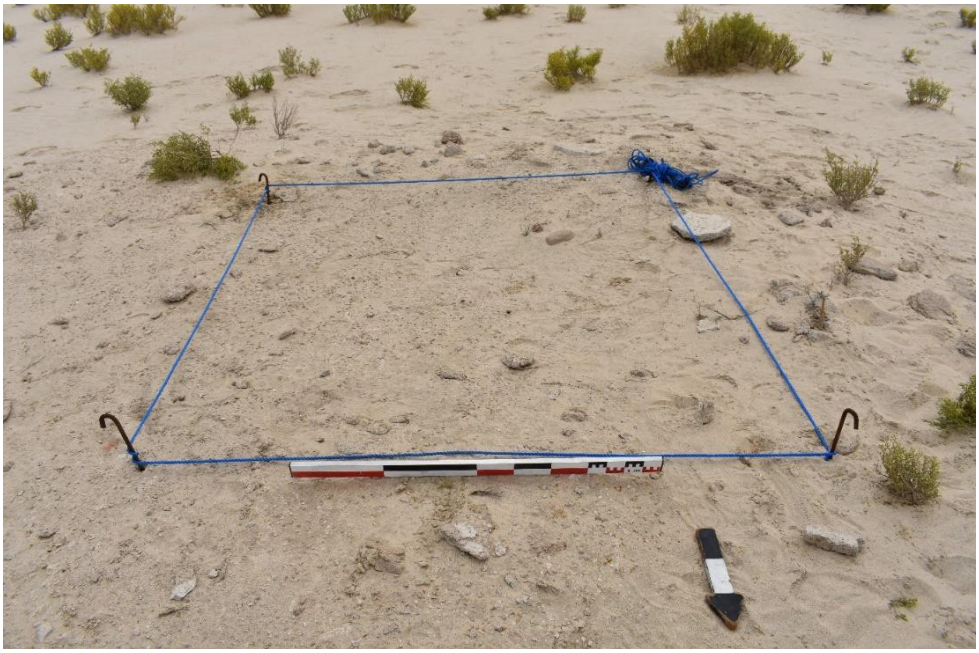


Fig:3. 38 Area of sounding at the Inland Fort GA 4 (Geriyah area -Inland fort 1).



Fig:3. 39 Building structure in level 1 of test-pit at the Inland Fort GA 4 (Geriyah area -Inland fort 1).



Fig:3. 40 Sample of the finds in level 1 of test-pit at GA 4(Geriyah area -Inland fort 1).



Fig:3. 41 Wall structure in level 2 of test-pit at GA 4 (Geriyah area -Inland fort 1).

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Fig:3. 42 Types of the finds in level 2 of test-pit at GA 4 (Geriyah area -Inland fort 1).

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Fig:3. 43 general view of survey area in the site of Ras Geriyah .



Fig:3. 44 General view of the site RG 1 (Ras Geriyah).



Fig:3. 45 Surface finds at site RG 1 (Ras Geriyah).



Fig:3. 46 Shore line survey at the site RG 2 (Ras Geriyah).



Fig:3. 47 Pottery sherds collected from underwater survey at the site RG 2 (Ras Geriyah).



Fig:3. 48 General view of the survey area RG 3 at Ras Geriyah site.



Fig:3. 49 Pottery sherds from the survey at RG 3(Ras Geriyah).

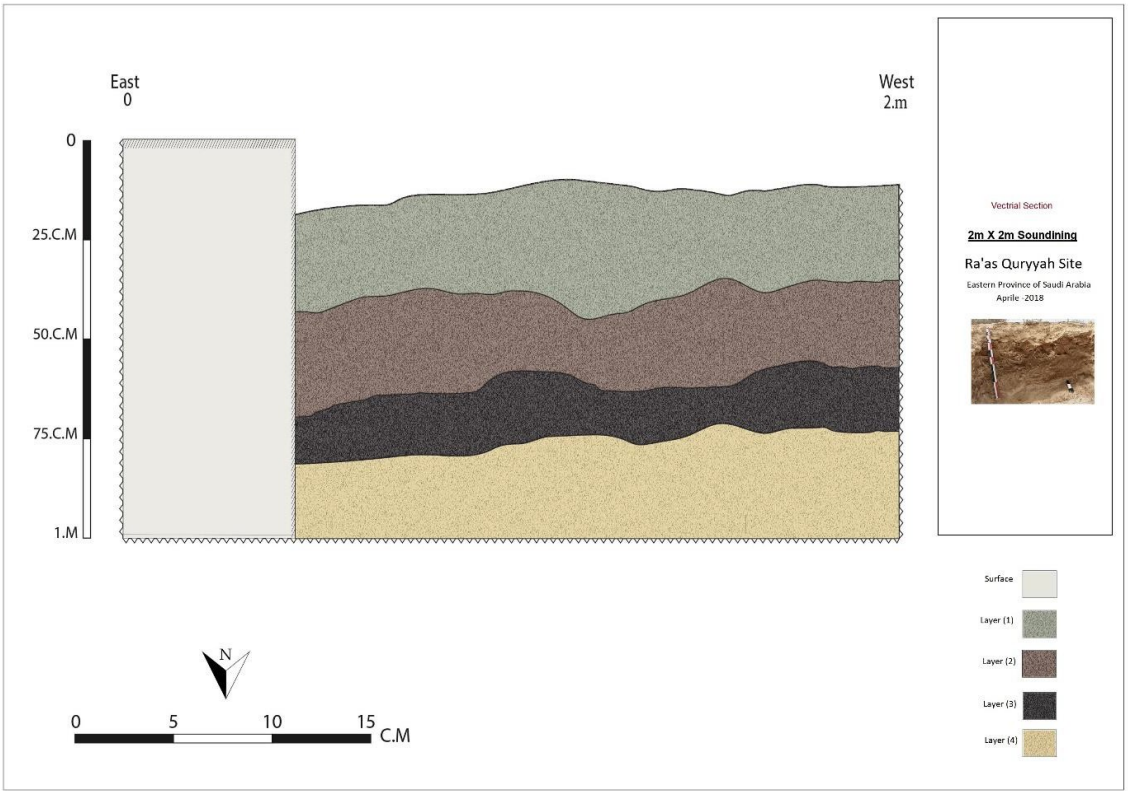


Fig:3. 50 Stratification of the test-pit context at the site of Ras Geriyah

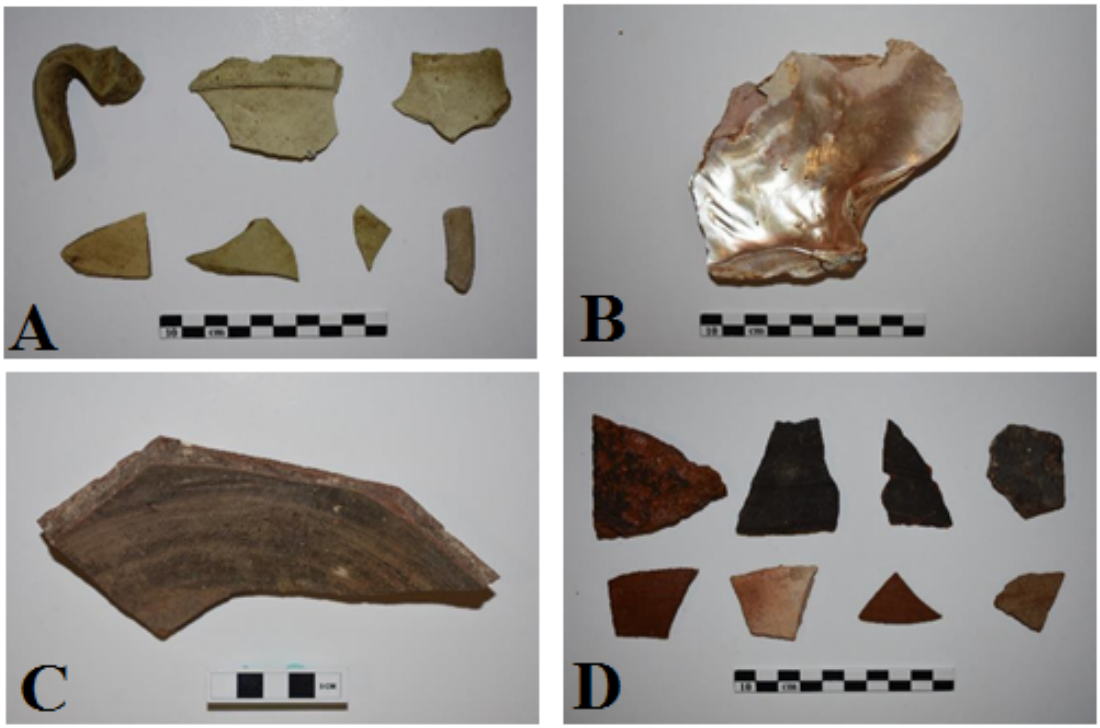


Fig:3. 51 Samples from the layer 1 finds at the site of Ras Geriyah .



Fig:3. 52 Samples from the finds collected from layer 2 at the site of Ras Geriyah .

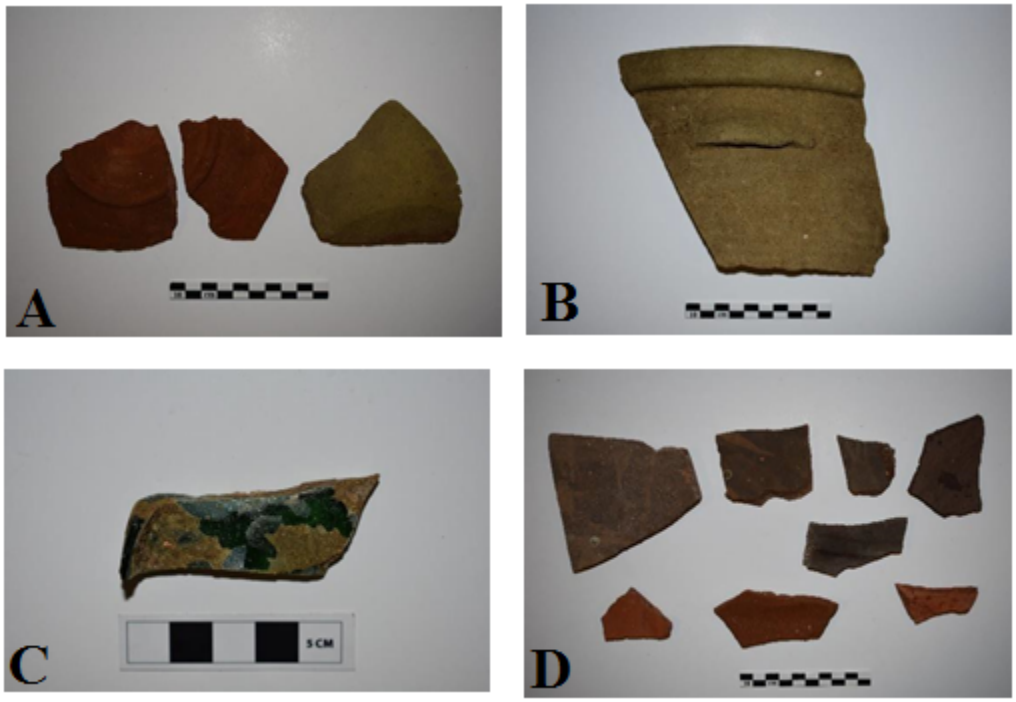


Fig:3. 53 Samples of the finds collected from layer 3 at the site of Ras Geriyah .

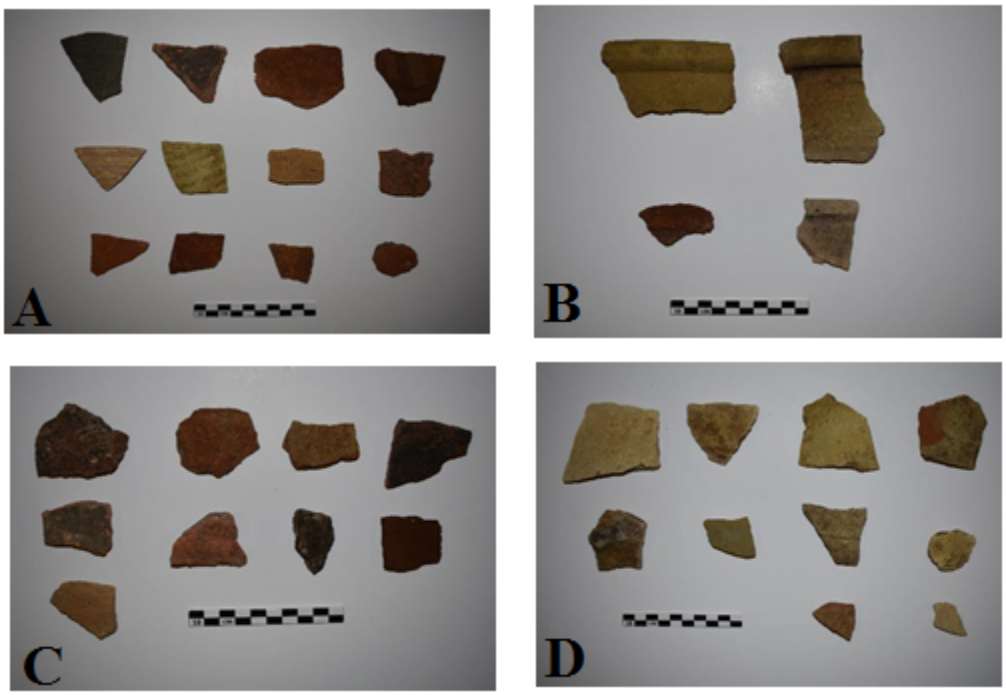


Fig:3. 54 Samples from the finds collected from layer 4 at the site of Ras Geriyah .



Fig:3. 55 Aerial view of Thaj area showing the archaeological site on the edge of large sabkha (google earth)



Fig:3. 56 Potsherds from K1, Kanzan Mountain site, Surface Group No: S/1.

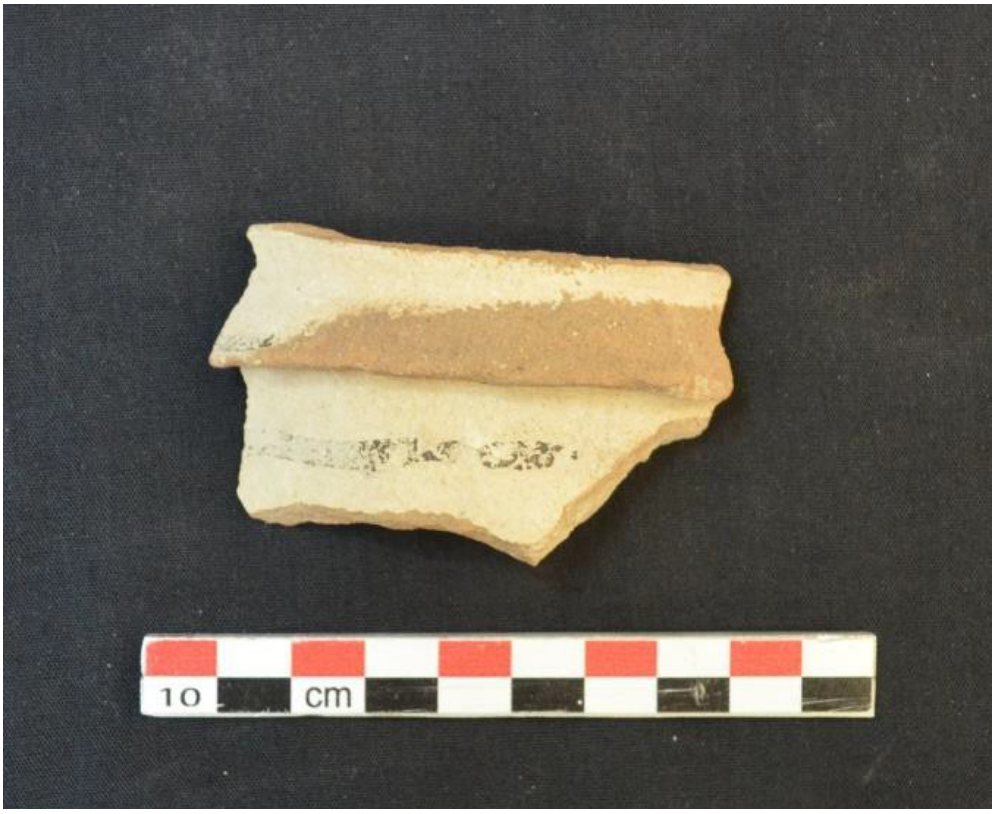
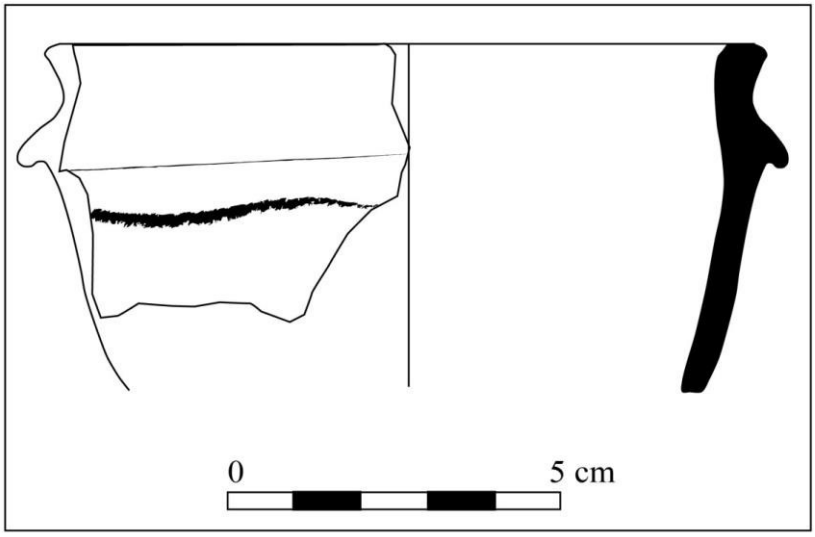


Fig:3. 57 A potsherd from K1, Kanzan Mountain site Surface Group No: S/1, sherd No: K/S/1/49.



K/S/1/49

Fig:3. 58 A potsherd from K1, Kanzan Mountain site Surface Group No: S/1, sherd No: K/S/1/49.



Fig:3. 59 Potsherds from K2, Kanzan site, Surface Group No: S/2.



Fig:3. 60 Potsherds from GA 1 site (Geriyah area), Surface Group No: S/1.



Fig:3. 61 A potsherd from GA 1 site (Geriyah area) site, Surface Group No: S/1, sherd No: GA1/S/1/25.

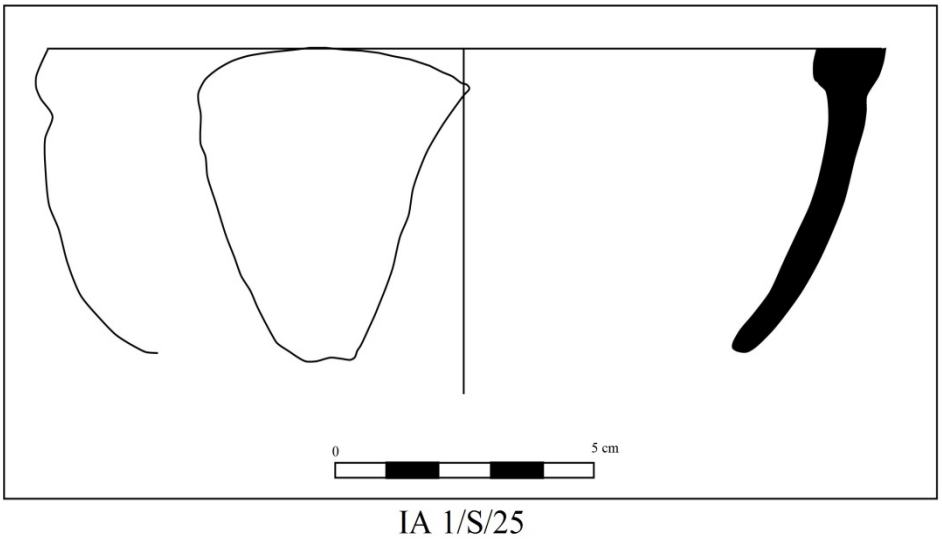


Fig:3. 62 A potsherd from GA 1 site (Geriyah area), Surface Group No: S/1, sherd No: GA1/S/1/25.



Fig:3. 63 Potsherds from GA 2 site (Geriyah area), Surface Group No: S/2.



Fig:3. 64 A potsherd from GA 2 site (Geriyah area), Surface Group No: S/2, sherd No: GA 2/S/1/26.

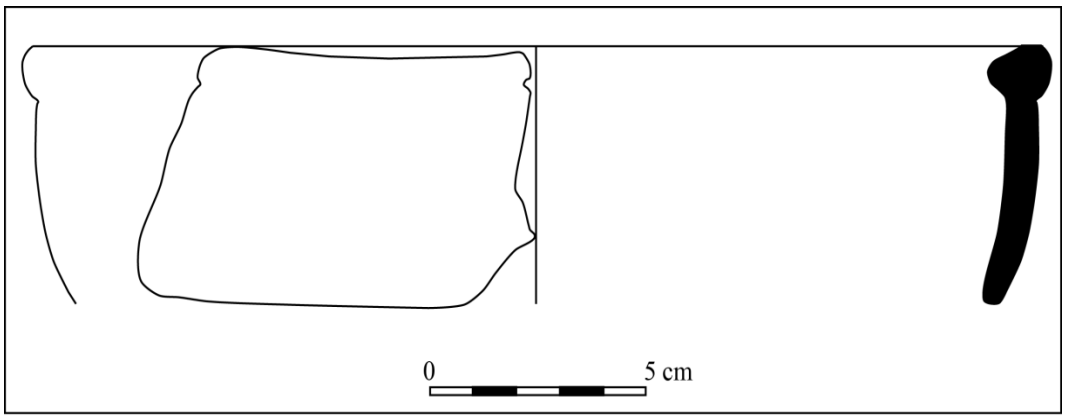


Fig:3. 65 A potsherd from GA 2 site (Geriyah area), Surface Group No: S/2, sherd No: GA 2/S/1/26.



Fig:3. 66 A potsherd from GA 2 site (Geriyah area), Surface Group No: S/2, sherd No: GA 2/S/1/27.

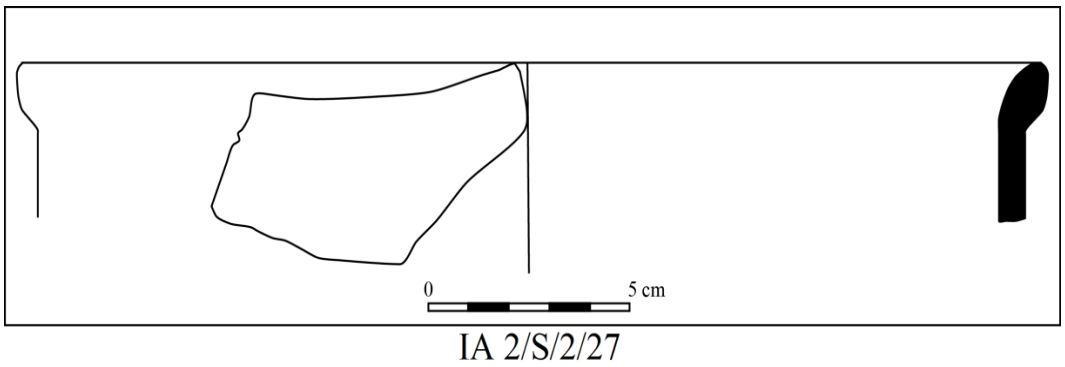


Fig:3. 67 A potsherd from GA 2 site (Geriyah area), Surface Group No: S/2, sherd No: GA 2/S/1/27.



Fig:3. 68 A potsherd from GA 2 site (Geriyah area), Surface Group No: S/2, sherd No: GA 2/S/1/28.

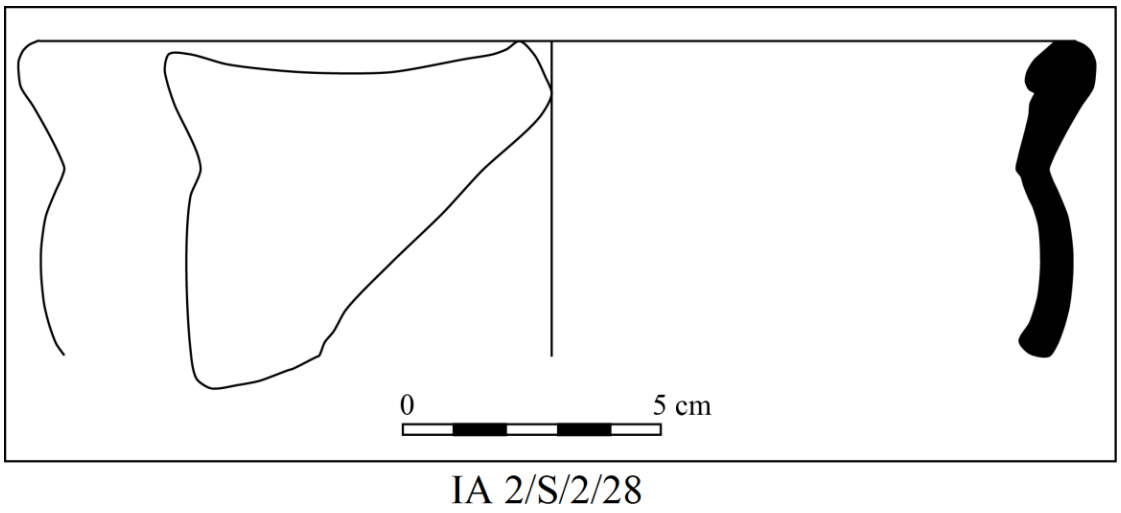


Fig:3. 69 A potsherd from GA 2 site (Geriyah area), Surface Group No: S/2, sherd No: GA 2/S/1/28.



Fig:3. 70 Potsherds GA 5 site (Geriyah area, Inland fort 2), Surface Group No: S/3



Fig:3. 71 Potsherds from GA 6 site (Geriyah area, Inland fort 3), Surface Group No: S/4.



Fig:3. 72 A potsherd from GA 6 site (Geriyah area, Inland fort 3), Surface Group No: S/4, sherd No: GA 6/S/4/29.

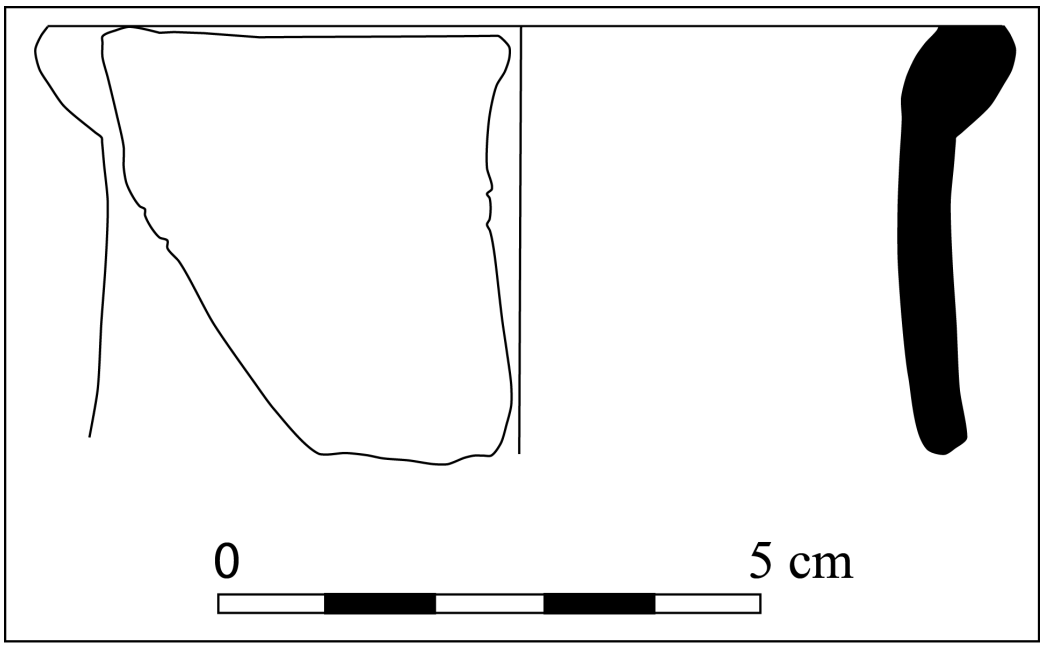


Fig:3. 73 A potsherd from GA 6 site (Geriyah area, Inland fort 3), Surface Group No: S/4, sherd No: GA 6/S/4/29.



Fig:3. 74 A potsherd from GA 6 site (Geriyah area, Inland fort 3), Surface Group No: S/4, sherd No: GA 6/S/4/30.

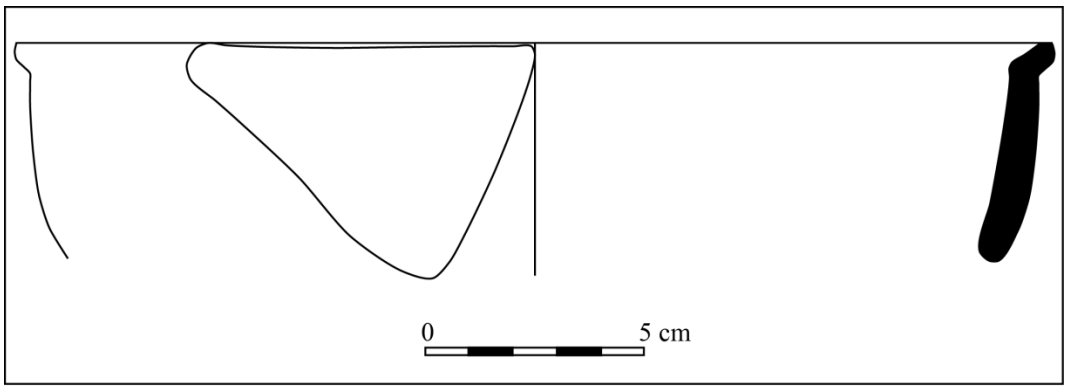


Fig:3. 75 A potsherd from GA 6 site (Geriyah area, Inland fort 3), Surface Group No: S/4, sherd No: GA 6/S/4/30.



Fig:3. 76 A potsherd from GA 6 site (Geriyah area, Inland fort 3), Surface Group No: S/4, sherd No: GA 6/S/4/31.

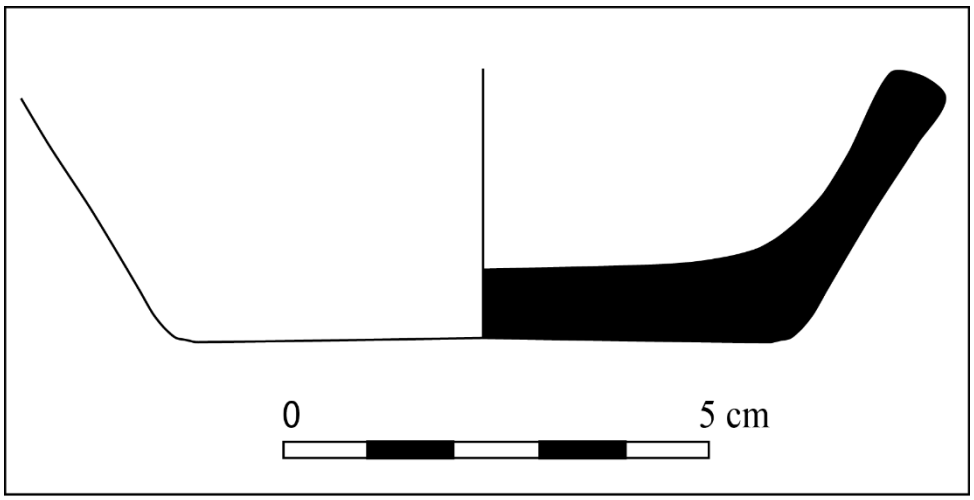


Fig:3. 77 A potsherd from GA 6 site (Geriyah area, Inland fort 3), Surface Group No: S/4, sherd No: GA 6/S/4/31.



Fig:3. 78 Potsherds from GA 7 site (Geriyah area, Inland fort 4), surface, Group No: S/5.



Fig:3. 79 Potsherds from GA 8 site (Geriyah area, Inland fort 5), Surface Group No: S/6.



Fig:3. 80 A potsherd from GA 8 site (Geriyah area, Inland fort 5), Surface Group No: S/6, sherd No: GA 8/S/6/32.

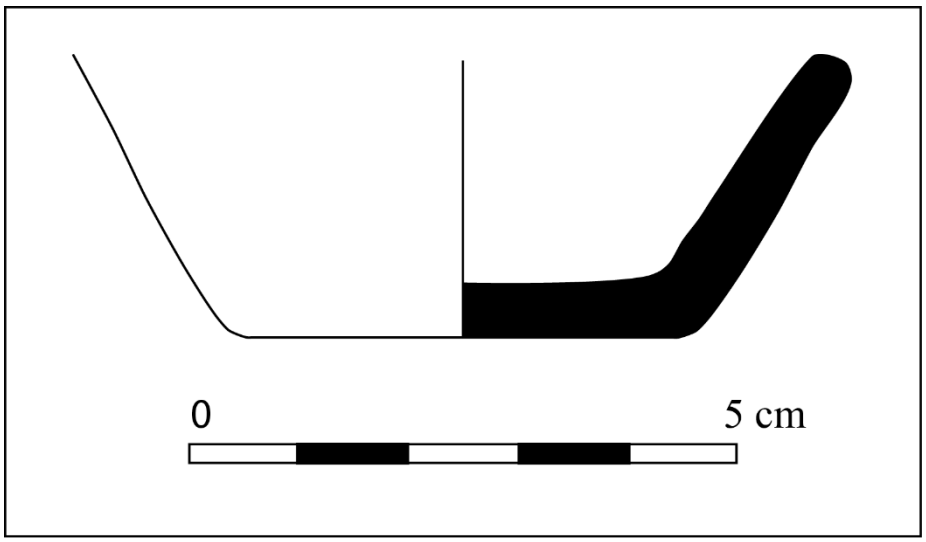


Fig:3. 81 A potsherd from GA 8 site (Geriyah area, Inland fort 5), Surface Group No: S/6, sherd No: GA 8/S/6/32.



Fig:3. 82 A potsherd from GA 8 site (Geriyah area, Inland fort 5), Surface Group No: S/6, sherd No: GA 8/S/6/33.

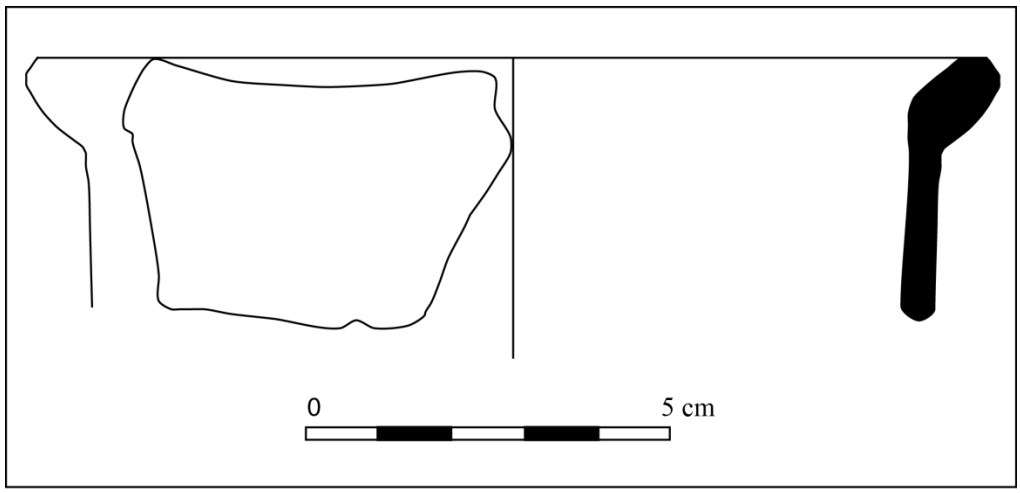


Fig:3. 83 A potsherd from GA 8 site (Geriyah area, Inland fort 5), Surface Group No: S/6, sherd No: GA 8/S/6/33.



Fig:3. 84 A potsherd from GA 8 site (Geriyah area, Inland fort 5), Surface Group No: S/6, sherd No: GA 8/S/6/34.

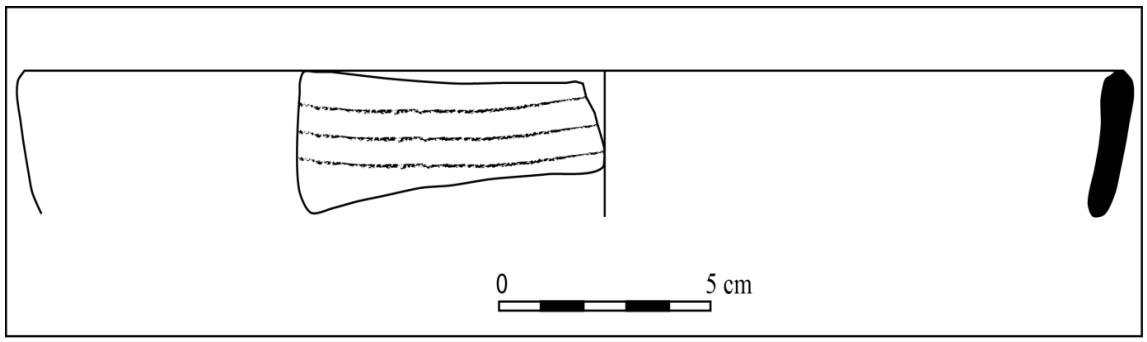


Fig:3. 85 A potsherd from GA 8 site (Geriyah area, Inland fort 5), Surface Group No: S/6, sherd No: GA 8/S/6/34.



Fig:3. 86 A potsherd from GA 8 site (Geriyah area, Inland fort 5), Surface Group No: S/6, sherd No: GA 8/S/6/35.

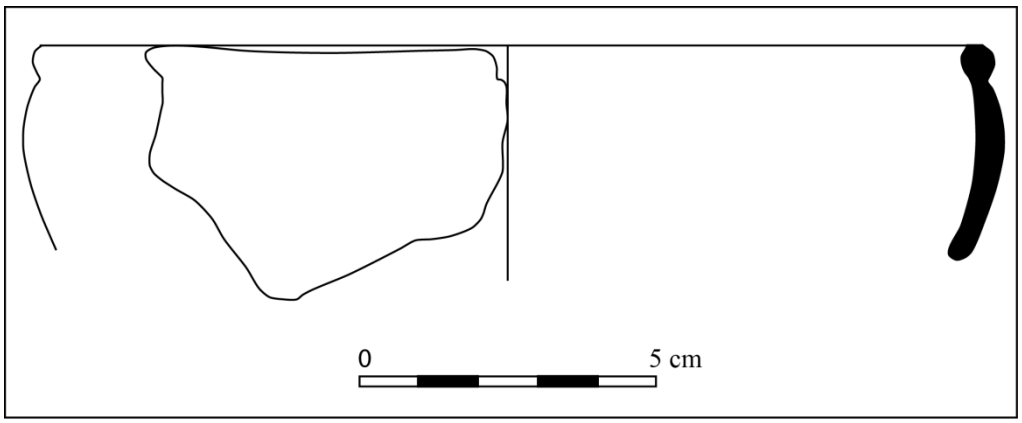


Fig:3. 87 A potsherd from GA 8 site (Geriyah area, Inland fort 5), Surface Group No: S/6, sherd No: GA 8/S/6/35.



Fig:3. 88 A potsherd from GA 8 site (Geriyah area, Inland fort 5), Surface Group No: S/6, sherd No: GA 8/S/6/36.

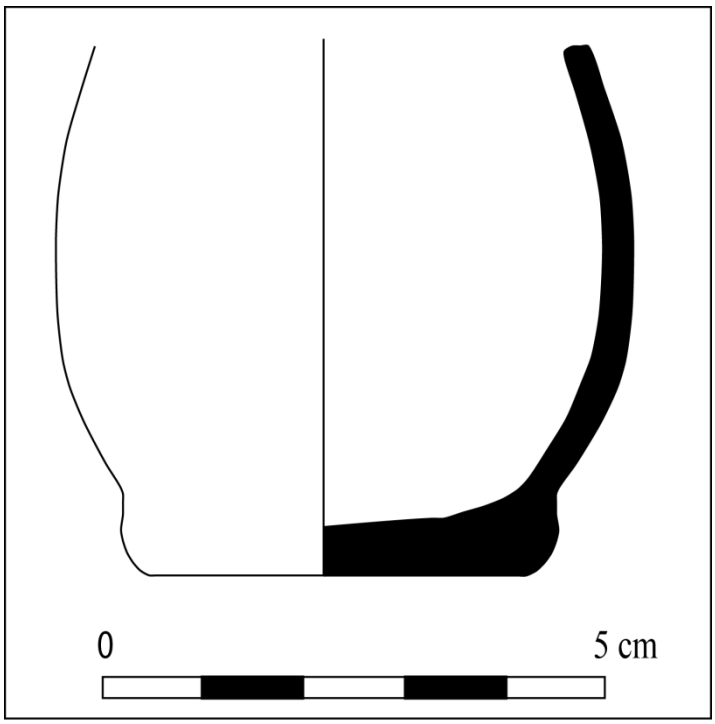


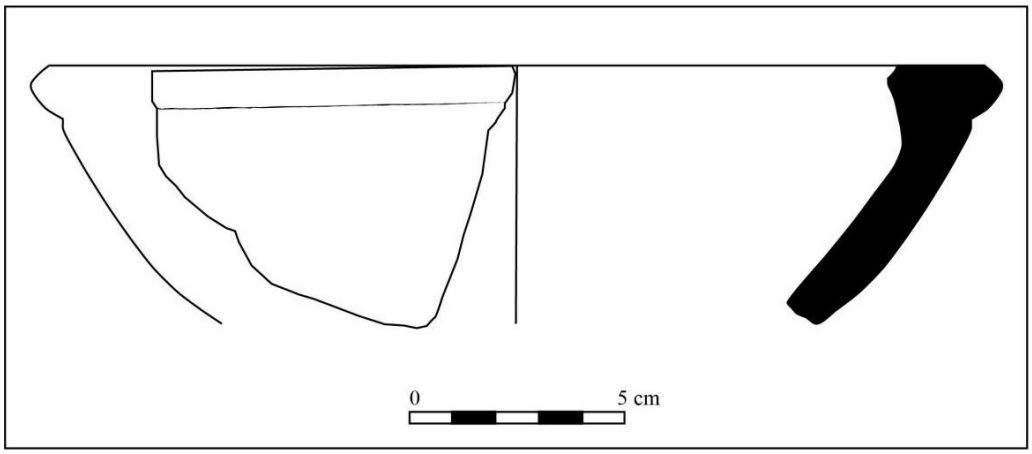
Fig:3. 89 A potsherd from GA 8 site (Geriyah area, Inland fort 5), Surface Group No: S/6, sherd No: GA 8/S/6/36.



Fig:3. 90 Potsherds from GA 13, (Geriyah area - Building Traces site 3), Surface Group No: T/3.



Fig:3. 91 A potsherd from GA 13, (Geriyah area - Building Traces site 3), Surface Group No: T/3, sherd No: M/1/57.



M/1/57

Fig:3. 92 A potsherd from GA 13, (Geriyah area - Building Traces site 3), Surface Group No: T/3, sherd No: M/1/57.



Fig:3. 93 A potsherd from GA 13, (Geriyah area - Building Traces site 3), Surface Group No: T/3, sherd No: M/1/58.

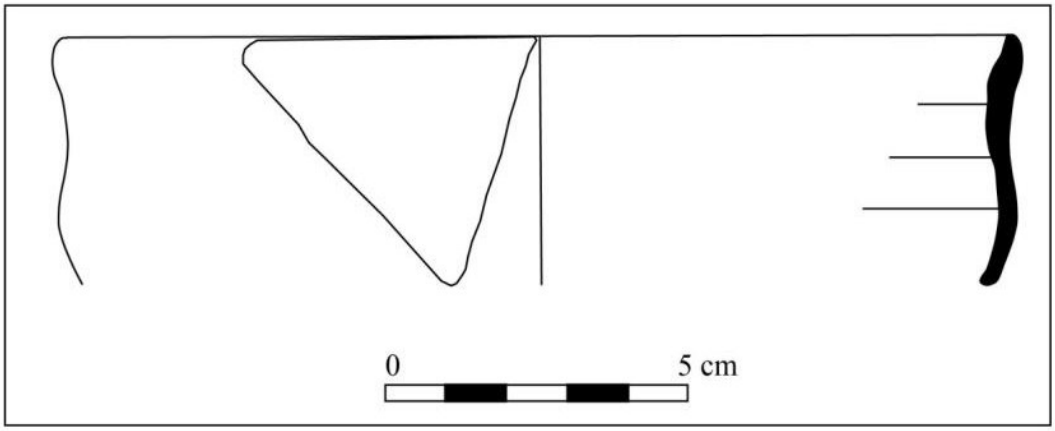


Fig:3. 94A potsherd from GA 13, (Geriyah area - Building Traces site 3),, Surface Group No: T/3, sherd No: M/1/58.



Fig:3. 95 Potsherds from GA 14, (Geriyah area – Burial Mound 3), Surface Group No: M/3.



Fig:3. 96 Potsherds from GA 15, (Geriyah area – Building traces 4), Surface Group No: B/4.



Fig:3. 97 A potsherd from GA 15, (Geriyah area – Building traces 4), Surface Group No: B/4, sherd No: B/4/39.

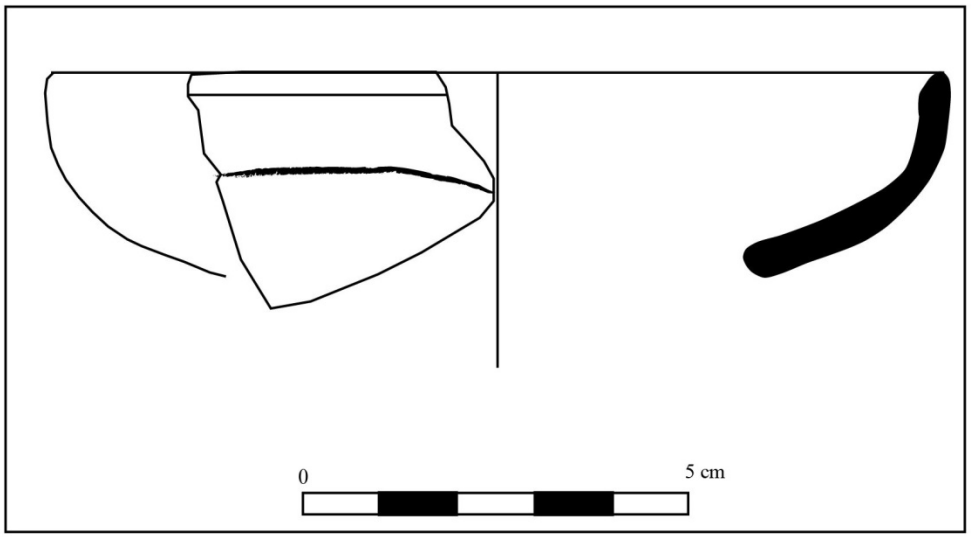


Fig:3. 98 A potsherd from GA 15, (Geriyah area – Building traces 4), Surface Group No: B/4, sherd No: B/4/39.



Fig:3. 99 Surface collection from GA 15, (Geriyah area – Building traces 4), Surface Group No: M/4.



Fig:3. 100 Surface collection (sample) from GA 16, (Geriyah area – Burial Mound 4), Surface Group No: BM/4.



Fig:3. 101 Surface collections from GA 17, (Geriyah area – Burial Mound 5), Surface Group No: BM/5.



Fig:3. 102 Surface collection from GA 20, (Geriyah area – Burial Mound 8), Surface Group No: BM/8.



Fig:3. 103 Potsherds from site of Inland fort test-pit, Layer No: 1 Group No: L/1.



Fig:3. 104 Potsherds from site GA 4 (Geriyah area - Inland Fort 1), sounding, Layer No: 1 Group No: L/2.



Fig:3. 105 Potsherds from site GA 4 (Geriyah area - Inland Fort 1), sounding, Layer No: 1 Group No: L/3.



Fig:3. 106 Pottery sherd from site GA 4 (Geriyah area - Inland Fort 1), test-pit, Layer No: 1 Group No: L/4.



Fig:3. 107 A potsherd from site GA 4 (Geriyah area - Inland Fort 1), test-pit, Layer No: 1 Group No: L/4, sherd No: I/L/2/1.

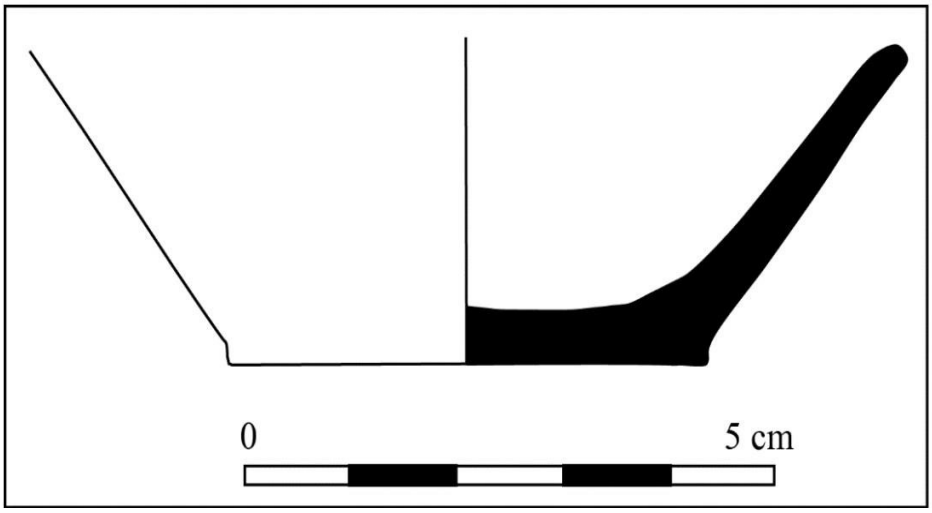


Fig:3. 108 Pottery sherd from site GA 4 (Geriyah area - Inland Fort 1), test-pit, Layer No: 1 Group No: L/4, sherd No: I/L/2/1.



Fig:3. 109 Bead from site GA 4 (Geriyah area - Inland Fort 1), test-pit, Layer No: 2.



Fig:3. 110 A potsherd from site GA 4 (Geriyah area - Inland Fort 1), test-pit, Layer No: 2, sherd No: I/L/2/2.

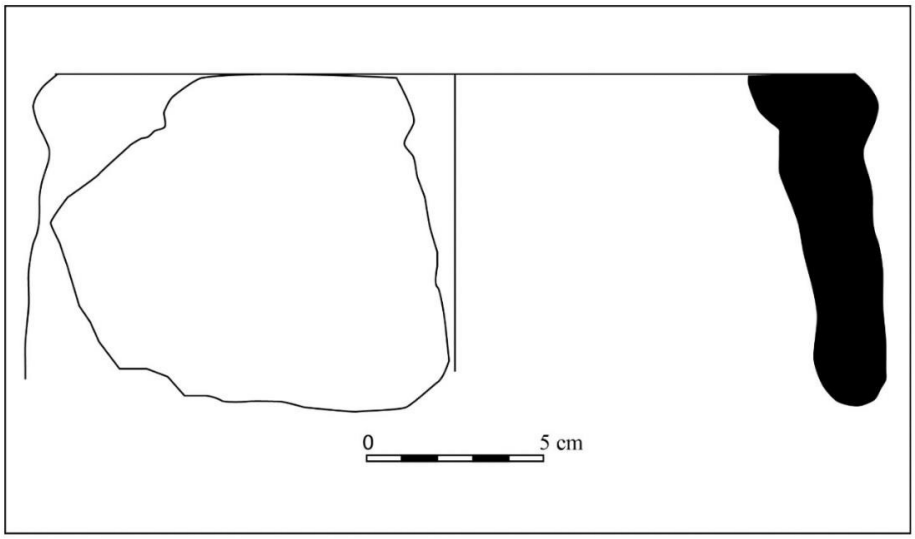


Fig:3. 111 A potsherd from site GA 4 (Geriyah area - Inland Fort 1), test-pit, Layer No: 2, sherd No: I/L/2/2.

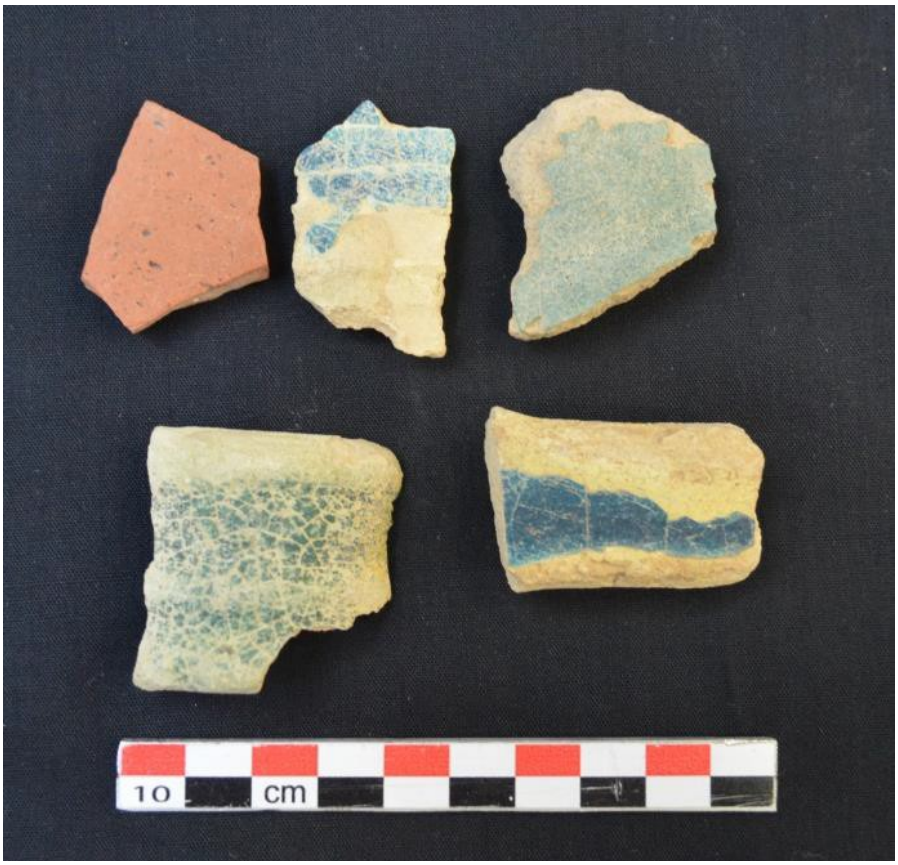


Fig:3. 112 Potsherds from Ras Geriyah, Surface collection Group No: S/1.



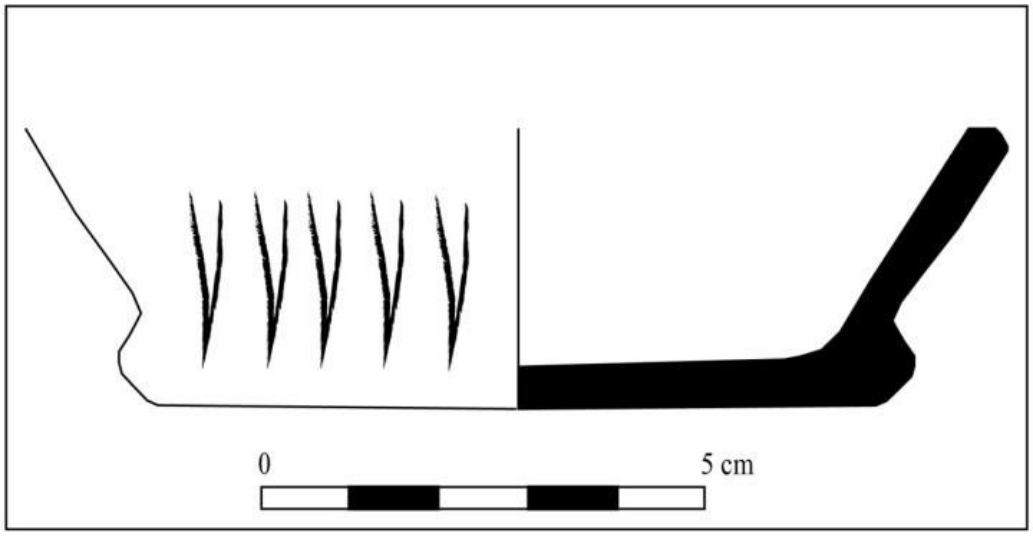
Fig:3. 113 Potsherds from Ras Geriyah, Surface collection Group No: S/2.



Fig:3. 114 Potsherds from Ras Geriyah, Surface collection Group No: S/3.



Fig:3. 115 A potsherd from Ras Geriyah, Surface collection. Group No: S/3, sherd No: R/S/3/40.

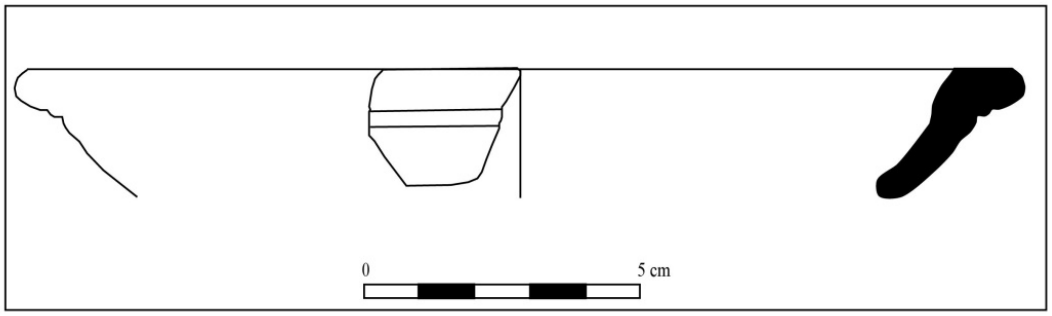


R/S/3/40

Fig:3. 116 2A potsherd from Ras Geriyah, Surface collection, Group No: S/3, sherd No: R/S/3/40.



Fig:3. 117 A potsherd from Ras Geriyah, Surface collection, Group No: S/3, sherd No: R/S/3/41.



R/S/3/41

Fig:3. 118 A potsherd from Ras Geriyah, Surface collection, Group No: S/3, sherd No: R/S/3/41.



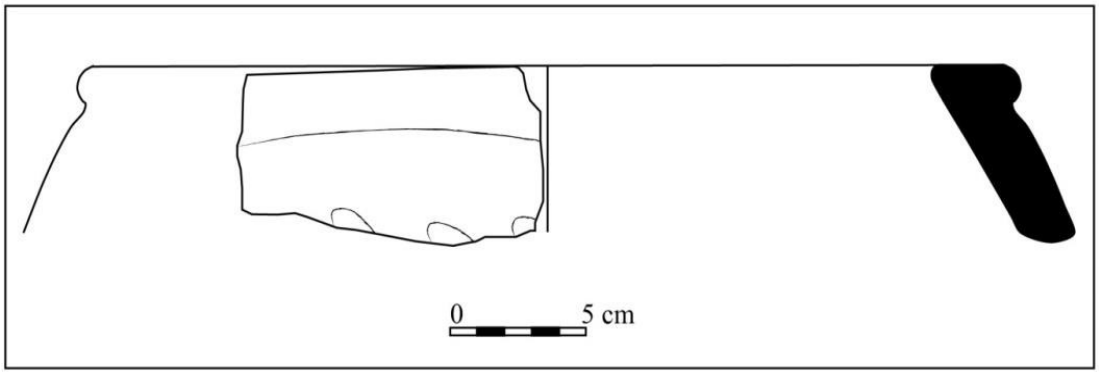
Fig:3. 119 A potsherd from Ras Geriyah, Surface collection, Group No: S/6.



Fig:3. 120 Potsherds from Ras Geriyah, Surface collection, Group No: S/7.



Fig:3. 121 A potsherd from Ras Geriyah, Surface collection, Group No: S/7, sherd No: R/S/7/44.

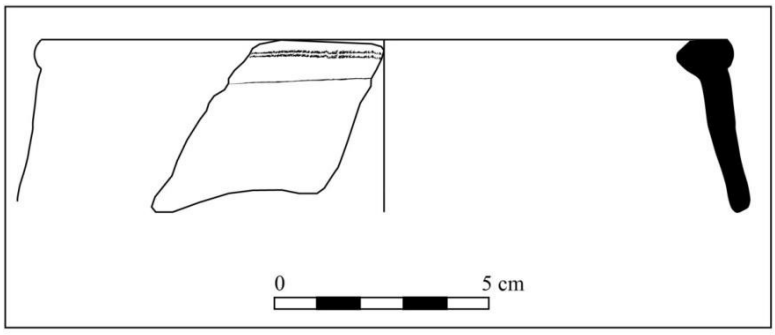


R/S/7/44

Fig:3. 122 A potsherd from Ras Geriyah, Surface collection, Group No: S/7, sherd No: R/S/7/44.



Fig:3. 123 A potsherd from Ras Geriyah, Surface collection, Group No: S/7, sherd No: R/S/7/45.

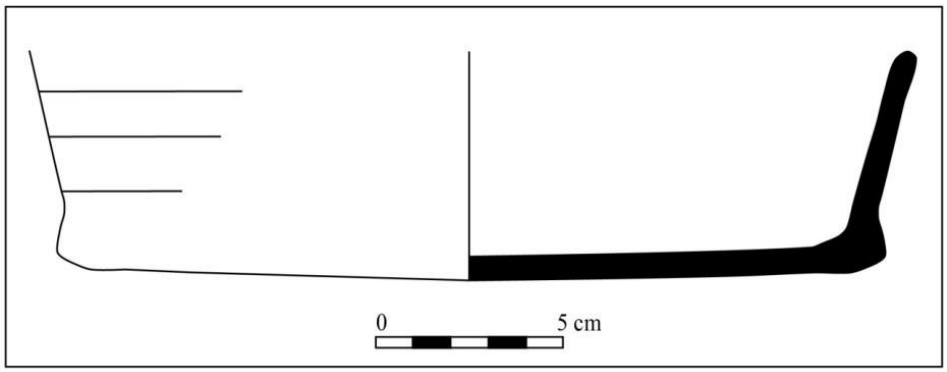


R/S/7/45

Fig:3. 124 A potsherd from Ras Geriyah, Surface collection, Group No: S/7, sherd No: R/S/7/45.



Fig:3. 125 A potsherd from Ras Geriyah, Surface collection, Group No: S/7, sherd No: R/S/7/46.

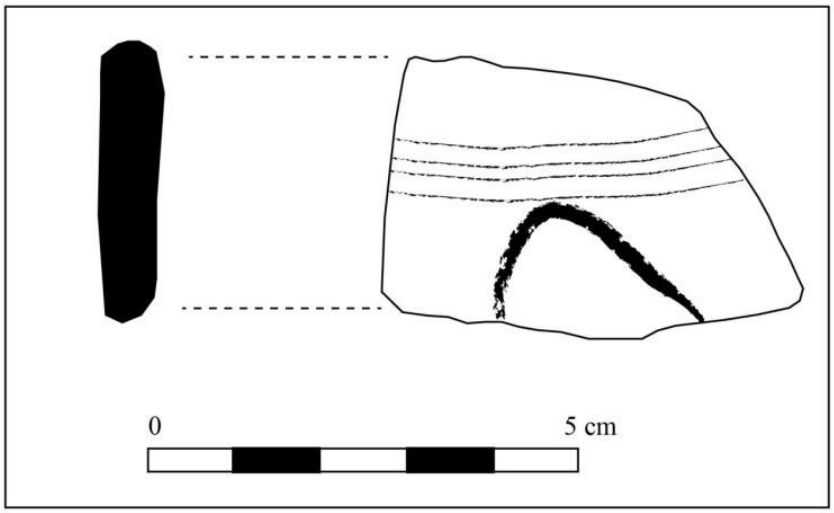


R/S/7/46

Fig:3. 126 A potsherd from Ras Geriyah, Surface collection, Group No: S/7, sherd No: R/S/7/46.



Fig:3. 127 A potsherd from Ras Geriyah, Surface collection, Group No: S/7, sherd No: R/S/7/47.



R/S/7/47

Fig:3. 128 A potsherd from Ras Geriyah, Surface collection, Group No: S/7, sherd No: R/S/7/47.



Fig:3. 129 Potsherds from Ras Geriyah, Surface collection, Group No: S/10.



Fig:3. 130 A base sherd from Ras Geriyah, Surface collection, Group No: S/10, sherd No: R/S/10/48.

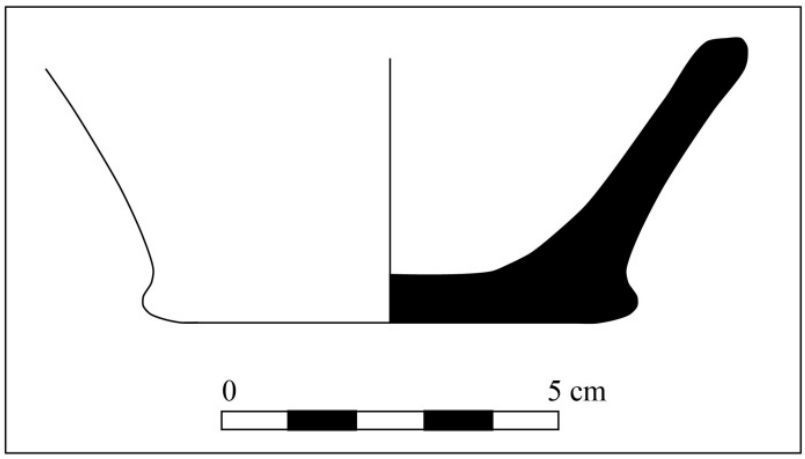


Fig:3. 131 A base sherd from Ras Geriyah, Surface collection, Group No: S/10, sherd No: R/S/10/48.



Fig:3. 132 Glass fragments from Ras Geriyah, Surface collection, Group No: S/11.



Fig:3. 133 Potsherds from Ras Geriyah, Underwater collection, Group No: U/1.



Fig:3. 134 A rim sherd from Ras Geriyah, underwater collection, Group No: U/1, sherd No: R/U/1/42.

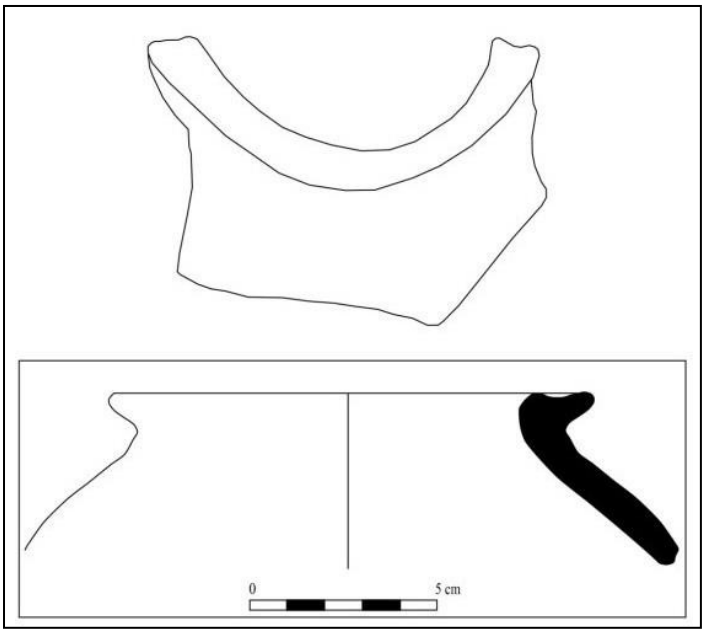


Fig:3. 135 A rim sherd from Ras Geriyah, underwater collection, Group No: U/1, sherd No: R/U/1/42.



Fig:3. 136 A body sherd from Ras Geriyah, underwater collection, Group No: U/1, sherd No: R/U/1/43.

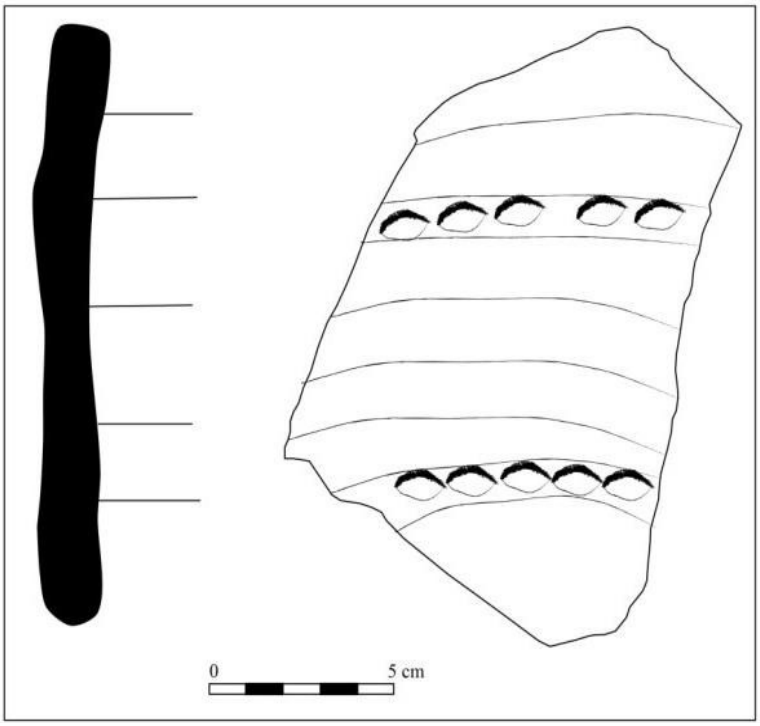


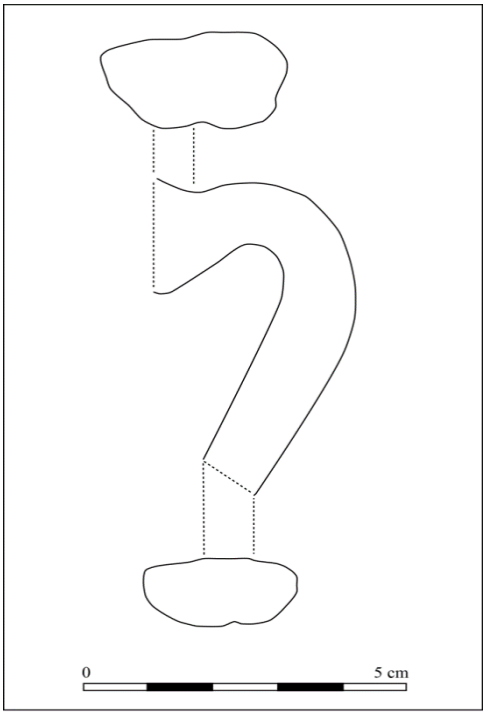
Fig:3. 137 A body sherd from Ras Geriyah , underwater collection, Group No: U/1, sherd No: R/U/1/43.



Fig:3. 138 :Potsherds from Ras Geriyah test-pit, Layer No:1, Group No:1/1.



Fig:3. 139 Part of a handle sherd from Ras Geriyah test-pit, Layer No:1, Group No:1/1, sherd No: R1/1/1.



R 1/1/1

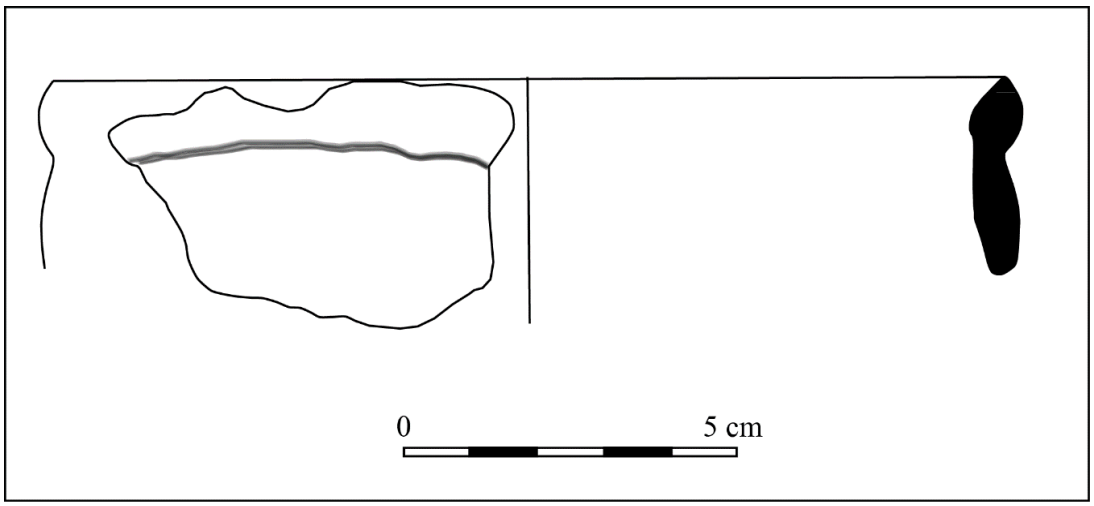
Fig:3. 140 Part of a handle sherd from Ras Geriyah test-pit, Layer No:1, Group No:1/1, sherd No: R1/1/1.



Fig:3. 141 Potsherds from Ras Geriyah test-pit, Layer No:1, Group No:2/1.



Fig:3. 142 A rim sherd from Ras Geriyah test-pit, Layer No:1, Group No:2/1, No: R2/1/2.



R 2/1/2

Fig:3. 143 A rim sherd from Ras Geriyah test-pit, Layer No:1, Group No:2/1, potsherd No: R2/1/2.



Fig:3. 144 Potsherds from Ras Geriyah test-pit, Layer No:1, Group No:3/1.



Fig:3. 145 A rim sherd from Ras Geriyah test – pit, Layer No:1, Group No:3/1, potsherd No: R3/1/3.

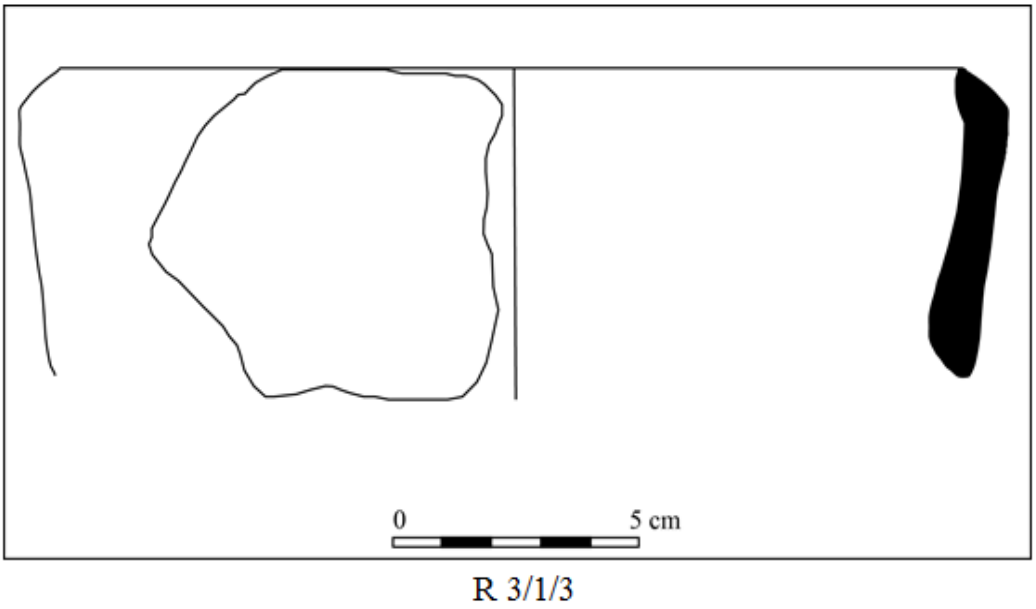
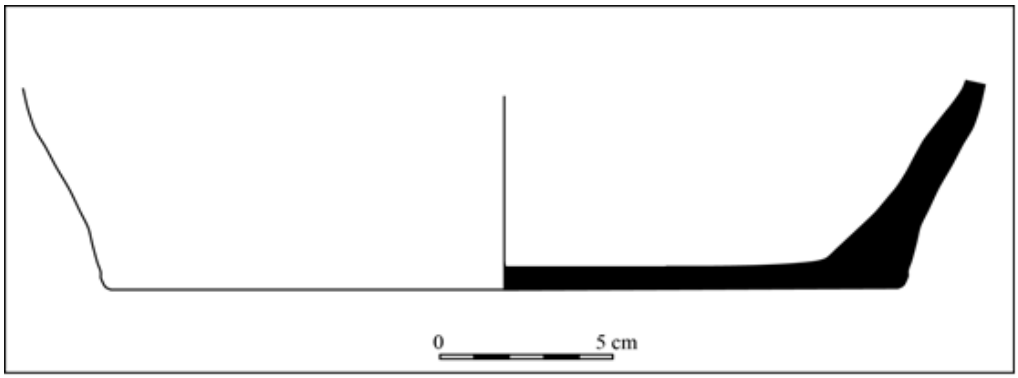


Fig:3. 146 A rim sherd from Ras Geriyah test-pit, Layer No:1, Group No:3/1, potsherd No: R3/1/3.



Fig:3. 147 A base sherd from Ras Geriyah test-pit, Layer No:1, Group No:3/1, potsherd No: R3/1/4.



R 4/1/3

Fig:3. 148 A base sherd from Ras Geriyah test-pit, Layer No:1, Group No:3/1, potsherd No: R3/1/4.



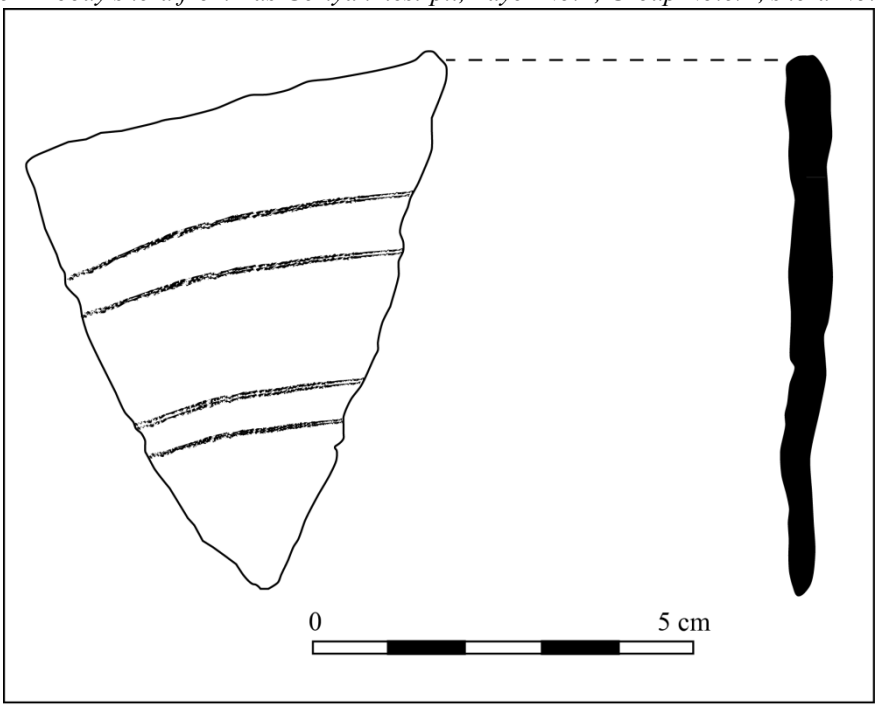
Fig:3. 149 Potsherds from Ras Geriyah test-pit, Layer No:1, Group No:4/1.



Fig:3. 150 Potsherds from Ras Geriyah test-pit, Layer No:1, Group No:5/1.



Fig:3. 151 A body sherd from Ras Geriyah test-pit, Layer No:1, Group No:5/1, sherd No: R5/1/5.

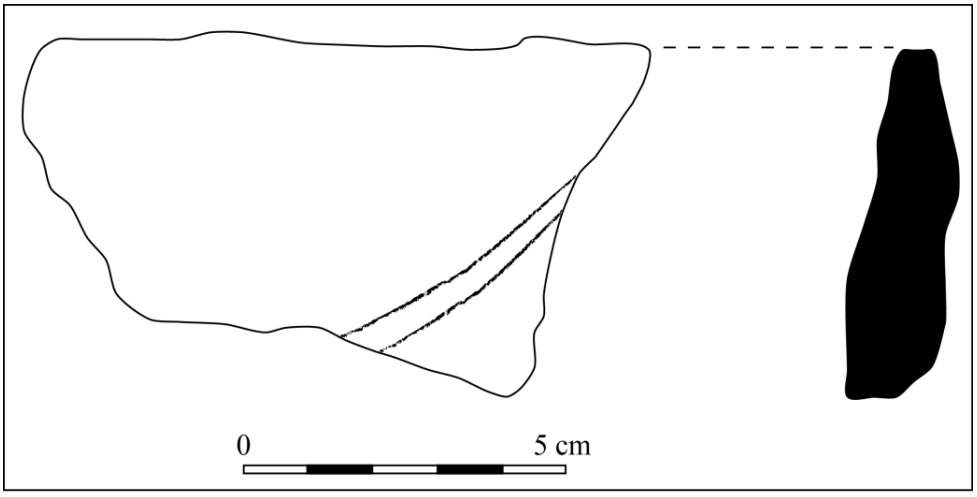


R 5/1/5

Fig:3. 152 A body sherd from Ras Geriyah test-pit, Layer No:1, Group No:5/1, sherd No: R5/1/5.



Fig:3. 153 A body sherd from Ras Geriyah test-pit, Layer No:1, Group No:5/1, sherd No: R5/1/6.



R 5/1/6

Fig:3. 154 A body sherd from Ras Geriyah test-pit, Layer No:1, Group No:5/1, sherd No: R5/1/6.



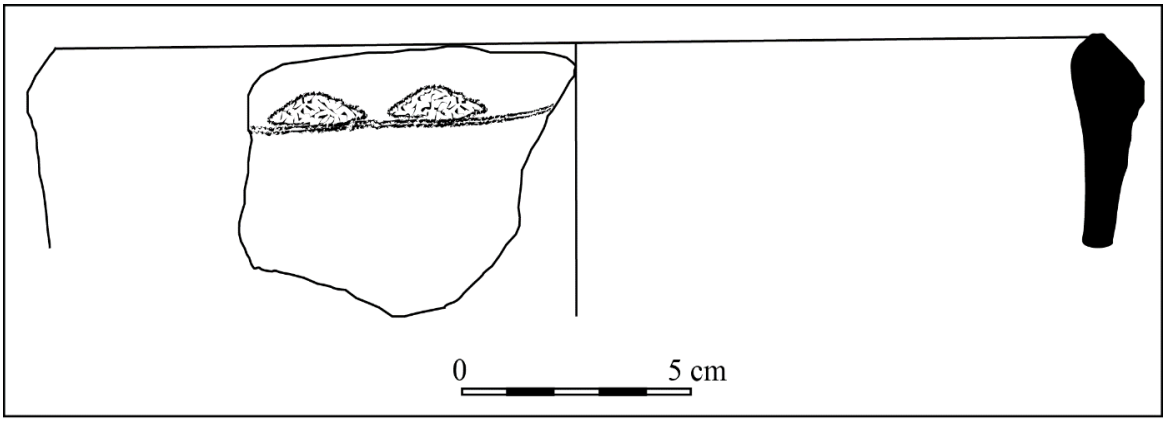
Fig:3. 155 Potsherds from Ras Geriyah test-pit, Layer No:1, Group No:6/1.



Fig:3. 156 Potsherds from Ras Geriyah test-pit, Layer No:1, Group No:7/1.



Fig:3. 157 A rim sherd from Ras Geriyah test-pit, Layer No:1, Group No:7/1, sherd No: R7/1/7.



R 7/1/7

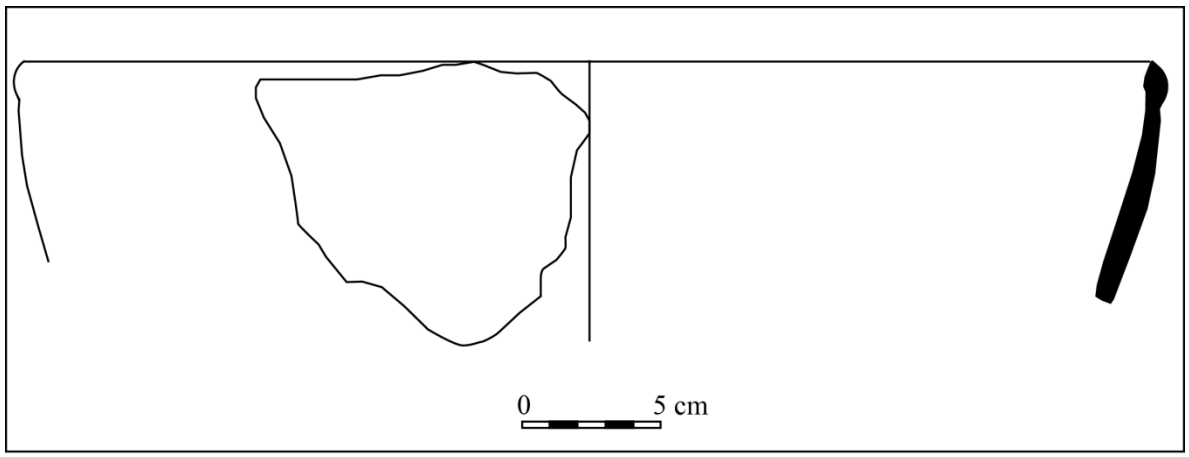
Fig:3. 158 A rim sherd from Ras Geriyah test-pit, Layer No:1, Group No:7/1, sherd No: R7/1/7.



Fig:3. 159 Potsherds from Ras Geriyah test-pit, Layer No:1, Group No:78/1.



Fig:3. 160 A rim sherd from Ras Geriyah test-pit, Layer No:1, Group No:8/1, sherd No: R8/1/8.



R 8/1/8

Fig:3. 161 A rim sherd from Ras Geriyah test-pit, Layer No:1, Group No:8/1, sherd No: R8/1/8.



Fig:3. 162 Potsherds from Ras Geriyah test-pit, Layer No:1, Group No:9/1.



Fig:3. 163 Potsherds from Ras Geriyah test-pit, Layer No:1, Group No:10/1.

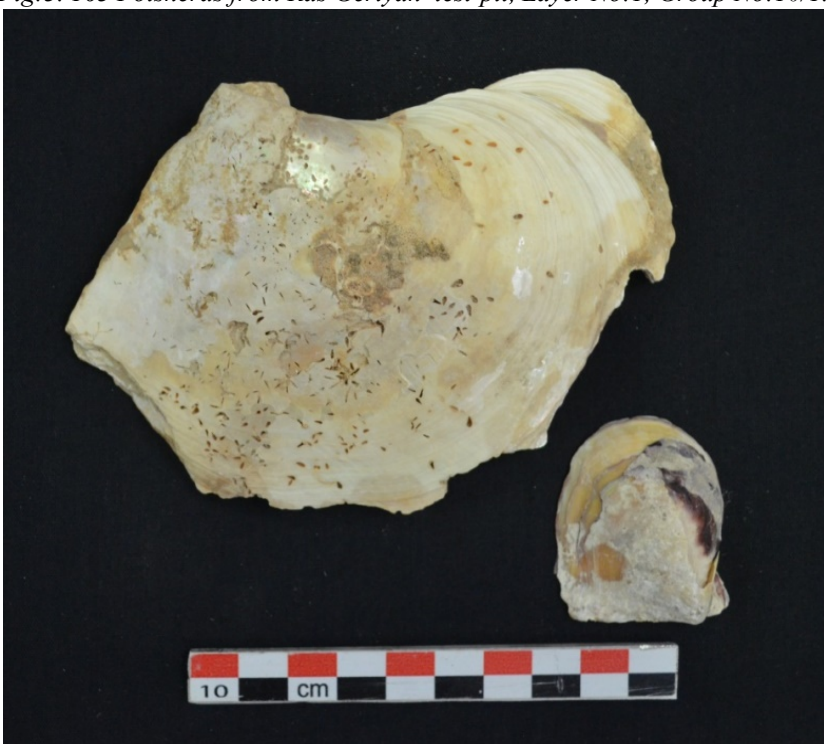


Fig:3. 164 Two marine shells (faunal remains) from Ras Geriyah test-pit, Layer No:1, Group No:11/1.



Fig:3. 165 Potsherds from Ras Geriyah test-pit, Layer No:2, Group No:1/2.



Fig:3. 166 'Celadon Ware' potsherds from Ras Geriyah test-pit, Layer No:2, Group No:2/2.



Fig:3. 167 Pottery sherd of 'Celadon Ware' from Ras Geriyah test-pit, Layer No:2, Group No:2/2, sherd No: R2/2/9.

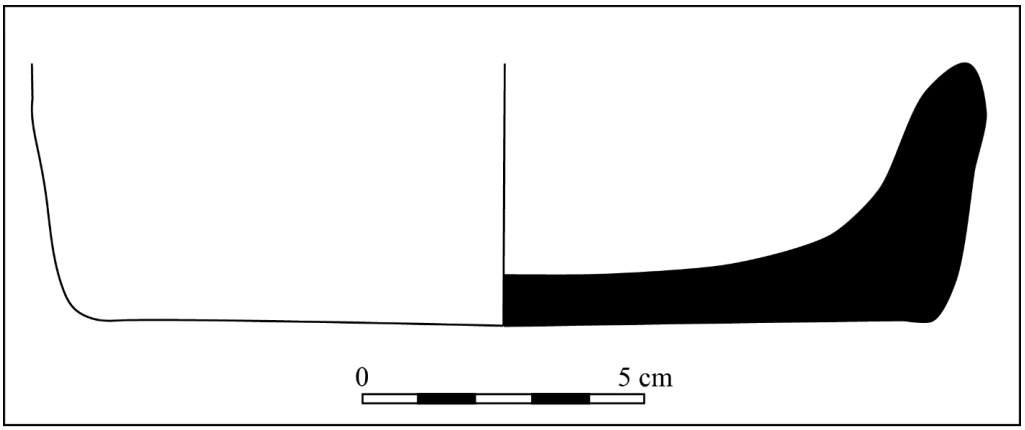
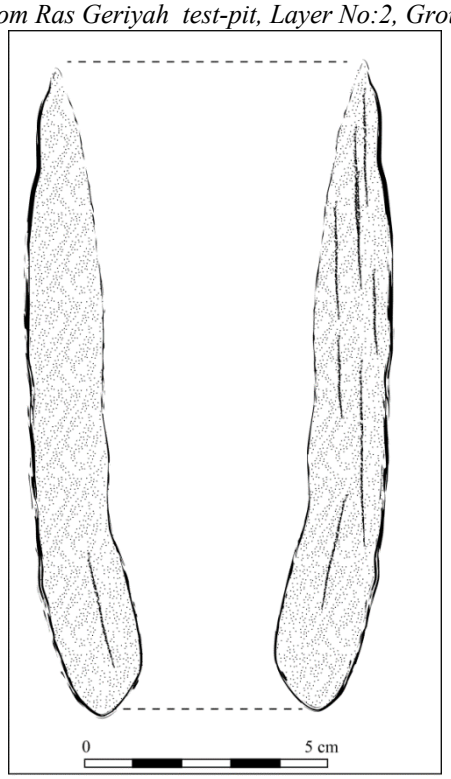


Fig:3. 168 Pottery sherd from Ras Geriyah test-pit, Layer No:2, Group No:2/2, sherd No: R2/2/9.



Fig:3. 169 Bone harpoon from Ras Geriyah test-pit, Layer No:2, Group No:3/2, tool No: R3/2/10.



R 3/2/10

Fig:3. 170 Bone harpoon from Ras Geriyah test-pit, Layer No:2, Group No:3/2, tool No: R3/2/10.



Fig:3. 171 Green glass rim sherd from Ras Geriyah test- pit, Layer No:2, Group No:4/2, sherd No: R3/2/11.

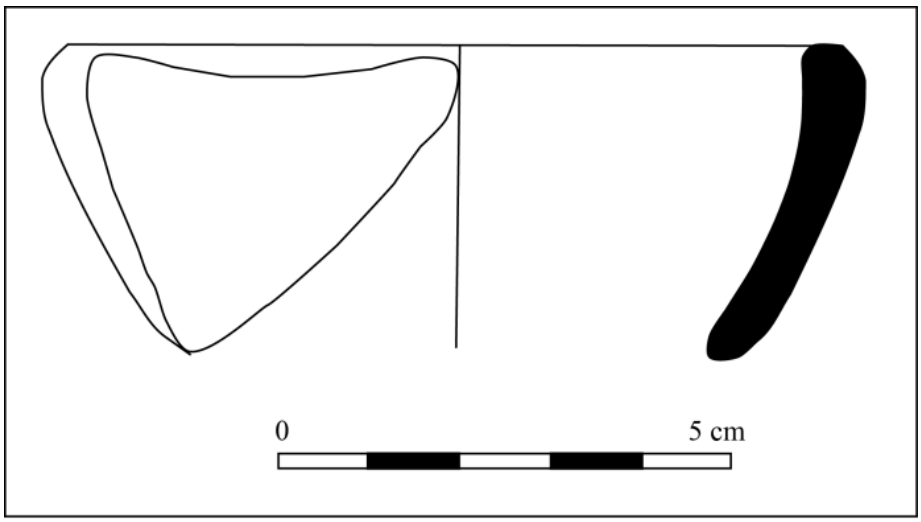


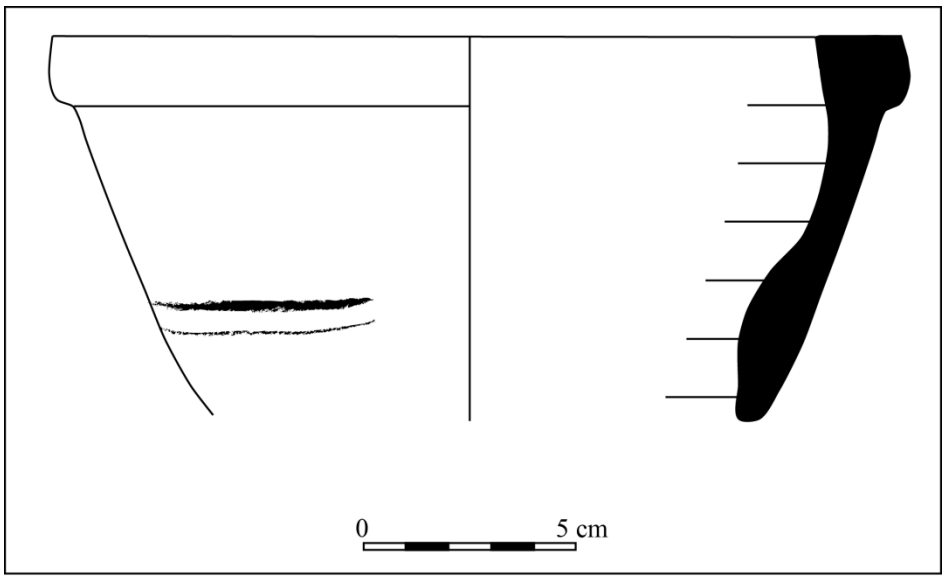
Fig:3. 172 Green bottle rim sherd from Ras Geriyah test-pit, Layer No:2, Group No:4/2, sherd No: R3/2/11.



Fig:3. 173 Potsherds from Ras Geriyah test-pit, Layer No:2, Group No:5/2.



Fig:3. 174 A potsherd from Ras Geriyah test-pit, Layer No:2, Group No:5/2, sherd No: R5/2/12.

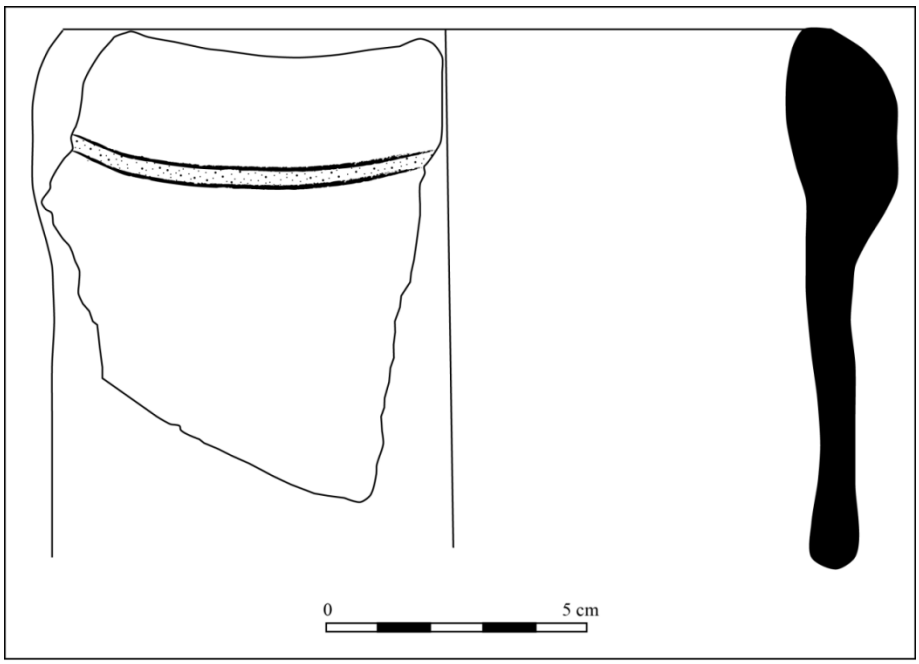


R 5/2/12

Fig:3. 175 A posherd from Ras Geriyah test-pit, Layer No:2, Group No:5/2, sherd No: R5/2/12.



Fig:3. 176 A potsherd from Ras Geriyah test-pit, Layer No:2, Group No:5/2, sherd No: R5/2/13.



R 5/2/13

Fig:3. 177 A potsherd from Ras Geriyah test-pit, Layer No:2, Group No:5/2, sherd No: R5/2/13.



Fig:3. 178 Potsherds from Ras Geriyah test-pit, Layer No:2, Group No:6/2.



Fig:3. 179 Potsherds from Ras Geriyah test-pit, Layer No:2, Group No:7/2.



Fig:3. 180 Potsherds from Ras Geriyah test-pit, Layer No:2, Group No:8/2.



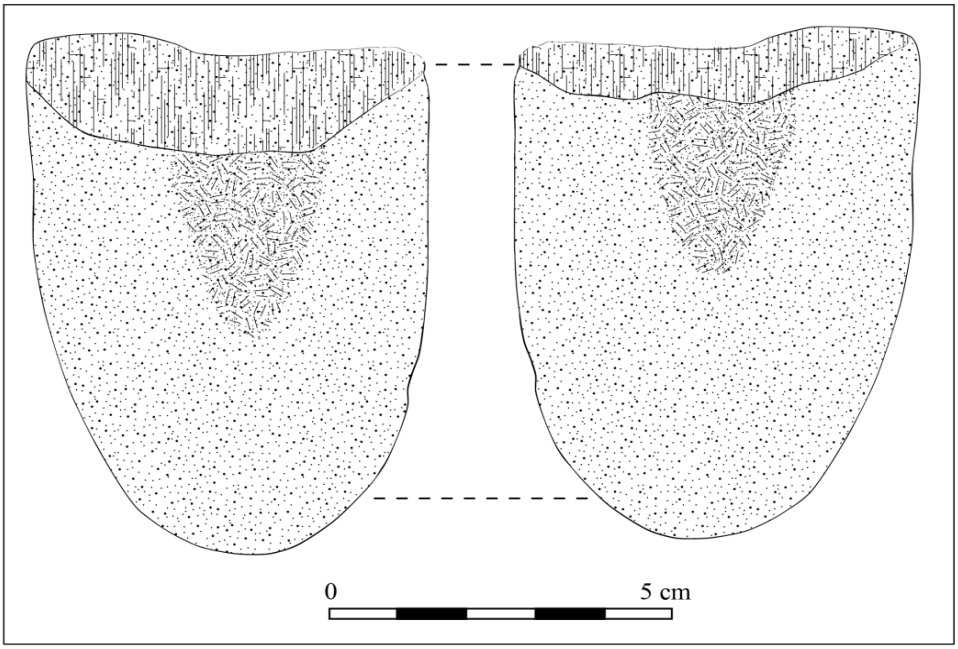
Fig:3. 181 Potsherds from Ras Geriyah test-pit, Layer No:2, Group No:9/2.



Fig:3. 182 Potsherds from Ras Geriyah test-pit, Layer No:2, Group No:10/2.



Fig:3. 183 A green glazed body sherd, a glass rim and three fragments of bones from Ras Geriyah test-pit, Layer No:2, Group No:11/2.



R 12/2/14

Fig:3. 184 A hammer stone from Ras Geriyah test-pit, Layer No:2, Group No:12/2, stone tool No: 12/2/14.



Fig:3. 185 A rim sherd from Ras Geriyah test-pit, Layer No:3, Group No:1/3, sherd No: R1/3/15.

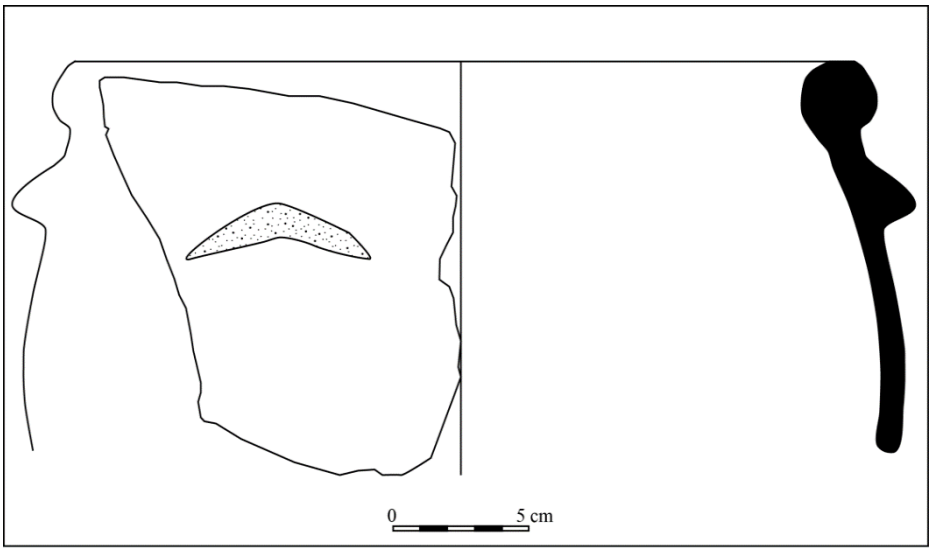


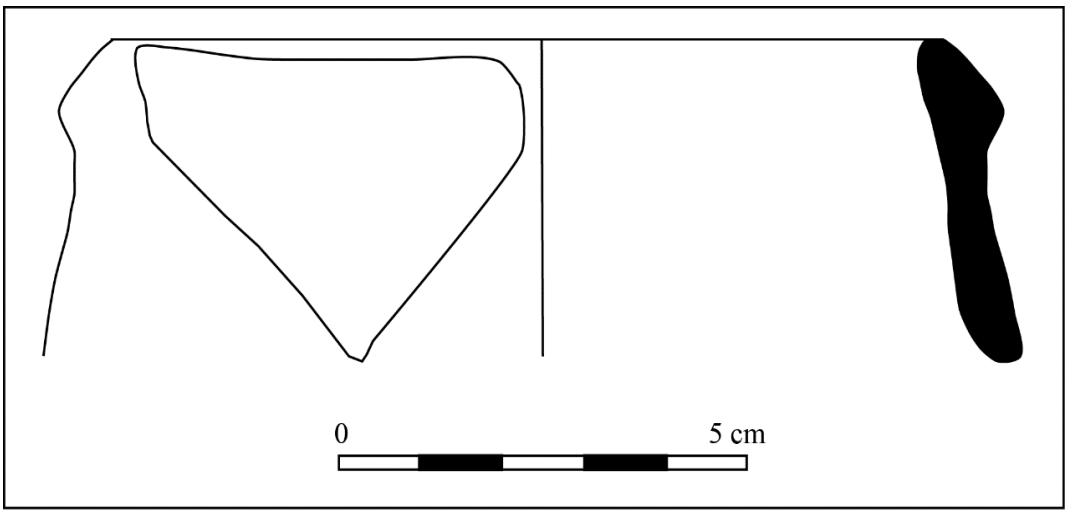
Fig:3. 186 A rim sherd from Ras Geriyah test-pit, Layer No:3, Group No:1/3, sherd No: R1/3/15.



Fig:3. 187 Potsherds from Ras Geriyah test-pit, Layer No:3, Group No:2/3.



Fig:3. 188 A rim sherd from Ras Geriyah test-pit, Layer No:3, Group No:2/3, sherd No: R2/3/16.

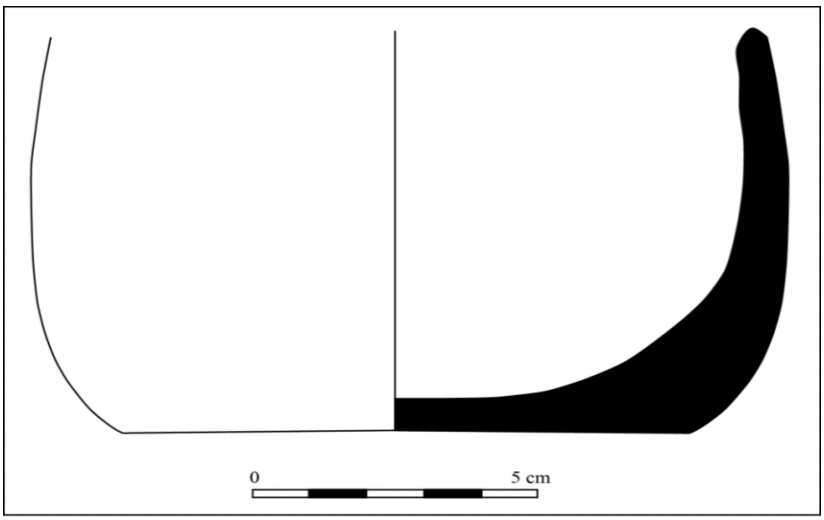


R 2/3/16

Fig:3. 189 A rim sherd from Ras Geriyah test-pit, Layer No:3, Group No:2/3, sherd No: R2/3/16.



Fig:3. 190 A base sherd from Ras Geriyah test-pit, Layer No:3, Group No:2/3, sherd No: R2/3/17.

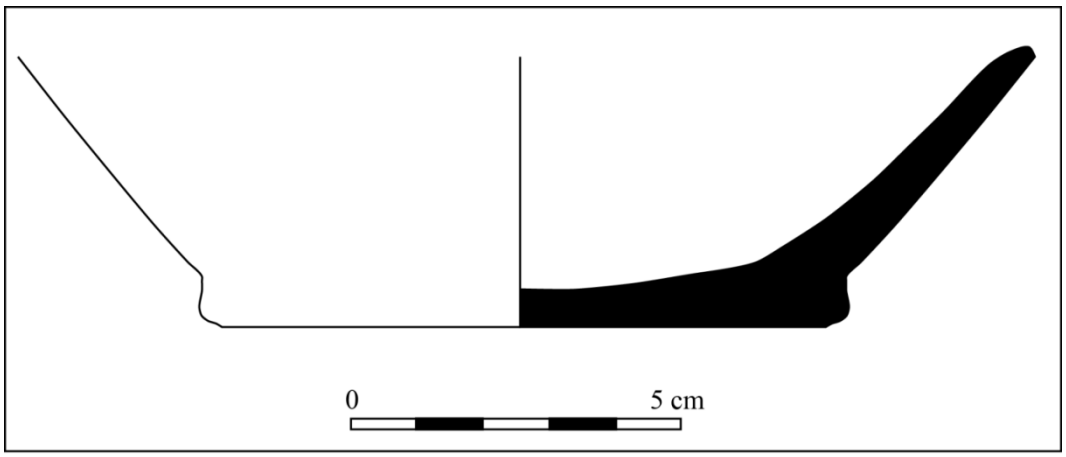


R 2/3/17

Fig:3. 191 A base sherd from Ras Geriyah test-pit, Layer No:3, Group No:2/3, sherd No: R2/3/17.



Fig:3. 192 A base sherd from Ras Geriyah test-pit, Layer No:3, Group No:2/3, Diagnostic sherd No: R2/3/18.



R 2/3/18

Fig:3. 193 A base sherd from Ras Geriyah test-pit, Layer No:3, Group No:2/3, sherd No: R2/3/18.

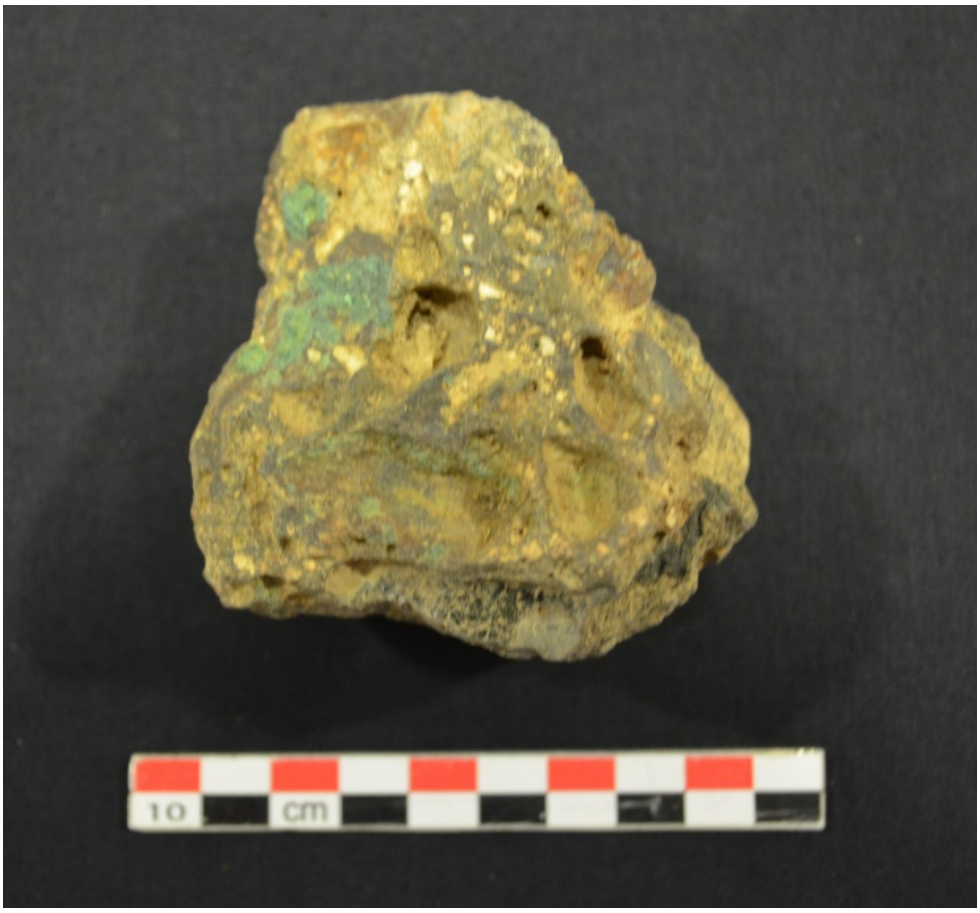


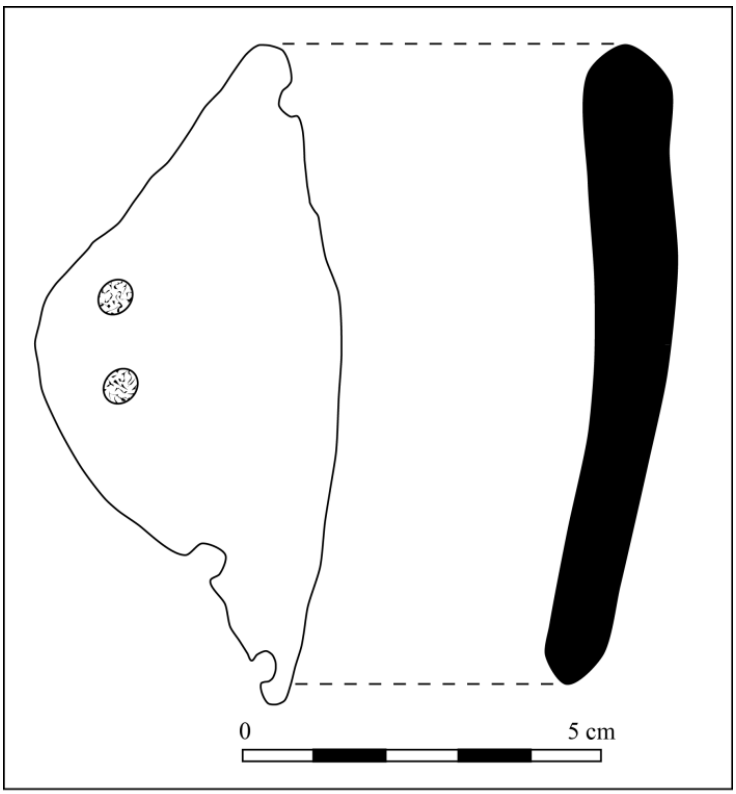
Fig:3. 194 Metal slag from Ras Geriyah test-pit, Layer No:3, Group No:3/3.



Fig:3. 195 Potsherds from Ras Geriyah test-pit, Layer No:3, Group No:4/3.



Fig:3. 196 A body sherd from Ras Geriyah test-pit, Layer No:3, Group No:4/3, artefact No: R4/3/19.

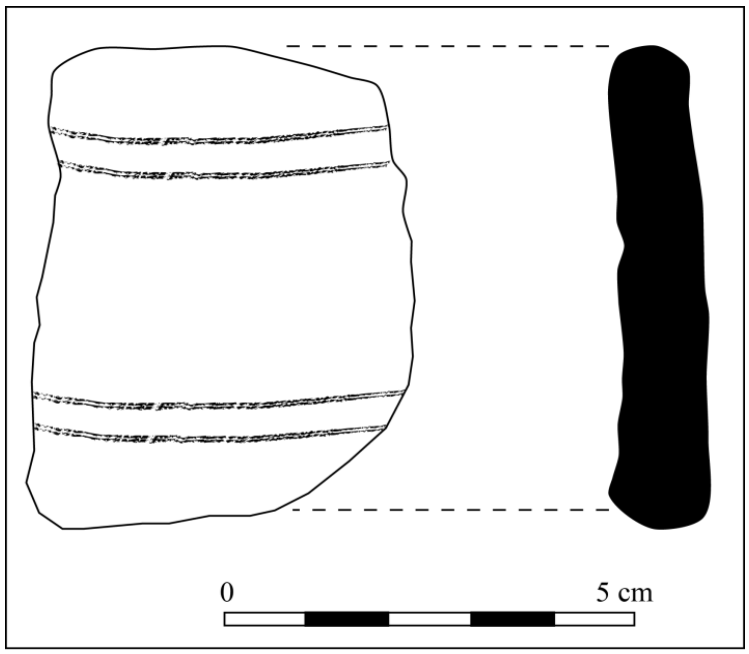


R 4/3/19

Fig:3. 197 A body sherd from Ras Geriyah test-pit, Layer No:3, Group No:4/3, artefact No: R4/3/19.



Fig:3. 198 A body sherd from Ras Geriyah test-pit, Layer No:3, Group No:4/3, artefact No: R4/3/20.



R 4/3/20

Fig:3. 199 A potsherd from Ras Geriyah test-pit, Layer No:3, Group No:4/3, artefact No: R4/3/20.



Fig:3. 200 Potsherds from Ras Geriyah test-pit, Layer No:3, Group No:5/3.



Fig:3. 201 Potsherds from Ras Geriyah test-pit, Layer No:3, Group No:6/3.

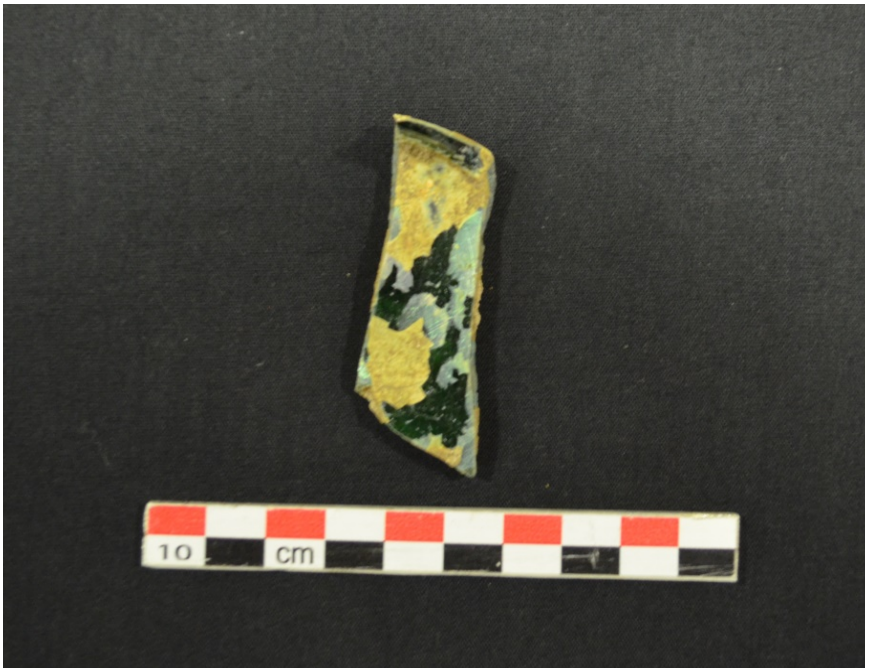


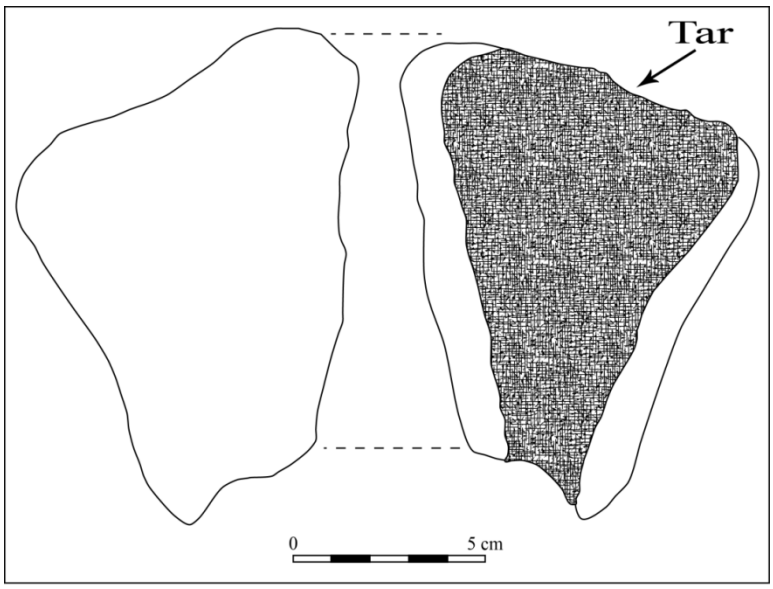
Fig:3. 202 Green glass sherd from Ras Geriyah test-pit, Layer No:3, Group No:7/3.



Fig:3. 203 A potsherd from Ras Geriyah test-pit, Layer No:4, Group No:1/4.



Fig:3. 204 A potsherd from Ras Geriyah test-pit, Layer No:4, Group No:1/4, sherd No: R1/4/21.



R 1/4/21

Fig:3. 205 Fragment of pottery from Ras Geriyah test-pit, Layer No:4, Group No:1/4, sherd No: R1/4/21.

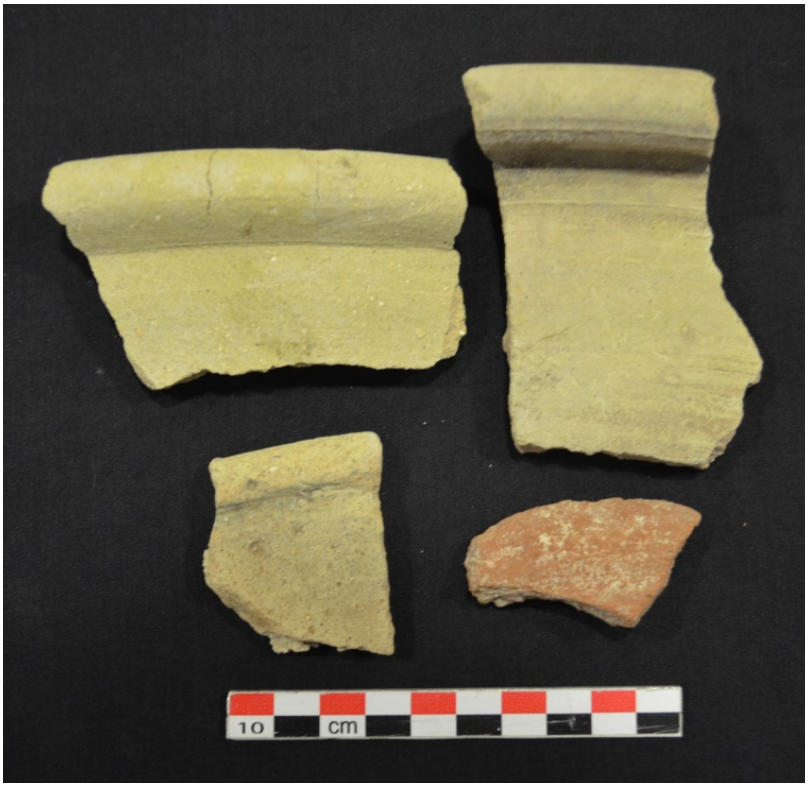


Fig:3. 206 Potsherds from Ras Geriyah test-pit, Layer No:4, Group No:2/4.



Fig:3. 207 A potsherd from Ras Geriyah test-pit, Layer No:4, Group No:2/4, sherd No: R2/4/22.

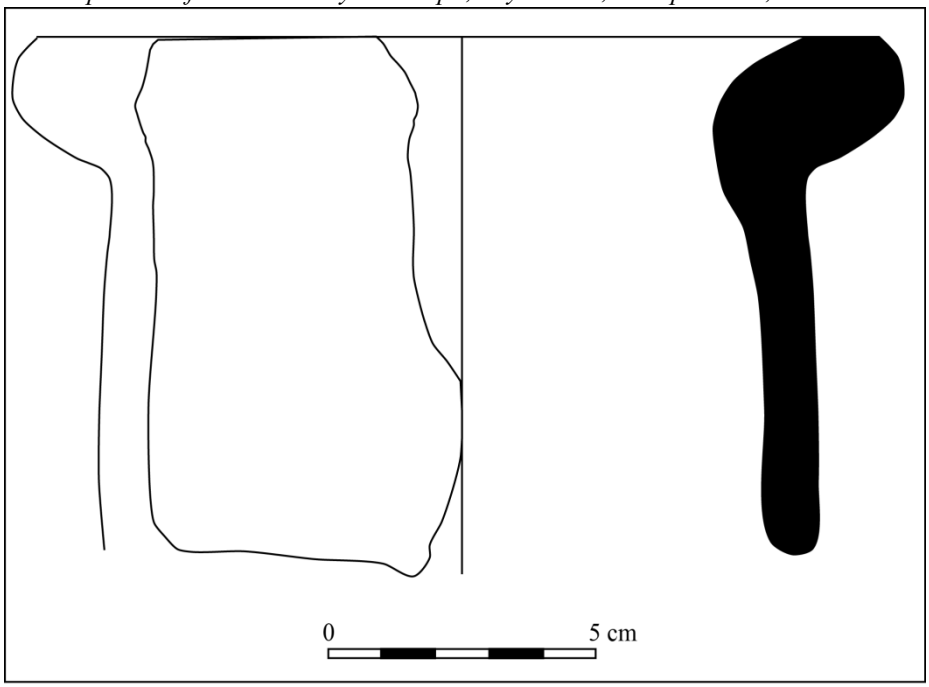
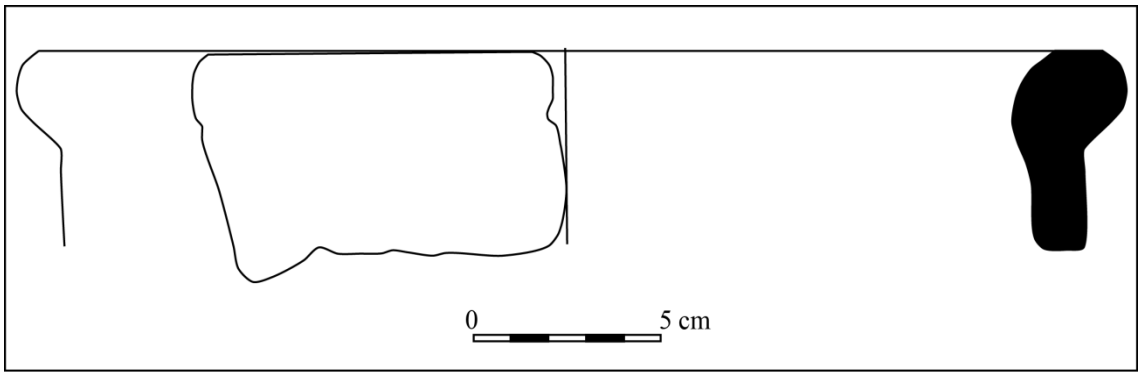


Fig:3. 208 A potsherd from Ras Geriyah test-pit, Layer No:4, Group No:2/4, sherd No: R2/4/22.



Fig:3. 209 A potsherd from Ras Geriyah test-pit, Layer No:4, Group No:2/4, sherd No: R2/4/23.

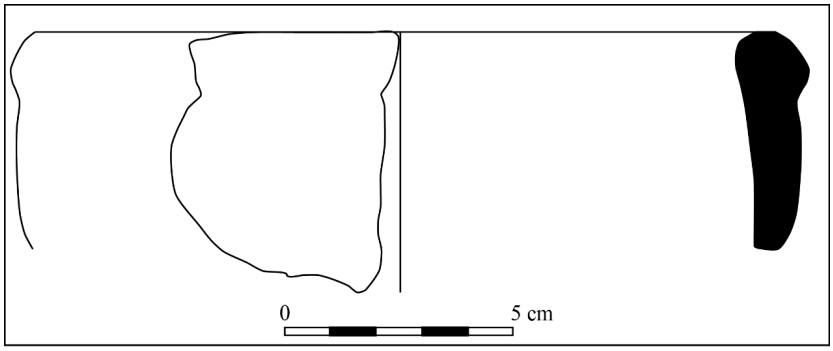


R 2/4/23

Fig:3. 210 A potsherd from Ras Geriyah test-pit, Layer No:4, Group No:2/4, sherd No: R2/4/23.



Fig:3. 211 A potsherd from Ras Geriyah test-pit, Layer No:4, Group No:2/4, sherd No: R2/4/224.



R 2/4/24

Fig:3. 212 A potsherd from Ras Geriyah test-pit, Layer No:4, Group No:2/4, sherd No: R2/4/224.



Fig:3. 213 Potsherds from Ras Geriyah test-pit, Layer No:4, Group No:3/4.



Fig:3. 214 Potsherds from Ras Geriyah test-pit, Layer No:4, Group No:4/4.



Fig:3. 215 Potsherds from Ras Geriyah test-pit, Layer No:4, Group No:5/4.



Fig:3. 216 Potsherds from Ras Geriyah test-pit, Layer No:4, Group No:6/4.



Fig:3. 217 Potsherds from Ras Geriyah test-pit, Layer No:4, Group No:7/4.



Fig:3. 218 Soapstone fragment from Ras Geriyah test-pit, Layer No:4, Group No:8/4.



Fig:3. 219 Potsherds from Tel al-Zayer, Layer No: Surface, Group No: surface collection (sample).



Fig:3. 220 A potsherd from Tel al-Zayer, Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/50.

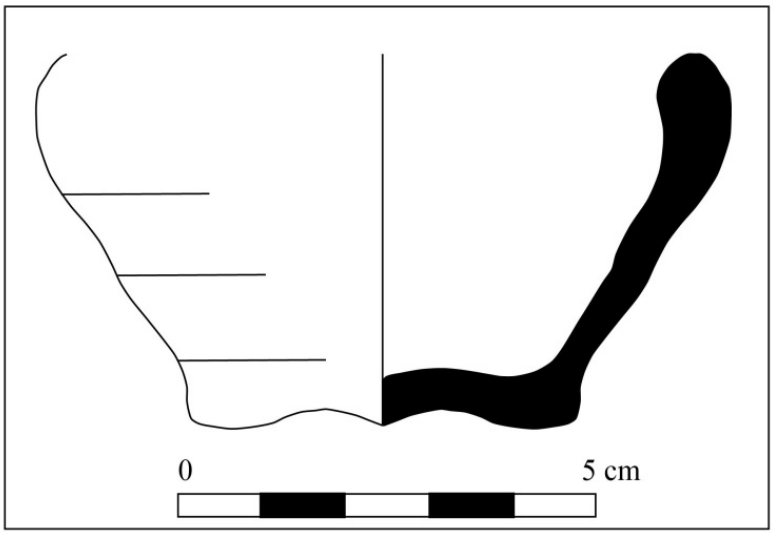
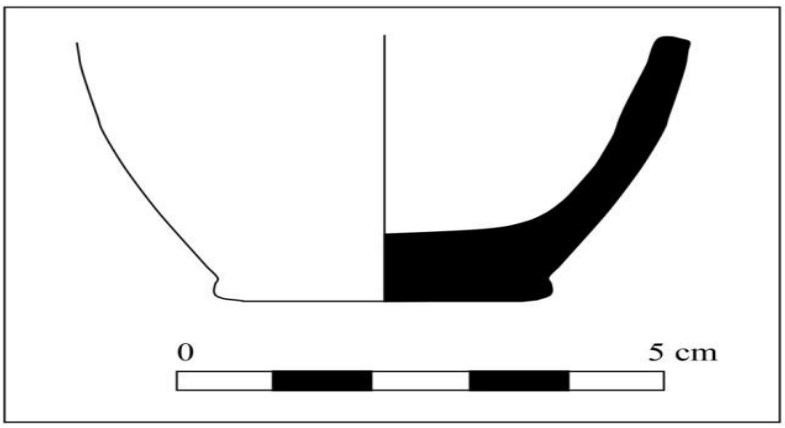


Fig:3. 221 A potsherd from Tel al-Zayer, Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/50.



Fig:3. 222 A potsherd from Tel al-Zayer, Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/51.

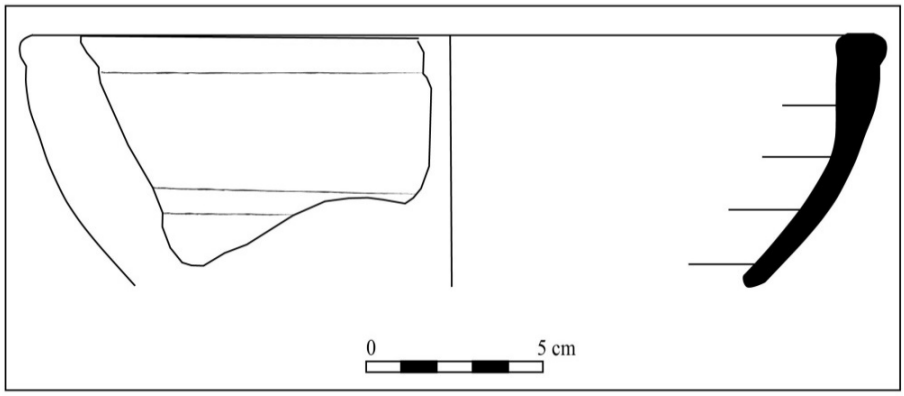


Z/S/1/51

Fig:3. 223 A potsherd from Tel al-Zayer Layer, No: Surface, Group No: surface collection, sherd No: Z/S/1/51.



Fig:3. 224 A potsherd from Tel al-Zayer, Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/52.

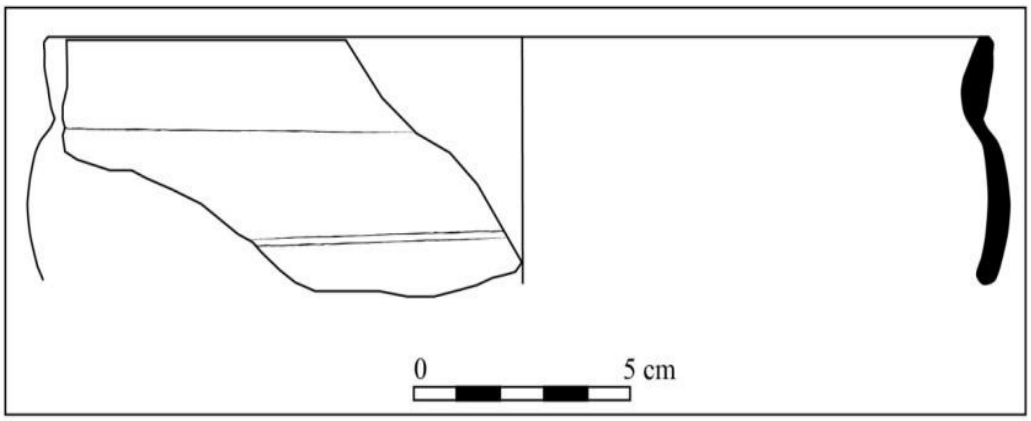


Z/S/1/52

Fig:3. 225 A potsherd from Tel al-Zayer, Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/52.



Fig:3. 226 A potsherd from Tel al-Zayer Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/53.

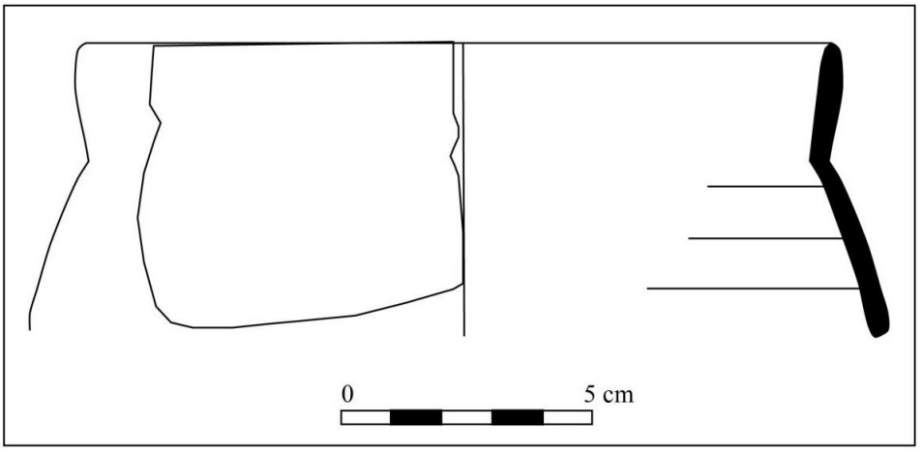


Z/S/1/53

Fig:3. 227 A potsherd from Tel al-Zayer Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/53.



Fig:3. 228 A potsherd from Tel al-Zayer Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/54.



Z/S/1/54

Fig:3. 229 A potsherd from Tel al-Zayer Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/54.



Fig:3. 230 A potsherd from Tel al-Zayer Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/55.

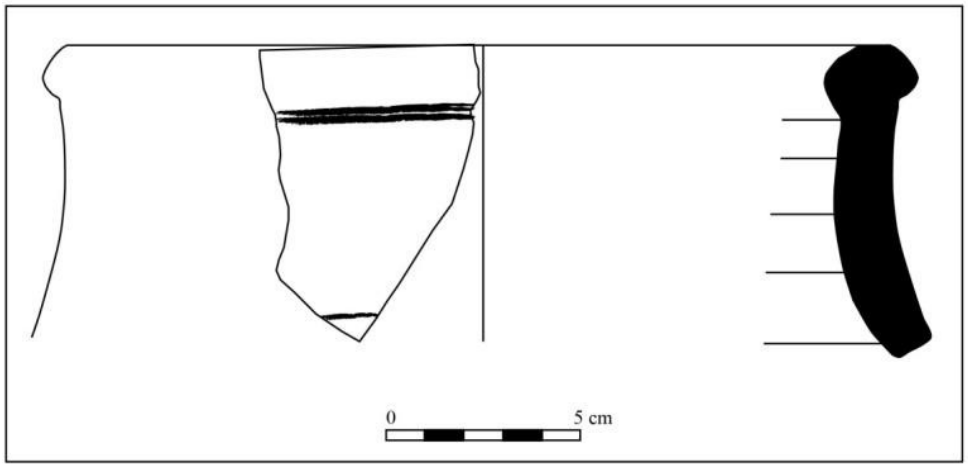
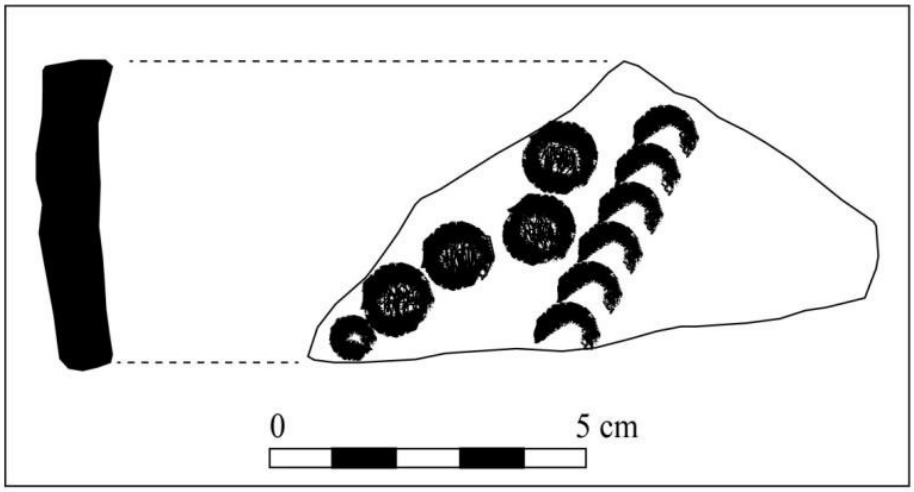


Fig:3. 231 A potsherd from Tel al-Zayer Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/55.



Fig:3. 232 A potsherd from Tel al-Zayer Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/56.



Z/S/1/56

Fig:3. 233 A potsherd from Tel al-Zayer Layer No: Surface, Group No: surface collection, sherd No: Z/S/1/56.



Fig:4. 1 Thaj Pottery vessel No:2/162.



Fig:4. 234 Thaj Pottery vessel No:783.



Fig:4. 3 Thaj Pottery vessel No:26.



Fig:4. 4 Thaj Pottery vessel No:25.



Fig:4. 5 Thaj Pottery vessel No:1/164.



Fig:4. 6 Thaj Pottery vessel No:1043.



Fig:4. 7 Thaj Pottery vessel No:2/163.



Fig:4. 8 Thaj Pottery vessel Fragment No:2/165 – 2/166.



Fig:4. 9 Thaj Pottery vessel No:5.



Fig:4. 10 Thaj Pottery vessel No:7.



Fig:4. 11 Thaj Pottery vessel No: 2/155.



Fig:4. 12 Thaj Pottery vessel No: 2/160.



Fig:4. 13 Thaj Pottery vessel No: 1073.



Fig:4. 14 Thaj Pottery vessel No: 130.



Fig:4. 15 Thaj Pottery vessel No: 2/172.



Fig:4. 16 Thaj Pottery vessel No: 1045.



Fig:4. 17 Thaj Pottery vessel No: 2/167.



Fig:4. 18 Thaj Attic black glazed base sherd No: 915.



Fig:4. 19 Thaj Pottery sherds No: 2/179, 2/180, 2/184, 2/186, 2/187, 2/ 191, 2/192, 2/194, 2/196, 2/198, 2/199, 2/200.



Fig:4. 20 Thaj Pottery vessel No: 1056.



Fig:4. 21 Golden glazed jug No:1291.

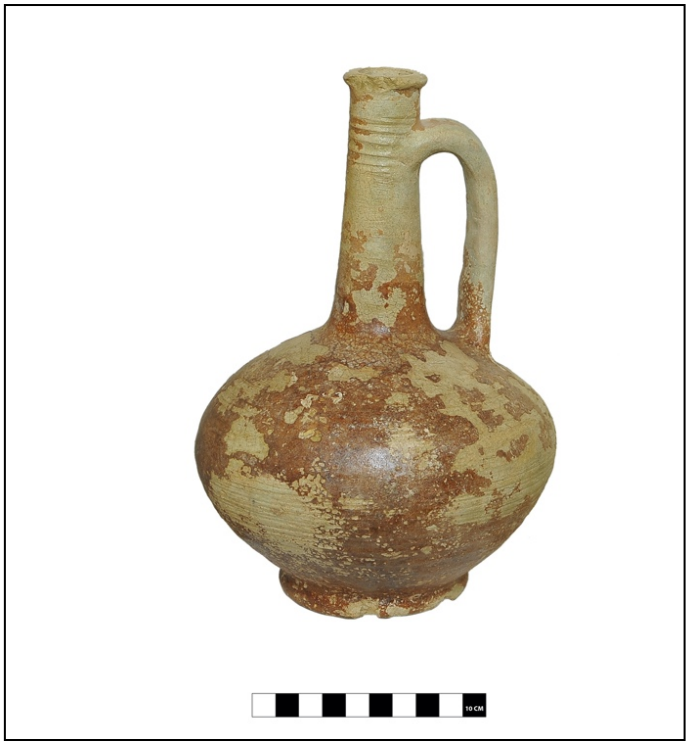


Fig:4. 22 Jug of buff/cream paste slipped with brown colour No:1292.



Fig:4. 23 Golden/copper glazed jug of cream paste No:1293.



Fig:4. 24 A two-handled jar of yellow/buff paste slipped with a greenish-golden glaze No 2108.



Fig:4. 25 Large flat plate of buff /cream paste with copper-coloured glaze No:1295.



Fig:4. 26 Bowl of cream pottery with golden/copper coloured glaze No:1294.



Fig:4. 27 Bowl of yellow /cream paste with golden/copper coloured glaze No:269



Fig:4. 28 Bowl of pink / red pottery, slipped in a white/grey colour No:258.



Fig:4. 29 Limestone carving No: 1289.

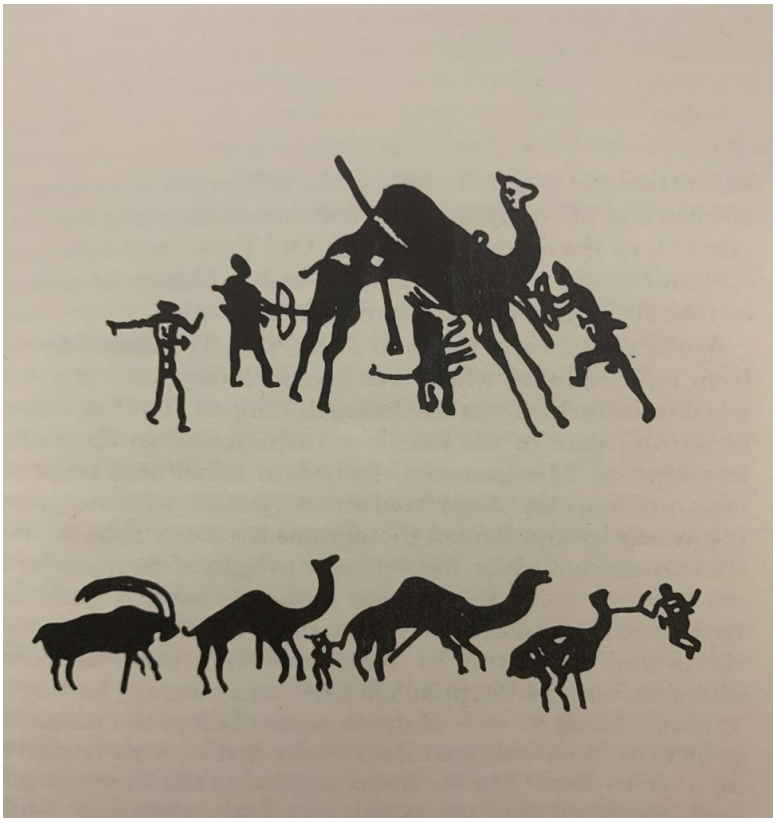


Fig:5. 1 'Hunting camels' from a rock art scene from Najran (after Groom, N., 1981, p. 37)



Fig:6. 1 Bowl from Geriyah (after Burkholder, 1984, Pl.35b)

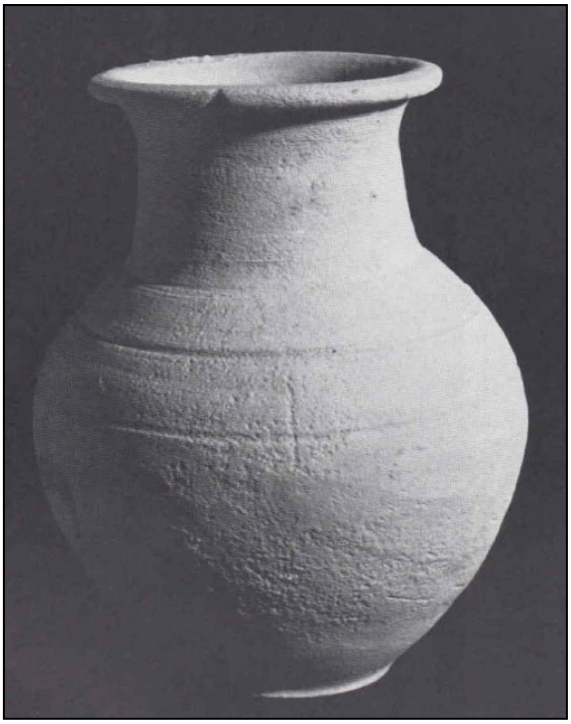


Fig:6. 2 Jug from Geriyah (after Burkholder, 1984, Pl.38a)

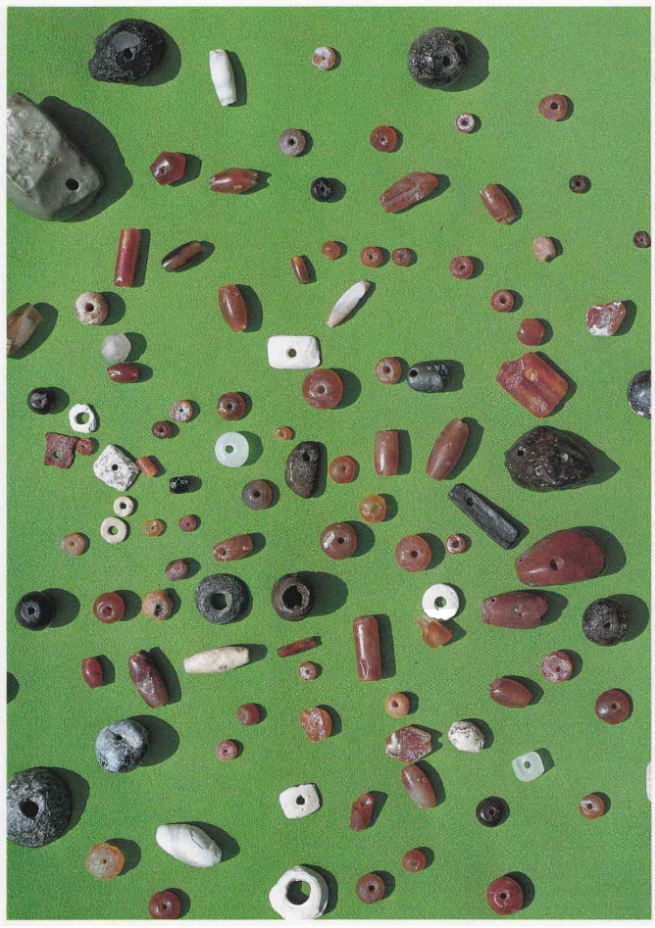


Fig:6. 3 beads from Geriyah (after Burkholder, 1984, Pl.42)



Fig:6. 4 Seal impression of hunting scene (after Golding, 1984, Pl 135a)



Fig:6. 5 The southern Arabia seal impression (after Golding, 1984, Pl. 135b)

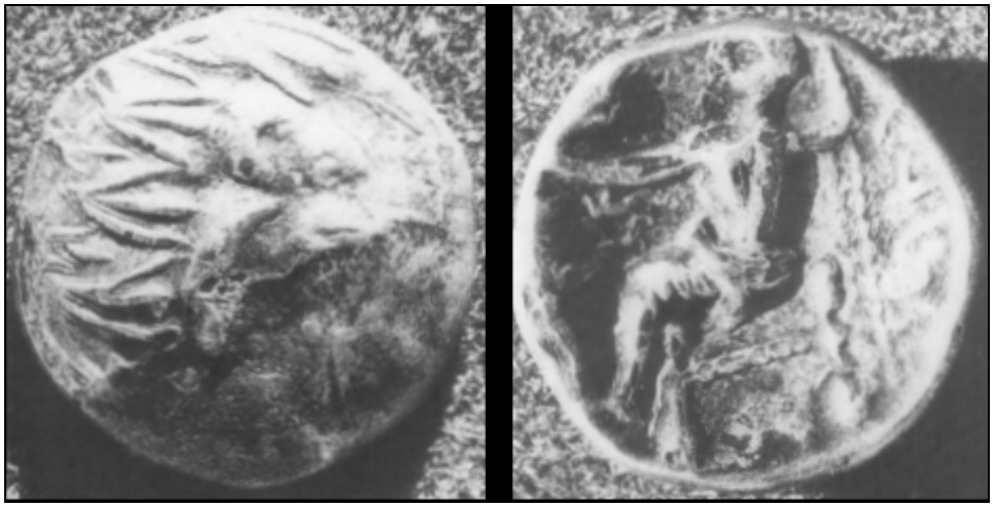


Fig:6. 6 Imitation of coin of Alexander from 'the Seal Flat' at Geriyah (after Golding, Pl. 139 a-b)

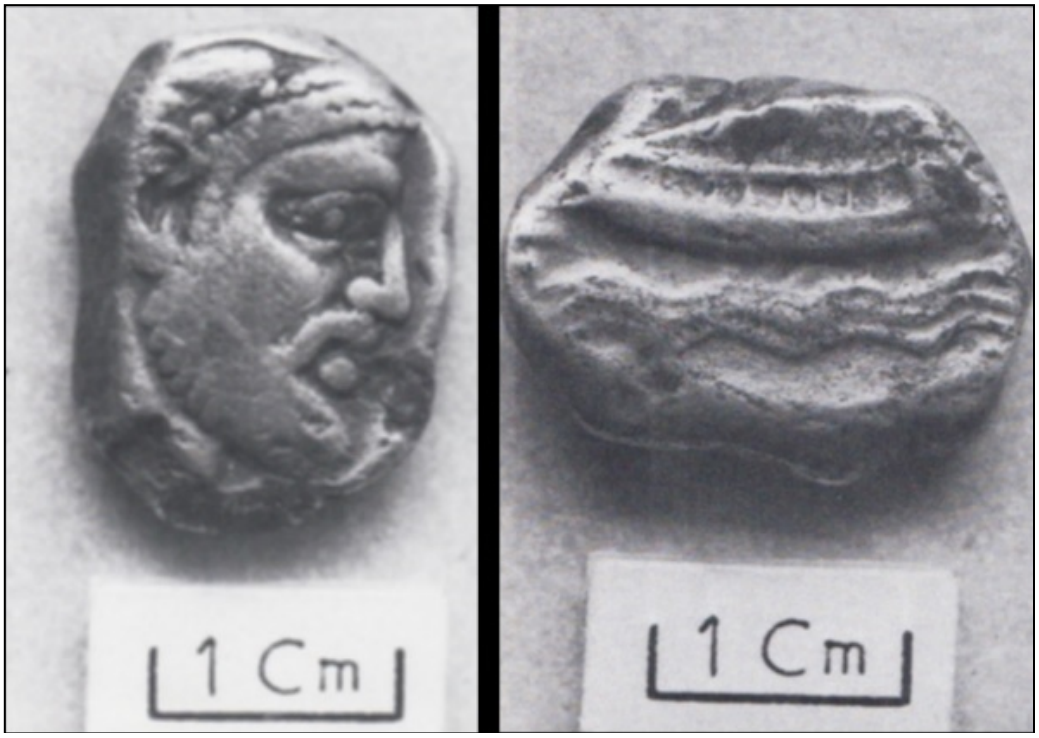


Fig:6. 7 Obverse and reverse of Phoenician coin (after Golding, 1984, Pl. 141b,136a)

CATEGORY	MATERIAL	DESCRIPTION	MEAS.	LOCATION	REFERENCES	FIG. N° (This study)
Pottery	–	Various types and shapes (handled jar, bowl, jug...)	–	«Sabkhah fort»	Bibby 1973, fig. 39, 42 Burkholder 1984, fig. 35b, 38a Golding, *forth.*, fig. 7-9	*Fig. 5*
Metal – arrow-heads	Copper/bronze « «	Tanged, leaf-shaped « «	max. L. 6 cm	«Sabkhah fort» ?	Bibby 1973: 43 Burkholder 1984, fig. 35c	– –
Jewellery – beads	Carnelian, bone Gold Carnelian, agate, rock-crystal, shell, *«and other coloured stones»*	– – Various shapes	– – –	«Sabkhah fort» «Seal Flat» «Seal Flat» ?	Bibby 1973: 43 Golding, *forth.*, fig. 18-14 Burkholder 1984, fig. 42	– – –
– earrings	Gold	–	–	–	Burkholder 1984: 33	–
Numismatic **(1)** – coin	Silver	Tetradrachm	w.: 13,15 gr.	«	Altheim & Stiehl 1968: 96 Potts 1984b	*Fig. 6*
(2) – coin	«	Tetradrachm ?	Ø : 1,5 cm	«Seal Flat»	Golding, *forth.*, fig. 16-17	–
Glyptic **(3)** – stamp-seal	?	Roughly circular; scorpion and South-Arabian inscription: «KALBUM»	Ø : ca. 1 cm	«Seal Flat»	Golding, *forth.*, fig. 15	–
(4) – cylinder-seal	Frit	Geometric design	H. ca. 1,75 cm	9 km NW of «Seal Flat»	*id. ibid.*, fig. 20	*Fig. 7*
(5) – cylinder-seal	?	Winged quadrupeds (very worn)	?	«Seal Flat»	unpublished	–
(6) – cylinder-seal	?	Winged quadrupeds facing left; in the field: star	H. 2,1 cm; Ø : 0,64 cm	«	Golding, *forth.*, fig. 13	–
(7) – cylinder-seal	White chalcedony	A running winged monster (griffin ?) pursues two gazelles	H. 2,25 cm Ø : 1,15 cm	«	*id. ibid.*, fig. 11-12	*Fig. 8*
(8) – cylinder-seal	?	An archer on one knee aims at a standing griffin; in the field: star, spear-head, altar (?), bird	?	«	Lombard 1985, fig. 48: 138 Golding, *forth.* fig. 14	*Fig. 9*
(9) – cylinder-seal	Carnelian	Two left-facing winged goats; in the field: globe, star, altar (?)	H. 1,95 cm Ø : 0,80 cm	«	*id. ibid.*, fig. 10	*Fig. 10*
(10) – cylinder-seal	?	A full-face standing hero, wearing a short kilt, holds a spear-head and an unknown symbol; other character apparently facing right with a spear-head; in the field: dog (?), undetermined animal or symbol	?	«Seal Flat» ?	unpublished	*Fig. 11*

Fig:6. 8 Summary of some surface finds from Geriyah (after Lombard 1988, fig: 4, pp. 122-123)



Fig:6. 9 Silver coin with image of Alexander from Byblos mint found at Geriyah (after Lombard 1988, fig. 6a-b, p.125)

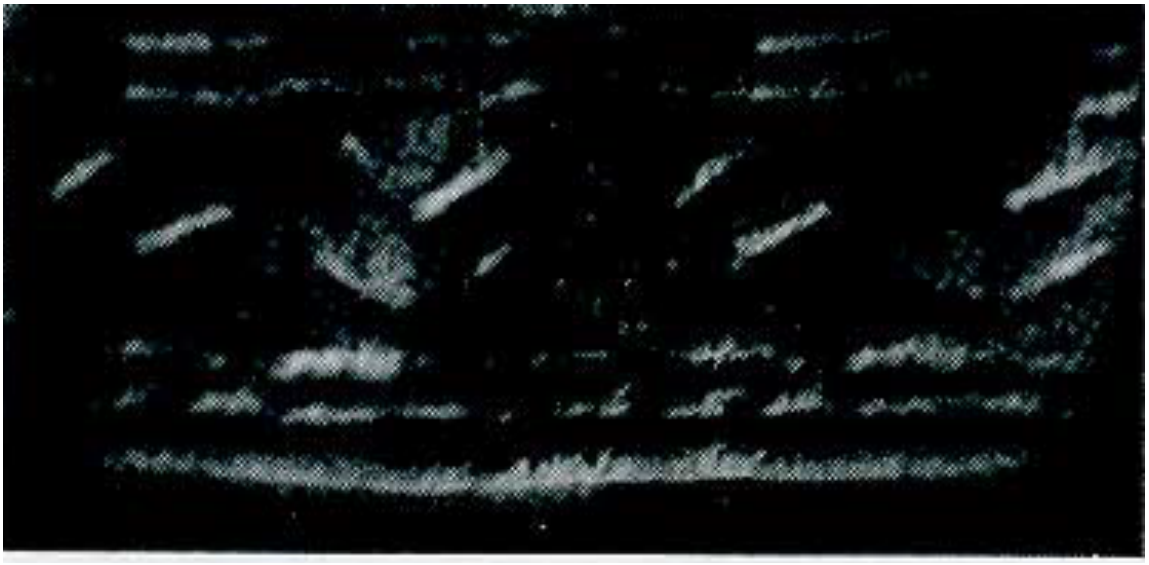


Fig:6. 10 Geometric cylinder seal from Geriyah (after Lombard 1988, cylinder no.4, fig. 7, P.126)

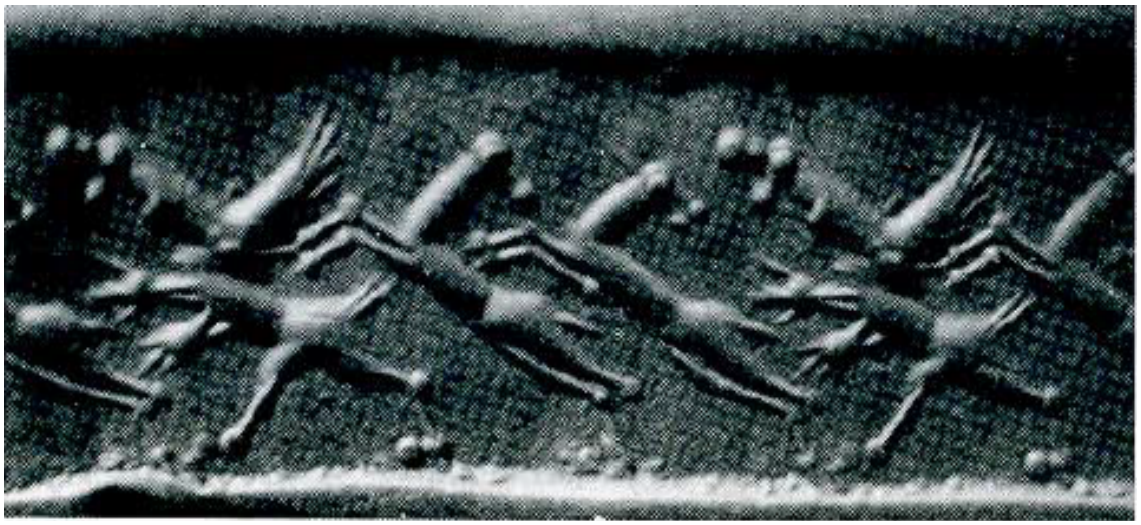


Fig:6. 11 Linear Style seals from Geriyah (after Lombard 1988, cylinder no.7, fig. 8, P.126)



Fig:6. 12 damage to the western wall of Jahlan Fort



Fig:6. 13 damage to the western wall of Jahlan Fort

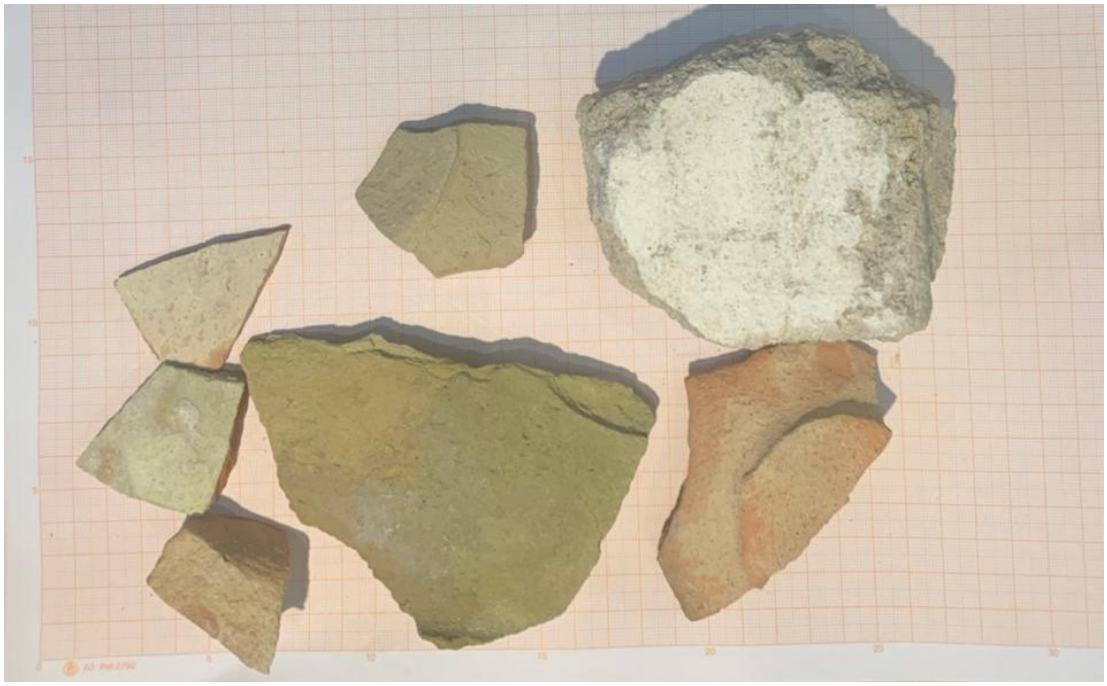


Fig:6. 14 Fragment of wall plaster (top right) and potsherds: surface finds from Jahlan Fort



Fig:6. 15 Fragment of wall plaster with finger marks on the white paint found on the western wall of Jahlan Fort