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**A Re-evaluation of Stratigraphic and Ceramic Evidence from  
the Bronze and Iron Age site of al-Şinā‘iyyah at Tayma in  
Saudi Arabia**

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**PhD Thesis**

**University of Durham**

**Department of Archaeology  
2017**

## a. ABSTRACT

This work investigated the ceramics from Şinā'ıyyah site in Tayma Area. In particular, this study aimed to determine their types, source and chronology. Also, it aimed to find out their distribution within and outside Tayma Area, in order to increase our knowledge of the history of Tayma and its contacts.

Hausleiter (2014) has classified Tayma ceramics into a number of groups, of which four of groups are attested in Şinā'ıyyah assemblage. The features and the suggested dates for these ceramics were reviewed below.

Moreover, several excavations have been conducted at Şinā'ıyyah, and a large number of ceramics were derived from these excavations. However, the ceramics in the published reports are very few, and very important information related to these ceramics is not available. Therefore, new excavations in Şinā'ıyyah were expected to provide significant results regarding the sequences and the dating of these ceramics.

For these reasons, as the main part of the current study, two new excavations were conducted in Şinā'ıyyah site. The ceramics derived from these excavations were divided into six groups based on their physical attributes. These groups were made up of three types of fabric which, according to previous petrographic studies, are related to the geology of Tayma, and may therefore have been made there.

Ceramics parallel to the Şinā'ıyyah groups were also attested in several sites in Tayma, north-west of Arabia and southern Levant. Based on integrating the stratigraphic evidence and C14 dates from our excavations at Şinā'ıyyah, together with the evidence from the other sites where these groups were found, the six groups from Şinā'ıyyah were dated (in general) between the early 2<sup>nd</sup> millennium BC to the 10<sup>th</sup>-5<sup>th</sup> century BC. According to the suggested dating and distribution for each group of ceramics, the contact between Tayma and Qurayyah is suggested to have started from the early 2<sup>nd</sup> millennium BC and endured more than ten centuries. Whereas, there is evidence which indicates that Tayma was in direct contacts with south Levant and Egypt during the Early Iron Age.

### **b. Declaration**

None of the material in this thesis has been previously submitted for a degree in this or any other university. This thesis is the result of my own work.

### **c. Statement of Copyright**

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### **d. Acknowledgements**

I would like to thank my dearest parents, my lovely wife, and my wonderful children who have been a constant source of love and support in my life and during my PhD journey.

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**e. Abbreviations**

**Qurayyah Painted Ware (QPW)**

**Red Burnished Ware (RBW)**

**Early Circular Tombs (ECTs)**

**Later Circular Tombs (LCTs)**

**Tombs Attached to Circular Tombs (TACTs)**

**Early Organized Tombs (EOTs)**

**Later Organized Tombs (LOTs)**

**Early Long Chamber Tombs (ELCTs)**

**Later Long Chamber Tombs (LLCTs)**

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# **1. Chapter 1: Introduction**

## **1.1. Introduction:**

Ceramics are some of the most important archaeological evidence which archaeologists use to understand many aspects of ancient societies. This is due to its durability and ability to survive in different conditions when compared with other finds as well as its ubiquity. The fact that ceramic has a number of physical attributes such as forms, decoration patterns and motifs, manufacturing techniques and raw materials, are also an advantage (*cf.* Shepard, 1956; Orton et al., 1993; Orton and Hughes, 2013). At Tayma, and during the excavations that started from the late 1980s onwards, a large amount of different types of ceramics has been found at several locations on the Şinā'iyah site. These ceramics have varying physical attributes which can be indicative of different periods.

According to Childe (1956: 3-12), archaeology is a classificatory science, whereby, classifying finds is necessary to extract history from them. According to this principle, the current study will focus on classifying the Şinā'iyah ceramics, in order to investigate the chronology and distribution of these ceramics. It is expected that this will increase our knowledge of many aspects of ancient Tayma as well as its links to other sites.

## **1.2. The Importance of this Study:**

Tayma is located in the north west of Arabia (for more details see the Geographical Framework below). The north west of Arabia has been known mostly from historical texts, and the name of Tayma was associated with trade and wealth (for more details, see the geographical and historical frameworks below) indicating the important role which Tayma played in the past.

The significant aquifers in western half of Arabia provide the basis for rich and fertile oases and valleys in inland in the north west of Arabia, such as Tayma and al-U'la, (Fig. 1.1), which operated as connection points on the trade routes towards the north (Magee, 2014:41). Based on the very recent evidence the permanent settlement and cultivation in

the oasis in the north west of Arabia can be dated based on the evidence from Tayma to the 5<sup>th</sup> millennium BC (Luciani, 2016a: 9; Dinies et al., 2016: 68-71).



Fig. 1.1 General map of the region

(Modified by M. Luciani based on the original by H el ene David, in: al-Ghabban et al. 2010, 28–29).

The  in a‘iyyah site is located to the south eastern of the city wall of Tayma (Fig. 1.2). Based on the available evidence the  in a‘iyyah site can be described as a burial site with different shaped tombs. What is known about these tombs is based on the building sequences (*e.g.* Abu Duruk; 1990; 1991; 1996; al-Hajri et al., 2006), where it is suggested that they tombs date from different periods. Furthermore, the ceramics that were derived from them have different physical attributes, which also indicate different dates. However, as will be further explored below (see Chapter 2 below), the excavated areas in

Şinā'iyah site were not fully uncovered and the published reports of the previous excavations at Şinā'iyah site are flawed and unreliable in many ways, with numerous errors and contradictions. Also, significant information about the ceramics derived from these excavations is not given.

Therefore, re-evaluation of the stratigraphic and ceramic evidence from the Şinā'iyah site is expected to increase our knowledge about the relationship between ceramics and tombs, which, hopefully, can provide a sequence of ceramics based on the tomb building sequences.

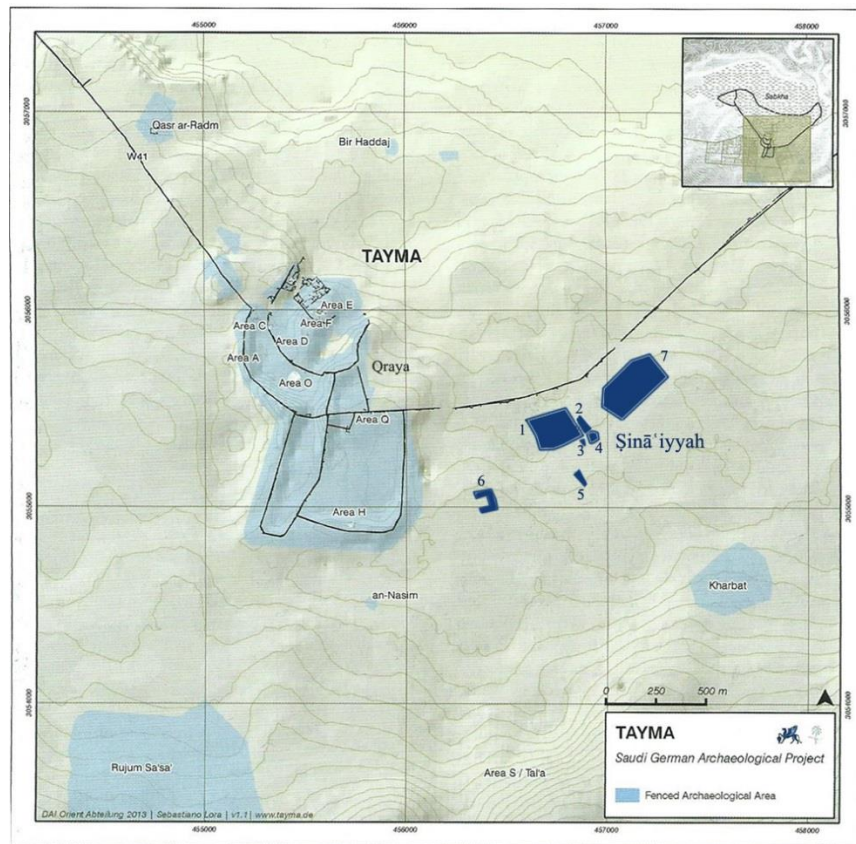


Fig. 1.2 Archaeological sites in Tayma

(Source: Hausleiter, 2014: 401)

Ceramics similar to some of the Şinā‘iyyah ceramics were found in several sites in Tayma itself and in several sites in northwest of Arabia and south Levant. (*cf.* Hausleiter 2014; Hausleiter and Zur, 2016; Intilia, 2016; Luciani, 2016b; Zur, 2016).

Examining the Şinā‘iyyah ceramics is expected to increase our knowledge of the origins and chronology of the Tayma ceramics. Additionally, it is expected to provide more information about ancient Tayma society, settlement and its cultural relations with other civilizations.

Moreover, Giannetta (2009) has examined ceramics and raw material samples from Tayma. He concluded that the vast majority of the ceramics were compatible with the geology of Tayma and that they were locally produced (see Chapter 4 for more details). Therefore, integrating the study of the Şinā‘iyyah ceramics with Giannetta’s study is expected to provide information about the chronology and the origin of the Şinā‘iyyah ceramics in particular, and Tayma in general.

### **1.3. The Main Objectives of the Study:**

This study will focus on looking at the Şinā‘iyyah ceramics in the archaeological context of the tombs excavated there. It aims to achieve four main objectives:

1. To classifying the ceramics from Şinā‘iyyah.
2. To determine the chronological of the Şinā‘iyyah site and each of the Şinā‘iyyah ceramics.
3. To investigate Tayma’s history and its contacts with other areas within and around the Arabian Peninsula.
4. To determine the development of contacts between Tayma and other areas within and around Arabia.
5. To determine the origin of the Şinā‘iyyah ceramics.

#### **1.4. Research Questions:**

Accordingly, the research questions can be posed as follows:

1. To how many groups the Şinā'iyah ceramics can be divided? Is there any relationship between specific types of ceramics and specific types of Şinā'iyah tombs?
2. Which of the Şinā'iyah ceramic types is known outside of Tayma and where? Is there compatibility between the suggested dates for these ceramics inside and outside Tayma?
3. Based on the distribution and the chronology of the Şinā'iyah ceramics, is it possible to determine the chronology and the development of contacts between Tayma and other areas within and around Arabia?
4. Are the Şinā'iyah ceramics made locally or imported?

#### **1.5. Research Methodology:**

At the broadest level, this study will rely upon the following methods to accomplish its objectives:

**Data Collection:** The data for this study will be collected by excavating a sample of tombs in Şinā'iyah to provide carefully recorded material (see Chapter 3).

**Classification:** The ceramics derived from the excavations will be classified into groups, based on their physical attributes (see Chapter 4).

**Comparison:** Each ceramic type will be discussed separately in order to find parallels within and outside the Tayma area.

**Chronology:** Each ceramic type will be dated based on the available evidence from inside and outside Tayma in order to find to determine the development of contacts between Tayma and other areas within and around Arabia.

## **1.6. Research Design and Structure**

The chapter structure of this thesis will be as follows:

Chapter 1 will include the introduction, the importance of the study, the aims and objectives of the research, the research questions, the research methodologies, the research design and structure and the geographical and historical frameworks of the Tayma area.

Chapter 2 will review previous studies of ceramics from Tayma, focusing on previous excavations at Şinā'iyah site and the most significant studies of the ceramics under discussion from within and outside Tayma.

Chapter 3 will discuss the excavations, including preparations that preceded them, survey results, an introduction to mounds 1 and 2, which have been chosen for excavation and the excavation methodology. It will also present and discuss the results of the excavations. It should be noted that a great deal of information was obtained from the excavations. This Chapter will therefore concentrate on important results regarding the development of the mounds, which make up the archaeological context of the ceramics, which is the main concern of this study. The precise context and the sequences of the ceramics will be further discussed in Chapter 5 after the classification is presented, Chapter 4. The reason for this is to discuss the context of each ceramic style.

Chapter 4 will present the methodology and results of the ceramic classification.

Chapter 5 will discuss the ceramics. It will be divided into five parts. The first will discuss the distribution of the established ceramic groups in the excavated sequences, the relationship between the tomb styles and ceramic groups, the chronology of the ceramic groups based on C14 results and the stratigraphic sequences of the deposits and the tombs where they have been found. The second part will discuss the distribution of identical ceramics within and outside of Tayma. The third part will discuss the chronology of the ceramic groups based on integrating the new results from mounds 1 and 2 from the Şinā'iyah site with the results from the other locations. The fourth part will discuss

chronology of Tayma's contacts with the other sites, based on the distribution and the suggested dates of the *Ṣinā'iyyah* ceramic groups. The fifth part is the conclusion.

Finally, the conclusion of this study will be presented in Chapter 6. It attempts to integrate the key results of these studies to address the research questions and outline the main findings and their significance. It will also discuss recommendations for future researches.

### **1.7. The Geographical Framework:**

Tayma City is located in the Tabuk region in the northwest of the Kingdom of Saudi Arabia, 246 kilometres to the south-east of Tabuk itself (Fig. 1.1&1.3), 420 kilometres to the north-east of Medina, 350 kilometres to the south-west of al-Jouf and 150 kilometres to the north-east of al-U'la.

According to al-Najem (1998: 17-30), the fertile and sheltered location of Tayma has made this area suitable for settlement since ancient times. According to him this city is located in a rectangular oasis that extends over nine km N/S and five to six km E/W, and rises between 300 and 400 above the sea level. Also, this area is naturally protected by rock formations from the north-east and the west and by Ghonaim Mount to the south-east and by a natural lake called al-Sabkhah on the north and east sides (al-Najem, 1998: 17-30). (Fig. 1.4)

Despite, the history of landscape, vegetation and climate in north Arabia is almost unexplored, due to the lack of adequate archives, the lake (al-Sabkhah) that was extended in a depression basin north Tayma during the Early and Mid-Holocene proved to be an significant archive, where, the results of the geochemical examination of some samples from this lake show that the vegetation and climate changed markedly during the Holocene (Dinies et al. 2016: 57-59). Also, the results show that the cultivation in the oasis in the north west of Arabia can be dated based on the evidence from Tayma to the 5<sup>th</sup> millennium BC (Luciani, 2016a: 9; Dinies et al., 2016: 68-71).

Nowadays, the northwest of the Arabian Peninsula enjoys a desert climate characterized by heat during the day, sudden drop in night temperature, and very low annual rainfall. The Avg. Max Temperature in the summer between 36,5 °C Maximum & 22,5 °C Minimum, and the Avg. Max Temperature in the winter between (15,2 °C Maximum & 0,7 °C Minimum (Abu al-Ala, 1975: 74). The mean annual rainfall of Tabuk area is 29.3mm (Dinies et al. 2016: 59).

In General, the most of the Tayma area is suitable for agriculture, which relies on the groundwater only (al-Shareef, 1977: 1397; al-Najem, 1998: 27-29). At some places at Tayma the fresh water can be obtained at a depth of only 4 meters (Eichmann et al. 2006b: 165).



Fig. 1.3 Tabuk region.

(Source: dainst.org)





Fig. 1.4 Şinā'iyah site location.

#### 1.7.1. The Main Ancient Trade Routes which Pass through Tayma:

1. The first starts at Aden and passes through Maein, Najran, Taif, Madinah, Madain Saleh (al-U'la) and then to Tayma and Dumat Al-Jandal. This road then divides into two routes, the first leading to Mesopotamia and the second to the Levant (Rashid, 1979: 109-110; al-Najem, 1998: 35). (Fig. 1.1, 1.5)
2. The second starts in the Hadramaut and follows the coast to Oman, Al-Jarha, Al-Ahsa, Al-Yamamah, Al-Qaseem, Ha'il to Tayma and then to Petra. This road then divides into two routes, the first to Gaza on the Palestinian coast and the second to Memphis in Egypt (al-Said, 2003: 14-15). (Fig. 1.1, 1.5)

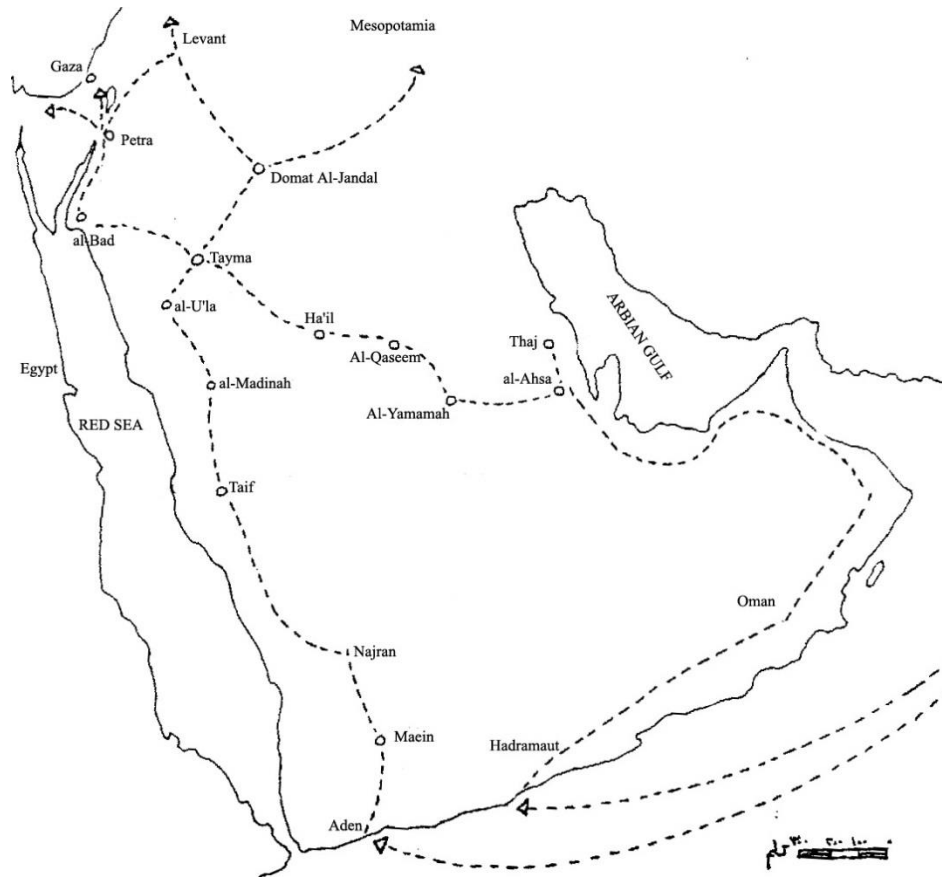


Fig. 1.5 Tayma on the ancient trade routes.

(Source of the original map Rashid, 1973)

### 1.7.2. The Şinā'iyah Site:

According to Abu Duruk (1989: 9-10) the territory of the Şinā'iyah archaeological site is as follows:

- To the north: The modern road to Jareesh village.
- To the south: Ghoneim Mount.
- To the East: Giran al-Hamam and caves, Khabra al-Bent and al-Dhilaat (the small mountains related to Ghoneim Mount).

- To the west: The modern motorway which links al-Madinah City to Tabuk City. (Fig. 1.2, 1.4)

Recently, the Şinā'iyah site was divided into seven areas using the survey results of the fencing project that was undertaken by the branch of the Saudi Commission for Tourism and Antiquities in the City of Tayma (Fig. 1.2).

### 1.8. The Historical Framework:

According to Winnett and Reed (1970: 22) the interest in Tayma started during the 19th century AD, when many western travellers visited Tayma. Since 1976 Saudi archaeologists have carried out several excavations at Tayma, which have revealed a number of important archaeological sites. These include: Bir Haddaj, Qasr Al-Hamra, Qasr Al-Radham, Qraya and Rojum Sa'sa (*cf.* Abu Duruk and Murad, 1985; 1986; 1988; Abu Duruk 1998; al-Najem, 1998; 2006).

In 1988, Saudi archaeologists discovered the Şinā'iyah site. Excavations were conducted during the 1988, 1989 - 1990, 1994, 2003 and 2004. The majority of reports are published in the journal *Atlal*. The archaeological site was named Şinā'iyah due to its location in the modern industrial area known as 'Şinā'iyah' in Arabic.

From 2004 until now, the joint Saudi-German team carried out many excavations in different locations in the Tayma area, the majority of reports are published in the journal *Atlal*.

Table no. 1.1 gives an initial idea of the previous investigations at Tayma. Studies related to the thesis are discussed in details in the Chapter 2.

Names	Year	Features	Bibliography
Charles Doughty	1877	He provides the first description of the ancient remains	(Doughty, 1936: 328-344)
Charles Huber	1883	They discovered the Tayma-stele, which is	(Euting 1914:

and J.Euting		exposed now in the Louver Museum	146-159)
H.St J Philby	1951	He was the first how mentioned the Qraya site.	(Philby, 1957: 72-103)
Winnett and Reed	1962	Published some ceramics from Tayma and dated them to different periods between the Iron Age and pre-Islamic.	(Winnett and Reed (1970: 175-176)
P. Parr, G. L. Harding and J.E. Dayton	1968	They have published some inscriptions from Tayma; also, they have mentioned that the Midianite Pottery which dated to the Late Bronze Age in Timna' was attested at Tayma.	(Parr. et al, 1970: 26-46)
Abdullah Masry	1977	He has argued that seasonal settlement in the north-west of Arabia was began during the 9 <sup>th</sup> millennia BC, while the sedentary settlement in this area were began during the 3 <sup>rd</sup> millennium BC.	Massry (1977: 12-13)
G. Bawden, C. Edens and R. Miller	1979	They carried out several excavations in several locations including Crain field (Rojum Sa'sa), Qraya and Qasr ar-Radm in Tayma, and they published several ceramics from different locations; ceramics dated between the early 1 <sup>st</sup> millennium BC to Hellenistic	(Bawden et al, 1980; Edens and Bawden, 1989)
Hamid Abu Duruk	1979, 1984-1986	Excavated Qasr al-Hamra site (fourth seasons) 6 <sup>th</sup> / 5 <sup>th</sup> and later	(Abu Duruk and Murad, 1985; 1986; 1988; Abu Duruk 1998)
A.Livingstone, B. Spaie, M. Ibrahim, M.	1982	They carried out several soundings in Tayma and they published several inscriptions	(Livingstone et al, 1983)

Kamal and S. Taimani			
Hamid Abu Duruk	1988, 1990-1991 & 1994	Discovered Şinā‘iyyah site, and carried out four excavation seasons, between the 17 <sup>th</sup> to 8 <sup>th</sup> based on C14 dates	(Abu Duruk, 1989, 1990; 1996; Masry et al, 1990)
A. al-Ghazzi	1995	He has listed the previous studies on Midianite ceramic including the Midianite ceramics found in Tayma.	(al-Ghazzi, 1995)
Mahmood al-Hajri et al	2000	Excavated some mounds in Rojum Sa’sa site.	(al-Hajri et al: 2005; al-Najem, 2006)
M. al-Hajri et al	2002	Excavation in Şinā‘iyyah site (fifth season)	(al-Hajri et al, 2006)
M. al-Najem	2000	He has discussed Rojum Sa’sa tombs (discovered by al-Hajri, et al in 2000), and he has dated this site to the period between the 3 <sup>rd</sup> -to Middle of 1 <sup>st</sup> Millennia BC.	(al-Najem, 2006)
Saudi-German joint archaeological project at Tayma	2004-now	Since 2004, a Saudi-German joint archaeological project has conducted multidisciplinary research at Tayma.	(e.g. Eichmann et al, 2006a; 2010; 2011; 2012)
A. al-Hajri et al	2004	Excavated the Şinā‘iyyah site (sixth season) dated the site based on the C14 result published in Masry et al (1990)	unpublished
A. al-Ghazzi	2005	He has studied the decorative motifs that appear on a ceramic bowl from Şinā‘iyyah,	(al- Ghazzi, 2005)

		and he dated this bowl according to the decorations motifs to the 3 <sup>rd</sup> Millennium BC.	
M. Maeoff	2006	He has published several ancient censers from Tayma, and he has concluded the ceramic censers from Şinā‘iyyah were produced locally, since no Similar were attested in other sites	(Maeoff, 2006)
M. al-Onazi	2006-2007	He has classified the Şinā‘iyyah ceramics (discovered in the sixth season 2004) into several forms types; and date them between the Late Bronze Age and Early Iron Age.	(al-Onazi, 2006-07)
M. Giannetta	2007	He has presented detailed descriptions for the Tayma ceramics and suggested the majority of these ceramics to be locally produced	(Giannetta, 2009)
A. Hausleiter	2014	He divided the ceramics from Tayma into five groups and dated them between the 16 <sup>th</sup> to middle of the 1 <sup>st</sup> Millennium BC	(Hausleiter, 2014)
A. Hausleiter and A. Zur	2016	Based on finds and C14 results Hausleiter and Zur have dated the circular tombs in al-Nassem site in Tayma to the late 3 <sup>rd</sup> and early 2 <sup>nd</sup> Millennium BC.	(Hausleiter and Zur, 2016)
M. Luciani, and Dinies et al.	2016	Based on C14 dates, they dated the permanent settlement and cultivation in NW oases (including Tayma) to the 5 <sup>th</sup> millennium BC.	(Luciani, 2016a: 9; Dinies et al., 2016: 68-71).

Table. 1.1 Previous investigations at Tayma

Massry (1977: 12-13) has argued that the seasonal settlement in the NW Arabia's Oases including Tayma was started in the 9<sup>th</sup> Millennium BC, while the sedentary settlement is started during the late 3<sup>rd</sup> Millennium BC. Hausleiter (2011: 109-110) has argued that seasonal settlement in Tayma can be dated to the period between the 5<sup>th</sup> to the 3<sup>rd</sup> millennia BC, based on comparison between the stone tools from Tayma and other sites dated to this period.

However, the long-standing assumptions considered the desert in the north west of Arabia to be void of people, settlements and by inference lacking scientific significance Magee (2014:1-13). The results of very recent archaeological field investigations in the north west and central of Arabia were provided a significant new look for the history of the permanent settlement in Tayma in particular and the other oases in the northwest and central of Arabia in general, such as al-U'la, Qurayyah, Dumat, and al-Kharj (Fig no. 1.1), during the Early Bronze Age onward (*cf.* Luciani, 2016a: 9; 2016b: 24-30; Loreto, 2016: 304; Hausleiter and Zur, 2016: 137-138).

According to Luciani (2016a:9), Dinies et al. (2016: 68-71) and Tourtet et al. (in press: 17) the oasis cultivation in Tayma is attested through the presence of grapes and figs in the since the 5<sup>th</sup> millennium BC, which is dated by C14 to approx. 4600 BCE (4345± 35 BP, 2  $\sigma$  4980-4670 calBC). This is indicating for a human settlement in Tayma during the 5<sup>th</sup> millennium BCE.

Moreover, according to Tourtet et al. (in press) a deposit with highly homogeneous ceramic found under the outer City Wall in Square W9, associated with a 14C date ranging from the 4<sup>th</sup> and early 3<sup>rd</sup> millennium BCE.

Moreover, Hausleiter and Zur (2016) have argued that the circular tombs in al-Nassem site can be dated to the late 3<sup>rd</sup> and early 2<sup>nd</sup> millennium BCE. Also, the city wall of Tayma can be dated to the early 2<sup>nd</sup> millennium BC. The town wall is dated by C14 result to the period between 1954 and 1771 calBC (Eichmann et al., 2010: 103).

Moreover, there are many deposits inside the town wall which have been dated to between the early 2<sup>nd</sup> millennium BC and the 13<sup>th</sup> century BC. For example, there are two deposits that were possibly related to the latest occupation level in the tower-like building

in square W41, dated to C14 1689 - 1526 calBC, and 1495 - 1320 calBC (Hausleiter, 2014: 402-405 & N. 8). the settlement inside the town wall during the early Iron Age, as is illustrated by the architectural complex consisting of at least one building, surrounded by a massive enclosure wall, which are dated by C14 to 1127 – 916 calBC (Intilia, in press).

Moreover, there are a great deal of evidence and indications which suggest continuity in settlement in Tayma from the mid Iron Age onwards to the modern era (see Hausleiter, 2011: 109-120; Eichmann et al., 2011: 65; Hausleiter et al., in press a]; Hausleiter et al., in press b]; Hausleiter et al., in press c]).

Moreover, the name of Tayma is mentioned in several ancient inscriptions. These can be divided into five periods:

### **1.8.1. Assyrian Period:**

Tayma is mentioned in a number of ancient Assyrian inscriptions. The oldest mention occurs in an inscription dating back to the mid-eighth century BC (al-Said, 2000:19). This tells the story of the Assyrian king, Nanortacatory Assir, who attacked a convoy of traders from Tayma and Sheba. It tells how the king won and looted the caravan (al-Said, 2000: 30-31; 2003: 14-15).

The second mention is in an inscription of King Tiglat-Pileser III, who lived from 744 - 727 BC (al-Said, 2000:19). This tells how the king forced the people of Tayma to pay a royalty of gold, silver and aromatic substances to the Assyrian king (Dougherty, 1932: 18; al-Said, 2000: 19-20).

The third mention occurs in inscription that date back to the Assyrian king, Sinnharib, who lived from 704 - 681 BC. This tells how Sinnharib attacked the Arabian land and it also tells of a gate to the Assyrian capital of Nineveh, named 'desert gate', which was the entrance for the convoys which came from Tayma (Eph'al, 1982: 104; al-Said, 2000: 20-22).



### **1.8.2. Babylonian Period:**

Tayma is mentioned in several Babylonian inscriptions dating back to the Babylonian king Nabonid, who lived from 555 - 539 BC (al-Said, 2000: 4-9). One of the most important is called Harran (Gadd, 1958: 61), which dates back to the third year of Nabonid's reign (al-Said, 2003: 7-9). According to the Harran inscription, Nabonid left Babel, heading for Tayma then Dadan, Fadak, Khaybar, Yadea' and Yathrib. He travelled for ten years without returning to Babel (al-Said, 2000: 7-9). Also, the Harran inscription affirms that after ten years and on the seventeenth of October, 543 BC, King Nabonid left Tayma and went back to his homeland (Gadd, 1985: 62; al-Said, 2000: 81-82).

Another inscription, written in clay, tells how Nabonid killed the prince of Tayma and also Tayma cattle. It also tells of how Nabonid made Tayma beautiful and built a palace similar to his palace in Babylon (al-Hashmi, 1977: 336& al-Said, 2000: 40-41).

The reason behind that Nabonid's invasion of Tayma, and his ten-year occupation, is a controversial topic among scholars. However, based on the analysis of the information from several inscriptions, al-Onazi (2006-2007: 13-17) has argued that the main reasons for this invasion can be set out as follows:

**Economic Reasons:** Nabonid was trying to save his country from economic collapse and to use the resources of the Arabian trade to serve Babylon, which was suffering from poverty and the spread of disease at that time.

**Military and Political Reasons:** Nabonid attempted to demonstrate Babylonian military power to his enemies in the Levant and Egypt and also tried to impose political pressure and an economic blockade on Egypt, Levant and Arabia, by cutting through the trade routes that linked these areas.

### **1.8.3. In the Aramaic, Nabataean Literature:**

According to Rashid (1973: 117), the oldest Aramaic text to mention Tayma by name dates back to the sixth century BC. This text tells of one priest who brought a new god to Tayma.

Tayma is also mentioned in a Nabataean inscription on one of the interfaces in the tombs of Madain Saleh, which tells that the tomb belonged to a person from Tayma (al-Theiab, 2000: 120).

#### **1.8.4. In the Holy Bible:**

In the Bible, according to A'ayash (1966: 489), Tayma is mentioned twice: in Moses, Chapter 25, Verse 5 and Kings I, Chapter 1, Verse 30. Both mention the name of Tayma in relation to trade.

#### **1.8.5. The pre-Islamic and the Islamic Periods:**

Tayma is mentioned in many Arabic poems of the pre-Islamic period, for example, a poem tells of a fortified palace called Al-Ablaq, which was in a strategic location in Tayma (al-A'sha, 1980: 69).

From the early Islamic period, the historical sources tell how the Jews of Tayma made reconciliation with the Prophet Muhammad (peace be upon him) at the beginning of the 7<sup>th</sup> century AD (al-Najem, 1998: 101-102).

According to al-Najem (1998: 103), during the 9<sup>th</sup> century AD, Tayma suffered a flood which uprooted trees and demolished houses.

Thus, it is clear that Tayma has a long history, starts from the 5th millennium BC to the modern era, also, as shown in the historical sources the history of Tayma was closely related to trade especially during the early Iron Age, indicating the significance of Tayma and the role that it played in the ancient world.

## Chapter 2: Literature review

## **2. Chapter 2: Literature review**

The first part of this chapter will review the published reports of the previous excavations in Şinā'iyah site, with focusing on the information that related to ceramic stratigraphy and chronology. The aim of that is to show that it is necessary to conduct new excavations to provide well recorded ceramics to study Şinā'iyah site ceramics.

Moreover, Şinā'iyah ceramics seems to be mix of local, regional and chronological groups that were attested in several sites; and these ceramics were classified and dated in the previous studies mainly based on the results from Tayma, Qurayyah and Site 200 in Timna'. The second part of this chapter will review these ceramic groups and the suggested dates based on the available evidence.

### **2.1. Introduction:**

The ceramic that will be discussed in this study were contained ceramics similar to regional ceramic groups that had been found at several sites inside and outside the Tayma area.

Hausleiter (2014) has divided the early ceramics in Tayma into five groups; amongst which there are four groups were found in Şinā'iyah site. The first group is the Red Burnished Ware/ Barbotine Pottery (RBW) that has been attested in Qurayyah site and several sites in Tayma (Hausleiter; 2014, Hausleiter and Zur 2016).

The Second group is Qurayyah Painted Ware (QPW), which is attested in Şinā'iyah site. (Hausleiter, 2014: 404-414). This group was first defined Edomite in the 1930s by Glueck (1967), and later as Midianite by Rothenberg (1972) Rothenberg and Glass (1983); later termed Qurayyah Painted Ware (Parr, 1988; Intilia, 2016). This type of ceramics were found in several sites in the north west of Arabia and south Levant (Parr et al, 1970; Rothenberg, 1972; Dayton, 1972; Kalsbeek and London, 1978; Avner, 1979; Ingraham et al. 1981; Jobling 1981; Dothan, 1982; Rothenberg and Glass, 1983; Brandl, 1984; Glass, 1988; Hart 1989; Finkelstein 1992; 1995; Pratico, 1993; Fritz, 1994; 2002; Yannai, 1996; Cohen and Cohen-Amin 2004; Singer-Avitz 2004; 2014; Levy et al. 2004; Al-Ghazzi, 2005; al-Onazi, 2006-2007; Bernick-Greenberg, 2007; Hashim, 2007; Tebes, 2007; 2013; 2014; 2015; Ben-Yosef et al, 2012; 2014; Erickson-Gini 2014; Smith and

Levy 2014, Intilia, 2016). The vast majority of these ceramics were found in Site 200 in Timna', Qurayyah and Tayma; whilst, from the other sites only few sherds (in most cases between one to two sherds).

A petrographic study by Rothenberg and Glass (1983) on ceramics from various sites including Timna' and Qurayyah, suggested that there is a huge similarity between the ceramics from these sites. These ceramics were made of raw materials that are comparable to the geology of north Hejaz; as a result, these ceramics were suggested to be most probably produced at Qurayyah (Parr et al., 1970: 240; Rothenberg and Glass, 1983: 111-114; Glass, 1988: 100-111; cf. also Slatkine, 1974: 108-110; 1978: 118-122; Kalsbeek and London 1978: 53).

Daszkiewicz (2014: 409-413) has examined some of Qurayyah Painted Ware from Tayma and Qurayyah. Although, he has noted some differences between QPW from Qurayyah and QPW from Tayma, he has agreed with Rothenberg and Glass that there is a strong similarity between QPW sherds from different sites. Moreover, a study by Giannetta (2009) includes a detailed analysis for 138 ceramics that were derived from excavations in Tayma, and he has divided these ceramics into nine petrographic groups; the vast majority of these ceramics (125 of 138) were suggested to be locally produced in Tayma (Giannetta, 2009: 97-99).

Very recently, some QPW sherds were derived from the excavations carried out by the joint multidisciplinary research project of the Saudi Commission for Tourism and National Heritage the University of Vienna in Qurayyah site. According to Luciani & Alsaud (in press) these sherds are differing in appearance and more importantly in chronology than typical QPW from the other site, for this reason, they named these sherds as Qurayyah Painted Ware (SQPW).

The third group is the Tayma Early Iron Age Pottery, and the fourth is Şinā'iyah Pottery which attested in several sites inside Tayma including Şinā'iyah site (Hausleiter; 2014).

From Şinā'iyah site, although, a large amount of ceramics was derived from excavations, the published reports (e.g. Abu Duruk, 1989; 1990; 1996; Al-Hajri et al,

2006) did not provide enough information about them, the related C14 dates or the stratigraphy of the excavations.

Accordingly, in the first part of the following discussion, I will discuss in detail the published reports of previous excavations in Şinā'iyah (e.g. Abu Duruk, 1989; 1990; 1996; Al-Hajri et al, 2006), I will argue that it is therefore necessary to conduct new excavations to provide well recorded and contextualised ceramics which can be expected to provide further information about the ceramics from Şinā'iyah in particular, and the origin and the chronology of the regional ceramic groups mentioned above.

Whereas, the second part of this chapter will discuss the suggested typologies and chronologies for the ceramic Types which are similar to those found in Şinā'iyah.

Also, since the majority of the ceramics similar to Şinā'iyah ceramics were found in Tayma, Qurayyah and Site 200 in Timna', I will discuss in details the ceramics from these sites focusing on the ceramic features and chronology. The aim of this will be to show that the ceramics attested at these sites include more than one style, and should not, therefore, be classified and dated as one ceramic group.

Accordingly, the discussion of previous studies will be divided into three parts as follows:

1. The first part will discuss the published reports of the previous excavations in Şinā'iyah.
2. The second part will discuss the ceramics similar to Şinā'iyah ceramics from Tayma, Qurayyah and Timna'.
3. Summary and conclusion.

## **2.2. Published reports of the previous excavations at Şinā'iyah site**

As has been mentioned in the introduction, this part will discuss the results of the published reports of the previous excavations at Şinā'iyah site. The main aim of the following discussion is to show that these reports are flawed and unreliable in many ways, with numerous errors and contradictions; thus, it is necessary to conduct new excavations to provide well recorded ceramics for the current study.

The following discussion will discuss five studies; Abu Duruk, 1989; 1990; 1996; Masry et al, 1990; al-Hajri et al, 2006, because they are the only reports so far published. Before discussing these studies there are two points that need to be clarified:

1. These studies were published in two languages (Arabic and English); and the current study will discuss only the Arabic versions of these studies for the following reasons: Firstly, the original copies were written in Arabic. Secondly, there are many details in the Arabic versions that were absent from the English version. For example, al-Hajri et al (2006) described the tombs that have been found in season 2002-2003 and listed the finds from each tomb (al-Hajri et al, 2006: 51-75). This information is not given in the English version of this study. Moreover, Masry et al (1990: 79& 84) have published several C14 dates from different sites in Saudi Arabia including five C14 dates from Şinā'iyah site, which were published only in the Arabic version. Thirdly, the identifications of the excavated squares in the English versions do not match with the published plates and figures. For examples, in the Arabic version Abu Duruk (1989: 11) has described the excavation in the squares that are based in the map that was published in Abu Duruk (1989: plate. 4) are squares 7I, 7J, 8I and 8J; and in the English version these squares were described as 7T, 7E, 8T and 8E; whereas, in fact, the squares 7T, 7E, 8T and 8E are not excavated so far.
2. Al-Hajri et al (2006: 49) published their study as the result of the fourth, 2002, excavation season in Şinā'iyah site; whereas, in fact, this season was the fifth season<sup>(1)</sup> (Figs.2.1-2.2 below). Therefore, in the following parts of the current study, al-Hajri et al's (2006) study will be described as the results of the excavation in the fifth season 2002.

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<sup>(1)</sup> Al- Zahrani Awadh (personal communication); Al-Zahrani was a member of the team who excavated some of the tombs in square D35 in area A in Şinā'iyah in the fourth (1994) season. Mohammad Al-Najem, the director of Tayma Museum (personal communication), agrees with al- Zahrani that the fourth season was in 1994.

**Discussion of the published results of the previous excavations in Şinā‘iyyah site:**

The following discussion will be divided into five parts as follows: 1) the location of the uncovered tombs; 2) the stratigraphy in the excavated areas; 3) the published ceramics; 4) the C14 samples; 5) conclusion.



Fig. 2.1 Excavations in Area 6 in Şinā‘iyyah site



Fig. 2.2 Excavations in Areas 1-4 in Şinā‘iyyah site



## **1. The location for the uncovered tombs:**

There is a lack in the descriptions of the excavated tombs in all the published reports so far. For example, a total of 119 diverse shape tombs reported in these reports (Abu Duruk, 1989: 12-16; 1990: 13-16; 1996: 14-15; al-Hajri et al, 2006: 50-75). The ceramics that have been derived from these tombs were store in bags and labelled by the tomb number. However, the exact location for each tomb and its number cannot be determined based on the published information in these reports. Therefore, it is difficult to determine the link between the shape of the tombs and the ceramics based on the published reports.

## **2. The stratigraphy inside and outside the uncovered tombs in Şinā'iyah site:**

Abu Duruk (1989: 11-15) described the sequences of the layers inside and outside the tombs that were uncovered in the first season, from the bottom to the top as follows; inside the tombs there were five layers; bedrock layer, clay deposit, debris deposit, sand deposit and surface deposit; whereas outside there were also five layers; bedrock layer, clay deposit, sand deposit, debris deposit and surface deposit.

Moreover, in Abu Duruk (1990: 12; 1996: 15) the same deposits with the same sequences were described in the excavated area in the second and third season. Therefore, Abu Duruk has claimed that the uncovered 65 tombs of different shapes and sizes from three different locations in Şinā'iyah have the same stratigraphy.

In the published report of the fifth season by Al-Hajri et al, (2006), they have concluded that the stratigraphies of excavated mounds no.2 and 3 were quite similar to the stratigraphy of the excavated mounds of previous seasons.

Although the published reports of the previous seasons did not present descriptions of the stratigraphy inside each tomb, and the stratigraphy inside and outside the 119 tombs was described in a very few, short paragraphs, there are some statements in these reports that show that the stratigraphies of these tombs were in fact different. For example, According to Abu Duruk (1990: 13) there were only four of the tombs that were uncovered in the second season which were undisturbed, whereas, the other tombs were heavily disturbed.

Therefore, there should be some differences between the stratigraphy inside the disturbed tomb and the stratigraphy inside the undisturbed tombs.

Duruk (1989: 12) has stated that there were some tombs that seemed to be built in later periods, whereby there were cuts in the clay deposit around the walls of the tombs that were found in squares; 7I, 7J, 8I& 8J. In fact, this clearly showed that there were some tombs that were built after the clay deposit and others that were built before it. Thus, the stratigraphies for these tombs were clearly not the same.

Abu Duruk (1996: 13) has stated that there were some tombs which were built next to what he called 'circular constructions' (circular tombs); and some of the tombs were built on the remains of these circular tombs. Although Abu Duruk did not provide an explanation of this statement, it is clear that the stratigraphies of the tombs that were built next to the circular tombs and the tombs that were built on the remains of the circular tombs were different. As a result, there were some differences in the stratigraphies of the tombs, thus, again it is clear that not all the tombs have the same stratigraphy.

Therefore, although there was no description of the stratigraphy inside each tomb in the published reports of the first three seasons, there were some statements that show that there were some differences between the tombs' stratigraphies. Moreover, so-far, from the outside of the tombs only the surface layers have been excavated. For example see Fig. 2.3 below). Also, there are some constructions are appeared inside some of the tombs that were excavated in the first three seasons with no mention for them in the published reports whether in the description or the drawings (for example see Fig. 2.4). Therefore, the published description of the stratigraphy in the previous seasons should be considered as unreliable until more details are available.



Fig. 2.3 previous excavation in Şinā‘iyyah site.



Fig. 2.4 Small constructions appeared inside the tombs that were excavated during the 1st season

### **3. The ceramics in the published reports of previous excavations at Şinā‘iyyah site:**

Some important points related to the ceramics were made in the published reports of the previous excavation seasons, of which however there are some points that appear to be contradicted by the evidence from the studies themselves. For example: firstly, according to Abu Duruk (1989: 18-19) the ceramic wares from the first season were divided according to their forms into four groups as follows: incense burners, bowls (including

plates), and cups and jars. However, the classification of the ceramics by form does not match this as only four ceramic vessels were published, of which one was described as an oil lamp (Abu Duruk, 1989: Plate. 7: b). With no mention for an oil lamp in the form groups it is clear that the form groups did not show all the forms that were discovered, thus, it seems that more ceramics were discovered than were actually described by Abu Duruk. The same can be said about the second, third and fifth seasons.

In addition, only very few examples were published, and published information in these preliminary reports did not adequately cover the range of form/decoration combinations manifestly present in the assemblage.

#### 4. The C14 results from the previous excavations at Şinā'iyah site.

Abu Duruk (1989: 22) have published two C14 dates; the first C14 date was described by Abu Duruk as having been taken from inside one of the tombs in square I7, and was dated to 2705±130 B.P. The second C14 date was from outside the tombs in square I8, and was dated to 3395±240 B.P. Moreover, Abu Duruk (1990: 13) states that the C14 samples from the second excavation season were taken from two levels in tomb no. 12.

However, Masry et al (1990: 84) have published five C14 results including the two C14 dates mentioned by Abu Duruk, but with different find spots (see Table. 2.1 below)

Sample	Lab code	Area	Square	Deposit	Dated material	BP date	Calibrated date 2σ, 95.4% probability (OxCal v.4.2.4)	Publication
1	13985	204/11	T7	Inside tomb	-	2705±130	885 - 625 calBC	Masry et al, 1990: 84
2	13986	204/11	T8	outside tomb	-	3395±240	1685- 1205 calBC	Masry et al, 1990: 84
3	15556	204/11	M22	Tomb14 90cm	-	2845± 185	1080 – 710 calBC	Masry et al, 1990: 84
4	15557	204/11	M22	Tomb14 60cm	-	2735± 140	925-645 calBC	Masry et al, 1990: 84
5	15558	204/11	L18	Tomb 2 90cm	-	2690± 170	910- 570 calBC	Masry et al, 1990: 84

Table. 2.1 C14 results from Şinā'iyah

Despite, in both studies the number of the tombs is give, as it has been discussed above, the exact location for each tomb and its number cannot be determined based on the published information in the published reports. Thus, it is difficult to know from which of

these tombs the C14 dates were sampled. Because of this, so far, it is difficult to link these C14 dates to any type of the tombs or any type of ceramics, and these C14 dates can be only considered as presenting a general historical framework for tombs.

However, as it will be further discussed below the C14 dates that pointed Early Iron Age II, can be linked with the group named as Şinā'iyah Pottery by Hausleiter (2014) for more details see chapter 5 below.

## **5. Conclusion**

The discussion of the published reports of previous excavations at Şinā'iyah site has shown that the reports are flawed and unreliable in many ways, with numerous errors and contradictions. Moreover, only very few examples were published, and published information in these preliminary reports did not adequately cover the range of form and decoration combinations manifestly present in the assemblage. While, it has been suggested that it is an urgent need to review both field and publication procedures, to use the ceramic data as a major contributor of datum on ancient societies (Philip, 2014). It is for this reason that it is argued here that it is necessary to conduct new excavations at Şinā'iyah site to provide reliably recorded data, including fully catalogued ceramics with the aim of increasing our knowledge of the history of Şinā'iyah and the Tayma area.

### **2.3. Ceramics similar to Şinā'iyah ceramics:**

As has been mentioned in the introduction of this chapter, Hausleiter (2014) has divided the early ceramics in Tayma into four groups. In the following discussion each of these groups will be discussed separately; accordingly, the following discussion will be divided into four sections as follows: a) Red Burnished ware (RBW), b) Qurayyah Painted Ware (QPW), c) Tayma Early Iron Age Pottery, d) Şinā'iyah Pottery.

#### **A. Red Burnished ware (RBW).**

In 1968, P.J. Parr, G.L. Harding and J.E. Dayton conducted a survey in the north-west of Saudi Arabia. During this survey, a large amount of ceramics was collected from the surface at different places within the Qurayyah site. This site is located in the north-west

of Saudi Arabia, about 70 km to the north-west of Tabuk city, and 60 km from the Jordanian frontier at Muddowwerah (Parr et al. 1970: 219–220).

Parr et al, (1970: 30–37) first have termed the ceramics from Qurayyah (including RBW) as "Midianite". Later Ingraham et al. (1981) have published some ceramics including RBW from the surface of Qurayyah site and term them as "Midianite".

Later Parr (1982; 1988) has noted the differences between painted and unpainted ceramics from Qurayyah, and he has excluded unpainted ceramics (including RBW) and termed the painted as Qurayyah Painted Ware (Parr, 1988).

From Tayma, A few RBW ceramics were published from the surface of Rojum Sa'sa site (Bawden et al., 1980: plates. 65: 1-5, 11 & 19; 66: 4). Bawden et al, have grouped these RBW with other painted were and named them as typology III (1980-96). Parr has described Bawden et al.'s methodology as following: "*a most extraordinary and hardly comprehensible piece of archaeological methodology*" (Parr, 1988: 77-78). In addition, Rothenberg has stated that Bawden et al.'s classification seemed to be based on historical considerations rather than archaeological evidence (Rothenberg, 1983: 73).

Moreover, several RBW sherds have been found in Şinā'iyah site (Abu Duruk, 1990: plate 9; 1996: plates. 9: b, 10: a & c; al-Onazi, 2006-2007, plates 85: 2; 78: 1; 93: 2; 101: 2; 111: 2; 112: 1; 118:1-2; 119: 1-2; 120: 1-2; 125: 1; 126: 1-2). However, the exact find location for these ceramics is not given.

Moreover, a few ceramic sherds were published from Rojum Sa'sa site; from the excavations in Mounds 1, 3 & 4 (Al-Najem, 2006: 215: [down right]; 139: figs. 1-3; 131, fig. 3), however the exact deposit is not given. According to Al-Najem (2006: 128), Mounds 1 & 3 consists only of circular tombs and Mound no. 4 consists of a circular tomb and constructions attached to it.

From 2004 until now, the joint Saudi-German team carried out many excavations in different locations in the Tayma area, the majority of reports are published in the journal *Atlat* Hausleiter. Based on the results from the excavations that have been carried out by

the Saudi-German team in Tayma, Hausleiter (2014) has described the RBW as follow: (see Table. 2.2 below).

No.	Group	Description
1	Red Burnished Ware (RBW) including Barbotine Ware	<p>Characterised by their dark red colour, their red slipped surface was burnished.</p> <p>Fabric: coarse fabric with mineral temper (macro-fabric 3), freely formed, not on the wheel.</p> <p>Forms: limited set of shapes, mostly of small to medium sized globular jars, both with in-turning simple rounded rims, small jars with applied dots under the rim. Shallow bowls with flat base and inverted rims, oval-shaped small flat trays, deep bowls on high stand rings, small necked jars as well as spouts and knobs occur only occasionally; the same goes for jars larger than those stated above.</p> <p>Decoration: occasionally on the surface grooves occur; in addition to the above mentioned clay dots applied clay bands appear in a wavy pattern similar to the pattern of Barbotine Ware decoration.</p> <p>Barbotine Ware:</p> <p>Barbotine Ware is a part of RBW, since it was made of the same fabric, underwent the same treatment, and their shapes are very similar.</p> <p>Decoration: Barbotine Ware was decorated with narrow bands of white kaolinitic clay, usually several of them running parallel to each other, which were applied onto the outer vessel's surface. These bands may alternate with applied dots bearing stamp-incised circles. Also, in some cases the bands ending in dots resemble the representation of a snake.</p>

Table. 2.2 RBW features; source: (Hausleiter, 2014: 402–416).

In fact, the features of the so-called RBW group (fabric, slips, forms and decorations) distinguish this group from the other ceramics in Tayma, thus, Hausleiter (2014) was right to group these ceramic sherds separately. Moreover, it is clear that there are many similarities between the so-called RBW group and Barbotine Ware, especially in terms of the fabrics, slips and forms; these similarities suggest that both types are very close, and thus, Hausleiter was also right to group them together.

Hausleiter (2014) has published several RBW and Barbotine Ware that were found in Tayma, Qraya site square W41. Hausleiter (2014: 402, n. 8) has published two C14 dates from this square, the first from the fill SU 4660 that was found inside a bowl that was found *in situ* in the latest occupation of the building. This C14 sample was dated to 1495–1320 calBC. The other sample from the fireplace in the same context and dated to 1689–1526 calBC (Hausleiter, 2014: 402, n. 8). (See table. 2.3)

Also, RBW sherds were found next to a Hellenistic temple E-b1 in square E1; a C14 sample from deposit 3734 (pottery and ashes) was found beneath the layer of the building stage (this stage was dated to Nabataean period). This sample was dated to 1530–1430

calBC (Hausleiter, 2014: 405–406, n. 46). Hausleiter has therefore dated the earlier use of RBW to the 16<sup>th</sup>–14<sup>th</sup> centuries BC (Hausleiter, 2014: 423, Table 1). Also, Hausleiter has noted that both the C14 dates from W41 and the stratigraphic analysis from square Q3 (where RBW was found in the lowermost deposit and there was no single QPW); suggest that RBW is clearly pre-QPW. However, the date of the end of the RBW and Barbotine periods cannot be determined (Hausleiter, 2014: 406-408& 419). (See table. 2.3)

Hausleiter (2014) has dated the RBW mainly based on the C14 dates from Squares W41 and Square E1. The excavation in square W41 took place in 2008 and 2009 (Sperveslage: in press). According to Sperveslage (in press) two occupation levels were attested in square W41. The results of the excavation did not mention any ceramics in the earlier occupation. However, according to Tourtet (in press, a: n. 16) seven ceramic sherds were found in the layers and on the floor of the earlier occupation. Unfortunately, the features of the ceramics that were found in the earlier occupation are not given; thus, it is not clear if these were included in the published drawings and photos or not. As a result, significant information about the ceramics in the earlier occupation is not available, especially with the appearance of different types of ceramics in the ceramic assemblage from square W41.

According to the result of the excavations in square W41, the ceramic in the latest occupation is discussed in two places; the first was in the description of the layer (SU 5230) which was described as a layer of sand mixed with ash, and pottery and a large number of animal bones; and the second was for the bowl (TA 6489.1) that was found inside the mud floor layer (SU 4660) (Sperveslage: in press). However, this brief description did not match the large quantity of ceramic that was found in square W41. According to Tourtet (in press, a) the total number of ceramics that were found in square W41 is 972 sherds, of which 965 sherds were found in the latest occupation. This large number of ceramics seems to be of several types from several periods. Hausleiter (2014: 403) has only mentioned the RBW and Grey Burnished Ware (Later named as Gritty Ware Hausleiter and Zur, 2016: 135), as they were found in different deposits in square W41. However, according to Tourtet (in press, a: plate 0.4b: a) white fabric ceramics with painted decoration were also attested in square W41. Moreover, according to Tourtet



(in press, a), Iron Age ceramics, Ottoman clay tobacco pipe and some unidentifiable ceramics were also attested in square W41.

Therefore, a large number of ceramics of several types from various periods were attested in square W41, which did not match the results of the excavations that have only noted two occupation levels. However, the differences between the ceramics in the earlier occupation were not given, neither were the stratigraphic and the find locations of the other ceramic types. Thus, the stratigraphy and the history of this archaeological site are unclear.

Hausleiter has published two C14 dates from square W41, the first C14 sample was dated to 1495–1320 calBC (see details above) and was sampled from the fill (SU 4660) that was found inside the RBW bowl that was found *in situ* (Hausleiter, 2014: 402, n. 8). The location for the other C14 sample was very hard to identify. Hausleiter (2014: 402, n. 8) states that the second C14 sample, which is dated to 1689–1526 calBC, was sampled from a fireplace from the same context of the first sample. It is therefore sampled from the latest occupation.

In fact, Hausleiter has provided a wrong number for the deposit where the first C14 sample was found, the result of the excavation in square W41 shows that deposit 4660 was a mud layer that was part of the floor (Sperveslag, in press a). Moreover, according to Sperveslag (in press, a) the C14 sample was found in the fill sand deposit that was found inside bowl number TA 6489.1, which was found *in situ* in the mud floor (SU 4660). However, the exact number for the fill inside this bowl is not given.

According to Sperveslag (in press, a) the deposit that was found above the mud floor (SU 4660) was deposit (SU 5230), which is a mix of sand and ash. According to the photo (Sperveslag, in press: Plate 0.2d) the whole body of this bowl was in the deposit (SU 4660), but the rim was at the same level with upper level of the deposit (SU 4660). Therefore, the fill inside the bowl seems to be part of the upper layer (SU 5230), which justifies the find of charred wood inside the bowl where no burn effect appeared inside the bowl. If this was the case, then the fill inside the bowl which contains this C14 sample was from the upper level and all it shows is that bowl TA 6489.1 was found in a

deposit that can probably be dated before 1495–1320 BC. The same can be said about the other C14 date which described as from the same context, thus, all it shows is that the RBW was found under the deposit that dated by C14 to 1689–1526 calBC.

In the Square E1, Hausleiter (2014: 405–406, n. 46) has stated that RBW was found in deposit SU 3734, which was located immediately next to the Hellenistic temple E-b1 in Area E at the Qarya site. This deposit, according to Lora (in press), was located to the south of building E1-b and is still not fully excavated; the relationship between this deposit and the Hellenistic building is not available. Also, he stated that deposit SU 3734 was composed exclusively of pottery sherds and ashes, and the ceramic in this deposit was exclusively of RBW (including Barbotine decoration) and GBW. However, Tourtet (in press b) has stated that the ceramics from SU 3734 were also included some undefined ceramic sherds, Thus, not only RBW and GBW were found in this deposit, suggesting it might contain a mixture of ceramics.

The C14 sample from deposit SU 3734 in Square E1 was vegetable material (species not identified) from the flotation sample. This sample was dated to 1530–1430 calBC. However, since there is no confirmed evidence about the relation between deposit SU 3734 and building E1-b, together with not being a fully excavated deposit, all the C14 date can show is that RBW and Gritty Ware (formerly GBW) were deposited at or before 1430 BC.

Moreover, Hausleiter and Zur (2016: 152: Fig. 14) have published several RBW that were associated with the circular tombs in al-Nassem site in Tayma. According to them these the pottery was only encountered outside the tombs (Hausleiter & Zur, 2016: 153). However, Zur (2016: 66) has argued that the finds that were find inside and outside of the graves are supposed to be contemporaneous. The C14 results from al-Nassem show that the later possible date for these tombs is the 17<sup>th</sup> century BC (see table. 2.3).

From Square Q3 in Qraya site, the RBW sherds were found in three deposits (7538, 7539 and 7740), which were dated respectively to 1878 – 1689 calBCE, 1935 – 1771 calBCE and 1605 – 1425 calBCE (Hausleiter and Zur, 2016: 154 and note. 98). The first two C14 dates from Square Q3 are comparable with results from al-Nassem, suggesting the late

possible date for the production of RBW in the 17<sup>th</sup> century BCE. Whereas, the third C14 date includes the 17<sup>th</sup> century, thus, it does not contradict with the results from Square W41 and al-Nassem.

From Qurayyah site, some QPW sherds found in Qurayyah site in the deposits that dated by C14 dates to the late 17<sup>th</sup> or at the latest the early 15<sup>th</sup> century calBCE (Luciani & Alsaud, in press). According to Luciani and Alsaud this deposits were later than the RBW deposits. Thus, RBW is earlier than this date.

Based on integrating the results from Qraya site, al-Nassem site and Qurayyah site it seems reasonable to suggest the 17<sup>th</sup> century BC as the latest possible date for the RBW.

No.	Sample name	Lab code.	Square	SU	Dated material	BP date	2 $\sigma$ , 95.4% probability	OxCal	Publication
1	TA 6488	Not given	W41	4660 (According to Sperveslage (in press) SU 4660 is the mud floor and not fill as Hausleiter suggested.)	(charred wood)	3140 $\pm$ 30	1495–1320	OxCal v 4.2.2	Hausleiter (2014: 402, n. 8). Sperveslage (in press).
2	TA 7985	Not given	W41	Not given	(charred wood)	3330 $\pm$ 30	1689–1526	OxCal v 4.2.2	Hausleiter (2014: 402, n. 8).
3	TA 9592	Not given	E1	3734	vegetable material-species, not identifiable	3220 $\pm$ 25	1530–1430	OxCal v 4.2.2	
4	TA 12622	UGAMS 17142	Q3	7539	Charcoal (undetermined)	3530 $\pm$ 25	1935 – 1771 calBCE	OxCal v 4.2.4	Hausleiter – Zur 2016, 154 with note 98; Luciani – Machel in press
5	TA 12790	UGAMS 17145	Q3	7740	Charcoal (undetermined)	3220 $\pm$ 30	1605 – 1425 calBCE	OxCal v 4.2.4	Hausleiter – Zur 2016, 154 with note 98; Luciani – Machel in press
6	TA 11915	UGAMS 17138	Q3	7538	Charred Salix/ populus, charred Tamarix	3450 $\pm$ 25	1878 – 1689 calBCE	OxCal v 4.2.4	Hausleiter – Zur 2016, 154 with note 98; Luciani – Machel in press
7	TA 16775	UGAMS 20566	al-Nassem	9392	Human bone (left tibia)	3620 $\pm$ 20	2033 – 1920	OxCal v.4.2.4	Hausleiter – Zur 2016, 153 with

			E				calBCE		note 95
8	TA 18125	UGAMS 20900	al- Nassem E	9394.	wooden handle of the fenestrated axe (hard wood)	3740±30	2275–2035 calBCE	OxCal v.4.2.4	Hausleiter – Zur 2016, 153 with note 96
9	TA 17004	UGAMS 20899	al- Nassem E	9382	human bone (right ulna)	3420±30	1871–1636 calBCE	OxCal v.4.2.4	Hausleiter – Zur 2016, 153 with note 97

Table. 2.3 C14 results associated with RBW

## B. Qurayyah Painted Ware (QPW).




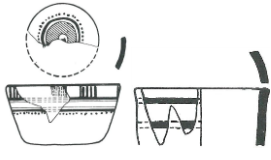



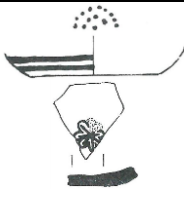


As has been mentioned in the introduction of this chapter, the QPW had been found at several sites inside and outside the Tayma area; including several sites in the north west of Arabia and south Levant. However, the vast majority of QPW is concentrated in three areas: 1/ Site 200 in Timna' valley; 2/ Qurayyah and 3/ Tayma area.

For these ceramics, the result of petrographic analysis suggests that they are from the same origin, and that they were all produced in north-west Arabia (Rothenberg and Glass, 1983: 71; Daszkiewicz; 2014: 409-413). This suggestion is also supported by the decorative motifs such as the plant, human figures and camels that are depicted on these ceramics and which find parallels in Arabian rock art (Knauf 1988: 23-24).

The discussion about the QPW will focus only on Site 200 in Timna', Qurayyah site and Tayma sites, because they have produced the largest samples of relevant material. The following discussion will be divided into two sections as follows: 1) QPW features and 2) The suggested dates for QPW.

### 1. QPW features.

Large number of the QPW were found in Site 200 in Timna', during the excavations between 1969 and 1974 (Rothenberg, 1972: 125; 1988: 27). Glass (1988: 93) has divided these ceramics into six main groups according to their forms, see table. 2.4 below.

No	Types	Sub-type	Description	examples
1	Small bowls: different sizes; all the small bowls share characteristics such as a flat base and almost vertical sides, with the presence of decoration	A	The vertical side meets the base at an angle; flat rim	
		B	The side flares slightly and the joint to the flat base is rounded	
		C	The side flares outward and the joint at the base is rounded	
		D	A deeper bowl, its wall slightly flaring; the joint at the base is rounded	
		E	Composite curved side, the joint at the flat base is rounded	
		F	The straight wall tapers, then straightens towards the rim	
		G	A rounded rim turns outwards	
		H	Some broken bases with centre decoration may belong to the small bowls	
2	Goblets		An almost straight wall and flat base, some bases as well as body sherds seem to belong this type	
3	Jugs		The jugs have a spherical body and narrow flat base. The handle was probably drawn from the rim to the shoulder	

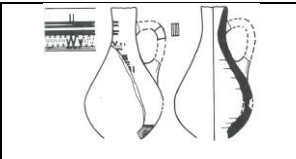
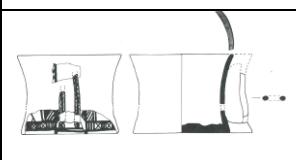
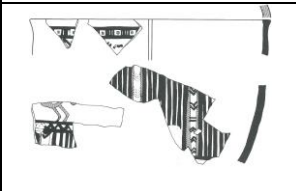
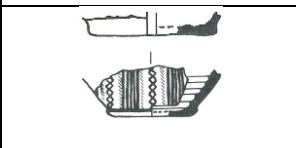
4	Juglets	The base is flat and the body is either round or pyriform. The handle is drawn to in a perfect curve from the shoulder to the cylindrical neck		
5	Mug	The body is concave, with rim and base of equal diameter. There are protrusions from the base and rim connected by two parallel, tubular handles		
6	Varia	A	A large vessel with thick sides and a wide mount. This is probably a large bowl	
		B	A disc base, probably of a jug-type vessel	

Table. 2.4 Site 200 ceramic forms

(Source: Glass, 1988: 93–100 & Figs. 4–10)

Rothenberg and Glass (1988: 93–94) have classified the decoration motifs that appeared in the ceramics from Site 200 into three main groups as shown in table no. 2.5 below.

Decoration motif categories		
Geometric	Birds (animal)	Human figure
A - parallel lines: 1.horizontal lines. 2. vertical lines. 3.oblique lines.	Birds, apparently ostriches, with variations in detail <ul style="list-style-type: none"> <li>• They have long, bent legs and cleft claws</li> <li>• A long neck and a head, sometimes drawn as a dark circle with a dot in the centre</li> <li>• The body is painted solid, but often with an 'eye' of a dotted circle in the middle</li> <li>• There are long and spread wings and a shorter tail, mostly fanning out from one point</li> </ul>	A strange human figure was drawn in black on a lighter background. It shows a schematic representation of a head, rather reminiscent of a bird's head
B - crosses		
C - nets		
D - chevrons		
E - triangles		
F - lozenges		
G - zigzag		
H - arches		
I - joining semicircles		
J - wavy lines		
K - dots and dot-centred circles		
L - scrolls		
M - independent motifs		

Table. 2.5 Site 200, list of the ceramic decoration motifs.

(Source: Rothenberg and Glass, 1988: 93–94)

Glass (1988:94) made some observations on the relationship between the ceramic forms and the decoration motifs in the table above:

- 1- The geometric motifs appeared on all the forms, but bowls, goblets and jugs only have geometric decorations.
- 2- All bowls appeared with a red or brown band on the rim.
- 3- Geometric motifs were arranged as friezes around the inner or outer surfaces of the bowls.
- 4- Each of the small bowls has one independent motif (Group M) on the inner surface of the base.
- 5- All the bowls which were decorated on the inner side only were decorated with motifs from groups G and I.
- 6- With only a single exception, all the small bowls which were decorated on both sides have different motifs on each side.
- 7- Most of the vessels were decorated with two horizontal parallel lines under the rim on the outer side; and the vessels which have central motifs on the outer surface also have an additional two horizontal lines near to the base.
- 8- Jugs have normally several geometric friezes, one above the other.
- 9- Except for crosses (group B), triangles (group E) and arches (group H), all geometric motifs appear on the small bowls.
- 10- Jugs usually have several geometric friezes, one above the other, in contrast to small bowls and goblets, which have only one frieze.
- 11- Just one single juglet has geometric motifs only; the rest have a combination of birds and geometric motifs. The bird motif always appeared on these juglets as the central motif; usually, birds in these central motifs were followed by a vertical frieze which contained net motifs.

In 1968, P.J. Parr, G.L. Harding and J.E. Dayton conducted a survey in the north-west of Saudi Arabia. During this survey, a large amount of QPW ceramics was collected from the surface at different places within the Qurayyah site (Parr et al, 1970: 240).

Parr et al. have described the ceramic sherds from Qurayyah sherds as made of medium to coarse fabrics, with large grit inclusions, varying in colour from light red to pink and buff. Also, some ceramic sherds were made of finer cream fabrics with fewer grit inclusions (Parr et al, 1970: 238). Parr et al. have divided Qurayyah ceramic sherds into 18 fabric groups, including five sub-groups (see Table 2.6).

Fabric	FABRIC		Inclusion size	Firing
	Coarseness	Colour		
A	Coarse	Reddish-buff or brown	Many large grit inclusions, red and black	Medium-hard fire, Sometimes black core grey core
B	Medium coarse	Pinkish-red	Moderated quantity of large grit inclusions	Hard fire
C	Not given	Metallic pinkish-red	Moderated quantity of large grit inclusions	Hard fire, sometimes over-fired
C.1	Not given	Metallic pinkish-red	Moderated quantity of small grit inclusions	Hard fire, sometimes over-fired
D	Not given	Pinkish-buff	Moderated quantity of fine grit inclusions	Hard fire
D.1	Not given	Pinkish-buff	Many coarse grit inclusions	Hard fire
E	Not given	Buff-white (cream)	Not given	Not given
E.1	Not given	Grey-buff	Not given	Not given
F	Fine	Almost white	Few grit inclusions, small to medium	Medium fire
G	Coarse	Metallic grey, sometimes with touch of red	Many large grit inclusions	Very hard fire, often over-fired
G.1	Fine	Grey	Many fine grit inclusions	Very hard fire, often over-fired
H	Not given	Reddish-brown	Few fine grit inclusions	Hard fire
J	Coarse	Red	Few small grit inclusions	Hard fire, sometimes black core
J.1	Coarse	Red	Many large grit inclusions	Hard fire, sometimes black core
K	Not given	Red	Few fine grit inclusions	Hard fire, sometimes black core
L	Not given	Brown	Many fine white grit inclusions	Hard fire with black core
M	Very fine	Grey or red	Almost no grit inclusions	Hard fire
N	Rough	Light green to cream	Many fine grit inclusions	Hard fire

Table. 2.6 QPW fabric groups.  
(Source: Parr et al., 1970: 231)

Petrographic examination of the ceramics includes ceramic sherds from various sites (see Table 2.7 below). Based on the result of the petrographic analysis, Rothenberg and Glass (1983: 114) have suggested that only fabric



groups A, B, E and F of the ceramics that were found at the Qurayyah site were found at Site 200 in Timna', while all the ceramic sherds from other sites belonged only to fabric groups A and B from the Qurayyah site.

No.	Sites	Location	Sample quantity
1	Qurayyah site	NW Arabia	9
2	Site 200	Timna' valley	10
3	Site 30	Timna' valley	8
4	Tawilan site	Eastern Palestine (Jordan-Edom)	1
5	Kh.Duwar site	Eastern Palestine (Jordan-Edom)	1
6	Esh-shedeiyid site	Eastern Palestine (Jordan-Edom)	1
7	Jedur	Hebron mountains	1
8	Tel Masos	Beersheba region (GR. 146 069)	1
9	Tel Far'ah	Tel Sharuhen (GR. 100 076)	3

Table. 2.7 List of the ceramic samples from various sites.

(Source: Rothenberg and Glass, 1983: 65–102)

Hausleiter, (2014) have published several QPW from Tayma, according to him this ceramics were found in several sites in Tayma including Qraya, Tala' and Şinā' iyyah. (For the Tayma QPW features see Table. 2.8).

No	Ceramic group	Description
1	Qurayyah Painted Ware (QPW)	<p>QPW: formerly labelled 'Midianite pottery', was identified in north-west Arabia in the 1960s; the distribution of this type covers the area of Jordan, Palestine and the Sina'i to north-west Arabia.</p> <p>Forms: the most common shapes of QPW were small to medium sized flat deep bowls; less frequently they were small juglets and large sized jars. In addition, many of the handles were painted, and knobs, sometimes pierced, occur mostly on jars.</p> <p>Decoration: QPW is characterised by the set of decorative painted patterns on cream slip. The vast majority has geometric motifs such as simple horizontal or vertical strips; frequently attested is a large red stripe framed by two small black lines, above them a number of vertical lines, but there are also elongated triangles, spirals, festoons, crosses, dots etc. Attested on both inner and outer surfaces of the vessels, there are representations of birds or humans. According to Hausleiter (2014: 406, n. 54); this description refers to Parr et al.'s (1970: 238) descriptions as well as some observations made in the context of recent visits to Qurayyah; these were made during 2008 and 2009 (Hausleiter, 2014: 407, n. 59)</p> <p>Fabric: according to Hausleiter (2014: 406), Parr has divided the ceramics from Qurayyah into 18 fabric groups, which can be allocated into two major groups: the majority made of medium to coarse fabric, also some were made of fine fabric. Also, the variety between QPW fabric groups at both Tayma and Qurayyah, observed by Parr, could be confirmed, and fabric groups A, D, D.1 and E are attested for the painted sherds of QPW (Hausleiter, 2014: 406, n. 57)</p> <p>The majority of the QPW seems to be wheel-made; some pieces also freely formed (with no wheel) are attested.</p>

Table. 2.8 QPW from Tayma

(Source: Hausleiter, 2014: 406–407)

The petrographic examination shows that the origin of these ceramics is the Hejaz area; and the ceramics from Site 200 were made of four fabric groups; which were identical to only four groups (A, B, E and F) of the eighteen fabric groups from Qurayyah site. Moreover, as it will be discussed below, ceramics made of these four groups were found in three different occupation levels in Site 200 in Timna'; it seems reasonable to suggest that there is a high possibility that these ceramics are a mix of different styles. However, unfortunately, it is extremely difficult to determine which of these styles appeared in which level or habitation phases according to the lack of published information about the excavation in Site 200 at Timna', since the excavators did not focus on the differences between these ceramics and have treated these ceramics as one type. Also, the amount of published ceramics is not enough to determine the ceramic features in each stratum or habitation phase.

Therefore it can be concluded that the evidence from Timna' indicates that there is a high possibility that ceramics from Timna' area mix of different ceramic styles, however, there is no confirmed evidence available from this site to deny or to prove this possibility.

From Qurayyah site, based on the fabrics the ceramics were divided into 18 groups and the painted decorations appeared on ceramics from at least seven groups. Unfortunately, since these ceramics were collected from the surface from different locations at the Qurayyah site, together with the deficiency in the descriptions of the published ceramics, it is also extremely difficult to tell the differences between the painted ceramics from Qurayyah site.

In terms of the relationship between the ceramics from Site 200 in Timna' and the Qurayyah ceramics, Rothenberg (1972: 182) has noted that in Parr et al, all the Timna' site ceramics were fully represented at Qurayyah; however, some of the painted Qurayyah ceramics seem to be earlier than Timna' and some sherds seem to be from later periods.

Although, Rothenberg did not explain what evidence was used to suggest some ceramics to be from later periods, he noted that painted ceramic from Qurayyah seems to be mix of different styles from different periods.

### **B. The suggested dates for QPW.**

Rothenberg (1972: 129; 1988: 271–276) has divided Site 200 into five habitation phases, based on five archaeological strata, V–I. whereas, the QPW were uninterrupted and continued during three habitation phases (Strata II–IV). These habitation phases were dated to the period from the end of the 14<sup>th</sup> century BC to the middle of the 12<sup>th</sup> century BC on the basis of the associated finds (Rothenberg, 1988: 277–278).

Rothenberg (1988: 271–276) has dated the beginning of the early QPW phase to the period of Seti I (1318–1304 BC). However, the cartouche only provides a *terminus post*

*quem* for the end of this phase; it does not necessarily date the beginning of the phase at all.

Rothenberg (1972: 129-132&138) has published a cartouche from Layer III which he has suggested to be Ramesside. Although Kitchen (1976: 262–264) has provided a re-reading of the hieroglyphic inscription on this cartouche and he has dated it to Tuthmosis III (15<sup>th</sup> century BC), Schulman (1988: 115–116) has rejected Kitchen's results; he has stated that a careful study of that cartouche confirms that it belongs to Ramesside kings from the 19<sup>th</sup> Egyptian dynasty (1292-1189 BC), not the Tuthmoside kings of the 18<sup>th</sup> dynasty (1543-1292 BC).

Moreover, based on the number of Egyptian votive offerings from the Egyptian temple at Site 200 in Timna' and the 18<sup>th</sup> Dynasty, Pinch has concluded that the offerings from Site 200 can be dated back as early as the reign of Amenhotep III (1388/86-1351/49 BC) (Pinch, 1993: 67); therefore, to the first half of the 14<sup>th</sup> century BC. Pinch has stated that the appearance of the bracelet bearing the Seti I cartouche in the first phase of the Egyptian temple (Stratum IV) does not prove that this stratum should be dated to that king; all it shows is that the temple of the early Egyptian phase existed during the time of King Seti I (Pinch, 1993: 63).

Parr (1974: 224) has stated that it would surely be safer to date the appearance of the QPW to the 13<sup>th</sup> century BC, since the QPW sherds did not appear in the lower levels of Stratum IV. However, that was only based on the result of the excavation in 1969 published by Rothenberg (1972); while the second excavation in 1974, published by Rothenberg (1988), has provided new evidence that proved the QPW appeared in lower levels.

Rothenberg has suggested Ramesses II (1304–1237 BC) to be the main builder of the temple in the second Egyptian phase (Stratum III); based on several Ramesses II cartouches that were found in this stratum. Also, Pinch has agreed with Rothenberg's suggestion (Pinch, 1993: 63). The temple in the second Egyptian phase (Stratum III) continued in use until the time of Ramesses V (1160–1156 BC) (Rothenberg, 1988: 277).

Moreover, Rothenberg has dated the beginning of Stratum II (Semitic Shrine) as following the end of the second Egyptian phase, with a short break or without one, and coming to an end no later than the middle of the 12<sup>th</sup> century BC (Rothenberg, 1972: 128).

Rothenberg's suggestion about the end of this phase seems to assume more than a suggested date based on archaeological evidence. Rothenberg agrees that the end of the second Egyptian phase was in the middle of the 12<sup>th</sup> century BC (Rothenberg, 1972: 128). At the same time, he has proposed the whole Semitic phase to be no later than the middle of the 12<sup>th</sup> century BC (Rothenberg, 1972: 128), which would mean this phase was very short. However, Rothenberg did not provide any evidence to support this suggestion.

In 1988 Rothenberg again advocated a short-lived period for this phase – during the last half of the 12<sup>th</sup> century BC – this time based on the absence of QPW sherds in the Late New Kingdom layer I in the smelting camp (Site 30) in the Timna' valley, which is dated to the period between the 9<sup>th</sup> and 10<sup>th</sup> centuries BC (Rothenberg, 1988: 277–278, n. 14).

The present writer could not find any relation between Rothenberg's suggestion and the evidence from Site 30 in Timna'; the absence of QPW sherds from the layers dated to the 10<sup>th</sup>-9<sup>th</sup> centuries BC by no means proves that the end of the QPW at Site 200 was in the last half of the 12<sup>th</sup> century BC; the absence of QPW ceramics at Site 30 in the 10<sup>th</sup> century does not prove that their use at Site 200 in Timna' came to an end in the 12<sup>th</sup> century BC. In fact, similar ceramic sherds were found at Site 30 in Timna' in Early Iron Age layers well-dated by C14 to the 10<sup>th</sup> century BC (Ben-Yosef et al, 2012: 33). Therefore, the QPW sherds are not absent from Site 30 in the 10<sup>th</sup> century BC.

Moreover, the interface that is related to Stratum II (the olive green-grey interface) extended over a large area of Site 200, with a thickness that in some cases reached about 45 cm (Rothenberg, 1972: 152; 1988: 28–83, 271–272). Therefore, the nature of the interface (the extent and the thickness) does not necessarily support a short-lived period as Rothenberg had suggested.

Therefore, the presence of similar ceramic sherds at Site 30 in Timna' Valley in layers dated to the 10<sup>th</sup> century BC, together with the nature of the interface that is related to Stratum II, both suggest that the Semitic phase is a long phase, not a short-lived one as Rothenberg suggested.

Accordingly, since the nature of the layers related to the Semitic phase suggests a long phase, together with the appearance of similar ceramics in the 10<sup>th</sup> century BC in Site 30 in Timna', it seems reasonable to date the Semitic phase in Site 200 to the period between the middle of the 12<sup>th</sup> and possibly as late as the 10<sup>th</sup> centuries BC. Therefore, there is a possibility that the life-span of the QPW ceramics in this Semitic phase could be about 150 years or a little longer.

As has been mentioned above, QPW sherds were found in Strata IV-II, which can be dated to the period between the first half of the 14<sup>th</sup> and possibly as late as the 10<sup>th</sup> centuries BC. Therefore, the life-span for these ceramics at Site 200 in Timna' could have been as much as 400 to 500 years.

The questions that arise here are: 1. Where the QPW sherds features the same during the three phases; 2. Is it possible to determine which of these ceramics belong to the first, second or third phase based on published descriptions and ceramic samples?. 3. The petrographic examination results show that the QPW ceramics were made of four different fabrics: is it possible to determine which of these fabrics belong to the first, second or third phase, or to prove that they appeared in all phases?

Unfortunately, the studies concerning the QPW sherds from Site 200 in Timna', Rothenberg and Glass (1983) and Rothenberg (1988), both have dealt with QPW ceramics from Site 200 at Timna' as a ceramic that has about only 150 years life-span (as was suggested), therefore, they have dealt with these ceramics as a single group. Thus, the description of the QPW sherds was a description of a mixed ceramic from as long as five centuries.

Therefore, we could not find the answers to these questions based on the published information and published ceramic samples. The exact number of the QPW sherds from

Site 200 at Timna' is not given, and the published sample is too small to give a clear picture of these ceramics. The total number of sherds from the published sample is only 70: of which the vast majority were made of pale brown fabric, whereas, only five sherds were made of white fabric, only two sherds were made of grey fabric and only two sherds were made of pinkish fabric (Rothenberg, 1988: 299–301, Figs. 4–10). Moreover, the majority (75%) of the published ceramics was from Loci 101–102, which are located outside the temple; it is extremely difficult to know which stratum or which phase they come from. Therefore, the stratigraphic evidence, which could help to determine the changes to the QPW sherds according to their phases in Site 200 in Timna', is not available.

However, as has been mentioned above, based on the petrographic analysis results, Rothenberg and Glass (1983: 113-114) have concluded two important results:

- 1- Only fabric groups A, B, E and F of the Qurayyah ceramics were attested at Site 200 in Timna', while all the sherds from the other sites in the south Levant only belong to fabric groups A and B of the Qurayyah ceramics.
- 2- The raw materials of the QPW sherds were comparable with the geology of north-west Arabia. According to Rothenberg and Glass (1983: 114), it is difficult to determine if the QPW ceramics were produced exclusively at Qurayyah or also at other centres such as Tayma, where QPW has also been attested.

Parr et al. (1970: 239–240) have dated the painted ceramics from Qurayyah (QPW) accordingly, to the late Bronze Age, the final centuries of the second millennium BC; this is mainly based on the date of Site 200 in Timna'.

Whereas, from Tayma the QPW sherds have been found in various contexts, mainly from the southern part of Tayma: Square Q3, Area A, Area H, the Tal'a site and the Şinā'iyah site (Hausleiter, 2014: 407)

Hausleiter has suggested QPW to be later than RBW, since, no QPW has been found with RBW in the lowermost deposit in square Q3; together with the suggested dates for the RBW of the 16th–14th centuries BC, which according to Hausleiter confirms or at least

does not contradict, the date of QPW from Timna' based on the associated finds to the 14<sup>th</sup> or 13<sup>th</sup>–12<sup>th</sup> centuries BC (Hausleiter, 2014: 406–408, 419).

Moreover, Hausleiter has argued that the presence of some QPW sherds on the floor layer of square Q3 (to avoid confusion here, the QPW in this deposit was in a post-RBW layer) – covered by an early Iron Age deposit dated by C14 to 1189–946 calBC, with a focus on the 11<sup>th</sup> century BC – together with the absence of QPW in the mono-phase in Area O, which was dated to the 12<sup>th</sup>–9<sup>th</sup> centuries BC, with a focus on the 10<sup>th</sup> century BC suggested that the main phase of production and use of QPW in Tayma may have come to an end before the end of the 11<sup>th</sup> century BC; thus, this date is still consistent with the early Iron Age (Hausleiter, 2014: 407–408).

Hausleiter has concluded that the earliest painted ceramics from Tayma are the QPW, which is later than RBW; also, he has dated QPW to the period from the 13<sup>th</sup>–12<sup>th</sup> BC (Hausleiter, 2014: 423; Table 1).

Intilia (2016) has reviewed QPW from several sites within and outside the Arabia including Tayma, Qurayyah and Site 200 in Timna', and he has concluded that QPW can be dated to the period between the 14<sup>th</sup> to the end of the 11<sup>th</sup> centuries BC (2016: 216). He also stated that it seems very unlikely that the QPW remained absolutely identical during this long life-span (Intilia 2016: 216).

In fact, the date of the QPW from Qurayyah itself is earlier than the suggested date discussed above, where, the very recent evidence from Qurayyah suggested some of QPW was found in kiln, where, two C14 dates have produced two coherent, subsequent between the late 17<sup>th</sup> or at the latest the early 15<sup>th</sup> century calBCE (Luciani & Alsaud, in press). According to Luciani & Alsaud this QPW were differing in appearance and more importantly in chronology from the one found in Timna' Site 200, and in Square Q3 in Tayma, etc. For this reason, Luciani & Alsaud has termed this sherds as Standard Qurayyah Painted Ware (hence SQPW), to distinguish this sherds from the other QPW.

Therefore, based on available evidence it seems likely that the group named QPW contains different ceramics; QPW from Tayma and Timna' and SQPW from Qurayyah. QPW from Tayma and Timna' and can be dated to the period between the 14<sup>th</sup>- 11<sup>th</sup>



centuries BC, and SQPW from Qurayyah which can be dated to the period between the late 17<sup>th</sup> or at the latest the early 15<sup>th</sup> century calBCE.

### 3. Tayma Early Iron Age Pottery.

As it has been discussed earlier, Hausleiter (2014) divided the ceramics that have been found in Tayma into four main groups including a group that termed by him as Tayma Early Iron Age Pottery. (see table 2.9 for the description of this group).

No	Ceramic group	Description
1	Tayma Early Iron Age pottery	<p>Forms: the majority of painted ceramics in this type were medium to large-sized bowls with flat bases and simple rounded rims, sometimes thickened; rim diameter approx. 25-28 cm, the outer part of the base was usually scraped, leaving a rim of about 1 cm in height. Sometimes, deep bowls, chalices, cups, jars and juglets occur, and unpainted cylindrical beakers, but the unpainted bowls occur in much lesser quantity.</p> <p>Fabric: both painted and unpainted ceramics in this type were made of fine red fabric with fine and few inclusions (macro-fabric 3)</p> <p>Slips: the smoothed surface of the painted bowls has been coated by white slip.</p> <p>Decoration: Mainly on bowls which are bi-chrome painted; on this type, stylised representation of birds occurs, alternating with geometric motifs of similar size, mostly cross-hatched zones. The birds are depicted in profile that is mostly oriented towards the right. Horizontal and vertical strips frame these decorative units, and the zone between this frieze and the rim is covered by a further cross-hatched band. The central part of the bowls bears either geometric or figurative motifs, the latter always a combination with the former. Representation other than birds and further geometric motifs occur less frequently, such as elongated triangles on the neck of a squat jar, a human figure painted on a beaker, similar to the standardised cylindrical unpainted beaker.</p> <p>Usually, the painted decoration appeared on the inner surfaces of open vessels, but also in some cases on the outer surfaces, while closed vessels were decorated on the outer surfaces only.</p> <p>Decoration colours: the predominant colours were black to brownish black and red to brownish red.</p>

Table. 2.9 Tayma Early Iron Age pottery features  
(Source: Hausleiter, 2014)

Hausleiter (2014: 408& 414) has argued that Tayma Early Iron Age Pottery has been found in a large mono-phase architectural complex in Area O in Qraya site, associated with Egyptian objects in a layer dated by C14 to the 12<sup>th</sup>-9<sup>th</sup> centuries BC. Also,

Hausleiter (2014: 414) has stated that this group with the same dating was found in Area A. Accordingly, he has concluded that the early Iron Age pottery can be dated to the 12<sup>th</sup>–9<sup>th</sup> centuries BC based on the evidence from Areas A and O (Hausleiter, 2014: 423, Table no. 1).

### 1. Şinā‘iyyah Pottery

This group was found in many locations in Tayma, in the cemetery of the Tal’a site which is located about 1 km to the south of the Şinā‘iyyah area and also in the Şinā‘iyyah area itself; and also it is increasingly attested in the central parts of the walled settlement of Tayma (Areas D, E and F) (Hausleiter, 2014: 414–416). For the features of this group see table 2.10 below).

No	Ceramic group	Description
1	Şinā‘iyyah Pottery	<p>This group is characterised by geometric motifs and whitish clay.</p> <p>Fabric: wheel made, using characteristic Kaolinitic clay with mineral inclusion (macro-fabric 2), or coarse mineral-tempered (macro-fabric 3).</p> <p>Forms: mainly flat and deep bowls, beakers (or cups) with or without a foot. Closed vessels occasionally occur.</p> <p>Decoration: the painted decoration is exclusively geometric motifs, butterfly motifs, hatched bands beneath the rim. Vertical triple-bands divided by horizontal lines, checkerboard pattern with black, red and empty field. Motifs attested in earlier pottery groups such as QPW are slightly modified and continue to be used; the same is valid for certain decorative patterns of the early Iron Age group.</p> <p>A variety of motifs can be combined in an almost random manner; some decoration appears to be carefully applied, whereas in other cases the style is rather cursory. This phenomenon may be connected to the use of fabric types and the structure of the surface as well as the size of the vessels. Generally there is a wide range of ways in which to decorate the surface; however, a regular scheme, such as that observed on the early Iron Age painted ware from Tayma, has not been applied.</p> <p>Decoration colours: main colour is black to brownish black, but also red is used, thus resulting in bi-chrome painting. In the case of the checkerboard pattern, a three-colour effect is created by including unpainted fields.</p>

Table. 2.10 Şinā‘iyyah Pottery features

(Source: Hausleiter, 2014)

Tebes (2013), Hausleiter (2014) and Hausleiter and Zur (2016) have dated the Şinā'iyah Pottery to the period from the 10<sup>th</sup> to 5<sup>th</sup> century BC. This was based on the C14 dates from the Şinā'iyah (first season) which is dated to 2705±130 B.P; also, a series of 14C dates from fireplaces in front of the tombs in Tal'a site and dated between the 10<sup>th</sup> to 5<sup>th</sup> centuries BC. In both sites the Şinā'iyah Pottery was attested (Hausleiter, 2014; Hausleiter and Zur 2016). Moreover, a number of Egyptian objects that can be dated to 26th Dynasty (664–525 BCE) were found in the Şinā'iyah tombs where also Şinā'iyah Pottery was attested. Moreover, the evidence from Area A suggests that the beginning of Sana'iye Painted Ware to be not before the late 10<sup>th</sup> to the early 9<sup>th</sup> century BCE (Personal communication with Hausleiter and Intilia in Des 2017). Thus, this group can be dated between the 10<sup>th</sup> - 5<sup>th</sup> centuries BC.

### **3. Chapter summary and conclusion:**

#### **Published reports of the previous excavation in Şinā'iyah site:**

The discussion of the published reports of the previous excavations in Şinā'iyah site were similar in terms of the lack of information about the location of the tombs, the stratigraphy inside and outside the tombs, the published ceramics and distribution of the ceramics in the excavated deposits. Moreover, the C14 dates from these excavations were published without many important details about the find location for these C14 dates. Altogether this indicates that it is necessary to conduct a new excavation to provide reliable data including recorded ceramics.

#### **i. 2.4. Previous studies of Şinā'iyah ceramics:**

As it been discussed above, the ceramics from Şinā'iyah site included at least four different groups as follow:

1. Red Burnished ware (RBW).

Based on integrating the results from Qraya site, al-Nassem site and Qurayyah site it seems reasonable to date this groups to the period between the turn of the 2<sup>nd</sup> millennium BC to the 17<sup>th</sup> century BC.

## 2. Qurayyah Painted Ware (QPW).

This group seems to be mix of different ceramic styles, based on the results from Qurayyah; part of this group (SQPW) has been found in the deposits that dated by C14 results to the period between the late 17<sup>th</sup> or at the latest the early 15<sup>th</sup> century calBCE.

## 3. Tayma Early Iron Age Pottery.

Based on the evidence from Areas A and O, this group can be dated to the period between the 12<sup>th</sup>-9<sup>th</sup> centuries BC.

## 4. Şinā'iyah Pottery.

Based on integrating the results from Şinā'iyah site, Qraya site and Tal'a site, this group can be dated between the 10<sup>th</sup> - 5<sup>th</sup> centuries BC.

Therefore, the Şinā'iyah ceramic includes several ceramic groups that can be dated based on the available evidence to the period between the turn of the 2<sup>nd</sup> millennium BC and the 5<sup>th</sup> century BC.

## Chapter 3: Excavation results

### **3. Chapter 3 Excavation results**

#### **j. 3.1. Introduction**

As mentioned in Chapter 1, the results of the excavations in Şinā‘iyyah site will be the primary data for this study, which involves documenting the archaeological context of the ceramics.

Chapter 3 will be divided into two parts; the first part will present the preparation of the excavation including the survey results, an introduction to the mounds that have been chosen for excavation and the excavation methodology.

The second part will present the excavation results. It should be noted that there was too much information obtained from the excavations in Şinā‘iyyah site, and presenting all this information will make it hard to follow. For this reason, this chapter will concentrate on showing the excavation results, which set out the development of the excavated mounds (the sequences of the tombs and deposits), which make up the archaeological context of the ceramic (which is our concern in this study). Discussing these results in details is necessary for the chronology of the ceramics as well as an understanding of the cemetery.

The aim of this chapter is to establish the sequences of tombs and the deposits. All the excavated deposits will be described in the following discussion since they were related, whether to abandonment phases or human activities such as burial and robbing; whereas, the detailed descriptions of the uncovered tombs walls in these excavations will be presented in detail in Appendix A; and the finds including the ceramic will be mentioned in the description of the deposits where it was found, and it will only be listed in Appendix B (see Tables. 1 and 2 in Appendix B). This ceramic will be classified in Chapter 4, and the chronology and the distribution of this ceramic will be discussed in Chapter 5.

### **k. 3.2. Preparing for the excavation:**

#### **3.2.1. Survey:**

Şinā'iyah is divided into seven areas using the survey results of the fencing project that was undertaken by the Saudi Commission for Tourism and Antiquities branch in the City of Tayma (see chapter 1 above). For two months from November 2011, as a part of collecting data and preparing for the fieldwork, the current author with participation of Mohammad Al-Najem the director of Tayma Museum, conducted a pedestrian survey over the Şinā'iyah site in order to determine the optimum place to excavate, that has above-ground resources such as remains of walls and ceramics from which it is hoped to obtain the aims and objectives of the excavation, as well as being suitable in terms of time and budget to conduct the fieldwork. As a result, Mound 1 and part of Area 1 of Şinā'iyah site were chosen for excavation (Figs. 3.1& 3.2).



Fig. 3.1 The locations of mounds 1 & 2 at Şinā'iyah site, Area 1.



Fig. 3.2 Excavations in Areas 1-4 in Şinā'iyah site



### 3.2.2. Şinā'iyah site (Area 1):

N 27 ° 37'17 .98", E 38 ° 33'39 .78"

This area is one of the largest areas of Şinā'iyah site. It is surrounded by modern streets on all sides, from the north, the modern (King Saud road) to Jareesh village and on the other sides by three streets which link the workshops.

### 3.2.3. Site grid

As a requirement of the Antiquities Department a site grid has been set out at Area 1 in Şinā'iyah site by the surveyor Tariq Fakieh, this site grid was linked to that which was adopted during the 1988 excavation season at Şinā'iyah site (Abu Duruk, 1989; al-Hajri, 2006). Consequently, Area 1 was divided into a number of 10x10 m. squares. As a result, Mound 1 is located in square D12 and the northern half of square E12, while, the part that is to be excavated of Mound 2 is located in Squares D35 and D36 (Fig.3. 3).



Fig. 3.3 Extension of the site grid adopted in 1989 to cover Mound 1 and 2 at Şinā'iyah site Area 1. Scale 1 x 200m.

### 3.2.4. Mound No.1 location:

N 27°37'19.37", E 38°33'45.07"

Mound 1 is a small mound located in the eastern part of the Area 1 in Şinā'iyah Site. It has a convex shape in section with diameter measured 15m N/S and 10m E/W; and rises over eighty centimetres above the current ground level (Fig. 3.4 & 3.5). This Mound is very small compared to the other mounds at Şinā'iyah Site; thus, it was expected to conceal only a small number of tombs. If these tombs contain ceramics, then it will provide significant information that can help us to limit a specific type of ceramic to a specific type of tomb. As has been discussed in the literature review (see chapter 2 above), many types of ceramic were discovered at Şinā'iyah site, as well as many types of tombs. Therefore, excavation at this mound was expected to provide significant information in terms of the relationship between some ceramic types and some tomb types.

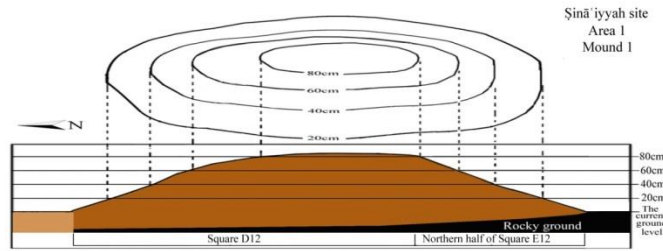


Fig. 3.4 Plan of mound 1.



Fig. 3.5 General view of Mound 1, facing northwest.

### 3.2.5. Mound No.2 location

N 27°37'20.03", E 38°33'37.17"

Mound 2 is one of the largest mounds at Şinā'ıyyah site (Fig.3.6). It is located about 200m to the west from the Mound 1, in the north eastern part of Area 1 in Şinā'ıyyah site. On the site grid Mound 2; is located in the squares: B32, C32, D32, E32, F32, B33, C33, D33, E33, F33, B34, C34, D34, E34, F34, B35, C35, D35, E35, F35, B36, C36, D36, E36, F36, C37, D37, E37 and F37 (Fig. 3.3).

It has a convex shape in section that extends over about 2,350 square meters, and rises over four meters above the current ground level (Fig.3.7). In general, loose sand with inclusions of different sizes of stones covers the surface; moreover, large amounts of ceramic sherds are spread on the surface of the mound. Square C36 in the north east part of Mound 2 was fully excavated during 1994 but no report either published or unpublished is available about this work. However, as a result of this season, five tombs are visible on the ground; these tombs were named here from the south to north as follows; B1, B2, B3, B4 and B5, as shown in Fig.3.8. Because of the large size of Mound 2 only two squares (D35 & D36) have been excavated. The main goal of excavating square D36 was to discover the full extent of the tombs that were partially uncovered in C36 from the 1994 season; where some remains of walls are visible on the surface of the Square D36. The visible part of these walls indicates large-size tombs; which were expected to be different (larger) than the tombs from Mound 1, based on the size of that mound. Therefore, digging these tombs is expected to provide important information about the types of tomb present at Şinā'ıyyah site. These different tomb types are expected to provide different ceramic types, which can help us to find out the relationship between the tomb types and ceramic types.

By contrast, excavation of square D35 was expected to reveal the extent of the tombs toward the center of the Mound 2.



Fig. 3.6 General view of Mound 2; facing south; no scale.

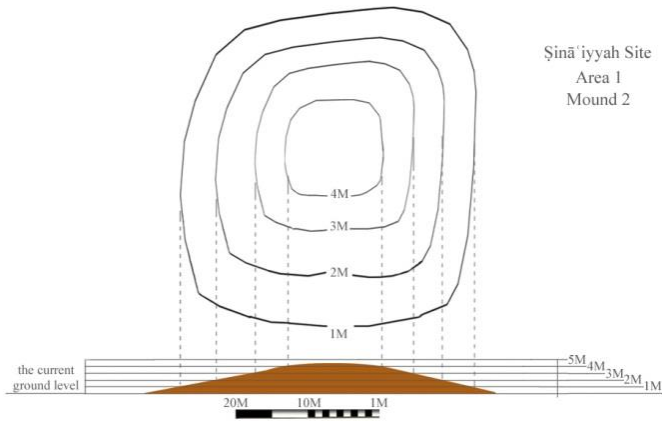


Fig. 3.7 Shape and size of mound 2.

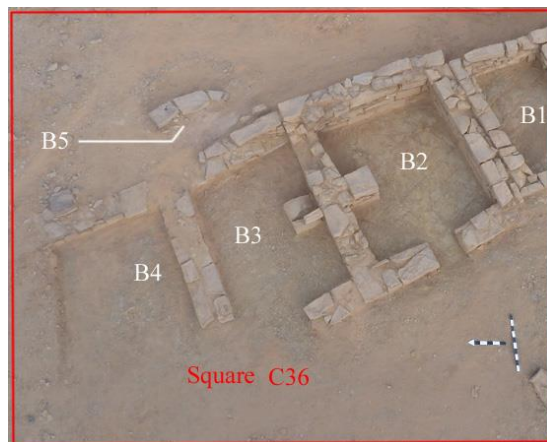


Fig. 3.8 Aerial view of square C36, scale 1x0.5m & 1x1m.

### 3.2.6. Excavation methodology:

This section details the methodology of the excavation process and data records. In order to collect the optimal quantity of data, it was thought to be important to set out a clear and systematic methodology to guide the excavations. As was shown by previous excavation reports such as; Abu Duruk (1989; 1990; 1996) and al-Hajri (2006), the majority of the tombs that have been found at Şinā‘iyyah site had been robbed. This fact requires the adoption of an excavation strategy which suits a situation where the deposits might be heavily disturbed and widely scattered and need careful recording. Accordingly the methodology that was applied to the excavation of both Mounds 1 and 2 was as follows:

1. Archaeological data was mainly obtained by excavating Mound 1 and part of Mound 2; this was conducted by twenty local workmen under the supervision of the present author.
2. As has been mentioned earlier, Area 1 was divided into a number of 10x10 m. squares. Accordingly, Mound 1 was located in square D12 and the northern half of square E12; and the excavated squares in Mounds 2 are squares D35 and D36, each of which was divided into four 5x5 m. sections, which were partitioned by a one metre wide baulk and 0.50 m. wide areas were left at the edges of each square giving four 4x4 m trenches. The reason for that is to facilitate the removal of spoil. However, the deposits under the surface consisted of loose sand, which meant that the bulks between the squares collapsed. As a result, it was decided to remove the bulks and to excavate 5x5 meters squares without bulks.
3. The area was excavated stratigraphically following stratigraphic units as determined by excavation. It was conducted by hand using trowel and brush. Also, a manual winch was used to remove large stones from square D12.
4. All deposits from inside and outside the tombs were sieved through 3mm. mesh sieves, which helped to collect many of the small finds.
5. Some bones were structurally unsound; Paraloid B-72 was used in order to maintain the bones prior to removing them from their place.
6. Depending on the stratigraphic unit, bone and other findings were removed in layers of stratigraphic divisions and stored in separate bags. Bones were placed in

open plastic bags so as not to be susceptible to damage from moisture, and annotated with locational information, whilst objects were labelled and placed in snap-lock plastic bags and retained for further analysis.

7. Stratigraphic sections were recorded and twelve dating samples were taken from different stratigraphic contexts of various types of tomb discovered at Mounds 1 and 2.

A standard context recording form was used for each stratigraphic unit. Details included site name, mound, square and quadrant number, the documentation soil texture, and size of inclusions, and a sketch plan for the sections.

### **I. 3.3. The excavation results:**

Excavation in Mound 1 was undertaken over four weeks from 15<sup>th</sup> of October to 12<sup>th</sup> of November 2012 and excavation in Mound 2 was undertaken over eight weeks from 13<sup>th</sup> of November 2012 to 8<sup>th</sup> of January 2013.

Excavation results from each mound will be displayed separately, and the result of each mound will be presented as phases, from the earliest to the latest. Accordingly, the excavation results will be divided into two parts; the first part will present the excavation result from Mound 1, and the second part will present the excavation result from Mound 2. It should be noted that only two squares D35 and D36 were excavated by the present author; these squares were located next to square C36 that was excavated during the 1994 season. Since, there is no published or unpublished material available from that season and also, since the tombs that were found in square C36 were found next to the tombs that have been found in squares D35 and D36, the structural description of the tombs will be presented with the tombs description in Appendix A.

Moreover, as has been mentioned above, Area 1 has been divided into 10X10m squares. Accordingly, Mound 1 was found in square D12 and the northern half of square E12; and the excavated part of Mound 2 was in squares D35 and D36. Also, as has been mentioned in the methodology, each of these squares was divided into 5X5m squares and the deposits were numbered according to the 5X5m squares. As a result, a layer that extended into more than one 5X5m square was given different numbers during the excavation, for

example, the layer that extended across a 10X10m square was given four different numbers, according to the 5X5m squares.

To make it easy to follow and to avoid repeating the description for the same layer, as parts, each layer that extended into more than one 5X5m square, and therefore has more than one number, will be given a new number (see Table. 3.1 below); this new number includes all the layer's parts, and this new number will be used in the following discussion.

Mound 1								
New number	Square D12 The layer parts numbers according to the 5X5m squares during the excavation				Northern half of square E12 The layer parts numbers according to the 5X5m squares during the excavation			
	N/E	N/W	S/E	S/W	N/E	N/W	-	-
200	1000	1001	1004	1008	1045	1046	-	-
201	1020	-	1011	1016	-	-	-	-
202	1021	1023	1012	1024	1048	1047	-	-
203	1058	1041	1013	1030	1076	1078	-	-
204	1081	1082	1051	1042	1053	1080	-	-
205	1056	1079	-	-	-	-	-	-
206	1057	1083	-	-	-	-	-	-
Mound 2								
New number	Square D35 The layer parts numbers according to the 5X5m squares during the excavation				Square D36 The layer parts numbers according to the 5X5m squares during the excavation			
	N/E	N/W	S/E	S/W	N/E	N/W	S/E	S/W
300	1998	2000	1999	2001	1995	1997	1996	2002
301	-	-	-	2016	-	-	2012	-
302	-	2390	-	-	2391	-	-	-
303	2088	2070	2101	2033	2190	2120	2117	2090
304	2103	2078	2105	2113	2209	2205	2138	2227
305	2119	2093	2107	2115	2210	2215	2150	2228
306	2208	2207	2185	2232	2217	2216	2175	2229
307	2212	2211	2186	2234	2220	2250	2191	-
308	2225	2251	-	-	-	-	-	-
309	2214	2213	2187	2235	2221	-	2226	2179
310	2251	2252	2151	2253	2253	2254	2152	2255
311	-	-	-	2180	-	2259	2257	2256
312	-	-	-	2181	-	2260	2258	2261

Table. 3.1 Layers numbers.

(This table shows the new numbers for the layers that have been given more than one number during the excavation since they were found in more than a 5X5m square).

### 3.3.1. Excavation result from Mound 1:

Two circular tombs were found in Mound 1, these tombs were named and numbered CT1 and CT2 according to their shape and reflect the sequence in which they were found and

not a construction sequence (Fig 3.9 & 3.10). The development Mound 1 was divided into ten phases (from Phase 0 to Phase 9) beginning from Phase 0 which represented the pre-tomb phase (the natural bedrock) to Phase 9 which represented the modern surface (see table. 3.2 below).

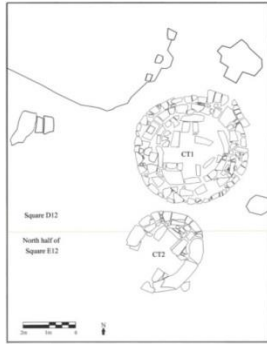


Fig. 3.9 The layout of the tombs CT1 and CT2.

Fig. 3.10 Aerial view of the squares D12 and E12, from the west, Scale 1x0.5m & 1x1m.

Phases	Mound 1 tombs	
	CT1	CT2
0	Pre-tomb Phase	
1	Building	Building
2		Robbing
3	First abandonment Phases	
4	1 <sup>st</sup> Robbing	
5	2 <sup>nd</sup> Use	
6	Second abandonment Phase	
7	2 <sup>nd</sup> Robbing	
8	Third abandonment Phase	
9	Modern surface	

Table. 3.2 Main activities of Mound 1.



## Phase 0: Pre-Tombs

This phase is represented by the bedrock <204 & 206> and cut <205> (Fig. 3.11 & 3.12). Except for the north western part of square D12, bedrock <204> is represented by the bedrock of square D12 and northern half of square E12, which is a natural sandstone outcrop; this outcrop extends over the excavated area with a slope of about 2.8 % degrees towards the northeast.

Whereas, in the north western part of square D12 there is cut <205> in the bedrock <204>, this cut creates a low-lying area (bedrock <206>) in the north western part of the square D12, and this bedrock descends toward the southwest directly opposite the slope of the bedrock <204>.

Cut <205> starts semi-straight from the west in a south-easterly direction and then bends with some meandering toward the northeast. The height of this cut ranges between 0.40 m. in the western and drops gradually to the north-eastern part to 0.15m.

It is not clear if this cut was natural or resulted from a man-made stone extraction. Where the western part of this cut seems to be natural, there are two stone blocks <1017 & 1018> which were located in the eastern part of the cut <205>; these stones seem to be extracted from their original place but they have not been used (Fig.3.13). Thus, there is a high possibility that the stone blocks that were used to build the Tombs were removed from this cut. However, there is no firm evidence confirming this suggestion, for this reason, this cut was considered as a natural cut.

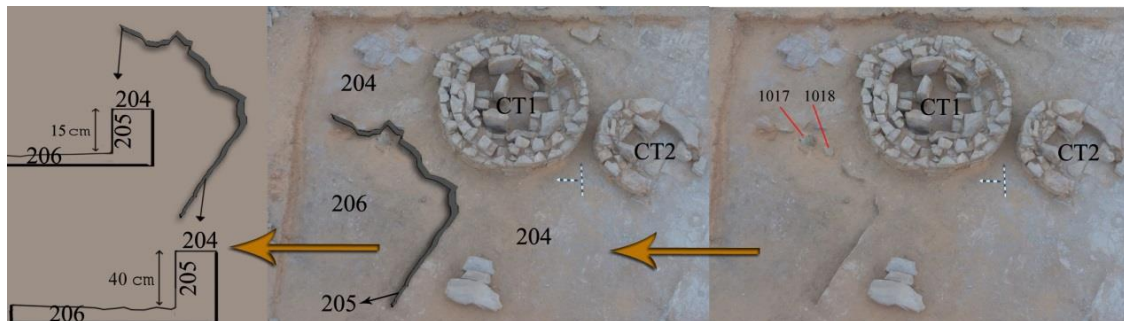


Fig. 3.11 The location of the bedrock <204 & 206> and cut <205> in Mound 1.

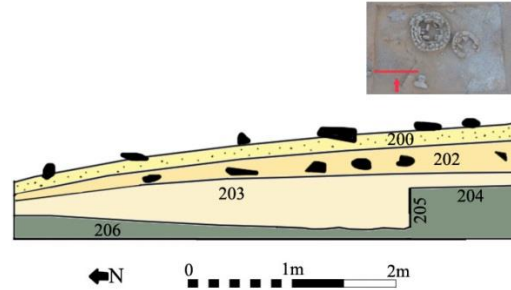


Fig. 3.12 cut <205> in north-western part of square D12.

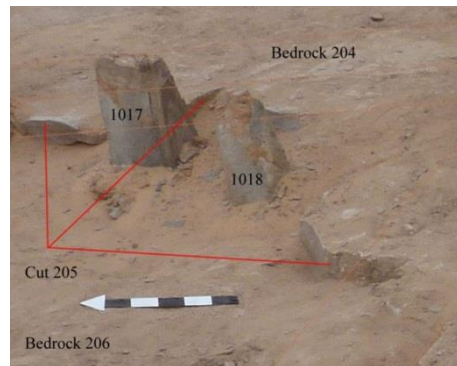


Fig. 3.13 Location of stones <1017 & 1018>.

### Phase 1:

This phase is represented by:

- 1) Building Tomb CT1 (wall <1015>, the triangle-constructions <1033, 1334, 1036 & 1037> that have been built to divide the tomb's chamber, and deposit <1072>).
- 2) Building Tomb CT2 (wall <1005>, the triangle-constructions <1006, 1007 & 1043> that have been built to divide the tomb's chamber, and deposit <1039>).

The following discussion will concentrate on presenting the reasons for proposing that these tombs were built in Phase 1; the detailed description of tombs walls and the triangle-constructions that have been used to divide the chambers will be presented in the appendix as follows:

- For the description of Tomb CT1 wall <1015> and the constructions 1033, 1334, 1036 & 1037> that have been built to divide the chamber see Appendix A: A. 1).
- For the description of Tomb CT2 wall <1005> and the constructions <1006, 1007 & 1043> that have been built to divide the chamber see Appendix A: A. 2).

The building of each tomb will be discussed separately, accordingly, the following discussion will be divided into two parts as follows; a) building Tomb CT1; b) building Tomb CT2.

### **A. Building Tomb CT1**

The stratigraphy of Mound 1 shows that the triangle-constructions <1033 & 1036> that were built to divide the Tomb CT1 chamber, were built directly on the bedrock <204> before building Tomb CT1 wall <1015>, since the Tombs CT1 wall <1015> was built on the triangle-constructions <1033 & 1036> (Fig. 3.13). Therefore it seems reasonable to assume that the building of the other triangle-constructions <1034 & 1037> (Fig. 3.14) was also earlier than the building of Tomb CT1 wall <1015>. However, since wall <1015> was connected to these triangle-constructions (Fig. 3.14), it seems reasonable to assume that the building of the triangle-constructions and the tomb walls were during the same phase.

Moreover, deposit <1039> which is the lowest deposit in the Mound 1 stratigraphy, was built up against the outer side of Tomb CT1 wall <1015> (Fig. 3.13), therefore, it seems reasonable to suggest that the building of Tomb CT1 was earlier than deposit <1309>. As will be further discussed below, Tomb CT2 has a similar stratigraphy and there is no stratigraphic evidence to indicate which of Tombs CT1 and CT2 was earlier; for this reason, both tombs were assumed to be built during the same phase, which is named Phase 1.

Deposit <1072> is suggested to be related to the use of Tomb CT1 in Phase 1; in the following discussion this deposit will be described before discussion of this deposit is given.

Deposit <1072> is a deposit of compact sand with many inclusions of small-sized stones. It has an irregular shape measuring 0.83m in length and 0.58m in width, with a depth ranging from 0.20m to 0.35m. This deposit was heavily disturbed and it was found to the north of Tomb CT1 wall <1015>, the southern part of the deposit abutted the outer side of the northern part of Tomb CT1 wall <1015> (Figs. 3.14 & 3.15). This deposit was found above deposit <203> and under deposit <202> (Fig. 3.14). Finds from deposit <1072> included many bone fragments, many ceramic sherds, two flint-drills, a shell fragment and many stone-beads (see Table.1 in Appendix B).

Deposit <1072 > is suggested to be related to Tomb CT1 for the following reasons: firstly, these deposits included many bones and many ceramic sherds, and it was found near Tomb CT1; thus, it seems reasonable to suggest this deposit might be related to burial activity.

Secondly, deposit <1072> was heavily disturbed and it was found near to Tomb CT1 (Figs. 3.14 & 3.16). At the same time, it was more than 5m from Tomb CT2 (see Fig. 3.14); thus, it seems reasonable to suggest this deposit was moved from Tomb CT1.

Thirdly, the north-eastern part of Tomb CT1 wall <1015> seems to be heavily damaged, where, the north eastern part was missing, and there is a support wall <1022>, which was built around the outer side of this part (Fig. 3.16). Deposit <1072> was found just few centimetres to the west of the damaged part of the Tomb CT1 wall <1015> and the support wall <1022> (Fig. 3.16). Therefore, since deposit <1072> was found near to the damaged part of Tomb CT1, wall <1015> (which was restored later by wall <1022>), it seems reasonable to assume that the damage to wall <1015> and the moving of deposit <1072> from the tomb to have resulted from the same robbing act, and thus, to suggest deposit <1072> was moved from Tomb CT1.

Fourthly, deposit <1072> was found directly above deposit <203> (Fig. 3.14), which, as will be further discussed below, is part of Phase 3, therefore, since deposit <1072 is suggested to be related to Tomb CT1 and it was found above Phase 3 deposit <203>, it seems reasonable to suggest the robbing of Tomb CT1 was in Phase 4.

Therefore, since deposit <1072> is suggested to be related to Tomb CT1 and this deposit is suggested to have been moved from Tomb CT1 in Phase 4, and since there is stratigraphic evidence which indicates the reuse of Tomb CT1 after the building phase (Phase 1) and before the robbing phase (Phase 4), it seems reasonable to assume that deposit <1072> is related to the use of Tomb CT1 in Phase 1, and this deposit was moved out from Tomb CT1 in Phase 4.

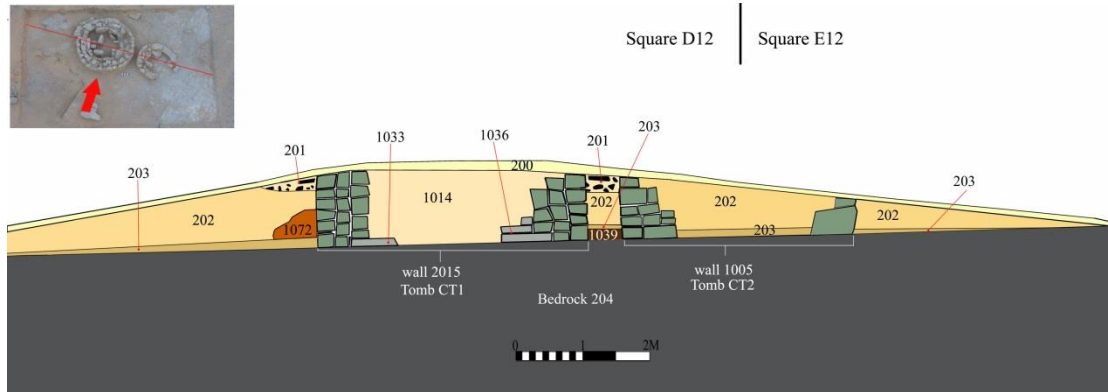


Fig. 3.14 Section of the layers inside and outside the Tombs CT1 and CT2.

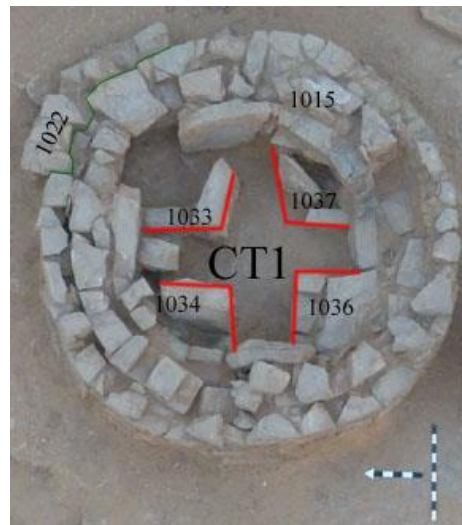


Fig. 3.15 Tomb CT1.

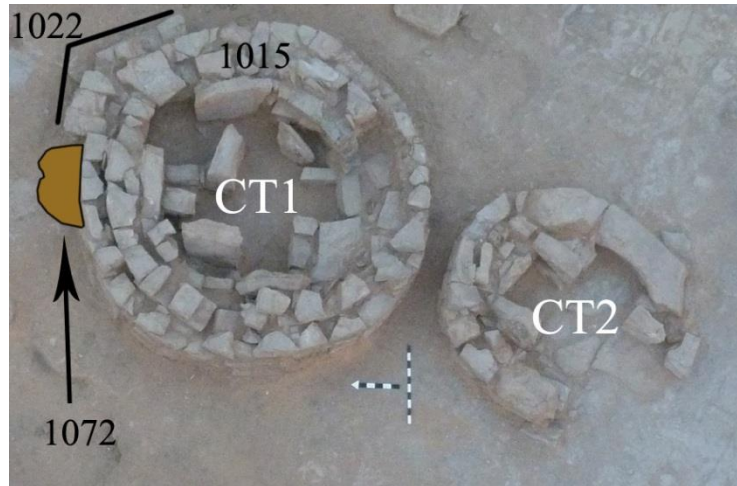


Fig. 3.16 Location of the deposit <1072>.

### **B. Building Tomb CT2**

The triangle-constructions <1006, 1007 & 1043> (Fig. 3.17) that were built to divide Tomb CT2 chambers were found in similar stratigraphy to Tomb CT2 wall <1005>; where all were built directly on the bedrock. Therefore, it seems reasonable to assume that building the triangle-constructions and the wall of Tomb CT2 were during the same phase.

Moreover, since the lower deposit <1039> was deposited against the outer sides of Tomb CT1 and CT2 walls <1015 & 1005> (Fig. 3.14), together, with no stratigraphic evidence to indicate which of these tombs was earlier; both Tomb CT1 and CT2 were assumed to have been built during the same phase, which is named Phase 1.

Deposit <1039> is suggested to be related to the use of Tomb CT2 in Phase 1; in the following discussion this deposit will be described before the discussion of this deposit is given.

Deposit <1039> consists of compact sand with many inclusions of small-sized stones. This deposit was located between Tomb CT1 and CT2 (Fig. 3.14 & 3.18). It has an irregular shape measuring 0.120m in length and 0.60m to 0.82m in width, with a depth ranging from 0.15m to 0.25m. The northern part of deposit <1039> was deposited against Tomb CT1 wall <1015>, and the southern part of this deposit was deposited against Tomb CT2 wall <1005>. Also, deposit <1039> was found directly on bedrock <204> and

under deposit <203> (Fig. 3.14). Finds from deposit <1039> included a complete human skeleton (Fig. 3.19), and several ceramic sherds (see Table.1 in Appendix B).

Deposit <203> was deposited against the other side of the Tomb CT2 wall <1005>, at the same time, it was deposited directly on the bedrock inside Tomb CT2 (Fig. 3.14). Therefore, it seems reasonable to suggest that Tomb CT2 has been built and then robbed and cleaned down to the bedrock before deposit <203> was deposited outside and inside Tomb CT2. Therefore, the burial deposit which was inside Tomb CT2 and was moved from Tomb CT2 and must be found outside the Tomb CT2 under deposit <203>.

Deposit <1039> is the only deposit that was found near to Tomb CT2, at the same time, it was found under deposit <203>. Thus, it seems reasonable to suggest that deposit <1039> is the deposit that has been moved out from Tomb CT2 during the robbing of Tomb CT2 earlier than deposit <203>.

Moreover, since Tomb CT2 is thought to have been built in Phase 1, thus, the robbing of Tomb CT2 and moving deposit <1039> from Tomb CT2 must have been in Phase 2 after the building phase (Phase 1). This together with the lack of stratigraphic evidence that indicates the use of Tomb CT2 after Phase 1; it seems reasonable to suggest that deposit <1039> is related to the use of Tomb CT2 in Phase 1, and this deposit was moved from Tomb CT2 in Phase 2 via a robbing act.

It should be noted that, if this were the case and our suggestion about deposit <1039> is correct, then, the human skeleton in the deposit <1039> must have been moved out of Tomb CT2 shortly after the burial and before the buried body decomposed. This body was then buried again in the space between the tombs, and this explains why the skeleton in the deposit <1039> seems to be in the original, articulated position.

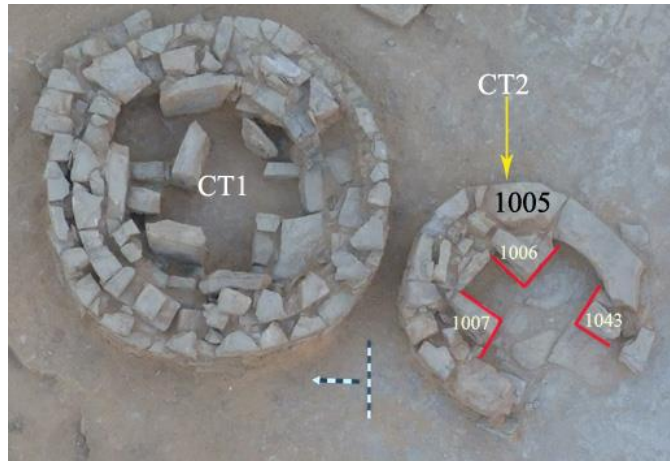


Fig. 3.17 Tomb CT2.

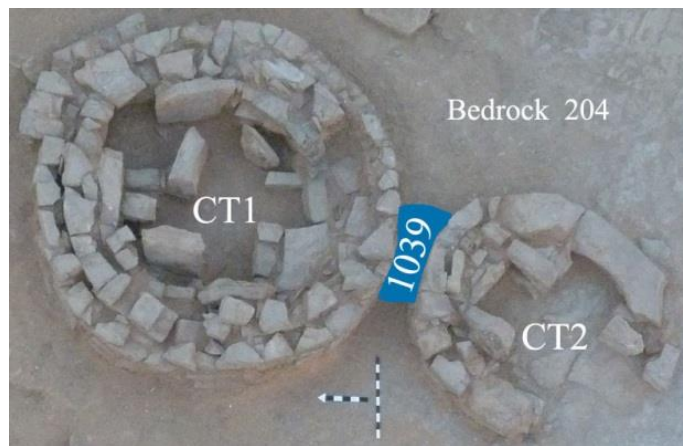


Fig. 3.18 Location of deposit <1039>.

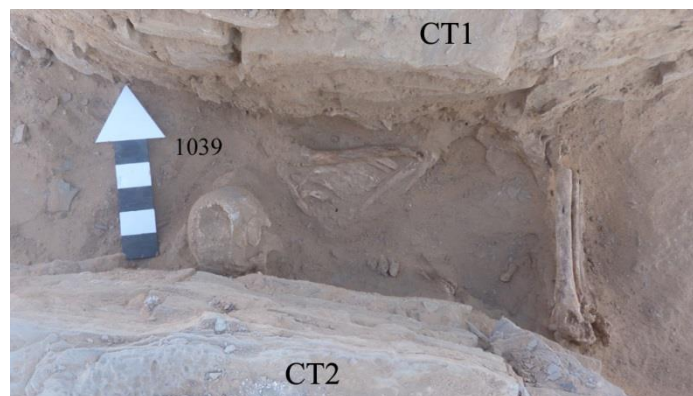


Fig. 3.19 Human skeleton in the deposit <1039>.



## **Phase 2:**

This phase is represented by the robbing of Tomb CT2, and the moving of deposit <1039> from Tomb CT2. As has been discussed above, deposit <1039> is thought to be related to the use of Tomb CT2 in Phase 1 (for more details see the building of Tomb CT2 in Phase 1).

This deposit was found between Tombs CT1 and CT2; the northern part of deposit <1039> was built up against the outer side of Tomb CT1 wall <1015>, and its southern part was built up against the outer side of Tomb CT2 wall <1005> (Fig. 3.14).

Since, Tombs CT1 and CT2 are thought to have been built in Phase 1; and the stratigraphy of deposit <1039> suggests this deposited to have been moved to this location later than Phase 1, thus, it seems reasonable to suggest that deposit <1039> ended up in this location during Phase 2.

Furthermore, since this deposit is thought to be related to the use of Tomb CT2 in Phase 1; and as it ended in this location in Phase 2; it seems reasonable to suggest that Tomb CT2 was built in Phase 1 and robbed in Phase 2. With no stratigraphic evidence present for human activity in Tomb CT2 after Phase 2, it seems reasonable to suggest that Tomb CT2 was abandoned after Phase 2 and the last human activity related to this Tomb was the robbing of this Tomb in Phase 2.

## **Phase 3:**

This phase is represented by deposit <203>, which consists of compact sand with very few inclusions of small-sized stones. It extended over square D12 and the northern part of the northern half of square E12, including the area inside Tomb CT2 (Fig. 3.14 & 3.20), and the area under the support wall <1022> (Fig. 3.21). The thickness of this deposit varies from 0.55m to 0.10m in square D12, whereas, in the northern half of square E12, the thickness of deposit <203> begins from 0.15m in the northern part and gradually decreases toward the south until it ends at the same ground level of the southern part of the northern half of square E12 (Fig. 3.14).

In the north western part of square D12, deposit <203> was found directly on bedrock <206> above cut <205> and under deposit <202> (Fig. 3.12); whereas, in the area between Tomb CT1 and CT2, deposit <203> was found above deposit <1039> and under deposit <202> (Fig. 3.14). While in the other parts of square D12 and the northern part of the northern half of square E12, deposit <203> was found directly on bedrock <204> and under deposit <202> (Fig. 3.14). Finds from deposit <203> included several ceramic sherds and two shell fragments (see Table.1 in Appendix B).

Deposit <203> extended over square D12 and over a large area of square E12, also it consists of sand that seems to be naturally accumulated; for these reasons, deposit <203> is suggested to be an abandonment deposit. Moreover, deposit <203> was deposited above deposit <1039> which is suggested to have been moved from Tomb CT2 in Phase 2; thus, it was later than Phase 2. Therefore, it seems reasonable to suggest that deposit <203> represents the first abandonment phase (Phase 3).

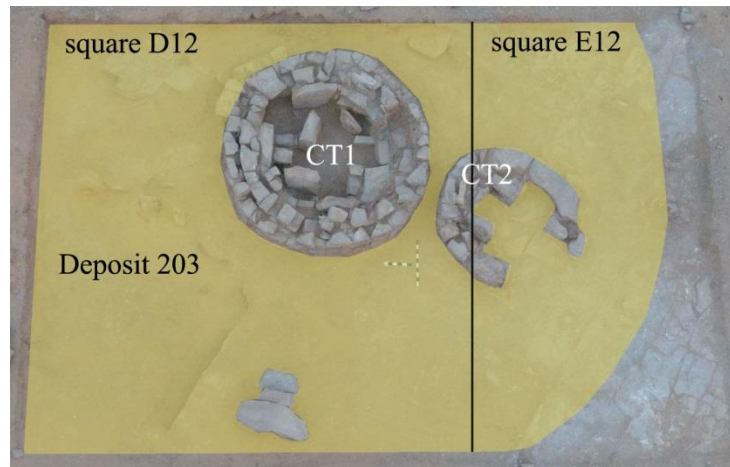


Fig. 3.20 The extent of deposit <203>.

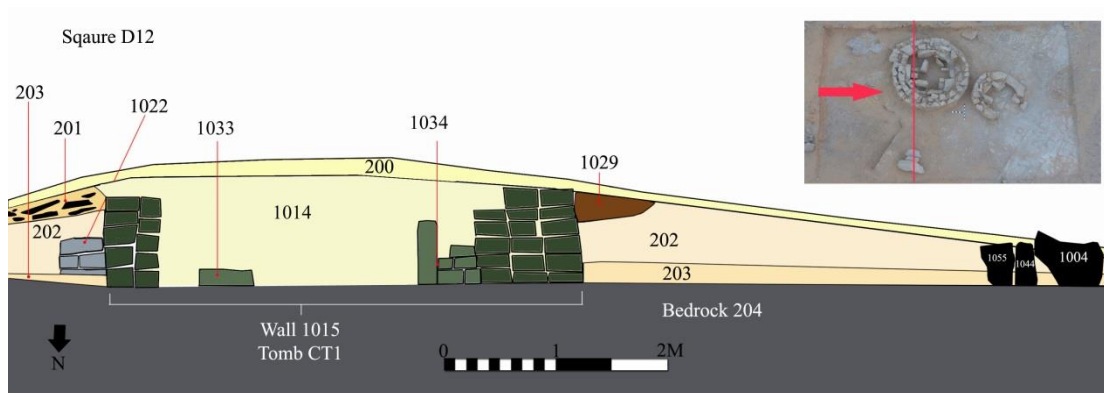


Fig. 3.21 section of the layers inside and outside the Tombs CT1.

#### Phase 4:

This phase is illustrated by the moving of deposit <1072> from Tomb CT1 via a robbing act (or possibly cleaning the tomb to reuse it).

Deposit <1072>, as has been discussed above, is thought to be related to the use of Tomb CT1 in Phase 1; and this deposit was moved from Tomb CT1 via a robbing act (see Phase 1 for more details). Deposit <1072> was found directly above deposit <203> (Fig. 3.14), which represents Phase 3; thus, it seems reasonable to suggest that deposit <1072> was moved to this location later than Phase 3.

Since, deposit <1072> is suggested to relate to the use of Tomb CT1 in Phase 1, and this deposit was found outside the tomb above the Phase 3 deposit <203>; it seems reasonable to suggest that the robbing (or cleaning) of Tomb CT1 was in Phase 4, later than Phase 3.

Furthermore, as will be further discussed below, Tomb CT1 was also robbed in Phase 7; thus, it seems reasonable to suggest the robbing of Tomb CT1 in Phase 4 to be the first robbing of Tomb CT1.

### **Phase 5:**

This phase is represented by the reuse of Tomb CT1, which is illustrated by building the support wall <1022> and deposits <201 & 1029>. Support wall <1022> is built of three courses of stone blocks varying in size from 0.15m to 0.33m; it measured 2m length by 0.40m width (Fig. 3.15), and survived to a depth of 0.50m. This support wall was built around the north eastern part of Tomb CT1 wall <1015> (Fig. 3.15) and directly on deposit <203> (Fig. 3.21).

Since support wall <1022> was built around the north eastern part of Tomb CT1 wall <1015> (Fig. 3.15), which is suggested to be robbed in Phase 4; it seems reasonable to assume that Tomb CT1 was restored by building support wall <1022> in Phase 5 after the robbing of this tomb in Phase 4.

Deposits <201 & 1029> are thought to be related to the re-use of Tomb CT1 in Phase 5; in the following discussion these deposits will be described before they are discussed.

Deposit <201> consists of compact sand with many inclusions of large, medium and small-sized stones. This deposit extended in a semi-arc shape around the northern, western and southern parts of Tomb CT1 wall <1015> (Fig. 3.22). Deposit <201> was found above deposit <202> and under the surface deposit <200> (Figs. 3.14 & 3.21). Also, the extent of deposit <1014> outside the tomb was found above deposit <201> (Fig. 3.21). The depth of deposit <201> ranges from 0.10m to 0.40. Finds from deposit <201> included many bone fragments and many iron fragments (see Table.1 in Appendix B).

Deposit <1029> was a deposit of compact sand with many inclusions of large, medium and small-sized stones. This deposit was found to the west of Tomb CT1 wall <1015> (Fig. 3.22); it has an irregular shape measured 0.80m length by 0.70m width, with a depth of 0.35m. Deposit <1029> was found under the surface deposit <200> and above deposit <202> (Fig. 3.21). Finds from deposit <1029> included many bone fragments, an iron dagger (or sword) and many iron fragments (see Table.1 in Appendix B).

Deposit <1014> which represent Phase 8 was deposited directly on the bedrock inside Tomb CT1 (Figs. 3.14 & 3.21); thus, it seems reasonable to suggest that Tomb CT1 was robbed and cleaned down to the bedrock before Phase 8.

Deposits <201 & 1029> are thought to be two parts that originally formed the deposit that has been moved out from Tomb CT1 during the robbing of this tomb before Phase 8, for the following reasons:

Firstly, deposits <201 & 1029> were found in a similar sequence where both were found above deposit <202> (Fig. 3.21), which, as will be further discussed below, represents Phase 6. Therefore, it seems reasonable to suggest that the deposits <201 & 1029> have been placed above deposit <202> later than Phase 6.

Secondly, both deposits <201 & 1029> are similar and consist of compact sand with many inclusions of large, medium and small-sized stones. Finds from both deposits were also similar and included bone fragments and iron fragments - it should be noted that there are no iron fragments found in the other deposits. Thirdly, both deposits <201 & 1029> were found around Tomb CT1.

Therefore, since deposits <201 & 1029> were similar, and they included similar finds, and both deposits were found above Phase 6 deposit <202>; and around Tomb CT1, which is thought to be robbed before Phase 8, it seems reasonable to assume that deposits <201 & 1029> were originally formed and then have been moved from Tomb CT1 during the robbing of this tomb in Phase 7; later than the Phase 6 deposit <202> and earlier than Phase 8 deposit <1014>.

Moreover, since Tomb CT1 was robbed during Phase 4; and during this robbing the burial deposit <1072> has been moved out of the tomb; also, since Tomb CT1 is thought to be reused in Phase 5; together with no stratigraphic evidence for the re-use of Tomb CT1 between Phase 5 and the second robbing in Phase 7; it can be assume that deposits <201 & 1029> were related to the re-use of Tomb CT1 in Phase 5, and these deposits were removed from Tomb CT1 during the robbing of this tomb in Phase 7.

Moreover, as has been mentioned in the description of deposit <1072> above, that the finds from this deposit included ceramic sherds, flint-drills, stone-beads and a shell fragment whereas the finds from deposits <201 & 1029> included an iron dagger (or sword) and many iron fragments. Therefore, the finds from deposits <201 & 1029> were totally different from the finds that were recovered from deposit <1072>; thus, it seems reasonable to suggest that they were from two different phases of use.

Therefore, it can be suggested that Tomb CT1 was reused in two different periods; the early use was in Phase 1 and this use is represented by deposit <1027>; and the later use was in Phase 5, and this use is represented by building the support wall deposits <201 & 1029>.

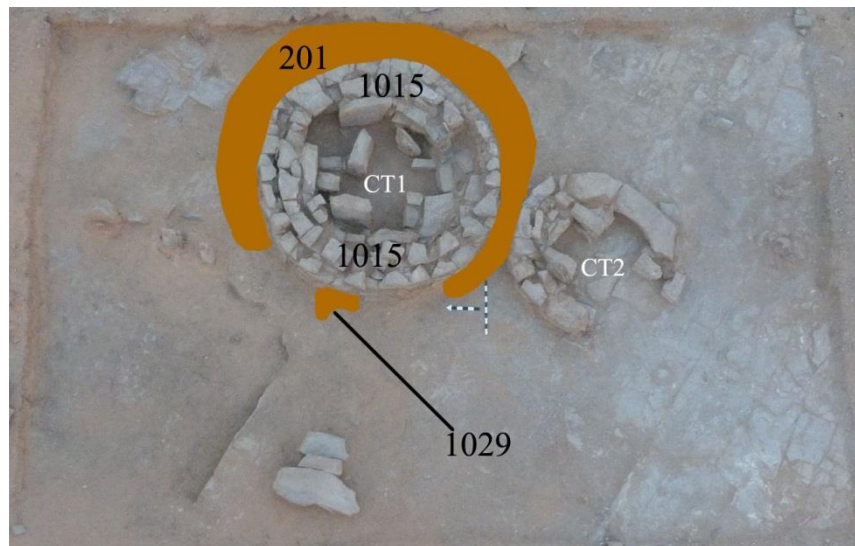


Fig. 3.22 Location of the deposits <201 & 1029>.

## Phase 6:

This phase was represented by the deposit <202>. This consists of loose sand with very few inclusions of medium and small-sized stones. It extended over a large area of square D12 and the northern half of square E12 including the area inside Tomb CT2 (Fig. 3.23), with depth ranges from 0.05m to 0.75m.

Deposit <202> was deposited against and above deposit <1072> (Fig. 3.13); and also against and above the support wall <1022> (Fig. 3.21). Finds from deposit <202> included few bone fragments, a large amount of ceramic sherds and a few stone-beads (see Table.1 in Appendix B).

Deposit <202> was deposited against and above the support wall <1022>, which is represented in Phase 5. Thus, it is clear that deposit <202> was later than Phase 5; for this reason, deposit <202> is suggested to be deposited in Phase 6.

Moreover, deposit <202> consists of loose sand that seems to be wind-blown that has naturally accumulated; thus, it seems reasonable to suggest that deposit <202> represents an abandonment deposit. Moreover, since the first abandonment phase is suggested to be in Phase 3; the abandonment deposit <202> is suggested to represent the second abandonment phase (Phase 6).

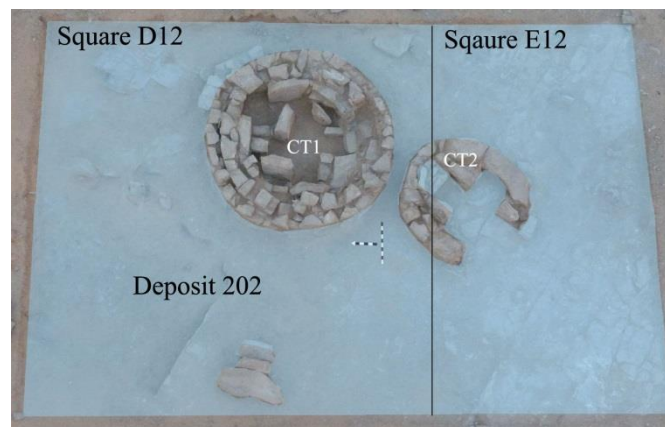


Fig. 3.23 The extent of deposit <202>.

### **Phase 7:**

This phase denominates the second robbing of Tomb CT1. Deposit <1014>, of Phase 8 (as will be further discussed below), was found directly on the bedrock inside Tomb CT1 (Figs. 3.14 & 3.21). Moreover, in the lower part of the deposit there are remains of plastic bags; thus it therefore seems obvious that deposit <1014> was deposited recently inside Tomb CT1; probably during the last three decades. As a result, it seems reasonable to suggest that Tomb CT1 was robbed and cleaned down to the bedrock recently. Therefore, the material that was originally inside Tomb CT1 before this robbing is probably now to be found outside the tomb above the Phase 6 deposit <202> possibly overlain by deposit <1014>.

Deposit <201> was found outside Tomb CT1 above the Phase 6 deposit <202>, and below deposit <1014> (Fig. 3.21). Therefore, it seems likely that deposit <201> was moved from Tomb CT1 during the robbing after Phase 6 and earlier than deposit <1014>.

Furthermore, deposit <1029> is similar to deposit <201>, whereby both were deposits of compact sand with many inclusions of large, medium and small-sized stones; also, both deposits included similar finds; at the same time they were both found around Tomb CT1 (Fig. 3.22), and above Phase 6 deposit <202> (Fig. 3.21). Therefore, it seems likely that deposits <201 & 1029> both originally formed the deposit that have been moved out from Tomb CT1 during the robbing of Tomb CT1, in Phase 7 later than Phase 6 deposit <202> and earlier than deposit <1014> which is allocated to Phase 8.

### **Phase 8:**

This phase is illustrated by deposit <1014> which consists of loose sand with very few inclusions of medium to small-sized stones. This deposit was found inside Tomb CT1 under the surface deposit <200> and directly above bedrock <204> (Figs. 3.14 & 3.21). The north-eastern part of this deposit extended above the north-eastern part of wall <1015> and extended 0.23m to the east outside the Tomb CT1 above deposit <201> and under deposit <200> (Fig. 3.21). Thicknesses of this layer inside the tomb range from 0.70m to 0.95m, but there are no stratigraphic sub-divisions anywhere in the deposit. Moreover, in the lower part of the deposit there are remains of plastic bags. Other finds



from deposit <1014> include very few bone fragments, two ceramic sherds and a shell fragment (see Table.1 in Appendix B).

The plastic bags indicate that deposit <1014> was recently deposited. As deposit <1014> was found above deposit <201> of Phase 7 outside the tomb (Fig. 3.21) and under surface deposit <200> (Figs. 14 & 21) which, represents the last phase (Phase 9), it seems obvious to suggest that deposit <1014> should be allocated to Phase 8.

Moreover, deposit <1014> consists of loose sand that seems to be wind-blown that has naturally accumulated inside Tomb CT1; therefore, it seems likely that it represents a phase of abandonment. Furthermore, since there are two abandonment phases (see Phases; 3 & 6) which were earlier than Phase 8, deposit <1014> is the third abandonment phase (Phase 8).

#### **Phase 9:**

This phase is represented by deposit <200>, which is the modern surface. This deposit consists of loose sand with many inclusions of large, medium and small-sized stones. It extended over square D12 and the northern half of square E12 above deposits <201, 202, 1014, 1029> (Fig. 3.21), with depth ranges from 0.5m to 0.15m. Finds included very few bone fragments, a large amount of ceramic sherds, and many stone-beads plus two worked-stones <1002 & 1003> (see Table.1 in Appendix B).

Stone <1002> was found in the middle of the square D12, the other stone <1003> was found in the north-western part of square D12 (Fig. 23). These stones originally formed a rectangular stone basin (or alter) with lengths ranging from 2.4m to 2.3m and widths ranging from 1.2m to 1.3m; with flat-surfaces. At the centre of one side there was a circular hole with a diameter of 0.10 m. (Fig 24); probably to allow liquid to seep out.



Fig. 3.24 The location of stones <1002 & 2003> on the surface deposit <200>; originally formed stone basin (or alter).

It is not clear if there was a relationship between this stone basin and Tombs CT1 and CT2 or not. In this context, it should be noted that the eastern part of the fence that surrounds Area 1 in Şinā‘iyyah Site, is located only a few centimetres to the east of Mound 1 (Fig. 3.23), and there have been some levelling operations around the fence. Therefore, there is a high possibility that some of the finds that were found on the surface deposit <200> of Mound 1, were moved to the surface of Mound 1 recently during these operations.

### **3.3.2. Excavation result from Mound 2:**

On Mound 2, 21 tombs were uncovered, including five tombs that had been excavated in square C36 during the 1994 season; whereas, the other 16 tombs were excavated by the present writer in squares D35 & D36 during season 2012-2013. Tombs from seasons 2012-2013 were named according to their shapes and the find sequences and from the south to north starting with letter B; accordingly; tombs from Mound 2 were named as follow;

- A. Four circular tombs: (Tombs CT1 to CT4), (Figs. 3.25 & 3.26)
- B. Nine rectangular tombs: (Tombs RT1 to RT9), (Figs.3. 25 & 3.26).
- C. Three children's tombs: (Tomb ChT1 to ChT3), (Figs. 25 & 3.26).
- D. Tombs that were uncovered in season 1994 in square C36 were named from the south to the north starting with the letter B (Tomb B1to B5) to distinguish them (Fig. 3.25 & 3.26).

The structural descriptions of these tombs, including the tombs that were uncovered in the 1994 season, will be presented in Appendix A; whereas, in the following discussion the phased results of the excavation in Mound 2 will be presented. It should be noted that Tomb B1 was partly excavated in the 1994 season and only the south-western part of this tomb was uncovered by the present writer; in this part there is some stratigraphic evidence that can be used to include Tomb B1 into the phases; whereas, the other Tombs B2-B4 were fully excavated during the 1994 season and there is no information available about their stratigraphy so they will not be included in the following discussion.

The stratigraphy of Squares D35 & D36 of Mound 2 was divided into twenty phases; from Phase 0 to 19, beginning with Phase 0, which represents the pre-tomb phase (the natural bedrock), and ending with Phase 19 which is the modern surface (see Table. 3 below).

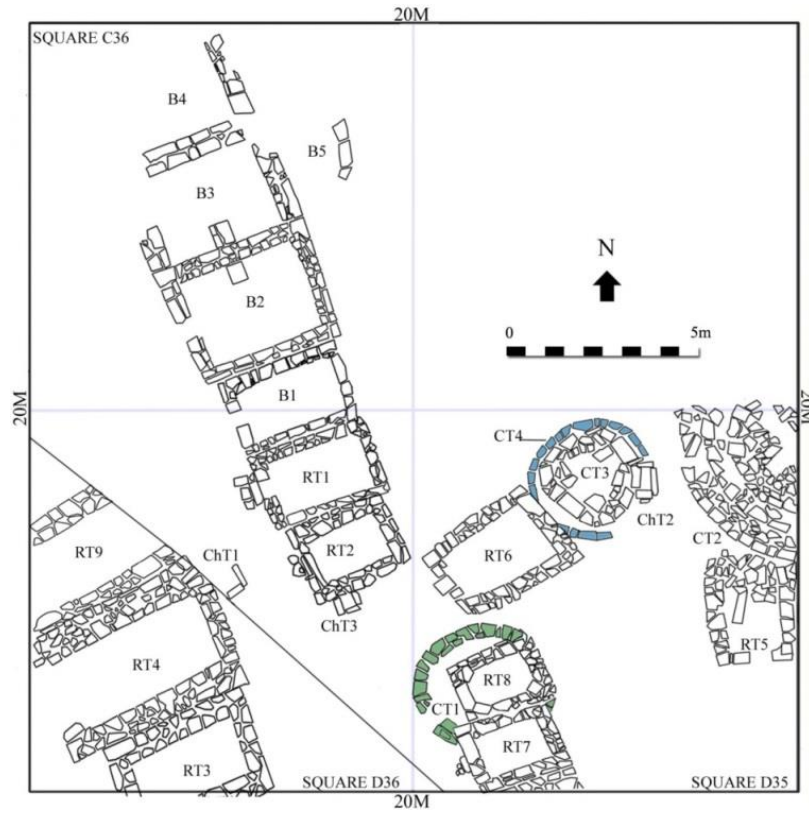


Fig. 3.25 The layout of the tombs of squares C36, D35 and D36.

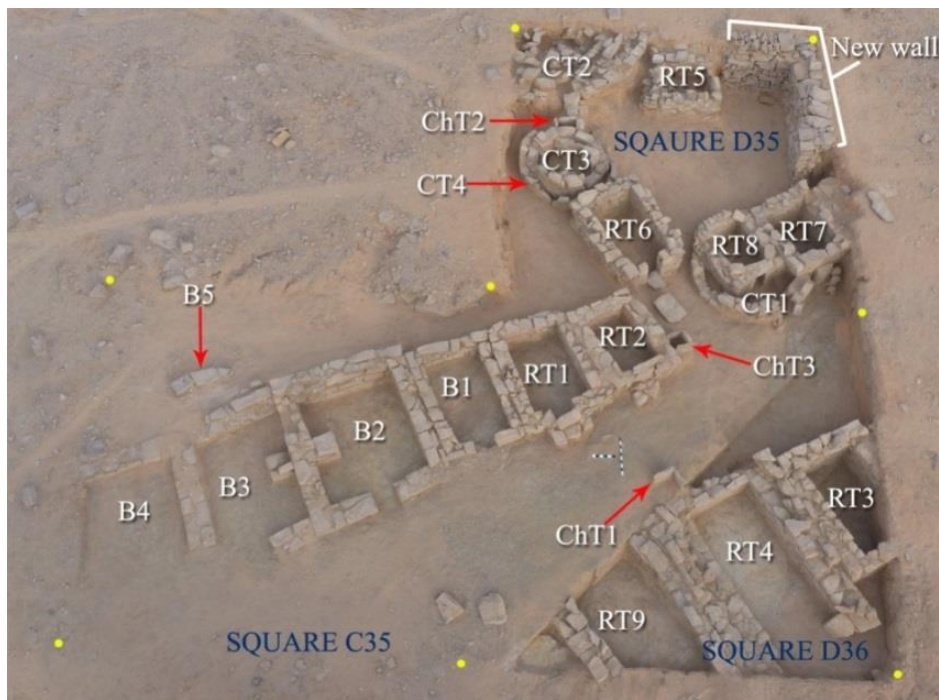


Fig. 3.26 Tombs at squares C36, D35 and D36.

Phases	Main activities (Mound 2 tombs)																
	CT 1	CT 2	CT 3	CT 4	Ch T1	Ch T2	Ch T3	B1	RT 1	RT 2	RT 3	RT 4	RT 5	RT 6	RT 7	RT 8	RT 9
0	Pre-tomb phase																
1	Building			Building													
2	Robbing			Robbing													
3			Building											Building	Building	Building	
4	First abandonment phase (deposit <309>)																
5										Building				Building	2 <sup>nd</sup> use	2 <sup>nd</sup> use	
6														Robbing			
7	Second abandonment phase (deposit <307>)																
8									Building		Building						1 <sup>st</sup> robbing
9								Building			1 <sup>st</sup> robbing						
10	Third abandonment phase (deposit <306>)																
11			Robbing		Building		Building				1 <sup>st</sup> robbing	2 <sup>nd</sup> use	Building		Robbing		
12					Robbing	Building											
13	Fourth abandonment phase (deposit <305>)																
14																	Building
15	Fifth abandonment phase (deposit <304>)																
16	2 <sup>nd</sup> robbing	Building							Robbing		2 <sup>nd</sup> robbing		Robbing			Robbing	2 <sup>nd</sup> robbing
17		Robbing									2 <sup>nd</sup> robbing						Robbing
18	Sixth abandonment phase (deposit <303>)																
19	Modern surface																

Table. 3.3 Main activities of Mound 2

## Mound 2 Phases:

### Phase 0: Pre-Tombs

This is the bedrock; this was divided into four parts : <310 & 312> and cuts <311 & 2206> (Fig. 3.27).

Bedrock <310> is a natural sandstone outcrop; this extends over the excavated area with slope of about 2.7 % degrees towards the south-west; with the exception of the south-west half of the square D36, this bedrock extends over the whole excavated area of Mound 2.

There are two natural cuts or depressions <311 & 2206> in the south western half of square D36: cut <311> extends north-west to south-east, with 0.60m height in the northern part and 0.1m height in the southern part; whilst, only the eastern part of the cut <2206> was uncovered, the excavated part of this cut extends north-east to south-west, and also continues into unexcavated square D37.

These cuts created a low-lying area (bedrock <312>) in the south-western half of square D36. This is a natural sandstone outcrop; this outcrop extends over the excavated area with a slope of about 3.1% towards the south-west. Both bedrocks <310 & 312> provide solid foundations for the tombs that were built during later phases.

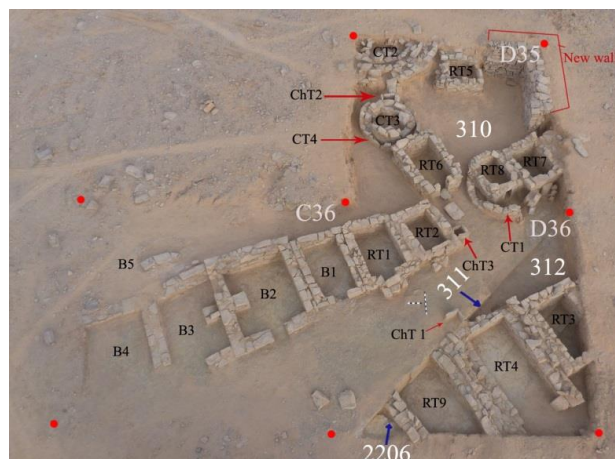


Fig. 3.27 Bedrocks <310 & 312> and cuts <311 & 2206>.

## **Phase 1:**

This phase represented by:

- 1) Building Tomb CT1 wall (the remains of Tomb CT1 wall are; walls <2047, 2048, 2069 & 2137>) and deposit <2336>.
- 2) Building Tomb CT4 wall <2091> and deposit <308>.

In the following discussion I will concentrate on presenting the reasons for suggesting these tombs were built in Phase 1; the detailed description of these walls will be presented in an appendix as follows:

- For the description of Tomb CT1 wall (walls <2047, 2048, 2069 & 2137> see Appendix A: A. 3).
- For the description of Tomb CT4 wall <2091> see Appendix A: A.6

Moreover, each of the Phase 1 features listed above will be discussed separately; accordingly the following discussion will be divided into two parts as follows; a) building Tomb CT1, and b) building Tomb CT4.

### **A. The building of Tomb CT1**

Tomb CT1 wall (the remains of this wall are; <2047, 2048, 2069 & 2137> (Fig.3. 28) was built directly on the bedrock <310> (for example see wall <2137> in Fig. 3.29). The construction of the tomb is denominated Phase 1.

Deposit <2336> is suggested to be related to the use of Tomb CT1 in Phase 1. This is a deposit of compact sand with very few inclusions of small-sized stones; it is located about 0.35m to the north east of the south eastern part of Tomb CT1 wall <2069> (Fig. 3.30). It has a semi-circular shape measuring 0.70m N/S and 0.65m E/W; with height ranging between 0.12 m to 0.22 m. Deposit <2336> was found directly on bedrock <310>; also, deposit <309> was built up against the lower part of the deposit <2336>, whereas the upper part of the deposit was covered by the deposit <307> (Figs. 3.29).

Finds from <2336> included many human bone fragments and ceramic sherds (see Table. 2 in Appendix B).

Since deposit <2336> included many bone fragments and sherds, and was found near to Tombs CT1 and RT8, and at the same time, it was far from the other tombs, it seems reasonable to suggest it related to burial use, and that it was moved from one or both of these tombs in the course of robbing. However, the northern, the western and the southern walls <2052, 2051 & 2041> of Tomb RT8 (Fig. 3.28) were built directly on the bedrock inside Tomb CT1 (for example see wall <2051> in Fig. 3.29). Thus it seems reasonable to suggest that Tomb CT1 was built and then robbed and cleaned down to the bedrock before Tomb RT8 was built inside it. Moreover, deposit <309> was built up against the lower parts of Tomb CT1 wall <2137> and the western wall <2050> of Tomb RT8 (Fig. 3.29) ; therefore; both Tombs CT1 and RT8 were built earlier than deposit <309>; as a result, the robbing of Tomb CT1 and the building of Tomb RT8 inside it must be was earlier than deposit <309>.

The only deposit that was found near Tomb CT1, at the same time, and was earlier than deposit <309>, is deposit <2336> (Fig. 3.29); for this reason, it seems reasonable to suggest deposit <2336>, which, as has been said, must be the deposit that was removed from Tomb CT1 t before the building of Tomb RT8 inside it.

Moreover, since there is no stratigraphic evidence for the re-use of Tomb CT1 after the building phase and before the robbing phase, it can be suggested that deposit <2336> is to be related to the use of Tomb CT1 in Phase 1.



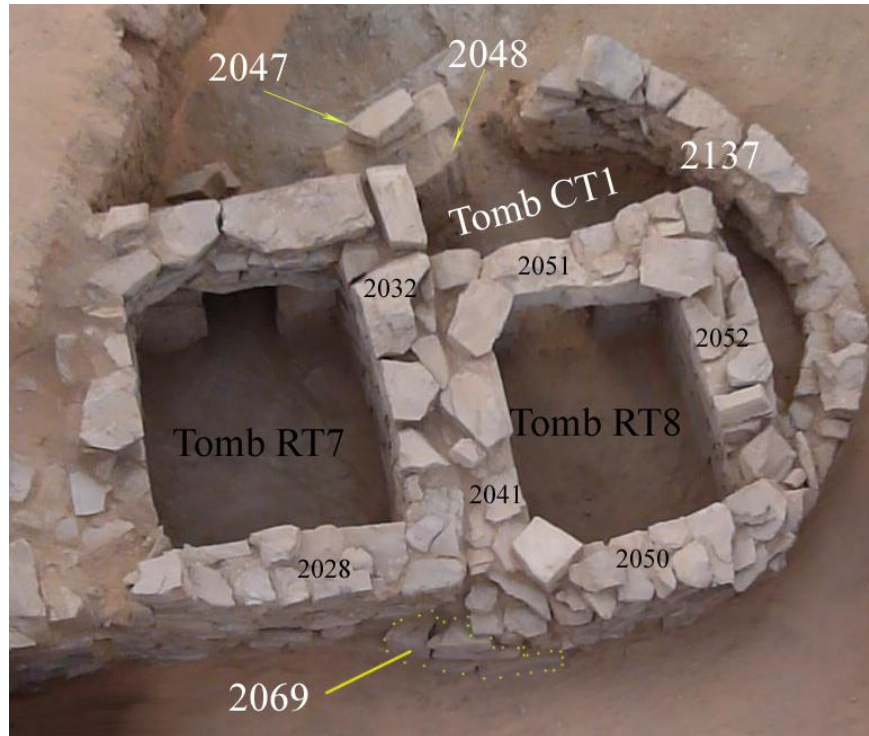


Fig. 3.28 Location of the remains of Tomb CT1 wall <2047, 2048, 2069 & 2137>.

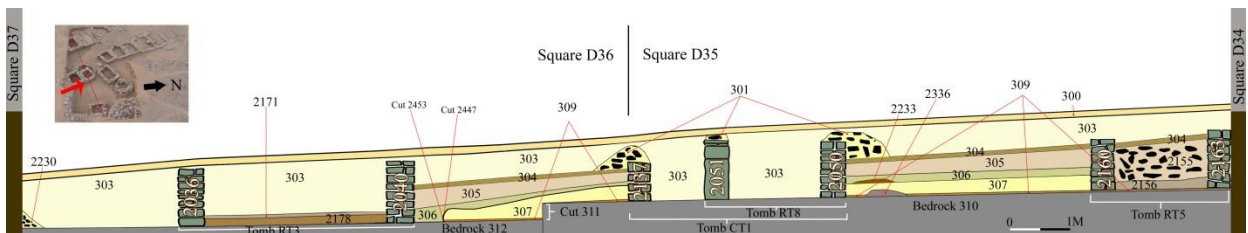


Fig. 3.29 section shows the layers inside and outside the Tombs; RT5, CT1, RT8 and RT3; facing north-west.

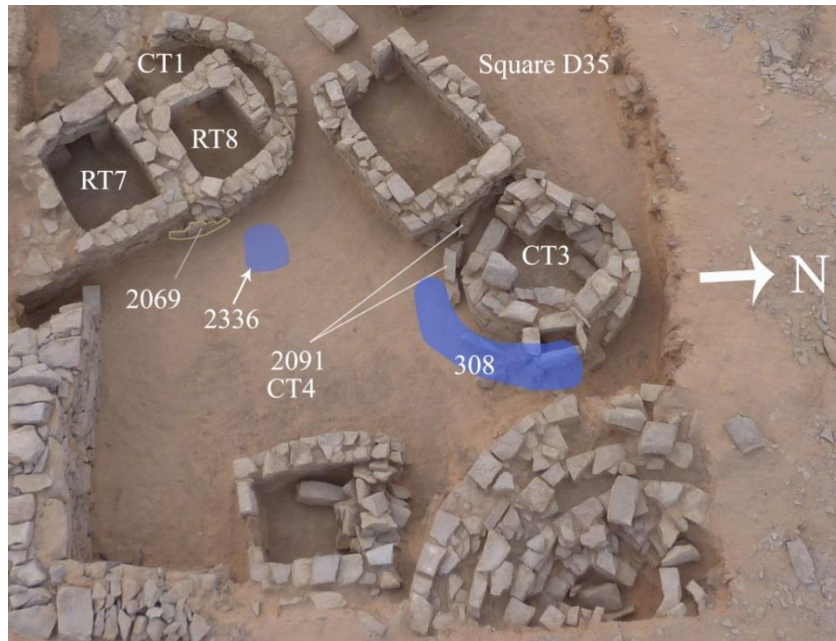


Fig. 3.30 location of the horizontal extent of the deposits <308 & 2336>.

### B. The building of Tomb CT4

Tomb CT4 wall <2091> (Fig. 3.31) was built directly on the bedrock <310> (Fig. 3.32). Therefore, Tombs CT1 and CT4 were found in similar stratigraphic positions. They are both similar in style, shape and size and it therefore seems reasonable to assume that both tombs were built during the same phase- Phase 1.

Deposit <308> is suggested to be related to the use of Tomb CT4 in Phase 1; in the following discussion this deposit will be described before the discussion about this deposit is given.

Deposit <308> consists of compact sand with many inclusions of large and medium-sized stones. This deposit was found to the south and south west of Tombs CT3 and CT4 (Fig. 3.30), it extended in an arc shape measuring 0.60m N/S and 3.10m E/W; with depth ranging between 0.18 m. to 0.24 m. This deposit was found directly on bedrock <310>, and deposit <309> was built up against it (Fig. 3.32). Finds from deposit <308> included a large number of bone fragments and many ceramic sherds (see Table. 2 in Appendix B).

Since, deposit <308> included many bone fragment and many ceramic sherds, and was found close to Tombs CT3 and CT4, while at the same time, it was far from the other

tombs, it seems reasonable to suggest this deposit is to be related to burial use, and that it was moved from one or both of these tombs at a later date. However, Tomb CT3 was built directly on bedrock inside the Tomb CT4 in (Figs. 3.31 & 3.32). Thus it seems likely that Tomb CT4 was built and then robbed and cleaned down to the bedrock before Tomb CT3 was to be built inside.

Moreover, deposit <309> was built up against the lower parts of Tombs CT4 and CT3 walls <2091 & 2075> (Fig. 3.32); thus, both Tombs CT4 and CT3 were built earlier than deposit <309>; as a result, the robbing of Tomb CT4 and the building of Tomb CT3 inside it must be earlier than deposit <309>.

The only deposit that was found near Tomb CT4, at the same time, and was earlier than deposit <309>, is deposit <308> (Figs. 3.30 & 3.32); for this reason, it seems reasonable to assume that this deposit is related to the use of Tomb CT4, and this deposit was removed from Tomb CT4 before the building Tomb CT3 inside it.

Moreover, since there is no stratigraphic evidence for the reuse of Tomb CT1 after the building phase and before the robbing phase, it can be suggested that deposit <308> is to be related to the use of Tomb CT1 in Phase 1 and that this deposit was removed from Tomb CT1 in Phase 2.

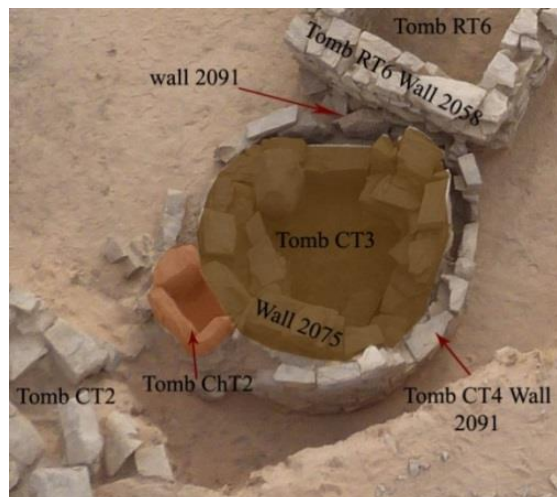


Fig. 3.31 Tomb CT4 wall 2091. Facing south-west No scale.

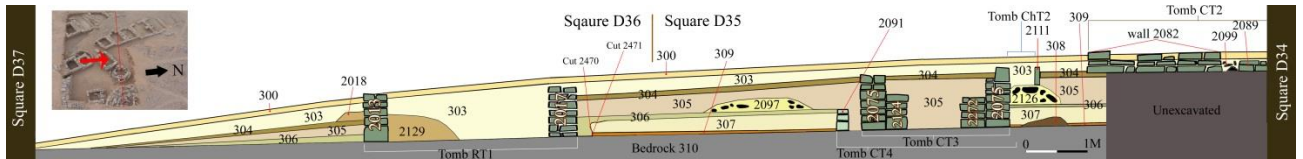


Fig. 3.32 Layers inside and outside the Tombs (CT2, ChT2, CT4, CT3 and RT1); Facing north-west.

### Phase 2:

This phase represents:

- 1) The first robbing of Tomb CT1; (moving deposit <2336> from Tomb CT1).
- 2) The robbing of Tomb CT4; (moving deposit <308> from Tomb CT4).

As has been mentioned above deposit <2336> is thought to be related to the use of Tomb CT1 in Phase 1; and deposit <308> is thought to be related to the use of Tomb CT4 in Phase 1. As has been said, both deposits <2336 & 308> (Fig. 3.30) are thought to have been moved from Tombs CT1 and CT4. As there is no further evidence, both are assumed to have been removed moved from the tombs during the same phase – Phase 2.

Moreover, Tomb CT1, as will be further discussed below, was robbed again in Phase 16, for this reason the robbing of Tomb CT1 in Phase 2 is suggested to represent the first robbing of Tomb CT1.

### Phase 3:

This phase represents:

- 1) Building Tomb CT3 (including the tomb wall <2075>, the triangle-constructions that have been built to divide the chamber <2124, 2125, 2271 & 2272>, the part of the roof <2108> and deposit <2126>).
- 2) Building Tomb RT6 (walls <2057, 2058, 2059 & 2060> and deposit <2086>)
- 3) Building Tomb RT7 (walls <2028, 2029, 2030 & 2032> and deposit <2135>)
- 4) Building tomb RT8 (walls <2041, 2050, 2051 & 2052> and deposit <2233>).

The following discussion will concentrate on the reasons for allocating the construction of these tombs to Phase 3; the detailed description of these walls will be presented in the appendices as follows:

- For the description of Tomb CT3 wall <2075> and the constructions that have been built to divide the chamber <2124, 2125, 2271 & 2272>, and the part of the roof <2108> see Appendix A: A. 5).
- For the description of Tomb RT6 walls <2057, 2058, 2059 & 2060> see Appendix A: A. A12).
- For the description of Tomb RT7 walls <2028, 2029, 2030 & 2032> see Appendix A: A. A13.
- For the description of Tomb RT8 walls <2041, 2050, 2051 & 2052> see Appendix A: A. A14.

Each of the Phase 3 features listed above will be discussed separately in four parts: a) building Tomb CT3, b) building Tomb RT6, c) building Tomb RT7, and d) building Tomb RT8.

### **A. The building of Tomb CT3**

Tomb CT3 wall <2075> and the triangle-constructions <2124, 2125, 2271 & 2272> that have been built in to the divided Tomb CT3 chamber were built directly on bedrock <310> inside Tomb CT4 (Figs. 3.32 & 3.33). Since, these triangle-constructions were found at the same stratigraphic level as Tomb CT3 wall <2075> it seems reasonable to suggest that they were built at the same time. Furthermore, there are remains of constructed stones <2108> (Fig. 3.33: b) that were built directly above the triangle-constructions <2271 & 2272>; these construction stones seem to be the remains of the Tomb CT3 roof; thus, <2108> is suggested to be related to the original structure of Tomb CT3. Therefore, it was assumed to be built during the same phase.

Since, Tomb CT3 was built directly on the bedrock inside Tomb CT4, it seems reasonable to suggest that Tomb CT4 was robbed and cleaned down to the bedrock before the building of Tomb CT3 inside it; therefore, the robbing of Tomb CT4 was

earlier than building Tomb CT3. The robbing of Tomb CT4 is allocated Phase 2, for this reason, the building of Tomb CT3 is allocated to Phase 3.

Deposit <2126> is suggested to be related to the use of Tomb CT3 in Phase 3. This deposit consists of compact sand with many inclusions of medium to small-sized stones. This deposit was found to the east and north-east of Tomb CT3 (Figs. 3.34 & 35); it was adjacent to the outer side of Tomb CT3 wall <2075>. Deposit <2126> has an irregular shape measuring 2.40m by 0.75m. Moreover, deposit <2126> was found directly above deposit <306>; and the south-western part of deposit <2126> was found under the Tomb ChT2; and other parts of this deposit were found under deposit <305> (Fig. 3.32 & 3.34). The depth of deposit <2126> ranges from 0.25m to 0.45m. Finds from deposit <2126> included many bone fragments and many ceramic sherds (see Table.2 in Appendix B).

Deposit <2126> included bones and ceramics, also it was found nearby to Tomb CT3. Therefore, it seems reasonable to suggest this deposit is related to burial activity.

Deposit <305> which is suggested to be part of Phase 12 was found directly on the bedrock <310> inside Tomb CT3 and also extended over a large area outside the tomb (Figs. 3.32 & 3.34). Therefore, it seems reasonable to suggest that Tomb CT3 was robbed and cleaned down to the bedrock before deposit <305> was deposited directly on the bedrock inside Tomb CT3 in Phase 12. Thus, the deposit that was originally inside Tomb CT3 might be found, redeposited, outside Tomb CT3 under deposit <305>.

Deposit <2126> is the only deposit that was found near to Tomb CT3 and under Phase 12 deposit <305>. It can therefore be suggested that it represents the burial material that was originally inside Tomb CT3, and that it was removed from the tomb before deposit <305> was deposited inside in Phase 12. Moreover, since deposit <2126> was found directly under Phase 12 deposit <305> and above deposit <306>, which, as will be further discussed below, is allocated to Phase 10; the robbing of Tomb CT3 can be suggested to be in Phase 11.

Since there is no stratigraphic evidence which indicates that Tomb CT3 was used or robbed between the building of this tomb in Phase 3 and before Phase 11, it can be

suggested that deposit <2126> is the burial deposit that relates to the use of Tomb CT3 in Phase 3, and this deposit was moved from the tomb in Phase 11.

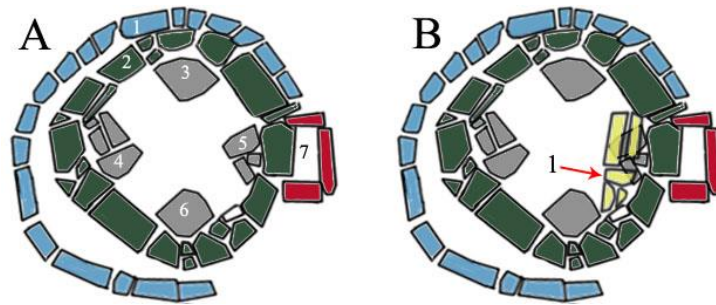


Fig. 3.33 The structures inside and outside Tomb CT3.

(A; 1: Tomb CT4 wall <2091>, 2: Tomb CT3 wall <2075>, 3: triangle-construction <2125>, 4: triangle-construction <2124>, 5: triangle-construction <2272>, 6: triangle-construction <2271>, 7: Tomb ChT2. B, 1: wall <2108> , probably remains of the roof).

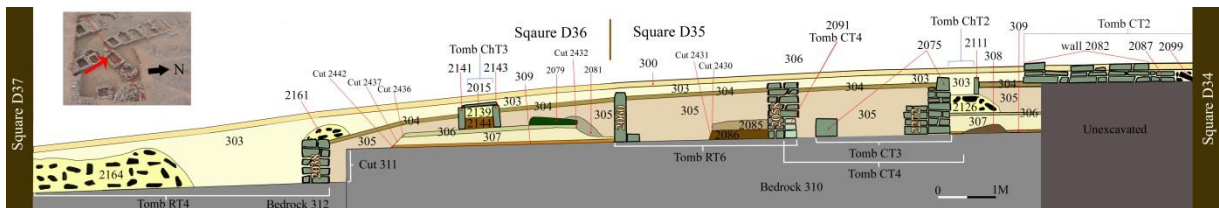


Fig. 3.34 Layers inside and outside the Tombs (CT2, ChT2, CT4, CT3, RT6, ChT3 and RT4); Facing north-west.

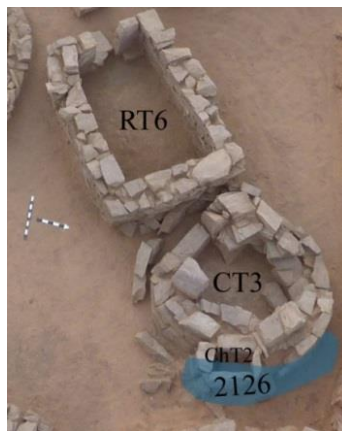


Fig. 3.35 The extents deposit <2126>; facing west, scale 1x0.5m & 1x1m.

## **B. The building of Tomb RT6**

The building sequences show that the eastern wall <2058> of Tomb RT6 was built on the remains of the western part of Tomb CT4 wall <2091> (Figs. 3.34 & 3.36); thus Tomb CT4 had been built and then robbed before building this wall. The robbing of Tomb CT4 is suggested to have taken place in Phase 2 in which case, the building of Tomb RT6 probably took place in Phase 3 (including all of its walls <2057, 2058, 2059 & 2060>), (Fig. 3.37) .

Deposit <2086> is related to the use of Tomb RT6 in Phase 3. This deposit, which consists of very compact sand with many inclusions of small-sized stones, was found directly on the bedrock <310> and under deposit <2085> (Fig. 3.34). It extends only across the eastern half of Tomb RT6; and the western limit of this deposit ended with cut <2431>, which is found directly under cut <2430> in the deposit <2085>; also, the extent of this deposit after this cut is missing (Fig. 3.34). Finds from this deposit included a human skeleton that seems to in its original position (Fig. 3.38), many bone fragments and many ceramic sherds (see Table. 2 in Appendix B).

Since, deposit <2086> was found inside Tomb RT6 and included a human skeleton in its original position; it seems that this deposit is to be related to the main use of Tomb RT6. Moreover, above deposit <2086> there is deposit <2085> which, as will be further discussed below (see Phase 5), is represented as the second use of Tomb RT6; thus, there are two different deposits of use which were found inside Tomb RT6.

Since deposit <2086> was found directly on the bedrock inside Tomb RT6 (Fig. 3.34), it seems likely that it is to be related to the early use of Tomb RT6, i.e. Phase 3.

As will be further discussed below, there are some indications that suggest the later use of Tomb RT6, which are represented by deposit <2085> in Phase 5.





Fig. 3.36 The relation between Tomb CT4 wall <2091> and Tomb RT6 wall <2058>.

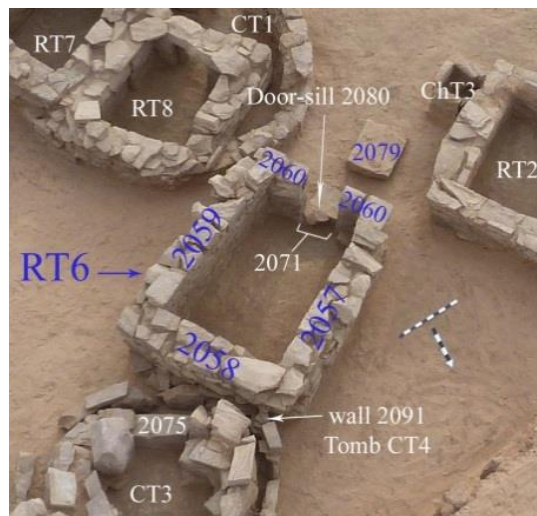


Fig. 3.37 Tomb RT6.



Fig. 3.38 Inhumation with tomb goods; scale 1X0.10m.

### C. The building of Tomb RT7

The building sequence shows that the eastern wall <2028> of Tomb RT7 was built on wall <2069> which is the south-eastern part of Tomb CT1 (Figs. 3.39 & 3.40). Also, the western part of the northern wall <2032> of Tomb RT7 was built directly on wall <2048>, the eastern part of the Tomb CT1 (Figs. 41 & 42). Therefore, it seems clear that Tomb CT1 was built and then robbed before the building of Tomb RT7 walls <2028 & 2032> on its remains. Moreover, since the robbing of Tomb CT1 is suggested to be in Phase 2; it seems t that the building of Tomb RT7 walls <2028 & 2032> took place in Phase 3.

Since, the eastern and northern walls <2028 & 2032> of Tomb RT7 are thought to have been built in Phase 3; it seems reasonable that the other walls <2029 & 2030> of the tomb (Fig. 3.39), were built in the same phase.

Deposit <2135> is suggested to be related to the use of Tomb RT7 in Phase 3. This deposit consists of compact sand with very few small-sized stones. It was found directly on bedrock <310> and under deposit <2122> (Fig. 3.43); it has a triangle shape measured 1.20m N/S and 1m E/W; with thickness ranging between 0.12m to 0.20m. This deposit extended only across the western half of Tomb RT7; and also extended into the lower part of the entrance <2066>. The western part of deposit <2135> ended with cut <2455>, this cut was found directly under the cut <2454> in deposit <2122> and the extent of the deposits <2122 & 2135> of the east of the cuts <2454 & 2455> are missing (Fig. 3.43). Finds from deposit <2135> included very few bone fragments and six complete ceramic vessels that were found *in situ* (Figs. 3.44 & 3.45).

Since, deposit <2135> was found inside Tomb RT7 and included bones and *in situ* ceramics it seems likely that this deposit is to be related to the use of Tomb RT7. Moreover, above this deposit there is deposit <2122>, which is also suggested to be related to the use of Tomb RT7 since it also included ceramics that were found *in situ*; thus, the stratigraphy of Tomb RT7 included two different phases of use; the early use is represented by deposit <2135> and the later use is represented by deposit <2122>.

The later deposit <2122>, as will be further discussed below (see the discussion about this deposit in Phase 5 below), is suggested to be related to the later use of Tomb RT7 in Phase 5. This together with a lack of stratigraphic evidence indicates the re-use of Tomb RT7 after building Phase 3 and before the later use of Tomb RT7 in Phase 5; it seems reasonable to suggest the early use deposit <2135> is to be related to the use of Tomb RT7 in Phase 3.

The missing part of deposit <2135> will be further discussed in Phase 16 below.

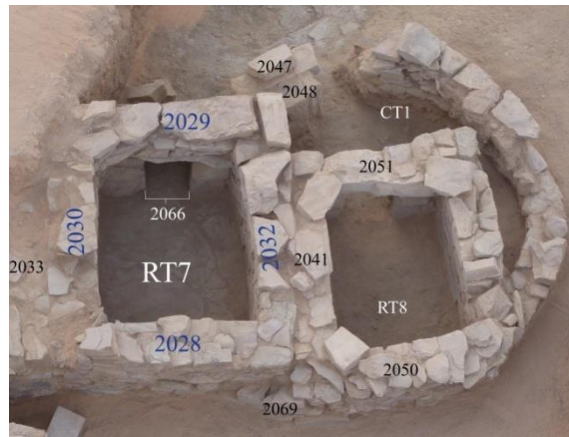


Fig. 3.39 Tomb RT7. Facing south west, no scale.



Fig. 3.40 Wall <2069> in relation to wall <2050> the eastern wall of Tomb RT8, and wall <2028> the eastern wall of Tomb RT7.



Fig. 3.41 The relation between <2047 & 2048> and the western part of the wall <2032> the northern wall of Tomb RT7.

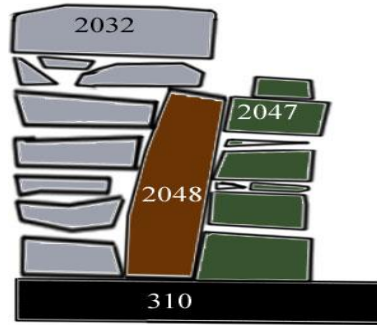


Fig. 3.42 The relation between <2047 & 2048> and the western part of the wall <2032> the northern wall of Tomb RT7.

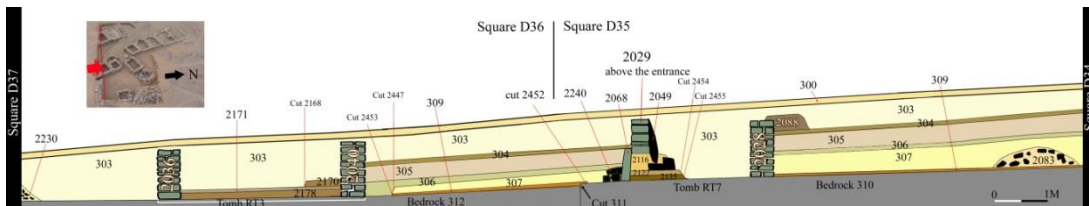


Fig. 3.43 section of the layers inside and outside Tomb RT7 and RT3.



Fig. 3.44 Deposits <2116, 2122 & 2135>; scale 1x1m and 1x0.50m.



Fig. 3.45 Incense burner from the early use deposit <2135>.

(this was found directly on the bedrock <310> in the south western corner of Tomb RT7, and another incense burner from deposit <2122> was found directly above deposit <2135> (0.09 m above the lower incense burner). Scale 1x1m and 1x0.50m).

#### **D. The building of Tomb RT8**

The building sequences show that the southern part of the western wall <2050> of Tomb RT8 was built on the northern part of the remains of Tomb CT1 wall <2069> (Fig. 3.40). Also the northern, western and southern walls <2052, 2051 & 2041> of Tomb RT8 (Fig. 3.28) were built directly on the bedrock <310> inside Tomb CT1 (for example see wall <2051> in Fig. 3.29). Therefore, it seems reasonable to suggest that Tomb CT1 was built and then robbed before Tomb RT8 walls were built on its remains. Since the robbing of Tomb CT1 is suggested to be in Phase 2; it seems reasonable to suggest Tomb RT8 was built in Phase 3.

Deposit <2233> is suggested to be related to the use of Tomb RT8 in Phase 3. This deposit consists of compact sand with very few inclusions of small-sized stones, has an irregular shape measuring 1.18m N/S and 0.70m E/W. It was found to the east of the eastern wall <2050> of Tomb RT8 and directly above deposit <307>, and under deposit <306> (Fig. 3.29). Finds from this deposit included many bone fragments and many ceramic sherds, including two semi-complete ceramic vessels (see Table.2 in Appendix B).

Deposit <2233> included many bones and many ceramic sherds and was found near to Tomb RT8; therefore, it seems reasonable to suggest this deposit should be related to burial activity. Moreover, since this deposit was found next to Tomb RT8, and it was far from the other tombs, it seems reasonable to suggest that this deposit should be related to the use of Tomb RT8. With no indications of reuse of Tomb RT8 in later phases, it seems reasonable to suggest that this deposit is from the same phase as the construction of Tomb RT8 - Phase 3.

Moreover, since deposit <2233> was found above deposit <307> (Fig. 3.29), which, as will be further discussed below, is part of Phase 7, it seems reasonable to suggest that deposit <2233> should be related to the use of Tomb RT8 in Phase 3, and this deposit was moved from Tomb RT8 in Phase 8 as part of robbing or cleaning out.

#### **Phase 4:**

The first abandonment phase is illustrated by deposit <309>, which consists of compact sand with very few small-sized inclusions. In general, this deposit extended over a large area of square D35 and the eastern half of square D36 (Fig. 3.46), above bedrock <310 & 312> and under deposit <307> (Fig. 3.29). The depth of <309> ranged between 0.08 m. to 0.14 m. Finds included very few bone fragments and many ceramic sherds (see Table.2 in Appendix A).

Since deposit <309> consists of sand and as it extended over a large area outside the tombs in squares D35 and D36, it seems reasonable to suggest this deposit to be naturally accumulated; this, together with a lack of stratigraphic evidence that indicates any human activity, it can be assumed that deposit <309> represents a period of abandonment.

Moreover, deposit <309> was deposited and built up against the lower part of Tombs CT3, RT6, RT7 and RT8 (for example see Tomb CT3 wall <2075> and deposit <309> in Fig. 3.32; the western wall <2060> of Tomb RT6 and deposit <309> in Fig. 3.34; the eastern wall <2028> of Tomb RT7 and deposit <309> in Fig. 3.43; and eastern wall of Tomb RT8 and deposit <309> in Fig. 3.29). Thus, this deposit must be later than these tombs. As been discussed above, the building of Tombs CT3, RT6, RT7 and RT8 is

suggested be in Phase 3; thus, it can be suggested that deposit <309> was deposited in Phase 4.

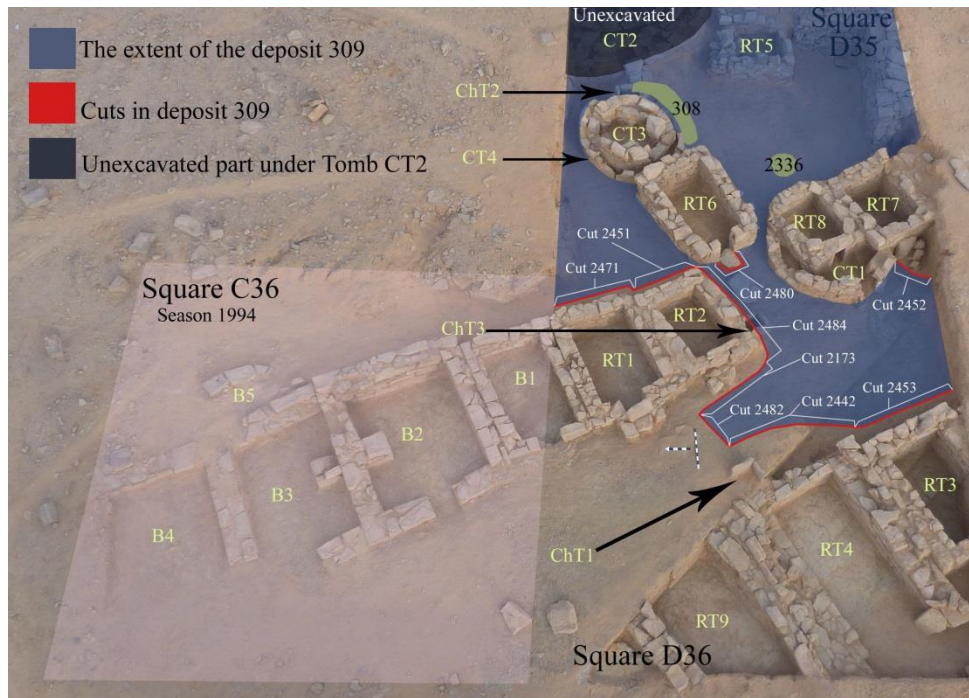


Fig. 3.46 the extent of deposit <309>

(The above Figure shows the extent of deposit <309> in blue; cuts in the deposit <309> in red; the walls (or tombs) under the extent are the walls (or tombs) under which the deposit is extended; whereas, walls or deposits next to the extent of deposit <309> (without red lines) are the deposits and walls that the deposit <309> was deposited and built up against).

### Phase 5:

This phase represents:

- 1) Building of Tombs RT2 walls <2005, 2024, 2025 & 2131>, cuts <2173, 2451, 2484> and deposit <2153>.
- 2) Building and robbing of Tomb RT5 walls <2159, 2160 & 2163> and deposit <2083>
- 3) Later use of Tomb RT6; door-sill <2080>, cut <2480> and deposit <2085>.
- 4) Later use of Tomb RT7 Cut <2452> and deposit <2122>.

The following discussion will concentrate on presenting the reasons for suggesting Tombs RT2 and RT5 are built in Phase 5; the detailed descriptions for the walls of these tombs will be presented in an appendix as follows:

- For the description of Tombs RT2 walls <2005, 2024, 2025 & 2131> see Appendix A: A. 8).
- For the description of Tomb RT5 walls <2159, 2160 & 2163> see Appendix A: A. A11).

The building of each of the Tombs RT2 and RT5 and the re-use of Tombs RT6 and RT7 will be discussed separately. The following discussion will be divided into four parts as follows: a) building Tomb RT2; b) building Tomb RT5; c) the later use of Tomb RT6; and d) the later use of Tomb RT7.

#### **A. The building of Tomb RT2**

Tomb RT2 is suggested to have been built and used during Phase 5, since, there are three cuts <2173, 2451 & 2484> in Phase 4 deposit <309> (Fig. 3.46). These cuts were found around the eastern, western and southern walls <2025, 2006 & 2024> of the tomb (for example see cuts <2451 & 2137> in Fig. 3.47). Therefore it can be assumed that the part of the deposit <309> that extended over the area where Tomb RT2 is located was cut and cleaned down to the bedrock <310> before the Tomb RT2 walls were built directly on the bedrock. Moreover, since these cuts were in Phase 4 deposit <309> they will be allocated to Phase 5.

Also, since these cuts are assumed to be related to the building of Tomb RT2 walls; it can be suggested that the building of Tomb RT2 walls <2005, 2006, 2024 & 2025> (Fig. 3.48) was in Phase 5.

Deposit <2153> is suggested to relate to the use of Tomb RT2 in Phase 5. It is a deposit of compact sand with very few inclusions of small-sized stones. This deposit has an irregular shape measuring 1.20m N/W and 0.45m E/W. This deposit was found to the east of the eastern wall <2025> of Tomb RT2 (Fig. 3.47), the western part of this deposit



abutted the outer side of wall <2025>. The deposit was found directly above deposit <306> and under deposit <305> (Fig. 3.47), with depth ranges from 0.20m to 0.25m.

Since deposit <2153> included many bones and ceramics and was found near to Tomb RT2 it seems reasonable to suggest that it should be related to burial activity. Moreover, since this deposit was found nearest to Tomb RT2 it seems reasonable to suggest it should be related to burial activity in Tomb RT2. Moreover, since there is no stratigraphic evidence for the reuse of Tomb RT2 in later phases it can be suggested that Tomb RT2 was built and used only during Phase 5. Thus, deposit <2153> can be related to the use of Tomb RT2 in Phase 5.

Moreover, since deposit <2153> was found outside Tomb RT2 it seems that it was removed from Tomb RT2 as part of cleaning or robbing activities. Also, since it was found above deposit <306> (which is allocated to Phase 10); this would have happened in Phase 11.

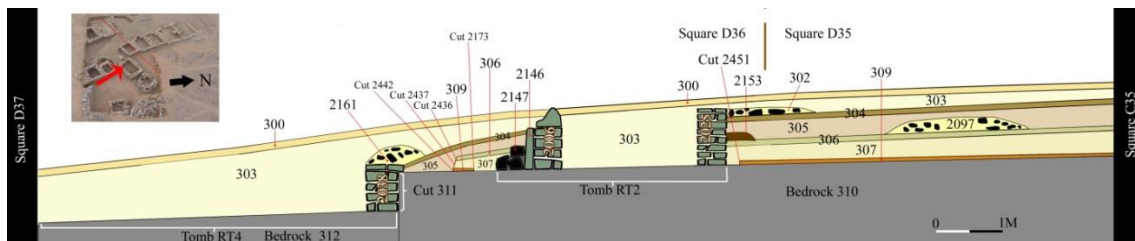


Fig. 3.47 section shows the layers inside and outside Tombs RT2 and RT4; facing north-west.

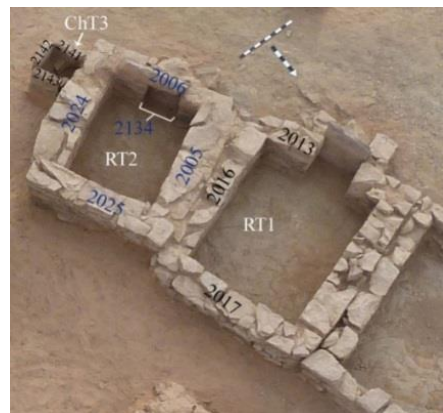


Fig. 3.48 Tomb RT2 walls.

## **B. The building of Tomb RT5:**

Tomb RT5 walls <2159, 2160 & 2163> were built directly on deposit <309> (for example see walls <2160> in Figs. 3.29 & 3.49 and see wall 2163 in Fig. 3.29); and deposit <307> was then built up against the lower part of the tomb walls (for example see the relation between wall <2160> and deposits <307> in Fig. 3.29). Moreover, the northern wall of the Tomb RT5 is missing and there is a collapse, <2162>, which was found where the northern wall is supposed to have stood (Fig. 3.50). This collapse was also found above deposit <309> and deposit <307> was built up against the collapse <2160>; thus, it seems that Tomb RT5 was built and also robbed later than Phase 4 deposit <309> and earlier than deposit <307>; thus, the building of Tomb RT5 can be placed in Phase 5; and the robbing of Tomb RT5, which seems to have taken place shortly after the building phase, is suggested to be in Phase 6; before deposit <307> was deposited in Phase 7.

Moreover, since there are no bones or ceramics in the deposits inside Tomb RT5 and there is no evidence for reuse or robbing Tomb RT5 after Phase 6, it seem reasonable to suggest that the burial deposits from inside the tomb were moved out of the tomb during the robbing or cleaning of the tomb in Phase 6. Thus, the burial deposit of Tomb RT5 should be located above Phase 4 deposit <309> and under Phase 7 deposit <307>.

The deposit that can be suggested to be related to these burial deposits is deposit <2083>, which consists of compact sand with many inclusions of stones of various size stones. It has an irregular shape that measures 2m N/S and 1.50m E/W. This deposit was found to the south of Tomb RT5, where it abutted the southern wall <2159> o. Deposit <2083> was found directly on top of deposit <309> and under deposit <307> (Fig. 3.43). Finds from deposit <2083> included many bone fragments and many ceramic sherds (see Table.2 in Appendix B).

Since deposit <2083> was the only deposit that was found near to Tomb RT5 and as it is some distance from the other tombs, and at the same time, it was found under deposit <307>; it seems reasonable to suggest that deposit <2083> should be related to the burial

in Tomb RT5 in Phase 5; and that this deposit was moved out from Tomb RT5 during the robbing/cleaning of the tomb in Phase 6.

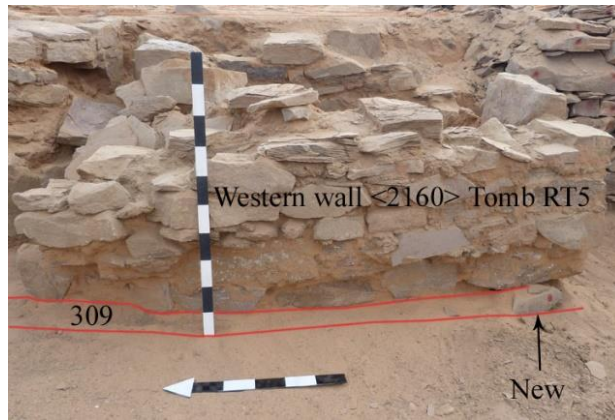


Fig. 3.49 deposit <309> extended under Tomb RT5.

(Figure above shows deposit <309> extended under Tomb RT5; the extent of deposit <309> under the south western corner was removed and recently ‘new’ stone was laid to support the corner).



Fig. 3.50 Tomb RT5.

### C. The later use of Tomb RT6:

The later use of Tomb RT6 in Phase 5 is illustrated by the addition of three features; the door-sill <2080>, cut <2480> and deposit <2085>.

As has been discussed above, Tomb RT6 is suggested to have been built in Phase 3; before deposit <309> (Phase 4). The entrance <2071> of Tomb RT6 seems to have undergone a slight change through the addition of the door-sill <2080>, which has a semi-triangle shape measuring 0.76x0.50 m., which was located inside the entrance <2071>. This door-sill extended 0.35 m in front of the entrance outside of the tomb. It

was found directly on bedrock <310> and under deposit <307>. Moreover, there is a cut <2480> in deposit <309> (Fig. 3.46) which is specifically around the door-sill <2080> of Tomb RT6. Therefore, it can be suggested that deposit <309> was cut and cleaned down to bedrock before the door-sill was put in place directly on the bedrock and that the door-sill <2080> was added to the entrance of Tomb RT6 later than deposit <309>. Moreover, since deposit <309> represents Phase 4; thus it can be suggested that the cut <2480> and the door-sill <2080> were added during Phase 5.

As has been discussed above, deposit <2086> is suggested to represent the early use of Tomb RT6 in Phase 3. Above this there is deposit <2085>, which consists of compact sand with a very few inclusions of small sized stones. This deposit extended only across the eastern half of Tomb RT6; whereby the western part ended with cut <2430> (Fig. 3.34), and extent of the deposit beyond this cut is missing. This deposit was located under deposit <305> and above deposit <2085> (Fig. 3.34). The depth of deposit <2058> ranges between 0.17 m and 0.22 m. Finds included many bone fragments, and many ceramic sherds (see Table. 2 in Appendix B).

Deposit <2085> was different from deposit <2086>: whereby only very few small-sized stones have been noted in deposit <2085>, deposit <2086> contained many inclusions of small-sized stones. Therefore, it seems clear that deposit <2085> is different from <2086>.

Moreover, deposit <2085> included a large number of human bones and ceramic sherds; thus, it seems reasonable to suggest that this deposit should be related to burial activity. Also, since deposit <2085> was different from the early-use deposit <2086>, it seems reasonable to suggest that it represents the later use of Tomb RT6.

Since, the only indications for reuse of Tomb RT6 were cut <2480> in the Phase 4 deposit <309> and the building of the door-sill <2080>; and both were suggested to be later changes to Tomb RT6 in Phase 5; it seems reasonable to assume that the later use deposit <2085> is related to cut <2480> and the building of the door-sill <2080> and represents the reuse of Tomb RT6 in Phase 5.

#### **D. The later use of Tomb RT7:**

Reuse of Tomb RT7 in Phase 5 is represented by cut <2452> and deposit <2122>. In the following discussion both cut <2452> and deposit <2122> will be described before the discussion of the later use of Tomb RT7 is given.

Cut <2452> in deposit <309> has a semi-arc shape measuring 1.30m in length and 0.10m in depth. It extended in an arc-shape to the west of Tomb RT7 (Fig. 3.46), which also surrounded slab stone <2068> (Fig. 3.43), which sealed the entrance <2066> of Tomb RT7.

Deposit <2122> consists of compact sand with many inclusions of small-sized stones. This deposit has a triangle shape measuring 1.20m N/S and 1m E/W; with thickness ranging between 0.15m to 0.18m. This deposit extended only across the western half of Tomb RT7; and also across the lower part of the entrance <2066> (Fig. 3.43). The western part of the deposit <2122> ended with cut <2454>, and the full extent of the deposit <2122> beyond this cut is missing. This deposit was found above deposit <2135>; whilst the western part was under deposit <2116>, and the eastern part was under collapse <2049> (Fig. 3.43). Finds from deposit <2122> included very few bone fragments, and many ceramic sherds including three complete ceramic vessels that were found *in situ* (Figs. 3.44 & 3.45).

As has been mentioned above, deposit <2135> is suggested to be related to the early use of Tomb RT7 in Phase 3. Since deposit <2122> was found above deposit <2135>; and deposit <2122> also includes finds that were found *in situ*; it seems reasonable to suggest that Tomb RT7 was used twice: the early use is represented by deposit <2135>; which, as has been discussed above, is suggested to be from Phase 3; and the later use is represented by deposit <2122>.

From the stratigraphy outside the tombs, the only indication for reuse of Tomb RT7 after Phase 3 is cut <2452> in deposit <309> around slab-stone <2068> (Fig. 3.43), which seals entrance <2066> of Tomb RT7. As has been mentioned above, this tomb was built in Phase 3 before deposit <309> was deposited in Phase 4; thus, deposit <309> is thought to have been deposited against the slab-stone that sealed the entrance of Tomb RT7.

Therefore, since cut <2452> in deposit <309> was specifically around the slab-stone that sealed the entrance of Tomb RT7, it seems reasonable to assume that deposit <309> was cut and the part of the deposit that was built against the slab-stone was removed to open Tomb RT7. Thus, it seems reasonable to suggest that the entrance of Tomb RT7 was opened later than deposit <309> (later than Phase 4); as a result, it can be assumed that Tomb RT7 was opened in Phase 5. Therefore, it seem reasonable to assume that the aim of opening the entrance of Tomb RT7 in Phase 5 was to reuse it; and thus, it seems reasonable to assume that the later use of the tomb (deposit <2122>) should be related to Phase 5.

### **Phase 6:**

This phase represents the robbing of Tomb RT5, which is represented by collapse <2162> and the moving of deposit <2083> from Tomb RT5. Collapse <2162> consists of a large number of large and medium-sized stones; this was found between the eastern wall <2163> and the western wall <2160>, it measures 1.5m in length and 1.20 in width and rises about 0.85m from the bedrock <310> (Fig. 50). It was found above deposit <309> whilst deposit <307> was deposited and built up against its lower part.

This collapse, which extended inside Tomb RT5 (Fig. 3.50), was found in the area where the northern wall of Tomb RT5 is thought to have stood. For these reasons, it is suggested to be a result of the destruction of the north wall of Tomb RT5; which may have happened as a result of robbing.

Moreover, as has been discussed above (see Phase 5), deposit <2083> is suggested to be the deposit that was related to the burial use of Tomb RT5 in Phase 5; this deposit was also suggested to have been moved out of Tomb RT5 due to robbing. Deposit <2083> was found outside Tomb RT5 at the same stratigraphic level [is that what you mean?] as collapse <2162>, above deposit <309> and under deposit <307>. Therefore, it seems reasonable to suggest that collapse <2162> and the moving of deposit <2083> resulted from the same robbing act; which was later than the building of Tomb RT5 in Phase 5.

Moreover, since Tomb RT5 was built directly on deposit <309>; and collapse <2162> and deposit <2083> were found directly above it; it seems reasonable to suggest that the

robbing of Tomb RT5 occurred shortly after the building phase and that it should be allocated to Phase 6.

**Phase 7:**

This phase is represented by deposit <307>, which consists of loose sand with very few inclusions of medium to small-sized stones. In general it extended over a large area of square D35 and the eastern half of square D36. However, since the western part of the deposit ended with several cuts (Fig. 3.51); it seems that the deposit originally extended across the majority (if not all) of square D36. Also, in general, deposit <307> was found under deposit <306> and above deposit <309>. The south-western part of this deposit was also found above deposit <2083> (Fig. 3.43). The depth of <307> ranges between 0.25m to 0.35m. Finds included a few bone fragments and many ceramic sherds (see Table.2 in Appendix B).

Since, deposit <307> was found above deposit <2083> (Fig. 3.43); and deposit <2083> is suggested to have been moved out of Tomb RT5 in Phase 6; it seems reasonable to suggest that deposit <307> was later than Phase 6; thus, it seems reasonable to allocated it to Phase 7.

Moreover, since the deposit consists of loose sand that seems to be wind-blown sand that had naturally accumulated outside the tombs it seems to represent a period of abandonment. Furthermore, since there is an abandonment phase (Phase 4), which was earlier than deposit <307> this deposit is suggested to represent the second abandonment phase (Phase 7).



Fig. 3.51 The extent of deposit <307>.

(Deposit <307> shown in green; cuts in the deposit <307> in red, the walls (or tombs) under the deposit are the walls (or tombs) that it covered (except Tombs ChT2 and ChT3, where, deposit <307> extended under them); whereas, walls or deposits next to the extent of deposit <307> (without red lines) are the deposits and walls that deposit <307> was deposited against).

### Phase 8:

This phase represents:

1. Building Tomb RT1; walls <2003, 2013, 2016 & 2017>, cuts <2471, 2470, 2476 & 2482> and deposits <2129 & 2018>.
2. Building Tomb RT3; walls <2031, 2036, 2040 & 2174>, cuts <2453 & 2447> deposit <2178>.
3. First robbing of Tomb RT8 deposit <2233>.

The following discussion will concentrate on presenting the reasons for proposing that Tomb RT1 and RT3 were built in Phase 8, the detailed descriptions of the tomb walls will be presented in the appendix as follows:

- For the descriptions of Tombs RT1 walls <2003, 2013, 2016 & 2017> see Appendix A: A. 7).
- For the description of Tomb RT3 walls <2031, 2036, 2040 & 2174> see Appendix A: A. 9).



These features will be discussed in separate sections; accordingly, the discussion about Phase 8 will be divided into three parts as follows: a) building Tomb RT1; b) building Tomb RT3; and c) first robbing of Tomb RT8.

#### **A. The building of Tomb RT1:**

Tomb RT1 is suggested to have been built and used during Phase 8, after the second abandonment phase (Phase 7) for the following reasons:

There are two cuts <2471 & 2470> in deposits <309 & 307>; these cuts were found near (parallel) to the eastern wall <2017> of Tomb RT7, and there are also two cuts <2476 & 2482> in deposits <307 & 309>, which were found to the south-west of the western wall <2013> of Tomb RT1 (see cuts <2471 & 2482> in deposit <309> in Fig. 3.46; and see cuts <2470 & 2476> in deposit <307> in Fig. 3.51). Therefore, since these cuts were in deposits from Phases 4 and 7 they must be later than Phase 7; also as they are located around Tomb RT1 walls they must be related to building Tomb RT1.

Therefore, it seems reasonable to assume that the cuts <2471, 2470, 2476 & 2482> and the building of Tomb RT1 walls <2003, 2013, 2016 & 2017> (Fig. 3.52) are from the same phase, which is named Phase 8.

Moreover, there are two deposits <2018 & 2129> that were suggested to be related to the use of Tomb RT1 in Phase 8. In the following discussion these deposits will be described and then discussed. It should be noted that, in order to show the relationship between these deposits, the following discussion will include brief discussions about some activities from later phases.

Deposit <2018>, which consists of fairly compact sand with a large number of small-sized stones, has an irregular shape measuring 2.15m N/S, and 45 E/W. This deposit was located to the west of the western wall <2013> of Tomb RT1 whilst the eastern part of the deposit abutted the outer side of wall <2013> (Fig. 3.32). Deposit <2018> was found above deposit <304> and under deposit <303> (Figs. 3.32). The depth of deposit <2018> ranges from 0.20 m to 0.32 m. Finds included many bone fragments, and many ceramic sherds (see Table.2 in Appendix B).

Deposit <2129> consists of fairly compact sand with a large number of small-sized stones; it has an irregular shape measuring 1.20m in length by 1m in width, with depth ranging from 0.25m to 0.40m. This deposit was heavily disturbed and it was found in the north western quarter of Tomb RT1; under deposit <303> and above the bedrock <310> (Fig. 3.32). Finds from this deposit include many bone fragments and many ceramic sherds (see Table.2 in Appendix B).

Since, this deposit included many bone fragments and many ceramic sherds and since it was found inside Tomb RT1, it seems reasonable to suggest that it must be related to burial activity in Tomb RT1.

Moreover, deposit <2129> was heavily disturbed, and it was found only in the north western part of Tomb RT1; therefore, it seems that is where the burial deposit from the tomb was thrown when it was removed by robbing or cleaning

Moreover, deposit <303> which, as will be further discussed below, is was allocated to Phase 18, was found above deposit <2129> in the north western part of Tomb RT1 (Fig. 3.31) and directly on bedrock <310> in the other part of the tomb (Figs. 3.32 & 3.53), it therefore seems that the area inside Tomb RT1 was robbed/cleaned down to the bedrock. Deposit <2129> was then thrown in the north western part of the Tomb RT1, before deposit <303> was deposited in Phase 18 above it in the north-western part of the tomb (Fig. 3.32), and directly on the bedrock <310> in the other parts (Figs. 3.32 & 3.53). Therefore, it seems clear that deposit <2129> was robbed before Phase 18.

Moreover, deposit <2018> was very similar to deposit <2129>; whereby both consist of compact sand, and also included bones and ceramics; and at the same time, it was found near to Tomb RT1 and further from the other tombs. Thus, it seems reasonable to suggest that this deposit should be also related to the burial activity in Tomb RT1.

Moreover, deposit <2018> was also heavily disturbed and found outside Tomb RT1 in a similar stratigraphic position as deposit <2129> under deposit <303> (Figs. 3.32). Thus, it seems likely that both deposits <2018 & 2129> originally formed the burial deposit of Tomb RT1; and deposit <2129> represents part of this deposit, which was thrown into the north western part of the tomb due to robbing or cleaning. Deposit <2018> represents

the other part of these deposits, which were thrown outside the tomb during the same act, which must be earlier than Phase 18 deposit <303>.

Moreover, since deposit <2018> was found outside Tomb RT1 directly above deposit <304> (Fig. 3.53), which, as will be further discussed below, is allocated to Phase 15, it seems reasonable to suggest that the robbing of Tomb RT1 occurred in Phase 16. This, together with a lack of stratigraphic evidence suggesting that Tomb RT1 was used or robbed between the building phase (Phase 8) and the robbing phase (Phase 16), suggests that the deposits <2018 & 2129> originally formed the burial deposit of Tomb RT1, which is related to the use of Tomb RT1 in Phase 8; and these deposits were robbed during Phase 16.



Fig. 3.52 Tomb RT1 features.

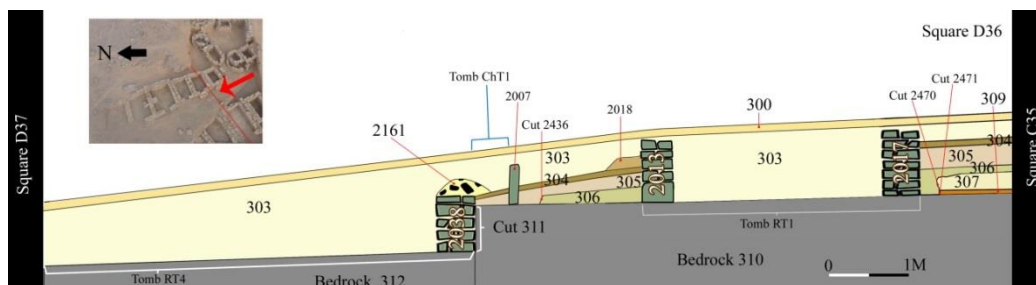


Fig. 3.53 section shows the deposits inside and outside Tomb RT1, ChT1 and RT4, facing north-west.

## **B. The building of Tomb RT3**

There are two cuts <2453 & 2447> in deposits <309 & 307>: cut <2447> in deposit <307> was found directly above cut <2453> in deposit <309> (Fig. 3.43); and both cuts extended in the same direction, and both have the same length (see cut <2453> in deposit <309> in Fig. 3.46; see cut <2447> in deposit <307> in Fig. 3.51). Therefore, it can be suggested that both deposits <307 & 309> were cut at the same time, which must be was later than deposit <307> which is Phase 7.

These cuts were found near and parallel to the eastern wall <2040> of Tomb RT3 (Fig. 3.43); therefore, it seems clear that the deposits <309 & 307> were cut and cleaned down to bedrock to build Tomb RT1 walls directly on the bedrock. Thus, it can be assumed that cuts <2453 & 2447> and building Tomb RT3 walls <2031, 2036, 2041 & 2174> (Fig. 3.54) were from the same phase; which was later than the Phase 7 deposit <307>; therefore, it can be allocated to Phase 8.

Deposit <2178> is suggested to be the burial deposit that was related to the use of Tomb RT3 in Phase 8.

Deposit <2178>, which consists of compact sand with very few inclusions of small-sized stones, extended across the whole excavated area inside Tomb RT3 under deposit <2171> and above bedrock <312> (Fig. 3.43). Its depth ranges from 0.14 m. to 0.20 m. This deposit was heavily disturbed and finds from it included a large number of bone fragments, several ceramic sherds and three bronze rings (see Table.2 in Appendix B). For these reasons it seems that this deposit must be related to the use of Tomb RT3.

As will be further discussed below, it is suggested that Tomb RT3 was reused again in Phase 11 and deposit <2170> is related to the later use of Tomb RT3 in Phase 11. This, together with the lack of any indication of re-use of Tomb RT3 after Phase 8 and before Phase 11, it seems reasonable to suggest that deposit <2178> represents the early use of Tomb RT3 in Phase 8.

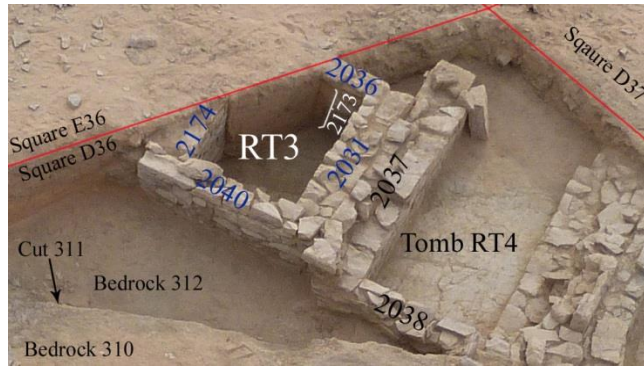


Fig. 3.54 Tomb RT3 features; facing south-west, no scale.

### C. The first robbing of Tomb RT8:

The first robbing of Tomb RT8 involved the moving of deposit <2233> away from the tomb.

As has been discussed above (see phase 3), deposit <2233> is suggested to be related to the use of Tomb RT8 in Phase 3. This deposit was found above deposit <307> (Fig. 3.29), which is part of Phase 7; thus; it seems reasonable that deposit <2233> was moved out of Tomb RT8 in Phase 8. Furthermore, since RT8, as will be further discussed below, was robbed again in Phase 16 (see Phase 16 for more details); the robbing of Tomb RT8 in Phase 8 is suggested to represent the first robbing of Tomb RT8.

### Phase 9:

This phase includes:

- 1) Building Tomb B1 walls <2021, 3001, 3002 & 3003>.
- 2) The first robbing of Tomb RT3; robbing deposit <2178>.

The discussion of the building of Tomb B1 will be focused on presenting the reasons why Tomb B1 was built in Phase 9; for the description of Tomb B1 walls <2021, 3001, 3002 & 3003> see Appendix A: A. 19).

Moreover, each of the features of Phase 9 will be discussed separately. Accordingly, the following discussion will be divided into two parts as follows; a) the building of Tomb B1; and b) the first robbing of Tomb RT3.

### A. The building of Tomb B1:

With the exception of the south western corner of Tomb B1, this tomb was excavated in the 1994 season; due to a lack of written information about this season, there is no available information about the stratigraphy in the part uncovered during that season. However, since the early layer that was deposited and built up against the lower part of the southern part of the western wall <3003> of Tomb B1 is deposit <306> (Fig. 3.55), which is part of Phase 10; it can be assumed that Tomb B1 walls <2021, 3001, 3002 & 3003> (Fig. 3.56) were built in the phase that preceded deposit <306>; for this reason, the building of Tomb B1 walls is assumed have taken place in Phase 9.

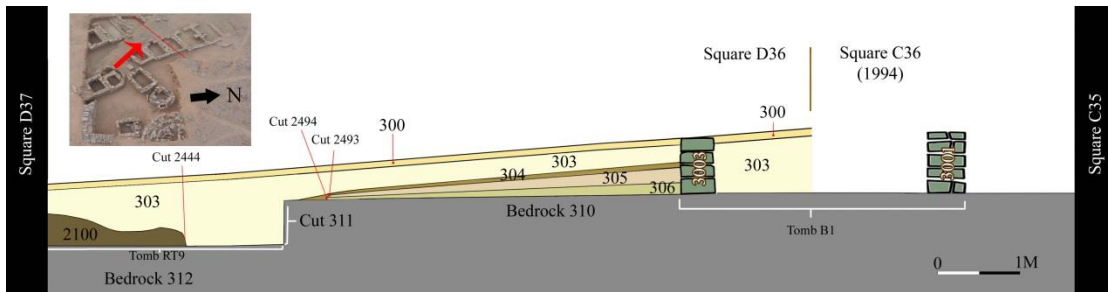


Fig. 3.55 section of the layers inside and outside Tombs B1 and RT9, facing northwest.

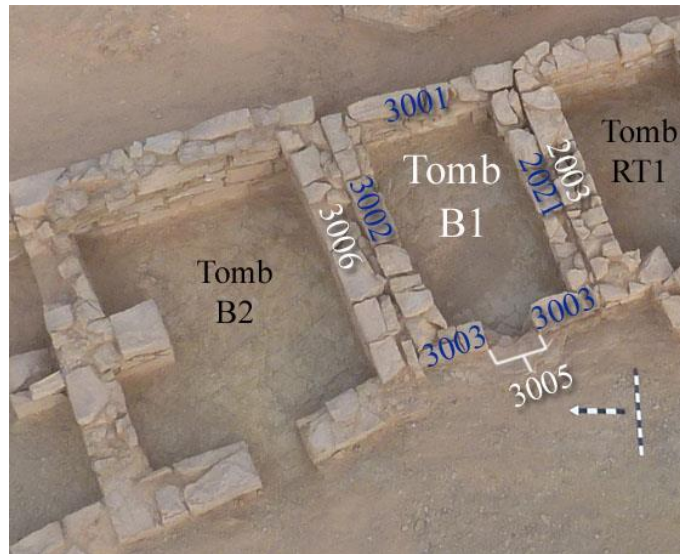


Fig. 3.56 Tomb B1 features, facing east, scale 1x0.5m & 1x1m.

## **B. The first robbing of Tomb RT3**

As has been discussed above, deposit <2178> is suggested to be related to the early use of Tomb RT3 in Phase 8. This deposit was heavily disturbed, probably by robbing or cleaning. Deposit <2178> is suggested to be from Phase 8, and it was found under deposit <2171> (Fig. 3.43); therefore, it is clear that deposit <2178> was robbed before deposit <2171> was deposited above <2178>. Since deposit <2178> is from Phase 8 it is obvious that it was robbed after Phase 8 and earlier than deposit <2171>; in Phase 9 before deposit <2171> was deposited above deposit <2178> in Phase 10.

Furthermore, since Tomb RT3 is thought to have been robbed again in Phase 17 the robbing of Tomb RT3 in Phase 9 was the first robbing of Tomb RT3.

### **Phase 10:**

This phase is illustrated by deposits <306 & 2171>. In the following discussion both deposits will be described before the discussion of Phase 10 is given.

Deposit <306> consists of fairly loose sand with many inclusions of small-sized stones. In general this deposit extended over a large area of squares D35 and D36 (Fig. 3.57). It was found above Phase 7 deposit <307> and under Phase 13 deposit <305> (Fig. 3.43); only the north western part of the deposit was found under deposit <305> and directly on bedrock <310> and it was deposited and built up against the lower part the western wall <3003> of Tomb B1 (Fig. 3.55). The depth of deposit <306> ranges between 0.10m to 0.24m. Finds included a few bone fragments and many ceramic sherds (see Table.2 in Appendix A).

Deposit <2171>, which consists of loose sand with very few inclusions of small-sized stones, extended over the whole excavated area inside Tomb RT3. In the south eastern corner it was found under deposit <2170>, which represents the later use of Tomb RT3 in phase 11 (see Phase 11 below for more details) and above deposit <2178> (Fig. 3.43), which, as has been discussed above, was robbed in Phase 9. The depth of deposit <2171> ranged between 0.05 m. to 0.10 m.

Since deposit <306> consists of fairly loose sand and as it extended across a large area outside the tombs, it seems reasonable to suggest that it is naturally accumulated and, as a result, to suggest that it is an abandonment deposit. Also, deposit <2171> consists of fairly loose sand that seems to be wind-blown that had naturally accumulated inside Tomb RT3, thus, it seems reasonable to suggest this deposit is also an abandonment deposit.

Deposit <2171> was found above deposit <2178>, which is thought to have been robbed in Phase 9; thus, it was deposited later than Phase 9. Meanwhile deposit <306> was deposited and built up against the southern part of the western part <3003> of Tomb B1 which is suggested to be built in Phase 9; this, together with a lack of stratigraphic evidence indicating which deposit <2171 & 2178> means that both deposits <306 & 2171> were assumed to have accumulated during the same abandonment phase; Phase 10. Furthermore, since there are two abandonment phases (Phases 4 and 7) earlier than Phase 10, these deposits are suggested to represent the third abandonment phase of this tomb.

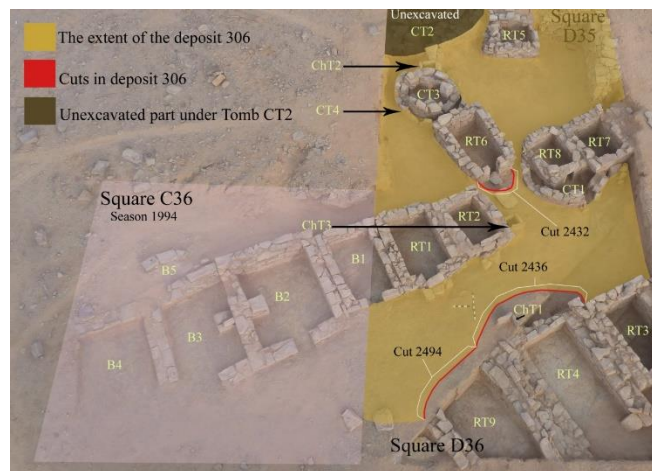


Fig. 3.57 The extent of deposit <306>.

(the above Figure shows the extent of deposit <306> in yellow; cuts in deposit <306> in red; it should be noted that deposit <306> extended underneath Tombs ChT2 and ChT; whereas, walls next to the extent of deposit <306> (without red lines) are the walls that the deposit <306> was deposited against).



## **Phase 11:**

This phase represents:

- 1) Building Tomb RT4 and the attached Tomb ChT1 walls (Tomb RT4 walls <2009, 2037 & 2038> and deposits <2161 & 2164>; Tomb ChT1 walls (slab stones; <2007 & 2008>); and cuts <2436, 2437 & 2442>.
- 2) Building Tomb ChT3 (slab stones <2015, 2141, 2142, 2143>).
- 3) Robbing Tomb RT2, moving deposit <2153> from Tomb RT2.
- 4) Robbing Tomb CT3, moving deposit <2126> from Tomb CT3.
- 5) Robbing Tomb RT6 cuts <2430, 2431 & 2432>, moving deposits <2097 & 2081> and the stone slab <2079> from Tomb RT6.
- 6) Reusing Tomb RT3; deposit <2170>.

The following discussion will concentrate on presenting the reasons for suggesting the building of Tombs RT4, ChT1 and ChT3 walls took place in Phase 11, the detailed descriptions of the tombs wall will be presented in the appendix as follows:

- For the description of Tombs RT4 walls <2009, 2037 & 2038> see Appendix A: A. 10).
- For the description of Tomb ChT1 walls (slab stones; <2007 & 2008>) see Appendix A: A. 16).

For the description of Tomb ChT3 walls (slab stones <2141, 2142, 2143> and cap-stone <2015>) see Appendix A: A. 18).

Moreover, each of the six developments listed above will be discussed separately. Accordingly, the following discussion will be divided up as follows: a) building of Tomb RT4 and the attached Tomb ChT1; b) robbing Tomb RT2; c) robbing Tomb CT3; d) robbing Tomb RT6; and e) reusing Tomb RT3.

### **A. The building of Tomb RT4 and the attached Tomb ChT1**

The slab stones <2007 & 2008> (Fig. 3.58) are suggested to be the remains of a child's tomb ChT1, since these slab stones were found in a position that was similar to the position of the slab stones that were used to build the child's Tomb ChT3, where, a complete child's skeleton was found in its original position (see the description of Tomb ChT3 below).

The stratigraphy of Tomb RT4 and the attached Tomb ChT1 suggests that both tombs were built in Phase 10; where there are three cuts; (cut <2436> in deposit <306>, cut <2437> in deposit <307>, and cut <2442> in deposit <309>) each found at the same location. These cuts extended in an arc shape around the eastern wall <2038> of Tomb RT4 and also to the east of Tomb ChT1 (Fig. 3.47). Therefore, it seems reasonable to suggest that deposits <309, 307 & 306> were cut at the same time. Also, since the upper cut <2436> was in deposit <306>, which is part of Phase 10, it seems reasonable to suggest that the cuts in deposits <309, 307 & 306> were later than Phase 10. Moreover, deposit <305> was deposited above cuts <2436, 2437 & 2442> and also directly on the bedrock between these cuts and Tombs RT4 and ChT1; therefore, these cuts were later than Phase 10 and earlier than deposit <305>.

The western wall <2038> of Tomb RT4 and Tomb ChT1 walls <2007 & 2008> were built directly on the bedrock and deposit <305> was deposited and built up against the western wall <2038> of Tomb RT4 and Tomb ChT1 walls <2007 & 2008>; therefore, it seems clear that the construction of Tombs RT4 and ChT1 was earlier than deposit <305>.

Therefore, deposits <306, 307 & 309> were cut and cleaned down to the bedrock in order to build Tomb RT4 and ChT1 directly on it before deposit <305> was deposited above cuts <2436, 2437 & 2442> and directly on the bedrock between these cuts, and also before it was built up against the outer sides of the western wall <2038> of Tomb RT4 and Tomb ChT1 walls <2007 & 2008>. Moreover, since cuts <306, 307 & 309> are suggested to have been cut later than Phase 10; it can be assumed that these cuts and the

building of the western wall <2038> of Tomb RT4 and the building of Tomb ChT1 walls <2007 & 2008> occurred in Phase 11.

Therefore, since Tomb RT4 wall <2038> was built in Phase 11, the other walls of Tomb RT4 walls <2009 & 2037> (Fig. 3.58) must also have been built during the same phase.

Deposits <2161 & 2164> are suggested to be related to use of Tomb RT4 in Phase 11. Deposit <2161> is a deposit of loose sand with many inclusions of stones of various sizes; and also with many inclusions of small masses of compact sand. This deposit has a semi-triangular shape measuring 3.20m by 0.66m. Deposit <2161> was found above the eastern wall <2038> and under deposit <303>; the eastern part of the deposit <2161> extended outside the tomb above deposit <304> and under deposit <303> (Fig. 3.47). The depth of deposit <2161> ranged from 0.10m to 0.26m. Finds from deposit <2161> included many bone fragments and several ceramic sherds (see Table.2 in Appendix B).

Deposit <2164> consists of compact sand with many inclusions of stones of various sizes, and also with many inclusions of small masses of compact sand. The eastern part of the deposit <2164> was found in the south-western quarter of Tomb RT4, whereas the western part extended to the west into square D37, and the extent of this deposit in square D37 has not yet been uncovered as it is not fully excavated.

The excavated part of this deposit measured 3.06m by 0.82m, and was found directly on bedrock <312> under the deposit <303> (Fig. 3.34); with a depth ranging between 0.40m to 0.73m. Finds included many bone fragments and several ceramic sherds (see Table.2 in Appendix B).

As will be further discussed below, deposit <303>, which is suggested to represent Phase 18, was deposited directly on the bedrock inside Tomb RT4 (Figs. 3.34 & 3.47); with the exception of the south-western quarter of the tomb where deposit <303> was found above deposit <2164>. Also, the extent of deposit <303> outside the tomb was found above deposit <2161> (Fig. 3.34). Thus, since Phase 18 deposit <303> was deposited directly on the bedrock in a large area inside Tomb RT4, it seems obvious that this large area of Tomb RT4 has been cleaned down to the bedrock before deposit <303> was deposited

directly on the bedrock in Phase 18. Thus, it can be shown that the robbing of Tomb RT4 occurred before Phase 18.

Deposit <2161> was found above the western wall of Tomb RT4, but further away from the other tombs whilst deposit <2164> was found inside Tomb RT4, and both deposits were under Phase 18 deposit <303>. Thus, it seems reasonable to suggest that deposits <2161 & 2164> are both related to Tomb RT4 and both were robbed before Phase 18. However, since deposit <2161> was found directly above deposit <304>, which represents Phase 15; the robbing of Tomb RT4 must have occurred in Phase 16.

Deposits <2161 & 2164> are very similar: they consist of loose sand and included many small masses of compact sand. They seem to be a mix of two different deposits: one of loose sand and one of compact sand. Moreover, since deposits <2161 & 2164> included many bones and ceramics, it seems likely that the compact sand in these deposits represents the remains of the burial deposit that was originally deposited inside Tomb RT4, which, it can be suggested, was related to the use of Tomb RT4 in Phase 11, whereas, the loose sand in deposits <2161 & 2164> can be assumed to be the loose sand that had naturally accumulated inside Tomb RT4, between the use of this tomb in Phase 11 and the robbing in Phase 16. Therefore, it can be assumed that deposits <2161 & 2164> are a mix of the burial deposit from Phase 11, and the loose sand that had naturally accumulated during the abandonment of this tomb between Phase 11 and Phase 16.

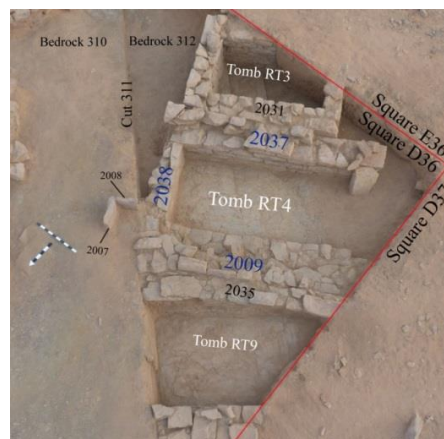


Fig. 3.58 Tombs RT4 and ChT1 walls, facing south-east, scale 1x0.5m & 1x1m.

## **B. The building of Tomb ChT3:**

Tomb ChT3 was the only undisturbed tomb among all the tombs that have been excavated in squares D35 and D36 at Mound 2. It consists of three slab stones <2141, 2142 & 2143> (Fig. 3.48), which were built directly on deposit <306>, which represents the bedrock under Tomb ChT2 (Fig. 3.34). The northern parts of stones <2141 & 2143> were joined to the outer surface of the southern wall <2024> of Tomb RT2.

This tomb was roofed with stone slab <2015>, which was found directly above the top of the Tomb ChT3 walls' slab stones <2141, 2142 & 2143> (Fig. 3.34).

The Tomb ChT3 walls were built directly on deposit <306>, which is part of Phase 10. Thus, it can be suggested that Tomb ChT3 was built in Phase 11, later than Phase 10 deposit <306>.

Deposit <2144>, which consists of compact sand with many inclusions of small-sized stones, was found under deposit <2139> and directly above deposit <306> (Fig. 3.34), which is the bedrock under Tomb ChT3. It has a depth of 0.17 m. Finds from this deposit included a complete *in situ* child's skeleton (Fig. 3.59), an eye-stele, and many shells and beads (see Table.2 in Appendix A). These s were found *in situ* around the neck, right arm (around the right elbow) and both the right and left wrists (Fig. 3.59); whereas, the eye-stele was found in the southern wall <2142> of the Tomb ChT3 (Fig. 3.59).

Since Tomb ChT3 was undisturbed and is thought to have been built in Phase 11, it seems reasonable to suggest the burial deposit <2144> is related to the same phase.

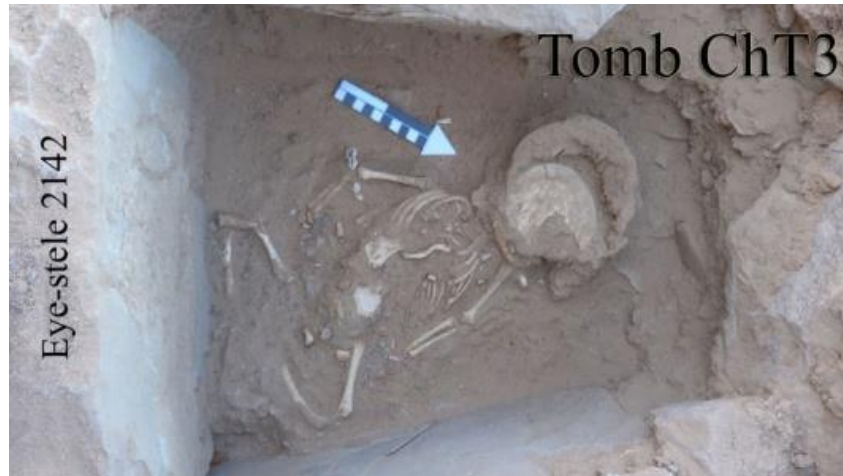


Fig. 3.59 a child's skeleton found in the original position inside Tomb ChT3, the eye-stele which was found in the southern wall <2142> of the tomb, was facing the skeleton.

Facing south-west, scale 1x 0.10 m.

**C. The first robbing of Tomb RT2:**

As has been discussed above, deposit <2153> is suggested to be related to the use of Tomb RT2 in Phase 5; this deposit is also suggested to have been moved out of Tomb RT2 by robbing. Since this deposit was found directly above deposit <306> (Fig. 3.47), which is part of Phase 10, the robbing of Tomb RT2 is suggested to have been in Phase 11.

Moreover, since Tomb RT2 is suggested to have been robbed again in Phase 16, the robbing of Tomb RT2 in Phase 11 is suggested to be the first robbing of Tomb RT2.

**D. The robbing of Tomb CT3:**

As has been discussed above, deposit <2126> is suggested to be related to the use of Tomb CT3 in Phase 3; this deposit is thought to have been moved out of Tomb CT3 by robbing. Since this deposit was found directly above deposit <306> (Fig. 3.32), which is part of Phase 10, the robbing of Tomb CT3 is suggested to have been in Phase 11.

**E. The robbing of Tomb of RT6:**

As has been described above, deposit <2086> represents the early use of Tomb RT6 in Phase 3 and deposit <2085> represents the later use of the tomb in Phase 5. Both deposits

only extended across the eastern half of the tomb, and the western extents of both deposits were formed by cuts <2430 & 2431> at the same location (Fig. 3.34). Beyond these the two deposits, in the western half of the tomb, are missing. Therefore, since both the early and later use deposits <2085 & 2086> were defined by cuts at the same location, and are missing in the western side of the tomb, it seems reasonable to suggest that both deposits were removed at the same time.

Moreover, deposit <305> was deposited directly above bedrock in the western half of Tomb RT6; and also deposited directly above cuts <2430 & 2431> in the early and later use deposits <2085 & 2086> (Fig. 3.34). It is clear that both deposits were robbed and their western extents were removed and cleaned down to bedrock before deposit <305> was deposited directly on the bedrock in the western half of the tomb. Therefore, the removed remains from these deposits are likely to be located outside Tomb RT6 underneath deposit <305>.

From the stratigraphic sequence outside Tomb RT6 there are two deposits <2081 & 2097> that might have been removed from Tomb RT6 during its robbing. In addition, there are two activities that can be suggested to be related to the robbing of Tomb RT6: the moving of slab stone <2079> from the entrance of Tomb RT6, and the cut <2432> in deposit <306>.

Deposit <2081> consists of compact sand with many inclusions of medium to small-sized stones; this deposit was found 0.30m to the west of the entrance of Tomb RT6 (Figs. 3.34 & 3.60). It has an irregular shape measuring 0.70m by 1.20m. The western part of this deposit was found above slab stone <2079> and under deposit <305>, whereas the eastern part was found above the deposit <307> and under deposit <305>. Finds from deposit <2081> included many bone fragments and many ceramic sherds (see Table.2 in Appendix B).

Deposit <2097> consists of compact sand with a large number of stones of different sizes. This deposit was found to the north of Tomb RT6 (Figs, 3.32 & 3.60). The southern part of deposit <2097> was located adjacent to the outer side of the northern wall of Tomb RT6 <2057>. This deposit has an irregular shape measuring 2.20m in

length by 1.39m in width; with depth ranges from 0.20m to 0.32m. It was found under deposit <305> and above deposit <306>. Finds included many bone fragments and many ceramic sherds (see Table.2 in Appendix B).

Stone slab <2079> was found 0.7m to the west of the entrance <2071> of Tomb RT6 (Figs. 3.34 & 3.60). This has a semi-rectangular shape measuring 0.87m in length by 0.56m in width. The slab stone was found directly above deposit <306>. The western part of it was found under deposit <305>, whereas, the eastern part was under deposit <2081>.

Cut <2432> cut deposit <306> (Figs. 3.34 & 3.57), it has a semi-arc shape that extended around entrance <2071> in the western wall <2060> of Tomb RT6.

Slab stone <2079> was found to the west of the open entrance <2071> of Tomb RT6, and above deposit <306> which is from Phase 10. Therefore, it seems reasonable to assume that slab stone <2079> was the stone was originally used to seal the entrance of Tomb RT6 and that it was moved to this location during the robbing of Tomb RT6. Furthermore, since cut <2432> in deposit <306> was found specifically around the entrance of Tomb RT6, it seems reasonable to assume that the aim of this cut was to remove the deposits that were deposited against the slab stone <2079>, which originally sealed the entrance <2071> of the tomb . As a result, it can be assumed that cut <2432> in deposit <306> and the removal of the slab stone <2079> from the entrance occurred during the robbing of Tomb RT6, and since the cut <2432> was in deposit <306> and the slab stone <2079> was found above deposit <306>, it seems reasonable to suggest that the robbing of Tomb RT6 was later than Phase 10; for these reasons, they are allocated to Phase 11.

As has been discussed above, the removed parts of deposits <2085 & 2086> were found outside Tomb RT6 as deposits <2081 & 1097> underneath deposit <305>. The deposits were found near to Tomb RT6; where, deposit <2081> was found in front of the entrance and deposit <2097> was found to the north of the tomb, and both were found under deposit <305>. Therefore it seems reasonable to assume that deposit <2097> was moved



out from Tomb RT6 and thrown to the north of the tomb, and deposit <2081> was thrown in front of the entrance.

Furthermore, since the western half of Tomb RT6 has been robbed and cleaned down to bedrock (Fig. 3.34), and this area would originally have been covered with the western extents of the early and later deposits <2085 & 2086>; it seems likely that each of these deposits <2081 & 2097> is a mix of the early and later deposits <2085 & 2086> from Phase 3 and Phase 5.

Moreover, since deposit <2081> was found directly above the slab stone <2079> and the cut <2432> in deposit <306>, and all were found in the same location in front of the entrance of Tomb RT6, it seems reasonable to assume that cut <2432> in deposit <306> was cut before slab stone <2079> was moved and both occurred before deposit <2081> was moved from the tomb and that all these activities can be assumed to have been part of the same robbing or cleaning.

Moreover, since cut <2432> and the moving of slab stone <2079> are suggested to be during Phase 11, it seems reasonable to assume that deposit <2081> was moved during the same robbing phase.

Moreover, since deposit <2097> was found directly above deposit <306>, which is allocated to Phase 10; it seems reasonable to suggest that deposit <2097> was moved from Tomb RT6 during Phase 11.

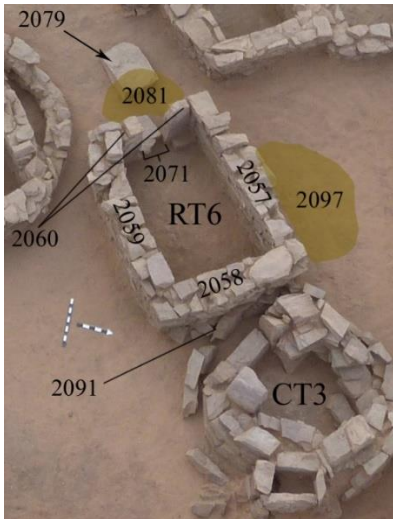


Fig. 3.60 Location of slab stone <2079> and deposits <2081 & 2097>; facing west, scale 1x0.5m & 1x1m.

#### F. The reusing of Tomb RT3

As has been discussed above, deposit <2178> is suggested to be related to the use of Tomb RT3 in Phase 8, and this deposit was robbed in Phase 9 before the abandonment deposit <2171> was deposited above deposit <2178> in Phase 10.

There is a burial deposit <2170>, which was found above deposit <2171>, which is suggested to be related to a later use of Tomb RT3.

Deposit <2170> consists of compact sand with very few inclusions of small-sized stones. This deposit was found in the south eastern corner of Tomb RT3, whereas its northern and western extents ended with cut <2168>. This deposit has an irregular shape measuring 0.50m N/S by 0.70m E/W, with depth ranges from 0.10m to 0.16m. Deposit <2170> was found under the deposit <303> and above the deposit <2171> (Fig. 3.43). Finds included the upper half of a child skeleton which seems to be *in situ* (Fig. 3.61).

Since, deposit <2170> includes this *in situ* burial; it is clearly a burial deposit. Also, since it was found above deposit <2171> which is part of Phase 10, this deposit can be allocated to Phase 11. Furthermore, since deposit <2178> is related to the use of Tomb RT3 in Phase 8, deposit <2170> must represent the later use of Tomb RT3 in Phase 11.



Fig. 3.61 A child skeleton that was found in deposit <2170> in the south eastern corner of Tomb RT3, facing south west, scale 1x0.5m.

### **Phase 12:**

This phase represents:

- 1) Building Tomb ChT2 (slab stones <2109, 2110 & 2111>).
- 2) Robbing Tomb ChT1.

The following discussion will concentrate on presenting the reasons for suggesting Tomb ChT2 to have been built in Phase 12. For the description of Tomb ChT2 walls (slab stones <2109, 2110 & 2111>) see Appendix A: A. 17).

In the following discussion the building of Tomb ChT2 and the robbing of Tomb ChT1 will be discussed separately.

#### **A. The building of Tomb ChT2**

The Child's Tomb ChT2 is represented by the three slab stones <2109, 2110 & 2111> (Fig. 3.62), which abutted the outer side of the eastern part of the Tomb CT3 wall <2075>.

Although there was no evidence that proves these slab stones were the remains of a child's tomb, they were found in a position similar to that of the child's Tomb ChT3, where a complete child's skeleton was found in its original position (see Tomb ChT3 in

Phase 11 above). Therefore, it seems clear that these are the remains of a child's tomb ChT2. Moreover, the Tomb ChT2 is built directly on the deposit <2162> (Fig. 3.34). Since this deposit is suggested to be moved out from Tomb CT3 in Phase 11, it seems clear that the building of Tomb ChT2 took place in Phase 12.

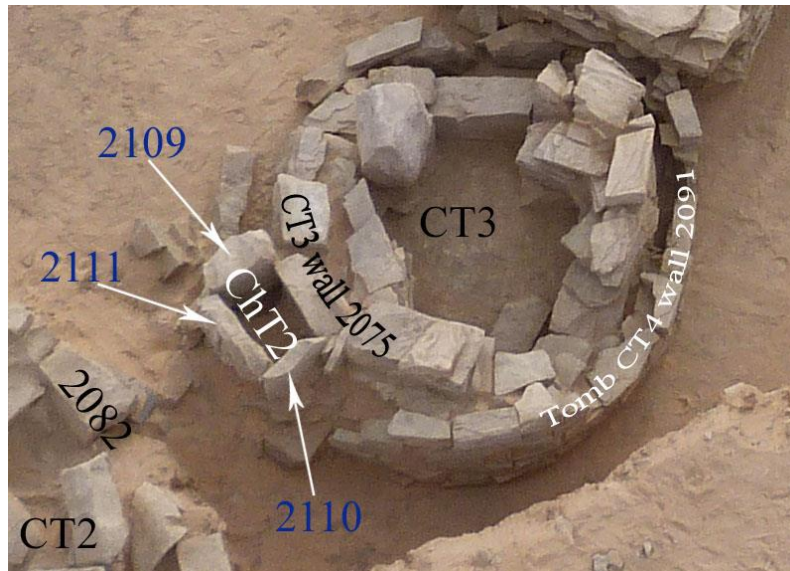


Fig. 3.62 Tomb ChT2.

### **B. The robbing of Tomb ChT1.**

Tomb ChT1, as has been discussed above, is suggested to be built in Phase 11; and deposit <305> which, as will be further discussed below, represents Phase 13 was deposited directly on the bedrock inside Tomb ChT1 (Fig. 3.53). Thus, Tomb ChT1 was robbed and cleaned down to the bedrock after Phase 11 and before Phase 13. For these reasons, the robbing of Tomb ChT1 is allocated to Phase 12.

### **Phase 13:**

This phase represents by deposit <305>, which consists of loose sand with very few inclusions of medium to small-sized stones. This deposit extended over a large area of squares D35 and D36 (Fig. 3.63). The depth ranges from 0.25m to 0.85m. Finds included many bone fragments and a large number of ceramic sherds (see Table.2 in Appendix A).

Outside the tombs, deposit <305> was found above deposit <306>, which represented the third abandonment phase (Phase 10) and under deposit <304> which, as will be further discussed below, is part of Phase 15. However, since deposit <305> was built up against the outer side of Tomb ChT2 walls <2109, 2110 & 2111> (Fig. 3.34), which is suggested to be built in Phase 12, and since deposit <305> was deposited directly on the bedrock inside Tomb ChT1 (Fig. 3.53), which, it is argued, was robbed in Phase 12, deposit <305> was later than the building of Tomb ChT2 and the robbing of Tomb ChT1, or later than Phase 12. For this reason, deposit <305> is suggested to have been deposited in Phase 13. Moreover, since deposit <305> consists of loose wind-blown sand that had naturally accumulated, this deposit is interpreted as an abandonment deposit. Furthermore, since there are three abandonment phases (Phases; 4, 6 & 8) earlier than deposit <305>, this is suggested to represent the fourth abandonment phase (Phase 13).

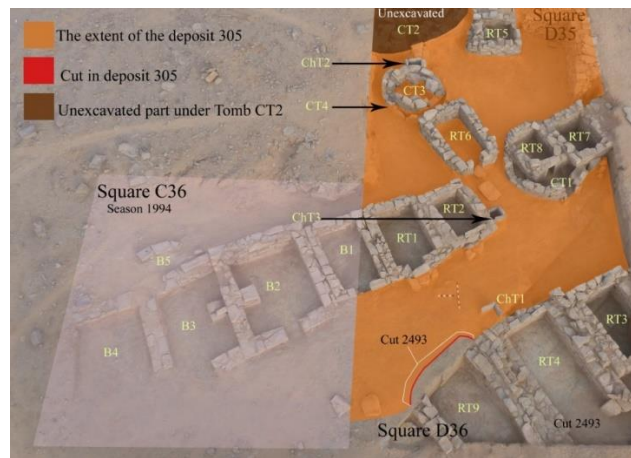


Fig. 3.63 The extent of the deposit <305>.

(The above Figure shows the extent of the deposit <305> in orange; cut <2493> in red; the walls next to the extent of deposit <305> (without red line) are the walls that the deposit <305> was built up against).

#### **Phase 14:**

This phase is illustrated by the building of Tomb RT9 walls <2094 & 2035> (Fig. 3.64).

The following discussion will concentrate on presenting the reasons for suggesting Tomb ChT2 to have been built in Phase 14; for the description of the Tomb RT9 walls <2094 & 2035> see Appendix A: A. 15.

Tomb RT9 was not fully uncovered: only the eastern part of the tomb which is located in square D36 was excavated, whereas, the western part of the tomb extended into square D37 (Fig. 3.64), which still needs to be uncovered.

The eastern parts of the northern and southern walls <2094 & 2035> of Tomb RT9 built against cut <311> (Figs. 3.64), it is not clear if cut represents the western wall of Tomb RT9 or if there was a stone wall which is missing. However, there are two cuts <2494 & 2493> in deposits <306 & 305>, which respectively represent the third and fourth abandonment phases (Phases 10 and 13). Cut <2493> in deposit <305> was found directly above cut <2494> in deposit <306> (Fig. 3.55) and both cuts extended in the same direction (see cut <2493> in Fig. 3.63, and cut <2494> in Fig. 3.57). Therefore, it can be suggested that both deposits <306 & 305> were cut at the same time; furthermore, since the upper cut was in <305>, which represented the fourth abandonment phase (Phase 13), it can be suggested that both deposits <306 & 305> were cut at the same time, which must have been after Phase 13. For this reason, both cuts are suggested to be in Phase 14.

There are some indications that suggest cuts <2494 & 2493> in deposits <306 & 305> are related to the building of Tomb RT9; these are as follows: firstly, cuts <2494 & 2493> in deposits <306 & 305> extended to the west near to Tomb RT9. Secondly, cut <2493> in deposit <305> begins from the north-eastern corner of Tomb RT9 and ends near to the south-eastern corner of Tomb RT9. Thirdly, the only tomb that was found near to these cuts is Tomb RT9. Therefore, it can be assumed that the extent of deposits <306 & 305> to the west of the cuts must have been cleaned down to bedrock before building Tomb RT9 wall directly on the bedrock <312>.

Therefore, cuts <2494 & 2493> are assumed to be related to the building of Tomb RT9; and since these cuts are suggested to be from Phase 14, the building of Tomb RT9 is assumed to have taken place during the same phase (Phase 14).

Deposit <2100> is suggested to be related to the use of Tomb RT9 in Phase 14. It consists of compact sand with many inclusions of small-sized stones and was found only in the western part of Tomb RT9, whilst the eastern extent terminated with cut <2444>

(Fig. 3.55 & 3.65). Moreover, this deposit extended to the west into square D37; however this was not excavated.

The excavated part of this deposit was found directly on bedrock <312>; and under deposit <303> (Fig. 3.55); with a depth range from 0.25m to 0.43m. Deposit <2100> was heavily disturbed and finds included a large number of bone fragments, many ceramic sherds including two complete ceramic vessels and a camel statue, and a few shells and stone beads (see Table.2 in Appendix B). Since the deposit included a large number of bones and as it was found inside Tomb RT9, it seems reasonable to suggest it to be related to burial activity, and thus to be related to the use of Tomb RT9.

Moreover, Tomb RT9, as will be further discussed below, is suggested to have been robbed in Phase 17 (for more details see Phase 17 below); and there is no stratigraphic evidence indicating the re-use of Tomb RT9 after building Phase 14 and robbing Phase 17; for this reason; deposit <2100> o can be suggested to be related to the use of Tomb RT9 in Phase 14.

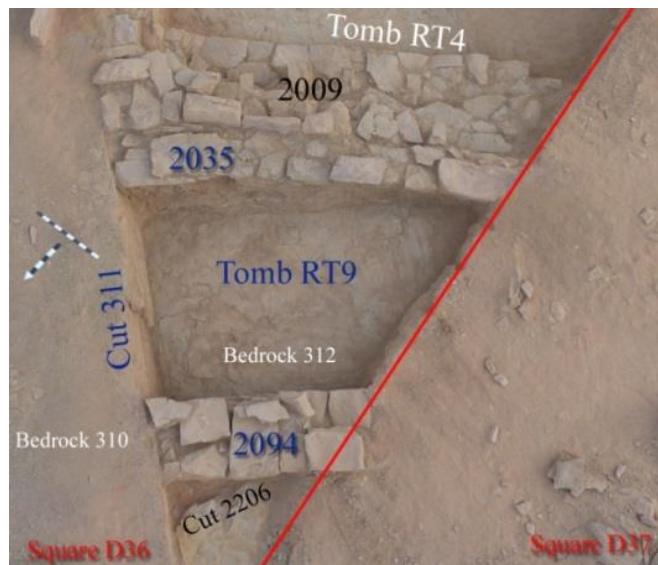


Fig. 3.64 Tomb RT9 walls, facing south east, scale 1x0.5m & 1x1m.

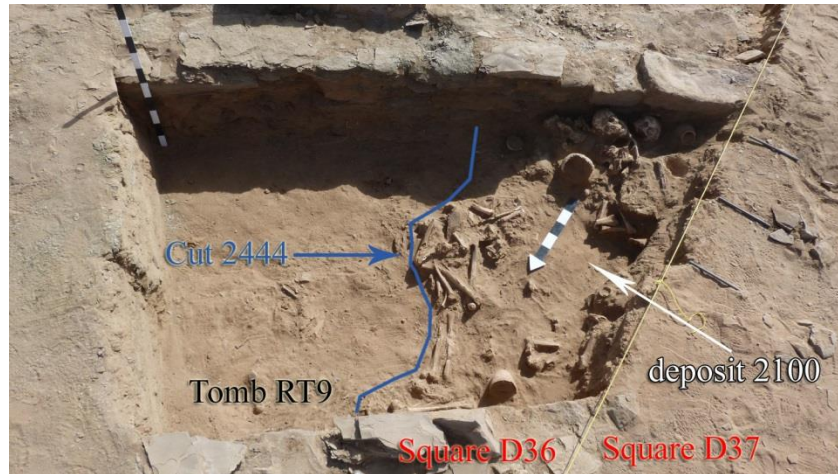


Fig. 3.65 Location of deposit <2100> inside Tomb RT9, facing south east, scale 1x0.5m & 1x1m.

### Phase 15:

This Phase is represented by deposit <304>, which is a deposit of compact sand with many inclusions of small-sized stones. It extended over a large area of squares D35 and D36 (Fig. 3.66) with a depth range between 0.10m to 0.20m, which decreases gradually to the north-western part until it ends in the north-western part of square D36. Finds included a few bone fragments and a large number of ceramic sherds (see Table.2 in Appendix B).

In general deposit <304> was found above deposit <305>, which is part of Phase 12 and below deposit <303> which is Phase 17 (Fig 3.34). However, since deposit <304> was deposited above cut <2493> in deposit <305> (Fig. 3.56), which is suggested to be from Phase 14; it seems reasonable to suggest that deposit <304> was deposited in Phase 15.

Moreover, deposit <304> consists of wind-blown sand which had naturally accumulated over a large area of squares D35 and D36; thus, it can be assumed that deposit <304> was an abandonment deposit. Furthermore, since there are four abandonment phases (Phases; 4, 7, 10 & 13) earlier than Phase 15; deposit <304> is suggested to represent the fifth abandonment phase.



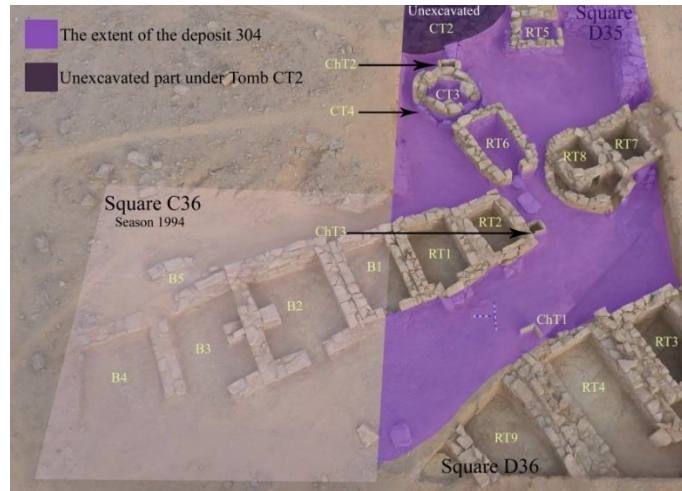


Fig. 3.66 The extent of deposit <304> in purple; walls next to the extent of deposit <304> are the walls that the deposit <304> was built up against.

### Phase 16:

This phase represents:

- 1) Building Tomb CT2; wall <2082> and the triangle-constructions <2078 & 2089> that have been built to divide the chamber of Tomb CT2.
- 2) Robbing Tomb RT1; robbing deposit <2129> and moving deposit <2018> from Tomb RT1.
- 3) Second robbing of Tomb RT2; moving deposit <302> from Tomb RT1
- 4) Robbing Tomb RT4; moving deposit <2161> from Tomb RT4, and robbing deposit <2164>.
- 5) Robbing of Tomb RT7; cuts <2454 & 2455> and deposit <2088 & 2116>.
- 6) Second robbing of Tombs CT1 and RT8; moving deposit <301> from the Tombs CT1 and RT8.

The discussion will concentrate on presenting the reasons for suggesting Tomb CT2 was built in Phase 16; for the description of Tomb CT2 wall <2082> see Appendix A: A. 4).

Each of the Phase 16 features listed above will be discussed separately; accordingly, the following discussion will be divided into six parts as follows: a) building Tomb CT2; b) robbing Tomb RT1; c) the second robbing of Tomb RT2; d) robbing Tomb RT4; e) robbing Tomb RT7; and f) the second robbing of Tombs CT1 and RT8.

### A. The building of Tomb CT2:

Only the part of this tomb that was located in square D36 was excavated (Fig. 3.67). However, the stratigraphy of the uncovered part clearly shows that Tomb CT2 wall <2082> was built directly on deposit <304> (Fig. 3.34). Since, deposit <304> is allocated to Phase 15 the building of Tomb CT2 is allocated to Phase 16.

Inside the excavated part of Tomb CT2 there are two triangle constructions <2078 & 2089> (Fig. 3.67), which were built to sub-divide the chamber of Tomb CT2. Although, these were not fully uncovered they are thought to be related to the original structure of Tomb CT2, since similar triangle-constructions were noted inside circular Tombs CT1 and CT2 in Mound 1 and inside Tomb CT3 in Mound 2 related to the same phase as the building of the walls. Thus, it can be assumed that the same is true for Tomb CT2 the building of which is allocated to Phase 16.

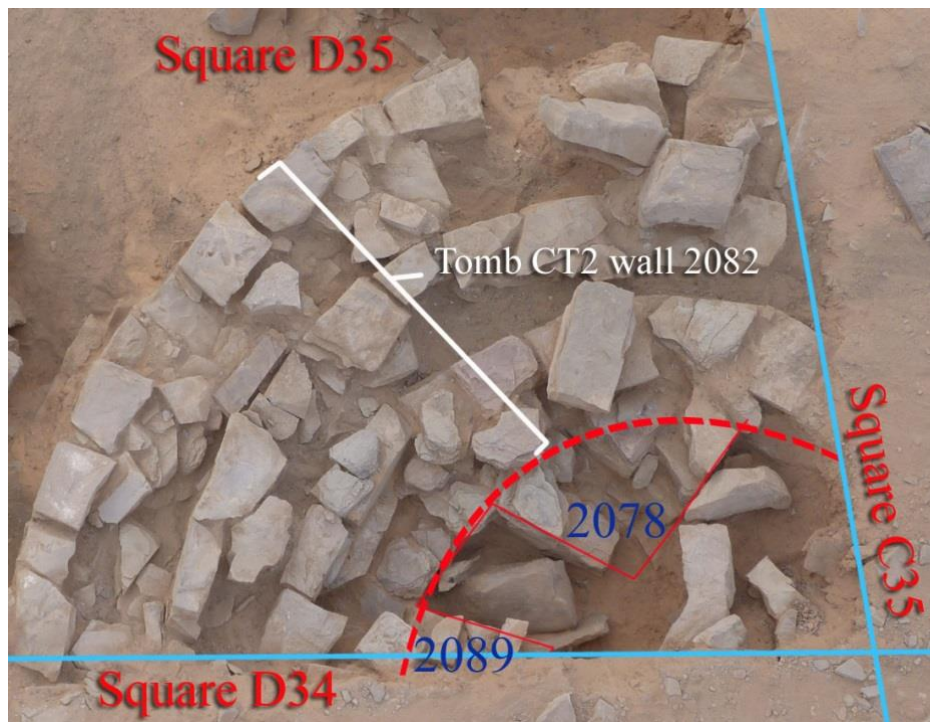


Fig. 3.67 The uncovered part of Tomb CT2, facing west, no scale.

## **B. The robbing of Tomb RT1**

As has been discussed above, deposits <2018 & 2019> (Fig. 3.32) are suggested to be related to the use of Tomb RT1 in Phase 8; whereby both deposits <2018 & 2129> are suggested to be originally from the burial deposit that is related to the use of Tomb RT1 in Phase 8.

Also, as has been discussed above, this burial deposit is suggested to be robbed, and during the robbing part of this deposit (represented by deposit <2129>) was thrown in to the north-western corner of Tomb RT1, and the other part (represented by deposit <2018>) was thrown to the west outside Tomb RT1.

Since, both deposits were found under deposit <303> (Fig. 3.32), which, as will be further discussed below, is allocated to Phase 18, the robbing of Tomb RT1 must be earlier than Phase 18; moreover, since deposit <2018> was found directly above deposit <304> (Fig. 3.32) of Phase 15; it seems reasonable to suggest that deposit <2018> was moved from Tomb RT1 in Phase 16 when the robbing of Tomb RT1 must have occurred.

## **C. The second robbing of Tomb RT2**

The second robbing of Tomb RT2 is illustrated by the moving of deposit <302> from the tomb. This is a deposit of fairly compact sand with many inclusions of stones of various sizes. It was located in the north-western part of square D35 and the north-eastern part of square D36; and the western part of deposit <302> was contiguous with the outer side of wall <2025> (Fig. 3.47 & 3.68). It has an irregular shape measuring 1.40m N/S, and 1.25m E/W. It was found above deposit <304> and under deposit <303> (Fig. 3.47). The depth ranges from 0.20m to 0.30m. Finds include very few bone fragments, several ceramic sherds and two shell fragments (see Table.2 in Appendix B).

Inside Tomb RT2 deposit <303> which, as will be further discussed below, is allocated to Phase 18, was found directly on the bedrock inside Tomb RT2 (Fig. 3.47); thus, it seems reasonable to suggest that Tomb RT2 was robbed and cleaned down to the bedrock before deposit <303> was deposited directly on the bedrock inside in Phase 18. Thus, the robbing of Tomb RT2 occurred earlier than Phase 18.

Therefore, the deposit that was removed from Tomb RT2 is likely to be found under deposit <303>. Deposit <302> was found near to Tomb RT2 (Fig. 3.68); at the same time, it was found under deposit <303> (Fig. 3.47); thus, it seems likely that this is the deposit removed from Tomb RT2 during the robbing/cleaning.

Moreover, deposit <302> was found directly above deposit <304> (Fig. 3.47), which is allocated to Phase 15. For this reason, it can be suggested that this deposit was removed from Tomb RT2 via a robbing/cleaning act in Phase 16. Furthermore, since Tomb RT2 is suggested to have been robbed in Phase 11, the removal of deposit <302> from Tomb RT2 in Phase 16 is suggested to be the second robbing of Tomb RT2.

It should be noted that, during the first robbing of Tomb RT2 in Phase 11 the burial deposit <2153>, which is suggested to be related to the use of Tomb RT1 in Phase 5, is also suggested to have been moved out of the tomb . Together with no indications of reuse of Tomb RT2 after the first robbing in Phase 11 and before the second robbing in Phase 16 it is clear that deposit <302> was deposited inside Tomb RT2 after the first robbing in Phase 11 and was moved out of the tomb during the second robbing of Tomb RT2 in Phase 16. Therefore, deposit <302> could have been deposited inside Tomb RT2 during any or all the phases from Phase 12 and Phase 15 but was removed from the tomb in Phase 16.

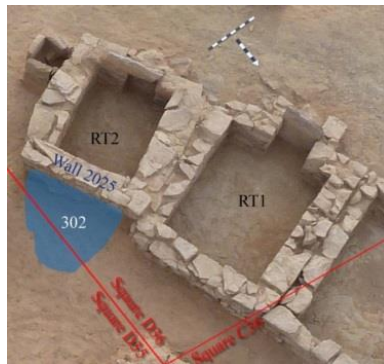


Fig. 3.68 Location of deposit <302>

#### **D. The robbing of Tomb RT4:**

Deposit <303> which, as will be further discussed below, is allocated to Phase 18, was deposited above deposit <2164> in the south-western part inside Tomb RT4 and directly

on bedrock in the other part of the tomb (Fig. 3.34). Therefore, it seems clear that Tomb RT4 was robbed and the area inside Tomb RT4 (except the south western part) was cleaned down to bedrock before deposit <303> was deposited directly on the bedrock in Phase 18. Thus, Tomb RT4 was robbed before Phase 18.

As has been discussed above, deposits <2161 & 2164> are suggested to be related to the use of Tomb RT4; and both were robbed. Both deposits were found under Phase 18 deposit <303> (Fig. 3.34). Therefore, it seems clear that this took place earlier than Phase 18.

Moreover, since the eastern part of deposit <2161> extended directly above deposit <304>, which is part of Phase 15, the robbing of Tomb RT4 must have taken place in Phase 16.

#### **E. The robbing of Tomb RT7:**

The robbing of Tomb RT7 is represented by deposits <2088 & 2116>, collapse <2049> and cuts <2454 & 2455>.

Deposit <2088> consists of compact sand with many inclusions of medium and small-sized stones. This deposit has an irregular shape measuring 0.65m N/S and 0.73 E/W, with 0.30m depth. The western part of the deposit <2088> was found above the eastern wall <2028> and deposit <303> (Fig. 3.43). This deposit also extended outside to the east of the eastern wall <2028> under deposit <303> and above deposit <304>. This deposit was heavily disturbed and finds from it included many bone fragments and ceramic sherds (see Table.2 in Appendix B).

Deposit <2116>, which consists of compact sand with many inclusions of medium and small-sized stones, has an irregular shape, measuring 0.90m in length and 0.50m wide, the depth ranges between 0.30m to 0.35m. The western part of the deposit was found in the space of the entrance <2066> and contiguous to the inner surface of the door stone slab <2068>; and also contiguous to collapse <2049> (Fig. 3.43). The northern part of deposit <2116> was found above deposit <2122> and under deposit <303> (Fig. 3.43). This deposit was heavily disturbed and finds from it included a large number of bones

that were heavily disturbed and many ceramic sherds including a complete vessel that was found upside down. Finds included a ring, part of an earring and a bracelet that were made of bronze (see Table.2 in Appendix B).

Collapse <2049>, which consists of different sized stones slabs, which ranged in length between 0.30m and 0.94m, was located in the western part of Tomb RT7. The lower part of this collapse was found directly above deposit <2122> and under deposit <303> (Fig. 3.43). This collapse seems to be a collapse of the slab stones that were used to roof Tomb RT7.

As has been discussed above, Tomb RT7 is suggested to have been used in two different phases; the early use is represented by deposit <2135> from Phase 3; and the later use is represented by deposit <2122> from Phase 5. Also deposits <2122 & 2135> extended only across the western half of Tomb RT7 where the western part of deposit <2135> terminated with cut <2455> which was found directly under cut <2454> in deposit <2122>, whilst the extents of deposits <2122 & 2135> to the west of the cuts <2454 & 2455> in the eastern half of Tomb RT7 are missing (Fig. 3.43).

Thus, since cut <2455> in deposit <2135> was found directly under cut <2454> in deposit <2122>, it seems reasonable to suggest that both deposits were cut and robbed during the same robbing/cleaning activity; which must be later than the later use deposit <2122> from Phase 5.

Deposit <303>, as will be further discussed below, is allocated to Phase 18. This deposit was deposited directly above cuts <2454 & 2455> and also deposited directly on the bedrock in the eastern half of Tomb RT7 (Fig. 3.43). Therefore, it seems reasonable to suggest that the eastern parts of deposits <2135 & 2122> were robbed and the eastern half of Tomb RT7 was cleaned down to bedrock before Phase 18 deposit <303> was deposited above the cuts as deposits <2135 & 2122>, whilst being deposited directly on bedrock in the eastern half of Tomb RT7.

Therefore the robbing of Tomb RT7 must have been later than Phase 5 deposit <2122> and earlier than Phase 18 deposit <303>.

From the stratigraphy inside Tomb RT7 the collapse <2049> contains large slab stones that must be the remains of the roof. This collapse was found above Phase 5 deposit <2122> and below Phase 18 deposit <303> (Fig. 3.43). Thus, collapse <2049> was found in a similar stratigraphic position as cuts <2454 & 2455>; thus, it can be assumed that collapse <2049> and cuts <2454 & 2455> result from the same robbing/cleaning activity which was after Phase 5 and before Phase 18.

Deposit <2116> was heavily disturbed and was found in the western part of Tomb RT7 above collapse <2049> and under deposit <303> (Fig. 3.43). Deposit <2088> was heavily disturbed and was found above the eastern wall <2028> of Tomb RT7 and under deposit <303>. Thus, the location indicates both deposits to be related to Tomb RT7. Moreover, since deposit <2116> was found above collapse <2049>, and deposit <2088> was found above the eastern wall <2028>, and both deposits were heavily disturbed, it seems reasonable to suggest that both deposits ended in this location due to robbing/cleaning activity which must have occurred earlier than Phase 18 deposit <303>.

Therefore, it can be assumed that deposits <2088 & 2116> originally formed the missing parts of deposits <2122 & 2135> that were moved from the eastern half of Tomb RT7 due to robbing/cleaning.

Therefore, collapse <2049>, cuts <2454 & 2455>, and the moving of deposits <2088 & 2116> from Tomb RT7 can be assumed to have occurred during the same robbing/cleaning activity, which occurred later than Phase 5 and earlier than Phase 18. Moreover, since the extent of deposit <2088> outside Tomb RT7 was found directly above deposit <304>, which is part of Phase 15; it can be suggested that deposit <2088> was deposited in Phase 16. Therefore, it can be suggested that the robbing of Tomb RT7 including all of the related activity described above also occurred in Phase 16.

It should be noted that the eastern half of Tomb RT7 was robbed and cleaned down to bedrock, and since both deposits <2088> and <2116> are suggested to have been moved from the eastern part of Tomb RT7; it seems reasonable to assume that each of these is made up of a mix of the early and later use deposits <2122 & 2135> from Phase 3 and deposit from Phase 5.

## **F. The second robbing of Tombs CT1 and Tomb RT8**

The second robbing of Tombs CT1 and RT8 is illustrated by the removal of deposit <301> from the tombs. This deposit consists of loose sand with many inclusions of large, medium and small sized stones. It was found in the south-western part of square D35 and extended into the south-eastern part of square D36; it has an irregular shape measuring 2.5m N/S and 5m E/W (Fig. 3.69).

The part of deposit <301> that extended above the top of Tombs CT1 and RT8 walls (wall <2137> of Tomb CT1 and walls <2050 & 2052 of Tomb RT8), was found under deposit <303> (Fig. 3.29); whereas the part of deposit <301> that was found above the western wall <2054>, was found directly under the surface deposit <300>. Moreover, the extent of deposit <301> outside Tombs CT1 and RT8 was found directly above deposit <304> and under deposit <303> (Fig. 3.29). The depth of deposit <301> ranged between 0.15m to 0.40m. Finds from deposit <301> included a few bone fragments (see Table. 2 in appendix B).

As has been discussed above, Tomb RT8 was built inside Tomb CT1 within which it occupied a large area. Deposit <303> which, as will be further discussed below, is part of Phase 18, was deposited directly on the bedrock inside Tomb CT1, in the area that is not occupied by Tomb RT8 and directly on the bedrock inside Tomb RT8. Therefore, it is clear that both Tombs CT1 and RT8 were robbed and cleaned down to the bedrock before Phase 18 deposit <303> was deposited directly on the bedrock inside these tombs. Thus, the original deposits which were removed during this robbing/cleaning activity are likely to be located outside the tombs under deposit <303>.

Deposit <301> is the only deposit that was found above and around Tombs CT1 and RT8 walls and at the same time, it was found under deposit <303>; therefore, it seems that deposit <301> must be the deposit that was removed from Tombs CT1 and RT8 during the robbing/cleaning.

Moreover, since deposit <301> outside the Tombs CT1 and RT8 was found directly above the deposit <304>, which is part of Phase 15 Tombs CT1 and RT8 must have been robbed and cleaned down to the bedrock in Phase 16.



Moreover, since Tomb CT1 was robbed in Phase 2, and Tomb RT8 was robbed in Phase 8, the robbing of both tombs in Phase 16 is suggested to be the second robbing of both tombs.

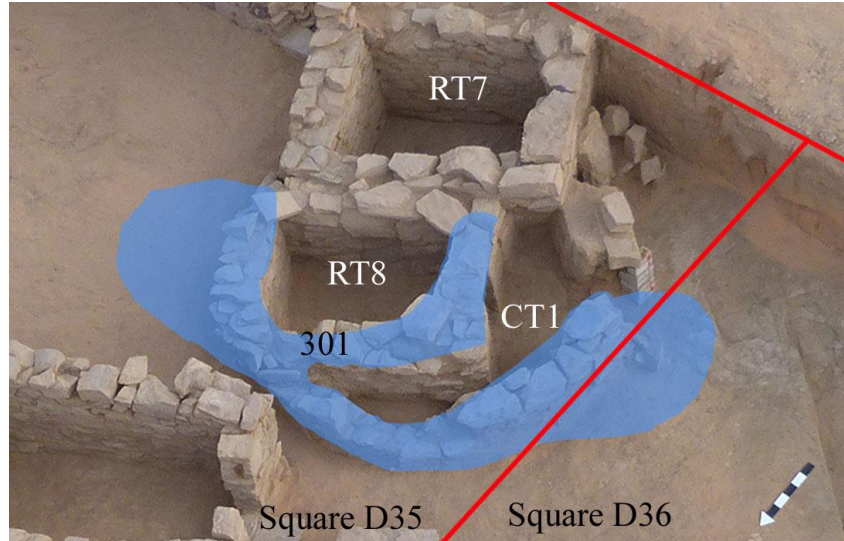


Fig. 3.69 The extent of deposit <301> in blue.

### **Phase 17:**

This Phase represents:

- 1) Robbing Tomb CT2
- 2) The second robbing of Tomb RT3
- 3) Robbing Tomb RT9

In the following discussion each of the Phase 17 features listed above will be discussed separately as follows; a) robbing tomb CT2; b) robbing Tomb RT9; and c) the second robbing of Tomb RT3.

#### **A. The robbing of Tomb CT2**

As has been discussed above only the south western part of Tomb CT2, which is located in square D35 was uncovered; and since Tomb CT2 wall <2082> was built directly on deposit <304>, which is part of Phase 15 the building of Tomb CT2 is suggested to have occurred in Phase 16 later than Phase 15 deposit <304>.

Inside Tomb CT2 there is deposit <2099>, which consists of loose sand with many inclusions of large to medium-sized stones. This deposit was found under the surface deposit <300> (Fig. 3.34). Deposit <2099> was excavated only to a depth of 0.37m. The large stones that were found in this deposit extended into squares C34, C35 and D34. It was difficult to remove these stones without excavating the part of the deposit that is located in these squares; whereas, the excavation permission at Mound 2 was restricted to squares (D35 & D36).

However, since there are no remains of the roof in the excavated part of Tomb CT2, and the area inside the uncovered part of the tomb was filled with loose sand deposit <2099>, it seems reasonable to suggest that the Tomb CT2 was robbed before the sandy deposit <2099> was deposited inside Tomb CT2.

Moreover, deposit <2099> was found inside Tomb CT2 and under the surface deposit <300>, therefore, deposit <2099> was later than the building of Tomb CT2 Phase 16 and earlier than deposit <300>. From the stratigraphy outside Tomb CT2, a loose sand deposit <303> was found under surface deposit <300> and it was deposited against the outer side of wall <2082> of Tomb CT2 (Fig. 3.34). Therefore, both deposits <2099 & 303> were later than building Tomb CT2 and earlier than deposit <300>, and both deposits consist of loose sand. Therefore, it seems likely that both deposits <2099 & 303> were part of the same deposit which was deposited inside and outside the Tomb CT2 after the robbing of Tomb CT2.

Therefore, it can be assumed that Tomb CT2 was built in Phase 16; and robbed in Phase 17; before deposits <2099 & 303> were deposited inside and outside Tomb CT2 in Phase 18.

## **B. The robbing of Tomb RT9**

The robbing of Tomb RT9 is illustrated by deposit <2100> and cut <2444> in deposit <2100>. Deposit <2100>, as has been discussed above, is suggested to be related to the use of Tomb RT9 in Phase 14. This deposit was heavily disturbed and the eastern part of this deposit ends with cut <2444> in which has removed it from the eastern half of the tomb (Fig. 3.55).

Moreover, deposit <303>, which is allocated to Phase 18, was deposited above deposit <2100> and above cut <2444> but directly on bedrock in the eastern part of Tomb RT9 (Fig. 3.55). Therefore, it seems that Tomb RT9 was robbed or cleaned, and during this activity deposit <2100> was cut and the eastern part of Tomb RT9 was cleaned down to bedrock before Phase 18 deposit <303> was deposited above deposit <2100> in the western half of the tomb, and directly on the bedrock in the eastern half of the tomb. Therefore the robbing of Tomb RT9 can be allocated to Phase 17.

### **C. The second robbing of Tomb RT3**

As has been discussed above, deposit <2170> represents the later use of Tomb RT3 in Phase 11. This deposit was found in the south-western corner of Tomb RT3, and its extent to the north and to the west ends with cut <2168> (Fig. 3.43). Therefore, it seems that deposit <2170> was removed and during this event deposit <2170> was cut removed to the north and to the west.

Deposit <303>, which is allocated to Phase 18, was deposited directly above deposit <2170> and also directly above cut <2168> (Fig. 3.43). Thus deposit <2170> was robbed earlier than Phase 18, i.e. in Phase 17. Moreover, since the early-use deposit <2178> of Tomb RT3 is suggested to have been robbed in Phase 9, the robbing of later-use deposit <2170> is suggested to represent the second robbing of Tomb RT3 in Phase 17.

### **Phase 18:**

This phase is illustrated by deposits <303 & 2099>. Deposit <303> consists of loose sand with a few inclusions of small-sized stones. This deposit extended across tombs in squares D35 and D36 (Fig. 3.70). The depth ranges from 0.20m to 1.15m. Finds included many bone fragments and a large number of ceramic sherds, a gold earring and a slab stone that is inscribed with a Thamudic inscription (see Table.2 in Appendix B).

In general deposit <303> was found above Phase 15 deposit <304> and under surface deposit <300> (Phase 19). However, since it was found above cuts <2168 & 2444> (Figs. 3.43 & 3.55) which are suggested to result from the robbing activity in Phase 17; it is clear that deposit <303> is later than Phase 17. For this reason it is allocated to Phase 18.

Also, since deposit <303> seems to be wind-blown sand that had naturally accumulated on a large area of squares D35 and D36 it is interpreted as an abandonment phase. Furthermore, since there are five previous abandonment phases (Phases; 4, 7, 10, 13 & 15) this deposit represents the sixth (Phase18).

Deposit <2099>, as has been discussed above, consists of loose sand and is suggested to have been deposited inside Tomb CT2 after the robbing of the tomb in Phase 17. It was found under surface deposit <300>, which represents the last phase (Phase 19). Therefore, deposits <303 & 2099> are loose sand deposits and both were found in similar stratigraphic positions later than the robbing of Tomb CT2 in Phase 17 and earlier than Phase 19 deposit <300>. Thus, t both deposits are interpreted as having been deposited during the same abandonment phase -Phase 18.

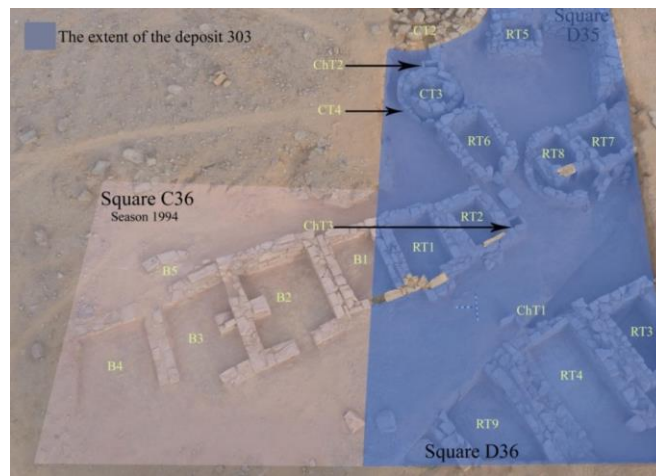


Fig. 3.70 The extent of deposit <303> in blue.

### Phase 19:

This Phase was the latest phase in the excavated part of Mound 2; it is represented by surface deposit <300> which is the modern surface of squares D35 and D36 (Figs; 3.71 & 3.72).

Deposit <300> consists of loose, deflated sand with a large number of inclusions of different sized stones. With the exception of the south-western corner of Tomb B1, the north western corner of Tomb RT1, and the north western corner of Tomb RT2, which was visible on the surface in the north eastern part of square D35 (Fig. 3.73), the other

tomb walls and deposits were covered by this deposit. It has a thickness ranging from 0.03 m. to 0.10 m. Finds included many bone fragments, a large number of ceramic sherds and a slab stone that is inscribed with a Thamudic inscription (see Table.2 in Appendix B).

Since deposit <300> covered deposit <303>, which is allocated to Phase 18, represent it is allocated to the last - Phase 19.

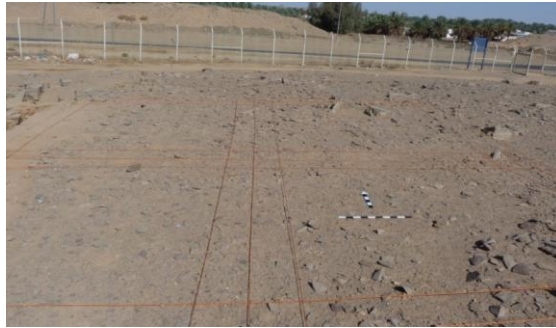


Fig. 3.71 The surface of square D35, facing north, scale 1x0.5m & 1x1m.



Fig. 3.72 The surface of square D35, facing north, scale 1x0.5m & 1x1m.

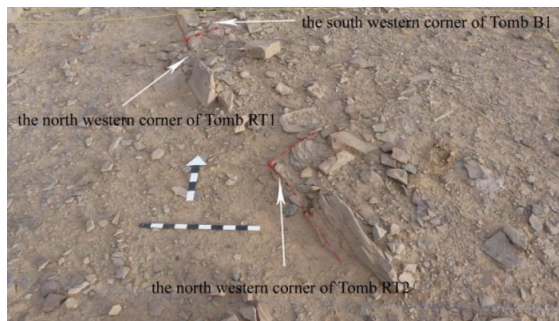


Fig. 3.73 The parts of the walls of Tombs RT1 and RT2 that appeared on the north eastern part of surface of square D35, facing north, scale 1x0.5m & 1x1m.

### 3.4. The Conclusion

As has been stated in the introduction of this chapter, the aim of this excavation in Şinā'iyah site was to provide a full ceramic recorded; accordingly, this chapter has discussed in detail the archaeological sequence from where the ceramics were recovered.

In this chapter we have set out the results of the excavations in two different locations in Şinā'iyah site: Mound 1 where only two tombs were uncovered, and whose stratigraphy was divided into ten phases. The other excavated location was Mound 2, where seventeen tombs were uncovered; and whose stratigraphy was divided into twenty phases.

From Mound 1, each deposit was suggested to be related to a specific phase (see table. 3.4 below).

No.	Deposit	Phase	Location	Related to	Later change
1	1039	1	Outside-nearby Tomb CT2	Tomb CT2	Moved outside the tomb in Phase 2
2	1072	1	Outside-nearby Tomb CT1	Tomb CT1	Moved outside the tomb in Phase 4
3	203	3	First abandonment deposit		
4	201	5	Outside-nearby Tomb CT1	Tomb CT1	Both deposits were suggested to be two parts that originally formed the deposit which was related to the second use of Tomb CT1. This deposit was robbed and moved out of Tomb CT1 in Phase 7
5	1029				
6	202	6	Second abandonment deposit		
7	1014	8	Third abandonment deposit		
8	200	9	Modern surface		

Table. 3.4 Mound 1 deposits.

While, from Mound 2 there are two types of deposits; the first represents the deposits that were suggested to be related to one phase (see table. 3.5 below); and the second type represents the deposits that were suggested to be a mix of deposits of more than one phase (see table 3.6 below).

No.	Deposit	Phase	found location	Related to	Later change
1	2336	1	Outside-nearby Tomb CT1	Tomb CT1	Moved outside the tomb in Phase2
2	308		Outside-nearby Tomb CT4	Tomb CT4	Moved outside the tomb in Phase2
3	2126	3	Outside-nearby Tomb CT3	Tomb CT3	Moved outside the tomb in Phase 11
4	2086		Inside Tomb RT6	Tomb RT6 Early use	Part of this deposit moved outside the tomb in Phase 11
5	2233		Outside-nearby Tomb RT8	Tomb RT8	Moved outside the tomb in Phase 8
6	2135		Inside Tomb RT7	Tomb RT7 Early use	Part of this deposit moved outside the tomb in Phase 16
7	309	4	<b>First abandonment phase</b>		
8	2085	5	Inside Tomb RT6	Tomb RT6 Later use	Part of this deposit moved outside the tomb in Phase 11
9	2122		Inside Tomb RT7	Tomb RT7 Later use	Part of this deposit moved outside the tomb in Phase 16
10	2153		Outside-nearby Tomb RT2	Tomb RT2	Moved outside the tomb in Phase 11
11	2083		Outside-nearby Tomb RT5	Tomb RT5	Moved outside the tomb in Phase 5
12	307	7	<b>Second abandonment phase</b>		
13	2018	8	Outside-nearby Tomb RT1	Tomb RT1	Moved outside the tomb in Phase 16
14	2129		Inside Tomb RT1	Tomb RT1	Robbed in Phase 16
15	2178		Inside Tomb RT3	Tomb RT3	Robbed in Phase 9
16	306	10	<b>Third abandonment phase</b>		
17	2144	11	Inside Tomb ChT3	Tomb ChT3	Undisturbed
18	2170		Inside Tomb RT3	Tomb RT3	Large part of this deposit is missing due to robbing in Phase 17
19	305	13	<b>Fourth abandonment phase</b>		
20	2171				
21	2100	14	Inside Tomb RT9	Tomb RT9	Robbed in Phase 17
22	304	15	<b>Fifth abandonment phase</b>		
23	303	18	<b>Sixth abandonment phase</b>		
24	2099				
25	300	19	<b>Modern surface</b>		

Table. 3.5 Mound 2 deposits that were suggested to be related to one phase.

No	Deposit	Phase	Location	Related to	Later change
1	2161	From Phase 11 to Phase 15	Outside-nearby Tomb RT4	Tomb RT4	These deposits were suggested to be a mix of burial deposits of Tomb RT4 and sand of abandonment phase or phases; however, finds from these deposits can be suggested to be related to the use of Tomb RT4 in Phase 11; and these deposits were robbed in Phase 16
2	2164		Inside Tomb RT4		
3	302	From Phase 12 to Phase 15	Outside Tomb RT2	Tomb RT2	This deposit is suggested to represent a mix of abandonment deposits that accumulated inside tomb RT2 after the first robbing Phase 11, and before the second robbing Phase 16.
4	2088	Phase 3 and Phase 5	Outside nearby Tomb RT7	Tomb RT7	Both deposits <2088 & 2116> are suggested to be a mix of the early and later use deposits <2135 & 2122> of Tomb RT7
5	2116		Inside Tomb RT7		
6	2081	Phase 3 and Phase 5	Outside nearby Tomb RT6	Tomb RT6	Both deposits <2081 & 2097> are suggested to be a mix of the early and later use deposits <2086 & 2085> of Tomb RT6
7	2097				
8	301	Could be between Phases 3 and 15	Outside nearby Tombs CT1 and RT8	Tombs CT1 and RT8	This deposit is suggested to represent a mix of abandonment deposits that accumulated inside Tomb CT1 (the part of this tomb that was not occupied by Tomb RT8) after the first robbing of Tomb CT1 in Phase 2, and before the second robbing of Tomb CT1 in Phase 16; and also a mix of abandonment deposits that accumulated inside Tomb RT8 after the first robbing of Tomb RT8 in Phase 8; and before the second robbing of Tomb RT8 in Phase 16.

Table. 3.6 Mound 2 deposits that are suggested to be related to more than one phase.

During these excavations a large amount of ceramic sherds (5436 ceramic sherds), was derived from the excavations in both Mound 1 and 2 (see tables 1 and 2 in appendix B). As a part of the study process that has been set out in Chapter 1, this ceramic will be described and classified in the following chapter.



## Chapter 4: Ceramic classification

## **4. Chapter 4: Ceramic classification**

The ceramics which were derived from the excavation at Mound 1 and 2 in Şinā'iyah site will be described and classified in the current chapter.

### **m. 4.1. Introduction:**

A large amount of ceramics was derived from the excavations at Mound 1 and 2 in Şinā'iyah site. Ceramic sherds were found in many deposits from different stratigraphic phases.

These ceramics were made of various fabrics and in various forms; they were finished with various slips and decorated with various decorative methods, patterns and motifs. The study and classification of this ceramic is expected to provide important information that will allow us to determine the ceramic types that appeared at Şinā'iyah site. This information will be used in the following chapters to determine the distribution and the chronology of these ceramics, which are two of the main objectives of the current study.

The main aims of this chapter are as follows: firstly, to produce a full and clear description of the ceramics from the Şinā'iyah excavations; secondly, to classify those ceramics into coherent and meaningful groups based on their physical attributes.

The following chapter will be divided into three sections; the first will outline the methodology that has been used to classify the ceramics under discussion; the second will present the results of the ceramic classification; the third will present the conclusions.

### **n. 4.2. Classification Methodology:**

Altogether 5,436 ceramic sherds were studied from the excavations on the two mounds. The classification of these ceramics was achieved through five stages:

#### **Stage 1: recording the ceramic sherds**

Each ceramic sherd was recorded in the following manner:

1. A number of descriptive variables were recorded from each sherd. These were: Sherd number (a sequential number allocated to all sherds); the number of the deposit from

whence the sherd came. The definition of each sherd includes a description of the surviving pot parts (complete vessel, rim, body, base, rim and body, body base, etc.)

2. Ceramic fabrics: Giannetta (2009) has divided Tayma ceramic fabrics into nine main petrographic groups, each of these groups can be determined by the naked eye since the description of the main petrographic groups includes fabric colour, coarseness levels and inclusion size. The present writer, with the participation of Francelin Tourtet, has divided the Şinā‘iyyah ceramics site into eight fabric groups; of which five were identical to five of Giannetta’s petrographic groups, whilst three were not identical to any of Giannetta’s groups, see Table No. 4.1 below:

Fabric Groups	Description	Giannetta’s petrographic group
Group 1	White, very fine with very few inclusions	Petrographic Group 2
Group 2	Reddish-brown, fine with inclusions size less than 1mm	Petrographic Group 1
Group 3	Light brown, coarse with many inclusions more than 1mm up to 3mm	Petrographic Group 3
Group 4	Yellow sandy fabric, very fine with very few inclusions ( <b>one sample</b> )	Petrographic Group 5
Group 5	Grey fabric with organic inclusions ( <b>one sample</b> )	Not attested
Group 6	Light red (pinkish) with organic inclusions ( <b>one sample</b> )	Not attested
Group 7	Faience ( <b>one sample</b> )	Petrographic Group 9:
Group 8	Similar to Fabric group 3 but the inclusions size reaches 6mm ( <b>one sample</b> )	Not attested

Table. 4.1 Şinā‘iyyah Fabric Groups.

As can be seen in Table 4.2, five fabric groups (4, 5, 6, 7 and 8) were represented by only one sample each. If these are discounted, the vast majority of Şinā‘iyyah ceramics were divided into first three fabric groups; 1, 2 and 3, which are respectively identical to Giannetta’s Petrographic Groups 2, 1 and 3.

3. Slips were divided according to their colour. Sherds were grouped, according to the location of the slip, into four groups: 1) inner surface, 2) outer surface, 3) both surfaces and 4) no slip.

4. Forms were grouped based on a structured type-series, which consists of two steps. The first step is to divide the ceramic forms into form classes (bowls, incense burners, jars, etc.). The second step is to divide each form class into sub-forms or types (bowls type 1 (BO1), bowls type 2 (BO2), bowls type 3 (BO3), etc.).

It should be noted that the incense burners in the main groups have a form that looks like cups or flasks; however, Abu Duruk (1990, 1991 & 1996) has classified this shape as incense burners since there are fire effects inside the vast majority of them. The fire effects inside the same shape has been observed in Şinā'iyah, especially those which were found *in situ*, had remains of charcoal and ash inside them (Fig. 4.1). Moreover, Maeoff (2006) has studied the incense burners from different locations in Arabia and named this shape in Tayam as incense burners. For this reason, in the following discussion this shape will be named as incense burner. It should be noted that it is not certain if this shape was exclusively used for this purpose or not. Other forms were classified based on the shape only, where there is no evidence which indicates how they were used.



Fig. 4.1 Remains of ash and charcoal inside the incense burners.

5. The decorations were divided according to:

A. Decoration location: 1) on inner surface, 2) on outer surface, 3) on both surfaces and 4) no decoration.

B. Decoration methods: painting, incising, slip trailing, etc.

C. Decoration pattern, the decoration patterns were divided into main groups according to the decoration methods, and each main group was divided into sub groups according to the style of the decoration.

D. Decoration motifs.

### **Stage 2: Determining the main variables**

It was observed that there are many similarities between the ceramics; as a result, to divide these ceramics into meaningful groups and to show the differences as well as the similarities between these groups, the previous studies such as Hausleiter (2014) have used eight features (fabric, form, slip colour, slip location, decoration location, decoration method, decoration patterns and decoration motifs), to point out the similarities and differences between the ceramics from different locations in Tayma. These eight features appeared to be the most useful variables with which to group the Şinā'iyah ceramics.

### **Stage 3: Grouping the complete and semi-complete vessels**

To develop our understanding of the similarities and differences between the ceramic groups, the complete vessels (14 vessels) and semi-complete vessels (644 sherds) were grouped into six main categories. Here 'semi-complete vessel' means that the sherd includes rim, body and base; which clearly show the vessel form but is not complete.

Accordingly, 654 ceramic vessels and sherds were grouped based on the eight features mentioned above, into six ceramic groups; whereas, four ceramic sherds were considered as 'unique sherds' as they could not be allocated to groups.

### **Stage 4: Grouping the ceramic sherds**

After identifying the ceramic features in each group in stage 3, the ceramic sherds were divided into the same groups based on the similarity between each ceramic sherd and the

ceramic group features. The majority of the ceramic sherds were securely fitted in the same groups. Accordingly, 2,961 ceramic sherds were grouped into six main groups; whereas, another five ceramic sherds were added to the ‘unique sherds’.

Accordingly, after stages 3 and 4, the number of the ceramics that had been grouped is 3,624 ceramics; 3,615 ceramic sherds were grouped into six main groups; and nine ceramic sherds were considered as unique sherds. Although the unique sherds were only nine representing less than 1% of the total ceramic assemblage, these sherds play an important role in the discussion about the distributions and chronology of the ceramic groups. These sherds will be included in this chapter.

There are many similarities as well as differences between the main ceramic groups; however, there are some differences that can be considered as distinguishing features which can be used to distinguish each group from the others. For example:

Ceramic Group 1: was distinguished from the other groups based on the slip colour as all the sherds in this group were slipped with red slip, which is not attested in the other groups (Figs. 4.2 & 4.3).



Fig. 4.2 Bowl with red slip (Ceramic Group 1)

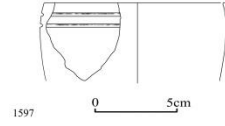


Fig. 4.3 Part of bowl with red slip (Ceramic Group 1)

Ceramic Group 2: ceramics in this group were distinguished from Ceramic Groups 1 and 6 based on the slip colour. This group was slipped with a yellow slip which does not appear in Groups 1 and 6. Group 2 can be distinguished from the other ceramic group

based on the limited nature of decoration motifs which consist only of lines; wavy lines, straight lines and crossed lines (Figs 4.4 & 4.5).

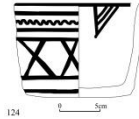


Fig. 4.4 Deep bowl decorated with wavy, straight and crossed lines (Ceramic Group 2)

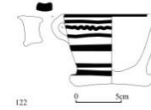


Fig. 4.5 incense burner decorated with horizontal wavy and straight lines (Ceramic Group 2)

Ceramic Group 3: ceramics in this group were distinguished from Ceramic Groups 1 and 6 based on the slip colour as this group was slipped with a yellow slip which does not appear in Groups 1 and 6. Group 3 ceramics were distinguished from Groups 2 and 5 based on the decoration motifs; where, with the exception of only four sherds, the other ceramic sherds in Group 3 were decorated with a horizontal frieze filled with nets (crossed hatches) (see Fig. 4.6) which is not seen in Groups 2 and 5. Group 3 ceramics can be distinguished from Group 4 based on two features: Firstly, the decoration motifs as the vast majority of Group 4 ceramics are decorated by checker motifs (Figs. 4.8 & 4.9); which are not found in Group 3 ceramics. Secondly, the number of horizontal friezes on the outer surfaces of the deep bowls, which are the most common forms in both groups. Deep bowls in Group 3 were decorated with two to three horizontal friezes (for example see Fig. 4.6) whereas the number of the horizontal friezes were between six to twelve horizontal friezes in Group 4 (for example see Fig. 4.8: A & B) (It should be noted that the number of friezes in Group 4 was based on sherds, as there is no complete deep bowl from Group 4 from this excavation; therefore, the maximum number of the horizontal friezes on Group 4 bowls might be more than twelve).

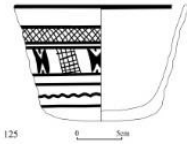


Fig. 4.6 Deep bowl decorated with three horizontal friezes (Ceramic Group 3).

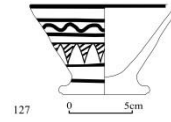


Fig. 4.7 Incense burner decorated with two horizontal friezes the upper frieze filled with wavy lines and the lower frieze filled with triangles (Ceramic Group 3).

Ceramic Group 4: ceramics in this group can be distinguished from Ceramic Groups 1 and 6 based on slip colour; as this group was slipped with a yellow slip which does not appear in Groups 1 and 6. Group 4 ceramics can be distinguished from the other groups based on the decoration motifs; as the vast majority of Group 4 ceramics were decorated with a checker motif (Figs. 4.8 & 4.9); which was absent from the other groups.

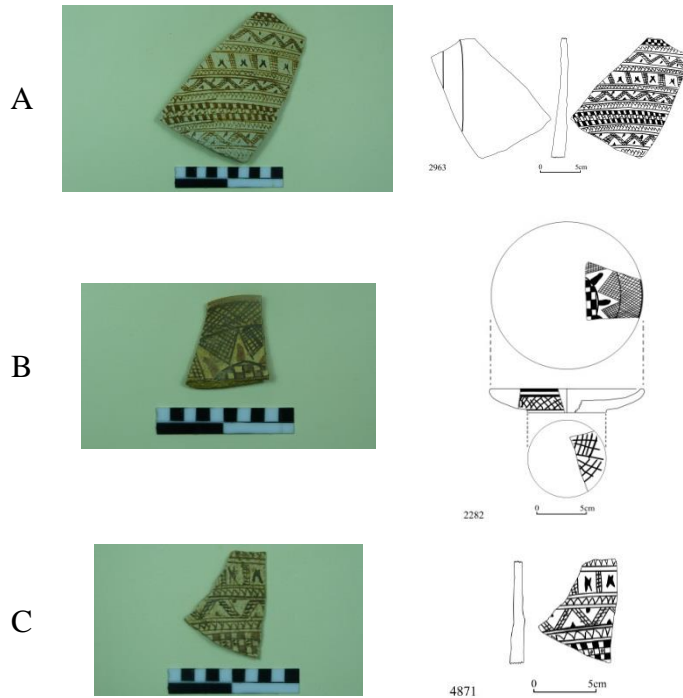






Fig. 4.8 A-B sherds of deep bowls; C-D parts of plates (Ceramic Group 4).



Fig. 4.9 Incense burner (Ceramic Group 4).

Ceramic Group 5: ceramics in this group were distinguished from Ceramic Groups 1 and 6 based on the slip colour. This group was slipped with a yellow slip, which does not appear in Groups 1 and 6. Ceramic Groups 2 to 4 can be distinguished from Group 5 mainly based on two features: Firstly, based on the form, as the most common shapes in Group 5 are shallow bowls and vases (Fig. 4.10); whereas, there are no such vases in Groups 2, 3 and 4. In addition the shallow bowls are very rare in Groups 3 and 4, and no shallow bowls were found in Group 2. Moreover, the most common shapes in Groups 2 to 4 were deep bowls and incense burners, whereas, there are no incense burners in Group 5 ceramics; and the deep bowls in Group 5 were very rare. Secondly based on the decoration motifs, whereby the most common decoration motifs in Group 5 were the horizontal friezes that are filled with like-comma shapes or upside down commas (Fig. 10: A & B), and the horizontal friezes that are divided by a group of vertical lines with empty zones between them (Fig. 4.10: A, C & D); both motifs were absent from the Groups 2, 3 and 4.

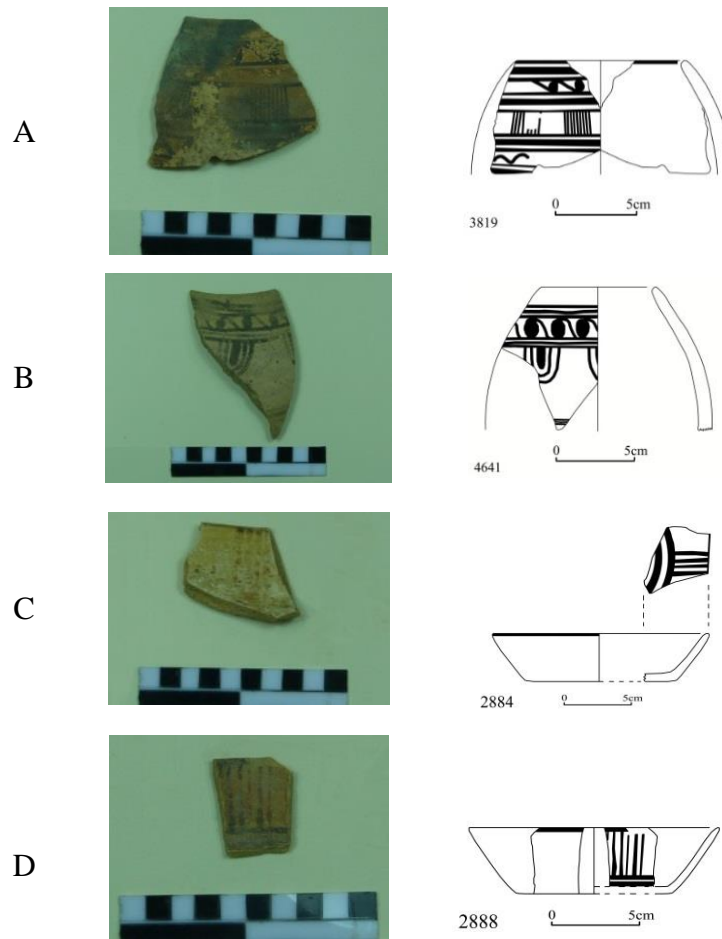


Fig. 4.10 A-B parts of jugs; C-D parts of bowls (Ceramic Group 5).

Ceramic Group 6; is distinguished from the other groups mainly based on the slip colour: the shallow bowls and plates were slipped with white slips (Fig. 4.12: A-C); and the other forms were slipped with brown slips or brown burnished (Fig. 4.11: A-D); whereas white and brown slips are not attest in the other groups.

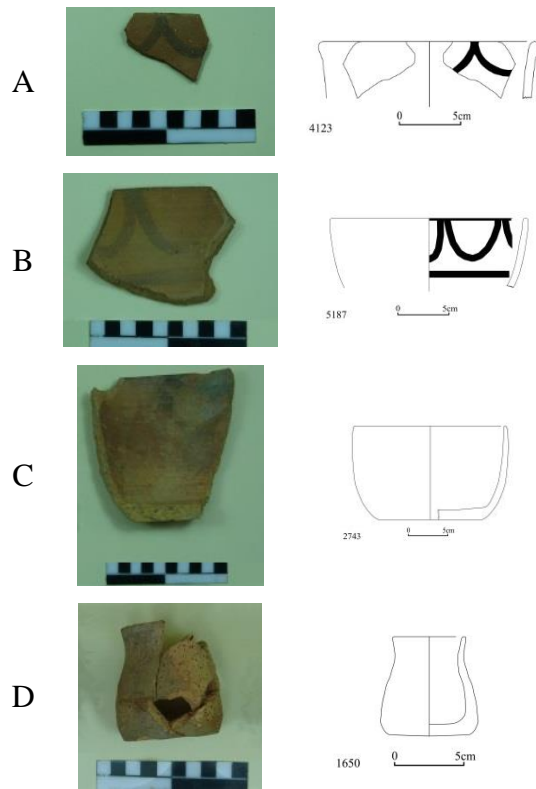


Fig. 4.11 A-D sherds with brown slip (brown burnished), Ceramic Group 6.

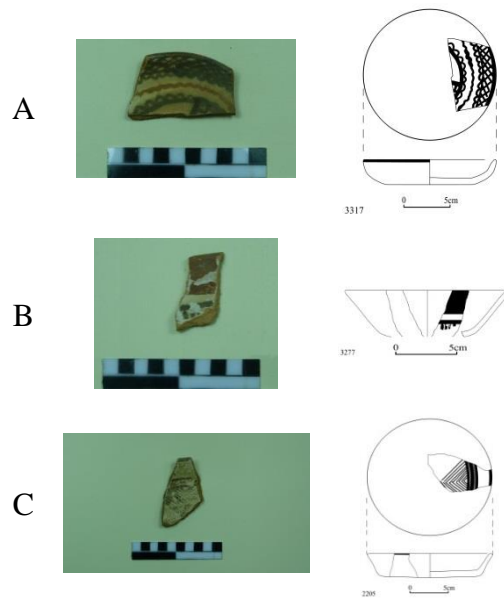


Fig. 4.12 A- C ceramic sherds with white slips on the inner surfaces (Ceramic Group 6).

Unique Sherds: these sherds were considered as unique sherds since their physical attributes do not match any of the main groups, for example:

1. Sherd nos. 143 (Fig. 4.13: A), was slipped with grey slip (grey burnished), which is not attested in any group.
2. Sherd no. 1682 (Fig. 4.13: B), was decorated by incised on brown slip; these features together are not attested in any of the groups.
3. Sherd no. 1653 (Fig. 4.13: C), was made of faience fabric that is not attested in any of the groups
4. Sherd no. 114 (Fig. 4.13: D), was made of light red (pinkish) fabric with organic inclusions, which does not attest is not attested in any of the groups.
5. Sherd no. 135 (Fig. 4.13: E), was made of grey fabric with organic inclusions, which is not attested in any of the groups.
6. Sherds nos. 4025 and 4676 (Fig. 4.13: G), were made of white fabric and decorated only by incised on yellow slips; these features together are not attested in any of the groups.
7. Sherd no. 1630 (Fig. 4.13: F), was made of very fine yellow sandy fabric with very few inclusions; which is not attested in any of the groups.
8. Bowl no. 142 (Fig. 4.13: H), was made of Fabric Group 3 and decorated only by incised with no slip; these features together are not attested in any of the groups.

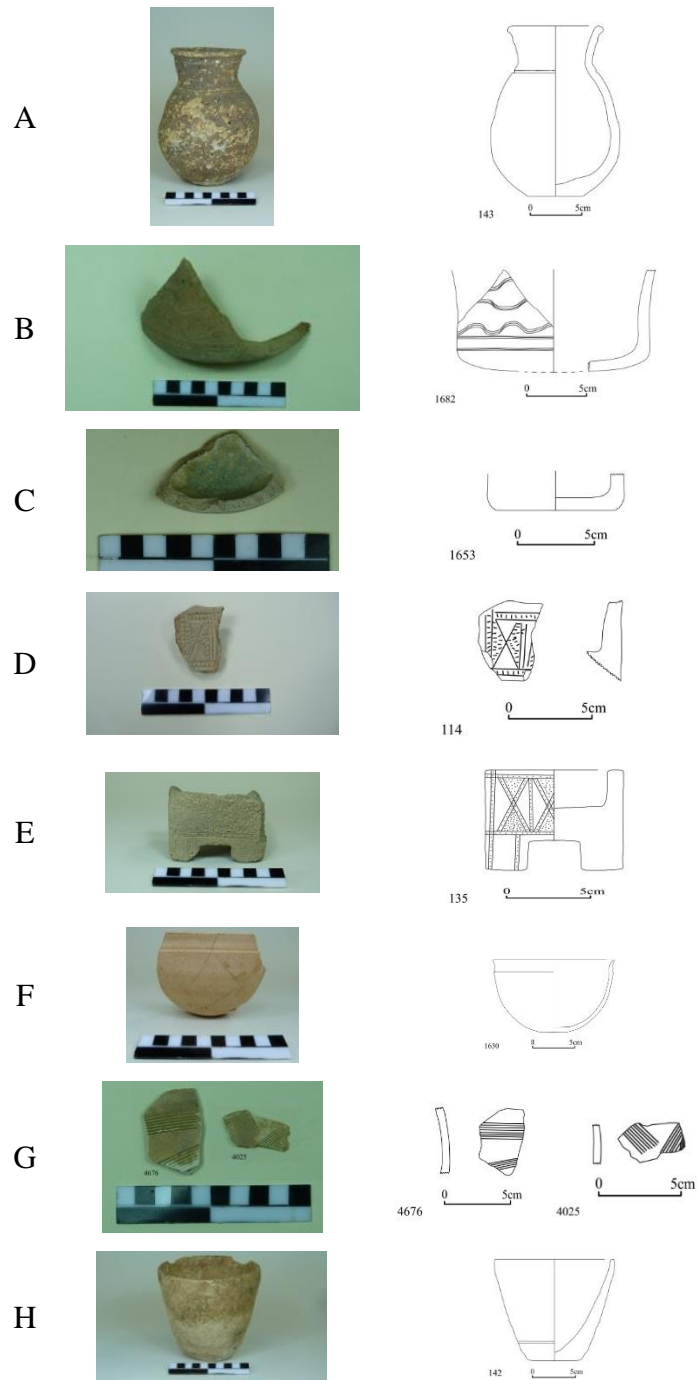


Fig. 4.13 A to H the unique sherds.

### Stage 5: Undefined ceramic sherds

The other ceramic sherds (1,812 sherds) were small undecorated sherds, of which neither forms nor decorations are visible. The only available information about these sherds were the fabrics and the slips; where these sherds were made of Fabric Groups 1 and 3; and

they were slipped with yellow slips. Whereas, yellow slips on Fabrics 1 and 3 were divided into four Ceramic Groups; 2, 3, 4 and 5 and these groups were distinguished from each other based on some features including forms and decorations. Therefore, since, neither forms nor decorations for these sherds are available these sherds were excluded from the ceramic classification.

Accordingly, 3,624 sherds make up the total ceramic assemblage that will be covered in the following analysis and discussion in the current chapter.

**o. 4.3. Classification results:**

**4.3.1. Şinā'ıyyah ceramics: general description**

As stated above, the 3,624 ceramic sherds that were found in Mounds 1 and 2 in Area A at Şinā'ıyyah site during the 2012 excavation season include 14 complete vessels, 644 almost complete vessels (including rim, body and base); and 2,966 body sherds, base sherds, rim and body sherds, and body and base sherds.

The ceramics were classified into six main groups as shown in Figs 4.14 & 4.15. These main ceramic groups will be described in detail below. Table No. 4.2 gives an initial idea of the differences and the similarities between these groups.

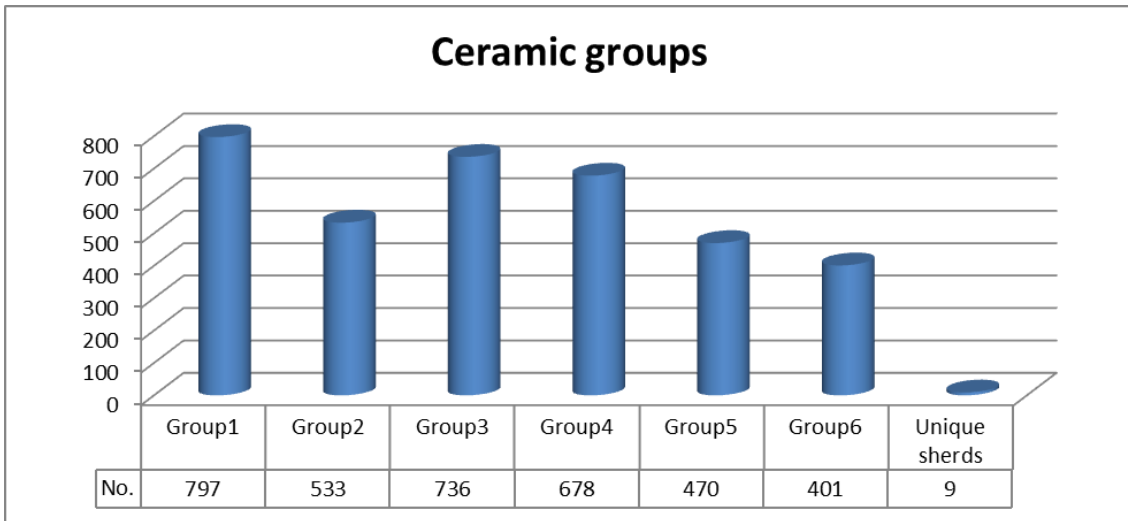


Fig. 4.14 Ceramic Groups.

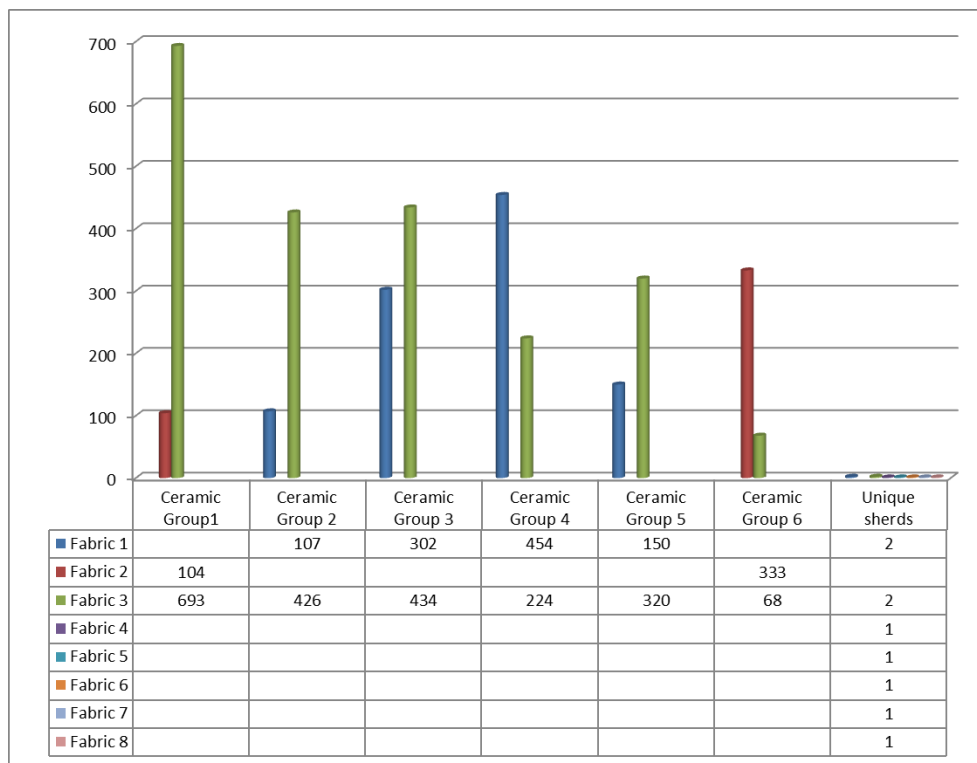


Fig. 4.15 The relationship between the Fabric Groups and Ceramic Groups.

Ceramic group	Fabrics	Slip colours	Slip location	Decorated sherds	Decoration methods	Forms	Sub-forms	Characterized by
Group 1	87% made of (Fabric 3) 13% made of (Fabric 2)	Red	Both outer and inner surfaces 68% Outer surfaces only 32%	31% decorated. 69% undecorated. All sherds were decorated on the outer surfaces only.	Slip trailing, pressing and incising	Bowls, jars, cups, jugs, and vases	BO1-7, JA1-4, CU1-2, JU1-2 and VA1	Red slip
Group 2	80% made of (Fabric 3) 20% made of (Fabric 1)	Yellow	Outer surface 2% Both surfaces 98%	All sherds were decorated; 96% on the outer surfaces only 4% on both the inner and outer surfaces.	Decorated by painting	Bowls, cups, incense burners	BO8-9, CU3 and IB1-3	Decoration motifs mainly straight lines, wavy lines and crossed lines.
Group 3	59% made of (Fabric 3) 41% made of (Fabric 1)	Yellow	Outer surface 4% Both surfaces 96%	All sherds were decorated 89% on the outer surfaces 11% On both the inner and outer surfaces.	Decorated by painting	Bowls, plates, cups, incense burners	BO8-11, P11, CU3, IB2 and IB4	Decoration motifs mainly nets and vertical congruent triangles.
Group 4	33% made of (Fabric 3) 67% made of (Fabric 1)	Yellow	Outer surface 3% Both surfaces 97%	All sherds were decorated 65% on the outer surfaces 35% On both the inner and outer surfaces.	Decorated by painting	Bowls, plates, incense burners	BO9, BO12, PL2-4, and IB2	Decoration motifs mainly checker-like motifs
Group 5	68% made of (Fabric 3) 32% made of (Fabric 1)	Yellow	Outer surface 22% Both surfaces 78%	All sherds were decorated 83% on the outer surfaces 9% on both the inner and outer surfaces. 8% on the inner surfaces	Decorated by painting	Bowls, jars, cups and vases	BO5, BO15, BO22-23, CU4-5, JA1, JA4-5, and VA1	Decoration motifs; triangles vector up and like-comma shapes or upside down comma.
Group 6	83% made of (Fabric 2) 17% made of (Fabric 3)	Light brown, brown, white	both surfaces 59% Outer surface 31% Internal surfaces only 10%	57% decorated 43% undecorated. The decorated sherds: 19% on the outer surfaces 2% on both the inner and outer surfaces. 79% on the inner surfaces	Decorated by painting	Bowls, Jars cups, incense burners	BO4, BO16, BO18-22, PL4-5 JA1, JA6, CU3, CU6 and IB5	Characterized by light brown and white slips.

Table. 4.2 Ceramic Groups features.



### **4.3.2. Ceramic Groups:**

#### **Ceramic Group 1:**

Ceramic Group 1 consists of 797 sherds which represented 21.99% of the total ceramic assemblage.

#### **Fabric:**

The vast majority (87%) of the ceramics in this group were made of Fabric Group 5; and (13%) were made of Fabric Group 4. The vast majority (if not all) are hard fired.

#### **Slip location:**

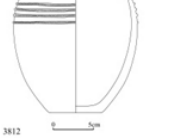

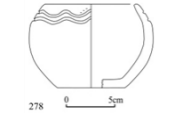
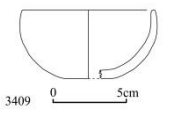
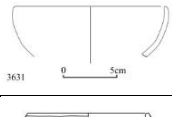
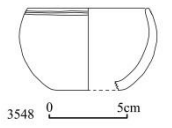
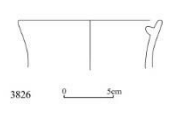

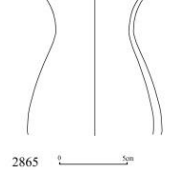
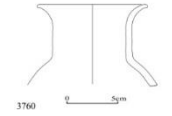
All ceramics vessels and sherds in Group 1 were finished with slips. The majority of them (68%) have a slip on the external surface only, while 32% have a slip on both the internal and external surfaces.

#### **Slip colour:**

All ceramic sherds in Group 1 have red slips.

#### **Forms:**

Ceramics in Group 1 were divided according to their functional use into five form classes; bowls, jars, cups, jugs and vases; some of which were divided into sub-forms (types) according to their shapes (Table. 4.3).

No	Form class	Sup-form	Description	Samples
1	<p><b>Bowls:</b></p> <p>Varying in size, the majority of them were small to medium size bowls, in very few cases deep bowls were attested</p>	<b>BO1</b>	Deep-bowls; the body walls are tilted to the exterior and slightly bent to interior, the hole-mouth's diameter is much larger than the base diameter, rounded rim. This shape is very rare	
		<b>BO2</b>	Globular shape, the lower part of the vessels body walls are tilted to exterior and the upper part are slightly bent to interior; the hole-mouth diameter is slightly larger than the base diameter, rounded rim fluidity to the external surface of the vessel. This shape is very common.	
		<b>BO3</b>	Similar to bowls in sub-group BO2, but the upper part of the body walls are bent to interior slightly more than BO2. This shape is rare.	
		<b>BO4</b>	Rounded-shape bowls; body wall is tilted to exterior and then slightly bent to interior, the hole-mouth's diameter much larger than the base diameter; this shapes are came with rounded rim fluidity to external and internal surfaces. This shape is common.	
		<b>BO5</b>	Similar to BO4 but the hole- mouth diameter is larger than BO4, this shape is very rare	
		<b>BO6</b>	Small elliptical-shape bowls, walls are heavy bent to interior, with pointed rim. This shape is common.	
		<b>BO7</b>	Bowl, walls are slightly tilted to exterior with slightly bent to exterior, rounded rim; there is a prominence belt around the internal surface of the rim. Only one sherd with this shape was found.	
2	<p><b>Jars:</b></p> <p>Varying in size, the vast majority of them were medium size jars</p>	<b>JA1</b>	Rounded shape, walls are tilted to exterior with bent to interior, edge rolled to exterior; rims varied from bevelled rims, rounded rims and pointed rims. This shape is common.	
		<b>JA2</b>	Teardrop-shaped jar, walls are tilted to exterior with bent to interior, edge bent to exterior, rims varied between rounded rim fluidity to the external surface and rounded rim fluidity to both internal and external surfaces. This shape is very rare.	
		<b>JA3</b>	Spherical-shape jar, walls are tilted to exterior with bent to interior with long necks, edge rolled to exterior, rims varied between rounded rim fluidity to the internal surface and rounded rim fluidity to both internal and external surfaces, in very few	

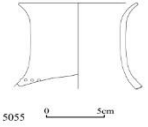
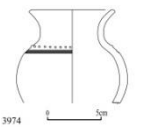
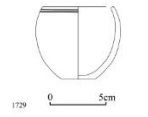
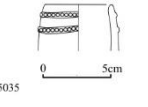
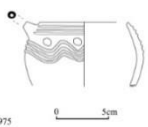
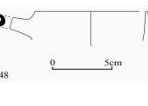
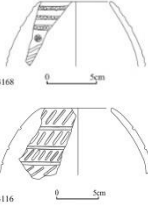
			cases also pointed rims are attested. This shape is common.	
		<b>JA4</b>	Spherical-shape jar, walls are tilted to exterior with bent to interior with short necks, edge bent to exterior, rounded rims fluidity to both internal and external surfaces. This shape is very common.	
3	<b>Cups</b>	<b>CU1</b>	Elliptical Cup: walls tilted to exterior and bent to interior, with rounded rims fluidity to external and internal surfaces. This shape is very rare.	
		<b>CU2</b>	Elliptical Cup: walls tilted to exterior and bent to interior, with rounded rims fluidity to internal surfaces. This shape is very rare.	
4	<b>Jugs</b>	<b>JU1</b>	Spherical-shape Jug with spout, similar to the shape of a ‘‘Teapot’’, bevelled rim. Only one jug.	
		<b>JU2</b>	Similar to JU1 but the spout is larger than the spout in JU1 shape. Only one jug.	
5	<b>Vases</b>	<b>VA1</b>	Elliptical vases, walls are bent to interior and curved slightly more in the middle, rims are rounded and fluidity to internal and external surfaces. This shape is rare.	

Table. 4.3 Ceramic Group 1: functional classes and sub-forms (types).

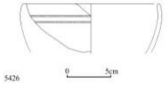
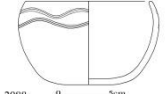

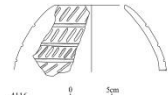
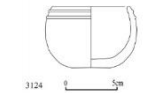

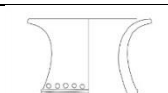

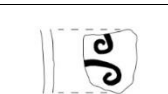
### Decoration location:

Decorated sherds in Group 1 represented 31% of the total ceramics in this group; and the decoration always appears on the external surfaces only.

### Decoration methods and patterns

Decoration methods were divided into two categories: 1/ In this category the majority of the sherds were decorated by slip trailing, Also, many sherds were decorated by incising; and very few sherds were decorated with pressing method. 2/ Sherds that were decorated

by two decoration methods; the vast majority of which were decorated by slip trailing and pressing; in very few cases incised and pressing methods. The decorations in this group were divided into several decoration patterns according to the decoration methods (Table. 4.4).

NO.	Decoration methods	Patterns group Main group	sub-groups	Description	Samples
1	<b>Incising</b>	Pattern 1	-	Horizontal lines, this pattern is very common	
		Pattern 2	-	Horizontal wavy lines, this pattern is common	
		Pattern 3	-	Horizontal lines with wavy lines this pattern is common	
		Pattern 4 (friezes)	-	Horizontal lines shaped horizontal Friezes, with small slanted lines inside each frieze. this pattern is very rare	
2	<b>Slip trailing</b>	Pattern 1	-	Horizontal lines, this pattern is very common	
		Pattern 2	-	1. Horizontal lines 2. Circles 3. Horizontal wavy lines this pattern is very common	
		Pattern 3 (friezes)	-	1. Horizontal rows of circles 2. Horizontal lines This pattern is very rare	
		Pattern 4	-	Wavy line between two lines (on handle), this pattern is very rare	
		Pattern 5	-	Lines end with spiral shape, this pattern is very rare	

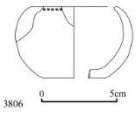
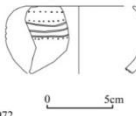

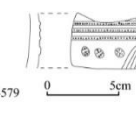

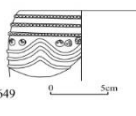
3	<b>Pressing</b>	Pattern 1	-	Dots in shape of horizontal line, on the outer surface of the rim.	
4	<b>Incised and pressing</b>	Pattern 1	-	<ul style="list-style-type: none"> <li>• Dots in shape of two horizontal lines</li> <li>• Three wavy horizontal lines</li> <li>• Dots in shape of wavy horizontal line</li> </ul>	
5	<b>pressing and slip trailing</b>	Pattern 1	-	Four horizontal lines made by slip trailing and pressed small circles, this pattern is common	
		Pattern 2	A	<ul style="list-style-type: none"> <li>• Three horizontal lines made by slip trailing and pressed with dots.</li> <li>• Three circles made by slip trailing and pressed with small dots.</li> <li>• Three horizontal wavy line made by slip trailing.</li> </ul> <p>This pattern is very common.</p>	
			B	<ul style="list-style-type: none"> <li>• Three horizontal lines made by slip trailing and pressed with small circles.</li> <li>• Three circles made by slip trailing and pressed with small circles.</li> <li>• Two horizontal wavy lines made by slip trailing and pressed with small circles on the upper curves of the wavy line.</li> </ul> <p>This pattern is very common</p>	
C	<ul style="list-style-type: none"> <li>• Three horizontal lines made by slip trailing and pressed with small circles</li> <li>• Three circle made by slip trailing and pressed with small circles.</li> <li>• Three Horizontal wavy lines made by slip trailing.</li> </ul> <p>This pattern is the most common pattern that has been used to decorate Group 1 ceramics.</p>				

Table. 4.4 Decoration patterns, Ceramic Group 1

### Decoration motifs:

The vast majority (if not all) of the decoration motifs that have been used to decorate Group 1 ceramics are geometric motif such as; straight and wavy lines and circles (Table. 4.5).


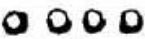






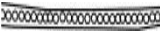



No.	Motif code	Description	Samples
1	E36	Slip trailed arches vector down, with small circles pressed on the upper curves, very common.	
2	E57	Small circles in shape of horizontal line; common.	
3	E40	Circle, pressed by many small circles; very common.	
4	E55	Circle, pressed by many small dots, very rare.	
5	E9	Horizontal line, the majority as a horizontal lines or band; very common.	
6	E11	Horizontal wavy line, very common.	
7	E41	Very small dots, pressed in shape of horizontal line, very rare.	
8	E46	Very small dots, pressed in the shape of wavy line, very rare.	
9	E34	Slip trailed horizontal line, pressed with small circles, very common.	
10	E56	Slip trailed horizontal line, pressed with small dots, very rare.	
11	E44	A line end with spiral shape, this decoration motif appeared only on one sherd.	
12	E13	Inclined dashes inside horizontal friezes; this decoration motif appeared only on one sherd.	

Table. 4.5 Decoration motifs that appeared on Group 1 ceramics.

**Additional notes:**

The vast majority of the sherds that were decorated by the slip-trailing method were decorated by applying white clay, which is identical to fabric Group 1. Therefore, also Fabric group 1 was used in Group 1 ceramic, but as clay for decorations.

**Ceramic Group 2:**

Ceramic Group 2 consists of 533 shards which represented 14.71% of the total ceramic assemblage.

**Fabric:**

This group is made of two fabric groups, the majority of 80% were made up of Fabric Group 3, and 20% were made up of Fabric Group 1. With the exception of one bowl that seems to be poorly-fired, all the ceramic sherds in this group were hard fired.

**Slip location:**

All ceramics vessels and sherds in ceramic Group 2 were finished with slips. The majority of them (98%) have a slip on both the internal and external surfaces, while 2% have a slip on the external surface only.

**Slip colour:**

Ceramics in this group were finished with yellow slips.

**Forms:**

The majority of the ceramic sherds from Group 2 were small sherds; as a result, it was difficult to know their original shapes. The complete vessels and the large ceramic sherds in this group can be divided according to their functional uses into three form classes; bowls, incense burners and cups; some of which were divided into sub-forms (types) according to their shapes (Table. 4.6).

no	Form group	Form subgroup	description	Samples
1	Bowls	BO8	Deep bowls, semi-cylinder shape, body walls are slightly tilted to exterior, the hole-mouth's diameter slightly larger than the base diameter, rounded rim with fluidity to the inner and outside surfaces of the vessel. This shape is very common.	
		BO9	Similar to BO8 but the body wall are slightly tilted to exterior more than BO8. This shape is common.	
2	Cups:	CU3	Semi-Conical shaped cups, walls semi-straight tilted to exterior, the hole-mouth's diameter much larger than the base diameter, this shape is very rare.	
3	Incense burner:	IB1	Incense burner, semi-conical shaped, ending with prominent circular base, walls are slightly tilted to exterior, which make the diameter of the hole-mouth similar with the base diameter. Always the incense burners in this form came with a handle. This shape is very common.	
		IB2	Incense burner, semi-conical shaped, ending with prominent circular base, the body walls are tilted to exterior, and the diameter of the hole-mouth is larger than the diameter of lower part. Very few vessels of this form come with handle. This shape is rare.	
		IB3	Similar to IB2, but the edge is slightly bent to the interior, this shape is very rare	

Table. 4.6 Ceramic Group 2: functional classes and sub-forms (types).

### Decoration location:

All sherds in this group were decorated; the vast majority (96%) of the decorated sherds in Group 2 were decorated on the external surfaces only; whereas, 4% were decorated on both the internal and external surfaces.



### Decoration methods and decoration patterns:

All the decorated sherds in this group were decorated by a painting method. Moreover, all the decorated sherds in this group were decorated with ‘ ‘horizontal friezes style’ ’ which consists of horizontal lines or bands dividing the body into horizontal strips. Inside these strips there are decorative motifs which are repeated all over the horizontal friezes (Table. 4.7).


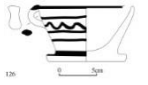
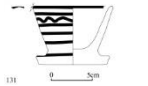
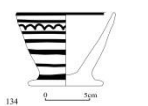
No.	Patterns group Main group	sub- group s	Description	Samples
1	Pattern 1: This pattern consists of a horizontal line on the rims; all sharing the upper frieze; which consist filled with horizontal wavy line.	A	The lower frieze consists of two horizontal lines, inside the zone between these lines there are wide crossed lines. This pattern is the most common patterns on the deep bowls and cups.	
		B	Between two to four horizontal lines, under the upper frieze; this pattern is very common only on the incense burner.	  

Table. 4.7 decoration patterns of Group 2.

### Decoration colours:

Decoration colours vary between black, brown and reddish brown. The majority of sherds 69% are decorated with two colours; whilst, (31%) of the decorated sherds were decorated with one colour only.

### Decoration motifs:

This group is the poorest group in terms of the decorating motifs, where there are only four decoration motifs which have been used to decorate Group 2 ceramics (Table. 4.8).





No .	Motif code	Description	Samples
1	E9	Horizontal line, appeared on the rims and outer surfaces only; very common.	
2	E11	Horizontal wavy line, always inside horizontal friezes, very common on the outer surfaces.	
3	E26	Two crossed zigzag lines inside a wide horizontal frieze. This motif is very common on the deep bowls and cups only.	
4	E21	Half of a crossbar toothed like a comb, only appeared on the inner surfaces, this motif is common.	

Table. 4.8 Decoration motifs that appeared on Group 2 ceramics.

**Additional notes:**

1. All the vessels in Group 2 have a horizontal line on the rim.
2. The vast majority of the sherds in this group were decorated on the outer surfaces only.
3. All the complete vessels are decorated with horizontal frieze contains horizontal wavy line. Moreover, it has been noted that there is a relationship between the forms and the decoration patterns; whereby all the bowls and cups in this group were decorated with wide frieze filled with wide crossed lines; whereas, the incense burner was decorated with many horizontal lines.
4. The decorations size is very wide compared with the decoration size of the ceramic Groups 3 and 4.

### **Ceramic Group 3:**

Ceramic Group 3 consists of 736 shards which represents 20.31% of the total ceramic assemblage.

#### **Fabric:**

This group is made of two fabric groups, the majority 59% were made up of Fabric Group 3, and 41% were made up of Fabric Group 1.

The vast majority of the ceramics in this group are hard fired; only very few sherds were poor-fired.

#### **Slip location:**

All ceramics vessels and sherds in ceramic Group 3 were slipped. The majority of them (93%) have a slip on both the internal and external surfaces, while 7% have a slip on the external surface only.

#### **Slip colour:**

Ceramics in this group were finished with yellow slips.

#### **Forms:**

The majority of the ceramic sherds from Group 3 were small sherds; as a result, it was difficult to know their original shapes. The complete vessels and large ceramic sherds can be divided according to their forms into four form classes; bowls, plates, cups and incense burners. Some of these classes were divided into sub-forms (see Table. 4.9 below).

No	Form class	Sub-forms	Description	Samples
1	Bowls	BO8	Deep bowls, semi-cylinder shape, body walls are slightly tilted to exterior, the hole-mouth's diameter slightly larger than the base diameter, rounded rim with fluidity to the inner and outside surfaces of the vessel. This shape is very common.	 
		BO9	Deep bowls, similar to BO8, but their walls are slightly tilted to exterior more than BO8. This shape is very common.	
		BO10	Deep bowls, the body wall of this shape is shorter than the body walls of BO8 and BO9; also the body walls are tilted to exterior more than BO8. The hole-mouth's diameter slightly larger than the base diameter; always with bevelled rims; this shape is very rare.	
		BO11	Shallow bowls, walls are tilted to exterior with slightly bent to interior, rims varied between pointed and rounded rims. This shape is very rare.	
2	Plates	PL1	Plates, body walls tilted to exterior and slightly bent to interior, prominent base, rounded rim. This shape is very rare.	
3	Cups	CU3	Semi-conical shaped cups; body walls are tilted to exterior, prominent base, rims varied between pointed rim and rounded rim fluidity to external and internal surfaces. This shape is very rare.	
4	Incense burners	IB2	Incense burner, semi-conical shaped, ending with prominent circular base, the body walls are tilted to exterior, and the diameter of the hole-mouth is larger than the diameter of lower part. Very few vessels of this form come with handle. This shape is very common.	
		IB4	Similar to IB2 but the edge is slightly bent to exterior, this shape is very rare.	


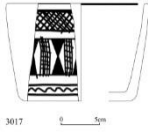
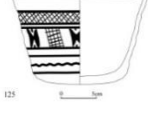
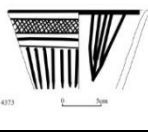
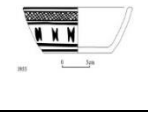
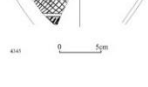
Table. 4.9 Ceramic Group 3: functional classes and sub-forms (types).

**Decoration location:**

All ceramic sherds in Group 3 were decorated; the vast majority (89%) of the decorated sherds in Group 2 were decorated on the external surfaces only; whereas, 11% were decorated on both the internal and external surfaces.

**Decoration methods and decoration patterns:**

All the decorated sherds in this group were decorated by painting. Moreover, all the decorated sherds in this group were decorated with “horizontal friezes style” which consists of horizontal lines or bands dividing the body into horizontal strips. Inside these strips there are decorative motifs which are repeated inside the horizontal friezes (Table. 4.10)

No.	Patterns Main group	sub- groups	Description	Examples
1	<p>Pattern 1: Horizontal line on the rim with three horizontal strips (friezes) on the vessels body: This pattern consists of a horizontal line on the rims and three friezes. All sharing the upper and lower friezes. The upper frieze filled with net, and the lower frieze filled with wavy line. The difference between them is the frieze in the middle which can be divided into five sub-groups as follow:</p>	A	The frieze in the middle was divided by vertical rectangles fill with colour, and between these rectangles there are two horizontal congruent triangles. this pattern is rare	
		B	The frieze in the middle was divided by vertical rectangles filled with net, and between these rectangles there are two vertical congruent triangles. this pattern is rare	
		C	The frieze in the middle was divided by vertical rectangles filled with net, and between these rectangles there are two horizontal congruent triangles. This pattern is very common	
2	<p>Pattern 2: horizontal lines; one the rim, and above the base, and between these line there are two horizontal friezes on the outer surfaces. All sharing the upper frieze, which is filled with net.</p>	A	The lower frieze is filled with vertical lines. This pattern is rare.	
		B	The lower frieze filled with two horizontal congruent triangles. This pattern is rare	
		C	The lower frieze is filled with triangles victor down and there are inclined dashes inside these triangles.	


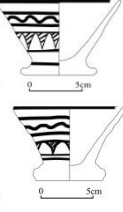

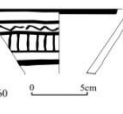
3	Pattern 3: Horizontal line on the rim.	-	Three friezes divided by vertical rectangles filled with net, and between these rectangles there are two horizontal congruent triangles. These friezes met in the centre of the inner side, between these friezes there is motif which look like comb.	
4	Pattern 4: This pattern consists of horizontal line on the rim and horizontal line in the lower part of the vessel body; Between these line there are two horizontal (friezes). All sharing the upper frieze, which is filled with horizontal wavy line.	A	The lower frieze filled with triangles facing down, and there are slanted lines inside each triangle, this pattern is rare.	
		B	The lower frieze filled net, this pattern is very rare.	
		C	The lower frieze divided by vertical lines, this pattern is very rare.	

Table. 4.10 Decoration patterns that appeared on Group 3 ceramics.

### Decoration colours:

Decoration colours vary between black, brown and reddish brown. The majority of shards 67% are decorated with two colours; whilst, (33%) of the decorated sherds were decorated with only one colour.

### Decoration motifs:

The vast majority of the decoration motifs that has been used to decorate Group 1 ceramic are geometric motifs such as; straight, wavy, crossed lines, nets, and triangles (Table. 4.11).













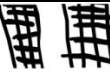




No.	Motif code	Description	samples
1	E1	A net inside horizontal frieze, appeared on the outer surfaces only. This motif is the most common motif in Group 3.	
2	E7	A net inside vertical strips, usually as breaks inside the horizontal strips. Very common on the outer and inner surfaces.	
3	E27	Row of triangles vector to down with inclined dashes inside it, always inside horizontal frieze. This motif is common on the outer surfaces only.	
4	E29	Triangles vector to down and filled with net, very rare and it was appeared on the inner surfaces only.	
5	E38	Vertical congruent triangles, always inside horizontal frieze, common on the outer surfaces only.	
6	E4	Horizontal congruent triangles always inside horizontal frieze, very common on the outer and inner surfaces.	
7	E9	Horizontal line, very common on both the internal and external surfaces.	
8	E11	Horizontal wavy line inside horizontal frieze, very common on the outer surfaces and very rare on the inner surfaces.	
9	E51	Vertical wavy line, very rare and only appeared on the inner surfaces.	
10	E74	Horizontal wavy line around a horizontal line, this motif appeared on the outer surface of one sherd.	
11	E25	Vertical rectangular, always as a break to divide the horizontal strip, very rare and only appeared on the outer surfaces.	
12	E32	Shape looks like double ladders, usually as breaks inside the horizontal strip, common on both the internal and external surfaces	
13	E39	Shape looks like treble ladders (or net of horizontal and vertical lines) always used to divide the horizontal friezes, common and on both inner and the outer surfaces.	
14	E20	A crossbar toothed like a comb, very rare and appeared on the inner surfaces only.	
15	E21	Half of a crossbar toothed like a comb, very rare appeared on the inner surfaces only.	
16	E61	A long crossbar toothed like a comb, appeared on one sherd.	
17	E10	Vertical lines, the majority as group of lines divided the horizontal strip evenly; very rare and appeared on the external surfaces only.	

Table. 4.11 Decoration motifs that appeared on Group 3 ceramics.

**Additional notes:**

1. All the vessels in Group 3 have a horizontal line on the rim.
2. The vast majority of the sherds in this group were decorated on the outer surfaces only.
3. It has been noted that there is a relationship between the forms and the decoration patterns; whereby all the bowls are decorated with horizontal friezes and always the upper frieze was filled with net; whereas, all the incense burners are decorated with horizontal friezes and the upper frieze is filled with wavy lines.
4. The decoration size on large bowls is smaller than the decoration size of large bowls of Group 2; and larger than the size of the decoration of the large bowls of Group 4.





#### **Ceramic Group 4:**

Ceramic Group 4 consists of 678 sherds which represents 18.71% of the total ceramic assemblage.

#### **Fabric:**

Ceramic sherds in this group were made of two fabric groups, the majority 67% were made of Fabric Group 3, and 33% were made of Fabric Group 1.

The vast majority of the ceramics in this group were hard-fired; only very few sherds seem to be poor-fired.

#### **Slip location:**

All ceramics vessels and sherds in ceramic Group 4 were finished with slips. All the ceramics in this group were slipped. The majority of them (97%) have a slip on both the internal and external surfaces, while, 3% have a slip on the external surface only.

#### **Slip colour:**

Ceramics in this group were finished with yellow slips.

#### **Forms:**

Group 4 ceramics were divided according to their functional uses into three form classes; bowls, plates, and incense burners; some of which were divided into sub-forms (types) according to their shapes (Table. 4.12).

No	Form class	Sub-forms	description	Group 4 samples
1	Bowls	BO9	<p>Deep bowls, semi-cylinder shape, walls almost straight up from the base to the edge slightly tilted to exterior, the hole-mouth's diameter is larger than the base diameter, rounded rim with fluidity to the inner and outside surfaces of the vessel.</p> <p>Although, there are no complete or semi-complete vessels of this shape which were found in our excavation, the large number of sherds came with such size and decoration which indicates that this type of form represented a large number of Group 4 ceramic sherds; as a result, this shape can be considered as the most common shape in this group. This shape is very common from the previous excavations for example see Fig. 4.16 below.</p> <div> </div> <p style="text-align: center;"><b>Fig. 4.16 The deep bowl that was found in Şinā'iyah site during season 1989.</b></p> <p style="text-align: center;">(Source: the national museum in Riyadh).</p>	
		BO12	<p>Shallow bowls, walls are tilted to exterior and slightly bent to interior, rims varied between pointed rim and rounded rim fluidity to external and internal surfaces. This shape is rare.</p>	
2	Plates	PL2	<p>Flat Plates, body walls titled to exterior and slightly bent to interior, prominent base, rounded rim fluidity to external and internal surfaces. This shape is rare.</p>	

		<b>PL3</b>	Similar to PL2 but the walls are much thicker and the size is smaller than PL2.	<p>2282</p>
		<b>PL4</b>	Plates, body walls tilted to exterior and bent to interior, flat bases, rims varied between bevelled and rounded rims. This shape is common.	<p>1774</p> <p>4729</p>
<b>4</b>	<b>Incense burners</b>	<b>IB2</b>	Incense burner, semi-conical shaped, ending with prominent circular base, the body walls are tilted to exterior, and the diameter of the hole-mouth is larger than the diameter of lower part. Very few vessels of this form come with handle; rims varied between pointed rim and rounded rim fluidity to external and internal surfaces. This shape is very common.	<p>133</p> <p>120</p>

Table. 4.12 Ceramic Group 4: functional classes and sub-forms (types).


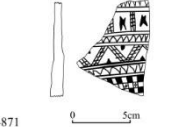
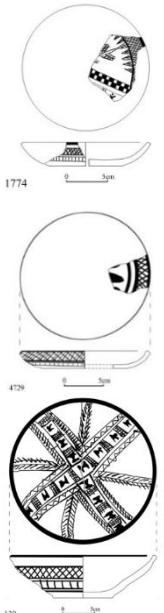
### Decoration location:

All ceramic sherds in Group 4 were decorated; the majority (65%) of the decorated sherds in Group 4 were decorated on the external surfaces only; whereas, 35% were decorated on both the internal and external surfaces.

### Decoration methods and decoration patterns:

All the decorated sherds in this group were decorated by a painting method. Moreover, the vast majority of the decorated sherds in this group were decorated with ‘horizontal friezes style’ which consists of horizontal lines or bands dividing the body into

horizontal strips. Inside these strips there are decorative motifs which are repeated inside the horizontal friezes (Table. 4.13).

No.	Patterns group Main group	sub- groups	Description	samples
1	<p>Pattern 1: multi- horizontal friezes (Between six to 15 horizontal friezes): this pattern appeared only on the outer surfaces. The most common motifs inside this friezes are:</p> <ol style="list-style-type: none"> <li>1. The frieze that divided by rectangles filled with net, and between these rectangles there are two horizontal congruent triangles. This pattern is very common.</li> <li>2. The frieze that filled with checkers,</li> </ol> <p>The frieze that filled with shape looks like double ladders in shape of zigzag, usually as horizontal strip, common and on the outer surfaces only.</p>	A	There is a frieze filled with a shape that looks like a beehive or the letter Y, this frieze is repeatedly between the other friezes. This pattern is very common.	
		B	There is a frieze filled with zigzag lines, this frieze this frieze is repeatedly between the other friezes. This pattern is very common.	
2	Pattern 2: two horizontal friezes on the outer surface of the vessels.	-	<p>Two horizontal friezes on the outer surface, the upper frieze filled with net and the lower frieze filled by vertical lines.</p> <p>This pattern appeared on the outer sides of shallow bowls and plates. This pattern is common. However, the decorations inside these vessels are different, and there are no two vessels are sharing identical patterns on the inner surfaces.</p>	

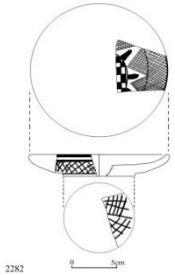
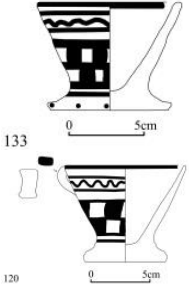
3	<p>Pattern 3: Horizontal line on the rim, and a horizontal frieze filled with net on the outer surface.</p>	-	<p>This pattern is very common always appeared on the plates. However, the decoration inside these plate are different; where, there are no two plates sharing identical patterns on the inner surfaces.</p>	
4	<p>Pattern 4: This pattern consists of horizontal line on the rim and horizontal lines in the lower part of the vessels body; between these lines there are two horizontal (friezes): The upper frieze is filled with horizontal wavy lines; whereas, the lower frieze is filled with checker shape. This pattern was attested only on the incense burners.</p>	A		


















Table. 4.13 Decoration patterns that appeared on Group 4 ceramics.

### Decoration colours:

Decoration colours vary between black, brown and reddish brown. The majority of sherds 69% are decorated with two colours; whereas, 31% are decorated with only one colour.

### Decoration motifs:

The vast majority of the decoration motifs that has been used to decorate Group 4 ceramic are geometric motifs. In very few cases also botanical were attested (Table. 4.14).

No.	Motifs code	Description	examples
1	E1	A net inside horizontal frieze, very common on both the internal and external surfaces.	
2	E7	A net inside vertical strips, usually as breaks inside the horizontal strips. Very common on the outer surface.	
3	E15	Net inside circle always on the outer surface of the base, very rare.	
4	E2	Always as horizontal band or strip of triangles vector to down, very rare.	
5	E23	A small triangle within a larger triangle, very rare.	
6	E27	Always as horizontal band or strip of triangles vector to down and filled with inclined dashes, very rare.	
7	E29	Triangles vector to down and filled with net, very rare and appeared only on the inner side of the plates.	
8	E4	Horizontal congruent triangles always as horizontal strip or band, very common on both the outer and inner surfaces.	
9	E42	Circle, always on the inner surface of the bases, very common.	
10	E66	Circle filled by smaller circles, only one case on the outer surface of the base.	
11	E18	Checker, always inside horizontal friezes, the most common motifs in Group 4 and appeared on both the internal and external surfaces.	
12	E70	Checker, inside circle shape. This motif was appeared on the base of one plate only.	
13	E9	Horizontal line, this motif is very common and appeared on all the sherds of this group.	
14	E10	Vertical lines, the majority as a group of lines divided the horizontal friezes evenly; this motif is common and appeared on the external surfaces only.	
15	E11	Horizontal wavy line, always on the outer surface of the vessels, very common on the outer surfaces and very rare on the inner surfaces	
16	E51	Vertical wavy line, rare and only on the inner surfaces	
17	E12	Zigzag, the majority as horizontal strip or band, very common on the outer surfaces and very rare on the inner surfaces.	














18	E69	Vertical Zigzag, always on the inner surface, very rare and on the inner surface only	
19	E73	The form looks like a comb, only one case on the inner surface	
20	E25	Vertical rectangular, always as break to divide the horizontal strip, very rare and only on the outer surfaces	
21	E32	Shape looks like double ladders, usually as breaks inside the horizontal strip, common on both the internal and external surfaces	
22	E43	Shape looks like double ladders in shape of zigzag, usually as horizontal strip, common and on the outer surfaces only	
23	E39	Shape looks like treble ladders, (or net of horizontal and vertical lines) usually as breaks inside the horizontal strip, common and on the outer and inner surfaces	
24	E37	Shape looks like a beehive or the letter (Yy); always inside horizontal friezes this motif is very common on the outer surfaces only.	
25	E20	A crossbar toothed like a comb, common on the inner surfaces, only one case on the outer surface	
26	E21	Half of a crossbar toothed like a comb, common on the inner surfaces only.	
27	E60	Shape looks like a palm frond, with two lines in the middle; this motif was appeared on the inner side of one plate.	
28	E22	Shape looks like a palm frond, with one line in the middle; this motif is common on the inner surfaces only.	
29	E13	Inclined dashes, the majority as group of lines divided the horizontal strip evenly, very common on the outer surfaces and very rare on the inner surfaces	
30	E62	Semi-cylinder shape, this motif is very rare and only appeared on the inner surfaces of the plates.	

Table. 4.14 Decoration motifs that appeared on Group 4 ceramics.



**Additional notes:**

1. All the vessels in Group 3 have a horizontal line on the rim.
2. With exception of the plates, the vast majority of the sherds in this group were decorated on the outer surfaces only.
3. All the complete incense burners are decorated with horizontal frieze filled with horizontal wavy lines; all the bowls and the majority of the plates are decorated with horizontal frieze filled with net; all the cups are decorated with horizontal frieze filled with slightly inclined dashes or vertical lines.
4. The decoration size on the large bowls in this group is smaller than the decoration size of large bowls in Groups 2 and 3.



### **Ceramic Group 5:**

Ceramic Group 5 consists of 470 sherds which represented 12.97% of the total ceramic assemblage.

#### **Fabric:**

Ceramic sherds in this group were made of two fabric groups, the majority 68% were made of Fabric Group 3, and 32% were made of Fabric Group 1. The vast majority (if not all) of the ceramics in this group are hard fired.

#### **Slip location:**

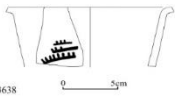
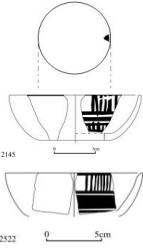
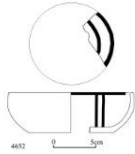
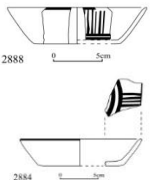
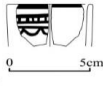
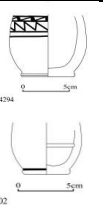
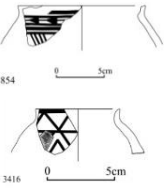
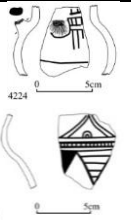
All ceramics vessels and sherds in ceramic Group 5 were finished with slips. The majority of them (77%) have a slip on both the internal and external surfaces, while 23% have a slip on the internal surface only.

#### **Slip colour:**

Ceramics in this group were finished with yellow slips.

#### **Forms:**

Group 5 ceramics were divided according to their functional uses into four classes; bowls, cups, jars and vases; some of which were divided into sub-groups (types) according to their shapes (Table. 4.15).

No	Form class	Form	Description	Samples
1	Bowls	BO15	Deep bowls, semi-cylinder shape, body walls are slightly tilted to exterior, the hole-mouth's diameter slightly larger than the base diameter, rounded rim with fluidity to the inner and outside surfaces of the vessel, the edge was rolled to exterior, this shape is very rare.	
		BO5	Elliptical-shape bowls, body walls are titled to exterior and bent interior; rims are varied between rounded and pointed rims. This shape is very common	
		BO23	Similar to BO5 but the body walls are slightly bent to interior more than BO5. This shape is very rare.	
		BO22	Bowls, walls are straight and tilted to exterior, rims varied between rounded rim and pointed rims, in very few cases also bevelled rims are attested. This shape is very common.	
2	Cups	CU4	Cylindrical shape, body walls are straight and always with rounded rims, this shape is rare.	
		CU5	Elliptical Cup: walls tilted to exterior and bent to interior, prominent base, rim description of this group is not available. very rare	
3	Jars	JA1	Rounded shape, walls are tilted to exterior with bent to interior, edge rolled to exterior; rims with bevelled rims, rounded rims and pointed rims. this form is rare	
		JA4	Sherds seem to be parts of spherical-shape jar, walls are tilted to exterior with bent to interior with probably short necks; this shape is rare	

		<b>JAS</b>	Large number of sherds seems to be parts of teardrop-shaped jar; the majority of these sherds come with handle. This form is common.	
<b>4</b>	<b>Vases</b>	<b>VA1</b>	Elliptical vases, walls are bent to interior and curved slightly more in the middle, rims are rounded and fluidity to internal and external surfaces. This form is very common.	

Table. 4.15 Ceramic Group 5: functional classes and sub-forms (types).

**Additional sherd samples of Group 5 ceramic sherds: (Table. 16)**

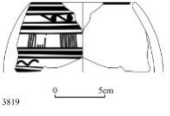
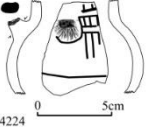
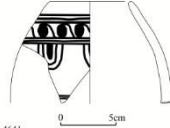
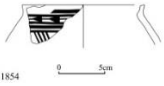

Table. 4.16 Additional sherds from Group 5.

**Decoration location:**

All ceramic sherds in Group 5 were decorated; the vast majority (83%) of the decorated sherds in Group 2 were decorated on the external surfaces only; and 9% were decorated on both the internal and external surfaces; whereas, 8% were decorated on the inner surfaces only.

## Decoration methods and decoration patterns:

All the decorated sherds in this group were decorated by a painting method. Moreover, the vast majority of the decorated sherds in this group were decorated with “horizontal friezes style”, which consists of horizontal lines or bands dividing the body into horizontal strips. Inside these strips there are decorative motifs which are repeated inside the horizontal friezes. In some cases these horizontal friezes were divided by vertical strips (Table. 4.17).

No.	Patterns group Main group	sub- groups	Description	Examples
1	Pattern 1: many horizontal friezes (between three to six horizontal friezes). This pattern appeared on the outer surfaces only.	A	<ol style="list-style-type: none"> <li>1. Horizontal line on the rim.</li> <li>2. Horizontal frieze filled with wide horizontal line.</li> <li>3. Frieze filled with like-comma shape, or upside down comma</li> <li>4. Horizontal frieze filled with wide horizontal line.</li> <li>5. Frieze divided by eight vertical lines.</li> <li>6. Horizontal frieze filled with wide horizontal line.</li> <li>7. Frieze filled with wavy line.</li> <li>8. Horizontal frieze filled with wide horizontal line.</li> </ol> <p>This pattern is very rare.</p>	
		B	<p>Three horizontal friezes filled with vertical lines.</p> <p>This pattern is very rare</p>	
		C	<ol style="list-style-type: none"> <li>1. Horizontal line under the rim.</li> <li>2. Horizontal frieze filled with horizontal line.</li> <li>3. Frieze filled with like-comma shape, or upside down comma</li> <li>4. Horizontal frieze filled with horizontal line.</li> <li>5. Frieze filled with hanging arches.</li> <li>6. Horizontal frieze filled with horizontal line.</li> </ol> <p>This pattern is rare.</p>	
2	<p>Pattern2: At least two friezes on the outer surfaces of the body walls.</p>	A	<ol style="list-style-type: none"> <li>1. Horizontal line under the rim.</li> <li>2. The upper frieze filled with triangles vector to left and there is a</li> </ol>	

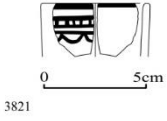
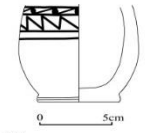
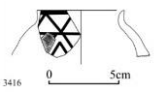
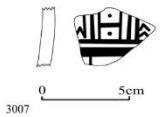
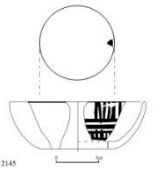
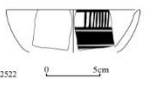
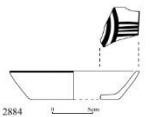
			horizontal line which contacts these triangles, The lower frieze contains slanted lines probably parts of triangles. This pattern is very rare.	
		B	1. Horizontal line on the rim. 2. Horizontal frieze filled with vertical lines. 3. Horizontal frieze filled with hanging arches.  This pattern is very rare.	 3821
		C	1. The upper frieze filled with like-comma shape, or upside down comma. 2. The lower frieze filled with zigzag line  This pattern is very rare.	 4294
		D	2. Horizontal line on the rim. 3. The upper frieze filled with zigzag line. 4. The lower frieze filled with two zigzag lines.  This pattern is very rare.	 3416
3	Pattern 3: horizontal friezes divided evenly by vertical stripes inside	-	This pattern is rare	 3007
4	Pattern 4: horizontal frieze on the inner surface under the rim, this frieze is divided by group vertical lines making empty zones between these groups.	A	Three horizontal friezes on the inner surface, the upper and the lower friezes were divided by group of vertical lines, and the frieze in the middle was filled with horizontal line.	 2145
		B	Two horizontal friezes on the inner surface, the upper frieze divided by group of vertical lines, and the lower frieze was filled with horizontal line.	 2522
		C	One horizontal frieze on the inner surface, this frieze is divided by group of vertical lines.	 2884















Table. 4.17 Decoration patterns that appeared on Group 5 ceramics.

### Decoration colours:

Decoration colours vary between black, brown and reddish brown. The majority of sherds 74% are decorated with two colours; and 26% were decorated with one colour.

### Decoration motifs:

The vast majority of the decoration motifs that has been used to decorate Group 4 ceramic are geometric motifs; also botanical motifs were attested (Table. 4.18).

No.	Motifs code	Description	examples
1	E2	Triangles vector to down, usually as horizontal band or strip around the vessels body, this motif is very rare and it was appeared on both the inner and outer surfaces.	
2	E3	Triangles vector to up, this motifs is very common	
3	E28	Triangle vector to down and filled with horizontal lines, very rare on the outer surfaces only.	
4	E17	Angles vector to up inside vertical strip, this strip always used to divide the horizontal friezes; this motif is rare and it appeared only on the outer surfaces.	
5	E68	Triangles vector to left and there is a horizontal line contacts these triangles, always inside horizontal frieze, this motif is rare and appeared on the outer surface only.	
6	E67	Vertical strip divided into rectangular zones by horizontal lines, inside these rectangular zones there is dots or small circles. This motif is rare and appeared on the outer surfaces only.	
7	E26	Two crossed zigzag lines inside horizontal frieze. This motif is very rare and it was appeared on outer surfaces only.	
8	E42	Circle, always on the inner surface of the vessels bases, very common.	
9	E52	Like-comma shape or upside down comma, usually inside horizontal friezes (strips), this motif is very common on both the internal and external surfaces.	
10	E9	Horizontal line, this motif is very common and appeared on both the internal and external surfaces.	
11	E10	Vertical lines, the majority as group of lines divided the horizontal friezes evenly; this motif is very rare and appeared on the external surfaces.	
12	E71	Group of vertical lines dividing the horizontal frieze into empty zones. This motif is very common on both the inner and outer surfaces.	
13	E11	Horizontal wavy line, always on the outer surface of the vessels, very common on the outer surfaces and very rare on the inner surfaces.	
14	E12	Horizontal zigzag line, always inside horizontal friezes, very common on the outer surfaces only.	








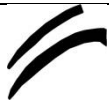








15	E77	Two Zigzag lines, always inside horizontal friezes, this motif is common on the outer and inner surfaces.	
16	E25	Vertical rectangular, always as break to divide the horizontal strip, very rare and only appeared on the outer surfaces.	
17	E13	Inclined dashes, the majority as group of lines divided the horizontal strip evenly, very rare on the outer and inner surfaces.	
18	E62	Semi-cylinder shape, this motif is rare on both the internal and external surfaces.	
19	E53	Cylinder shape surrounded by arches vector down, usually as horizontal friezes. This motif is rare on both the internal and external surfaces.	
20	E76	Two curvy lines with small dashes on the top of them, (probably parts of bird feathers), appeared on outer surfaces of two sherds.	
21	E65	Three curvy lines with small dashes on the top of them, (probably parts of bird feathers), appeared on the outer surface of only one sherd.	
22	E49	Dots or small circles inside horizontal frieze, very rare and appeared only on the outer surfaces.	
23	E16	Arches vector down, came with different sizes, the majority were inside horizontal friezes, and this motif is common on outer surfaces.	
24	E48	Shape look like leave or flower. This motif is common on the inner surfaces of the vessels bases.	
25	E45	A shape like a leaf, with line end with spiral shape. This motif is very rare and only appeared on the outer surfaces.	
26	E19	Conical shape end with two spiral shape. This motif is very rare it was appeared on both the internal and external surfaces.	
27	E64	Circle surrounded by many small circles, very rare and appeared on the outer surfaces only	
28	E37	Shape looks like a beehive or the letter (Yy); always inside horizontal friezes this motif is common on the outer surfaces only.	

Table. 4.18 Decoration motifs that appeared on Group 5 ceramics.

**Additional notes:**

1. In contrast with Ceramic Groups 2-4, where all the rims were decorated with horizontal lines on the rim, many ceramic vessels and sherds in Group 5 came with no decoration on the rim or the decoration were slightly under the rim.
2. The majority of the vessels body walls of the Group 5 ceramics are curved ; in contrast with the vessels body walls in Groups 2-4, where the body walls are straight or slightly curved .



### **Ceramic Group 6:**

Ceramic Group 6 consists of 401 shards making up 11.07% of the total ceramic assemblage.

#### **Fabric:**

Ceramic sherds in this group were made of two fabric groups, the majority 83% were made of Fabric Group 2, and 17% were made of Fabric Group 3. The vast majority (if not all) of the ceramics in this group are hard-fired.

#### **Slip location:**

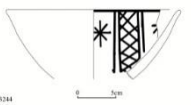
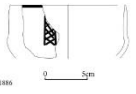
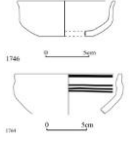
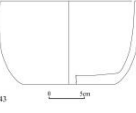
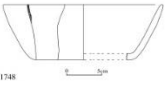
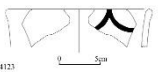
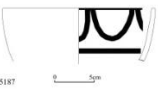
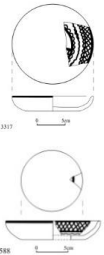
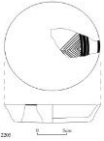
The majority of Group 6 sherds (59%) have a slip on both the internal and external surfaces, while 31% have a slip on the internal surfaces only; and 10% have a slip on the external surfaces only.

#### **Slip colour:**

The majority of the slipped sherds 74% were finished with light brown to brown slips, whilst, 26% were finished with white slips. It has been noted that the vast majority of the sherds that were slipped with white slips were shallow bowls and plates only.

#### **Forms:**

Group 6 ceramics were divided according to their functional uses into five classes; bowls, plates, cups, jars and incense burners, some of which were divided into sub-groups (types) according to their shapes (Table. 4.19).

No	Form class	Sub-form	Description	Samples
1	Bowls	BO18	Semi-Conical shape, body walls are tilted to exterior, slightly bent to interior, the hole-mouth's diameter much larger than the lower than the base diameter, the edge is slightly bent to exterior, rounded rim, this shape is very rare	
		BO19	Deep bowl, semi-polygonal shape, body walls start from the base and tilted to exterior, then curve heavily to interior then slightly bent to the exterior, with pointed rim. This shape is rare	
		BO20	Similar to BO19 but the wall is shorter and the edge is slightly bent to exterior; the majority came with rounded rims, in very few cases bevelled rims. This shape is common	
		BO21	Rounded shape, walls almost curve from the base to the edge, the hole-mouth's diameter slightly larger than the base diameter, rounded rim with fluidity to the inner and outside surfaces of the vessel. this shape is rare.	
		BO22	Bowls, walls are straight and tilted to exterior, rims varied between rounded rim and pointed rims, in very few cases also bevelled rims are attested. This shape is very common.	
		BO16	Semi-cylinder shape, walls almost straight, the edge was slightly tilted to exterior, the thickness of the rim is slightly larger than the thickness of the body walls, rounded rim fluidity to external and internal surfaces. This shape is very rare	
		BO4	Globular shape, the lower part of the vessels body walls are tilted to exterior and the upper part are slightly bent to interior; the hole-mouth diameter is slightly larger than the base diameter, rounded rim fluidity to the external surface of the vessel. This shape is very common.	
2	Plates	PL4	Plates, body walls titled to exterior and bent to interior, flat bases, rims varied between bevelled and rounded rims. This shape is common.	
		PL5	Plates, body walls almost straight, walls titled to exterior, flat bases, rims varied between bevelled and rounded rims. This shape is very rare.	

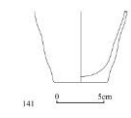
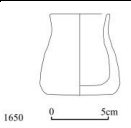
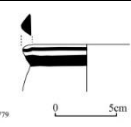
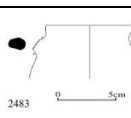

3	Cups	CU3	Semi-Conical shaped Cup, walls semi-straight tilted to exterior, this shape is very rare	
		CU6	Cup with walls tilted to interior, edge slightly bent to exterior, always with rounded rim fluidity to the internal and external surfaces. This shape is very common.	
4	Jars	Jar 1	Rounded shape, walls are tilted to exterior with bent to interior, edge slightly bent to exterior, rims varied between bevelled rims and rounded rims. This shape is rare.	
		Jar 6	Rounded shape, walls are tilted to exterior with bent to interior, edge rolled to exterior, with pointed rims. This shape is very rare	
5	Incense burners	IB5	Incense burner, rounded shape, walls are tilted to exterior, and bent to interior, prominent base; the diameter of the hole-mouth is larger than the diameter base, with bevelled rim. Only one vessel.	

Table. 4.19 Ceramic Group 6: functional classes and sub-forms (types).

### Decoration location:

The majority (57%) of the ceramic sherds in Group 6 were decorated; and 43% of the sherds in Group 6 are undecorated.

The majority (79%) of the decorated sherds in Group 6 were decorated on the internal surfaces only; and 19% were decorated on the external surfaces only; whereas, only 2% were decorated on both the internal and external surfaces.

### Decoration methods and decoration patterns:

All the decorated sherds in this group were decorated by painting. Moreover, the vast majority of the decorated sherds in this group were decorated with “horizontal friezes style”, which consists of horizontal lines or bands dividing the body into horizontal strips. Inside these strips there are decorative motifs which are repeated inside the horizontal friezes. In very few cases there were vertical strips that have been used to divide the horizontal friezes (Table. 4.20).

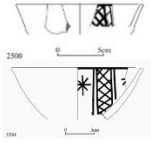
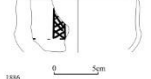
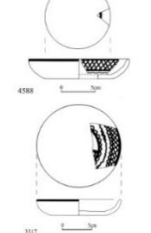
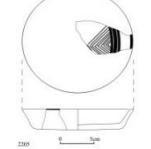

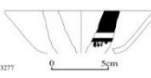
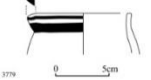
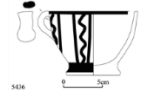
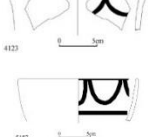
No.	Patterns group Main group	Description	Examples
1	Pattern 1: Horizontal line on the inner side of the rim, and one wide horizontal frieze on the inner surface; this frieze divided by vertical rectangles filled with net.	Wide horizontal frieze on the inner surface; this frieze divided by vertical rectangles filled with net. Sometimes there is a shape which looks like star and was repeated inside the zones between these vertical rectangles. This pattern is very rare.	
2	Pattern 2: Horizontal line on the outer side of the rim, and one wide horizontal frieze on the outer surface.	The horizontal frieze was divided by vertical rectangles filled with net. This pattern is very rare.	
3	Pattern 3: Horizontal line on the rim, and one horizontal frieze on the inner surface, and one wavy line under this frieze.	This pattern is very common on the plates only.	
4	Pattern 4: Horizontal line on the rim, and the decoration concentrated on the inner side of the base.	This pattern is very rare and only appeared on plates.	
5	Pattern 5: Horizontal line under the rim on the inner surface and three horizontal lines on the inner surface of the body wall.	The lower frieze filled with triangles facing down, and there are slanted lines inside each triangle, this pattern is very rare	
6	Pattern 6: wide horizontal line on the upper half of the inner surfaces; and under this horizontal line there is a horizontal frieze filled with vertical lines.	This pattern is very common on the shallow bowls and plates.	
7	Pattern 7: Horizontal line under the rim and another wide horizontal line on the outer surface of the body wall.	This pattern is common	
8	Pattern 8: wide horizontal frieze on the outer surface divided by vertical strips; these vertical strips were filled with vertical wavy line.	This pattern in very rare.	
9	Pattern 9: Arches on the inner surfaces.	This pattern is very common.	

Table. 4.20 Decoration patterns that appeared on Group 6 ceramics.

**Decoration colours:**

Decoration colours vary between black, brown and reddish brown. The majority of shards 85% are decorated with two colours; whilst, the remaining 15% are decorated with only one colour.

**Decoration motifs:**

The vast majority (if not all) of the decoration motifs that has been used to decorate Group 6 ceramic are geometric motifs such as; arches, circles, nets, triangles, straight lines, wavy and zigzag lines (Table. 4.21).














No.	Motif code	Description	examples
1	E1	A net inside horizontal frieze, very common on the inner surfaces only.	
2	E7	A net inside vertical strips, usually as breaks inside the horizontal strips. Very common on the inner surfaces, and very rare on the outer surface.	
3	E31	Triangles vector to down and filled with small triangles. This motif is rare and appeared only on the inner surfaces.	
4	E72	Arches hanging around the inner side of the circle. This motif is very common on plates only.	
5	E75	Arches hanging around the outer side of the circle. This motif is very rare and only appeared on the inner surfaces of the plates.	
6	E77	Two Zigzag lines, only one case on the outer surface	
7	E9	Horizontal line, very common on both the internal and external surfaces.	
8	E11	Horizontal wavy line inside horizontal frieze, very common on the outer surfaces and very rare on the inner surfaces.	
9	E51	Vertical wavy line, very rare and only appeared on the outer surfaces.	
10	E10	Vertical lines, group of lines divided the horizontal strip evenly, this motif is common and only appeared on the internal surfaces.	
11	E71	Group of vertical lines dividing the horizontal frieze into empty zones. This motif is very rare	
12	E14	Crossed lines in shape looks like a star, very rare appeared in both the inner and outer surfaces.	
13	E16	Arches vector down, came with different sizes, very common on the outer surfaces only.	

Table. 4.21 Decoration motifs that appeared on Group 6 ceramics.



### **Additional notes:**

1. In contrast with ceramic Groups 2-5, where all the ceramics sherds were decorated, a large number of Group 6 sherds were undecorated.
2. Although the decorated ceramics in Group 6 was decorated with many decoration patterns, they were poor in terms of the diversity of the decoration motifs compared with the ceramic Groups 3, 4 and 5.

### **Unique sherds:**

Unique sherds consist of nine ceramic sherds, which represented less than 1% of the total ceramic assemblage; these sherds were as follows:

#### **Sherd 1:**

Sherd no.1682 (Fig. 4.17); this sherd was made of Fabric Group 3; probably it was part of deep bowl. It has a brown slip and decorated with incised horizontal wavy and straight lines.

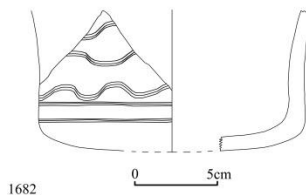


Fig. 4.17 Sherd no. 1682

#### **Sherd 2:**

Sherd no.1630 (Fig. 4.18); this sherd is a part of bowl, which was made of Fabric Group 4; this sherd is a large part of globular bowl; which is decorated by an incised horizontal line on the outer surface under the rim.

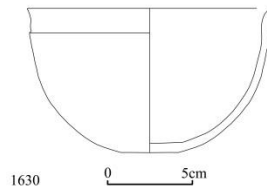


Fig. 4.18 Sherd no. 1630

**Sherd 3:**

Sherd no. 143 (Fig. 4.19); this sherd is a part of jar was made of Fabric Group 8, and it has a grey slip. The body walls were tilted to exterior and bent to interior, then heavily curved to exterior to make a short neck jar; the edge is slightly rolled to exterior. This jar was decorated with a horizontal line on the outer surface of the body under the neck.

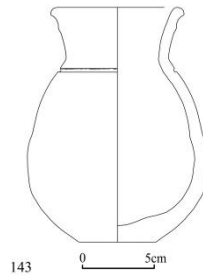


Fig. 4.19 Jar no. 143

**Sherds 4 and 5:**

Sherds nos. 4025 and 4676 (Figs. 4.20 & 4.21); both sherds were made of Fabric Group 1; and both have a yellow slip. Also, both sherds were decorated with incised lines, (comb teeth) on the outer surface of the sherds.

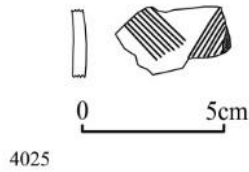


Fig. 4.20 Sherd no. 4025

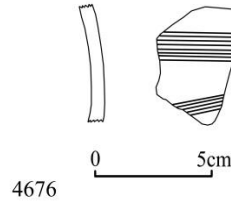


Fig. 4.21 Sherd no. 4676

**Sherd 6:**

Sherd no. 135 (Fig. 4.22), which is a large part of an incense burner made of Fabric Group 5. It has a cubic-shape, and four legs. This incense burner was decorated by incensing and pressing methods. The decoration motifs consisted of dots, horizontal lines, vertical lines and two vertical congruent triangles.

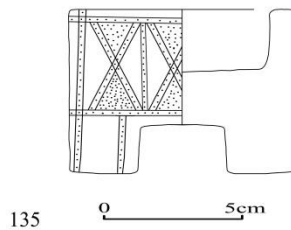


Fig. 4.22 Sherd no. 135

**Sherd 7:**

Sherd no. 114 (Fig. 4.23), which is a small part of a cubic incense burner made of Fabric Group 6. This incense burner was decorated by incensing and pressing methods. The decoration motifs consisted of dots, horizontal lines, vertical lines and two horizontal congruent triangles.

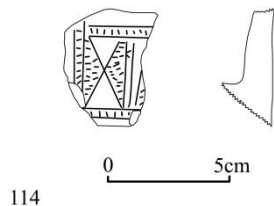


Fig. 4.23 Sherd no. 114

**Sherd 8:**

Sherd no. 1653 (Fig. 4.23), which was made of faience fabric (Fabric Group 7); probably it was part of a cup or small bowl.

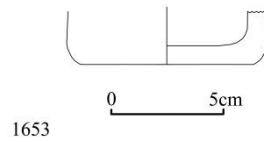


Fig. 4.24 Sherd no. 1653

**Sherd 9:**

Bowl no.142 (Fig. 4.24); this bowl was made of Fabric Group 3. It has a semi-conical shaped, with flat base and rounded rim. The body walls were very thick compared with other bowls in the ceramic Groups 1-6. It was decorated with two incised horizontal lines.

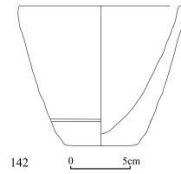


Fig. 4.25 Bowl no. 142

#### **a. 4.4. Discussion and Conclusion:**

This chapter has presented a description and classification study of the 3,624 ceramic sherds that were derived from the excavations at Mound 1 and 2 in Şinā'iyah site. These ceramics have been classified based on the basis of eight features; fabric, slip colour, slip location, decoration locations, decoration methods, decoration pattern, decoration colours and decoration motifs. Accordingly, the sherds were grouped into six main groups; whilst nine sherds were considered as unique sherds.

Some interesting observations emerge from the initial analysis of the ceramic assemblage, these can be divided into two parts: the first relate to the differences between the groups; and the second is about the commonalities between the groups

#### **Firstly: the main differences between the main ceramic groups**

Although there are many similarities between the main groups, there are always some differences that can be used to distinguish the ceramic assemblage into coherent and meaningful groups based on their physical attributes; accordingly, the main physical attributes that have been used to distinguish each group were as follows:

1. Group 1: is the only group that was slipped with red slip; and the only group that was decorated by slip trailing, pressing and incising, the vast majority of this group made of Fabric Group 5, the common shapes are the rounded–shape bowls and rounded shape jars
2. Group 2: the vast majority of this group made of Fabric Group 3. Slipped with yellow slip. The common shapes are the deep bowls decorated by wide crossed line and incense burners with or without handle decorated by several horizontal lines.
3. Group 3: is made of Fabric Groups 3 & 5, and slipped with yellow slip. The common shapes are the deep bowls and incense burners both decorated by two or three horizontal friezes.
4. Group 4: the vast the majority made of Fabric Groups 3. Slipped with yellow slip. The common shapes are the deep bowls and plates, the vast majority of this group is decorated six to horizontal friezes.

5. Group 5: the vast the majority made of Fabric Groups 3. Slipped with yellow slip. The common shapes are the shallow bowls, teardrop-shaped jar and elliptical vases. The vast majority decorated by horizontal friezes that filled with like-comma shapes or upside down commas and the horizontal friezes that divided by group of vertical lines and there is empty zones between these groups of lines and.
6. Group 6: the vast the majority made of Fabric Groups 3. Slipped with brown and white slips. The common shape is medium-sized bowls and cups. This group contains large number of undecorated vessels.

**Secondly: The main commonalities between the main ceramic groups:**

1. Interestingly, all the ceramic groups included ceramics that were made up of Fabric Group 3. However, these ceramics were classified into the main ceramic groups based on other features such as; slip location, slip colour, form, decoration methods, decoration pattern, and decoration motifs. In each ceramic group the ceramics made of Fabric 3 have exactly the same features as the ceramic group they were a part of.
2. Ceramic Groups 2, 3, 4 and 5 included ceramics that were made of white fabric (Fabric Group 1). Although there are no ceramic sherds in Groups 1 and 6 which were made up of Fabric 1, the vast majority of the decorations by slip-trailing on Group 1 ceramics were made up of Fabric 1. Also, Fabric 1 was used to slip many sherds of Group 6 ceramics. Therefore, the white clay was used in all the ceramic groups but for different purposes.
3. Some decoration motifs such as horizontal straight and wavy lines are also attested in all the ceramic groups; these straight and wavy line motifs were attested on all the fabric groups, slip colours and the decoration methods.
4. A yellow slip on Fabric Groups 1 and 3 were attested in four Ceramic Groups (Groups 2-5).
5. All ceramic sherds in Groups 2 to 5 were decorated.
6. Painted decoration was attested on five Ceramic Groups (Groups 2-6).

7. Painted decoration in brown, reddish brown and black colours were attested in five ceramic groups (Groups 2-6).
8. The horizontal frieze decoration patterns were attested in all the ceramic groups, but in different percentages.

Therefore, despite the fact that there are many differences between the main ceramic groups, there are also many commonalities in fabrics, slips, decorations methods and decoration motifs, indicating to a relationship between the main ceramic groups, whereby there is no group which can be considered as completely different from the other groups. Moreover, as has been discussed above, Giannetta (2009) has divided the Tayma ceramics into nine petrographic groups based on the results of petrographic, X-ray diffraction (XRD) and chemical (XRF) analyses; of which Petrographic Groups 1, 2, 3, 4 and 5 were suggested to be made of raw materials which are widely compatible with the geology of Tayma; as a result, these petrographic groups were suggested to be locally produced in Tayma (Giannetta, 2009: 77-96); whereas the other Petrographic Groups 6, 7, 8 and 9 were suggested to be made of raw materials which are different to the raw materials available in Tayma (Giannetta, 2009: 81).

All the main ceramic groups in the current study were divided based on the features of Giannetta's petrographic groups; into Fabric Groups; 1, 2 and 3; which are respectively identical to Giannotti's petrographic groups 2, 1 and 3 (see table. 4.22).

Fabric groups	Number of sherds	Including	Identical to Giannetta's petrographic group
Fabric Group 1	1015	107 sherds in Ceramic Group 2; 302 sherds in Ceramic Group 3; 454 sherds in Ceramic Group 4; 150 sherds in Ceramic Group 5; and two unique sherds nos. 4025 and 4676	Petrographic Group 2
Fabric Group 2	437	104 sherds in Ceramic Group 1; 333 sherds in Ceramic Group 6	Petrographic Group 1
Fabric Group 3	2166	693 sherds in Ceramic Group 1; 426sherds in Ceramic Group 2; 434 sherds in Ceramic Group 3; 224 sherds in Ceramic Group 4; 320 sherds in Ceramic Group 5; 68 sherds in Ceramic Group 6; and two unique sherds nos. 142 and no.1682	Petrographic Group 3
Fabric Group 4	1	sherd no.1630	Petrographic Group 5
Fabric Group 5	1	sherd no. 135	Not attested
Fabric Group 6	1	sherd no. 114	Not attested
Fabric Group 7	1	sherd no. 1653	Petrographic Group 9
Fabric Group 8	1	sherd no. 143	Not attested

Table. 4.22 The fabric groups and the number of the sherds in each ceramic group.

Accordingly; all the main Ceramic Groups 1, 2, 3, 4, 5 and 6 were made up of fabrics which are identical to Giannotti's petrographic groups 2, 1 and 3, that, according to Giannetta (2009: 77-96), were locally produced in Tayma.

Therefore, it seems likely the main ceramic groups from Şinā'iyah site amongst the 3,615 sherds, were locally produced at Tayma based on their fabrics, and this suggestion is supported by the commonalities between these ceramic groups in terms of forms, slips, decoration patterns, decorations motifs. At the same time, as it will be discussed in the following chapters that similar ceramics were found in Qurayyah site, which is share similar geology. Moreover, the differences in fabric suggest several workshops, which may or may not all be located at Tayma.

- A. Whereas, the unique sherds which are represented by nine sherds can be divided into three groups as follows: Sherd nos. 4025, 4676, 142, 1682 & 1630; sherds nos. 4025 and 4676 were made of Fabric Group 1; sherds nos. 142 and no.1682



- were made of Fabric Group 3; and sherd no.1630 was made of Fabric Group 4. Therefore, these sherds were made of Fabric Groups 1, 3 and 4 which are respectively identical to Giannotti's Petrographic Groups; 2, 3 and 5; which according to Giannetta (2009: 77-96) were made of raw materials which are widely compatible with the geology of Tayma; as a result, these petrographic groups are suggested to be locally produced in Tayma. Therefore, also, the unique sherds nos. 142, 1630, 1682, 4025 & 4676 can be suggested to be locally produced in Tayma based on their fabrics.
- B. Sherd nos. 135, 114 & 143; sherd no. 135 was made of Fabric Group 5; and sherd no. 114 was made of Fabric Group 6; sherd no. 143 was made of Fabric Group 8; and Fabric Groups 5, 6 and 8 were not attested in Giannetta's petrographic groups; Also, Francelin Tourtet who works on the ceramics from different sites in the Tayma area has examined these sherds by the naked eye; according to Tourtet (personal communication in 2013) none of these fabrics were attested at Tayma so far. Therefore, it can be suggested that there is a high possibility for these sherds to be imported to Tayma and not locally produced.
- C. Sherd no. 1653 was made of Fabric group 7; which is identical to Giannetta's Petrographic Group 9 (faience), which according to Giannetta, was made of raw materials which are different to the raw materials available in Tayma area (Giannetta, 2009: 81). Therefore, it seems reasonable to suggest sherd no. 1653 to be imported to Tayma and not locally produced. Moreover, Giannetta (2009: 54) suggested the Petrographic Group 9 (faience) to be an Egyptian faience based on chemical and textural evidence. Therefore, it can be suggested sherd no. 1653 to be imported from Egypt to Tayma.

Therefore, it can be concluded that all the mains groups of Şinā'iyah site and five unique sherds were locally produced at Tayma; whereas, only four unique sherds are suggested to be imported to Tayma; of which one sherd seems to be imported from Egypt.

The distribution and the chronology of the main ceramic groups and the unique sherds will be discussed in detail in the following chapter.

## **Chapter 5: Distribution and Chronology of the Ceramic Groups**

## **5. Chapter 5:**

This Chapter will discuss the distribution and chronology of the Şinā'iyah site ceramics (Ceramic Groups 1-6 and the unique sherds) from the deposits that have been excavated by the present author in Mounds 1 and 2 in Area 1 which were discussed in Chapter 3. It will also discuss the distribution of these ceramic groups within and outside of Tayma, and their chronology based on integrating the results from the Şinā'iyah site and other sites within and outside of Tayma.

This chapter will argue that each of the main ceramic groups 1-6 have different distributions (whether different sites or different deposits at the same site). Also, it will argue that these ceramic groups can be dated to different periods, and the dates of all the groups stretches between the late 3<sup>rd</sup> -early 2<sup>nd</sup> millennium BC and the 9<sup>th</sup> century BC.

### **5.1.Introduction**

As discussed in Chapter 3, the stratigraphy of Mounds 1 and 2 on the Şinā'iyah site were divided into several phases. In Chapter 4, the ceramics derived from these deposits were classified into six main groups. As it will be further discussed in the current chapter identical and similar ceramics to those under discussion were attested at several sites within the Tayma area (including the previous excavations on the Şinā'iyah site), several sites in the north-west of Arabia and the southern Levant. In some cases, these are from sites where the exact find location is not given, or they were found on the surface during surveys. Whereby, with the exception of the survey data, basic archaeological, chronological and stratigraphic information from these sites are still missing, and so far no ceramics similar to those under discussion have been derived from excavations or well dated context from these sites. For this reason, in the following discussion the ceramics from the surface of these sites will be discussed in the distribution of the ceramic groups; whilst, the discussion about the chronology of the ceramics will be limited to those sites where there is stratigraphy or/and C14 evidence.

Accordingly, the following discussion will be divided into four parts as follows:

- 1) The first part will discuss the occurrence of the ceramics in the deposits of Mounds 1 and 2 on the Şinā‘iyyah site. It will also discuss the C14 results and the suggested chronology.
- 2) The second part will discuss the distribution of similar ceramics within and outside of Tayma.
- 3) The third part will integrate the results from Mounds 1 and 2 on the Şinā‘iyyah site, with results from the other sites.
- 4) The fourth part will present a summary and conclusion.

## **5.2.The Occurrence of the Şinā‘iyyah Ceramics in the deposits of Mounds 1 and 2, and their dating based on the results from Mounds 1 and 2**

In Mound 1, 406 ceramic sherds were derived from six deposits, Whilst from Mound 2, a total of 5,030 ceramic sherds were derived from 27 deposits.

The total number of sherds from both mounds is 5,436. As discussed in Chapter 4, 3,615 of these sherds were classified into six main ceramic groups, whilst nine sherds were classified as unique sherds. In addition, 1,812 undecorated body sherds were considered as undefined sherds and it will excluded from the discussion.

This section will discuss the chronology of all the ceramics from Mounds 1 and 2 (including: the Ceramic Groups 1-6, the unclassified sherds) based on the stratigraphic and C14 evidence. The discussion will be divided into four parts as follows: 1) The occurrence of the ceramics in Mound 1 deposits. 2) The occurrence of the ceramics in Mound 2 deposits. 3) The C14 results. 4) The chronology of the main Ceramic Groups based on the stratigraphy and the C14 results from Mounds 1 and 2 on the Şinā‘iyyah.

### **1. The Occurrence of the Ceramics in Mound 1 Deposits:**

As mentioned above, 406 sherds were found in Mound 1, of which, 374 sherds were divided into the main Ceramic Groups (Fig. 5.1), whilst 32 sherds were considered as undefined sherds.

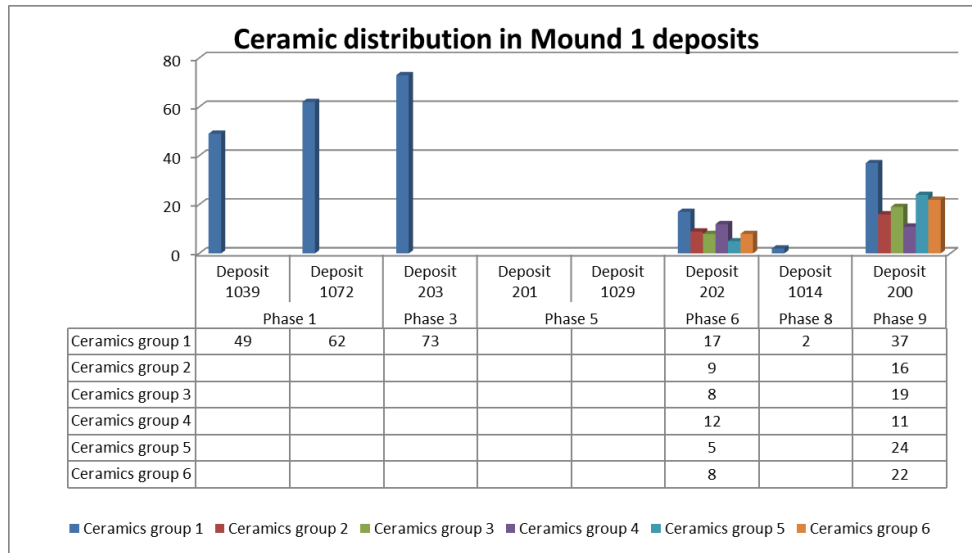


Fig. 5.1 Occurrence of the Main Ceramic Groups in Mound 1 Deposits.

It is possible to divide this sequence into two parts as follows: the first is represented by deposits <1039, 1072, 201 and 1029>; of which deposits <1072& 1039> are suggested to be related to the use of Tomb CT1 and CT2 during Phase 1; whereas, deposits <201& 1029> are suggested to be related to the second use of Tomb CT1 in Phase 5 (see Table 5.1).

The second is represented by deposits <203, 202, 1014& 200>; of which deposits <203, 202& 1014> represent the first, second and third abandonment phases respectively (Phases: 3, 6 & 8); whereas, deposit <200> represents the modern surface.

No.	Deposit	Phase	found location	Related to	Later change
1	1039	1	Outside-nearby Tomb CT2	The use of Tomb CT2	Moved outside the tomb in Phase 2
2	1072		Outside-nearby Tomb CT1	Early use of Tomb CT1	Moved outside the tomb in Phase 4
3	203	3	First abandonment deposit		
4	201	5	Outside-nearby Tomb CT1	Later use of Tomb CT1	Both deposits were suggested to be originally from the deposit which is related to the later use of Tomb CT1. This deposit was robbed and moved out of Tomb CT1 via a robbing act in Phase 7
5	1029				
6	202	6	Second abandonment deposit		
7	1014	8	Third abandonment deposit		
8	200	9	Modern surface		

Table. 5.1 Mound 1 Deposits and Phases.

At Mound 1 only Group 1 ceramics were found in the deposits <1072& 1039> that are related to Phase 1, and in deposit <203>, which represents the first abandonment phase (Phase 3). The stratigraphic evidence therefore indicates that Group 1 ceramics are the earliest ceramics at Mound 1.

Deposits <201& 2029> are thought to be related to the later use of Tomb CT1 in Phase 5, characterised by the absence of ceramics.

Ceramic Groups 2, 3, 4, 5 and 6 appeared only in deposits <202 & 200>, which represent the third abandonment phase and modern surface (Phases: 6 & 9) Thus, there is no evidence to indicate a relationship between ceramic Groups 2-6 and the use of Tombs CT1 and CT2 in Mound 1.

There are therefore four results that can be concluded from the occurrence of the ceramics:

1. Group 1 ceramics were the only ceramics found in the burial deposits of Tombs CT1 and CT2.
2. Based on the stratigraphic evidence Group 1 ceramics are suggested to be the earliest ceramics.
3. Ceramic Groups 2-6 appeared together in the same abandonment deposits; thus, there is no stratigraphic evidence from Mound 1 indicating which of these ceramic groups was earlier.
4. The second use of Tomb CT1 is characterised by the absence of ceramics, thus, ceramics were not always used in the burial activity in the Şinā'iyah site tombs.

These results will be used as evidence below related to the chronology of the Şinā'iyah site ceramics and their relationship with the tomb shapes.

## **2. The Occurrence of the Ceramics in Mound 2 Deposits**

As mentioned above, 5,030 ceramic sherds were found in Mound 2 deposits, of which, 3,241 sherds were classified into the six main ceramic Groups 1-6 (see Fig. 5.2).

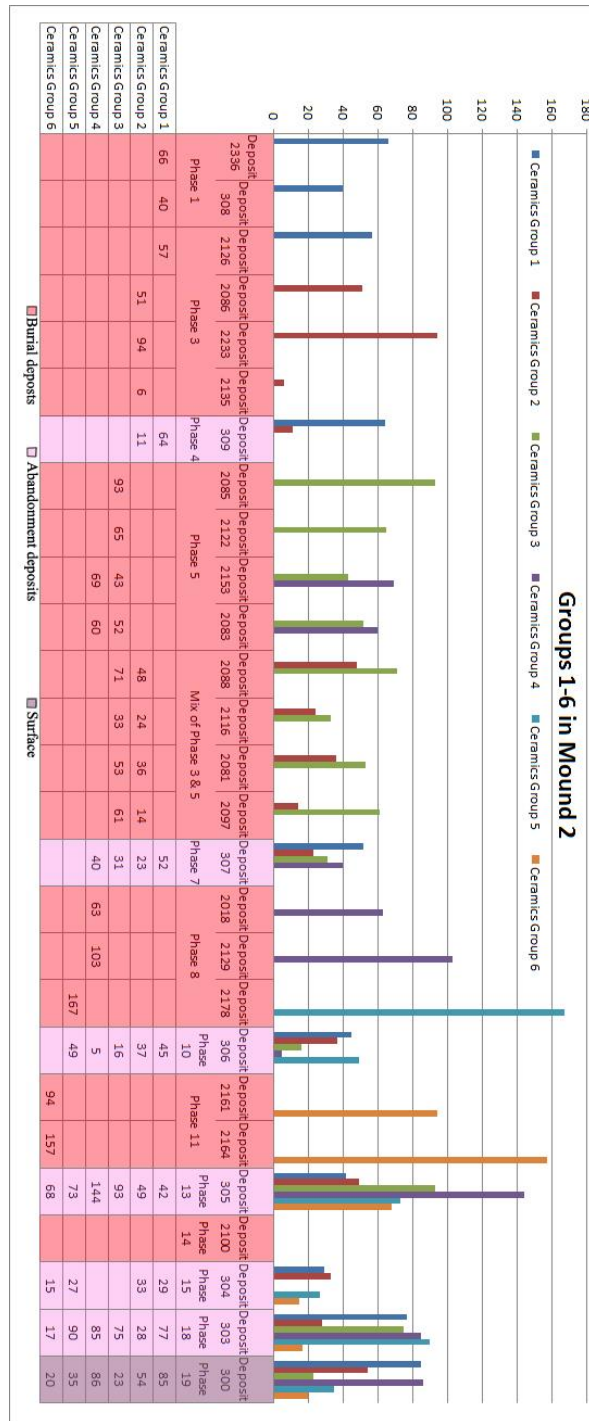


Fig. 5.2 The Occurrence of the Ceramics Groups in Mound 2 deposits.

Based on the stratigraphy of Mound 2, this section will discuss several points: Group 1 is the earliest group in this mound; Group 2 is later than the early use of Group 1 and either contrary or slightly later than the later use of Group 1, and Group 2 is earlier than Group



3; Group 3 is later than Group 2 and contemporary with the early use of Group 4; the early use of Group 4 is contemporary with the use of Group 3 and earlier than Group 5, and the later use of Group 4 either contrary or slightly earlier than the use of Group 5; Group 5 is earlier than Group 6 which is the latest ceramics group at Mound 2; the nine unique sherds were a mixture of several phases with some of these sherds being contemporary with the main groups, and some being from later deposits.

To show that clearly the distribution of each of the main Ceramic Groups 1-6 and unique sherds in Mound 2 deposits will be discussed in turn below.

### **The Occurrence of Ceramic Group 1 in Mound 2 Deposits**

This section will argue that ceramic Group 1 comprises the early ceramics in Mound 2 which were found in connection with the Early Circular Tombs (ECTs); and it is not clear, based on the stratigraphy of Mound 2 only, if the later use of Group 1 was contemporary with the use of Group 2.

At Mound 2, Group 1 ceramics were found in ten deposits (Fig 5.2). Group 1 ceramics were the only ceramics found in the burial deposits <2336 & 308> of Tombs CT1 and CT4 from Phase 1. Also, Group 1 was found in a burial deposit <2126> of Tomb CT3 from Phase 3.

As discussed in Chapter 3, Phase 2 represents the robbing of Tombs CT1 and CT4; the appearance of Group 1 ceramics in the last burials before the robbing phase (Phase 2) and in the earliest burials after Phases 2, suggests that they continued in use between Phases 1 and 3.

Being found in the deposits of two phases Group 1 can be divided into early use (Phase 1) and later use (Phase 3). It should be noted that, as discussed in Chapter 3, Phase 2 represents the robbing of Tombs CT1 and CT4. The appearance of Group 1 ceramics in the last burials before Phase 2 and in the earliest burials after Phases 2 suggests that they continued in use between Phases 1 and 3.

The stratigraphic evidence suggests they are the earliest ceramics at Mound 2, since Group 1 contains the only ceramics that were derived from Phase 1 deposits.

Moreover, as mentioned above Group 1 ceramics were attested in deposit <2126> from Phase 3. It should be noted that Group 2 ceramics were also found in the other burial deposits (deposits <2086, 2135 & 2233>) of Phase 3, however, no ceramics from Groups 1 and 2 were found together in the same burial deposit, which indicates that use of Groups 1 and 2 were not contemporary. However, since both groups were found in the deposits of the same phase (Phase 3) two possibilities can be discussed here about the relationship between the later use of Group 1 and the use of Group 2 in Phase 3.

Firstly, although ceramic Groups 1 and 2 were not found together in the same deposit, since both groups were found in Phase 3 deposits, together with no stratigraphic evidence which indicates which Phase 3 deposits was earlier, it might seem reasonable to assume that they were contemporary.

Secondly, the earliest use of Ceramic Group 1 was in Phase 1, and since Group 1 is the earlier ceramics at Mound 2 and it was attested in only one deposit of Phase 3, whilst, Group 2 was found in the other deposits of Phase 3, together with no stratigraphic evidence which indicates which of Group 1 or Group 2 deposits was earlier, there is also the possibility that the later use of Group 1 in Phase 3 was slightly earlier than the use of Group 2 and they were never in use at the same time. In this case Phase 3 deposits can be divided into earlier with Group 1 (deposit <2126>), and later with Group 2 (deposits <2086, 2135 & 2233>).

In Phase 1 and Phase 3, it is interesting that Group 1 ceramics were found in connection to the circular tombs (Tombs CT1, CT4 and CT3); and not a single sherd was found in the other tombs of the different shapes. Thus, it can be suggested there is a relationship between the use of the Group 1 ceramics and the circular tombs. It should be noted that the circular tombs from Phase 1 were stratigraphically earlier tombs at Mound 2, and a single circular tomb (Tomb CT2) was suggested to be from Phase 16 where no ceramics were attested. Thus, the circular tombs should be divided stratigraphically into two types: Early Circular Tombs (ECTs) from Phases 1 and 3 which contain Group 1, and Later Circular Tombs (LCTs) where no ceramics were attested. Thus, Group 1 ceramics were found in connection with the ECTs only.

Whereas, after Phase 3, Group 1 ceramics were found only in the abandonment deposits and on the surface; the absence of Group 1 ceramics from the burial deposits after Phase 3 indicates that they went out of use at this time.

Therefore, there are three important points can be concluded from the occurrence of Group 1 ceramics in Mound 2:

1. Group 1 ceramics are the earliest ceramics at Mound 2, and found in connection to the ECTs.
2. There are two possibilities about the relationship between the later use of ceramic Groups 1 and 2 during Phase 3. The first would be that both groups were in use during Phase 3. Alternatively, that Group 1 ceramics went out of use shortly before Group 2 ceramics began to be used, and the end of both Group 1 and 2 ceramics occurred during Phase 3.
3. Since Group 1 ceramics after Phase 3 were attested in the abandonment deposits and they were absent from the burial deposits, it can be suggested that Group 1 ceramics were not used later than Phase 3.

### **The Occurrence of Ceramic Group 2 in Mound 2 Deposits**

This section will argue that ceramic Group 2 was later than the early use of Group 1 and it is not clear based on the stratigraphy of Mound 2 only whether or not the use of Group 2 was contemporary with the later use of Group 2. Moreover, it will argue that there was a relationship between the use of Group 2 ceramics and the Tombs Attached to Circular Tombs (TACTs). Also, it will argue that Group 2 is earlier than Group 3, and they were not in use with Group 3 at the same time.

At Mound 2, Group 2 sherds occurred in fourteen deposits (Fig.5.2) and were found in the burial deposits <2086, 2135 & 2233> from Phase 3. It should be noted that in deposits <2086 & 2135> several complete ceramics vessels were found *in situ*. Thus, it clear that Group 2 ceramics were in use during Phase 3.

Moreover, both Groups 2 and 3 occurred in the deposits <2081, 2088, 2097 & 2116> which, as was discussed in Chapter 3, suggests a mix from burial deposits from Phases 3

and 5 via robbing in later periods (Phases 8 & 11). Whereas, only Group 2 ceramics were found in undisturbed parts of Phase 3 deposits and only Group 3 ceramics were found in undisturbed parts of Phase 5 deposits. This suggests that Group 2 ceramics were in use only during Phase 3, and they went out of use at this time, therefore after Phase 3 they were absent from the burial deposits and were only evident in the abandonment deposits and in surface deposit <300>.

Regarding the relationship between the ceramics and the shape of tombs, Group 2 ceramics were found in burial deposits related to rectangular Tombs RT6, RT7 and RT8. As discussed earlier, Tomb RT6 Tombs RT7 and RT8 were built on the remains of the ECTs. Such tombs in the previous excavation reports were classified as tombs attached to circular tombs in order to distinguish them from the other rectangular tombs (e.g. Abu Duruk 1996: 18; al-Hajri et al., 2006: 76-77). Therefore, to distinguish the rectangular Tombs RT6, RT7 and RT8 from the other rectangular tombs in Mound 2, Tombs RT6, RT7 and RT8 will be classified as Tombs Attached to the Circular Tombs (TACTs). The key point here is that Group 2 ceramics were only found in relation to the early use of such tombs.

There are four points that can be concluded from the occurrence of Group 2 ceramics in Mound 2 deposits:

1. Group 2 ceramics were used only during Phase 3.
2. Group 2 ceramics were earlier than Group 3 and there was no contemporary use of these groups.
3. The use of Group 2 ceramics was related only to the early use of TACTs.
4. There are two possibilities about the relationship between the later use of Group 1 ceramics and the use of Group 2 ceramics during Phase 3. Firstly, both Group 1 (later use) and Group 2 were in use together during Phase 3. Secondly, the later use of Group 1 ceramics ended shortly before Group 2 ceramics came into use, and both ceased to be used during Phase 3.

### **The Occurrence of Ceramic Group 3 in Mound 2 Deposits**

This section will argue that the use of Group 3 was in Phase 5, later than Group 2 and contemporary with the early use of Group 4. Moreover, this section will argue that Group 3 was found in connection to two types of tombs, since it was found in the later use of TACTs and the use of Early Organized Tombs (EOTs).

At Mound 2, Group 3 ceramics were occurred in thirteen deposits (Fig.5.2). Of which they were occurred in all the burial deposits <2085, 2122, 2153 & 2083> from Phase 5, and in some cases several complete vessels were found in situ; also, Group 3 was attested in the deposits <2081, 2088, 2097 & 2116> which are suggested to be mix of deposits from Phases 3 and 5 discussed above (see the occurrence of ceramic Group 2 above). Whereas, Group 3 is absent from the burial deposits after Phase 5. Therefore, it is obvious that Group 3 ceramics began restricted to Phase 5.

In Phase 5 deposits Group 3 ceramics occurred in two types of Tombs: firstly, the later use of the TACTs (Tombs RT7 and RT6) where only Group 3 were attested; secondly, in the burial deposits of the rectangular tombs (Tombs RT2 and RT5) where ceramic Groups 3 and 4 were attested. The rectangular tombs from Phase 5 and the rectangular tombs (Tombs RT2 and RT3) from Phase 8 were similar in shape to TACTs but their walls seemed to be more organized than those of TACTs, which in some cases contained curved walls, especially the walls that were abutted to the circular tombs. Similar rectangular tombs were classified by Abu Duruk as ‘Organized Tombs’ (Abu Duruk, 1996: 18); probably to distinguish these tombs from TACTs. It should be noted that Abu Duruk has classified the Organized Tombs as they were built at the same phase despite the differences in their stratigraphy (see the discussion in chapter 2 about the uncertainty in the stratigraphy results in the reports of the previous excavations in Şinā‘iyah). In Mound 2, such tombs were found in two different Phases (Phases 5 and 8). For this reason, such tombs will be classified as Organized Tombs following Abu Duruk, and divided into Early Organized Tombs (EOTs) from Phase 5 and Later Organised Tombs (LOTs) from Phase 8. Accordingly, Group 3 was found in connection with the EOTs only.

Since Group 3 ceramics were attested in all the burial deposits of Phase 5, including deposits <2153 & 2083> which contain Groups 3 and 4, together with a lack of stratigraphic evidence indicating which of the Phase 5 deposits was earlier, it can be assumed that the two Groups 3 and 4 were in use together during Phase 5, with noting that there are some burial deposits from that phase which contained only Group 3 ceramics.

Moreover Group 4 was also found in burial deposits from LOTs from Phase 8, indicating that it continued in use. Obviously, Group 3 and the early use of Group 4 were only in use together during Phase 5.

In relation to Group 3 ceramics it is therefore possible to conclude that:

1. They were later than Group 2 and they were used only during Phase 5.
2. Their use is related only to the later use of TACTs, and the use of the EOTs.
3. Their use was contemporary with the early use of Group 4.

### **The Occurrence of Ceramic Group 4 in Mound 2 Deposits**

This section will argue that the use of Group 4 can be divided into two uses, early use in Phase 5, which is contemporary with the use of Group 3, and later use in Phase 8; this bears two possibilities, either contemporary with the use of Group 5 or slightly earlier. Also, it will argue that Group 4 continued to be used between Phases 5 and 8. In Phase 5 they were found in connection with the use of the EOTs and in connection to the use of the LOTs from Phase 8.

At Mound 2, Group 4 ceramics were occurred in nine deposits (Fig.5.2). As it been discussed above the early use of Group 4 were occurred in burial deposits <2153 & 2083> of the EOTs (Tombs RT2 and RT5) from Phase 5, which were contained both Groups 3 and 4.

Whilst, in the burial deposits of Phase 8 Group 4 were occurred only in the burial deposit of Tomb RT1 (Deposits <2018& 2129>, which as discussed in chapter 3 above, they were originally formed the burial deposit of Tomb RT1 from Phase 8, which was separated RT1 during the robbing of Phase 16). Whereas, Group 4 was absent from the

other burial deposit (deposit <2178> of Tomb RT3) of Phase 8 where only Group 5 were found.

Also, Group 4 were absent from the burial deposits after Phase 8, and attested only in the abandonment deposits. Thus, it is obvious that the later use of Group 4 ended during Phase 8.

Regarding the relationship between Groups 4 and 5 in Phase 8, since no burial deposit from this phase included both Groups 4 and 5, together with no stratigraphic evidence indicating which of the Phase 8 deposits was earlier, two possibilities about the relationship between the later use of Group 4 and the use of Group 5 can be suggested: either Groups 4 and 5 were in use at the same time, or Group 4 went out of use before Group 5 came into use during Phase 8. In this case Phase 8 deposits can be divided into earlier with Group 4 (deposits <2018 & 2129>), and later without (deposit <2178>).

As discussed in Chapter 3, Phase 6 represents the robbing of Tomb RT5 and Phase 7 represents abandonment deposit <307>, thus, there was a break in burials in Mound 2 between Phases 5 and 8. However, this does not mean there was a break in the use of Group 4 ceramics. The appearance of Group 4 ceramics in the last burials before robbing Phase 6 and abandonment Phase 7 and in the earliest burials after Phases 6 and 7, suggests that they continued in use between Phases 5 and 8.

Three points can be concluded in relation to the occurrence of Group 4 in Mound 2; they are:

1. Later than Ceramic Groups 1 and 2.
2. Their earliest use was in Phase 5 contemporary with the use of Group 3, and in this Phase Group 4 was related to the use of the EOTs.
3. Their latest use in Phase 8 and related to the use of the LOTs, and there are two possibilities about the relationship between Groups 4 and 5 in this phase: the first would be that both groups were in use at the same time. Alternatively, that Group 4 went out of use before Group 5 came into use during Phase 8. In this case Phase 8 deposits can be divided into earlier with Group 4 (deposits <2018 & 2129>), and later without (deposit <2178>).

### **The Occurrence of Ceramic Group 5 in Mound 2 Deposits**

At Mound 2, Group 5 ceramics were found in six deposits (Fig.5.2), of which only one was a burial deposit <2178> (the early use of Tomb RT3) from Phase 8. Tomb RT3 as it been discussed earlier is suggested to be from the LOTs. After Phase 8 Group 3 were attested absent of the burial deposits (attested only in the abandonment deposits).

Also, as discussed earlier, there are two possibilities regarding the relationship between Group 4 and 5 (See the Occurrence of Group 4 above).

The following points can be concluded from the occurrence of Group 5 in Mound 2. They were:

1. Used only during Phase 8.
2. Used later than the early use of Group 4; and either contemporary with the later use of Group 4 in Phase 8, or that the Group 4 went out of use shortly before Group 5. In the latter case Phase 8 deposits can be divided into early <2018 & 2129> (with Group 4) and later <2178> (with Group 5).
3. Related to one of the LOTs (Tomb RT3).

### **The Occurrence of Ceramic Group 6 in Mound 2 Deposits**

This section will argue that this group is the latest ceramic group used during Phase 11 and found in connection with the Early Long Chamber Tombs (ELCTs).

At Mound 2, Group 6 ceramics were occurred in six deposits (Fig.5.2). The majority of Group 6 ceramics (251 of 371 sherds) was concentrated in two deposits <2161& 2164>. As discussed above (see the discussion about Tomb RT4 in Phase 11 in Chapter 3), both are thought to be a mix of the burial deposits of Tomb RT4 from Phase 11 and the sand that accumulated inside the tomb after Phase 11 and before the robbing in Phase 16. However, it can be suggested that the finds from these deposits (including ceramics) are related to the use of Tomb RT4 in Phase 11 for two reasons. Firstly, there is no evidence indicating the re-use of the tomb between the building in Phase 11 and the robbing in Phase 16. Secondly, Group 6 ceramics are different from the other groups, especially the slip colours. The majority of Group 6 shallow bowls and plates were slipped white, whilst



other forms were slipped brown or were brown burnished. Ceramics with these features were attested only in the burial deposits of Tomb RT4 and never in deposits earlier than Phase 11. Group 6 is also absent from burial deposits later than Phase 11 (attested only in the abandonment deposits). Thus, it seems that the use of Group 6 ceramics began restricted to Phase 11.

There are two rectangular tombs which similar in shape and size: Tomb RT4 from Phase 11, and Tomb RT9 from Phase 14. These tombs are characterised by their long chamber. To distinguish between these tombs and other rectangular tombs from earlier periods, Tombs RT4 and RT9 will be classified as Long Chamber Tombs (LCTs); and will be divided into two types of tomb based on their stratigraphy as follows: Early Long Chamber Tomb (ELCT), Tomb RT4 from Phase 11, and Later Long Chamber Tomb (LLCT), Tomb RT9 from Phase 14. Accordingly, Group 6 is found in connection with the ELCT only.

Therefore, there are three important points can be concluded from the occurrence of Group 6 ceramics in Mound 2

1. They were used only during Phase 11.
2. They are later than the other ceramic groups.
3. They are related only to the ELCT (Tomb RT4).

### **The Occurrence of Unique Sherds in Mound 2 deposits**

Although there were only nine unique sherds, making up less than 1% of the total ceramic assemblage, they play an important role in the discussion about the occurrence and chronology of the other groups. It will be further discussed below whether some of these unique sherds came from well-dated deposits or were possibly imported to Tayma. Thus, significant information can be added about the relationship between Tayma and other sites.

The unique sherds can be divided into five subgroups based on their find locations:

1: Sherds 4025 & 4676

These sherds were found in deposit <309> from Phase 4. Therefore, stratigraphically, these sherds were later than Ceramic Group 2 (Phase 3) and earlier than Group 3 (Phase 5).

2: Sherd 1653

This sherd was found together with Group 5 ceramics in deposit <2178>. As a result, this sherd can be suggested as contemporary with Group 5.

3: Sherd 1682

This sherd was found in deposit <306> from Phase 10. Stratigraphically, this sherd is later than Group 5 (Phase 8) and earlier than ceramic Group 6, used during Phase 11.

4: Sherds 142, 143 and 1630

These sherds were found in deposit <2100>. These sherds were the only ceramics that were found in burial deposit <2100> of Tomb RT9 from Phase 14. Therefore, stratigraphically, these sherds were later than the main Ceramic Groups 1-6.

5: Sherd 114 and 135

These sherds were found in the surface deposit <300> which represents the last phase (Phase 19).

### 3. The C14 Results:

Twelve C14 samples were taken from Mounds 1 and 2, which were examined on the 7<sup>th</sup> of February 2013, by Beta Analytic Radiocarbon Dating Laboratory, Miami, Florida, USA. Unfortunately, the bone samples failed to yield collagen. As a result, the discussion about the C14 date will be limited to the results of the four charcoal samples (See Table 5.2 and the lab reports in Appendix C).

No.	Sample name	Lab code.	SU	Dated material	BP date	2 $\sigma$ , 95% probability	OxCal
1	KSTS20120009	Beta-351099	Found inside the incense burner number No. 126 which found in 2135	charcoal	3450 $\pm$ 30	1860-1640 calBC	OxCal v 4.2.2
2	KSTS20120010	Beta-351097	2100	charcoal	2390 $\pm$ 30	700-400 calBC	OxCal v 4.2.2
3	KSTS20120011	Beta-351098	1029	charcoal	2270 $\pm$ 30	400-210 calBC	OxCal v 4.2.2
4	KSTS20120012	Beta-351096	Found inside the incense burner number No. 131 which found in 2233	charcoal	3420 $\pm$ 30	1890-1690 calBC	OxCal v 4.2.2

Table. 5.2 C14 results.

### 4. The Chronology of the main Ceramic Groups based on the Stratigraphy and the C14 Results from Mounds 1 and 2 on the Şinā‘iyyah

The results from Mound 1 show that the circular tombs (Tomb CT1 and CT2) were related to the use of Group 1, and both tombs and Group 1 ceramics were stratigraphically earlier than deposit <1029> which is dated by C14 to 400-210 calBC.

Based on the C14 results and the occurrence of the Ceramic Groups in Mound 2 deposits, Table 5.3 presents the suggested chronology of the ceramics and the tombs.

Ceramics	Mound 2		
	Phase	Related Tombs	Suggested date
Early use of Group 1	1	Early circular tombs (Tombs CT1 & CT4)	Stratigraphically earlier than the later use of Group 1; also earlier than Group 2
Later Use of Group 1	3	Early circular tombs (Tomb CT3)	Stratigraphically Later than the earlier use of Group 1; contemporary or shortly before Group 2
Group 2	3	Tombs attached to the circular tombs (Tombs RT6, RT7 & RT8)	Stratigraphically Later than the earlier use of Group 1; contemporary or shortly after the later use of Group 1.  Dated by C14 dates to the period between the 19 <sup>th</sup> and the 17 <sup>th</sup> centuries BC.
Group 3	5	Later use of the tombs that attached to circular tombs (Tombs RT6 & RT7) Also the early recognised tombs (Tomb RT2 & RT5)	Stratigraphically later than Group 2 and contemporary with the early use of Group 4.
Early use of Group 4	5	Early recognised tombs (Tomb RT2 & RT5)	Stratigraphically later than Group 2 and contemporary with the early use of Group 3.
Later use of Group 4	8	Later recognised tombs (Tomb RT1)	Stratigraphically later than Group 3 and contemporary or shortly before Group 5
Group 5 and the unique sherd no. 1653	8	Later recognised tombs (Tomb RT3)	Stratigraphically later than Group 3 and the early use of Group 4.  Also, contemporary or shortly before the later use of Group 4
Group 6	11	Early long chamber tombs (Tomb RT4)	Stratigraphically later than Groups 4 and 5, and earlier than the unique sherds nos. 142, 143 and 1630.
The unique sherds nos. 142, 143 and 1630.	14	Later long chamber tombs (Tomb RT9)	Stratigraphically later than Group 6. Dated by C14 to 700-400 calBC

Table. 5.3 The suggested chronology of the Ceramic Groups and the related Tombs, based on the results from Mounds 1 and 2 on the Şinā‘iyyah

**b. 5.3. The Distribution of the Ceramic Groups in the other Sites within and outside the Tayma Area:**

As has been mentioned in the introduction above, this section will discuss the occurrence of the main Ceramic Groups 1-6, that have been found within and outside the Tayma area, including the previous excavation seasons on the Şinā'iyah site.

Ceramics parallel to the ceramic groups from Şinā'iyah Mounds 1 and 2 have been attested in different sites within and outside the Tayma area. However, unfortunately, the vast majority of these were published without details of the fabrics and slip colours; for example the ceramics from the previous excavations at Şinā'iyah (e.g. Abu Duruk, 1989; 1990; Abu Duruk, 1996; al-Hajri et al., 2006) and Tel Fara'h site (e.g. Starkey and Harding, 1932: PL. LXIII, 42, 52-55; Parr, 1982: 128, Fig. 1:1-5). In other cases, the details of slips were given as a general description; for example, according to Glass (1988: 100) ceramics from Sites 2, 3, 198 and 200 in the Timna' valley were slipped with yellow and white slips. However, the slip colour for each of the sherds is not given (e.g. Rothenberg, 1972; 1988; Rothenberg and Glass, 1983). Moreover, Hausleiter (2014) has suggested some of the ceramics that were derived from the excavation at the Kharbat site are similar to ceramics from Tayma and Şinā'iyah site but so far, no sherds are published from this excavation.

The lack of information in published studies makes it difficult to find out if these ceramics were identical to those from Şinā'iyah in their physical attributes. For this reason the writer has physically inspected the available ceramic assemblages from Şinā'iyah in the National Museum in Riyadh; Kharbat in the Tayma Museum; and Tel Fara'h in the collection of the Institute of Archaeology in London; and the ceramics that were recently found in Qurayyah site (named SQPW by Luciani & Al Saud, in press).

It was possible to ascertain that all these ceramics could be allocated to the main ceramic groups from Şinā'iyah. Ceramics from Kharbat site are allocated in Ceramic Group 1; ceramics from Tel Fara'h were found similar to Group 5; ceramics from Qurayyah site were found very similar to Group 5; whereas, Şinā'iyah ceramics in the National Museum in Riyadh are contained all the Ceramic Groups 1-6.

The comparison between the Ceramic Groups 1-6 from Şinā‘iyyah and the parallel ceramics from the other sites will be based on the available information in the published studies.

The discussion of the distribution and occurrence of the main Şinā‘iyyah Ceramic Groups within and outside the Tayma area will focus on showing where identical or similar ceramics are attested. Discussions of the chronology and the implications of their occurrence are further on in this chapter.

### **The Distribution of Group 1 Ceramics: (Fig. 5.5)**

Group 1 is very comparable with the type of pottery have been found in several sites inside Tayma and in Qurayyah site; the vast majority of this group are identical to the group named RBW by Hausleiter (2014).

#### **Tayma Area:**

In the Tayma area, Group 1 sherds were found in several sites as follows:

#### **Şinā‘iyyah**

Sherds identical to Group 1 were found in the second and third seasons at Şinā‘iyyah (Abu Duruk, 1990: plate 9; 1996: plates. 9: b, 10: a & c), and in the sixth season at Şinā‘iyyah (al-Onazi, 2006-2007, plates 85: 2; 78: 1; 93: 2; 101: 2; 111: 2; 112: 1; 118:1-2; 119: 1-2; 120: 1-2; 125: 1; 126: 1-2). However, the exact find location is not given.

The present writer has inspected the ceramics from the first, the second, third, fifth and sixth seasons at Şinā‘iyyah in the collection of the National Museum in Riyadh city. A large amount of Group 1 ceramics were found in the second, third, fifth and sixth seasons.

Although, the exact find location of the Group 1 ceramics cannot be determined based on the published information or the labels in the storage bags, the absence of Group 1 ceramics from the first season, when no circular tomb was found, and their appearance in the second, third, fifth, and sixth excavation seasons when circular tombs were excavated

supports the results from Mounds 1 and 2 that there is a relationship between the circular shaped tombs and Group 1 ceramics.

### **Rojum Sa'sa (Crain field)**

A few Group 1 ceramics were published from Rojum Sa'sa; from the surface (Bawden et al., 1980: plate. 65: 1-5, 11 & 19) and from the excavations in Mounds 1, 3 & 4 (Al-Najem, 2006: 215: [down right]; 139: figs. 1-3; 131, fig. 3), however the exact deposit is not given.

According to Al-Najem (2006: 128), Mounds 1 & 3 consists only of circular tombs and Mound no. 4 consists of a circular tomb and constructions attached to it. As stated, Group 1 ceramics were found in Mounds 1, 3 and. 4. This supports the result from Şinā'iyah, which indicates a relationship between Group 1 ceramics and circular tombs.

### **Kharbat**

Group 1 ceramics were derived from the excavation of two circular tombs at Kharbat (Fig.5.3), just to the south of Şinā'iyah. These tombs are identical in size and shape to some of those excavated by the present writer in Mounds 1 and 2 at Şinā'iyah (Tombs CT2 from Mound 1 and Tomb CT3 from Mound 1).

Moreover, the sherds inspected by the author from Kharbat in the Tayma Museum (Fig. 5.4) are identical to Group 1 ceramics from Mounds 1 and 2. Whilst the exact find location not given, it is known that they were found in connection with circular tombs. It can therefore be suggested that this supports from Şinā'iyah suggesting a relationship between such tombs and Group 1 ceramics.



Fig. 5.3 Circular tombs at Kharbat facing south, no scale.



Fig. 5.4 Group 1 Ceramics from Kharbat in Tayma Museum.

### **Tal'a**

So far, from Group 1 no sherds have been published from Tal'a, however, according to Hausleiter (2014: 405), red-burnished and slip-trailed ceramics are attested there. The writer participated in the excavation at Tal'a in 2004 and, based on observations made at that time, many ceramics identical to Group 1 were found there.

It is known that circular tombs were excavated there (see Tomb T.1010 in Beuger, 2010: Pl. 4.25: C). It is therefore quite likely, or even probable, that Group 1 ceramics found were also in connection with them.

### **Qraya (Compound Complex)**

Ceramics identical to Group 1 were attested in four locations at Qraya. These are as follows:



- A. Square W41: Hausleiter published several ceramic sherds from Square W41 (Hausleiter, 2014: 205; Fig. 6), only two sherds (the second sherd from the left in the top row and the second sherd from the left in the middle row), which can be considered identical to Group 1. The other sherds in the figure seem to be different in terms of the forms and decorations.
- Moreover, Tourtet has published several ceramic sherds from Square W41 that are identical to Group 1 (Tourtet, in press: plate 6b).
- B. Squares E18-E19 S: Hausleiter published several ceramic sherds from Squares E18-E19 S which are identical to Group 1 (Hausleiter, 2014: 404 - 405; figs. 3a, 3b, 5a & 5b).
- C. Area E: several sherds were found in Building E-b1 stage E-b1:3c; of which only seven are identical to Group 1 (Tourtet and Hausleiter; in press: plate. 0.11b: 1-2, 4-8). According to Hausleiter (2014: 403 – 406), these were found near to a Hellenistic temple E-b1 in square E1, inside a deposit that mainly contains of pottery and ash.
- D. Square Q3: Hausleiter (2014: 403 - 404) has called the red slip ceramics Red Burnished Ware (RBW), and named the slip-trailed ceramics Barbotine Ware. Hausleiter has suggested that Barbotine Ware is part of the RBW group. Both of these can be equated with Group 1 ceramics, He states that both RBW and Barbotine Ware were found in the lowest deposit in Square Q3. Thus, it is argued here that Group 1 ceramics occurred here.

#### **Al-Nassem site**

Hausleiter and Zur (2016: 152: Fig. 14) have published several RBW that were associated with the circular tombs in al-Nassem site in Tayma. According to them these the pottery was only encountered outside the tombs (Hausleiter & Zur, 2016: 153). Moreover, Zur (2016: 66) has stated that finds that were found inside and outside of the graves are supposed to be contemporaneous. Zur (2016:66) has concluded that based on the C14 dates and the associated bronze finds al-Nassem site can be dated Late 3rd and Early 2nd millennium BC. Also, she has stated that the bronze finds from al-Nassem site indicate contacts to the Levant, Syria, Egypt and Mesopotamia, due to typological and chronological comparability.

**Outside the Tayma Area:**

From outside the Tayma area, the only place where ceramics parallel to Group 1 in terms of the forms, slip-trailed decorations have been found is at Qurayyah. Here a few sherds identical to Group 1 were collected from the surface (Parr et al., 1969: 234; Fig. 2; 235: 1, 3, 6 & 8; Ingraham, 1980: plate. 79: 1-6). This confirms Hausleiter’s (2014: 405) suggestion that Barbotine Ware (slip-trailed) were attested at both Tayma and Qurayyah.



Fig. 5.5 The Distribution of Groups 1,2 and 3 Ceramics.

**Samples for Ceramic Group 1 from different sites:**

Qurayyah	Square W41	Şinā‘iyyah

Table. 5.4 Samples of Group 1 Ceramics from Qurayyah, Square W41 in Qraya and Şinā‘iyyah.

## **The Distribution of the Group 2 Ceramics: (Fig. 5.5)**

Group 2 ceramics were attested at several sites in Tayma and Qurayyah site:

### **Tayma Area:**

In the Tayma area, Group 2 ceramics were attested at several sites as follow:

### **Şinā' iyyah**

Several Group 2 ceramics were published from Şinā' iyyah. These are as follows:

- A. Second season: one deep bowl decorated with wide crossed lines, identical to the deep bowls of Group 2 (Abu Duruk, 1990: plate. 7: a). The exact deposit, the tomb number and the tomb shape are not given.
- B. Third season: a deep bowl (Abu Duruk 1996: plate. 9: C); Abu Duruk has published another photo of this bowl in its find location (Abu Duruk, 1996: plate. 2: C). According to the description it was found *in situ* in the lower deposit inside one of the tombs that were attached to the circular tombs. However, the number of the tomb is not given. Abu Duruk (1996: 19) has noted that the ceramics that were characterised by the wide decorations (Wide crossed lines) were found in lower deposits inside the Tombs Attached to the Circular Tombs (TACTs). He notes that they were found only in the second and third seasons.
- C. Sixth season: twenty sherds identical to Group 2 ceramics (al-Onazi, 2006-2007: plates 68: 1-2; 69: 1-2; 70:1-2; 71: 1-2; 72: 2; 73: 1; 79: 1; 128: 1-2; 129: 1-2; 130: 2; 131:2; 132: 1; 133: 1-2). The exact find locations for these sherds are not given.

The writer has inspected the ceramics that were derived from the first, second, third, fifth and sixth seasons at Şinā' iyyah in the National Museum in Riyadh. A large number of Group 2 ceramics were attested in the ceramic assemblages from all seasons other than the first.

Therefore, the observations of Abu Duruk about the absence of wide decoration (which characterises Group 2 ceramics) from the first season ceramics can be confirmed. Moreover, the appearance of the Group 2 ceramics in the second, third, fifth and sixth seasons, when TACTs were attested, together with their absence from the first season, where no such tombs were found, supports what was already observed by Abu Duruk twenty years ago; this type of ceramic is related to the lower deposits (early use) of TACTs.

### **Rojum Sa'sa (Crain field)**

So far there is only one sherd (part of a deep bowl) which resembles Group 1 bowls from Rojum Sa'sa (al-Hajri et al., 2002: pl. 3.14: b). This was found at a depth of 30 cm in Mound 6 which, according to al-Hajri et al. (2002: 59), consists of rectangular constructions that were not fully excavated. The purpose of these constructions is not known.

According to al-Hajri et al (2002: 58-63), Mound 6 seems to have been robbed recently. There are modern materials, including plastic, in lower deposits at a depth of 1 m. Thus, the deposits above these must also be modern. This sherd must therefore be redeposited.

### **Tal'a**

Although no ceramics similar to Group 2 have been published from Tal'a so far, the writer participated in the 2004 excavations here. Based on his observations many sherds identical to Group 2 were found, especially the deep bowls decorated with wide crossed lines characteristic of Group 2.

At Tala' different types of tombs were found, including four tombs: T.1004, T.1009, T.1015 and T.1018, which were attached to circular tomb T.1010 (for the site plan, see Beuger, 2010: Pl. 4.25: C). Although, there is no demonstrable relationship between Group 2 ceramics and these tombs, the appearance of Group 2 ceramics, together with them, supports - or at least does not contradict - the suggestion by Abu Duruk (1996: 19).

### **Qraya (Compound Complex)**

Ceramics resembling Group 2 were found in two locations at Qraya as follows:

1. Area F: One sherd of Group 1 was published from fill deposit in Area F (Hausleiter, 2014: Fig. 24: a).
2. Square Q3: So far, one sherd (part of a deep bowl) of Group 2 ceramics has been published from Square Q3 (Hausleiter, 2014: Fig. 9: b). According to Hausleiter (2014: 408), this sherd was found in a deposit that was later than a Red Burnished Ware deposit (i.e. later than the Group 1 deposit), and covered by a deposit that was dated by C14 to the period between the 12<sup>th</sup> and 10<sup>th</sup> centuries BC (1189-946 calBC). As discussed earlier, Group 1 ceramics were found in the lowest deposit in Square Q3. Therefore, Group 2 ceramics in Square Q3 were later than Group 1 and earlier than the deposit dated 1189-946 calBC.

**Outside the Tayma Area:**

From outside the Tayma area several sherds identical to Group 2 ceramics were found on the surface at Qurayyah (Hausleiter, 2014: Fig. 9: b). This is the only place where these ceramics have so far been attested outside the Tayma area.

**Samples for Ceramic Group 2 from different sites**




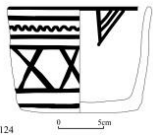
Qurayyah	Area F in Qraya	Square Q3In Qraya	Şinā‘iyyah Mound 2
			

Table. 5.5 Samples of Group 2 Ceramics from different sites.

### **The Distribution of Group 3 Ceramics: (Fig. 5.5)**

Group 3 ceramics were attested at several sites inside Tayma area, and in Qurayyah. Hausleiter (2014) has classified sherds identical to Groups 3 and 4 sherds as Şinā'iyah Pottery.

#### **Tayma Area:**

At Tayma, Group 3 ceramics were attested at several sites as follow:

#### **Şinā'iyah**

Several Group 3 sherds were published from the previous excavations at the site. These can be divided up based on the excavation season:

- A. One Group 3 incense burner was published from the first excavation season at Şinā'iyah (Abu Duruk, 1989: 9: b). However, the exact deposit and the tomb number are not given. It should be noted that two types of tombs were uncovered during this season Organized Tombs and children tombs. Since the find location is not given, it is impossible to know which of the first season tombs were related to the use of Group 3 ceramics.
- B. Two Group 3 bowls were found in the third excavation season at Şinā'iyah. The first bowl (Abu Duruk, 1996: Plate 9: d) was published without details of the find location. However, there are two photos of the second bowl (Abu Duruk, 1996: Pls. 2: c; 9: a). According to Abu Duruk (1996: 19 & Pl. 2: c), this bowl was found *in situ* in the upper deposit inside one of the TACTs, whereas, as discussed above, Group 2 ceramics were found *in situ* in the lower deposits related to these tombs. Therefore, the Group 3 bowl was related to the later use of the TACTs. This is compatible with the result from Mound 2, where Group 2 ceramics were related to the early use of the TACTs, and Group 3 ceramics were related to their later use.
- C. Four Group 3 ceramic sherds were published from the sixth season (al-Onazi, 2006-2007: Plates 74: 1; 77: 1; 80: 1; 130. 1). These sherds were published without details of the find location.

The writer has inspected the ceramic assemblages from the first, second, third, fifth and sixth seasons in Şinā'iyah. He was able to observe that ceramic sherds identical to Group 3 were attested in the ceramic assemblages from all seasons.

### **Tal'a**

Hausleiter has published two ceramic vessels from Tal'a (a small bowl and a small cup) found in the burial deposit of an undisturbed child's tomb (Hausleiter, 2014: 217-218 & Fig. 23: a). The small bowl is identical to the shallow bowls in Group 3 whereas it is suggested that the small cup belongs to Group 4 based on its slip decoration motifs, which included a checker motif characteristic of this group.

As Groups 3 and 4 were found together in the same deposit inside an undisturbed child's tomb, it seems reasonable to suggest that there was contemporaneous use between both groups.

### **Qraya (Compound Complex)**

Part of a Group 3 deep bowl was found in compound C at Qraya (Bawden et al., 1980: Plate 63: 21). According to Bawden et al (1980: 89), it was found in a dump is located in the upper debris banked up against the outer surface of the compound C wall. However, as discussed in Chapter 2, the compound C wall extends over a large area and the exact location of this dump is not given.

### **Outside Tayma**

From outside the Tayma area there are two sherds of deep bowls which were found on the surface of the Qurayyah (Ingraham, 1980: Plate 78: 10; 79: 11). These were very similar, if not identical, to Group 3 ceramics, especially in terms of the fabrics, slips, forms of the decorative motifs and patterns. This is so far the only place where Group 3 ceramics are attested outside the Tayma area.

### Samples for Ceramic Group 3 from different sites

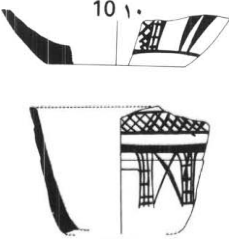
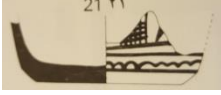

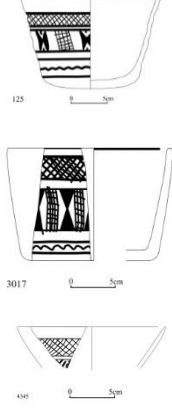
Qurayyah	Qraya	Tal'a	Şinā'iyah
			

Table. 5.6 Samples of Group 3 Ceramics from different sites.

### The Distribution of Group 4 Ceramics: (Fig. 5.6)

Group 4 ceramic is attested at several sites inside Tayma area, also, in Tall al-Kathib in the Al-U'la area. Hausleiter (2014) has classified sherds identical to Groups 3 and 4 as Şinā'iyah Pottery.

#### Tayma Area:

In the Tayma area, Group 4 ceramics were attested at several sites as follows:

#### Şinā'iyah

Several Group 4 ceramics were published from Şinā'iyah. These can be divided up by excavation seasons:

- A. A deep bowl from Group 4 was found in the first season (Abu Duruk 1989: Pl. 10: a). It was found in burial deposits next to three human skulls inside tomb no. 4 (Abu Duruk, 1989: Pl. 6: a). Whilst the number of the tomb is given, it is hard to know which of the tombs that were uncovered in the first excavation season is tomb no. 4 based on the published information. Based on the published photo, the Group 4 bowl was found in a tomb which is similar to Organized Tombs in



Mound 2, where Group 4 were Found in Early and Later Organized Tombs (EOTs and LOTs). It therefore seems likely that this bowl was found in the burial deposit inside one of the Organized Tombs.

- B. From the third season Abu Duruk has published one Group 4 sherd (Abu Duruk, 1996: Pl. 11: b; the first sherd in the top left). However, the exact find location is not given.
- C. Seven Group 4 sherds were also published from the sixth season (al-Onazi, 2006-2007: Pls. 77: 2; 90: 2; 99: 1-2; 115: 2; 116: 1-2). The exact find location is also not given.

As discussed above, the writer has inspected the ceramic assemblages from seasons 1-6 (minus 4) at Şinā'iyah. Group 4 ceramics were present from all seasons. It should also be noted that the Organized Tombs were attested in the excavated mounds from all seasons. Thus, the results support - or at least do not contradict - the results from Mound 2 at Şinā'iyah where Group 4 ceramics were found in connection with the EOTs and the LOTs.

### **Tal'a**

As mentioned previously, (see Group 3 at Tal'a), two vessels (a Group 3 bowl and a Group 4 cup) were found in the burial deposit of an undisturbed child's tomb. The Group 4 cup was decorated with a checker motif characteristic of Group 4 ceramics. Moreover, Hausleiter (2014: Fig. 23: c & d) has published two sherds of deep bowls from Tal'a which are identical to Group 4 deep bowls. However, the exact find location is not given.

As Groups 3 and 4 were found together in the same undisturbed deposit at Tal'a, it is clear that the distribution of Group 4 ceramics Tal'a and is also likely that there was contemporary use of Groups 3 and 4.

### **Rojum Sa'sa (Crain field)**

Bawden et al (1980: Plates 63: 3; 64: 1) published two sherds from the surface of Rojum Sa'sa. These were identical to Group 4 in terms of slip, fabric, decoration pattern and motifs. They were made of white fabric, slipped with cream (yellow) slips, decorated

with many horizontal friezes and patterns, and the checker motif appears on both sherds. Together, these features are what characterise Group 4 and therefore, it seems reasonable to suggest that these sherds belong to Group 4.

### **Qraya (Compound Complex)**

A large part of a Group 4 deep bowl was found in a fill deposit in Area H at Qraya (Martian et al., in press: Plate 0.18).

### **Outside Tayma:**

The only place where Group 4 ceramics were found outside Tayma is Tall al-Kathib in the Al-U'la area where two ceramic sherds, parts of a deep bowl identical to Group 4 bowls, were found (al-Zahrani, 2007: Plates 86-87). This is the only place where Group 4 ceramics are so far attested outside the Tayma area.



Fig. 5.6 The Distribution of Group 4 Ceramics.

### Samples for Ceramic Group 4 from different sites

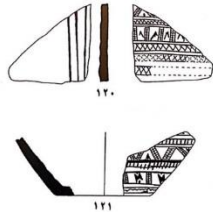

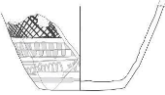

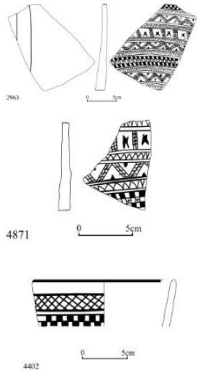
Tall al-Kathib	Tal'a	Area H Qraya	Rojum Sa'sa	Şinā'iyah
				

Table. 5.7 Samples for Ceramic Group 4 from different sites.

### The Distribution of Group 5 Ceramics: (Fig. 5.7)

#### Tayma Area:

In the Tayma area Group 5 ceramics were attested at several sites as follows:

#### Şinā'iyah

Several Group 5 ceramics have been published from previous excavations at Şinā'iyah.

These can be divided up based on the excavation seasons as follows:

- A. Twelve Group 5 ceramic sherds were published from the second season (Abu Duruk, 1990: Pls. 10: A [sherds in the lower row] & 10: b). The exact find location is not given.
- B. One Group 5 bowl was published from the third season (Abu Duruk, 1996: Pl. 10: d). The exact find location is not given.
- C. Six Group 5 ceramic sherds were published from the sixth season (al-Onazi, 2006-2007: Plates 83: 1; 86: 1; 103: 2; 104: 1; 108: 1; 117: 2). The exact find location is not given.

The writer has inspected the ceramics from all but the fourth season at Şinā'iyah. A large number of Group 5 ceramics were attested from all seasons. It should be noted that the Organized Tombs were attested in all previous excavations at Şinā'iyah, thus, this supports or at least does not contradict the results from Mound 2 at the Şinā'iyah, where Group 5 ceramics were found in connection with the Later Organized Tombs (LOTs).

### **Rojum Sa'sa (Crain field)**

A few Group 5 sherds were found on the surface of Rojum Sa'sa (Bawden et al., 1980: Plates 63: 13& 14; 64: 3-4; 65: 12).

### **Qraya (Compound Complex)**

At Qraya, Group 5 ceramics were found in two locations as follows:

- A. Square W41: Tourtet has published several ceramics from Square W41 of which there is a sherd which could belong to Group 5 (Tourtet, in press, 2007: Plate 0.4b: a). This was made of white fabric (Fabric Group 1) and decorated with angles (chevrons). These features appear together only in Group 5.
- B. Square Q3: Ten sherds identical to Group 5 ceramics are published from Square Q3 (Hausleiter, 2014: Fig. 8: b). According to Hausleiter (2014: 408), these were found in deposit that was later than the Red Burnished Ware (ie Group 1) deposit, and covered by a deposit that was dated by C14 to 1189-946 calBC.

### **Outside Tayma:**

From outside the Tayma area the ceramics sherds that were similar to Group 5 ceramics have been found in the following locations:

### **Qurayyah**

Several ceramics were found on the surface at Qurayyah that resembled Group 5 in terms of the fabric, slips, decoration patterns and decoration motifs (Parr et al., 1970: Pl. 15: 5, 8-9; Ingraham et al., 1980: Pls. 78: 9, 11, 16; 79: 12, 15, 17-19, 22- 23, 25). Moreover, in Des 2017 the present writer with Alina Zur have visited Qurayyah site and inspected the new ceramics QPW (termed- SQPW) that discovered at Qurayyah (under the supervision

of Luciani). Accordingly, with exception of only one sherd, all the decorations elements appeared on Group 5 sherds were attested in SQPW.

#### **Site 200-36 in Wadi Sharmah (Sharmah Valley).**

Site 200-36 is located in Wadi Sharmah (Ingraham et al., 1980: 74), which is in Tabouk province, about 168 km to the west of Tabouk itself., A few sherds were published from the surface which were identical to Qurayyah ceramics according to Ingraham et al (1980: 74-75) . Among these there is one (Ingraham, 1980: Plate 81: 17), decorated with comma-like shapes (scrolls) which appear only on Group 5 ceramics.

#### **Site 200 -84**

Site 200- 84 is located in Wadi al-Bad' (Ingraham et al., 1980: 74), which is located in Tabouk province about 180 km to the north-west of Tabouk itself. From the surface of this site Ingraham et al (1980: 74-75) published a few sherds which were identical to Qurayyah ceramics. Among these ceramics there is a sherd (Ingraham et al., 1980: Pl 81: 4) slipped with yellow slip and decorated with groups of angles (chevrons) which are otherwise attested only in Group 5.

#### **Timna' Valley (Wadi Mene'iyeh)**

Several sherds decorated with motifs that only appeared on Group 5 ceramics come from sites in the Timna' Valley:

- A. Decorated with groups of angles (chevrons); from Site 200 (Rothenberg, 1988: Fig. 9: 10); from Site 30 (Rothenberg and Glass, 1983: Fig. 6: 6).
- B. Decorated with horizontal or vertical frieze divided into rectangular zones, and inside these rectangular zones with dots or small circles; from site 200 (Rothenberg, 1988: Figs. 5: 8; 6: 18; 9: 1 &10); from Site 30 (Rothenberg and Glass, 1983: Fig. 6: 6); from Site 2 (Rothenberg and Glass, 1983: Fig. 5: 3).
- C. Decorated with comma-like shapes (scrolls); from Site 200 (Rothenberg, 1988: Fig. 5: 1); from Site 30 (Rothenberg and Glass, 1983: Fig. 6: 6); from Site 2 (Rothenberg, 1972, Fig. 32: 3).

- D. Decorated with shapes which look like leaves or flowers on the inner side of the vessel's base: from Site 200 (Rothenberg, 1988: Fig. 6: 16); from Site 2 (Rothenberg, 1972, Fig. 32: 4).
- E. Decorated with cylinder shapes (or small arches) surrounded by hanging arches, vector down, usually repeated inside horizontal friezes; from Site 200 (Rothenberg, 1988: Fig. 6: 17); from Site 198 (Rothenberg and Glass, 1983: Fig. 6: 8).

### **Tel Fara'h**

Ten sherds similar to Group 5 ceramics were found in the excavations at Tel Fara'h (Starkey and Harding, 1932: PL. LXIII, 42, 52-55). Some of these were republished by Parr (1982: 128: Figs. 1-5). As discussed previously, the writer has inspected these in the collection of the Institute of Archaeology in London. According to their fabrics and slips they are identical to Ceramic Groups 2-5. However, their decoration motifs, such as the horizontal or vertical friezes divided into rectangular zones with dots or small circles inside, appear only on Group 5 ceramics to which it is suggested that they belong.

### **Amman Temple**

A small temple was found in 1955 during the building operation of Amman Airport (Harding, 1956: 80; 1958: 10-12). A large number of finds, including Mycenaean ceramics, were collected after the bulldozing operations, thus their original find-spot cannot be determined (Hankey, 1967: 135 & 1995: 169).

J. Basil Hennessy re-excavated Amman Temple in 1966 (Hennessy: 1966: 155). These ceramics, according to him, can be dated to Mycenaean II to III (Hennessy, 1966: 155). According to Hankey (1967:135) the Mycenaean ceramics found in 1966 provided stratigraphic evidence to date this temple to 1400, sometime in the 13<sup>th</sup> century B.C.

Hennessy and Dayton physically compared the ceramics made of white fabric and slipped with yellow from both Qurayyah and Amman Temple (found in 1966), and they concluded that the sherds from both sites were identical (Dayton, 1972: 29).

As discussed in Chapter 4, Ceramic Groups 2-5 contained sherds made of white and yellow slips, however, only the decoration motifs that characterised Group 5 were

attested in the ceramics from Amman Temple; these included chevrons, scrolls and spiral shapes (i.e. Hankey, 1967: pls. 33: b & c; 34: a: 1 & 4, d: 2-3; 35 d).

Amman Temple is not far from Qurayyah (where Group 5 attested), being only some six days' camel march from Qurayyah (Dayton: 29). Therefore, it seems likely that the distribution of Group 5 ceramics includes the Amman Temple.

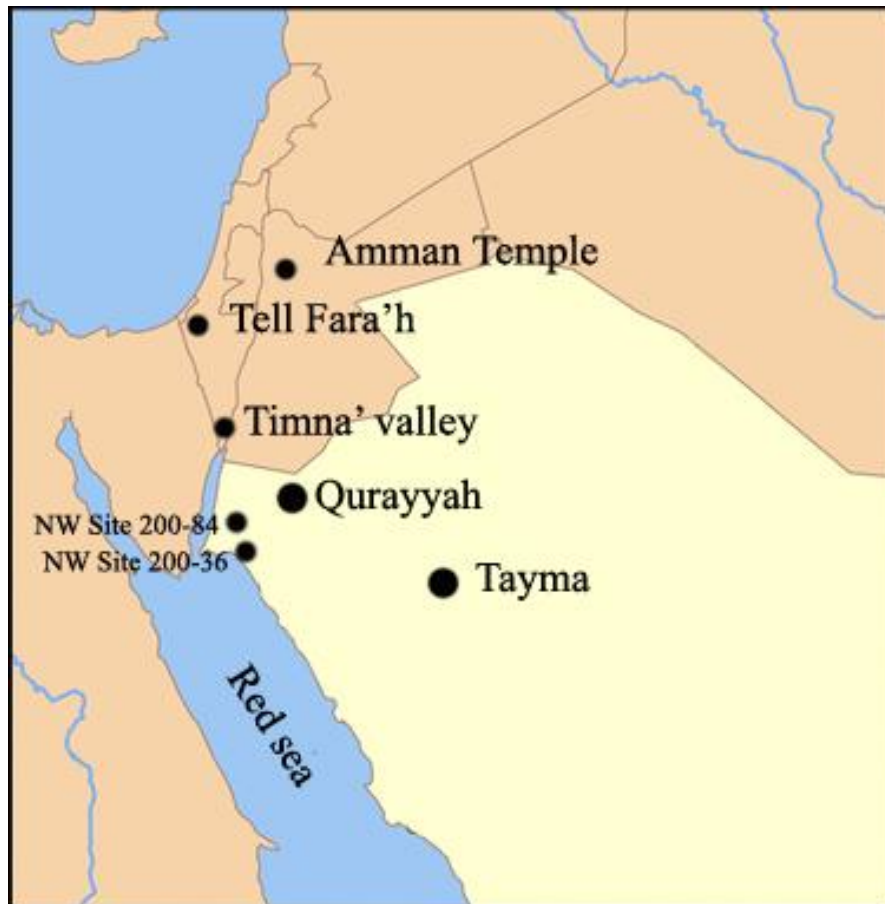





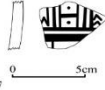
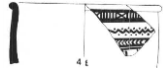







Fig. 5.7 The Distribution of Group 5 Ceramics

**Samples for Ceramic Group 5 and similar ceramic sherds from different sites**

<p>Decoration motifs</p>	<p>Samples</p>		
<p>Group of the angles inside horizontal or vertical friezes (chevrons)</p>	 <p>Site 200</p>  <p>Amman</p>	 <p>Site 30</p>  <p>Qurayyah</p>	 <p>Square W41 in Qraya</p>  <p>Şinā'iyah</p>  <p>Site 200-84 Wadi al-Bad'</p>
<p>Frieze divided into rectangular zones, and inside these rectangular zones, there are dots or small circles</p>	 <p>Site 200</p>	 <p>Site 2</p>  <p>Site 30</p>	 <p>Tel Fara'h</p>  <p>Şinā'iyah</p>



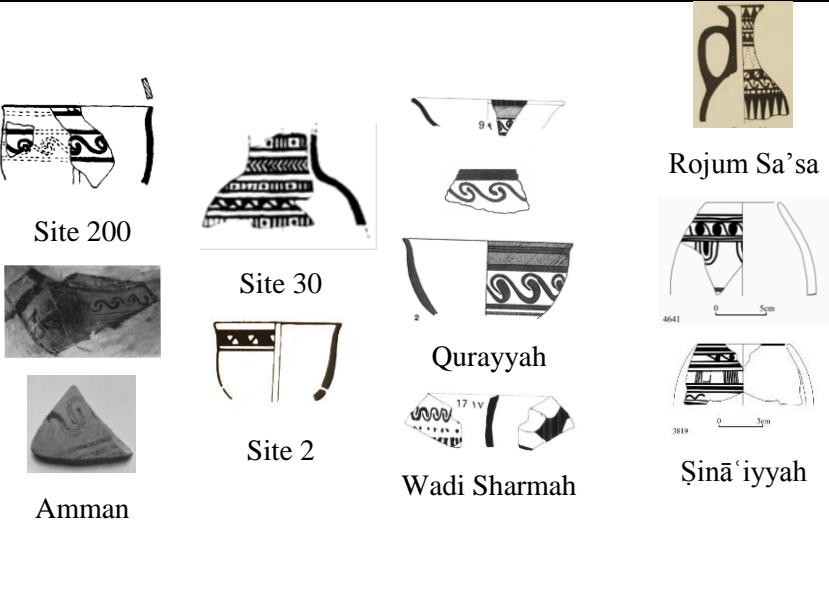

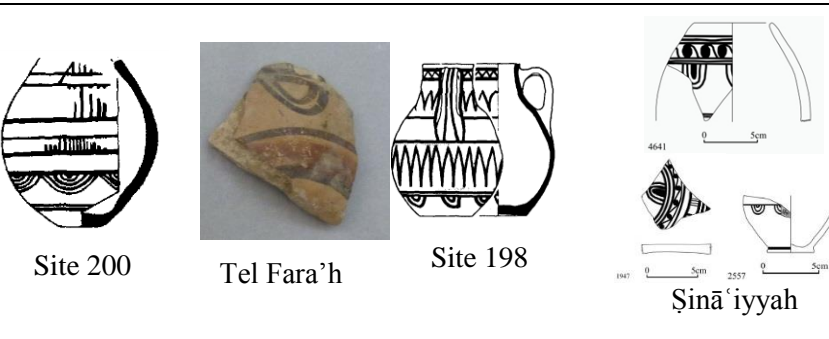
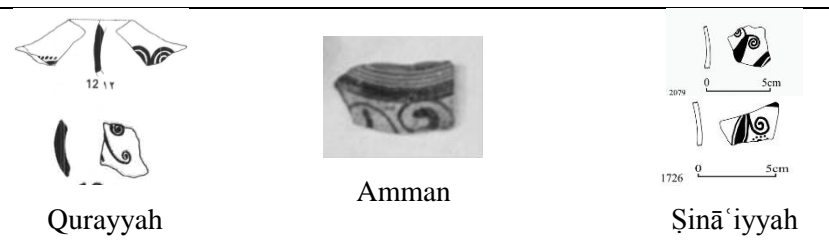
<p>Decorated with comma-like shapes (scrolls)</p>	 <p>Site 200</p> <p>Site 30</p> <p>Site 2</p> <p>Amman</p> <p>Wadi Sharmah</p> <p>Şinā'iyah</p>
<p>Flower on the inner side of the vessel's base</p>	 <p>Site 200</p> <p>Site 2</p> <p>Şinā'iyah</p>
<p>Cylinder shape (or small arch) surrounded by hanged arches</p>	 <p>Site 200</p> <p>Tel Fara'h</p> <p>Site 198</p> <p>Şinā'iyah</p>
<p>Spiral shape</p>	 <p>Qurayyah</p> <p>Amman</p> <p>Şinā'iyah</p>

Table. 5.8 Samples for Ceramic Group 5 and similar ceramic sherds from different sites.

### **The Distribution of Group 6 Ceramics: (Fig. 5.8)**

Group 6 ceramics were attested at several sites inside and outside Tayma; Hausleiter (2014) has classified comparable ceramics to this group as Tayma Early Iron Age pottery.

#### **Tayma Area:**

In the Tayma area, Group 6 ceramics are attested at several sites as follows:

#### **Şinā'iyah**

Very few ceramic sherds that are identical to Group 6 ceramics have been published from Şinā'iyah. These can be divided up based on the excavation seasons as follows:

1. From the third season, Abu Duruk published part of a deep bowl (Abu Duruk, 1996: Plate.11: b, third sherd from the left in the lower row). However, the exact find location is not given. The present writer has inspected this sherd in the National Museum in Riyadh. It is slipped with a white slip which is otherwise attested only in Group 6.
2. From the fifth season, al-Hajri et al have published a small cup from Mound no. 3 (al-Hajri et al., 2006: Plate 3.10: b). However, the exact find location is not given. The present writer has inspected this cup in the National Museum in Riyadh City. It is made of Fabric Group 2 and slipped with a white slip. White slips on Fabric Group 2 are otherwise attested only in Group 6.
3. Three ceramic sherds identical to Group 6 ceramics were published from the sixth season (al-Onazi, 2006-2007: Pls. 82: 1; 83: 2; 84: 1). The exact find location is not given.

The writer has inspected the ceramics from seasons 1-6 (minus 4) at Şinā'iyah. Sherds identical to Group 6 are attested in all seasons where they appear to be very common.

#### **Qraya (Compound Complex)**

Sherds resembling Group 6 were found in several locations at Qraya:

- A. Area O: Hausleiter has published several sherds resembling Group 6 from Area O (Hausleiter, 2014: Figs. 17 and 20: A). According to him, these were made of red

fabric and slipped with white slips (Hausleiter, 2014: 414), which are normally attested only in Group 6. Moreover, Hausleiter has also published some undecorated sherds from Area O (Hausleiter, 2014: Fig. 21: A) which are identical to the unpainted sherds in Group 6. According to Hausleiter, ceramic sherds from Area O were found in the mono-phase architectural complex in clear relation to a number of Levantine objects and Egyptian faience figurines. According to Hausleiter (2014: 423), these ceramics were dated by C14 to the 12<sup>th</sup> to 9<sup>th</sup> centuries BC.

- B. Area A: Hausleiter has published several unpainted ceramic sherds from Area A (Hausleiter, 2014: Fig. 21: A). According to him (2014: 414), Area A has the same ceramics that were found in Area O and also the same C14 date. According to Hausleiter (2014: 423), the C14 date from Area A is dated to the 12<sup>th</sup> to 9<sup>th</sup> centuries BC.

Hausleiter (2014: 414 & n. 77) has noted that the ceramics sherds that were found in Area A and published in Eichmann et al (2006a: plate. 9.13: a), are similar to the ceramics from Area O.

### **Outside Tayma:**

From outside the Tayma area, ceramic sherds resembling Group 6 ceramics were found in several locations as follows:

#### **Qurayyah**

Several ceramics resembling Group 6 were found on the surface at Qurayyah. Some of these ceramics were identical to the painted ceramics in Group 6 in terms of the fabrics, slips, forms and decorations (e. g. Parr et al., 1970: Pls. 15: 3-4; 16: 1, 10; Ingraham et al., 1980: Pl. 79: 8). Unpainted ceramics identical to unpainted ceramics in Group 6 were also found (e.g. Parr et al., 1970: pl. 17: 9; Ingraham et al., 1980: Pl. 80: 10-13, 24& 26).

#### **Wadi Sharmah**

Sites 200-36 and 200-38 are located in Wadi Sharmah (Ingraham, 1980: 74). From the surface of this site, Ingraham et al (1980: Pl. 81) published a few sherds which, according

to Ingraham et al (1980: 74-75), are identical to Qurayyah ceramics. These include undecorated sherds with brown slip (brown burnished) for example: from Site 200-36 (Ingraham, 1980: Pl. 81: 10); from Site 200-38 (Ingraham et al., 1980: Pl. 81: 8). These features appear together only in Group 6.

### **Timna' Valley (Wadi Mene'iyeh)**

Several ceramic sherds resembling the decorated sherds from Group 6 were found at sites in the Timna' Valley. These sherds were decorated with patterns and motifs which are otherwise known only in Group 6 such as:

- A. Vertical lines on the inner surfaces (with no decoration on the outer surfaces); from Site 2: (Rothenberg, 1972: Fig. 32: 2); from Site 200 (Rothenberg, 1988: Fig. 5: 17).
- B. Hanged arches on the inner surfaces (with no decoration on the outer surfaces); from Site 200 (Rothenberg, 1988: Fig. 5: 13-16 & 18); from Site 2 (Rothenberg, 1972: Fig. 32: 2).
- C. Undecorated sherds from Site 200 (Rothenberg, 1988: Fig. 6: 1-2)

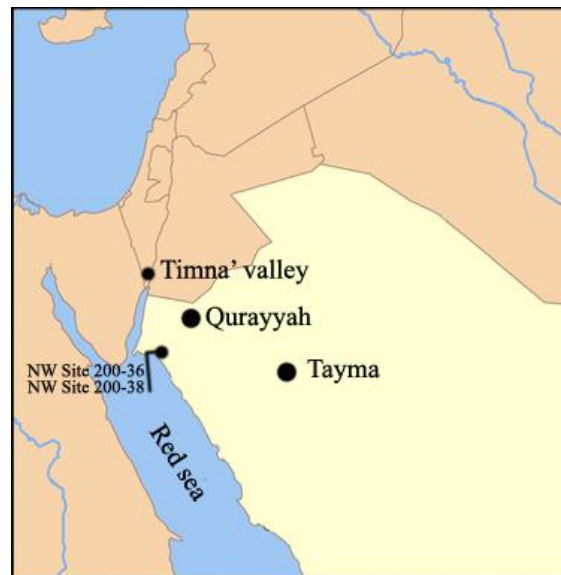


Fig. 5.8 The Distribution of Group 6 Ceramics

**Samples for Ceramic Group 6 from different sites**

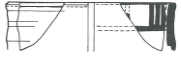
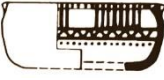
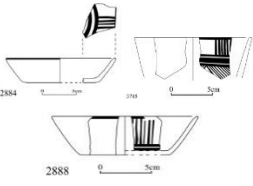
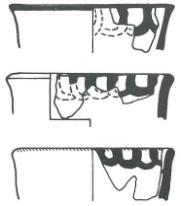
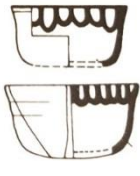
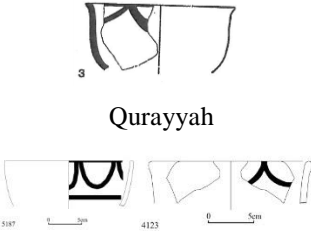


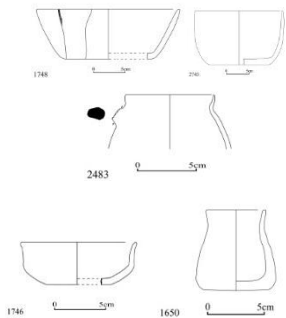

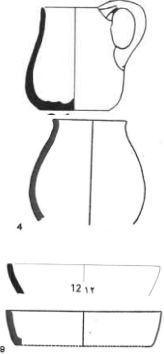
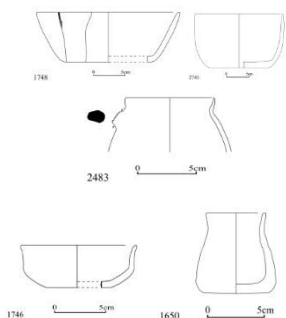
Decoration motifs	Samples		
Vertical lines on the inner surfaces without decoration on the outer surfaces	 Site 200	 Site 2	 Şinā' iyyah
Hanged arches on the inner surfaces without decoration on the outer surfaces	 Site 200	 Site 2	 Qurayyah Şinā' iyyah
Undecorated sherds	 Wadi Sharmah Site 200 Area O Qraya	 Qurayyah	 Şinā' iyyah
Decoration motifs	Samples		
Undecorated sherds	 Area O Qraya	 Qurayyah	 Şinā' iyyah

Table. 5.9 Samples of Group 6 Ceramics from different sites.

**c. 5.4. Ceramic Chronology based on the Evidence from Tayma and other Sites where similar Ceramics were found**

As discussed previously, the Ceramic Groups 1-6 have different occurrences through the excavated sequence at Şinā'iyah and different distributions within and outside the Tayma area. In some cases, these sherds were found in fill deposits or on the surface where there is no evidence of chronology. In the following discussion, the chronology for each of the main Ceramic Groups will be discussed separately, focusing on the locations (sites, deposits) where there is chronological evidence.

In addition, there are some unique sherds which were found in different deposits in Mound 2 at Şinā'iyah, which stratigraphically, are later than the main Ceramic Groups. Some of these were found in deposit (The burial deposit <2100> of Tomb RT9) dated by C14, or were found in association with at least one of the main Ceramic Groups. Also, at least one of these sherds seems to be imported from Egypt. Thus, these sherds do provide important information about the chronology of the main Ceramic Groups.

**Ceramic Group 1:**

As discussed earlier the results from Mounds 1 and 2 at Şinā'iyah show that Group 1 ceramics are the earliest ceramics which are found in connection to the Circular Tombs. In addition, there are two possibilities about the relationship between the later use of Ceramic Groups 1 and 2 during Phase 3. The first would be that both groups were in use during Phase 3. Alternatively, that Group 1 ceramics went out of use shortly before Group 2 ceramics began to be used, and the end of both Group 1 and 2 ceramics occurred during Phase 3.

Also, as discussed above, Group 1 ceramics were found in connection with circular tombs in Kharbat, Rojum Sa'sa, al-Nassem, Tala' and the previous excavations at Şinā'iyah. It is obvious, therefore, that the use of Group 1 ceramics is related to the use of Circular Tombs.

According to Abu Duruk (1996: 19), the Circular Tombs were absent from the first season, whereas, in the second and the third seasons, they were stratigraphically earlier than other tombs at Şinā'iyah. The result from the fifth season supports Abu Duruk's

suggestion, whereby, according to al-Hajri et al (2006: 76), the Circular Tombs were stratigraphically earlier than the other tombs. The results from Mounds 1 and 2 at Şinā'iyah site confirm the suggestions by Abu Duruk and al-Hajri et al, that the Circular Tombs are the earliest tombs at Şinā'iyah.

From the other site in Tayma, the red slips ceramics (Ceramic Group 1) were also called Red Burnished Ware (RBW) by Hausleiter (2014: 402-403). According to him (2014: 403-408), in Square Q3 of Qraya, a sequence of floors attached to the outer city wall were uncovered and only RBW sherds were found in the lowest deposit of Square Q3. Group 2 sherds (see Hausleiter, 2014: 408, Fig.9: b) were found in the deposit which was stratigraphically later than this, which will be discussed later.

Thus, the results from Square Q3 at the Qraya also support that Group 1 is so far, the earliest ceramic in the Tayma area.

Moreover, since no ceramics from Groups 1 and 2 occurred in the same burial deposit at Kharbat, Rojum Sa'sa, Tala' and Mounds 1 and 2 in Şinā'iyah, and since no ceramics from Group 2 were found with Group 1 in the lowest deposit in Square Q3, it seems clear that Group 1 ceramics came to an end before Group 2 ceramics appeared and that there was no overlap.

The appearance of Group 1 ceramics in one of the Phase 3 deposits in Mound 2 at Şinā'iyah, whilst the other deposits from the same phase contained only Group 2 ceramics, was therefore probably because the end of Group 1 ceramics occurred shortly before the use of Group 2 ceramics.

Ceramic Group 2, as will be further discussed below, is dated by C14 to between the 19<sup>th</sup> - 17<sup>th</sup> centuries BC. Thus, it is possible to suggest that latest possible date for the Ceramic Group 1 is before or during the 17<sup>th</sup> century BC. The absent of the RBW from the ceramics which were derived from first season in Şinā'iyah were the earlier suggested date by the C14 results is 1685- 1205 calBC is supported this dating.

This chronological frame is fully matched by the evidence from al-Nassem site, where, the RBW (Group 1) sherds were found in associated to the circular tombs (Zur, 2016:

66). These circular tombs were dated by C14 dates as follow (2033 – 1920 calBC, 2275–2035 calBCE and 1871–1636 calBCE).

Hausleiter and Zur (2016: 154); Zur (2016: 47-66) and (Hausleiter and Zur personal communication Dec. 2017) have stressed that the date from al-Nassem is directly related to the tombs and tomb's goods, whereas, the RBW were found outside the tombs, and the relation between the RBW and the tombs is still assumption.

In fact, this assumption can be confirmed, where, the RBW sherds were found *in situ* inside several toms in al-Nassem site (see Fig 5.9), also, in some cases the RBW were found together with Bronze weapons (Fig. 5.10), which are identical to those dated by Zur (2016) and Hausleiter and Zur (2016) to the period between the turn of the 3<sup>rd</sup> to the 2<sup>nd</sup> millennium BC and the 17<sup>th</sup> century BC.

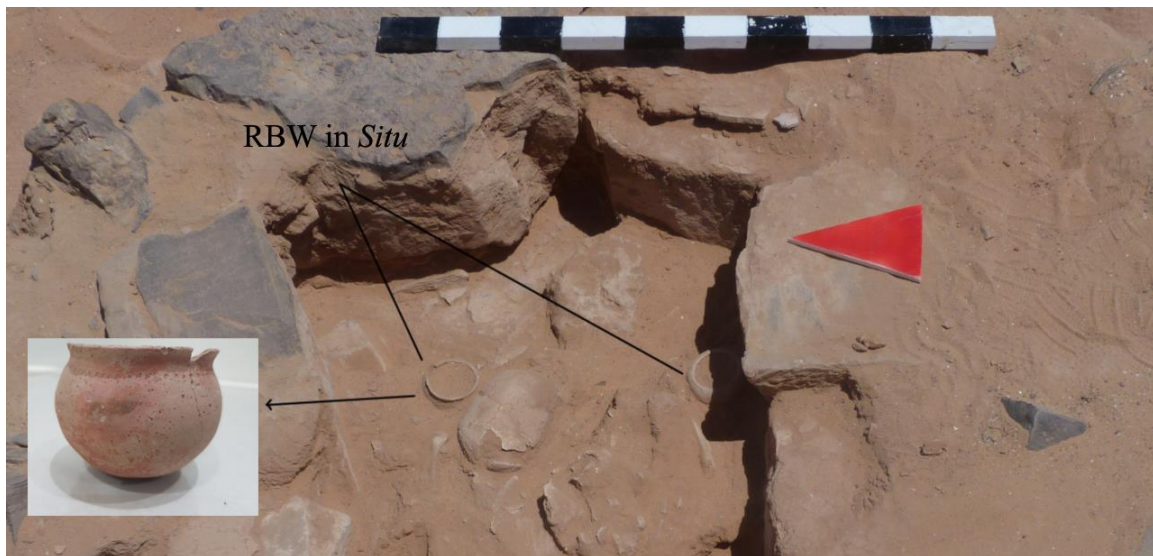


Fig. 5.9 RBW in situ in Circular tombs in al-Nassem site (photo By A. Abu al-Hassan)



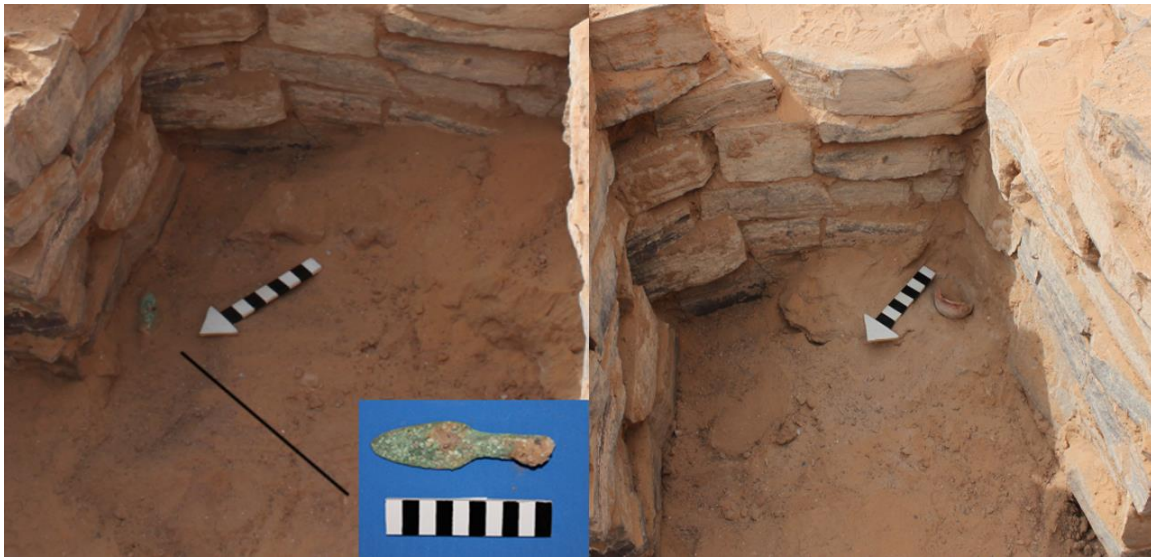


Fig. 5.10 RBW and bronze weapon in circular tombs in al-Nassem site

(photos By A. Abu al-Hassan and S. al-Muqbel).

Hausliter (2014) and Hausliter and Zur (2016) have discussed the possibility for the RBW to be used during the 15<sup>th</sup> centuries BC based on the results from, Squares W41 and Square Q3.

The excavation in square W41 took place in 2008 and 2009 (Sperveslage: in press). According to Sperveslage (in press) two occupation levels were attested in square W41. The results of the excavation did not mention any ceramics in the earlier occupation. However, according to Tourtet (in press, a: n. 16) eight ceramic sherds were found in the layers and on the floor of the earlier occupation. Unfortunately, the features of the ceramics that were found in the earlier occupation are not given; thus, it is not clear if these were included in the published drawings and photos or not. As a result, significant information about the ceramics in the earlier occupation is not available, especially with the appearance of different types of ceramics in the ceramic assemblage from square W41.

According to the result of the excavations in square W41, the ceramic in the latest occupation is discussed in two places; the first was in the description of the layer (SU 5230) which was described as a layer of sand mixed with ash, and pottery and a large

number of animal bones; and the second was for the bowl (TA 6489.1) that was found inside the mud floor layer (SU 4660) (Sperveslage: in press). However, this brief description did not match the large quantity of ceramic that was found in square W41. According to Tourtet (in press, a) the total number of ceramics that were found in square W41 is 972 sherds, of which 965 sherds were found in the latest occupation. This large number of ceramics seems to be of several types from several periods. Hausleiter (2014: 403) has only mentioned the RBW and Grey Burnished Ware (Later named Gritty Ware see Hausleiter and Zur, 2016:135), as they were found in different deposits in square W41. However, according to Tourtet (in press, a: plate 0.4b: a) white fabric ceramics with painted decoration were also attested in square W41. Moreover, according to Tourtet (in press, a), Iron Age ceramics, Ottoman clay tobacco pipe and some unidentifiable ceramics were also attested in square W41.

Therefore, a large number of ceramics of several types from various periods were attested in square W41, which did not match the results of the excavations that have only noted two occupation levels. However, the differences between the ceramics in the earlier occupation were not given, neither were the stratigraphic and the find locations of the other ceramic types. Thus, the stratigraphy and the history of this archaeological site are unclear.

Hausleiter has published two C14 dates from square W41, the first C14 sample was dated to 1495–1320 calBC (see details above) and was sampled from the fill (SU 4660) that was found inside the RBW bowl that was found *in situ* (Hausleiter, 2014: 402, n. 8). The location for the other C14 sample was very hard to identify. Hausleiter (2014: 402, n. 8) states that the second C14 sample, which is dated to 1689–1526 calBC, was sampled from a fireplace from the same context of the first sample. It is therefore sampled from the latest occupation.

In fact, Hausleiter has provided a wrong number for the deposit where the first C14 sample was found, the result of the excavation in square W41 shows that deposit 4660 was a mud layer that was part of the floor (Sperveslag, in press a). Moreover, according to Sperveslag (in press, a) the C14 sample was found in the fill sand deposit that was

found inside bowl number TA 6489.1, which was found *in situ* in the mud floor (SU 4660). However, the exact number for the fill inside this bowl is not given.

According to Sperveslag (in press, a) the deposit that was found above the mud floor (SU 4660) was deposit (SU 5230), which is a mix of sand and ash. According to the photo (Sperveslage, in press: Plate 0.2d) the whole body of this bowl was in the deposit (SU 4660), but the rim was at the same level with upper level of the deposit (SU 4660). Therefore, the fill inside the bowl seems to be part of the upper layer (SU 5230), which justifies the find of charred wood inside the bowl where no burn effect appeared inside the bowl. If this was the case, then the fill inside the bowl which contains this C14 sample was from the upper level and all it shows is that bowl TA 6489.1 was found in a deposit that can probably be dated before 1495–1320 BC. The same can be said about the other C14 date which described as from the same context, thus, all it shows is that the RBW was found under the deposit that dated by C14 to 1689–1526 calBC.

Therefore, it can be suggested that the result from Square W41 supports or at least does not contradict with the results from Şinā'ıyyah and al-Nassem.

From Square Q3 in Qraya site, the RBW sherds were found in three deposits (7538, 7539 and 7740), which were dated respectively to 1878 – 1689 calBCE, 1935 – 1771 calBCE and 1605 – 1425 calBCE (Hausleiter and Zur, 2016: 154 and note. 98). Interestingly, the first two C14 dates from Square Q3 are comparable with results from Şinā'ıyyah and al-Nassem, suggesting the late possible date for the production of RBW in the 17<sup>th</sup> century BCE. Whereas, the third C14 date includes the 17<sup>th</sup> century, thus, it does not contradict with the results from Şinā'ıyyah and al-Nassem.

From outside Tayma, the very recent result from Qurayyah also supports this chronological frame. According to Luciani & Alsaud (in press) some QPW (re-named as (SQPW) were found in deposits which were later than RBW (Group1), and dated by two C14 samples produced two coherent, subsequent between the late 17<sup>th</sup> or at the latest the early 15<sup>th</sup> (1611-1453 and 1658-1516) century calBCE (Luciani & Alsaud, in press). Therefore, it seems possible to assume that the end of the RBW were before or during the 17<sup>th</sup> century BC.

Based on integrating the results from different locations such as Şinā'iyah 1<sup>st</sup> season, Şinā'iyah Mound no. 2, al-Nassem site, Squares Q3 and W41 in Qraya site and Qurayyah site, it can be suggested that the beginning of production of RBW can be dated to the turn of the 2<sup>nd</sup> millennium BCE, to the 17<sup>th</sup> century BC..

### **Ceramic Group 2:**

As discussed earlier the results from the excavation in Mound 2 at Şinā'iyah show that Group 2 was related only to the early use of TACTs, and it is later than Group 1.

From Mound 2, two C14 samples were obtained from charcoal inside two of Group 2 incense burners, one of them was found *in situ* (for more details see C14 samples from Mound 2 above). Both samples have produced very similar results; 1860-1640 calBC and 1880-1690 calBC. Therefore, Group 2 ceramics can be dated based on these C14 results to the period between the 19<sup>th</sup> - 17<sup>th</sup> centuries BC.

The results from the previous excavations at Şinā'iyah support these results. Abu Duruk (1996: 19) has noted that deep bowls decorated with wide crossed lines (which represent the vast majority of Group 2 ceramics) were found in the second and third excavation seasons in the lower burial deposits inside the TACTs. Moreover, he has also noted that this type of bowl was absent from the first season where no such tombs were found. Therefore, these results support the results from Mound 2 that there is a relationship between Group 2 ceramics and the TACTs.

According to Abu Duruk (1996: 19) and al-Hajri et al (2006: 76), the TACTs were stratigraphically later than the Circular Tombs and earlier than the other tombs, also supporting the result from Mound 2.

The exact find locations of the C14 samples from the first season are not given. One of these is dated to 1680-1200 calBC (Abu Duruk, 1989: 22). The absence of Group 2 from the first season, where the earliest possible date was the 17<sup>th</sup> century BC, again supports the results from Mound 2 that both Groups 1 and 2 were earlier than the 17<sup>th</sup> century BC.

Tebe (2013 Fig. 1: 7 & 323) has published a part of deep bowl from Tayma which identical to Group 2 bowls, and he considered this bowl as belong to Şinā'iyah Pottery group and dated this sherd to the 10<sup>th</sup> – 5<sup>th</sup> century BC, based on the C14 results from Tal'a and 1<sup>st</sup> season in Şinā'iyah. Whereas, this type of ceramic is absent from the ceramic assemblage from the 1<sup>st</sup> season in Şinā'iyah. Moreover, it is not belonging to the ceramic from Tal'a that was linked to Iron Age II. Moreover, identical bowl has been found in *in situ* in the deposit that was stratigraphically earlier than the other painted ceramics in Şinā'iyah (Abu Duruk, 1996: 19).

The stratigraphic results from Square Q3 in Qraya also confirm the results from Mound 2 regarding the relationship between Ceramic Groups 1 and 2 from the excavations and the previous excavations in Şinā'iyah. No Group 2 ceramics were found in Group 1 deposits. Hausleiter (2014: Fig. 9: b) has published a part of a deep bowl which is identical to Group 2 bowls from Square Q3. According to him (2014: 406-408), this was found in a deposit which is later than the RBW (Ceramic Group 1) and earlier than the Early Iron Age Ceramics, which again supporting our conclusions.

Whereas, the result from Square Q3 that contradicts the results from Mound 2 and the previous excavations in Şinā'iyah is the appearance of many Group 5 ceramics in the same deposit together with the part of the Group 2 deep bowl mentioned above (see Hausleiter, 2014: Fig. 8: b). Hausleiter has published only one ceramic sherd (part of a deep bowl) that was identical to Group 2 ceramics from Square Q3. The exact number of ceramics that were similar to this bowl is not given. Therefore, it seems reasonable to say that the appearance of this bowl was an exception.

Hausleiter (2014) has classified identical deep bowl as QPW. Intilia (personal communications Oct, and Dec 2017) has agreed with Hausleiter that this type of ceramics is a part of QPW. However, based on features (shape and decorations) of this group, the stratigraphy evidence from Mound 2, and the results of the previous excavations in Şinā'iyah, the present author prefers to classify this type as separate group which is not belong to Şinā'iyah Pottery nor QPW. Marta Luciani (personal communications Oct, and Dec 2017) who has excavated Square Q3 in Qraya site and many areas in Qurayyah site has agreed with this conclusion. Moreover, she hinted to the probability that this deep

bowl was come to the QPW assemblage in Square 3 by mistake. Also, she has state that since some painted ceramics (named SQPW) were found in Qurayyah in the deposit that can be dated between the 17<sup>th</sup> -15<sup>th</sup> centuries BC, she is willing to accept the 17<sup>th</sup> century BC as early possible date for this group.

Moreover, Group 2 is absent from the circular tombs that were found in al-Nassem site, and dated by C14 results to the early 20<sup>th</sup> – 17<sup>th</sup> centuries BC. Thus, it seems more save to apply the lower date for the C14 samples which were found with Group 2 sherds, thus, to the 17<sup>th</sup> century BC, as earlier possible date for Group 2.

Yet, there is no available evidence suggesting the end of using Group 2 sherds, however, since, Group 2 sherds were absent from the deposit that can be dated to Early Iron Age, thus, it seems reasonable to assume that the end of using Group 2 sherds were before the Early Iron Age.

Therefore, it can be concluded that at Mound 2 at Şinā‘iyyah, Group 2 ceramics are stratigraphically later than Group 1 and earlier than the other ceramic groups. Also, Group 2 was found in connection to the TACTs, and the earlier possible date for Group 2 ceramics is the 17<sup>th</sup> century BC.

### **Ceramic Group 3 and 4** (termed by Hausleiter, 2014 as Şinā‘iyyah Pottery)

The results from Mound 2 at Şinā‘iyyah show that Ceramic Group 3 was stratigraphically later than Ceramic Group 2 which is dated to 19<sup>th</sup>- 17<sup>th</sup> centuries BC,. Also, they show that the use of Group 3 is contemporary with the early use of Group 4 ceramics. In addition, Groups 3 and 4 were associated with the later use of the TACTs.

However, both Groups 3 and 4 were found in first season, in the deposits that were associated dated by C14 to 625-885 calBC, thus, to the Early Iron Age II. Moreover, according to Hausleiter and Zur (2016) a number of Egyptian objects that can be dated to 26<sup>th</sup> Dynasty (664–525 BCE) were found in the Şinā‘iyyah tombs where also Şinā‘iyyah Pottery (Groups 3 and 4) was attested. The new evidence from Area A in Qraya site suggests that the beginning of Şinā‘iyyah Pottery to be not before the early 10<sup>th</sup> to the late 9<sup>th</sup> century BCE (Personal communication with Hausleiter and Intilia in Dec 2017).

Moreover, at Tal'a ceramics from both Ceramic Groups 3 and 4 were found together *in situ* in an undisturbed deposit inside a child's tomb thereby supporting the argument for contemporary use. The appearance of both Groups 3 and 4 at Tal'a, where, a series of 14C dates from fireplaces in front of the grave chambers dated between the 5<sup>th</sup> to 10<sup>th</sup> centuries BC (Eichmann 2009, 62 with note 14; Beuger 2010, 136 with note 67; Tebes, 2013:323-324; Hausleiter, 2014:417-423).

Although, at Mound 2 Groups 3 and 4 were found in the tombs which were stratigraphically earlier than the tombs that contain Groups 5 and 6 sherds, Groups 3 and 4 were mainly found in disturbed deposits or in the tombs that have been re-used; this makes the suggested dates from previous excavations at Şinā'iyah; Tal'a and Area A in Qraya site are more reliable. Moreover, the only place where Group 4 ceramics were found outside Tayma is Tall al-Kathib in the Al-U'la area where two ceramic sherds, parts of a deep bowl identical to Group 4 bowls, were found (al-Zahrani, 2007: Plates 86-87). According to al-Zahrani (2007: 270-273) these sherds were found in the third deposit, and directly covered by which deposit dated by luminescence on ceramic samples to the period between 535-297 BC. As Group 4 was found here in deposits earlier than this date, there is no contradiction between the results from Tall al-Kathib and Tal'a and Area A in Qraya site.

Therefore, it seems reasonable date both Groups 3 and 4 to the period between the 10<sup>th</sup> to 5<sup>th</sup> centuries BC. Moreover, since Groups 3 and 4 are similar to Şinā'iyah Pottery, and since the stratigraphy of Mound 2 shows that group 3 is slightly earlier than group 4, thus, group 3 can be considered as early Şinā'iyah Pottery and Group 4 as later Şinā'iyah Pottery.

### **Ceramic Group 5:**

As discussed above, in Mound 2 at Şinā'iyah, Group 5 found associated with the one of the Later Organized Tombs LOTs, and stratigraphically later than Groups 3 and 4 and earlier than Group 6.

This group is very similar to some but not all of the ceramics that named QPW by Housliter, 2014, Outside Tayma, ceramic sherds similar to Group 5 found in several sites inside Tayma, such as Squares Q3 & W41 at Qraya. Also, ceramic similar to Group 5 were also attested at several sites in the north Arabia and south Levant such as Qurayyah site, Tel Fara'h, Amman Temple and Timna' Valley.

Intilia (2016) has provided detailed study about the QPW from different sites in north Arabia and south Levant. According to him, QPW can be dated between the 14<sup>th</sup> – the end of 11<sup>th</sup> century BCE (Intilia, 2016: 216).

In fact, the life-span of the QPW seems longer than the suggested dates discussed earlier, where, the very recent evidence from Qurayyah suggested some of QPW was found in kiln, where, two C14 dates have produced two coherent, subsequent between the late 17<sup>th</sup> or at the latest the early 15<sup>th</sup> century calBCE (Luciani & Alsaud, in press). According to Luciani & Alsaud these QPW sherds were differing in appearance and more importantly in chronology from the one found in Timna' and in Square Q3 in Tayma, etc. For this reason, Luciani & Alsaud has termed this sherds as Standard Qurayyah Painted Ware (hence SQPW), to distinguish this sherds from the other QPW. Moreover, this date can be only considered as the earlier date for this type of ceramic, while, the question remains open as to until which date this specific ceramic assemblage was in use (Luciani & Alsaud (in press).

Although, there are some similarity between Group 5 and some QPW sherds from Tayma and several sites in north west Arabia and south Levant, as reported earlier, with the exception of only one sherd of Group 5 all the decorations and patterns that appeared on Group 5 sherds were attested in SQPW from Qurayyah.

The significance of the results from Qurayyah lies in two very important points: the ceramics in this group are very homogeneous, and found in clear stratigraphic sequence in ceramic kiln area.

On the other hand, the vast majority of QPW sherds were derived from Tayma , Site 2 and Site 200 in Timna'. While, from the other sites such as Site 3 and Site 198 and other sites in south Levant only very few QPW sherds (in most cases between one to two



sherds) were discovered. From Site 200 in Timna', QPW sherds were found in the ceramics from Site 200 appeared with different styles, and found in three different occupation levels, and it is extremely difficult to determine which of these styles appeared in which level or habitation phases according to the lack of published information about the excavation in Site 200 at Timna', since the excavators did not focus on the differences between these ceramics and have treated these ceramics as one type. Also, the amount of published ceramics is not enough to determine the ceramic features in each stratum or habitation phase.

From Tayma, QPW sherds were found in several locations and dated based on the result from Squares Q3 and W41 in the contexts which included mix of ceramics, where, QPW in Square W41 is appeared in the second occupation level which contains mix of RBW Iron Age ceramics, Ottoman clay tobacco pipe and some unidentifiable ceramics were also attested in square W41. While, From Square Q3, QPW appeared is together with Group 2.

According to Luciani & Alsaud (in press) grouping different assemblages under a single etiquette, e.g. Tayma Ware has evidenced inaccurate in the past and has had important impacts in setting back the understanding of the chronology of the Arabia, and the same can be said about QPW, where, painted ceramics which are not resemble to QPW neither in date nor in style under the heading of QPW.

Therefore, it seems reasonable to suggest that Luciani & Alsaud were right to consider the results from Qurayyah as more importantly in chronology from the one found in Timna' and in Tayma.

For this reason, so far, it seems safer to suggest the earlier possible date for Group 5 based on the results of SQPW from Qurayyah to the period between the late 17<sup>th</sup> or at the latest the early 15<sup>th</sup> century calBCE, while, the question to until which date this ceramic was in use, should be left open until more results come to light.

### **Ceramic Group 6:**

The results from the excavations in Mound 2 at Şinā‘iyyah show that Ceramic Group 6 was found in association with the Early Long Chamber Tomb (Tomb RT4). Moreover, Group 6 was stratigraphically later than Group 5 deposits (Phase 8) and earlier than Phase 14 deposits <2100>, which is dated by C14 to 700 to 400 calBC.

Group 6 ceramics were found in Area O at Qraya in the Tayma area. These ceramics, according to Hausleiter (2014: 414), were found associated with a number of Egyptian and Levantine objects. Moreover, unpainted ceramics from Group 6 were found in Area A at Qraya. According to Hausleiter (2014: 402), these ceramics were found in Areas A and O in the deposits which were dated by C14 to the period between the 12<sup>th</sup>- 9<sup>th</sup> Centuries BC.

Therefore, the C14 results from Areas A and O from the Qraya do not contradict the results from Mound 2.

As discussed earlier, Group 6 in Sites 2 and 200 in the Timna’ Valley does not contradict the suggested date for this group from Tayma, where based on the stratigraphy from Mound 2 in the Şinā‘iyyah and the C14 dates from Areas A and O in the Qraya, this group is dated to the period between the 12<sup>th</sup> - 9<sup>th</sup> centuries BC.

Therefore, it can be concluded that Group 6 ceramics can be dated to the period between the 12<sup>th</sup> - 9<sup>th</sup> centuries BC.

### **Unique Sherds:**

As discussed in Chapter 4, there were nine ceramics sherds that did not belong to any of the main Ceramic Groups. These ceramic sherds can be divided up based on the find location into five as follows:

#### **A. Sherds 4025 & 4676**

These sherds were found in deposit <309> from Phase 4. Stratigraphically these sherds were later than Group 2 deposits (Phase 3), which are dated between the 19<sup>th</sup> - 17<sup>th</sup> centuries BC and earlier than Group 3 deposits (Phase 5), which is suggested to be later than Group 2 and earlier than the 5<sup>th</sup> century BC.

#### B. Sherd 1653

This sherd was found in a Group 5 deposit (deposit <2178>). Thus, it can be dated based on the suggested date for the Group 5 to the period between the late of the 17<sup>th</sup> and the early of the 15<sup>th</sup> centuries BC.

#### C. Sherd 1682

This sherd was found in deposit <306> from Phase 10. Stratigraphically, this sherd was later than Group 5, which is dated to the 17<sup>th</sup> - 15<sup>th</sup> centuries BC and earlier than Ceramic Group 6, which is dated to the period between the 12<sup>th</sup> - 9<sup>th</sup> centuries BC.

#### D. Sherds 142, 143 and 1630

These sherds were found in deposit <2100>, which is dated by C14 to 700 - 400 calBC, and stratigraphically later than Group 6 ceramic, which is dated to the period between the 12<sup>th</sup> - 9<sup>th</sup> centuries BC.

#### E. Sherds 114 and 135

These sherds were found in surface deposit <300>. Both sherds were parts of cubic-shaped incense burners which are different from the similar, conical incense burners attested in some of the main Ceramic Groups. Very similar cubic shaped incense burners were found in several sites in Saudi Arabia; for example, at al-Ukhdoud in the southwestern part of Saudi Arabia (Zarins et al., 1981: pl. 24; 5& 10; al-Zahrani et al., 2001: pl. 16: 1-3; 2002: pl. 1.9: a; 2005: pl. 1.11: c; al-Zahrani, 2006; pl. 1.10: a); at Thaj in the east of Saudi Arabia (al-Zahrani, 1996: pl. 41-43; al-Hashash et al., 2001: pl. 61: a); and at Qaryat al-Faw in the north western edge of the Empty Quarter Desert in Saudi Arabia (al-Ansari, 1982: 136; al-Tamami, 1999: Pl. 38).

In general, the cubic-shaped incense burners from all these sites were dated to the late part of the 1<sup>st</sup> millennium BC and the beginning of the 1<sup>st</sup> millennium AD (e.g. Zarins et al., 1981: 25; al-Ansari, 1982: 30; al-Zahrani, 1996: 100; al-Tamami, 1999: 90-103; al-Zahrani et al., 2001: 33; al-Hashash et al., 2001: 63). Therefore, the cubic shaped incense burners (sherd nos.114 and 135) can be dated to the same period.

**d. 5.5. Tayma contacts with other sites between the Early 2nd millennium and the 9th century BC.**

Based on the available evidence discussed above, the Şinā'iyah site has been used as burial site for long time, beginning from the early 2<sup>nd</sup> millennium to the 5<sup>th</sup> century BC. Moreover, there are very few burial deposits which dated later than the 5<sup>th</sup> century BC, but, no ceramics were attested. Thus, the burial activities in Şinā'iyah site continued after the 5<sup>th</sup> century BC, but in small-scale.

Moreover, the early permanent settlement in Tayma can be dated based on the available evidence to the 5<sup>th</sup> millennium BC (*cf.* Luciani, 2016; Hausleiter & Zur, 2016; Tourtet et al, in press). Therefore, the following discussion will be only discussed Tayma contacts during the main Şinā'iyah site period, therefore, between the early 2<sup>nd</sup> millennium to the 5<sup>th</sup> century BC.

The contact between Tayma and other sites especially north Arabia and south Levant (Fig. 5.11) seems to be continued without interruption from the early 2<sup>nd</sup> millennium BC to the 5<sup>th</sup> century BC.

From the north-west of Arabia, ceramics similar to Ceramic Groups 1, 2, 3, 5 and 6 were attested at Qurayyah. The suggested dates for these groups almost cover the period between the early part of the 2<sup>nd</sup> millennium and the 10<sup>th</sup>-5<sup>th</sup> centuries BC. It might therefore be argued that the appearance of these Groups in Tayma and Qurayyah suggests contact between the two sites which endures for more than ten centuries.

The appearance of the weapons of a well-known type mainly distributed in Syria and the Levant and dated to the late EBA and early MBA in Tayma indicates to the contact between Tayma and Levant. It is not clear- so far- if this contact were through Qurayyah

or direct contact. Whereas, the contact between Tayma and Levant during the Iron Age is represented by the appearance of Levantine objects, together with Group 6 in the Early Iron Age deposit in Area O, in building O-b1 in the Qraya in Tayma.

The contact between Tayma and Egypt is represented by the appearance of Egyptian objects in EIA deposits in Tayma.

Moreover, the appearance of Carved cartouches of Ramesses III (1183/82–1152/51 BC) were found on the rock near to Tayma (Somaglino and Tallet, 2013: 511-516), on the route that head from Tayma toward the north, together with the appearance of the Egyptian objects, together with Group 6 ceramics in the EIA deposit in Area O, in building O-b1 in the Qraya in Tayma, also indicate contacts between Tayma and the Egypt during the EIA. Sperveslage (2013: 308-310) has argued that the appearance of Carved cartouches of Ramesses III near Tayma can be interpreted as either economic or political interest in this region. Moreover, he has argued that the Egyptian objects that were found in Tayma have been produced in Egypt and imported from the Nile Valley, while the Egyptian objects from eastern Arabia and South Arabia, are Levantine products (Sperveslage, 2013: 321-322); which indicates to direct contact between Tayma and Egypt.

Moreover, a number of Egyptian objects were found in Şinā'iyah and dated to the time of the 26<sup>th</sup> Dynasty (664–525 BCE) (Sperveslage, 2013, 244). Therefore, the contact between the Tayma and Egypt endures for several centuries during the EIA.

The appearance of the Tayma EIA ceramics in Wadi Sharmah and Wadi al-Bad', which are located near to the Red Sea coast between Tayma and Egypt, also supports direct contacts between Tayma and Egypt.

Whereas, the direct contact between Tayma and Tall al-Kathib in the al-U'la area is shown by the appearance of Group 4 in both sites. At al-Kathib these sherds were found in a deposit related to a mud-brick construction, the function of which is not yet determined (al-Zahrani, 2007: 270-273). Thus, the contact between Tayma and the al-U'la seems to be between the 10<sup>th</sup> to the 5<sup>th</sup> century BC, but the nature of this relationship is still unclear.



Fig. 5.11 Location of the sites where the Ceramic Groups were found.

Therefore, it seems reasonable to suggest that Tayma was flourishing during the Early Iron Age I and II, and during that time, it had become a rich and prosperous city.

This wealth seems to have attracted the ambition of the Assyrian kings. From the beginning of the eighth century BC, the name of Tayma is mentioned in two of the ancient Assyrian inscriptions, relating to trade and wealth. The first mention is in the early 8th century BC, and tells the story of the Assyrian king Nanortacadory Assir, who attacked a convoy of traders from Tayma and looted their caravan (Cavigneaux & Ismail 1990, 351; al-Said, 2000: 30-32). The second mention occurs in an ancient Assyrian inscription of King Tiglat-Pileser III, 744-727 BC (Weiss-Rosmarin, 1932: 16-19; al-Said, 2000: 35), which tells how the king forced the people of Tayma to pay a royalty of gold, silver and aromatic substances to him (Dougherty, 1932: 18). Moreover, Tayma remained a target for the ambition of the Babylonian King Nabonid, (555-539 BC), who attacked and occupied the city for ten years (Gadd, 1958: 22-26; Roelling, 1964: 220; Grayson, 1975: 106-108; al-Hashmi, 1977: 336; al-Said, 2000: 42-85). Al-Onazi (2007-208: 16-17) has

argued that economic need was one of the most important reasons behind the occupation of Tayma by the Babylonian King Nabonid.

### 5.6. Summary and Conclusion

Integrating the new results from our excavations in Mounds 1 and 2 at the Şinā‘iyyah with the results from the previous excavations inside and outside of Tayma has begun to provide a more coherent picture of ceramic development at Tayma, as well as of the contacts between Tayma and other sites in the period that extends from the early 2<sup>nd</sup> millennium BC to the 5<sup>th</sup> centuries BC. (See table 5.9)

<b>Groups</b>	<b>Similar Groups</b>	<b>Related Tombs</b>	<b>dating</b>
1	RBW/ Barbotine	ECTs	The turn of 2 <sup>nd</sup> millennium BC to the 17 <sup>th</sup> century BC.
2	-	Earlier use of the TACTs.	17 <sup>th</sup> centuries – ?, but stratigraphically earlier than Group 5.
5	Similar to some of the QPW but very similar to SQPW	LOTs	Between the late 17 <sup>th</sup> – the early 15 <sup>th</sup> centuries BC.
6	Similar to Tayma Early Iron Age pottery.	ELCTs	Between 12 <sup>th</sup> -9 <sup>th</sup> Centuries BC.
3	Şinā‘iyyah Pottery	Later use of the TACTs. Also in the EOTs	Stratigraphically, the early use of Group 3 was earlier than Group 4, and the later use was contemporary with the early use of Group 4. Based on the available evidence the life-span of these groups can bated between the 10 <sup>th</sup> – 5 <sup>th</sup> Centuries BC,
4		Early use related to EOTs and Later use to LOTs	

Table. 5.10 The Chronology of Şinā‘iyyah Ceramic Groups.

There are several indications of the reliability of the ceramic chronology based on the results of Şinā‘iyyah excavations, especially related to distribution, the stratigraphic sequences and the C14 results whereby Şinā‘iyyah is so far the only place where all of

these Ceramic Groups have been found, to some extent, in a clear stratigraphic sequence, especially, Groups 1, 2, 5 and 6. These Ceramic Groups were related to different shaped tombs, whose stratigraphy and building sequences are compatible with the suggested dates for the Ceramic Groups 1, 2, 5 and 6. These results do not contradict the results from other burial sites in Tayma. Whilst, the Groups 3 and 4 sherds were found in deposits that have been disturbed and *in situ* inside the tombs that have been re-used.

As reported above, based on the stratigraphic evidence and C14 results have suggested a more precise date for Group 1 to be between the turn of 2<sup>nd</sup> millennium BC and the 17<sup>th</sup> century BC, whereas, Group 2 were between the 17<sup>th</sup> and earlier than Group 5.

Group 5 which occur stratigraphically between Groups 2 and 6, thus, it can therefore be dated between the 19<sup>th</sup>- 17<sup>th</sup> centuries BC, and the 12<sup>th</sup>- 9<sup>th</sup> centuries BC. Moreover, since semi-identical ceramics (SQPW) were found in the deposit that was dated by C14 to the 17<sup>th</sup> and 15<sup>th</sup> centuries BC, the earlier possible date for this group can be dated to the same period, while the question to until which date this ceramic was in use, should be left open until more results come to light.

Stratigraphically, Ceramic Group 6 at Şinā'iyah is the latest group. Their latest date has been shown by C14 to be the 12<sup>th</sup> and 9<sup>th</sup> centuries BC.

Although, Groups 3 and 4, where found in Mound 2 tombs that were stratigraphically earlier than the tomb where Group 6 sherds were attested, these groups were attested in the re-used tombs, and the available evidence from different location in Tayma suggests these groups to be dated between the 10<sup>th</sup>- 5<sup>th</sup> centuries BC.

Accordingly, the appearance of five of the six main Ceramic Groups (Groups 1-3, 5-6) at Qurayyah indicates that the relationship between Tayma and Qurayyah, endured for more than ten centuries.

The available evidence shows that during the EIA Tayma was connected with several sites in the north-west of Arabia, Levant and Egypt. Ceramic Group 6 sherds dated to this period were widely distributed in several sites in the north-west of Arabia and south



Levant and occur together with Levantine and Egyptian objects in several locations in Tayma area.

Moreover, the appearance of Egyptian objects in contexts of a sacred character such as temples and tombs might indicate that some of Tayma's inhabitants were influenced by Egyptian religion and culture, or that there was a small Egyptian community living at Tayma at that time; either a permanent group or a seasonal settlement linked to caravan movements. The carved cartouches of Ramesses III (1183/82–1152/51 BC), which have been found near to Tayma, are proof that the Egyptians had been to Tayma during the EIA.

The economic prosperity of Tayma during the Late Bronze Age and the Early Iron Age, probably, helped it become a rich city by the end of the 9<sup>th</sup> century BC. At the same time, it attracted the ambitious Assyrian kings who attacked Tayma caravans during the 8<sup>th</sup> century BC and beyond until the Babylonian King Nabonid occupied Tayma in the middle of the 6<sup>th</sup> century BC.

## Chapter 6: Conclusion

## **6. Chapter 6: Conclusion**

### **e. 6.1. Introduction**

This thesis investigated the ceramics of Şinā'iyah site in Tayma city. The main objectives were to determine the types, the source and the chronology of Şinā'iyah ceramics. It also aimed to increase the knowledge about the history of Tayma and its contacts, based on the distribution of these ceramics within and outside Tayma area.

The results of this study provide a coherent picture of the ceramic development at Tayma, as well as evidence of contact between Tayma and several other sites during the period between the early 2<sup>nd</sup> millennium BC and the 10<sup>th</sup>-5<sup>th</sup> century BC.

The chapters of this thesis are reviewed below, followed by a summary of the key findings and recommendations for future research.

### **f. Review of the Chapters**

**Chapter 1** commenced by outlining the importance, objectives, research questions, and the methodology of this thesis. It also reviewed the historical and geographical frameworks of Tayma city, as well as the importance of the Şinā'iyah site.

Several excavations have been conducted at Şinā'iyah, and a large number of ceramics were derived from these excavations. However, the ceramics in the published reports are very few, in addition to which the reports are flawed and unreliable in many ways, with numerous errors and contradictions. In order to understand the above issues more clearly, and to show that conducting new excavations in Şinā'iyah site is necessary, the published reports of previous excavations were reviewed in detail in the first part of **Chapter 2**.

Ceramics similar to the ceramics from Şinā'iyah site have previously been published in studies from several sites in Tayma itself and in the north west of Arabia and south Levant. However, although, these studies provided very important information about the ceramic under discussion, they also contained some uncertain results, especially in terms of the location where they were found, classifications, or chronology. In order to understand that clearly, these studies were reviewed in the second part of **Chapter 2**.

It was necessary to conduct a new excavation in order to provide full recorded data for the current study, and for this reason, two mounds (Mounds 1 and 2 in Area 1 in Şinā'iyah site) were excavated. The ceramics for this excavation were derived from several deposits found in different shaped tombs. The stratigraphy of the deposits and the tombs' building sequences indicate several phases of use. These phases were described in detail in **Chapter 3**.

A large number of ceramic sherds (5,340) were derived from Mounds 1 and 2, and had many similarities as well as many differences. Based on the differences in their physical attributes these ceramics were classified in **Chapter 4**. Accordingly, 3,615 ceramics sherds were classified into six groups (Ceramic Groups 1-6), nine sherds were unclassified, and 1,812 sherds were excluded from the classification study.

The results of the classification study shows that, with the exception of five unclassified sherds, all the ceramics that were derived from the excavations in Mounds 1 and 2 in Şinā'iyah were considered to have been made of Fabric Groups 1, 2 and 3. These fabrics are respectively identical to Giannotti's petrographic groups 2, 1 and 3 which Giannetta (2009: 77-96) suggested was compatible with the geology of Tayma. However, Qurayyah site share similar geology of Tayma, moreover, the differences in fabric suggest several workshops, which may or may not all be located at Tayma.

In **Chapter 5**, the distribution of the Ceramics Groups 1-6 from Mounds 1 and 2 were discussed separately in detail in the first part of Chapter 5.

The second part of **Chapter 5** focused on the distribution of each of the Ceramic Groups within and outside Tayma area. The third part of this chapter discussed the chorology of the main ceramic groups based on integrating the results from Şinā'iyah site and other sites where these ceramics have been found.

**Chapter 6** provides the conclusion of the thesis, with a review of the chapters, the key findings of the research as well as recommendations for future research.

**g. The key findings:**

The key findings from this study were as follows:

## 1. The Şinā'iyah ceramics types:

The results from the classification study show that the ceramics from Şinā'iyah are divided into six groups (Ceramic Groups 1-6). These groups can be dated to the period between the turn of the 2<sup>nd</sup> millennium BC to the 10<sup>th</sup>-5<sup>th</sup> centuries BC (Table. 6.1).

Ceramic Groups	Similar Groups	Related Tombs	dating
1	RBW/ Barbotine	ECTs	The turn of 2 <sup>nd</sup> millennium BC to the 17 <sup>th</sup> century BC.
2	-	Earlier use of the TACTs.	17 <sup>th</sup> centuries – ?, but stratigraphically earlier than Group 5.
5	Similar to some of the QPW but very similar to SQPW	LOTs	the late 17 <sup>th</sup> and the early 15 <sup>th</sup> ,
6	Similar to Tayma Early Iron Age pottery.	ELCTs	Between 12 <sup>th</sup> -9 <sup>th</sup> Centuries BC.
3	Şinā'iyah Pottery	Later use of the TACTs. Also in the EOTs	Stratigraphically, the early use of Group 3 was earlier than Group 4, and the later use was contemporary with the early use of Group 4. Based on the available evidence the life-span of these groups can be dated between the 10 <sup>th</sup> – 5 <sup>th</sup> Centuries BC,
4		Early use related to EOTs and Later use to LOTs	

Table. 6.1 Ceramic Groups 1-6 chronology and related tombs.

## 2. The source of the Ceramic Groups 1-6:

There are many commonalities between Ceramic Groups 1-6; for example, ceramics made of Fabric Group 3 were attested in all these groups. These commonalities suggest that these groups are related to each other; in other words, they are from the same source.

Ceramic Groups 1-6, as discussed in Chapter 4, were made of three types of fabrics, identical to Giannetta's petrographic groups which are related to the geology of Tayma, and may therefore have been made there (Giannetta, 2009: 77-96). Thus, it seems

reasonable to propose Tayma as the production centre for these ceramics. However, the possibility of Qurayyah being another production centre still exists.

### **3. The Chronology of the Ceramic Groups 1-6:**

Ceramic Group 1 is stratigraphically earlier than Group 2 which is dated by C14 dates to the 19<sup>th</sup> -17<sup>th</sup> centuries BC. Ceramic Group 5 are stratigraphically later than Group 2 (later than the 19<sup>th</sup> -17<sup>th</sup> centuries BC), and earlier than Ceramic Group 6.

Based on the similarity between Ceramic Group 5 and SQPW which is dated to the late 17<sup>th</sup> and early 15<sup>th</sup> centuries BC, the earlier possible date for Group 5 is suggested to be the same period, while the question to until which date this ceramic was in use, should be left open until more results come to light.

Ceramic Group 6 is stratigraphically later than Group 5, and is dated to 12<sup>th</sup> -9<sup>th</sup> BC, mainly based on the results from areas A and O in Qraya site.

Although, Groups 3 and 4, where found in Mound 2 tombs that were stratigraphically earlier than the tombs where Groups 5 and 6 sherds were attested, these groups were attested in disturbed deposits or in re-used tombs, and the available evidence from different location in Tayma such as Area A, Tal'a site suggests these groups to be dated between the 10<sup>th</sup>- 5<sup>th</sup> centuries BC.

### **4. Tayma contacts:**

The distribution of the Ceramics Groups 1-3 & 5-6 in Tayma and Qurayyah suggests contact between the two sites which, based on the suggested dates for these groups, endured for more than ten centuries. There is no clear evidence indicates to the type of the relation between Tayma and Qurayyah, however, so far, it seems reasonable to assume that the contacts between Tayma and Qurayyah probably was trade relations.

The Ceramic Group 6 which is dated to the Early Iron Age (12<sup>th</sup> -9<sup>th</sup> centuries BC), was attested at several sites in the north-west of Arabia and south Levant. Also, several Egyptian and Levantine objects were attested in Group 6 deposits. Moreover, Egyptian objects from later period (EIA II) were also attested in Ceramic Groups 3 and 4 deposits.

Moreover, Ceramic Group 4 were attested at Tayma and al'-Ula. Thus, the contacts between the two areas can be dated to the period between the 10<sup>th</sup> -5<sup>th</sup> centuries BC.

Thus, it is clear that Tayma flourished during the Early Iron Age and was in contact with several sites in the neighbouring areas.

#### **h. The recommendations for future researches:**

As discussed in this study, based on the distribution and the chronology results, the relationship between Tayma and Qurayyah endured for more than ten centuries. The ceramics (SQPW) that were recently driven from well dated contexts in Qurayyah is not published yet, the quick comparison between the ceramics from Tayma and Qurayyah shows that there are huge similarities in the decoration elements, while, it is not possible so far to make form and fabric comparisons.

Therefore, carrying out detailed comparisons between the SQPW from Qurayyah and similar ceramics from Tayma is expected to provide important information about the ceramics and the history of both sites, which is also expected to increase our knowledge about the relationship between Qurayyah and Tayma.

In the excavation reports published by Rothenberg (1972; 1988) the ceramics from Site 200 were described as one group that was found in three different occupation phases. Based on the results of this thesis, similar ceramics to Ceramic Groups 5 and 6 which are dated to different periods were attested in Site 200 in Timna'.

Unfortunately, based on the published information it is extremely difficult to determine which of these ceramic groups (Groups 5 and 6) appeared at which level of the occupation phases. Hence, it is recommended that the ceramics from Site 200 should be re-classified based on occupation levels. Such classification is expected to provide stratigraphy evidence for Groups 5 and 6.

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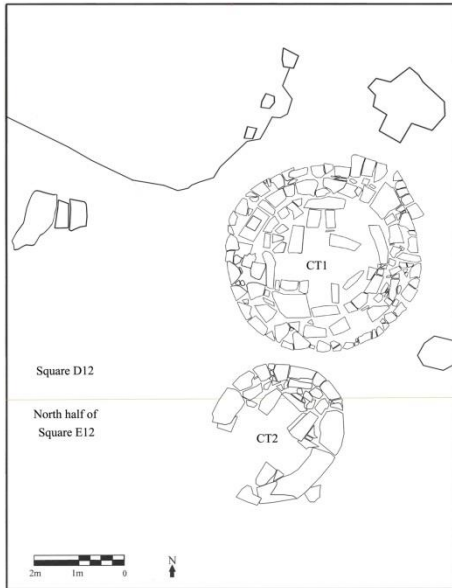
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## 8. Appendix A

### Mound 1 Tombs



(Fig. 1) The layout of the tombs CT1 and CT2

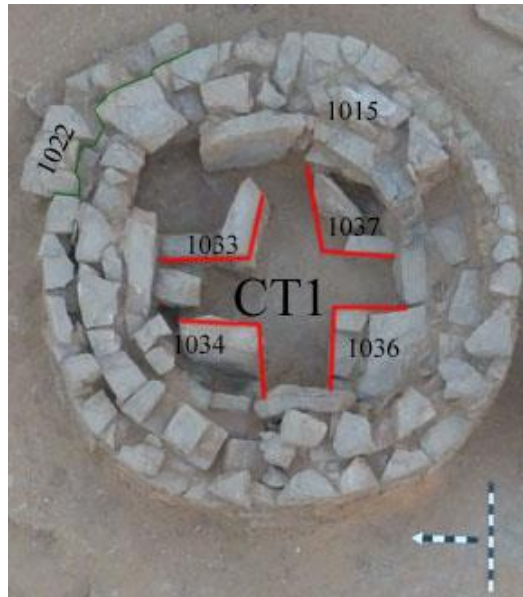
(Fig. 2) Aerial view of the squares D12 and E12, from the west, Scale 1x0.5m & 1x1m

#### **Tomb CT1:**

Tomb CT1 was found in the western half of square D12 (Figs. 1&2). It has a circular shape with diameter measured 4.32 m N/S. and 4.50 m E/W externally and 2.43 m. N/S and 2.40 m. E/W internally.

#### **Tomb CT1 wall: (Fig. 3)**

Except the north eastern parts where, it seems to be damaged, Tomb CT1 ring-wall <1015> was built (horizontally) of three rows; and (vertically) of six courses of stone blocks and slabs varying in size from 0.20m to 0.90m; and survived to a depth of 0.95m. The ring-wall <2015> thickness ranges from 1m to 1.1m. This Tomb CT1 was constructed directly on the bedrock <204>.



(Fig.3) Tomb CT1

### **Tomb CT1 chamber:**

Tomb CT1 chamber was formed in the shape of a cross (Fig. 3); by four triangle-constructions: the north-eastern <1033>, north-western <1334>, south-eastern <1037> and south-western <1036>. These constructions were butted against the main wall <2015>. The stones that used in these triangle-constructions were varying between large, medium and small-sized stones. Moreover, these triangle-constructions were heavy disturbed; from the north-eastern triangle-construction only two stones were left.

Probably the reason for dividing the chamber in the shape of cross was to make roofing the tomb much easier. However, there is no firm evidence to suggest how Tomb CT1 was roofed.

### **Later changes to the Tomb CT1:**

The Later change to Tomb CT1 is represented by building the support wall <1022> which was built around the north eastern part of the tomb wall (Fig. 3). Support wall <1022> was built of three courses of stone blocks varying in size from 0.15m to 0.30m; measured 2m length by 0.40m width, and survived to a depth of 0.50m.

This support wall was built on deposit <203>; whereas, the Tomb CT1 wall <2015> was built directly on the bedrock <204>. For this reason, this support wall was considered as a later change.

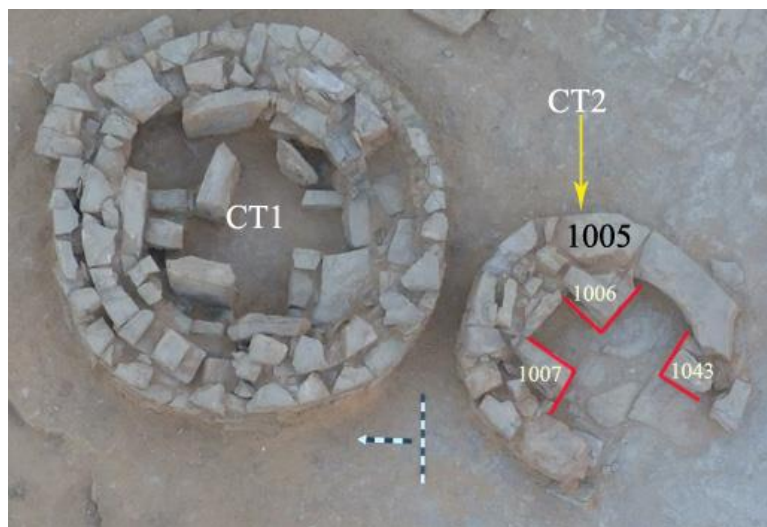
### **Tomb CT2:**

Tomb CT2 is located in the southern part of square D12 and the northern part of square E12 (Figs.1& 2).

### **Tomb CT2 wall:** (see Fig. 4)

Tomb CT2 ring-wall <1005> was heavily damaged and the south western part of this wall is missing. The northern part of this wall consists of five courses of stone blokes and slabs varying in size from 0.20m to 0.40m in length, and survived to a depth of 0.68m. Whereas, the south eastern part consists of two courses of stone blocks and slabs that varying in size from 0.40m to 1.20m in length, and survived to a depth 0.42m.

The outer diameter of the wall <1005> is N/S 4.10m and E/W 3.30m whilst the internal diameter is N/S 1.8 m. and E/W is 2.04m, the width of this wall ranges from 0.50m to 0.63m. Wall <1005> was constructed directly on the bedrock <204>, which provides a natural solid foundation.



(Fig.4) Tomb CT2 features

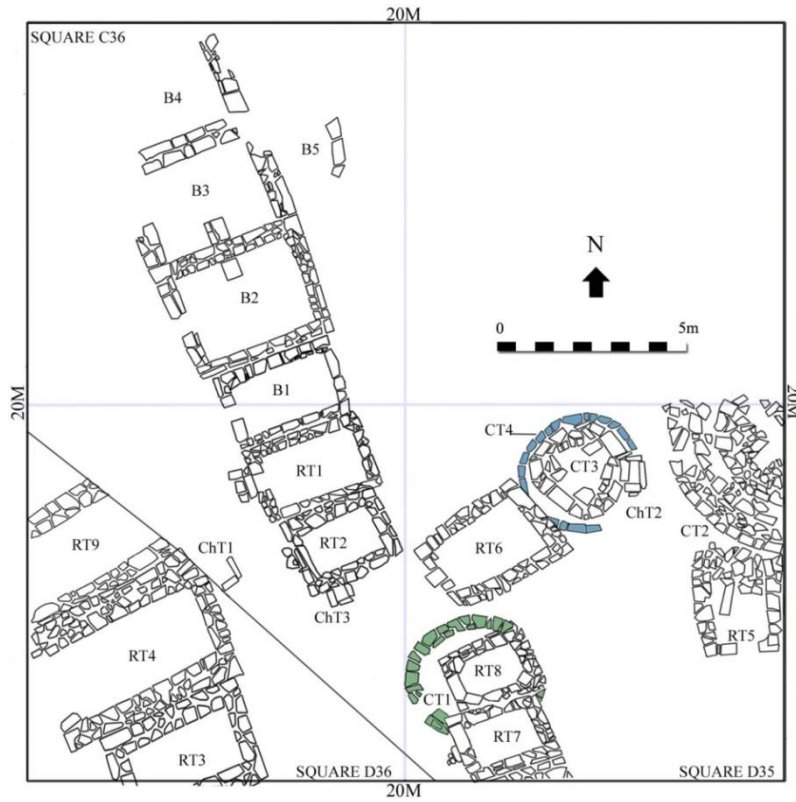


**Tomb CT2 chamber:**

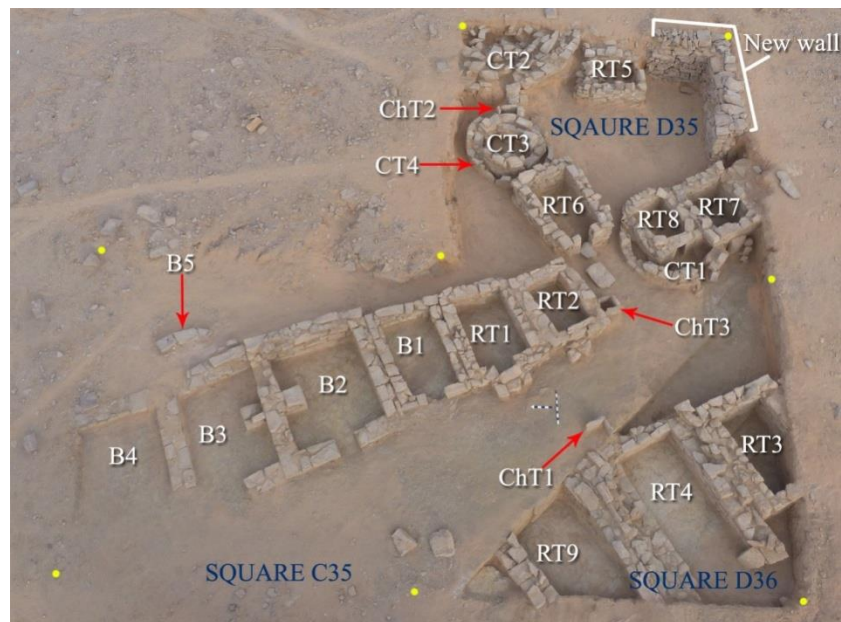
As the case of the Tomb CT1, also Tomb CT2 chamber seems to be formed in the shape of a cross (Fig. 4); however, whilst four triangles-constructions were found inside Tomb CT1, only three triangles-constructions were found inside Tomb CT2; <1006> in the northern part, <1007> in the northern part and <1043> in the eastern part; whereas, the triangle-construction in the western part is missing, it appears to have been destroyed.

The stones that used in these triangle-constructions were varying between large, medium and small-sized stones.

## Mound 2 Tombs



(Fig.5) The layout of the tombs of squares C36, D35 and D36.



(Fig. 6) Tombs at squares C36, D35 and D36

## **Tomb CT1**

Circular Tomb CT1 is located in the south western part of square D35 (Figs.5& 6). The diameter of the Tomb CT1 wall is 3.55m N/S and 3.80m E/W.

### **Tomb CT1 wall:**

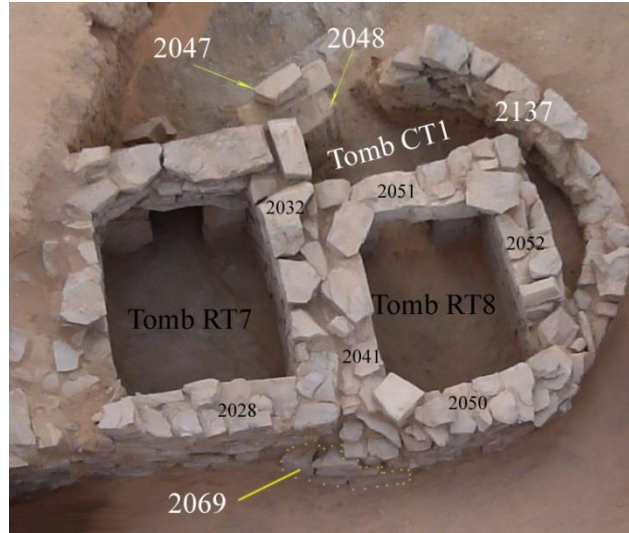
Tomb CT1 was badly damaged and seems to have been robbed and destroyed before other two tombs (Tombs; RT7& RT8) to be built on its remains in later period; the remains of the Tomb CT1 wall are consisted of three parts;

The first part; wall <2137> is represented the northern and north western parts of the Tomb CT1 wall (Fig.7). It was built of four courses of stone blocks that were varying in size from 0.15m to 0.40m. The length of wall <2137> is 3.70m and survived to a height of 0.60m. The northern part of the eastern wall <2050> of the Tomb RT8 was built on the eastern part of the wall <2137>. Therefore, it seems reasonable to suggest that Tomb RT8 was built later than Tomb CT1.

The second part; wall <2069> which is represented the south eastern part of Tomb CT1 wall (Fig.7). It was built of three courses of stone blocks and slabs varying in size from 0.65m to 0.30m in length, this part measured 0.95m in length and survived to a height of 0.38m . The eastern wall <2050> of the Tomb RT8 was built on the northern part of the wall <2069>; and the eastern wall <2028> of the Tomb RT7 was built on the southern part of the wall <2069> (Fig.8). Therefore, it seems reasonable to suggest that the Tombs RT7 and RT8 were built later than the Tomb CT1.

The third part which is represented the south western part of the Tomb CT1 wall, which consists of two parts; the stone wall <2047> and the mudbrick wall <2048> (Fig.7). The stone wall <2047> is represented the outer side of the south western part of the Tomb CT1 wall; this wall was built of five courses of stone blocks and slabs varying in size from 0.25m to 0.50m, measured 0.60m by 0.25m and survived to a height of 0.80m. Whereas, the inner side the mudbricks wall <2048> was built of five courses of mudbricks, wall <2048> measured 0.60m by 0.25m and survived to a height of 0.70m.

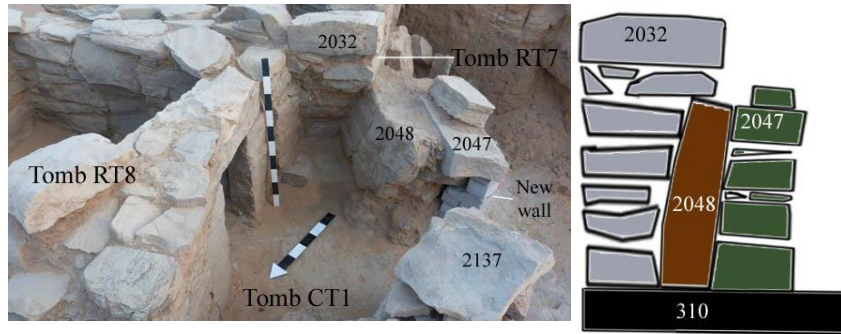
The upper two courses of the wall <2032> the northern wall of the Tomb RT7 were built on the southern part of the mudbrick wall <2048> (Figs. 9& 10). Therefore, it seems reasonable to suggest that the Tomb RT7 was built later than the Tomb CT1.



(Fig.7) the location of the walls <2047, 3048, 2069& 2137>; facing west, no scale



(Fig.8) Wall <2069> in relation to wall <2050> the eastern wall of Tomb RT8, and wall <2028> the eastern wall of Tomb RT7



(Figs.9& 10) show the relation between <2047& 2048> and the western part of the wall <2032> the northern wall of Tomb RT7

### **Tomb CT2:**

Tomb CT3 is partly uncovered; only the part of this tomb that located in square D36 was excavated.

### **Tomb CT2 location:**

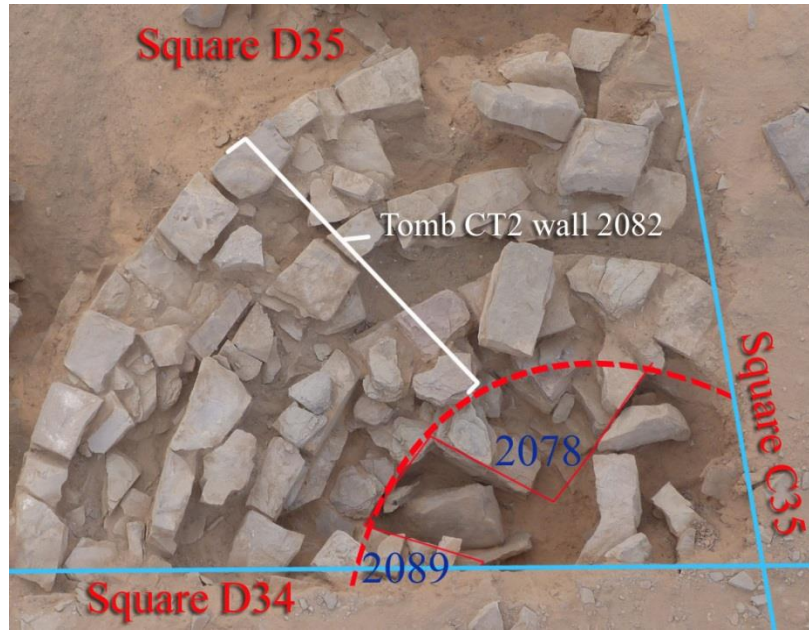
Only the south western quarter of this tomb was uncovered, this part is located in the north eastern corner of square D35 (Figs.5& 6).

### **Tomb CT2 wall: (Fig. 11)**

Tomb CT2 was built with a ring-wall <2082>, the remains of this wall consists (horizontally) of three rows of stones and (vertically) built of three courses of stones bulks and slabs varying in size from 0.15m to 0.90m in length. The excavated part of this wall measured 5.5m length by 2.30m width, and survived to a depth of 0.50m. This wall was built directly on the deposit <304>.

### **Tomb CT2 chamber:**

Tomb CT2 chamber seems to be formed in shape of cross by building four triangle-constructions inside the tomb the same way that have been used to form the chamber inside Tomb CT3 (see Tomb CT3 below). However, since the Tomb CT2 was partly excavated only parts of two triangle-constructions <2087& 2089> were appeared inside Tomb CT2 (Fig. 11). The size for these triangle-constructions is not available since the area inside the Tomb CT2 in not fully excavated.



(Fig. 11) shows the uncovered part of Tomb CT2, facing west, no scale

### **Tomb CT3**

#### **Tomb CT3 location and size:**

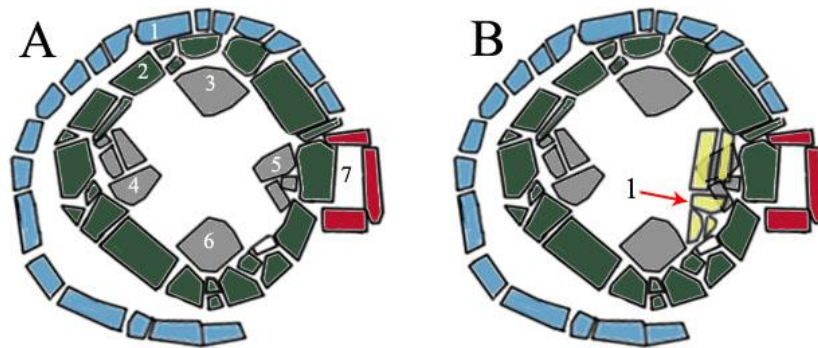
Tomb CT2 is located in the north eastern part of square D35 (Figs.5& 6). It has a circular shape, with diameter measured 2.65m N/S and 2.40m E/W.

#### **Tomb CT3 wall:**

The Tomb CT3 wall <2075> was built of seven courses of stones slaps and blocks that were varying in size from 15cm to 50cm; and survived to the height of 0.95m from the bedrock <310>, with width ranges between 0.30m to 0.45m. The south western part of the wall <2075> was heavily damaged and survived only to the height of 35cm. This wall was constructed directly on the bedrock <310> inside the Tomb CT4, and the outer surface of north eastern part of the Tomb CT3 wall <2075> was contiguous to the inner side of the Tomb CT4 wall <2091>, whereas, the space between the inner surface of Tomb CT4 wall <2091> and the outer surface of Tomb CT3 wall <2075> is gradually increased toward the south west until it reaches 0.30m (Fig. 12).

### Tomb CT3 chamber:

Tomb CT3 chamber was formed in the shape of a cross by building four triangle-constructions inside the tomb: the northern <2125>, the western <2124>, the eastern <2772> and southern construction <2171> (Fig. 12: a). Stones that were used to build these triangle-constructions were varying between large, medium and small-sized stones. Probably the reason of dividing the chamber in the shape of cross is to make roofing the tomb much easier, where, there are remains of a short semi-wall <2108> that was built above the triangle-construction <2272> and covering the space between the triangle-constructions <2272& 2271>, and part of the space between triangle-constructions <2272& 2125> (Fig. 12: b). Probably this indicates to the way how this tomb was roofed by building stones above these triangle-constructions to reduce the space between before closing the tomb with capstone.



(Fig. 12) shows the structures inside and outside Tomb CT3: A; 1: Tomb CT4 wall <2091>, 2: Tomb CT2 wall <2075>, 3: <2125>, 4: <2124>, 5: <2272>, 6: <2271>, 7: Tomb ChT2. B, 1: <2108>

### Later changes to Tomb CT3:

A child's tomb (Tomb ChT2) was attached to the outer side of the eastern part of the Tomb CT3 wall <2075> (Fig. 12: a), the stratigraphy of this child's tomb is suggested this tomb to be built after the robbing of Tomb CT3, since it was built on the deposit <2126> which is suggested to be moved from the Tomb CT3 via robbing act, for this

reason, attaching Tomb ChT2 to the outer side of the Tomb CT3 wall <2075> is considered as later change to Tomb CT3. For more details see Tomb ChT2 below.

### **Tomb CT4:**

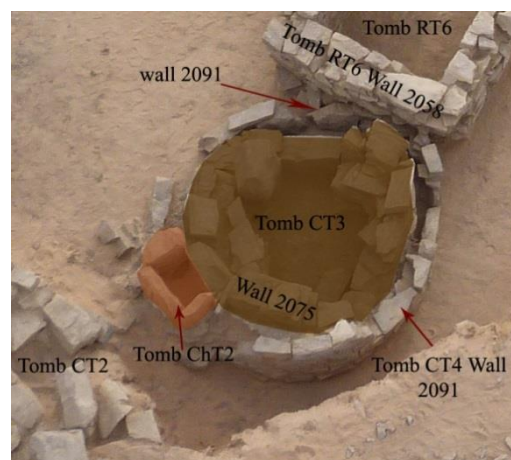
#### **Tomb CT4 location and size:**

Tomb CT4 is a circular tomb located in the north eastern part of square D35 (Figs.5& 6). The diameter of the remains of the wall <2091> is N/S 3.30m and E/W is 3.60 m.

#### **Tomb CT4 wall:**

The Tomb CT4 wall <2091> was built of stone slabs and blocks that ranging in size from 0.15m to 0.50m; this wall was built directly on the bedrock <310>. It was heavily damaged and the height (from the bedrock) of the survived parts of this wall ranges from 0.95m in the north eastern part, to 0.55m in north western part and to 0.30m in the western and south western parts of the wall <2091>, whereas, the south eastern part of the wall <2091> is missing (Fig. 13). The width of the remains of the wall <2091> is ranging from 0.28m to 0.35m.

The building sequences of the Tomb CT4 wall <2091> and the Tomb RT6 wall <2058> are show that the wall <2058> was directly built on the remains of the wall <2091> (Fig. 14); and thus, it seems reasonable to suggest that the Tomb CT4 must built and then destroyed before the time of building Tomb RT6 on its remains.



(Fig. 13) Tomb CT4 wall 2091. Facing south-west No scale





(Fig. 14) show the relation between the wall <2091> and the wall <2058>.

### **Tomb RT1:**

#### **Tomb RT1 location and size:**

Tomb RT1 is located in the north eastern part of square D36, between Tombs RT2 and B1. It was aligned northeast-southwest and has a rectangular shape measuring 3.40m by 2.45m externally, and 2.60m by 1.75m internally (Figs.5& 6).

#### **Tomb RT1 walls: (Fig. 15)**

This tomb consists of four walls; the northern wall <2003>, eastern wall <2017>, southern wall<2016> and the western wall <2013>. These walls were constructed directly on the bedrock <310> which provides a natural solid foundation.

The northern wall <2003> was built of eight courses of stone blocks varying in size from 0.15m to 0.60m in length which measured 3.60m by 0.45m and survived to a height of 0.95m. The outer side of the wall <2003> was contiguous to the outer side of the wall <2021> the southern wall of Tomb B1.

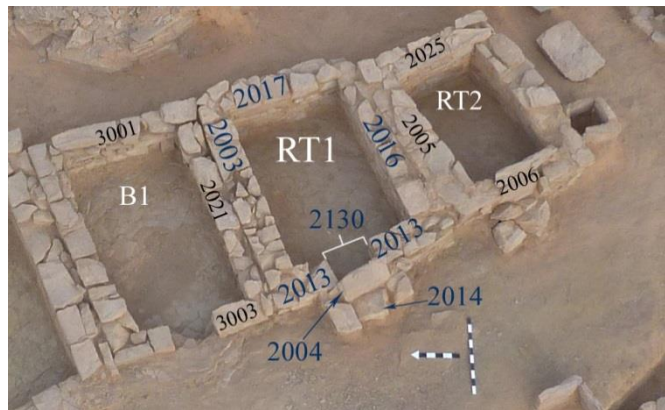
The eastern wall< 2017> was built of seven courses of stone blocks varying in size from 0.20m to 0.55m in length which measured 2.30m by 0.50m and survived to a depth of 85m.

The southern <2016> was built of eight courses of stone blocks varying in size from 0.20m to 0.50m in length which measured 3.20m long by 0.35m wide and survived to a depth of 0.80m. The outer side of the wall <2016> was contiguous to the outer side of the wall <2005> the northern wall of the Tomb RT2.

The western wall <2013> was built of five courses of stone blocks varying in size from 0.20m to 0.50 in length which measured 1.95m by 0.38m and survived to a depth of 0.76m.

### **Tomb RT1 Entrance: (Fig. 15)**

The entrance <2130> of the Tomb RT2 is 0.60m wide; it is located in the middle of the western wall <2013>. This entrance was sealed from outside with the (door) slab stone <2004>, which measured 0.85 high by 0.80 wide. Moreover, the pile of stones <2014> was placed against the slab stone <2004> probably to support this slab stone to seal the entrance.



(Fig. 15) Tomb RT1 features, scale 1x0.5m & 1x1m

### **Tomb RT2**

#### **Tomb RT2 location and size:**

Tomb RT2 is located in the north eastern part of square D36, to the south of tomb RT1. It was aligned northeast-southwest and has a semi-rectangular shape measuring 2.85m by 2m externally, and 2.m by 1.30m internally (Figs.5& 6).

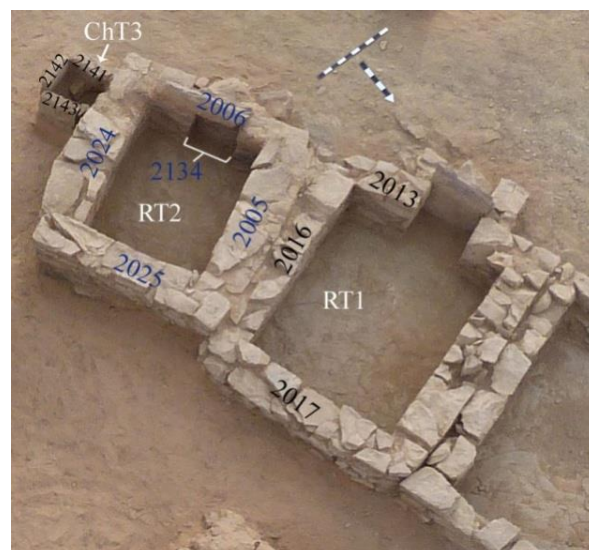
**Tomb RT2 walls:** (Fig.16)

This tomb consists of four walls; the northern wall <2005>, the eastern wall <2025>, the southern wall<2024> and the western wall <2131>.The northern wall <2005> was built of eight courses of stone slabs and blocks varying in size from 0.20m to 0.60m in length, which measured 2.85m by 0.45m and survived to a depth of 0.95m.

The eastern wall <2025> was built of eight courses of stone blocks and slabs varying in size from 0.25m to 0.60m in length which measured 1.95m by 0.45m and survived to a depth of 85m.

The southern wall of Tomb RT2 wall <2024> was built of eight courses of stone slabs and blocks varying in size from 0.20m to 0.50m in length which measured 2.85m by 0.45m and survived to a depth of 0.90m. There was child's tomb (Tomb ChT2) which has been added to the northern part of the outer side of the southern wall <2024> of Tomb RT2 (Fig. 16); for more details see Tomb ChT2 below.

The western wall <2006> was built of five courses of stone slabs and blocks varying in size from from 0.20m to 0.60m in length which measured 2m by 0.45m and survived to a depth of 0.85m.



(Fig. 16) Tombs RT2 features

**Tomb RT2 Entrance: (Fig. 16)**

The entrance <2134> of the Tomb RT2 was located in the middle of the western wall <2006> it is measured 0.65 high by 0.50 wide. This entrance was sealed with slab stone <2146> which represented the door of Tomb RT2. Slab stone <2146> is measured 0.65m in length, 0.20m in width and 0.83m in height. This slab stone was supported from the outside by a pile of stones <2147> which in consists of various sized stone blocks that extended 0.80m in length and 0.5m in width. These stones were sitting directly on the bedrock <310>.

**Later change of Tomb RT2:**

The later change is illustrated by adding child's tomb (Tomb ChT3) to the western part of the southern wall <2024> (Fig. 16).

**Tomb RT3:****Tomb RT3 location and size:**

Tomb RT3 is located in the south western part of square D36 and the northern wester part of E36, to the south of Tomb RT4. It was aligned northeast-southwest and has a rectangular shape measuring 3.80m by 2.40m externally, and 2.80m by 1.45m internally (Figs.5& 6).

Tomb RT3 has not been fully excavated, since the south western corner of Tomb RT3 was in square E36, whereas, the excavation permission at Mound 2 was restricted to two squares (D35& D36).

**Tomb RT3 walls: (Fig. 17)**

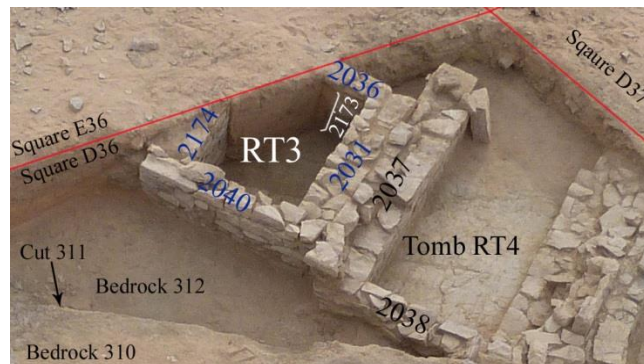
The part that has been excavated of the Tomb RT2 showed that the tomb consisted of four walls that were constructed directly on the bedrock <312> which provides a natural solid foundation. These walls are as follow; the northern wall <2031>, eastern wall <2040>, southern wall <2174> and the western wall <2036>.

The northern wall <2031> was built of different number of stone courses, where, there is a large slab stone <2177> (Fig. 18), which it has irregular shape with 2.20m in length and 0.75m high in the eastern part and 0.40 high in the western part; This was found inside the northern wall <2031>. As a result, the number of stone courses was varying between three to seven courses of stone slabs and blocks varying in size from 0.20m to 2m in length, this wall is measured 3.80m by 0.5m and survived to a depth of 1.10m. The outer side of the wall <2031> was contiguous to the outer side of the wall <2037> the southern wall of Tomb RT4.

The eastern wall <2040> was built of eight courses of stone blocks and slabs varying in size from 0.10m to 0.50m in length which measured 2.40m by 0.50m and survived to a depth of 1.10m.

The southern wall <2174> was partly uncovered, only the eastern half of the southern wall was excavated; this part was built of seven courses of stone blocks varying in size from 0.15m to 0.50m in length which measured 2m by 0.50m and survived to a depth of 1m. However, compared to the northern wall <2031> probably wall <2174> was also extended to length of about 3.80m.

The western wall <2036> was also was partly uncovered, only the northern half of the this wall was excavated; this part was built of eight courses of stone blocks varying in size from 0.20m to 0.60 in length which measured 1m by 0.45m and survived to a depth of 1.05m. However, compared to the eastern wall <2040> probably wall <2036> was also extended to length of about 2.40m.



(Fig. 17) Tomb RT3 features, facing south-west, no scale



(Fig. 18) shows the large stone <2177> that used to build the northern wall <2131> of Tomb RT3, scale 1x0.5m & 1x1m

### **Tomb RT3 Entrance:** (Fig. 17)

The entrance <2173> of Tomb RT3 was located in the middle of the western wall <2036>, only the north part of the entrance for the Tomb RT3 was excavated; accordingly, the height of The entrance <2173> measured 0.60 high and -so far-unknown width, waiting for the unexcavated part of the Tomb RT3 to be uncovered.

### **Tomb RT4:**

#### **Tomb RT4 location and size:**

Tomb RT4 is located in the south western part of square D36, between the Tombs RT3 and RT9. It was aligned northeast-southwest and has a rectangular shape measuring 5.45m by 3.40m externally, and 4.55m by 1.90m internally (Figs.5& 6).

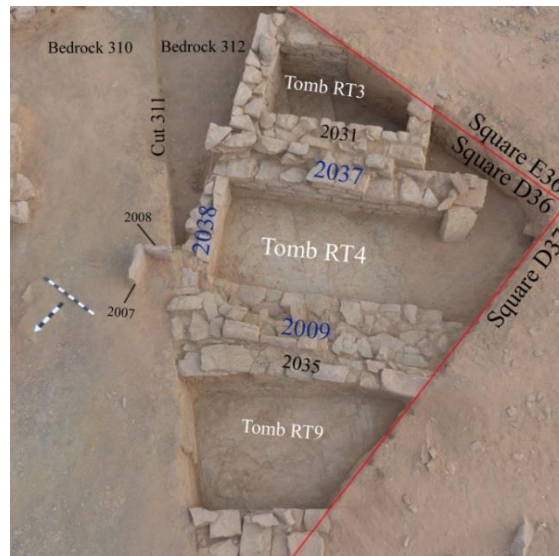
#### **Tomb RT4 walls:** (Fig. 19)

The remains of this tomb consisted of only three walls; the northern wall <2009>, eastern wall <2038> and southern wall<2037>; whereas, the western wall is missing. Tomb RT4 walls were constructed directly on the bedrock <312>.

The northern wall <2009> was built of five courses of stone slabs and blocks varying in size from 0.10m to 0.60m in length, which measured 5.45m by 0.90m and survived to a depth ranges from 0.30m to 0.70m. The outer side of the wall <2009> was contiguous to the outer side of the wall <2035> the southern wall of Tomb RT9.

The eastern wall <2038> was built of five courses of stone blocks and slabs varying in size from 0.20m to 0.50m in length which measured 3.40m by 0.45m and survived to depth of 0.75m. The northern part of the wall <2038> abutted the natural cut <311>. Moreover, there are two stones that seem to be remains of child's Tomb ChT1. These stones were found near to the outer face of the northern part of the wall <2038>; probably, the height of the wall <2038> was equal to the height of the tomb ChT1, and the Tomb ChT1 was abutted the missing upper part of the wall <2038>. If this was the case; then the eastern wall <2038> originally stood about half a meter higher than its current height.

The southern wall <2037> was built of seven courses of stone blocks varying in size from and slabs ranging between 0.20m to 0.50m in length which measured 2.85m by 0.45m and survived to a depth of 0.75m. The outer side of the wall <2037> was contiguous to the outer side of the northern wall of the Tomb RT3 wall <2031>.



(Fig. 19) Tombs RT4 and ChT1 walls, facing south-east, scale 1x0.5m & 1x1m

### **Tomb RT4 Entrance:**

There is no entrance was noted in the remains of the Tomb RT4 walls; however, since always the rectangular shape tombs are contained entrances, it can be assumed that the Tomb RT4 has entrance. Also, since the vast majority of the entrances of the rectangular

shape tombs in Squares C36, D35, D36 were located in the western walls, it seems reasonable to assumed that the entrance of the Tomb RT4 was in the western wall which is missing.

### **Tomb RT5:**

#### **Tomb RT5 location and size:**

Tomb RT5 is located in the eastern part of square D35, to the south of tomb CT3. It was a north south aligned and has a rectangular shape with a little curve in the western wall, this tomb measuring 3.20m by 2.30m externally, and 2m by 1.5m internally (Figs.5& 6).

#### **Tomb RT5 walls:** (Fig. 20)

This unit comprised of four walls; the eastern wall <2163>, the western wall <2160>, the southern wall <2159>; whereas, the northern was completely destroyed and the collapse <2162> can be considered as the remains of the northern wall.

Wall <2163> the eastern wall of Tomb RT5, was built of seven courses of stone blocks and slabs varying in size from 0.20m to 0.45m in length, which measured 1.75m by 0.40m and survived to a depth of 0.95m. The true extent of the wall <2163> is unclear where the northern part is badly disturbed.

The western wall <2160> was built of seven courses of stone blocks and slabs varying in size from 0.20m to 0.45m in length which measured 1.80m by 0.40m and survived to a depth of 0.85m. The true extent of the wall <2160> is unclear where the northern part is badly disturbed.

The southern wall <2159> of Tomb RT5 was built of three courses of stone slabs varying in size from 0.20m to 0.60m in length which measured 1.5m by 0.40m and survived to a depth of 0.85m. The entrance of the Tomb RT5 was in the middle of the southern wall, (see the entrance of Tomb RT5 below).

The collapse <2162> was found between the eastern wall <2163> and the western wall <2160>. This a pile extended on 1.5m in length and 1.20 in width and rise about 0.85m upon from the bedrock <310>.





(Fig. 20) Tomb RT5 features

**Tomb RT5 Entrance:** (Fig. 20)

The entrance <2182> of the Tomb RT5 was in the middle of the southern wall of the Tomb RT5, this entrance measured 0.45m with known height. Inside the entrance there was the door-sill <2184>; which is also extended under the lower part of the southern wall.

**Tomb RT6**

**Tomb RT6 location and size**

Tomb RT6 is located in the north western part of square D35. It has a rectangular shape that was aligned northeast to southwest and measured 3.30m by 2.60m externally, and 2.50m by 1.60m internally (Figs.5& 6).

**Tomb RT6 walls:** (Fig. 21)

Tomb RT6 consists of four stone walls; the northern wall <2057>, the eastern wall <2058>, the western wall <2060> and the southern wall <2059>.

The northern wall <2057> was built of seven courses of stone slabs and blocks varying in size from 0.15m to 0.50m in length, which measured 3.30m by 0.45m and survived to a depth of 0.98m. This wall was built directly on the bedrock <310>.

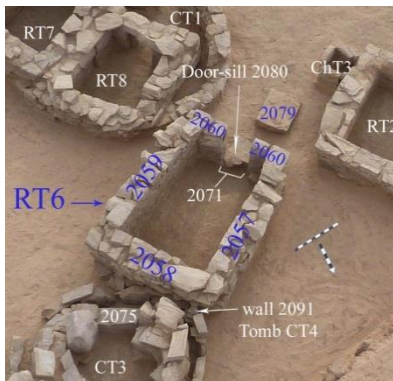
The eastern wall <2058> was built of seven courses of stone blocks and slabs varying in size from 0.15m to 0.70m in length; the wall is measured 2.60m by 0.50m and survived to a depth of 0.90m. The inner side of the wall <2058> was built directly on the bedrock

<310>; whereas, the outer part of the wall <2058> was directly built on the north western and western parts of the Tomb CT4 wall <2091> (Fig. 14).

Moreover, the north eastern part of the wall <2091> was survived to the high of 0.95m, whereas, the north western and western parts of the wall <2091> under the western wall of the Tomb RT6 were survived only to the high that ranges from 0.30m to 0.50m. Therefore it also seems reasonable to suggest that the wall <2058> was built on the damaged parts of the wall <2091>, and thus, it seems reasonable to suggest that the wall <2058> was built after the destruction of the wall <2091>. Therefore, Tomb RT6 was built after the destruction (robbing) of the Tomb CT4.

The southern wall <2059> was built of eight courses of various sized stone blocks and slabs that are ranging in size between 0.15m to 0.55m in length. The wall <2059> is measured 3.30m by 0.50m and survived to a depth of 0.97m.

The western wall <2060> was built of six courses of stones blocks and slaps varying in size between 0.15m to 0.75m in length, this part is measured 1.45m by 0.40m. The inner side of the northern part of wall <2060> was badly damages, only the lower course was survived to the high of 0.20m.



(Fig.21) Features of Tomb RT6

**The entrance of Tomb RT6:** (Fig. 21)

The entrance of the Tomb RT6 <2071> was located in the middle of the western wall <2060>. The width of the entrance measured 0.50m, with undetermined height.

Moreover, there was a large stone slab <2079>, that was found 0.75m to the west of the entrance <2071>, this stone has rectangular shape measured 95X65cm. Probably this stone slab was used to seal the entrance <2071>.

#### **Door-sill of Tomb RT6:** (Fig. 21)

The later change of this tomb is represented by adding the door-sill <2080>. This door-sill has semi-triangle shape measured 76X50cm; and it was located inside the entrance <2071>, this door-sill is extended 35cm front of the entrance outside of the tomb.

#### **Tomb RT7**

##### **Tomb RT7 location and size:**

Tomb RT7 was aligned northeast to south west and has a rectangular shape measured 2.55m by 1.95m externally, and 1.80m by 1.20m internally. It was located in the south western part of square D35, to the south of the Tomb RT8 (Figs.5& 6).

##### **Tomb RT7 walls:** (Fig. 22)

This tomb consists of four walls; the northern wall <2032>, the eastern wall <2028>, the southern wall <2030> and the western wall <2029>.

The northern wall <2032> was built of seven courses of stone blocks and slabs varying in size from 0.25m to 0.60m in length which measured 2.55m by 0.40m and survived to a depth of 1.5m from the bedrock <310>. The outer part of the north wall <2032> was contiguous to the wall <2041> the southern wall of Tomb RT8. In addition, the upper three courses of the western part of the north wall <2032> were built on the mudbricks wall <2048> (Figs. 9& 10), this mudbrick wall as it has been discussed earlier is represented the inner surface of the western remains of the Tomb CT1 wall, and thus, it seems reasonable to suggest that the northern wall <2032> of the Tomb RT7 was built later than Tomb CT1.

The eastern wall <2028> was built of nine courses of stone blocks and slabs varying in size from 0.15m to 0.45m in length which measured 1.95m by 0.38m and survived to a depth of 1.08m from the bedrock <310>. the northern part of this wall was built directly

on the southern half of the wall <2069> (Fig. 8), the wall <2069> is represented the remains of the Tomb CT1 wall; and thus, it seems reasonable to suggest that the Tomb RT7 was built on the remains of the Tomb CT1, and thus it was built after the destruction of Tomb CT1.

The southern wall <2030> was built of eight courses of stone blocks and slabs varying in size from 0.25m to 0.50m in length which measured 2.55m by 0.40m and survived to a depth of 1.10 m from the bedrock <310>. The outer side of wall <2030> was contiguous to the discovered part of wall <2033>, the relation between <2030> and <2033> will not be clear until the southern extent of wall <2033> is excavated.

The western wall <2029> was built of seven courses of stones slabs and bocks varying in size from 0.20m to 0.70m in length, which measured 2m by 0.40m and survived to a depth of 1.07m from the bedrock <310>. The entrance of the Tomb RT7 was in the middle of the western wall (see the entrance of tomb RT7 below).

**The entrance of Tomb RT7:** (Fig. 22)

The entrance <2066> of the Tomb RT7 was in the middle of the western wall <2029>; this entrance measured 0.41m high by 0.63m wide. the entrance <2066> was closed (sealed) from outside with a large stone slab <2068>, which measured 0.95m high X 0.50m wide, and the thickness of the stone slab <2068> is ranging between 0.18m to 0.25m. Moreover, the outer side of the stone slab <2068> was contiguous to a pile stones <2240> which probably were used to support the stone <2068> to seal the entrance <2066> of the Tomb RT7.



(Fig.22) Features of Tomb RT7. Facing south west, no scale

## **Tomb RT8**

### **Tomb RT8 location and size:**

Tomb RT8 was aligned northeast to south west and has a rectangular shape measured 2.30m by 1.90m externally, and 1.50m by 1.10m internally. It was located in the south western part of square D35, to the north of Tomb RT7 (Figs.5& 6).

### **Tomb RT8 walls: (Fig.23)**

This tomb consists of four stone walls; the northern wall <2052>, the eastern wall <2050>, the southern wall <2041> and the western wall <2051>.

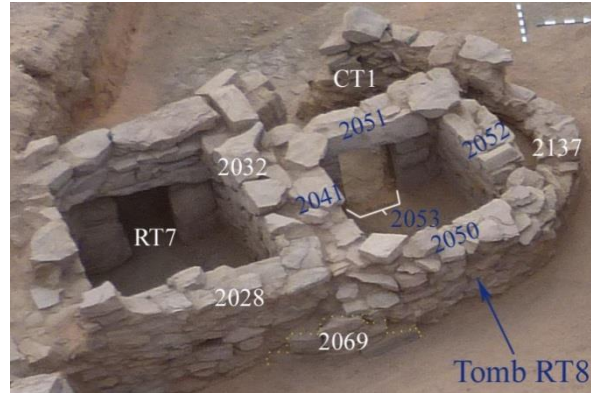
The northern wall <2052> was built from seven courses of stones that were varying in size from 0.15m to 0.45m. This wall is measured 2.30m by 0.45m and survived to a depth of 0.90m. Moreover, this wall was built directly on the bedrock <310> inside the Tomb CT1.

The eastern wall <2050> was built of 8 courses of stone blocks and slabs varying in size from 0.13m to 0.40m in length which measured 1.90m by 0.45m and survived to a depth of 1m. The northern part of the eastern wall <2050> of the Tomb RT8 was built directly on the eastern end of the wall <2137>, which is represented that north remains of the Tomb CT1 wall. Also, the southern part of the wall <2050> was built directly on the northern half of the wall <2069> (Fig. 8), which is represented the western remains of the Tomb CT1 wall. Whereas, the middle part of the eastern wall <2050> was built directly on the bedrock <310>.

The southern wall <2041> was built of eight courses of stones that varying in size from 0.15m to 0.45m. Wall <2041> is measured 2.30m by 0.30m and survived to a depth of 1.05m. The outer side of wall <2041> was contiguous to wall <2032> the northern wall of Tomb RT7.

The western wall <2051>; the northern and southern parts of the wall <2051> were built of eight courses, blocks and slabs varying in size from 0.13m to 1m, which measured 1.90m by 0.45m and survived to a depth of 1m. The entrance <2053> was located in the

middle of the western wall <2051> (see the entrance of the Tomb RT8 below). The western wall <2051> of the tomb RT8 was built directly on the bedrock <310> inside the Tomb CT1.



(Fig.23) Tomb RT8 features; facing west

#### **The entrance of Tomb RT8:**

The entrance <2053> of the Tomb RT8 was located in the western wall; it is measured 0.70m high by 0.50m wide. This entrance was directly facing the space between the walls <2137& 2047>, which were represented the remains of the Tomb CT1 wall (Fig. 23).

#### **Tomb RT9**

Tomb RT9 was not fully uncovered; where, only the eastern part of this tomb which is located in square D36 has been excavated, whereas, the western part of the Tomb RT9 is extended into the square D37, which is awaited to be uncovered.

#### **Tomb RT9 location and size:**

Tomb RT9 is located in the south western part of square D36, to the north of Tomb RT4 (Figs.5& 6). It was aligned northeast to south west and has semi-rectangular shape. The width of Tomb RT9 measured 3.50m externally and 2.20m internally, whereas, the length will not be known until the western extents of the northern and southern walls are excavated.

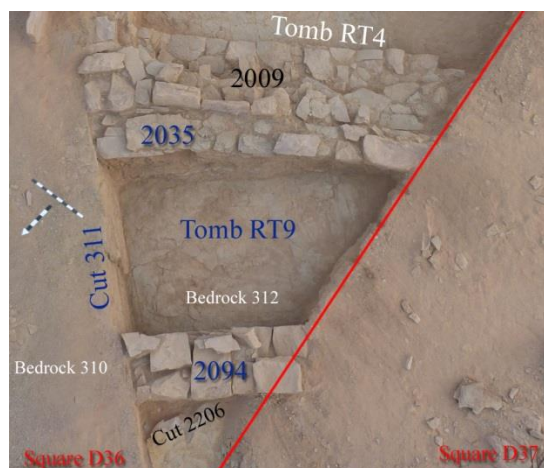
**Tomb RT9 walls:** (Fig. 24)

The excavated part of the Tomb RT9 consists of two walls; the northern wall <2094>, the southern wall <2035>.

The northern wall <2094> was built of five courses of stone blocks and slabs varying in size from 0.30m to 0.60m in length. The discovered part of the wall <2094> measured 2.20m by 0.80m and survived to a depth of 0.70m. The outer side of the wall <2094> was contiguous to the cut <2206>.

The southern wall <2035> was built of five courses of stone blocks and slabs varying in size from 0.15m to 0.60m in length. The discovered part of the wall <2094> measured 4.25m by 0.45m and survived to a depth of 0.62m. The eastern end of the wall <2035> was abutted against the cut <311>. Moreover, the outer side of the wall <2035> was contiguous to the outer side of the northern wall <2009> of the Tomb RT4; it has been noted that the wall <2035> tends toward the northern wall of Tomb RT4, and <2035> seems to be abutted (leaning on) the outer face of wall <2009> the northern wall of Tomb RT4.

The eastern wall of Tomb RT9 is missing, in this context, it should be noted that the eastern ends of the northern and southern walls <2094& 2035> were abutted against the cut <311>. Therefore, it is not clear if the cut <311> was used as eastern wall of the Tomb RT4, or there was a wall and this wall has been removed in later periods.



(Fig. 24) Tomb RT9 walls, facing south east, scale 1x0.5m & 1x1m

### **Tomb ChT1:**

#### **Tomb ChT1 location:**

Tomb ChT1 is located in the centre of the square D36, it was attached to outer side of the northern part of the eastern wall <2038> of Tomb RT4 (Figs.5& 6).

#### **Tomb ChT1 walls:** (Fig. 19)

The remains of the Tomb ChT1 consists of three walls; stone <2007> which is represented the eastern wall, stone <2008> which is represented the southern wall; while, the outer side of the northern part of the eastern wall <2038> of Tomb RT4 is represented the western wall of Tomb ChT1; and the northern wall is missing.

The eastern wall stone <2007>; was oriented northwest to southeast measured 0.50m high by 0.50m wide. This stone was placed directly on the bedrock <310>.

The southern wall stone <2008> oriented northeast to southwest measured 0.48m high by 0.43m wide. This stone was placed directly on the bedrock <310>.

### **Tomb ChT2**

#### **Tomb ChT2 location and size:**

Tomb CT2 is located in the north eastern part of square D35. It has a rectangular shape that was aligned north to south and measured 0.80m by 0.60m externally, and 0.50m by 0.30m internally (Figs.5& 6).

#### **Tomb ChT2 walls:** (Fig. 25)

Tomb ChT2 walls were as follow:

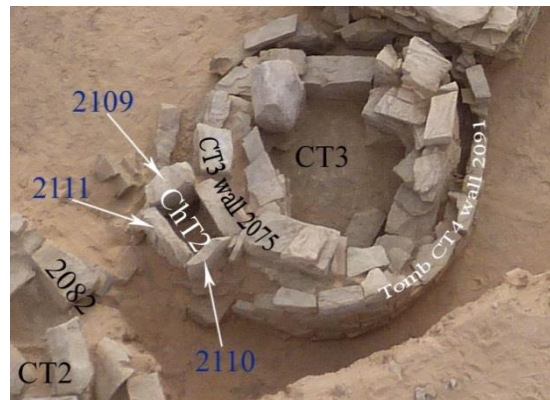
Firstly, slab stone <2109> which was oriented east to west measured 0.40m in length, 0.20m in width and 0.38m high, it was represented the southern wall of Tomb ChT2, and the western part of this slab stone was abutted the outer surface of the eastern part of Tomb CT3 wall <2075>. This stone was built directly on the deposit <2126>.



Secondly, slab stone <2110> which was oriented east to west measured 0.30m in length, 0.09m in width and 0.36m high, it was represented the northern wall of Tomb ChT2, and the western part of this slab stone was abutted the outer surface of the eastern part of Tomb CT3 wall <2075>. This stone was built directly on the deposit <2126>.

Thirdly, slab stone <2111> which was oriented north to south measured 0.50m in length, 0.18m in width and 0.35m high, it was represented the northern wall of Tomb ChT2. This stone was built directly on the deposit <2126>.

The western wall of Tomb ChT2 is represented by the outer surface of the eastern part of the Tomb CT3 wall <2075>.



(Fig.25) shows Tomb ChT2 walls, facing south-west, no scale

### **Tomb ChT3:**

#### **Tomb ChT3 location and size:**

This tomb has a rectangular shape measured 0.70m by .60m externally, and 0.50m by 0.40m internally, Tomb ChT3 was located in the eastern part of the square D36 (Figs.5& 6), it was attached to outer side of the western part of the southern wall <2024> of Tomb RT2.

**Tomb ChT3 walls:** (Fig. 16)

Tomb ChT3 consists of three slab stones <2141, 2142& 2143> all these slab stone were built directly on the deposit <306> which represented the bedrock of the Tomb ChT2. These slab stones were as follow;

Slab stone <2141> which was oriented north west to south east, measured 0.50m in length, 0.20m in width and 0.35m high, it was represented the western wall of Tomb ChT3. The northern part of this slab stone <2141> was adjoining the outer side of the southern wall <2024> of Tomb RT2.

Stone <2142> which was oriented north east to south west measured 0.45m in length, 0.15m in width and 0.35m high, it was represented the southern wall of Tomb ChT3. In fact, this stone was a simple eye-stele (Fig. 26), where, the internal side continued inscription of; eyes and nose. The inner face was covered by a salt concretion with a thickness of 1mm to 4mm. This probably results from the high soil salinity level in this area.



(Fig.26) eye-stele <2142>

Stone <2143> which was oriented north-west to south-east, measured 0.50m in length by 0.18m in width and 0.36m high. It was represented the eastern wall of Tomb ChT3; the

northern part of this slab stone <2141> was adjoining the outer side of the southern wall <2024> of Tomb RT2.

The northern parts of the stones <2141& 2143> were adjoined to the outer surface of the southern wall <2024> of Tomb RT2; which is represented that the northern wall of the Tomb ChT3.

#### **Tomb ChT3 roof:**

The roof of Tomb ChT3 is represented by the slab stone <2015>, this slab stone was found directly about the top of the Tomb ChT3 walls slab stones <2141, 2142& 2143>. The slab stone <2015> has semi-rectangular shape measured 0.65m length by 0.55m width; with thickness ranges from 5cm to 10cm.

#### **Tomb B1:**

With the exception of the south western corner of Tomb B1, this Tomb was excavated in season 1994.

#### **Tomb B1 location and size:**

Tomb B1 is located in the south eastern part of square C36, and the north eastern part of square D36, between Tombs B2 and RT1. It was aligned northeast-southwest and has a rectangular shape measuring 3.40m by 2.40m externally, and 2.55m by 1.75m internally (Figs.5& 6).

#### **Tomb B1 walls: (Fig. 27)**

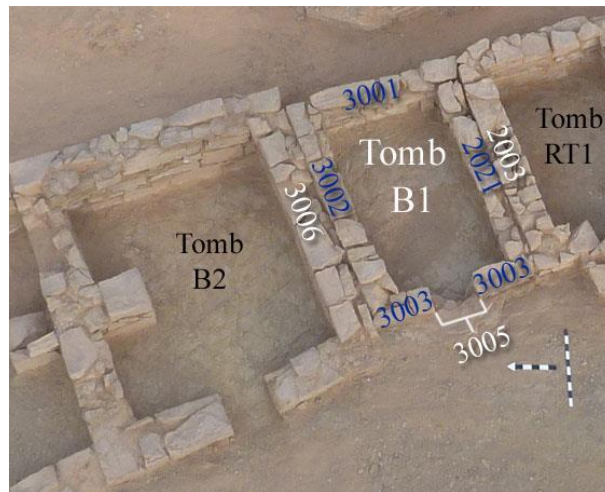
Tomb B1 comprised of four walls; the northern wall <3002>, eastern wall <3001>, southern wall<2021> and the western <3003>.

The northern wall <3002> was built of five courses of stone blocks and slabs varying in size from 0.25m to 0.60m in length; which measured 3.40m by 0.45m and survived to a depth of 0.70m. The outer side of the wall <3002> was contiguous to the outer side of the wall <3006> the southern wall of Tomb B2.

The eastern wall <3001> was built of five courses of stone blocks varying in size from 0.20m to 1m in length which measured 2.40m by 0.45m and survived to a depth of 75m.

The southern wall <2021> was built of five courses of stone blocks varying in size from 0.20m to 0.50m in length which measured 3.37m by 0.35m and survived to a depth of 0.75m. The outer side of the wall <2021> was contiguous to the outer side of the wall <2003> the northern wall of Tomb RT1.

The western wall <3003> was built of four courses of stone blocks from 0.18m to 0.55m which measured 1.95m by 0.40m and survived to a depth of 0.70m.



(Fig. 27) Tomb B1 features, facing east, scale 1x0.5m & 1x1m

#### **Tomb B1 entrance:** (Fig. 27)

The entrance <3005> of the Tomb B1 was located in the middle of the western wall <3003>, this entrance measured 0.55m wide with unknown high.

#### **Tomb B2**

##### **Tomb B2 location and size:**

Tomb B2 is located in the southern half of square C36, to the north of Tomb B1 and to the south of Tomb B3. It was aligned northeast-southwest and has a rectangular shape measuring 4.85m by 4.00m externally, and 3.50m by 2.70m internally (Figs.5& 6)

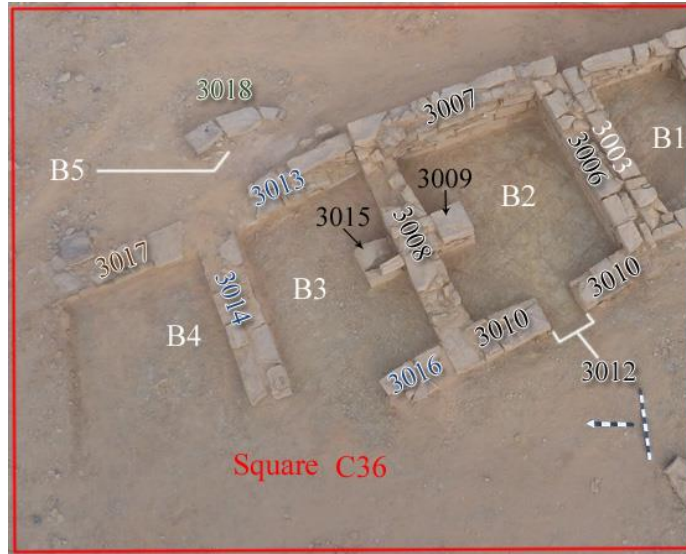
**Tomb B2 walls:** (Fig. 28)

This unit comprised of four walls; the northern wall <3008>, eastern wall <3007>, southern wall <3006> and the western wall <3010>.

The northern wall <3008> was built of four courses of sand blocks and slabs varying in size from 0.25m to 0.65m in length. This wall is measured 4.85m by 0.70m and survived to a depth of 0.60m. There was a column <3009> that was found adjacent to the middle of the internal side of the northern wall <2008>; this column has square shape measured 0.60m by 0.63m, and built of three course of stones blocks varying in size from 0.30m to 0.60m and survived to a depth of 0.60m (Fig. 28). Probably this column has been used to reduce the distance to facilitate roofing the tomb. However, there is no firm evidence forthcoming to suggest how the structure was roofed.

Moreover, the outer side of the wall <3008> was represented the southern wall of the Tomb B3 (Fig.28). Where, the eastern and the western walls <3013&3016> of Tomb B3 were attached to northern wall the wall <3008> of Tomb B2.

The stone that have been used to build the eastern and western walls <3007& 3010> of Tomb B2 were overlapped with the stones that have been used to build the northern wall <3008>, and thus, it seems reasonable to suggested that the northern wall of <3008> has been built at the same time of building the eastern and western walls of Tomb B2. Whereas, the eastern and western walls <3013& 3016> of Tomb B3 were attached (not overlapping) to the outer side of wall <3008>. Therefore, it seems reasonable to suggest that the Tomb B2 walls were built before Tomb B3 walls, and in later period the builders of Tomb B3 have been used the outer side of northern wall <3008> of Tomb B2 as the southern wall of Tomb B2.



(Fig.28) Shows the walls of Tombs; B2, B3, B4 and B5; facing east; scale 1x0.5m & 1x1m

Wall < 3007> the eastern wall of Tomb B2 was built of four courses of stone blocks and slabs varying in size from 0.20m to 0.80m in length. This Tomb is measured 4.15m by 0.60m and survived to a depth of 60m.

The southern wall of Tomb B2 wall <3006> was built of four courses of stone blocks varying in size from 0.20m to 0.65m in length which measured 4.70m by 0.60m and survived to a depth of 0.57m. The outer side of the wall <3006> was contiguous to the outer side of the northern wall <3002> of Tomb B1. The outer part of southern wall <3006> of Tomb B2 was built of small loose stones. These stones will not stay in this position if the northern wall <3002> of Tomb B1 did not exist; and thus, it can be suggested that the Tomb B1 was built first earlier than Tomb B3.

The western wall <3010> of Tomb B2 was built two courses of sand blocks varying in size from 0.20m to 0.85m. This wall measured 3.5m by 0.65m and survived to a depth of 0.29m. In the middle of the western wall there is a space that represented that entrance <3012> of Tomb B2, this entrance measured 0.50m in width with unknown high.

## **Tomb B3**

### **Tomb B3 location and size:**

The remains of Tomb B3 are located in the middle of square C36, to the north of Tomb B2 and to the south of Tomb B4. It was aligned northeast-southwest and has a rectangular shape measuring 4.80m by 3.90m externally, and 3.25m by 2.30m internally (Figs.5& 6)

### **Tomb B3 walls: (Fig. 28)**

the remains of this construction consists of three walls; the northern wall <3014>, eastern wall <3013>, and the western wall <3016>.

The northern wall <3014> was heavily damaged, and the eastern and western parts of the wall were missing. The remains of this wall consist of a single course of stones varying in size from 0.20m to 0.90m; with depth measured 0.23m. The remains of this wall were measured 2.85m length by 0.90m width.

The eastern wall <3013> was heavily damaged and the northern part of this wall was missing. The remains of this wall consist of three courses of stone blocks and slabs varying in size from 0.20m to 1.05m in length, and survived for a length of 2m and measured 0.80m in width; and 0.40m in depth.

The western wall <3016> was also heavily damaged and the northern half of this wall is missing. The remain of this wall was consist of a single course of stones; survived for only 1m in length by 0.70m in width; with 0.30m depth.

As it has been discussed earlier (see the description of Tomb B2 walls above), the southern parts of the walls <3013& 3016> was attached to the outer side of the northern wall <3008> of Tomb B2, accordingly, the outer side of the wall northern wall <3008> of Tomb B2 was represented the southern wall of Tomb B3.

Moreover, there was a column <3015> that was abutted to middle of outer side of the wall <3008> of Tomb B2; this column has rectangular shape measured 0.75m in length, 0.65m in width and survived to a height of 0.30m. This column was built of stone blocks varying in size from 0.30m to 0.70m in length. Probably this column has been used to

reduce the distance to facilitate roofing the tomb. However, there is no evidence to suggest how the structure was roofed.

#### **Tomb B4:**

##### **Tomb B4 location and size:**

Tomb B4 is located in the north of square C36, to the north of Tomb B3, with unknown size, where the northern and western walls were completely destroyed probably due to robbing acts (Figs.5& 6).

##### **Tomb B4 wall:** (Fig. 28)

Only the eastern wall <3017> of Tomb B4 was found, whereas, the northern and western walls are completely missing; whilst, the northern wall <3014> of Tomb B3 has been used as the southern wall of Tomb B4.

The remains of eastern wall <3018> were built of stone blocks and slabs varying in size from 0.30m to 0.60m in length. It was measured 2.20m length by 0.65m width, and survived to a depth of 0.20m.

#### **Tomb B5**

This tomb is located in the north east part of the square C36 (Figs.5& 6). It consists of single course of three stones that seem to be remains of a circular wall (Wall <3018>). This wall measured 1.33m length by 0.40m width, with height measured 30cm (Fig. 28).

It should be noted that there is no confirm evidence available about the deposits or finds regarding this wall, therefore, we have assumed these stones as a part of a circular tomb only based on the shape that these three stone made, where, they were made a curved shape that resembles to the curvature of the circular tombs walls.



## 9. Appendix B

### Finds from Mounds 1 and 2

#### Finds from Mound 1:

No.	Deposit number	Bones	Ceramic	Shells	Beads	Metals	Worked-stones and stone tools
1	200	Very few fragments	15 9	-	28 stone-beads (Figs. 1 & 2)	-	Two large parts of stone alter (Fig. 3)
2	201	Many fragments	-	-	-	Many Iron fragments (Fig.4)	-
3	202	Very few fragments	61	-	Nine faience-beads and two stone-beads (Fig.5, 6 & 7)	-	-
4	203	-	73	Two shells (Fig. 8)	-	-	-
5	1014	Very few fragments	2	-	-	-	-
6	1029	Many fragments	-	-	-	Iron dagger and many iron fragments (Fig. 9)	-
7	1039	Complete human skeleton	49	-	-	-	-
8	1072	Many fragments	62	Shell fragment (Fig. 10)	Nine stone-beads (Figs. 11 & 12)	-	Two flint-drills (Fig. 13)

(Table. 1) shows the finds from Mound 1



(Fig.1) Cylindrical stone bead from deposit

<200>



(Fig.2) 27 Carnelian-beads from deposit

<200>

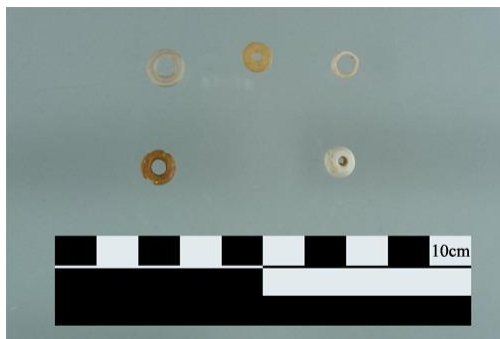


(Fig. 3) Stone basin from deposit <200>



(Fig. 4) Iron fragments from deposit

<1029>



(Fig.5) Five Faience-beads from deposit

<202>



(Fig.6) Four faience-beads from deposit

<202>



(Fig.7) Two stone-beads from deposit  
<202>



(Fig.8) Two large shells from deposit  
<203>



(Fig. 9) Iron dagger from deposit <1029>



(Fig.10) fragment of shell from deposit  
<1072>



(Fig.11) Cylindrical volcanic stone-bead  
from deposit <1072>



(Fig.12) Eight stone-beads from deposit  
<1072>



(Fig.13) two flint-drills from deposit <1072>

**Finds from Mound 2 deposits:**

<b>No.</b>	<b>Deposit number</b>	<b>Bones</b>	<b>Ceramic sherds no.</b>	<b>Shells</b>	<b>Beads</b>	<b>Metals</b>	<b>Worked-stones and stone tools</b>
<b>1</b>	<b>300</b>	Many bone fragments	456	-	-	-	Thamudic inscription (Fig. 14)
<b>2</b>	<b>301</b>	Very few bone fragments	-	-	-	-	-
<b>3</b>	<b>302</b>	Very few bone fragments	-	Two shell fragments	-	-	-
<b>4</b>	<b>303</b>	Many bone fragments	839	-	-	Gold earring from the part of the deposit 303 inside Tomb RT7 (Fig. 15)	Thamudic inscription (Fig. 16)
<b>5</b>	<b>304</b>	Few bone fragments	290	-	-	-	-
<b>6</b>	<b>305</b>	Many bone fragments	759	-	-	-	-
<b>7</b>	<b>306</b>	Few bone fragments	386	-	-	-	-
<b>8</b>	<b>307</b>	Few bone fragments	338	-	-	-	-
<b>9</b>	<b>308</b>	Many bone fragments	40	-	-	-	-
<b>10</b>	<b>309</b>	Very few bone fragments	75	-	-	-	-
<b>11</b>	<b>2018</b>	Many bone	62	-	-	-	-

		fragments					
<b>12</b>	<b>2081</b>	Many bone fragments	107	-	-	-	-
<b>13</b>	<b>2083</b>	Many bone fragments	119	-	-	-	-
<b>14</b>	<b>2085</b>	Many bone fragments	120	-	-	-	-
<b>15</b>	<b>2086</b>	Many bone fragments (including complete skeleton)	70	-	-	-	-
<b>16</b>	<b>2088</b>	Many bone fragments	168	-	-	-	-
<b>17</b>	<b>2097</b>	Many bone fragments	102	-	-	-	-
<b>18</b>	<b>2099</b>	Very few bone fragments	-	-	-	-	-
<b>19</b>	<b>2100</b>	Large number of bone fragments	Two complete vessels + camel statue (Fig. 17)	Seven shells	Six stone beads	Iron fragments (Fig. 18)	-
<b>20</b>	<b>2116</b>	Large number of bone fragments	74	-	-	One bronze ring, one bracelet and one bronze fragment (probably part of earring) (Fig. 19)	-

21	2122	Very few bone fragments	86	-	-	-	-
22	2126	Many bone fragments	57	-	-	-	-
23	2129	Very few bone fragments	101	-	-	-	-
24	2135	Very few bone fragments	Six	-	-	-	-
25	2139	-	-	-	-	-	-
26	2144	Child's skeleton	-	16 shells	60 Fiancé beads and six stone beads. For example see (Figs. 20& 21)	-	-
27	2153	Many bone fragments	111	13 shells,	four stone beads	-	-
28	2161	Many bone fragments	94	-	-	-	-
29	2164	Many bone fragments	157 + Parts of camel statue (Fig. 22)	-	-	-	-
30	2170	Upper part of a child skeleton	-	-	-	-	-

31	2171	-	-	-	-	-	-
32	2178	Large number of bone fragments	243	-	-	Three bronze rings (Fig. 23)	-
33	2233	Many bone fragments	102	-	-	-	-
34	2336	Many bone fragments	66	-	-	-	-

(Table. 2) shows the finds from Mound 2



(Fig. 14) Thamudic inscription from deposit <300>



(Fig. 15) Gold earring from the part of the deposit <303> inside Tomb RT7



(Fig. 16) Thamudic inscription from deposit <303>



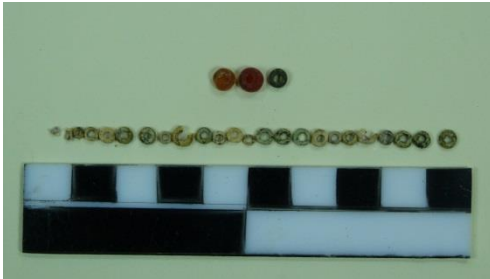
(Fig. 17) camel statue from deposit <2100>



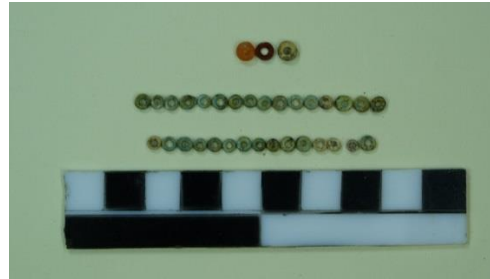
(Fig. 18) Iron fragments from deposit <2100>



(Fig. 19) One bronze ring, one bracelet and one bronze fragment (probably part of earring) from deposit <2116>



(Fig. 20) Fiancé and stone beads from deposit <2140>



(Fig. 21) Fiancé and stone beads from deposit <2140>



(Fig. 22) camel statue from deposit <2164>



(Fig. 23) Three bronze rings or small bracelets from deposit <2178>



# 10. Appendix C

## C14 Results



**BETA ANALYTIC INC.**  
DR. M.A. TAMERS and MR. D.G. HOOD

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### REPORT OF RADIOCARBON DATING ANALYSES

Mr. Majed Turki Alonazi

Report Date: 7/2/2013

Durham University

Material Received: 6/13/2013

Sample Data	Measured Radiocarbon Age	<sup>13</sup> C/ <sup>12</sup> C Ratio	Conventional Radiocarbon Age(*)
Beta - 351096 SAMPLE : KSTS20120009 ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid 2 SIGMA CALIBRATION : Cal BC 1860 to 1850 (Cal BP 3810 to 3800) AND Cal BC 1770 to 1660 (Cal BP 3720 to 3610) Cal BC 1650 to 1640 (Cal BP 3600 to 3590)	3440 +/- 30 BP	-26.0 o/oo	3420 +/- 30 BP
Beta - 351097 SAMPLE : KSTS20120010 ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid 2 SIGMA CALIBRATION : Cal BC 700 to 700 (Cal BP 2650 to 2650) AND Cal BC 540 to 530 (Cal BP 2490 to 2480) Cal BC 520 to 400 (Cal BP 2470 to 2350)	2150 +/- 30 BP	-10.4 o/oo	2390 +/- 30 BP
Beta - 351098 SAMPLE : KSTS20120011 ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid 2 SIGMA CALIBRATION : Cal BC 400 to 350 (Cal BP 2350 to 2300) AND Cal BC 290 to 230 (Cal BP 2240 to 2180) Cal BC 220 to 210 (Cal BP 2170 to 2160)	2270 +/- 30 BP	-24.7 o/oo	2270 +/- 30 BP
Beta - 351099 SAMPLE : KSTS20120012 ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid 2 SIGMA CALIBRATION : Cal BC 1880 to 1840 (Cal BP 3830 to 3790) AND Cal BC 1830 to 1690 (Cal BP 3780 to 3640)	3490 +/- 30 BP	-27.2 o/oo	3450 +/- 30 BP

Dates are reported as RCYBP (radiocarbon years before present, "present" = AD 1950). By international convention, the modern reference standard was 95% the <sup>14</sup>C activity of the National Institute of Standards and Technology (NIST) Oxalic Acid (SRM 4990C) and calculated using the Libby <sup>14</sup>C half-life (5568 years). Quoted errors represent 1 relative standard deviation statistics (68% probability) counting errors based on the combined measurements of the sample, background, and modern reference standards. Measured <sup>13</sup>C/<sup>12</sup>C ratios (delta <sup>13</sup>C) were calculated relative to the PDB-1 standard.

The Conventional Radiocarbon Age represents the Measured Radiocarbon Age corrected for isotopic fractionation, calculated using the delta <sup>13</sup>C. On rare occasion where the Conventional Radiocarbon Age was calculated using an assumed delta <sup>13</sup>C, the ratio and the Conventional Radiocarbon Age will be followed by "\*\*". The Conventional Radiocarbon Age is not calendar calibrated. When available, the Calendar Calibrated result is calculated from the Conventional Radiocarbon Age and is listed as the "Two Sigma Calibrated Result" for each sample.

## CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26;lab. mult=1)

**Laboratory number: Beta-351096**

**Conventional radiocarbon age: 3420±30 BP**

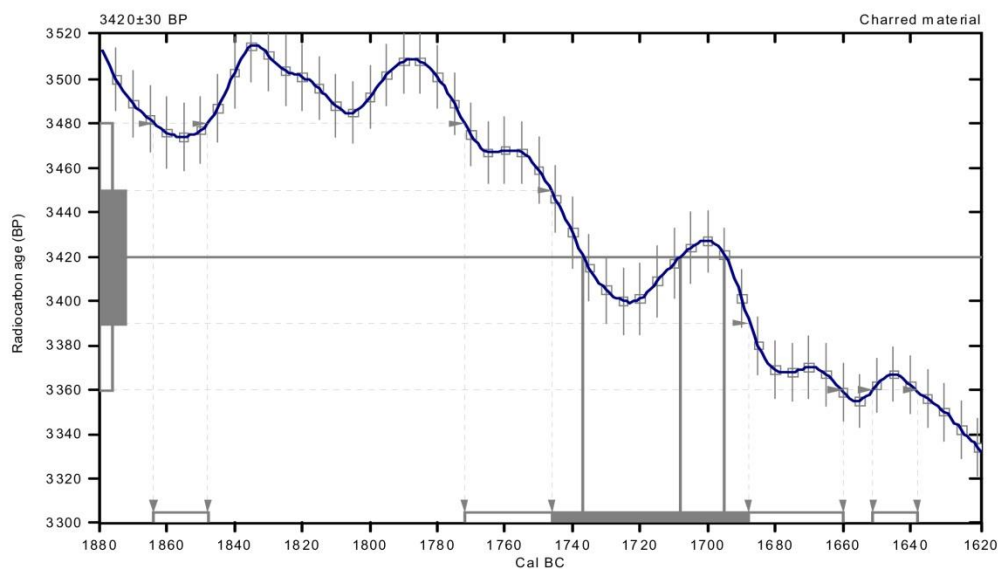
**2 Sigma calibrated results: Cal BC 1860 to 1850 (Cal BP 3810 to 3800) and  
(95% probability) Cal BC 1770 to 1660 (Cal BP 3720 to 3610) and  
Cal BC 1650 to 1640 (Cal BP 3600 to 3590)**

Intercept data

Intercepts of radiocarbon age  
with calibration curve:

Cal BC 1740 (Cal BP 3690) and  
Cal BC 1710 (Cal BP 3660) and  
Cal BC 1700 (Cal BP 3640)

**1 Sigma calibrated result: Cal BC 1750 to 1690 (Cal BP 3700 to 3640)  
(68% probability)**



### References:

#### Database used

INTCAL09

#### References to INTCAL09 database

Heaton, et al., 2009, Radiocarbon 51(4):1151-1164, Reimer, et al., 2009, Radiocarbon 51(4):1111-1150,

Stuiver, et al., 1993, Radiocarbon 35(1):137-189, Oeschger, et al., 1975, Tellus 27:168-192

#### Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

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## CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-10.4;lab. mult=1)

Laboratory number: **Beta-351097**

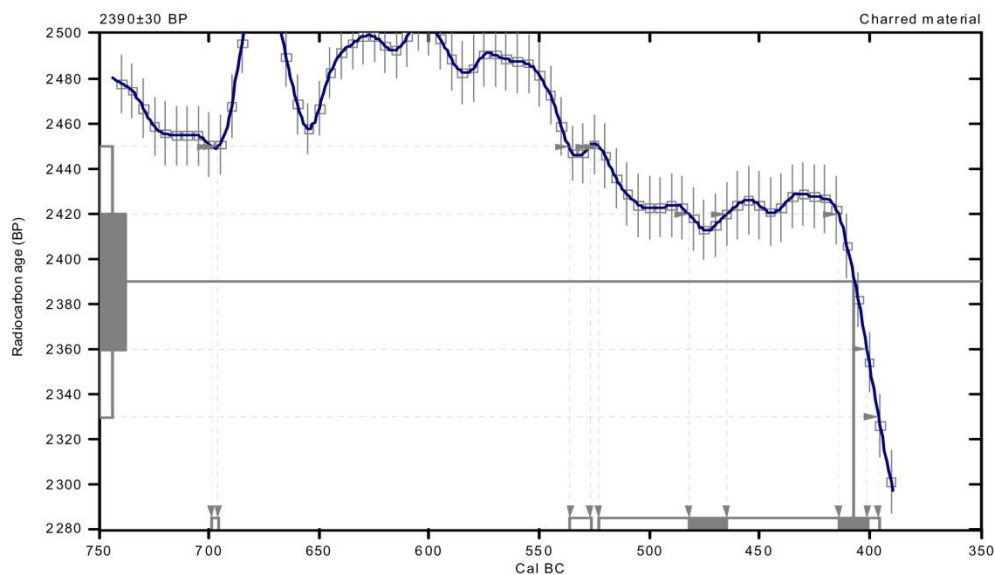
Conventional radiocarbon age: **2390±30 BP**

**2 Sigma calibrated results:** Cal BC 700 to 700 (Cal BP 2650 to 2650) and  
(95% probability) Cal BC 540 to 530 (Cal BP 2490 to 2480) and  
Cal BC 520 to 400 (Cal BP 2470 to 2350)

Intercept data

Intercept of radiocarbon age  
with calibration curve: Cal BC 410 (Cal BP 2360)

**1 Sigma calibrated results:** Cal BC 480 to 460 (Cal BP 2430 to 2420) and  
(68% probability) Cal BC 410 to 400 (Cal BP 2360 to 2350)



### References:

#### Database used

INTCAL09

#### References to INTCAL09 database

Heaton, et al., 2009, *Radiocarbon* 51(4):1151-1164, Reimer, et al., 2009, *Radiocarbon* 51(4):1111-1150,  
Stuiver, et al., 1993, *Radiocarbon* 35(1):137-189, Oeschger, et al., 1975, *Tellus* 27:168-192

#### Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, *Radiocarbon* 35(2):317-322

## Beta Analytic Radiocarbon Dating Laboratory

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## CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.7;lab. mult=1)

Laboratory number: **Beta-351098**

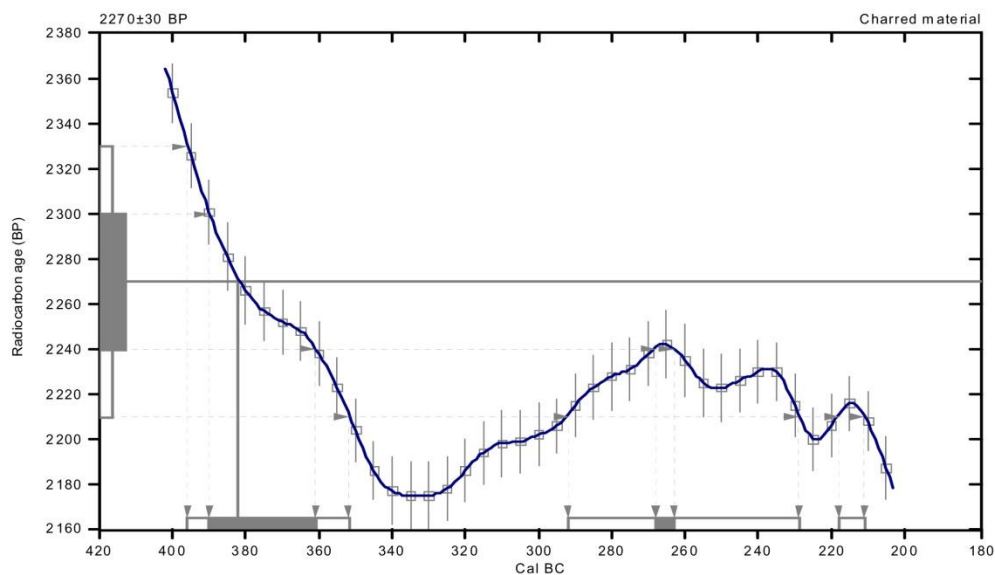
Conventional radiocarbon age: **2270±30 BP**

**2 Sigma calibrated results:** Cal BC 400 to 350 (Cal BP 2350 to 2300) and  
(95% probability) Cal BC 290 to 230 (Cal BP 2240 to 2180) and  
Cal BC 220 to 210 (Cal BP 2170 to 2160)

Intercept data

Intercept of radiocarbon age  
with calibration curve: Cal BC 380 (Cal BP 2330)

**1 Sigma calibrated results:** Cal BC 390 to 360 (Cal BP 2340 to 2310) and  
(68% probability) Cal BC 270 to 260 (Cal BP 2220 to 2210)



### References:

#### Database used

INTCAL09

#### References to INTCAL09 database

Heaton, et al., 2009, *Radiocarbon* 51(4):1151-1164, Reimer, et al., 2009, *Radiocarbon* 51(4):1111-1150,

Stuiver, et al., 1993, *Radiocarbon* 35(1):137-189, Oeschger, et al., 1975, *Tellus* 27:168-192

#### Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, *Radiocarbon* 35(2):317-322

## Beta Analytic Radiocarbon Dating Laboratory

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## CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-27.2;lab. mult=1)

**Laboratory number:** Beta-351099

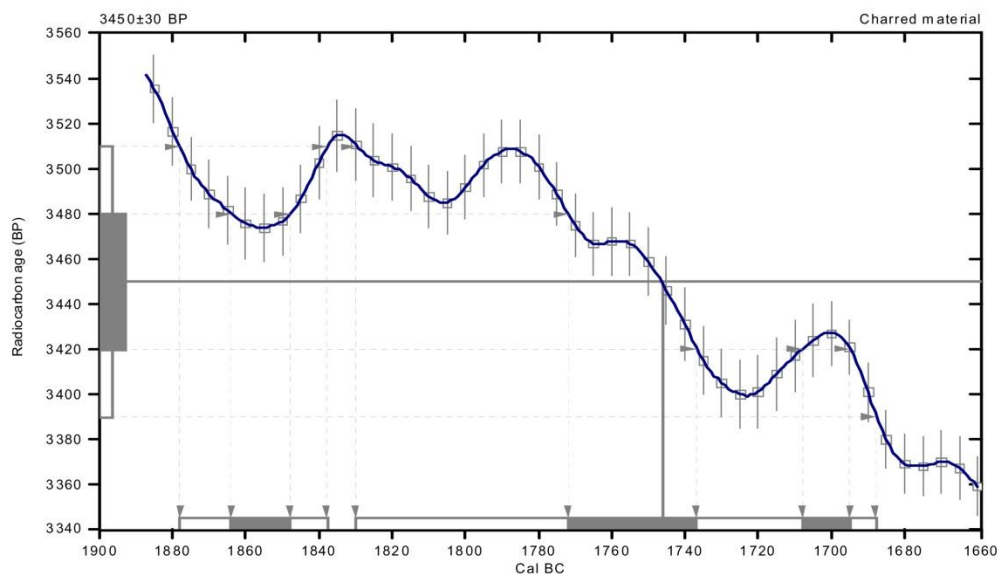
**Conventional radiocarbon age:** 3450±30 BP

**2 Sigma calibrated results:** Cal BC 1880 to 1840 (Cal BP 3830 to 3790) and  
(95% probability) Cal BC 1830 to 1690 (Cal BP 3780 to 3640)

Intercept data

Intercept of radiocarbon age  
with calibration curve: Cal BC 1750 (Cal BP 3700)

**1 Sigma calibrated results:** Cal BC 1860 to 1850 (Cal BP 3810 to 3800) and  
(68% probability) Cal BC 1770 to 1740 (Cal BP 3720 to 3690) and  
Cal BC 1710 to 1700 (Cal BP 3660 to 3640)



### References:

#### Database used

INTCAL09

#### References to INTCAL09 database

Heaton, et al., 2009, Radiocarbon 51(4):1151-1164, Reimer, et al., 2009, Radiocarbon 51(4):1111-1150,

Stuiver, et al., 1993, Radiocarbon 35(1):137-189, Oeschger, et al., 1975, Tellus 27:168-192

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