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The Archaeology of Mapela Hill, South-Western Zimbabwe

[This dissertation is presented in fulfilment of the requirements for the degree of MSc in Archaeology]

Supervised by Professor Shadreck Chirikure

Declaration

This is to certify that the results and conclusions presented in this thesis are my own and where the work of others has been used it has been properly referenced. This thesis has not been submitted for a degree at any other institution.

Michelle House
February 2016

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This dissertation is dedicated to my late mother, Sharon House 1962-2014 who never got to read the final draft. You are the determination behind every page.

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Abstract

The Middle Iron Age in southern Africa has long been associated with the development of class distinction and state formation. However, most research focus has been on K2 and Mapungubwe in the Middle Limpopo Valley, the presumed first state capitals of the region. Mapela Hill is a site located outside the Middle Limpopo in south-western Zimbabwe. Preliminary excavations at the summit of the hill by Peter Garlake in 1968 have resulted in archaeologists drawing contrasting conclusions about the position of the site in the development of complexity in the region. The problem is that we do not have sufficient evidence to support or deny these theories. To build on Garlake's important work, excavations from the foot of the hill to the hill summit were executed. This study has used a combination of theories and analyses in order to classify the material cultural objects recovered at Mapela Hill. Ceramic studies have been used to identify the cultural groups which occupied the site and tight radiocarbon dates were established, giving insight to the chronology of the site. The results showed that Mapela Hill was occupied by the same groups as at Mapungubwe Hill and other sites, contains vast revetment stone walling, successions of thick solid *dhaka* hut floors and an abundance of traded glass beads, attributes which identify state formation in the region when found at centres of power. The radiocarbon dates revealed that the site was occupied before, during and after the abandonment of Mapungubwe Hill. These results call for more research at relatively unknown sites in the region as a progression towards a better understanding of the development of state formation in the Shashe Limpopo confluence.

Chapter 1: Introduction

The rise of complex state systems in the southern African Iron Age has been a hotly debated topic amongst archaeologists over recent decades (Calabrese, 2005; Chirikure *et. al* 2011; Chirikure *et al* 2013; Kim & Kusimba, 2008; Huffman, 2011; 2014; 2015). Drawing from global archaeology, conventional understanding suggests that trade, labour, and production is regulated by a 'state'. According to Trigger (2003: 92) a state can be defined as "a politically organized society that is regarded by those who live in it as sovereign or politically independent and has leaders who control its social, political, legal, economic and cultural activities". This means that the state has control over these processes and this would be reflected in the material culture (Monroe, 2013: 19). In order to identify the level of state organization, and map its evolutionary trajectory, studying these material objects would be a good place to start.

Using this framework, Monroe (2013) investigated the transition from egalitarian societies to complex states in various areas of Africa. In the Nile valley, a region which produced the earliest states in Africa (Hassan, 1997), archaeologists believe that favourable environmental conditions allowed for craft specialisation, the surplus production of crops and an increased population, resulting in stratification and complexity. Alternatively, Savage (1999) suggested state formation in the Nile Valley arose from the introduction to long distance trade. In Eastern Africa, sites with access to the Indian Ocean trade network introduced the construction of elite towns leading to a more stratified and socially and politically complex society (LaViolette & Fleisher, 2005; Kusimba & Kusimba, 2005). In Central Africa, a combination of environmental conditions, foreign trade and craft specialisation all contributed to stratification and complexity (Vansina, 1990). According to Yoffee (1993), the main problem with the current neoevolutionism approach to the development of states in archaeological theory is that social, political and economic organization were bundled together and therefore are assumed to change together at the same time in the same place, in the same direction. He states that these three forms of power work in unison and the state does not rest on one of these alone. Furthermore, the understanding of state formation in any region must be constantly re-interrogated as new sites are discovered and new material culture is analysed. This

allows archaeologists to take a step back and to re-address the larger framework. As a result, frameworks are changed and challenged ultimately resulting in a more refined knowledge of past state systems.

For over forty years in southern Africa, a linear framework for the rise of complexity, supported by observations from a few sites, has remained relatively unchanged (Huffman, 2007). The basis of this framework is that state formation is rooted in the Shashe-Limpopo Basin and is associated with the Leopard's Kopje Culture. The rise of state formation is reflected by a transition from a site occupation on the flats at K2 to a hilltop occupation at Mapungubwe around AD1220. The capitals of the region chronologically followed a relay of K2 (AD 1000-1220), then Mapungubwe (AD1220-1300) then Great Zimbabwe (AD1300-1450), then in later times Khami (AD1450-1820) (Huffman, 1974; 2007). The view that the settlement moved from K2 to Mapungubwe was originally suggested by archaeologists such as Gardner (1963) after they noticed that when K2 was abandoned, occupation continued on the nearby Mapungubwe Hill. To rationalise this speculation, Huffman (1982) later incorporated a structuralist approach to this framework which emphasised that a population's worldview dictated the layout of a site. This is illustrated by the movement from an occupation on the flats to one on the hilltop separated the elites from the commoners and indicated class distinction. In the new state, the king also became responsible for rainmaking ceremonies and this illustrated an ideological shift where the king formed a link to the ancestors. During its time, this framework provided a solid contribution to understanding the rise of complexity in southern Africa. However, neither the original suggestion by Gardner nor the speculation by Huffman based on it, have ever been criticised in full (Mitchell 2002; Manyanga 2006; Van Waarden 2011; Pikirayi 2013; Chirikure *et al*. 2013; Chirikure *et al*. 2014).

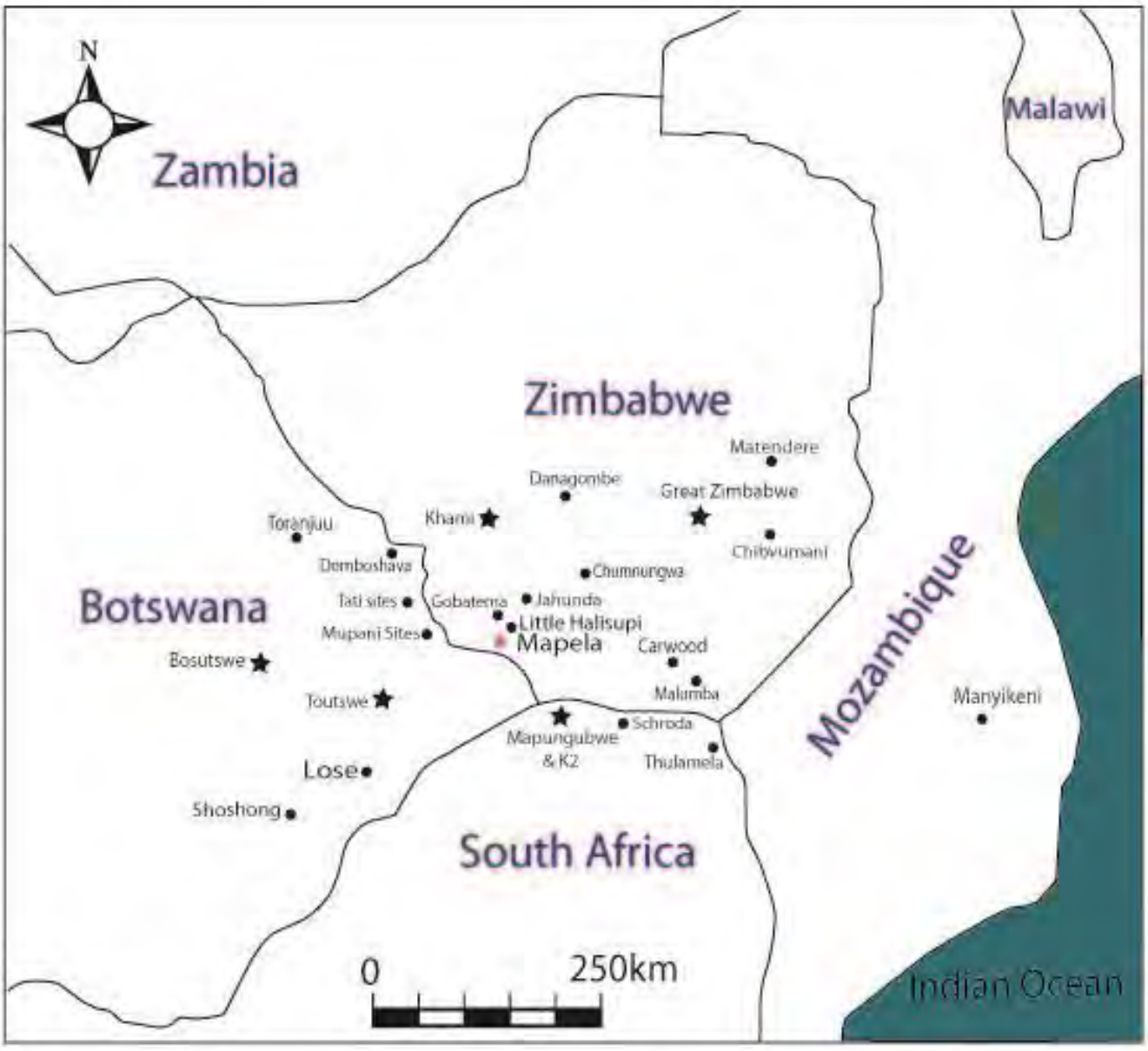


Figure 1: The distribution of major Iron Age sites in the region.

Figure 1 shows a map of Iron Age sites in the confluence of Zimbabwe, Botswana and South Africa and adjacent regions. The 'starred' sites are commonly studied sites often cited in journal papers and thought to be regional capitals at various periods of time. As seen in the map, there are in fact many other sites situated in the region which archaeologists commonly talk about, however most of these sites have never even been excavated. In fact, this has been highlighted by archaeologists such as Garlake (1968), Van Waarden (1998; 2011) and Robinson (1959) for decades. These archaeologists have run expeditions and surveys of the region identifying sites, however, the publications have not been fully incorporated into dominant frameworks. A lack of other sites being incorporated into frameworks has resulted in recycling

of knowledge where new information has not had the opportunity to refine nor challenge the conventional framework. This has resulted in a position where knowledge of state formation has been hindered, and the development of Iron Age studies is stagnant (Fredriksen and Chirikure 2015).

Despite the potential of multiple sites in the region illuminating socio-political complexity (Van Waarden 2011), research has mostly focused on one area: the Middle Limpopo Valley because of years of research at K2 and Mapungubwe and an absence of research at other sites in the region. It is unlikely that the earlier expression of class distinction is unique to Mapungubwe alone (Van Waarden 2011; Chirikure *et al*. 2013). However, if state formation is attested at sites other than Mapungubwe, what are the relationships between those places and Mapungubwe? This gap in research is the motivation behind this study. It seeks to understand the archaeology of the little studied site of Mapela located in the Shashi region of south-western Zimbabwe.

Mapela Hill itself is a prominent gneiss kopje over 90m high and the summit is 0.8km in circumference (Garlake 1968). It is defined by extensive dry stone walled terraces from the base of the hill to the summit. Some of the terraces are up to two meters high (Chirikure *et al*. 2014). On top of these drystone walled terraces are drystone built platforms where houses with solid *dhaka* foundations were built. Excavations on the summit of the hill by Garlake (1968) suggest that major ceramic phases such as K2 and Mapungubwe are represented together with glass beads identical to K2 and Mapungubwe series as defined by Wood (2005). More importantly, Mapela has a succession of thick *dhaka* hut floors made of hard plaster commonly known as Zimbabwe cement (Garlake 1968). Because Mapela has both K2 and Mapungubwe pottery, it offers an opportunity to understand the development of socio-political complexity in another area of southern Africa to allow for comparison with the Middle Limpopo, north-eastern Botswana and other areas in southern Africa.

The aims and objectives of this study are:

1) To build onto Garlake's work and provide an archaeological report on the archaeology of Mapela Hill by examining the ceramics, fauna, beads, stone walls, metals and structures at the site.
2) To identify which Leopard's Kopje groups are represented at Mapela Hill.
3) To identify the sequence of occupation through time and space at Mapela Hill.

The aims of this study were addressed by using a combination of standard archaeological theory and methods. The methodology involved desktop studies, fieldwork, laboratory analysis of ceramics as well as faunal and bead classification and preliminary analysis of stone architecture and metals. Published literature on Mapela Hill (Garlake 1966, 1968) was consulted prior to excavation to identify suitable areas for digging. The selected portions were also extensively surveyed to record the most salient features and traces of human activity. After the excavations, ceramics were analysed using the multi-dimensional approach popularised by Huffman (2007) for easy comparability of results. The fauna was examined using a combined method of Plug & Voigt's (1985), Plug & Pistorius' (1999), Beukes' (2000) and Hutten's (2005) methodology. The glass beads were classified according to Woods' (2005) classification while dry stone analysis followed Whitty (1961). These methodologies have been used extensively in the region and are therefore suitable to provide a regional approach for this study. The results of the ceramics, fauna, glass beads, metals and stone architecture were then discussed in relation to existing data from the Middle Limpopo Valley (Calabrese 2007), north-eastern Botswana (Denbow 1990; 1999; 2008), south-western Zimbabwe (Robinson 1959) and south-central Zimbabwe (Sinclair 1987; Pikirayi 2001; Manyanga 2001, 2006) to develop a more balanced picture of the development of complexity in the region.

Organisation of the thesis

Chapter Two discusses archaeology and complexity in a global context. This study aims at providing a regional understanding and therefore, sites from eastern Botswana, south-western Zimbabwe and northern South Africa will be incorporated. Chapter Three provides information already known about Mapela from

Garlake's (1968) excavations. This chapter will include what material culture exists there and what conclusions have been drawn about the sites thus far. Chapter Four discusses the data collection used in this study. This includes the fieldwork strategies, surveying techniques, mapping and excavations conducted at Mapela Hill. Chapter Five presents the ceramic theory used in this study, and then presents the results of the ceramic analysis. Chapter Six presents the theory and results of the glass bead analysis. Chapter Seven presents the analyses and results of the fauna, stone walling, metals and *dhaka* remains. Chapter Eight is the discussion where implications of these results will be discussed. Chapter Nine presents concluding remarks of this study, identifying limitations and future directions.

Chapter 2: The Archaeology of Southern Africa

2.1 Introduction

The evolution and flourishing of cultural behaviours associated with state formation and socio-political complexity is a topic of huge archaeological significance (Calabrese 2007; Denbow *et al*. 2008; Kim and Kusimba 2008; McIntosh 1999; Monroe 2013; Stein 1998; Yoffee 2005). The trajectories taken by each region differ from time to time, which offers opportunities for cross regional comparison. Because studies of socio-political complexity in southern Africa are an offshoot of mainstream archaeological studies, it is crucial to summarise evidence from various areas before presenting that from the region around Mapela. Once this has been established, a discussion will be provided tying together frameworks used, and identify gaps in current southern African research.

2.2 Complexity: Brief Examples from South America, Egypt and Mesopotamia

Both the New and Old Worlds have varying evidence of socio-political complexity and state formation. The main approach to complexity is largely influenced by Gordon Childe who identified a list of traits that may act as identifiers for complex states (Childe 1950). These include monumental architecture, literacy and a presence of a bureaucracy. In addition to these identifiers, archaeologists have theorised factors that stimulated the rise of complexity. These include external long distance trade, agriculture and a change in environment. A brief survey of case studies in the world reveals that these causes and identifiers have been used with varying degrees of success.

In South America, evidence for the evolution of socio-political complexity is abundant (Haas, 1978). Perhaps the most studied states are the Inca (15th to 16th century AD) and the Mayan civilizations (2000BC-300AD). Religion has proven to be an important stimulant for the emergence of complexity in these regions. Across the Andes, archaeologists have discovered over fifty platform mounds consisting of very elaborate

monumental architecture. This led them to investigate the theory of the theocratic state and temple economy (Falkenstein, 1974; Foster, 1981; Gelb, 1969). These religious specialists, identified by the numerous temples existing on the landscape, were able to position themselves to supervise production, accumulation and redistribution of food stuffs and craft items. The elites were in a spatially separated area from the village homesteads and hamlets. Moche, Lima and Nazca, are each major states in this region and were homogenous. The religious ceremonies such as cults can be identified in the archaeological record using ancient writings as well as through burial practices and shrines. Some archaeologists hypothesised that long distance trade gave rise to complexity of these states, however it is now known that within these societies, subsistence production was a more likely driver than trade (Patterson, 1991). The Maya further to the north and the east also produced monumental stone architecture in their time. Being actively involved in trade and craft production, there was a large labour force and therefore bureaucracy to produce such a scale of architecture. Many Mayan archaeological sites are World Heritage sites and their walls still stand today. Calakmul shows centuries of Mayan history and development of political and cultural sequences (Sharer, 1978). The underlying driver of complexity within these regions points to a combination of religion as well as subsistence production (Patterson, 1991)

Ancient Egypt has been intensely studied by archaeologists. The state capitals in this empire date to around 3000BC. Archaeologists have speculated that the onset of complexity in this region was escalated by the discovery of writing. Freeman (2014) speculates that the annual recording of the height of the Nile floods could have encouraged the development of writing, thereby allowing the king to regulate trade, labour forces and collect taxes in a bureaucratic system. The populations in Egypt were obsessed with the king, further enhancing his power. By 2500BC, a myth had developed that the king was the heir of the sun god ‘Ra-Ra’ and from this period, great pyramids took generations to build and were used as tombs for deceased kings (Freeman, 2014). Other archaeologists have turned to environmental change to explain the onset of complexity. Paleo environmental data suggests that as the Sahara became more dry and uninhabitable, populations settled around the Nile because of its attractive nature for agriculture as a result of the annual flooding of the Nile River (Monroe, 2013). This allowed for a surplus production of crops and a resultant

population increase led to small political centres existing along the Nile River. As populations and political centres grew towards the north and south of the river, so competition arose. Kemp (1989) noticed a difference in burials and architecture and using these attributes, was able to identify state formation and class distinction. Savage (1999) suggests that state formation was a result of competition to access long distance trade with Mesopotamia. In this example, we see various attributes coming into play to encourage complexity. The location of Upper Nubia in relation to the Mediterranean and sub Saharan areas, literacy, a change in environment as well as competition drove state formation in this region.

Mesopotamia was a major civilization by 3000BC. Archaeologists have investigated the rise of major states in this region and have concluded that a combination of circumstances created inequalities, thus leading to state formation. Regulation of irrigation and surplus storage, flow of scarce resources over long distance, and the local exchange of goods were all controlled by the state (Yoffee, 1979). Population studies conducted by Johnson (1972; 1973; 1975) shows the importance of local exchange and decision-making systems within these states. As in Egypt, writing is thought to have been introduced to monitor international trade as well as tax collection. These writings have provided archaeologists with a great depth of knowledge on the function of these states.

2.3 Complexity: Sub-Saharan African examples

In East Africa, many settlements flourished between the eighth and fifteenth centuries because of the access to trade to the Indian Ocean and thus became major trading centres. The Swahili towns such as Manda, Shanga and Kisiwani were diagnosed as a central elite surrounded by commoner areas noted by their wattle and daub structures (Horton *et al* 1996; LaViolette & Fleisher, 2005). For a long time, it was thought that these Swahili traders were sent to these elite cities to trade, however with more excavations it became clear that these cities were of an internal origin. The construction of mosques by Bantu groups in these regions gave indicators of the adoption of Swahili amongst the local inhabitants. This allowed for a common

language which allowed these groups to trade on a wider spectrum and thus reinforced social differences (Robertshaw, 2003).

In central Africa, archaeological data is somewhat limited. However, along the eastern edges of the Congo Basin, many sites have been found. Vansina, (1990) turned to oral traditions and kings lists to conclude that these polities emerged from agriculture, iron production and internal long distance trade sometime in the fourteenth century AD. Archaeology from the Upempa Depression on the edges of the Congo Basin show that more than 50 sites exist with 300 burials being found (de Maret, 1977; 1992). Burials at these sites show a clear separation of classes by the end of the first millennium with some containing copper wires and elaborate ceremonial axes. Importantly, in this region, there is little evidence for contact with international borders and this implies an internal trigger for complexity rather than one of external factors.

Archaeologists have also discovered sites which do not fit the standard template of complexity. In West Africa, McIntosh (1999) has investigated the site of Jenne Jeno in the Inland Niger Delta. Previously, this region was thought to have been occupied by mobile dwellers and dispersed homesteads, showing no indications of complexity. Her excavations at Jenne Jeno shows that in fact, this region displays some of the earliest agriculturalists, highly intensely occupied clusters of homesteads and rapid population growth, dating from 250BC through to AD1400. In fact, two sites at opposite ends of the Niger Delta, Ja and Jenne Jeno, each contain the same ceramic and iron assemblages. Ethnographic data has revealed that migrants from Ja founded Jenne Jeno which would account for the same economic activities being recovered at both of these sites. Internal development in the Niger Delta is evident in the access to trade of Mediterranean glass beads by AD400, gold trade at AD900, and brass, glass and spindle whorls being traded at AD1000. One puzzling attribute at this site is that no grave goods were recovered in early or later burials. Further, no evidence of subsistence intensification or monumental architecture has been recovered (McIntosh, 1999). According to McIntosh (1999) this case study raises one particular problem which archaeologists are facing today; that current frameworks are only applicable to specific complex sites. Ann Stahl (2005) concludes that as a result of focusing on iron-using sites in sub-Saharan African archaeological sites, we

have skimmed out the variation having a focus on great architecture and privileged towns. The investigation of sites which do not conform to conventional frameworks, forces archaeologists to fill the gaps with more excavations and more generation of knowledge.

By conducting a survey of research surrounding complexity issues on a global scale, it is clear that different triggers for complexity exist at different areas, on various scales. The major triggers include environmental change, literacy, international trade and religion. These have been expressed in the archaeological record in forms of burials, monumental architecture, traded objects and population size. It is also clear that more than one trigger can occur contemporaneously within one state.

2.4 Complexity in Southern Africa

While other regions had the benefit of many researchers interested in socio-political complexity, southern Africa has attracted very few researchers with the consequence that the thinking of Huffman (1982; 2007) has tended to dominate. This section reviews the archaeology of southern Africa paying attention to developments in Botswana, South Africa and Zimbabwe. Thereafter, the evidence is discussed in light of what is known from outside the continent to identify gaps in current understandings of socio-political complexity. If one examines southern Africa as a whole, it is clear that the region is very rich with evidence of material culture, monumental architecture and craft production (Pikirayi, 2011). The hundreds of sites existing on the landscape perhaps contributes to the difficulty of untangling the interactions and migrations which occurred here. For analytical convenience, this section has been separated into the three regions relevant to this thesis, namely, Botswana, South Africa and Zimbabwe, discussing the archaeology of each region in turn. Although these are modern day boundaries, it is important to remember that these boundaries did not exist on the landscape during the Iron Age. It is conventionally understood that there were at least five different chiefdoms which existed on the landscape, some contemporaneously. Some of these settlements are Zhizo (AD600-900), Leopard's Kopje (AD1000-1300), Toutswe (AD900-1500),

Zimbabwe (AD1300-1450) and Khami (AD1450-1820) (Huffman, 2007). Note that Leopard's Kopje have been separated into a northern extension (Woolandale) and a southern extension (Mapungubwe).

2.4.1 Botswana

Up until the 1970s, eastern Botswana was thought to be an unattractive, inhabitable landscape for Iron Age agriculturalists to settle. A reason for this may have been a focus by Africanist archaeologists on the spread and migration of Bantu speaking peoples in the broader regions of eastern, central and southern Africa (Segobye, 1998). Because Botswana was not included in this area of research, archaeological discoveries in the region were not made until the 1980s when Denbow (1986) established a radiocarbon dating sequence for a few of the sites in the area. As a result of this, archaeologists realised that Botswana was in fact an intensely occupied area by hunter-gatherers as well as early farmers and the preconception that the area was only occupied from the Late Iron Age was not actually true.

Research by Denbow (1986; 1990; 2008) in north eastern Botswana exposed evidence of socio-political complexity in the region. Archaeological surveys revealed the presence of a hierarchy of three settlement types in the Toutswe chiefdom. Class 1 sites were the smallest and possessed the smallest central middens ranging from 1000 to 5000 m^2 and were located either on hilltops or low lying areas. 75% of the 159 Class 1 settlements around the Zhizo site of Toutswe (AD900 to 1500) contain central dung deposits surrounded by *dhaka* houses and grain bins. Radiocarbon dates suggest that these sites were occupied for some 50 years before they were abandoned. Class 2 sites such as Thatswane and Taukome were comparatively larger than Class 1 and were situated exclusively on hilltops. Toutswe was the biggest (Class 3) and was also located on the hilltop. The difference in size, location and length of occupation of the different sites in different classes suggests that a social and economic network existed where more powerful inhabitants occupied the larger sites for a longer time. Further, the distribution of Class 2 and 3 sites indicates that sites lower on the political hierarchy were located farther away from those higher on the hierarchy (Denbow, 1986).

The evidence from this work convinced Denbow of the presence of numerous triggers for socio-political complexity in this area. No gold was found at Toutswe while only a small amount of ivory was recovered. This implicated cattle raising as the major stimulant for emerging inequalities in the region (Denbow, 1986). This is supported by the deep vitrified dung layers excavated at Bosutswe (Denbow *et al* 2008).

Bosutswe yielded one of the longest Iron Age sequences of occupation at one site south of the Zambezi and was occupied from AD700-1700 (Denbow, 2008). Denbow's (2008) studies reveal that Bosutswe contains over 200 stone features, which include grain bin foundations and semi-circular stone walls; glass beads and cowry shells indicating trade with the Indian Ocean at AD800-1200; as well as bronze and gold objects dating to around AD1300. XRF analysis of the bronze objects resulted in percentages which are not within the range of Mapungubwe tin percentages and suggestively, these groups could not have used Mapungubwe bronze to manufacture their bronze products (Denbow, 2008). Denbow's (2008) work revealed that an elite/subordinate relationship existed at Bosutswe where an elite post AD1300 Lose precinct on the hill top is coeval with a subordinate and lower Toutswe precinct. Elites are separated from subordinates spatially, by the exclusive access to bronze, residence type and trade goods. Denbow's (1990; 1999; 2008) results are inconclusive in identifying whether the elite occupation was a result of newcomer Mapungubwe elites which migrated west to Bosustwe, or if the local Toutswe elites incorporated international trade into their ideology.

Lepionka (1977) continued Ellenberger and Van Riet Lowe's work at Toutswemogala in the 1970s. Toutswe is a flat-topped hill located in eastern Botswana. Owing to the large amounts of vitrified dung at the site, archaeologists have concluded the vital importance of cattle rearing in this region. On the surface, material cultures such as stone walling, granary foundations and heaps of slag can be found. Excavations on the summit of the hill, in a concave north of the stone wall revealed 7 child burials and one adult burial. Radiocarbon dates collected from a hut floor just above the bedrock layer revealed the earliest date of the site at AD1090. Towards the top of the trench, the dates are around AD1500. Lepionka (1977) did not conclude a function of the wall, but speculated it may have been a *kgotla* or a public meeting area. The site

contains a primary and secondary occupation however it is not known if the two occupations existed contemporarily, or if the latter replaced the former. The primary occupation ceramics showed affinities with the K2/Mapungubwe groups and the secondary occupation ceramics showed a northern Transvaal influence. Nonetheless, the rich material culture such as spindle whorls and metals show that this site was self-sufficient on foodstuffs and technology. Copper and glass were trade goods, however, the rareness of glass beads indicate the site was not actively involved in international trade.

Van Waarden (1998) conducted important research which contributes to the understanding of socio-political complexity in the Francistown area of Botswana as well as regions extending to the Shashi-Limpopo. Research at Mmamagwe which lies on the Motloutse-Limpopo confluence in eastern Botswana exposed thick archaeological deposits and stone walling on a small hill, which contains a few cattle kraals. The site has been dated to AD1033. The Bobonong road site which dates to AD1269 is interpreted as a commoner site containing Mapungubwe ceramics, glass beads, copper and iron. In the Francistown area Silolwe Hill contains massive stone terracing of up to 2m high which increased the habitable space of the site. The walling implies a level of organization of labour on a reasonably large scale (Van Waarden, 1998). At the base of the Leopard's Kopje occupation, a date of AD1252 was obtained. The ceramics recovered from this level were mostly Woolandale ceramics defined by features such as interlocking triangles and lined chevron decorations on the neck of vessels. Overlaying the Leopards Kopje occupation on the hilltop, a Khami house platform rests showing that this site was occupied for most of the Iron Age.

Van Waarden (2011) combined existing information and new research in and around the Francistown area of Botswana. She studied a significant number of Leopard's Kopje and Zimbabwe sites and concluded that drystone walling in the area started earlier than in most regions of southern Africa. Evolving from terraced walls, free standing walls of the Zimbabwe tradition had been established by AD1250. As a result of surveys, more than 49 stone walled sites occupied by northern Leopards Kopje groups were identified. Four of these have been dated, ranging between AD1184-1298. By documenting and radiocarbon dating these four sites, Van Waarden (2011) was able to suggest an evolution of stone masonry through time. This

walling progression begins with a simple enhancement of natural edges in order to create habitable space seen at Tholo, to massive terraced walls retaining artificial platforms on steep-sided slopes such as those seen at Dinokwe. Gradually through time, coursing is introduced and later, freestanding walls were constructed to create enclosures seen at sites such as Mupanipani Ruin. As a result of these surverys, Van Waarden (2011) proposes that the origin of the Zimbabwe stone walling lies in the Tati cluster rather than at Mapungubwe. This is because northern Leopards Kopje groups in the Tati cluster as at Toutswe were already keeping their livestock on hilltops, and a need for more habitable space resulted in modification of the slopes using walled terraces. Thus, the walling and gold found at Mapungubwe, was more likely to have originated in the Tati cluster (Van Waarden, 2011).

While most Leopard's Kopje sites are directly succeeded by Khami, Zimbabwe type walling also exists. Some of the post Leopard's Kopje sites combine features of the Zimbabwe culture (free standing walls) as well as those of Khami (retaining walls). This combination has been identified by Van Waarden (2011) at Mupane East, Dinokwe and Tholo. Each of these sites are hilltop sites containing retaining walls on the slopes of the hill, and freestanding walls at the summit of the hilltop. Some freestanding walls create entranceways and enclosures to various areas of the sites.

In summary, research by Denbow (1986; 1990; 2008) and Van Waarden (1998; 2011) has indicated that Zhizo and Leopard's Kopje people occupying Botswana established chiefdoms and early states. This dynamic landscape contained both Toutswe and Leopard's Kopje groups. Although the interaction between these groups has not been evaluated in detail, the evidence suggests that the area in eastern Botswana was a socially and politically complex one. The main ingredients popularly used to identify complexity are Zimbabwe type stone walling, a hilltop occupation, an intensive involvement in the glass bead trade and *dhaka* structures. This section has shown that these features exist at sites all over eastern Botswana and earliest in the Tati cluster. Contrary to the longstanding theory that only three capital states existed on the landscape in the Middle Iron Age, namely Mapungubwe (AD1220-1290), Great Zimbabwe (AD1300-1450) and Khami (AD1450-1830), an analysis of the archaeological evidence suggests that the rise of

complexity extends beyond the borders of Mapungubwe. The next section will present archaeological evidence in south-western Zimbabwe and northern Zimbabwe.

2.4.2 South-western Zimbabwe and Northern Zimbabwe

The main chiefdoms which existed in south-western and central Zimbabwe are the Zhizo, Gumanye, Woolandale, Mapungubwe, Zimbabwe, and Khami chiefdoms (Van Waarden, 1998; Beach, 1980). Robinson (1959; 1961; 1965; 1982; 1985) made a massive contribution to understanding archaeological sites in Zimbabwe by conducting surveys and excavations in the region. State formation in south-western Zimbabwe is conventionally understood to have originated at Mapungubwe Hill. Identifiers for complexity include, a hilltop occupation, stone walling, involvement in foreign trade and the Zimbabwe Culture Pattern layout of the site. At most sites in south-western Zimbabwe, Zhizo, Leopards Kopje and Khami material culture can be seen in sequence.

International trade increased significantly at around the same time as Zhizo groups were forming state capitals at around AD900 (Huffman, 2007). The existence of a large cane bead at Zhizo Hill suggested to Robinson (1965) that it was possibly a prototype for the garden roller beads at K2. There is no stone walling at Zhizo Hill or York ranch, however this may not be universal because walling exists at other Zhizo sites such as Fumbaje and Ngwapani Hill. Zhizo Hill and York Ranch are of a similar date but whilst some sites dating to this period were open air sites, the majority of them are closed, sheltered sites. At Leopard's Kopje Main Kraal, a Zhizo occupation was encountered at the lowest levels of excavation by Huffman (1971). The date obtained from a storage pit was AD820±95 (I-4862). Material culture associated with this occupation included copper bangles, numerous glass beads, iron slag, *dhaka* rubble and goat and sheep teeth (Huffman, 1971).

Taba Zikamambo contained a ubiquitous presence of stone walling. On top of the hill at Taba Zikamambo, coarsed walls of Khami style associated with polychrome pottery exists (Robinson, 1965). This site was

occupied for a long period of time, however, it is unclear whether more than one phase of a Leopard's Kopje occupation exists here. In certain areas of the site, uncoarsed walling also exists and this was constructed by earlier inhabitants. Glass beads found at Taba Zikamambo are similar to those in the western enclosure at Great Zimbabwe and are characteristically opaque (Robinson, 1965).

Leopard's Kopje Main Kraal was excavated by Huffman (1974). It is located near Khami Ruins at the foot of a granite outcrop. As a results of three trenches being excavated, Huffman (1974) concluded that this was a northern Leopard's Kopje site. Hundreds of glass beads were recovered showing an active involvement in international trade with the East. These beads were mostly small snapped canes (Huffman, 1974). Faunal analysis revealed that cattle was an important attribute to the site as the faunal assemblage was mostly comprised of cattle. Craftsmanship was evident in the number of iron tools and copper bangles recovered in excavation. Radiocarbon dates were established from this site and Huffman (1974) was able to develop a sequence of occupation as follows: Zhizo phase: 7th century-9th century AD; Mambo phase: 10th century- 13th century AD and Woolandale phase: 13th century-15th century AD.

Woolandale is also a northern Leopard's Kopje type site located approximately 10 miles south west of Bulawayo and dates to around AD1290-1420 (Huffman, 2007). The ceramic tradition encompasses the area from Bulawayo towards Francistown in Botswana. Woolandale is the dominant ceramic phase which is replaced by Khami phase appearing at around AD1400 according to Huffman (2007). It should be noted that radiocarbon dating information is not sufficiently precise to document this exactly, however the appearance of check designs on walls at Domboshaba (Van Waarden, 1998) and early Khami pottery at Matanga (Van Waarden, 1987) imply this date. Although Woolandale is close to the gold belt, no evidence of gold has been recorded there. The beads are similar to that of Taba Zikamambo, but no earlier beads were found. One engraved bird bone was recovered in excavation. The stone structures recorded are mostly cobbles to support grain bins. Although no stone walling exists at Woolandale itself, stone walling has been recorded at other Woolandale type sites. Enyandeni Farm dates to the same period and exhibits extensive stone wallings (Robinson (1965). These walls have also been observed at sites such as Nali Hill. This is a

ruin site with uncoarsed stone built enclosures. Interestingly enough, some areas of the walls are coarsed and resemble that of Khami walling. The excavations at Nali Hill suggest that the site had been occupied for most of the Woolandale phase (Robinson, 1982). According to Robinson (1982) there is no doubt that Woolandale had some sort of cultural and ethnic link to Mapungubwe Hill. The basic system was essentially the same between the two groups however slight differences in the ceramics and economy were probable. The system at Mapungubwe Hill described by Huffman (1982) involves villages around a hill, with the hill being the residence of the chief as a means of class distinction which is seen as the back bone of complexity, as well as the existence of stone walls. However, these features are also observed at other Woolandale sites.

Pottery influences have changed through time as a result of the influx of new groups (Robinson, 1965). Robinson (1965) identifies that some kind of economic activity changed too. In Matabeleland in Zimbabwe, this can be seen by the change in hut construction, changes in pottery (an emphasis on beakers, black burnishing and incised decoration) and an increase in stone walling- all reminiscent of K2 and the lower levels of Mapungubwe. Therefore, Robinson (1965) concludes that the idea that these economical changes grew out of Mapungubwe and K2 are probably not correct.

Manyanga (2006) made excellent work placing sites such as Malumba and Mwenezi Farm in the Mateke Hills, Zimbabwe into the regional complex. Both of these sites were occupied during K2 and Mapungubwe periods and are therefore worthy of investigation. In his study, Manyanga (2006) identifies various triggers for complexity in the Shashe-Limpopo Basin. External trade, population agglomeration, architecture as well as the ability of a group to allocate production centres between smiths, smelters, cotton production, traders, crafts and merchants are all factors mentioned to expedite complexity. External trade is thought to be the most important trigger factor however Manyanga (2006) mentions that there needed to be some form of localised wealth for external trade to have taken off. As a result, complexity must have existed before external trade was introduced. A likely localised wealth is that of the ownership of cattle and Manyanga (2006) uses faunal investigations to endorse his argument. Both of these sites are flat-topped hill

occupations, contain stone walling, contain glass beads and contain pole-impressed *dhaka* fragments, all reminiscent of K2 and Mapungubwe.

In central Zimbabwe, the Gumanye occupation is the first occupation by ancestors of stone builders at Great Zimbabwe in what Robinson (1961) has described as Period II (AD900-1000). Evidence of these occupations were also recovered at places such as Gumanye Hill and Chiwova (Sinclair 1987). The Gumanye ceramic facies has been dated to AD1030-1250. Gumanye people also had contact with long distance trade with glass beads being excavated at these sites. Gumanye existed during the same time period as K2 and Mambo.

Pwiti (1996) has conducted extensive research in the Mid Zambezi Valley in northern Zimbabwe. In his preliminary surveys and excavations he discovered 68 previously unrecorded sites. By examining surface collections at most of the sites and conducting excavations at an early farming community site called Kadzi, he discovered the existence of Gokomere/Ziwa tradition as well as the Musengezi Tradition and Great Zimbabwe Tradition occupations. Some sites were occupied as early as the 5th century AD. This shows that conversely to previous ideas about the region being an uninhabitable tsetse fly ridden area, they show a deep cultural history. By examining the different locations of the various Traditions, Pwiti (1996) identified what attracted groups into the Valley. The earlier Gokomere and Musengezi Tradition sites were located close to water amongst agriculturally rich soils and the results showed that each village was self-sufficient and every village had the same settlement layout. The later Zimbabwe Tradition sites were located at the foot of the Zimbabwe escarpment. The spatial pattern reflected through time is the same as that reflected over the rest of southern Africa: the shift from river bank locations in the earlier communities to that of higher locations in later communities.

In summary, the evidence from south-western and central Zimbabwe shows the existence of features associated with complexity: long distance trade, Zimbabwe style stone walling, cattle rearing and *dhaka* structures. Specifically, sites such as Nali Hill, Jahunda, Malumba and Mwenezi Farm give evidence of the

Zimbabwe Culture even before it exists at Mapungubwe (see also Robinson 1985). As with the sites in eastern Botswana discussed in the previous section, Zimbabwe provides further evidence that archaeologists need to look beyond the Mapungubwe landscape to identify frameworks for the rise of complexity and the Zimbabwe Culture. Material Culture being used as a proxy for complexity in the linear framework is not unique to Mapungubwe nor to any other site alone. The archaeology on the ground implies a multi-directional evolution of socio-political complexity (van Waarden, 1998; 2011; Chirikure *et al* 2014; Beach 1998). The next section will present archaeological evidence for the rise of complexity in the Limpopo region of South Africa.

2.4.3 Limpopo region of South Africa

Zhizo people migrated into the Limpopo Basin at around AD900 (Huffman, 2007). Because environmental reconstructions have shown that the landscape would not be suitable for agriculture, it is generally accepted that these groups moved into the region because of another trade. The recovery of ivory and imported glass beads in excavations suggests that these people hunted elephant ivory to trade for glass beads. This hypothesis is strengthened by the existence of Zhizo sites all over the basin in areas relatively unsuitable for agriculture (Huffman, 2014). Schroda was the first settlement in the interior to yield such an abundance of exotic glass beads and for this reason, archaeologists such as Van Waarden (1998) have identified long distance trade as a trigger for complexity in the region.

At the time Schroda was occupied, Chibuene was the trading post used to distribute trade goods around the sub-continent. It is hypothesised that the Limpopo River was used to transport the trade, from sites such as Schroda and then cut over land to Chibuene. Schroda may not have been the capital throughout the Zhizo period as there are other sites which contain as many, if not more trade goods. Sites such as these are Little Muck which is relatively close to Schroda and probably was not contemporaneous with Schroda (Huffman, 2007). Huffman (2000) originally thought that the later levels of Schroda showed a development into a K2 period. However Calabrese's (2000; 2005) analysis of the ceramics showed that K2-like features portrayed

a new ceramic phase called Leokwe. Using this knowledge, it is possible to say that at the later periods of Schroda, a Leokwe occupation exists (Hufman, 2007).

According to Huffman (1978; 1986; 1996), when the Leopard's Kopje groups moved into the basin at about AD1000, most of the Zhizo population migrated into eastern Botswana where a sudden abundance of Taukome sites mentioned previously in this chapter are found. However, a few Zhizo groups remained behind and inhabited within the K2 interaction sphere for over 200 years (Calabrese, 2000; 2005; Vogel & Calabrese 2000). Because their ceramics changed slightly at this time as a result of an interaction with the Leopard's Kopje people, it is now called the Leokwe facies. As a result of population statistics and the fact that Leokwe groups incorporated the K2 style into their ceramics rather than vice versa, Huffman (2014) and Calabrese (2005) concluded that K2 people were the dominant group whilst Leokwe were the subordinate and thus ethnic stratification had been created. Leokwe Hill is located on the farm Little Muck, 7kms south of the Limpopo River and 13 km west of Mapungubwe. Hanisch identified the site in 1973 and Huffman (1986, 1996) interpreted it as a satellite settlement of the main centre at K2. The results from Calabrese's (2000; 2005) excavations at Leokwe Hill show a K2 occupation on top of the hill with a Leokwe occupation wrapped around the basal contours of the hill. A combination of ceramic and settlement data provides a context within which class distinction grew and the final expression saw the full shift to Mapungubwe, the small stylistic re-arrangement of K2 ceramics to Mapungubwe and the abrupt disappearance of Leokwe stylistic expression in ceramics. Calabrese's (2000; 2005) investigations showed that an ethnic stratification occurred at Leokwe Hill before Mapungubwe times. However, later re-examination of the ceramics, radiocarbon dates and glass beads by Huffman (2007) showed that Leokwe Hill was contemporary with Mapungubwe.

Mapungubwe and K2 have been the focus of much research in the Limpopo region ever since Van Graan was shown the site by a local inhabitant of the region in 1933. Since then, publications of the material culture by Fouche (1937), Neville Jones (1937) and Schofield (1937) and the sequences evident in them have dispensed a great amount of information on Mapungubwe Hill. Gardner from 1935 till 1940 conducted

an immense amount of work at K2 and later Mapungubwe and published a new volume of the Greefswald sequence some years later.

K2 was the first major Leopard's Kopje site in the Shashi Limpopo Basin. K2 is a large mound midden which has accumulated over sequential occupations of the site and pre dates Mapungubwe, Radiocarbon dates are set at AD1050±65 (Fagan, 1964). The site consists of a central cattle kraal with the houses being located on the edge of the kraal. Originally thought to have been occupied by Khoe groups (Fouche, 1937), it was later identified that the site was occupied by proto-Kalanga speaking people who brought Leopard's Kopje ceramics into the region. The existence of a large amount of ivory and traded glass beads, more than at any other site dating to that time period, indicates that these groups must have taken over the Indian Ocean trade from the Zhizo groups (Voigt, 1983). K2 people showed craft specialisation and labour management in the manufacturing of their own glass beads by melting down the traded beads. These are commonly known as 'garden rollers' and are exclusively associated with the K2 period (Wood, 2000, 2005; Davison, 1973). According to Huffman (2007), in the Central Cattle Pattern (CCP) the size of the court midden is directly proportional to the political authority of the leader. At K2, we find that there are a huge number of cattle found in the central midden. Contained at the site, is also the irregularly used central kraal, these two factors both attest to the wealth and power of the K2 capital. By AD1220, the court midden had grown to a height of nearly 6m and had become a level-4 capital. More than 70 skeletal burials were found in flexed positions wearing copper bangles and contained many glass beads as well as pots (Van Waarden, 1998).

At AD1220, the abrupt abandonment of K2 coincides with the occupation of Mapungubwe Hill, one kilometre away. According to Huffman (2007), a natural amphitheatre exists at the flats of the hill and this was probably used as the court because this is the only area of the site where residential debris is not found. There is no kraal near the court, with the closest one lying a few hundred meters away. The shift of cattle away from the centre is therefore seen as a real transformation rather than a temporary event. This settlement layout is called the Zimbabwe Culture Pattern (ZCP). In these findings, Huffman (2007)

concludes that social rankings were becoming more distinct at this time. The shift in positioning of the kraal is thought to be due to "a new restricted ownership of cattle and a change in court function." (Huffman, 2007: 373). At Mapungubwe Hill, the chief lived on the apex of the hill. Huffman (2007: 373) states that this is the "first time in the prehistory of Southern Africa that a senior leader was so physically separated from his followers". These elites lived in elaborately constructed *dhaka* houses some with verandahs and walled courtyards. Successive hut floors exist which indicated that the site was inhabited for a long period of time. A stone-walled palace at the centre of the hilltop separated the leader from his followers which inhabited the foot of the hill (Fouche, 1937; Gardner, 1963). Other stonewalling was built to demarcate entrances to elite areas, and boundaries. According to Huffman (2007), these attributes, similar to Great Zimbabwe, show the origins of the ZCP at K2 and Mapungubwe. 'Sacred leadership' had materialised by AD1250. At Mapungubwe's peak, it housed 5000 people and controlled 30 000km² including various district centres (Huffman, 2007). Mapungubwe is an important site in southern Africa showing evidence of the beginnings of social and political complexity (Huffman, 2000). Mapungubwe shows evidence of class distinction with the elite areas containing houses which were extremely well built, glass beads, decorated and polished pottery, gold beads, a golden bowl, rhinocerous and sceptor, and copper bracelets were recovered in burials. This can be compared to an elite childs burial at K2 where thousands of glass beads and seven turquoise beads probably from China were recovered. As beads became more common in the area, the elites moved to a rarer commodity which is why gold was chosen (Kim & Kusimba, 2008).

Initially, gold was probably alluvial gold from the Shashe and Limpopo Rivers, and later was mined gold, probably from the greenstone belt in western Zimbabwe and in Botswana because there are no in situ gold deposits at or around Mapungubwe (Van Waarden, 1998). Excavations revealed large amounts of ivory too, which indicates that this was the original trading commodity (Van Waarden, 1998). Cotton cloth was also a major trading commodity by this time and because of the high demand for cloth, cotton spinning developed (Van Waarden, 1998). According to Huffman (1971) Mapungubwe contains the first spindle whorls showing cotton manufacture, in southern Africa. Below the hill, deeply stratified deposits exist and

this is where the commoners would have resided. Unfortunately, not much is known about these groups as focus has mainly been on the elite areas of sites.

The town planning seen at Mapungubwe was the first identifiable Zimbabwe Culture Pattern which then developed at Great Zimbabwe and later Khami (Huffman, 2007). Huffman (1982) states that the occupation at Mapungubwe is a direct development out of K2. However, Robinson (1965) identified sites in Matabeleland, Zimbabwe which show that the pottery changes coincide with economic changes. These can be seen by a) a change in hut construction, b) changes in the pottery ie. an emphasis on beakers, black burnishing and incised decoration and c) an increase in stone walling. These are all reminiscent of the lower levels of K2 and Mapungubwe and therefore it cannot be true that these changes grew out of K2 and Mapungubwe (Robinson, 1965).

Huffman (2007) suggests that people occupying K2 were formulating new social rules and the topography of K2 was not suitable to express these new ideologies. Therefore, they moved to Mapungubwe which was previously used as a rainmaking hill and therefore the leader could express the link between him, the ancestors and rainmaking. Commoners not residing in the capital lived in settlements according to the CCP rather than the ZCP formulating the dual settlement system diagnostic of a class-based society (Huffman, 2007).

Huffman (1982) had analysed the K2 and Mapungubwe ceramics and concluded that the change from the former to the latter was a result of an internal stimulus and implies that the same ethnic groups were responsible for the change in settlement. To investigate this further, Robinson (1982) examined the archaeology of the sites. The presence of garden roller beads at K2 and their absence at Mapungubwe, along with the sudden appearance of gold at Mapungubwe and an absence at K2 could show that a new ethnic group was introduced into the region who had knowledge of trade with the coast and new concepts in mind. The potters at K2 may have gradually incorporated the new ceramic style into the manufacture of their pots. The placement of a settlement in the Zimbabwe Culture in an east-west orientation seen at Mapungubwe

and Great Zimbabwe is probably not a matter of a change in ideology but of a necessity due to the cold moist south easterly winds subjected to the region in winter (Robinson, 1982).

The absence of cattle dung anywhere in the vicinity around the new court at Mapungubwe indicates that the shift of the cattle kraal away from the centre of the settlement was probably due to a new restriction on ownership of cattle and a change in function of the court (Huffman, 2007).

With the commencement of the Little Ice Age at AD 1300, the environmental conditions at and around Mapungubwe became dry and inhabitable. Crop failures resulted and groups at the capital shifted to Great Zimbabwe. Huffmans (1996a) reason for this was that because Great Zimbabwe lies on the Zimbabwe plateau, this area would have received any rain that did fall during this drought period. Furthermore, Great Zimbabwe was closer to the Indian Ocean trading posts and as a result, Great Zimbabwe would have an ecological and geographical advantage over the fallen Mapungubwe state. Three main discrepancies have been uncovered in this theory and each will be examined in turn. Firstly, if there was a drought it is unlikely that people would migrate en masse to Great Zimbabwe when their king failed at the rain making rituals. Secondly, if there was a drought, past societies have been known to be resilient and are able to adapt to their environment (Manyanga, 2006). And thirdly, during the collapse of Mapungubwe recent isotopic analysis shows that there was in fact no drought, and the Little Ice Age only occurred after the collapse of Mapungubwe giving rise to an alternative reason for the abandonment of Mapungubwe.

Van Waarden (2011) found a discrepancy in Huffman's (1996) theory for a Mapungubwe origin from Great Zimbabwe. Rain making rituals occur mostly in times of drought, and Huffman (2009) says that during the Mapungubwe period, the king was responsible for rain making rituals on top of Mapungubwe Hill. If these rain making rituals failed, as it would seem in a period of extended drought, then the people would lose faith in their king's abilities, and leave the Mapungubwe state to the Soutpansberg. The disgraced leaders would flee to trading partners to set up a trade node between international trade and long-distance trade. To Van Waarden (2011) this would be more likely rather than the entire population moving

to a new capital being reigned by the same king. To enhance this theory, Van Waarden (2011) says that there is no sign of interaction between the Mapungubwe state and Great Zimbabwe, which was occupied during Mapungubwe times and therefore it is unlikely that Great Zimbabwe was occupied by Mapungubwe people (Chirikure *et al*, 2014).

Huffman argues shifts in the settlement patterns from K2 to Mapungubwe to show the development from a CCP to a ZCP settlement pattern. The origin of the ZCP was believed to be Mapungubwe rather than Great Zimbabwe itself. Furthermore, the concepts of class distinction and sacred leadership seem to be limited to the Zimbabwe Culture itself. To understand the development of the culture, Huffman (2007) believes that we should turn to Mapungubwe, supposedly the earliest Zimbabwe Culture centre. This is the dominant theory which has shaped our current understanding of newly investigated sites.

Traded goods such as glass beads and gold have long been identifiers for complexity in southern Africa. Recently, Antonites (2014) investigated a relatively unknown site in the Limpopo region and discovered an abundance of glass beads and stone walls similar to those at Mapungubwe. Mutamba is located on the northern edge of the Soutpansberg located approximately 80kms south east of Mapungubwe. Because archaeologists such as Huffman (1982, 1986) and Calabrese (2000, 2007) argue that the elite settlements controlled trade in the region and this at a basic level developed a complex society, Antonites efforts were focused on exploring the hinterland site of Mutamba to examine the trade distribution in this area. Before, Mutamba was not thought to have any contact with Mapungubwe except for sharing the same ceramic tradition. However, Antonites (2014) work showed that Mutamba was in fact a player in the trade economy. A large proportion of Mapungubwe-type drawn beads recovered at the site shows this. The rare occurrence of wound beads in southern Africa can either be due to the fact that they were unfavourable in the region, or that they were regarded as highly valued items. Sites which contain wound beads are Bosutswe, Hlamba Mlonga in Zimbabwe and Makahane in north eastern South Africa. The fact that a few wound beads were recovered at Mutamba shows that a hinterland site had access to such valued items. He concluded that non-

elites cannot be grouped into a single category and elite vs non-elite cannot predict regional differences on bead distribution (Antonites, 2014).

2.5. Gap Analysis

A snapshot of studies of socio-political complexity exposed its significance in global archaeological studies. It is with these in mind, that I will be providing an analysis of the material culture at Mapela Hill, how the site compares to others in the region, and which cultural groups are represented here. As shown in the literature review, sites across the borders of Botswana, Zimbabwe and South Africa exhibit the same features of state formation: *dhaka* floors, stone architecture, involvement in exotic trade and hilltop occupations. However, most research has focused on K2 and Mapungubwe as they are understood to be the first capitals. Table 1 below shows sites which have been commonly mentioned in the literature, however the ones with (*) next to their names have only had preliminary work conducted on them. Some of them have not even been excavated. These sites encompass the same periods of time and yet their inter-site relationships are not fully known. Although this has been extremely beneficial as a way of placing these sites on the map, archaeologists need to do more excavations at these sites as a way of testing what is on the ground.

Table 1: Iron Age sites in southern Africa and the key features associated with socio-political complexity

Site Name	Radiocarbon date	Stone walling	Trade	References
Toutswemogala	AD1090-1500	Small uncoarsed walling	cotton spinning, copper, glass beads	Lepionka, 1978
Bosutswe	AD700-1700	Semi circular enclosures	cowry shells, gold, bronze, glass beads	Denbow, 2008
*Mmamagwe	AD1033	Zimbabwe style walling	-	Van Waarden 1998
*Silolwe Hill	AD1252	Massive stone terracing	-	Van Waarden 1998
*Toranju	AD1182-1437	Zimbabwe style walling	cowry shells, glass beads, copper beads	Van Waarden 1998
*Nali Hill	AD1028-1245	Coarsed stone enclosures	glass beads	Robinson 1985
*Woolandale	AD1319-1405	None	glass beads	Robinson 1965; Van Waarden 1998
*Malumba	AD1041-1365	Coarsed walling	glass beads	Manyanga 2001
*Mwenezi	AD680-1820	Rough walling and Zimbabwe freestanding	glass beads	Manyanga 2001
*Mapela Hill	AD1276-1354	Uncoarsed massive terracing	glass beads	Garlake 1968
K2	AD1000-1220	None	glass beads	Gardner 1963
Mapungubwe	AD1220-1300	Coarsed walling	glass beads, gold, copper	Fouche 1937, Van Waarden 1998, Huffman 1971
*Mawala hill	AD1000-1200	Terraced walling	glass beads	Huffman 1972; Robinson 1985
*Jahunda	-	Terraced walling	-	Chirikure *et al* (2014)
*Leopards Kopje	AD904-1284	Terraced walling	glass beads	Huffman, 1974

As a result of Garlake's (1968) pioneer work at Mapela Hill, archaeologists have attempted to understand where the site fits relative to the regional sequence. Van Waarden (1998; 2011) speculates that the site is a part of the northern Leopards Kopje and a major trading link between the Sowa Pans and the Indian Ocean Trade network. Archaeologists such as Huffman (2007) firstly understood the site to be a district centre under the Mapungubwe state, then later interpreted it to be a part of Woolandale and culturally different to Mapungubwe altogether (Huffman, 2015). The historian Beach (1984) interprets that Mapela Hill is its own capital of its own state. The fact is that we simply do not know. Upon visiting the site of Mapela, it was seen that Garlake's (1968) map and excavations of the site are less than 5% of the entire site, thus making all deductions from other archaeologists questionable (Chirikure *et al* 2014). This invites a full material cultural report on the site of Mapela Hill.

Globally, archaeologists have moved on from identifying first capitals through typologies and rather focusing questions on function of systems. This has lead them to redefine terms allowing for new questions and new angles of investigation to interpret early state formation, allowing for the field to evolve in a positive direction. The literature review shows that we are in a period in southern African archaeological research where debates are becoming stale and outdated. Fresh ideas, new approaches and a new direction of questions are needed. The literature review shows numerous sites existing on the landscape which contain material culture used to identify complexity but have not been incorporated into frameworks. If we understand new sites at a basic level, we will be able to direct to larger questions pertaining to the regulation of power and state capitals. Mapela Hill is one such site situated alongside the West Nicholson gold belt, adjacent to major rivers, located in an ivory hunting country as well as in suitable flood plain agricultural land. These are all major features used to define complexity in the Iron Age in southern Africa and thus an in depth understanding of the archaeology at Mapela Hill is paramount in any discussion regarding the rise of complexity in southern Africa. More work is required to understand the site. It is with these issues in mind that I will report on the archaeology excavated from Mapela Hill.

2.6 Summary

The literature review has revealed that multiple triggers for complexity exist in Old and New world civilizations. In global archaeology, frameworks for the rise and decline of state capitals have been re-adjusted in light of new data. However, this seems not to be the case in southern Africa where despite other sites existing on the landscape which indicate socio-political complexity, one dominant model of state formation has not been challenged for decades. Relatively underexplored sites have not been incorporated into frameworks thereby inhibiting our knowledge of past systems. It is with these points in mind that the next chapter will present what we do know about the material culture excavated at the underexplored site of Mapela by Garlake (1968).

Chapter 3: Mapela Hill in a southern African context.

3.1 Introduction

The brief review of the archaeology of regions making up modern northern South Africa, south-western and south-central Zimbabwe and parts of Botswana has indicated that a number of archaeologists have conducted important work on socio-political complexity. However, with time, research tended to focus on a few sites. For example, K2 and Mapungubwe received much attention in South Africa just as Bosutswe and Toutswe in Botswana. A focus on a few sites has left so many potentially important sites unstudied. Their potential stems from the fact that they possess similar cultural attributes to that of K2, Mapungubwe, Bosutswe and many others. One such underexplored site is Mapela Hill situated in the Shashi region of south-western Zimbabwe and about 100 kilometres west of the Shashi-Limpopo confluence. Previously studied by Garlake (1966, 1968), the site features in discussions of socio-political complexity in our region. This chapter reviews what we know about the archaeology of Mapela, based on the primary research by Garlake.

3.2 Mapela Hill

3.2.1 Vegetation, Geology and Mapping

Mapela Hill is situated two kilometres east of the confluence of the Shashe and Shashane Rivers. The region is hot and arid for most of the year, with little more than 300mms of rain falling per annum. The sandy soils provide mopane vegetation with gneiss outcrops supporting the acacia woodland and many baobab trees. Since the elimination of the tsetse fly, the region is most suitable for cattle rearing (Garlake, 1968).

During the Rhodesian Schools Exploration Society, Garlake (1966, 1968) carried out surveys in and around the Mapela area. After surface collections suggested that Mapela belonged to the Leopard's Kopje (Garlake

1966), the summit of the hill was mapped as shown in Figure 2. During the mapping, Garlake identified house platforms and *dhaka* (known as Zimbabwe cement).

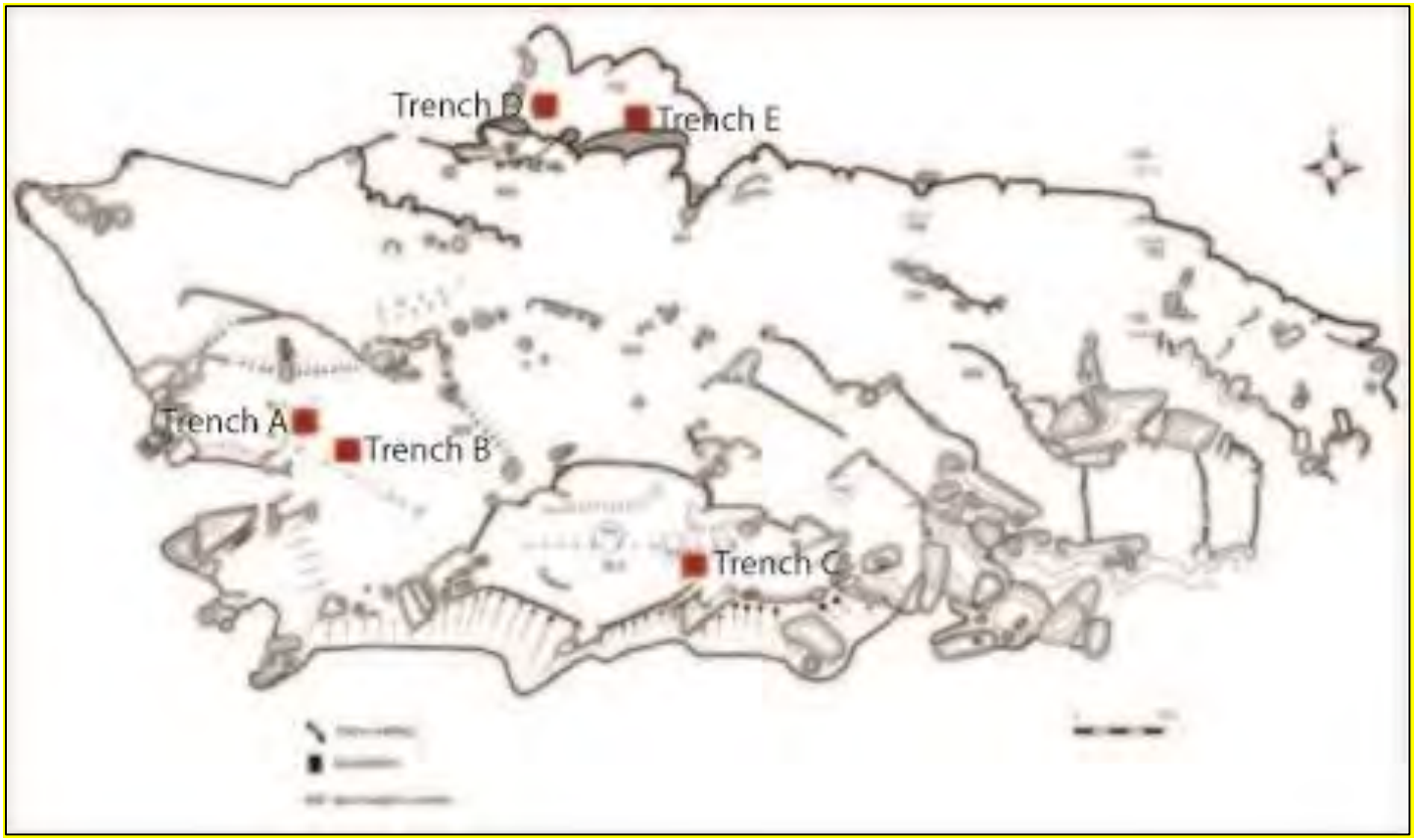


Figure 2: Garlake's map of the summit of Mapela Hill (adapted from Garlake 1968:16).

3.2.2 Excavations

As shown on Figure 2, Garlake (1968) opened five test trenches at Mapela Hill to obtain an indication of depth of deposit and to collect a representable sample of material culture. All trenches were excavated to bedrock. Trench C was located beside and slightly downslope of a hut floor on the Upper Platform. The stratigraphy was comprised of alternating sequences of ash layers, *dhaka* grit and *dhaka* floors. Trenches A and B, were placed on the Lower Platform. The stratigraphy in these trenches also contained alternating sequences of ash layers, *dhaka* grit and *dhaka* floors. Trenches, D and E were placed on the Midden Platform. Trench D was positioned at the entrance of a small cave and trench E was placed against the main rock face. Figure 3 shows the images of Garlake's (1968) section drawings of each trench.

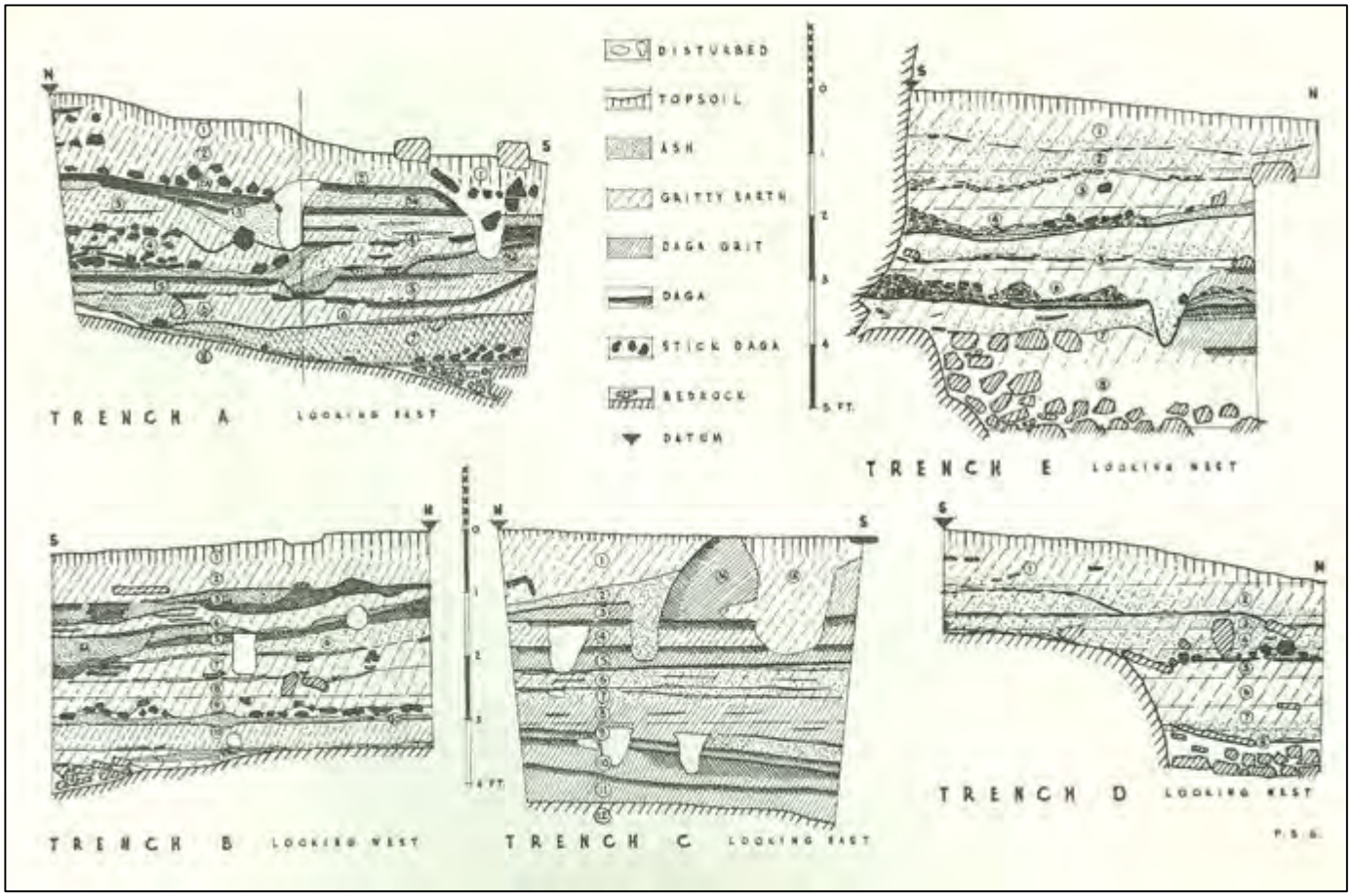


Figure 3: Garlake's (1968: 4) section drawings for each excavated trench.

3.2.3 Finds: Ceramics

According to Garlake's (1968) analysis of the ceramics, the assemblage easily falls into the Leopard's Kopje Phase III culture [now known as Leopard's Kopje Phase II (Huffman 2000)]. Robinson's (1966) list of characteristics which define this Phase III culture contains a high proportion of burnishing and regular, finely-incised decoration, all of which are represented by the Mapela Hill ceramics. Two main characteristics examined in the ceramic assemblage excavated at Mapela by Garlake (1968) are decoration and form. The decoration characteristics will be discussed first. Frequent burnishing is a common characteristic decoration type found in this assemblage although they are not of very high quality. Specifically, burnishing is found on the interior and exterior of coarse bowls, and the exterior of pots. The burnishing is continued up to the necks of pots and sometimes into the interior of the lip. Graphite burnishing is entirely absent in these excavations. The decoration is highly homogenised in these ceramics

with, “fine, regular, incised hatched or cross-hatched triangles, as an interlocking band across, or pendant from the shoulder of shouldered pots” (Garlake, 1968:6). Only four sherds are different from this with three sherds having lines of fine stab decoration, and one having dragged chevron decoration. A highly glossed black burnishing can be found limited to sub spherical bowls with restricted openings (Garlake, 1968).

The prevailing vessel form is the simple shouldered pot with a tapered rim. The sizes vary from small, thin-walled, highly burnished vessels to large, thick coarse storage pots with only two examples of a spherical bowl. The majority of the ceramic assemblage is represented by bowls comprising of 45% of the total assemblage. 33% of bowls being highly burnished with thickened, everted, beaded or bevelled rims, and 25% of bowls are sub spherical with restricted openings. Beakers, beaker bowls and bowls with heavily flattened rims were entirely absent in this excavation and therefore, may not be true characteristics of the late Leopard’s Kopje phases (Garlake, 1968). Figure 4 shows a few decorated sherds from Garlake’s excavations.

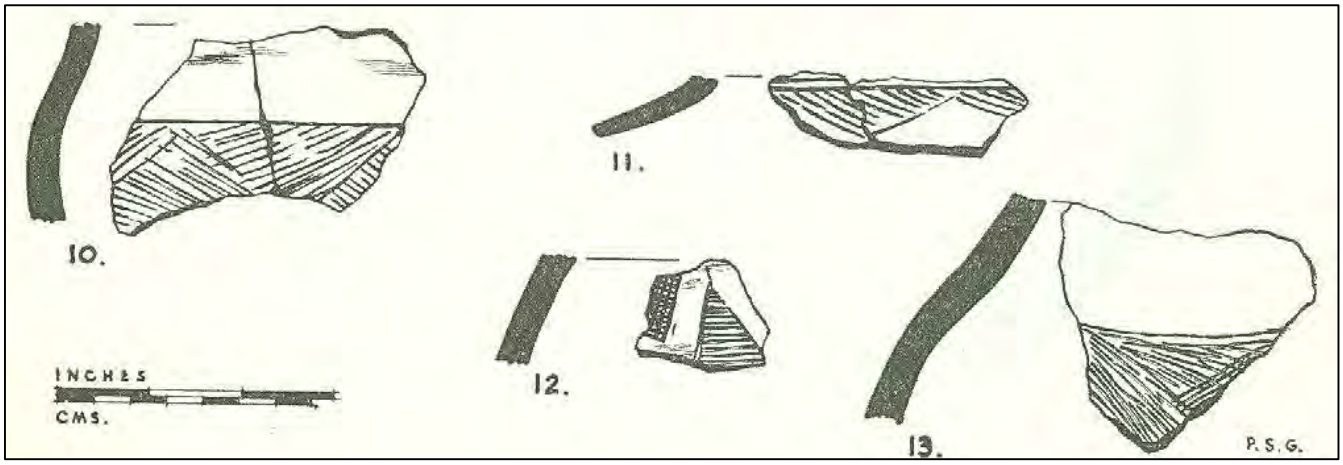


Figure 4: Garlake’s (1968:22) illustrations of Leopard’s Kopje ceramics excavated at Mapela.

3.2.4 Finds: Beads

Garlake’s (1968) excavation recovered 386 glass beads in total although not all of the sediment was sieved during excavation. The number and type of glass beads found at Mapela is vital to understand Indian Ocean trade networks as well as to identify the status of the site in the regional complex. Most of the beads were recovered from Trench D which was a midden bounding the lower platform. The bead assemblage was relatively homogenous and grouped into 3 different types: *small oblates*, *opaque cylinders* and *transparent*

oblates. The small oblates are the prevailing bead type and are characteristically long, regular in shape and a good quality glass and are typical of the Mapungubwe period. The opaque cylinders were less commonly recovered in the excavation. Garlake (1968) suggests that this group could possibly be a part of bead assemblages from Period IV at Great Zimbabwe, Khami series or the Portuguese period. Transparent oblates are the least common group in the assemblage and are very small in size, bright and are made up of blue-green, green yellow and orange.

In general, although the assemblage is relatively homogenous, the characteristics of shape and colour differ slightly from bead to bead. According to Garlake (1968) the assemblage belongs to Period III of Great Zimbabwe and more similarly to that of Mapungubwe and Leopard's Kopje Phase III sites. The shell beads were for the most part ostrich egg and ranged from diameters of 13mm being the largest bead to 2-3mm being the smallest beads. In the smallest beads, the bore exceeded half the diameter of the entire bead and therefore shows extreme skill in manufacture.

3.2.5 Finds: *dhaka* floors and stone walls

Mapela Hill is densely terraced alongside all of the main contours of the hill, from the lowest levels to the top (Garlake, 1968). These revetment walls in some cases exceed one and a half metres. The highest section of the plateau was originally surrounded by stone walling forming an Upper Platform. Below it to the west is a Lower Platform containing no stone walling. Garlake (1968) examined all of the stone walling retaining the terraces of the site. There are no free standing walls at Mapela, only low revetment walls exist. Garlake (1968) concludes that even though there are geological differences between Mapungubwe and Mapela, the stone work at Mapela is very similar in style and function to that of Mapungubwe, just that much more stone walling exists at Mapela. Garlake (1968) suggests that the stone walls on the Upper Platform on Mapela belong to a different tradition to that of Zimbabwe, as the vast differences between the two styles cannot be a result of varying geology.

The *dhaka* recovered from Mapela Hill, with the exception of the Upper Platform, were those typically described by Robinson (1966). They were constructed using strong withies from branches of the *Grewia monticola* bush. The thin withies were then applied with *dhaka* on one side of the timber. This is typically characteristic of Leopards Kopje Phase II and III. A fragment of *dhaka* from trench A showed evidence of replastering as well as a thin horizontal binding thong (Garlake, 1968). The *dhaka* thickness rarely exceeded two inches. The floors encountered in excavation contained coarse fillers. The colour of the floors was contrasting indicating various clay sources, however they were all derived from the local gneiss. Floors in trench C were thick and continuous. In this trench, there was no evidence of fire destruction nor any stick-impressed *dhaka*. The curved kerbs were massive unlike anything else at the site. Garlake (1968) suggested this Upper Platform occupation may have been an intrusion at Mapela due to the different *dhaka* remains as well as the stone wall bounding the platform. However, the ceramics at the remainder of the site show no indication of any intrusion.

3.2.6 Finds: Metals

Short lengths of corroded wire were common throughout the excavations. One metal tool was recovered in trench D. It was a chisel-ended razor or adze with a square tang and curved ands. Copper and bronze were rare, but small fragments of slag were recovered.

3.2.7 Chronology

Garlake (1968) established two radiocarbon dates from trench B. Level 4 recovered a date of AD1160±95 whilst level 10 recovered a date of AD1280±95. Garlake (1968) concluded that the dates showed that the occupation did not extend over any great length of time.

3.3 Little Mapela

An extension of Main Mapela which Garlake refers to as 'Little Mapela' lies 200 yards from the south western edge of Mapela Hill. Garlake excavated three trenches at Little Mapela, however section drawings were not given in his analysis. Trench A was located on a level area below the summit area. The deposit was an unstratified grey ashy midden 15 inches deep. No structural remains were recovered in this trench. Trench B was situated against the inner face of the west wall of the summit enclosure, north of the entrance. The deposit consisted of sterile grit with only one body sherd and shell bead recovered in excavation. Trench C was located against the inner face of the main outer wall of the largest enclosure.

3.3.1 Finds: Pottery

The ceramics found here were very different to those of Mapela Hill. The lack of decoration, heavily rolled rims and graphite burnishing showed that this was clearly not a part of the Leopards Kopje facies but rather of the later Zimbabwe Period IV wares. Shouldered pots with incised hatched triangles were the only decoration motif found in trench A. The dominant vessel was the shouldered pot with a tapered rim. The bowls in the assemblage were simple and had tapered rims. The pottery from the midden of Little Mapela associated with the occupation of the enclosures, contained characteristic Leopard's Kopje Phase III ceramics which were no different to those at Mapela.

3.3.2 Finds: Beads

The glass beads recovered from Little Mapela were of little diagnostic value. Only two beads were found which is very different to the hundreds of beads recovered at Mapela Hill. The two beads were an opaque black oblate and an opaque black cylinder.

3.3.3 Finds: Stone walls

The Little Mapela stone walling is very different from that of Mapela Hill. Garlake saw an uncoarsed wall on a vertical rock face forming four enclosures. On these walls at Little Mapela, small monoliths have been erected through the centre of one length of the wall. A separate wall built on the summit of the hill bounds one enclosure large enough to contain two huts. This area is only accessible by one narrow pathway. The wall closest to the entrance of this enclosure contains a crude herringbone decoration as well as a chevron decoration outside it.

3.3.4 Finds: Metals

Metals recovered from excavation included coiled iron wire, fragments of bangles of iron and a length of coiled copper wire. Although these metals were identical to those found at Mapela, they were 15 times more abundant at Little Mapela. A shard of a bowl containing slag in the interior was almost certainly used as a crucible.

3.3.5 Chronology

Garlake (1968) recovered one radiocarbon date from trench C level 6 of AD1460±90. This led him to conclude that Little Mapela was either contemporaneous with the end of the occupation at Mapela Hill, or was a later development of the site.

3.4 Conclusions

Garlake (1968) made a great contribution by publishing the excavations at Mapela Hill and Little Mapela and thus allowing other researchers to include the site into regional understandings. Garlake (1968) is hazardous to make conclusions about the sites because the excavations were on too small a scale. However, he does make a possible interpretation. The two sites show a basic substructure characterised by late

Leopards Kopje ceramics. Superimposed on it, there is a culturally distinct entity at Little Mapela illustrated by the freestanding walls and at Mapela, with the fine *dhaka* work on the upper platform. These features show affinities with the later Zimbabwe phase and indicates that it was not intrusive, but coexisted with the Leopards Kopje substructure. The evidence at Mapela and Little Mapela therefore shows that it must have become primarily a social or class distinction (Garlake, 1968).

While the significance of Garlake's work cannot be doubted, it must be noted that he conducted his work during a period of political uncertainty. The war of liberation was prominent in that area. As such, his observations were only tentative. This provided a motivation for more research at Mapela. The next chapter focusses on data collection.

Chapter 4: Data collection: Mapping, Excavations and Radiocarbon Dating

4.1 Introduction

In view of the research questions posed at the beginning of this study, a comprehensive methodology was developed to understand the archaeology of Mapela Hill. A desktop study was carried out to understand previous work at the site in particular, the location of the site, key features and archaeological finds as well as the available dates. Subsequent to this, a scoping study was carried out in Google Earth Pro to understand the landscape around the site, within Zimbabwe and in the adjacent area of Botswana. Given the improved resolution, it was possible to identify walls and what looked to be middens on the hill.

After permits were obtained from the National Museums and Monuments of Zimbabwe, we spent a week consulting with local communities and their leaders. We were given permission to work at Mapela under the supervision of two local elders, one of whom is the secretary for Ward 19. At the site, we carried out a series of pedestrian surveys starting from the flats to the summit of Mapela. Surveys were also extended to the area around Little Mapela and beyond. Thereafter, the two sites were mapped resulting in the production of consolidated maps of the site. Once this was achieved, excavations could commence over three seasons, in 2013, 2014 and 2015. Excavations generated important material for dating which greatly enhanced our understanding of the sequence of occupation at the site. The next section discusses the pedestrian surveys at the site.

4.2 Pedestrian surveys

At both Mapela and Little Mapela, surveys were conducted by foot from the flats around the hills to the hilltops. In the process, we documented and recorded the most salient features of the site. A number of middens were recorded on the flat areas. At Mapela, drystone walled terraces were constructed from the lowest contours up to the summit of the hill. Houses were built on platforms on those terraces. In some

cases, cattle kraals were clearly identified by the presence of vitrified dung. The tentative conclusion was that different sections of terraces housed a number of homesteads. The summit was previously surrounded by a stone wall which has mostly been destroyed by erosion but is still intact in some places. The summit is very extensive and contains an upper rise at the top (Garlake's Upper Platform) which has several houses and granaries. Below it (roughly a metre downslope) is another platform (Garlake's Lower Platform). From this lower platform to the eastern end, at the same elevation, are groups of collapsed platforms and middens. In some sections *dhaka* floors are visible.

Throughout the different terraces, white vitrified dung can be seen from the surfaces of the hill, again, from the base of the hill to the top of the hill showing evidence of animal rearing. Further, hundreds of ceramic sherds, metals, slags, beads, spindle whorls and *dhaka* fragments were scattered all over the surface of the site. The ceramics were typical K2 and Mapungubwe sherds containing upward and downward facing triangle motifs on shoulders of jars. The glass beads were mostly Mapungubwe oblates of green, black and blue in colour. The surveys indicated that Mapela Hill was extremely rich in material culture, and suitable excavation areas were targeted for excavation.

Little Mapela is much smaller when compared to Mapela. Vitrified dung was found on the southern side of the hill. There is a lot of material on the hillslopes suggesting that material was thrown away from the hilltop. On the hilltop, there are a few areas which are ashy. Furthermore, there are a number of free standing walls. The western curtain wall has small monoliths. To the east, there are big boulders which a very neat stone wall was built onto, with red sandstone blocks and grey slabs. From the top, this created a very nice retaining wall. Judging from the *dhaka* fragments, there were one or two houses. The passage to the top was decorated with chevron designs. Surface material included fragments of *dhaka*, pottery similar to that from Mapela Hill and a few coiled copper wires.

4.3 Mapping Mapela Hill and Little Mapela

Advances in remote sensing and desktop mapping techniques were used to develop draft maps of Mapela and Little Mapela. To begin with ortho-rectified Google Earth images with visible wall outlines were sourced. For Mapela Hill, Garlake's (1968) map of the summit and his survey points were used to establish control points. The walls and features were then screen digitised to produce a scaled map of the site. The draft was taken to the site for ground truthing and additional features were recorded using a Garmin GPS with geocoding capabilities (see also Chirikure *et al*. 2014). This desktop mapping exercise achieved success in most but not all areas. As such, additional detail was added with tape and theodolite measurements in the field. The altitude of different points was taken by GPS and was converted into Garlake's scale through a series of basic computations. For the first time this reiterative process produced the first consolidated maps of the two sites (Figures 5 & 6).

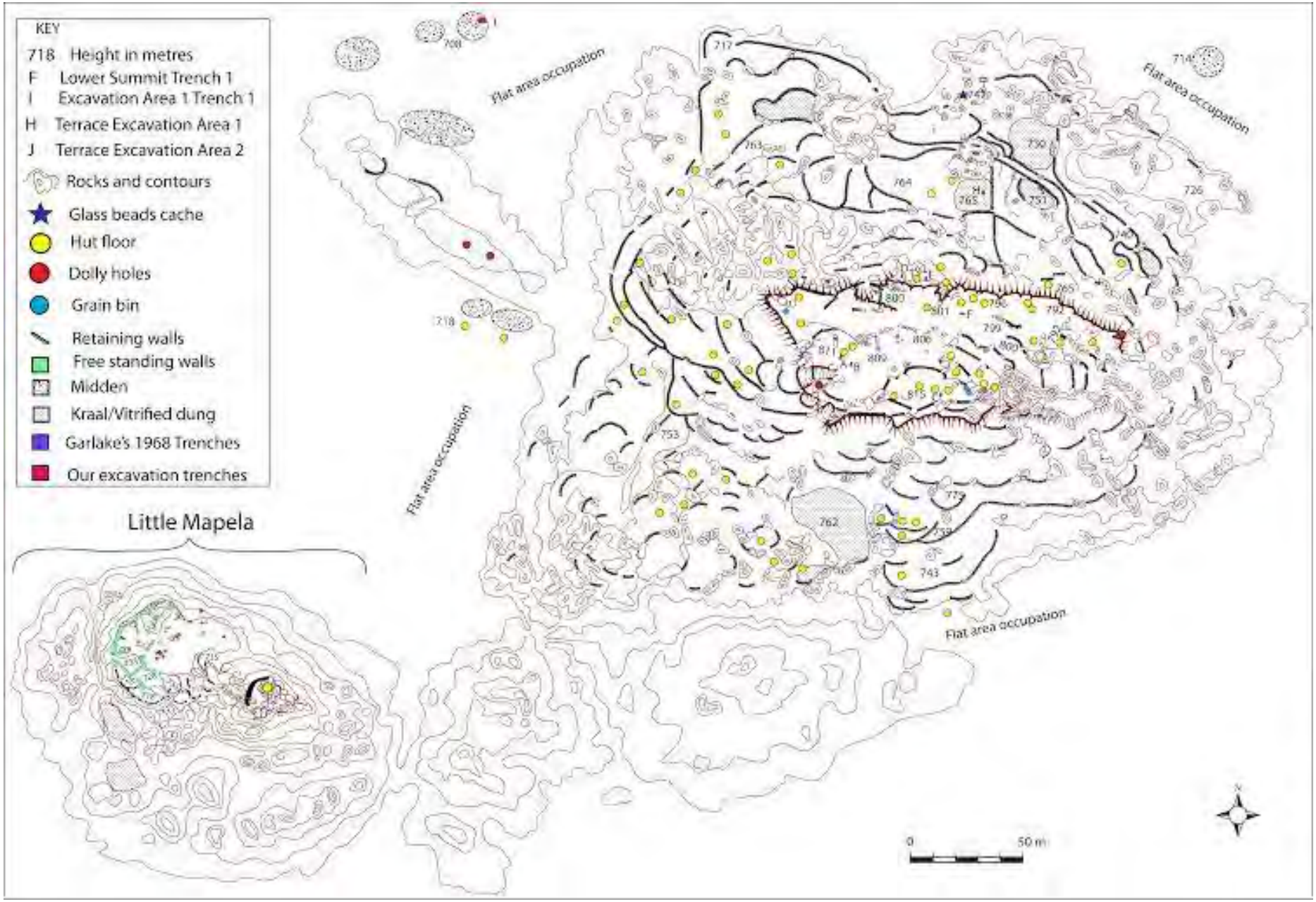


Figure 5: The newly developed map of Mapela Hill (illustrated by Dr Foreman Bandama)

The same procedures were also adopted for Little Mapela. However, because it was much smaller in size, some of the details were added onto the draft map through measuring by tape. The resulting map clearly shows the outline of the site.

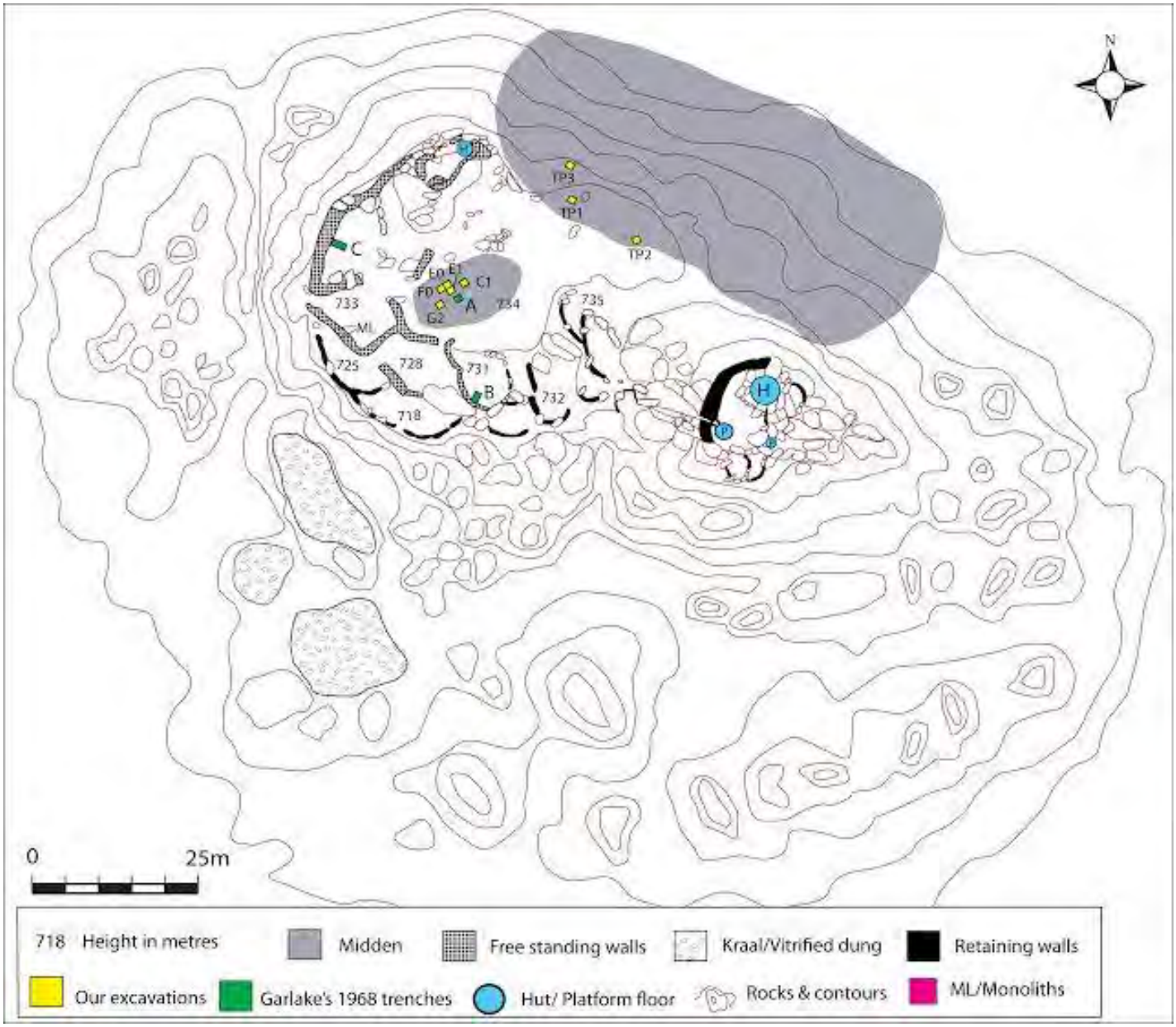


Figure 6: Map of Little Mapela Hill (illustrated by Dr. Foreman Bandama)

4.4 Excavation procedures

After mapping, a decision was made to select areas to excavate. For Mapela Hill, the 2013 excavation targeted the flats, the terrace and the summit on the northern side. This was motivated by the need to understand the sequence of occupation on the various parts of the site. In 2015, excavations extended

Garlake's trenches A and B to understand the stratigraphy and compare it to the terraces. In addition, the excavations were also carried out on a collapsed wall on the northern side to establish the relationship between the stone walling and the occupation deposit. In all, eight trenches were excavated over two seasons.

For Little Mapela, there were not many areas to dig so a datum was established through the centre. Trenches were then set out to retrieve as much archaeological information as possible. One trench and three test pits were excavated on Little Mapela.

In all areas, excavations followed natural layers but ten centimetre measurements were taken to establish control over the excavation. This was essential because when excavating ash middens often it is difficult to detect subtle changes in the soil colour, particularly when different shades of grey are concerned. The material for dating was taken from the trenches after recording their XYZ. All the material was sieved using a fine sieve with a 0.5mm mesh size. This made it possible to retrieve minute glass beads.

4.4.1 Excavation Trenches: Mapela Hill

Mapela Hill Excavation Area 1

This excavation was situated at the northern foot of Mapela Hill. A 2 X 2 area was excavated. Figure 7 shows the section of Excavation Area 1 Trench 1.

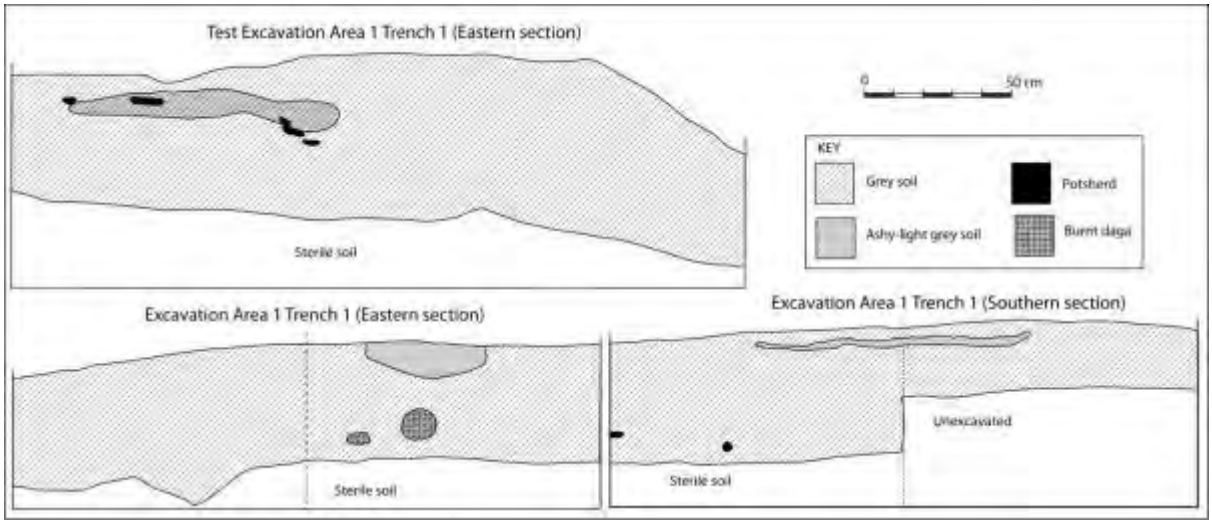


Figure 7: Wall sections of Excavation Area 1 Trench 1.

The stratigraphy of Excavation Area 1 was not deep and consisted of a very thick lens of ash with pockets of burnt *dhaka*, slag, K2 and Zhizo ceramics together with few shell beads.

Mapela Hill Terrace Excavation Area 1

Situated approximately halfway up the hill, one 2m x 1m trench was excavated. Figure 8 shows the wall section of this trench.

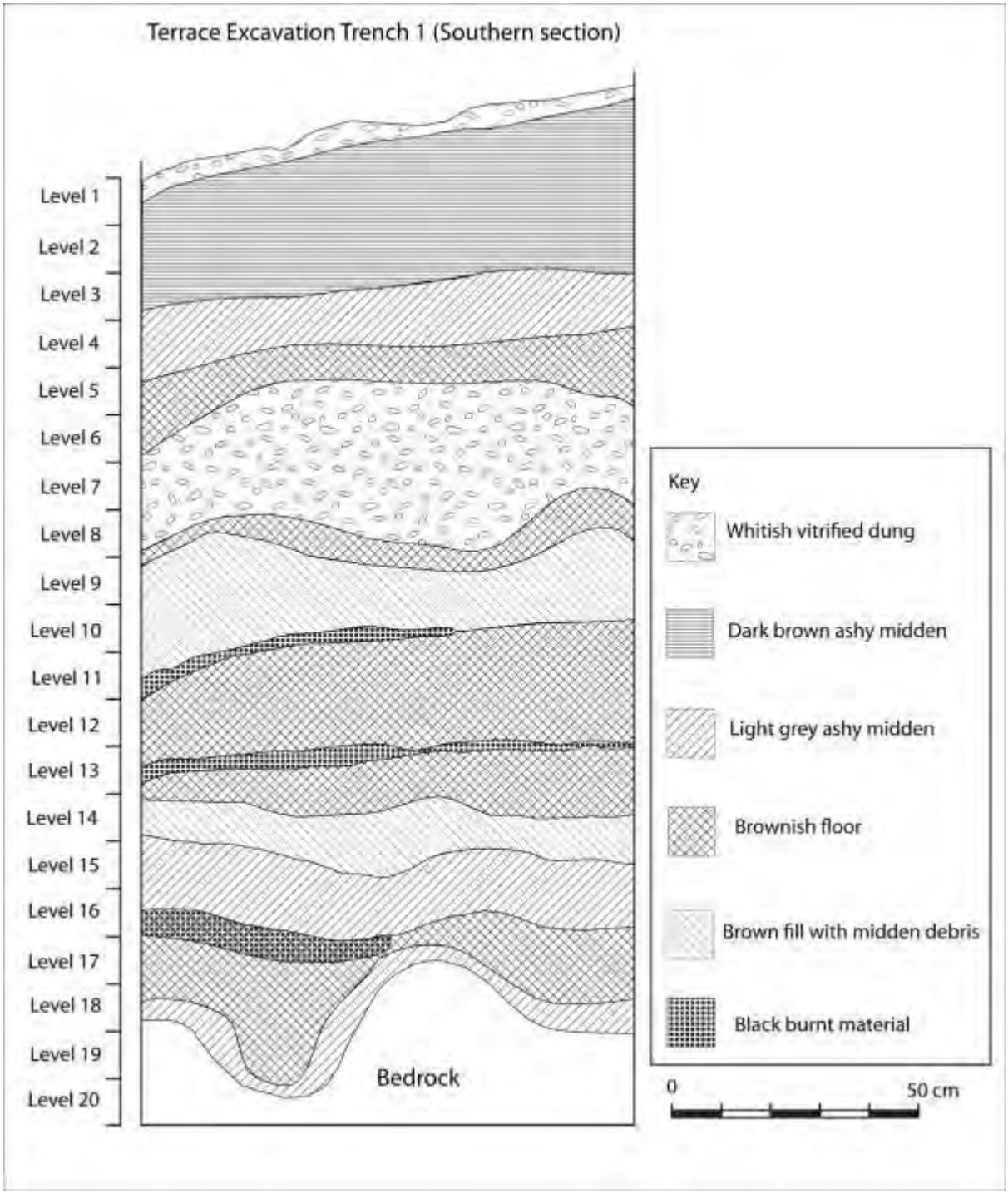


Figure 8: Wall section of Terrace Excavation Area 1 (illustrated by Dr Foreman Bandama).

The stratigraphy in this trench composed of alternating layers of vitrified dung, *dhaka* floors and ash middens. In most cases the midden layers were sealed by the *dhaka* floors. Burning events were common composing of burnt grass, charcoal and *dhaka* fragments. Towards the bottom of the trench some stones were encountered which later showed to be the foundation of a grain bin which was associated with more burnt sorghum. At the base of the trench, a K2 decorated sherd was recovered in a thin midden sealed by a

floor. Triangulation by Theodolite showed that this level was associated with the top of the wall at the edge of the terrace. Nine samples for radiocarbon dating were selected because of the depth and integrity of the deposit.

Mapela Hill Terrace Excavation Area 2

Situated on a terrace slightly below Terrace Excavation Area 1, two trenches were excavated here. The first was the Wall Rescue excavation, and was established to test the relationship between the cultural deposit and the wall. Part of the wall had been destroyed by heavy rains making it easy to clean it up and excavate. The second trench, Terrace Excavation Area 2, Trench 1, was a 1m x 1m area which was, as in other cases, excavated to bedrock. This was strategically placed in order to obtain a sequence comparable to the wall rescue excavation. Figure 9 and 11 illustrate the wall rescue excavation and the Trench 1 excavation respectively.

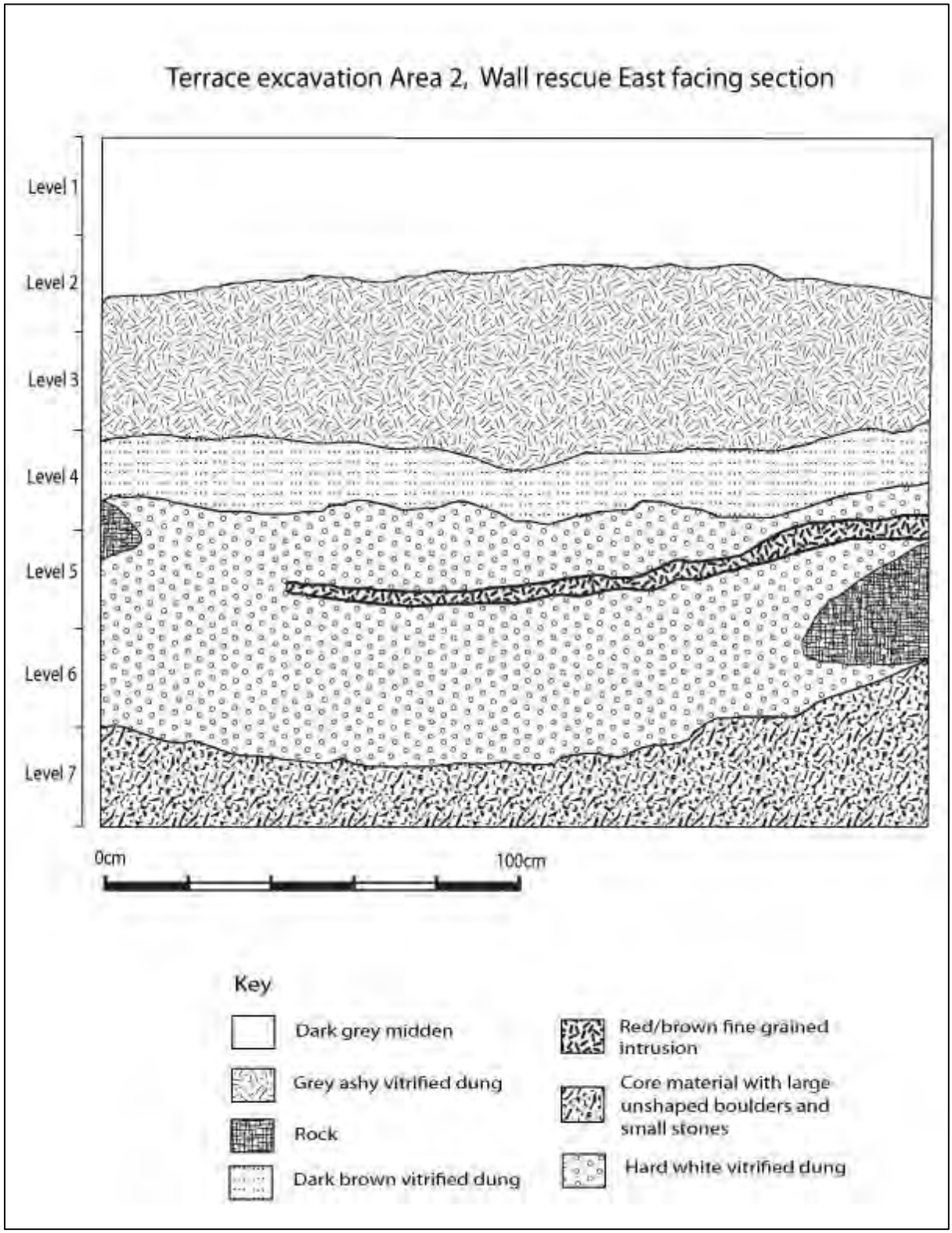


Figure 9: Wall section from Terrace Excavation Area 2, Wall Rescue excavation.

This section consisted of five distinct layers. The top layer consisted of a fine grained ash midden deposit. Below this layer was a combination of ash and white vitrified dung. Below that was a darker vitrified dung indicating an intensively occupied cattle kraal. Below that was an extremely hard vitrified dung layer.

Contained in this layer, a whole decorated Transitional K2 pot was recovered containing interlocking triangle motifs on the shoulder (see full description in Ceramic results chapter), providing an opportunity for relative dating. Below the hard white vitrified dung layer, the core material of the stone wall was recovered, giving an indication that this wall was coeval with or predated the Transitional K2 decorated pot.

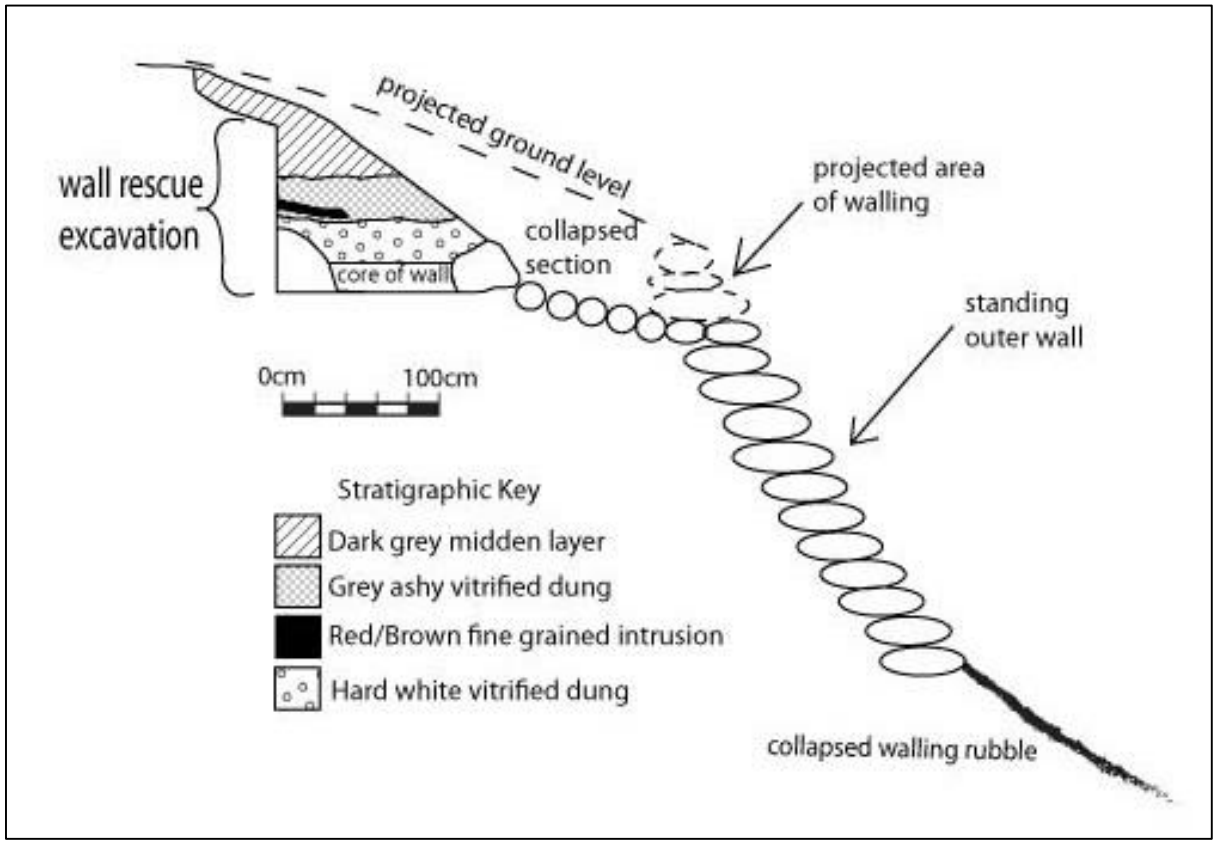


Figure 10: Cross section of Wall Rescue excavation in relation to the stone wall

Figure 10 above illustrates the relationship between the stone wall and the excavation. It was clear that where the wall had fallen away, the cultural deposit resting behind it had been eroded away too. This made it clear that due to the steep sided nature of the hill itself, the deposit could not have accumulated without the presence of the wall.

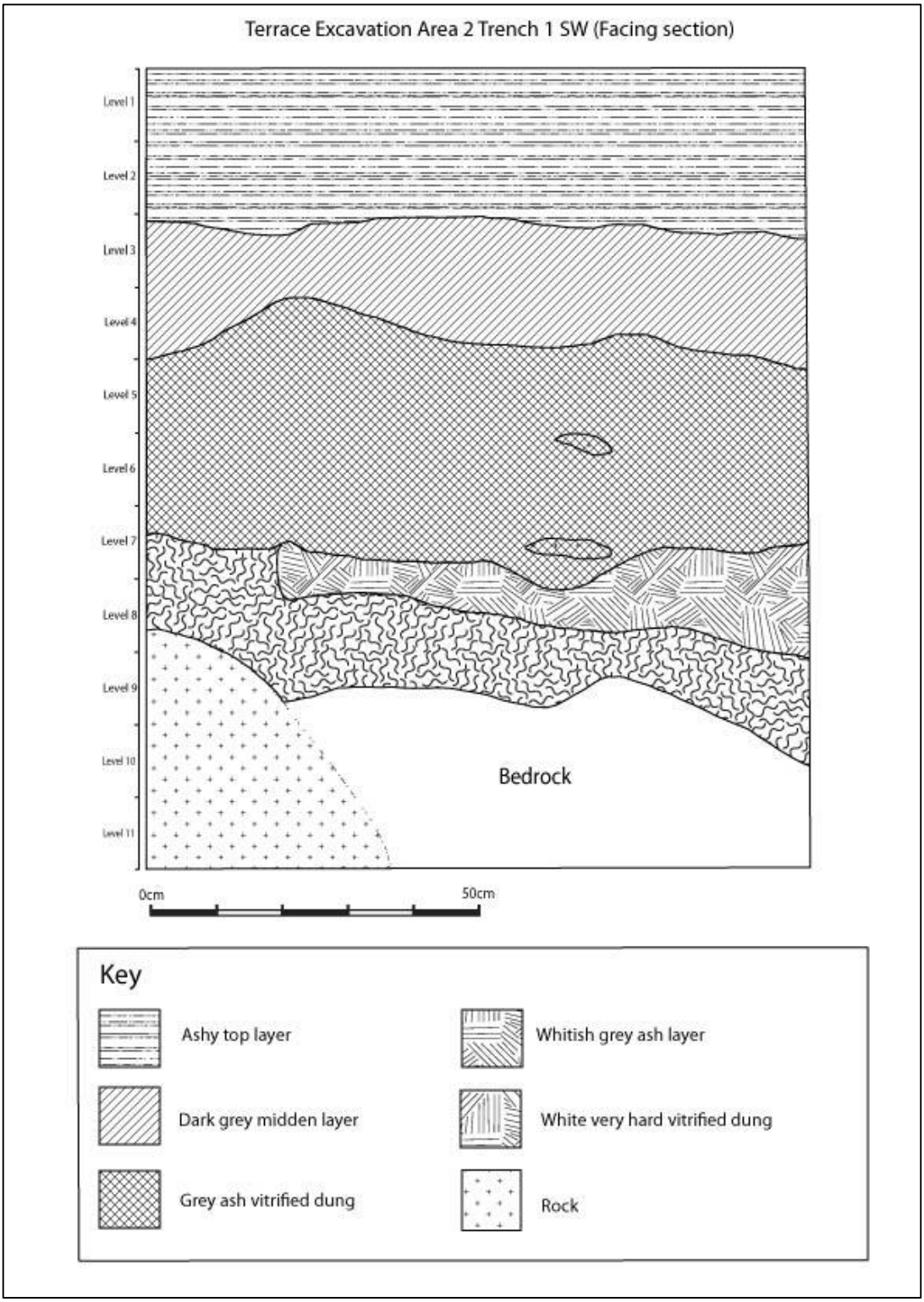


Figure 11: Wall section of Terrace Excavation Area 2, Trench 1

The stratigraphy in Figure 11 replicates that of the Wall rescue excavation, with distinct layers of deep vitrified dung layers, with a grey ashy midden on the surface. This trench was not very deep reaching bedrock at about 90 cms.

Lower Summit excavation

Just below the summit of the hill, two trenches 1 and 2 were excavated. Figure 12 illustrates the section of trench 1.

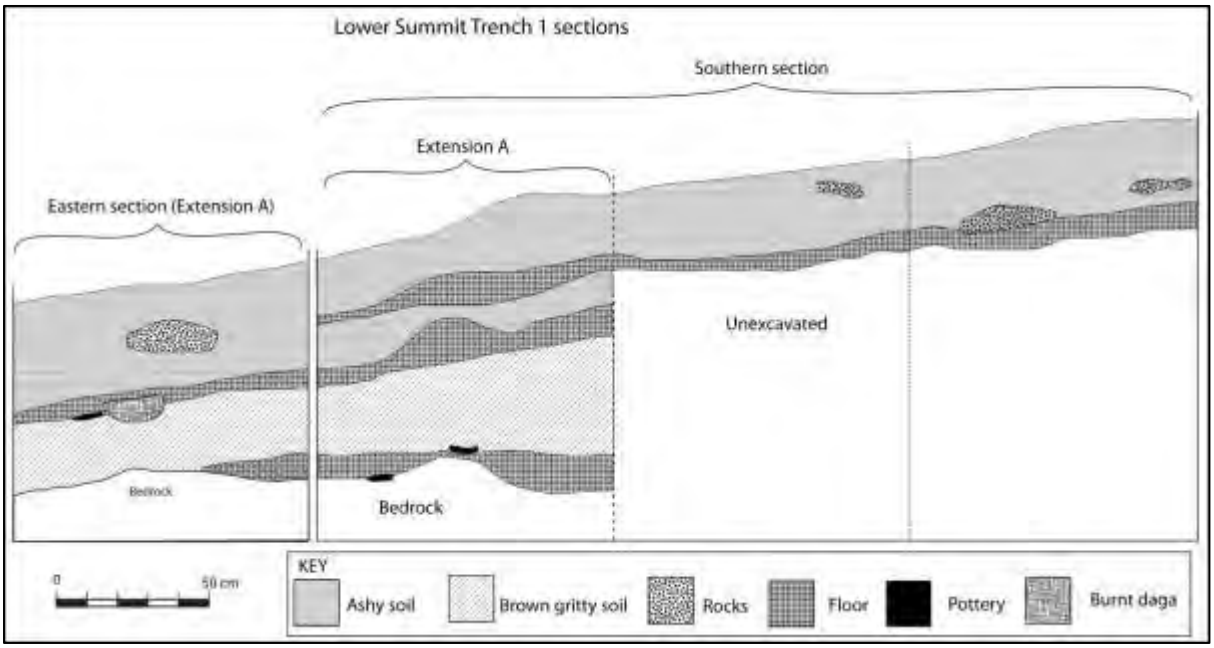


Figure 12: Wall section of the Lower Summit Trench 1 excavation

The Lower Summit Trench 1 was just over 50cms deep. The stratigraphy consisted of alternating layers of middens and floors. Originally, a 2 X 1 metre trench was opened, however it was extended due to the existence of a well preserved floor. Just above the bedrock on the extension excavation lay an intact floor sealing a K2 decorated sherd.

Garlakes Trench Extensions A & B

Because Garlake's excavated material was not available for analysis, it was decided to extend each of his trenches A and B in order to have a comparable sample as well as to recover some material culture from the upper platform. A 1m x 1m area was excavated at the eastern edge of each trench. Figures 13 and 14 shows the sections of trench A and B extensions respectively.

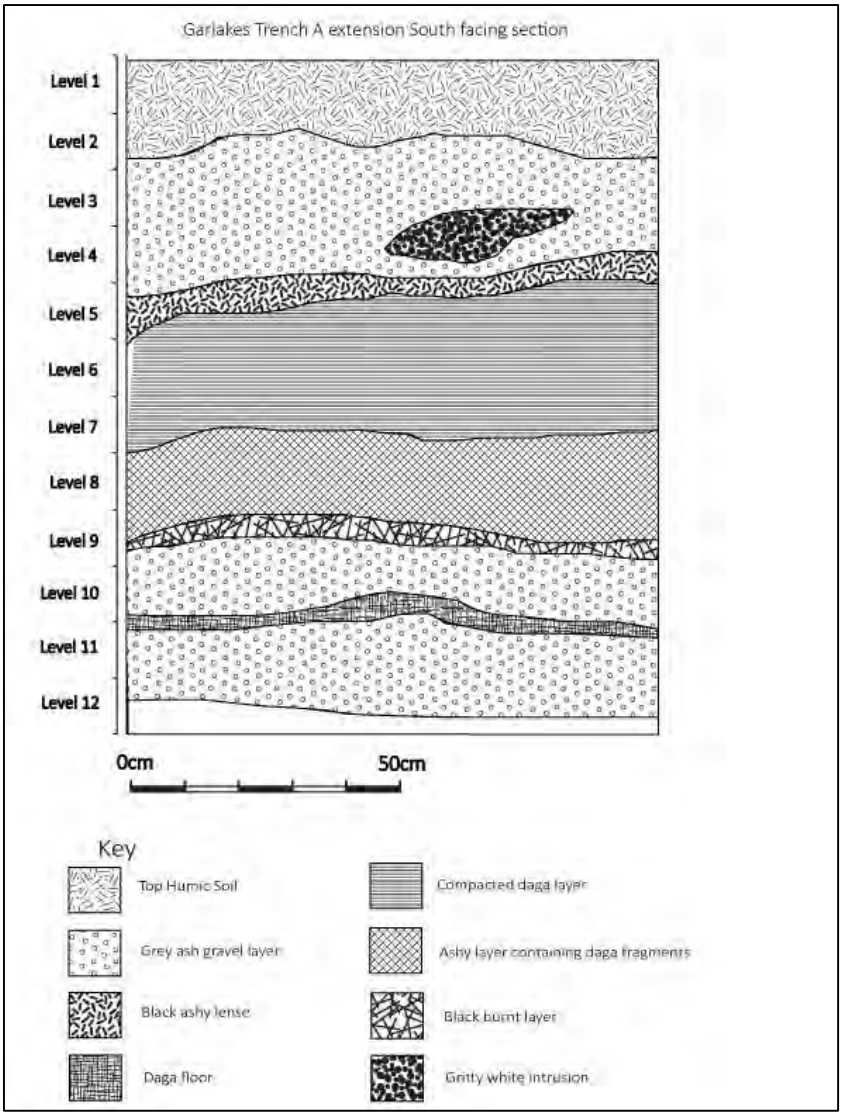


Figure 13: Wall section of Garlakes Trench A extension

This wall section was much like Garlake's (1968) excavation with sequential layers of ash, *dhaka* grit and *dhaka* floor deposits. The trench was approximately 120 cms deep showing sequences in occupation. The deposit recovered Mapungubwe decorated sherds and glass beads.

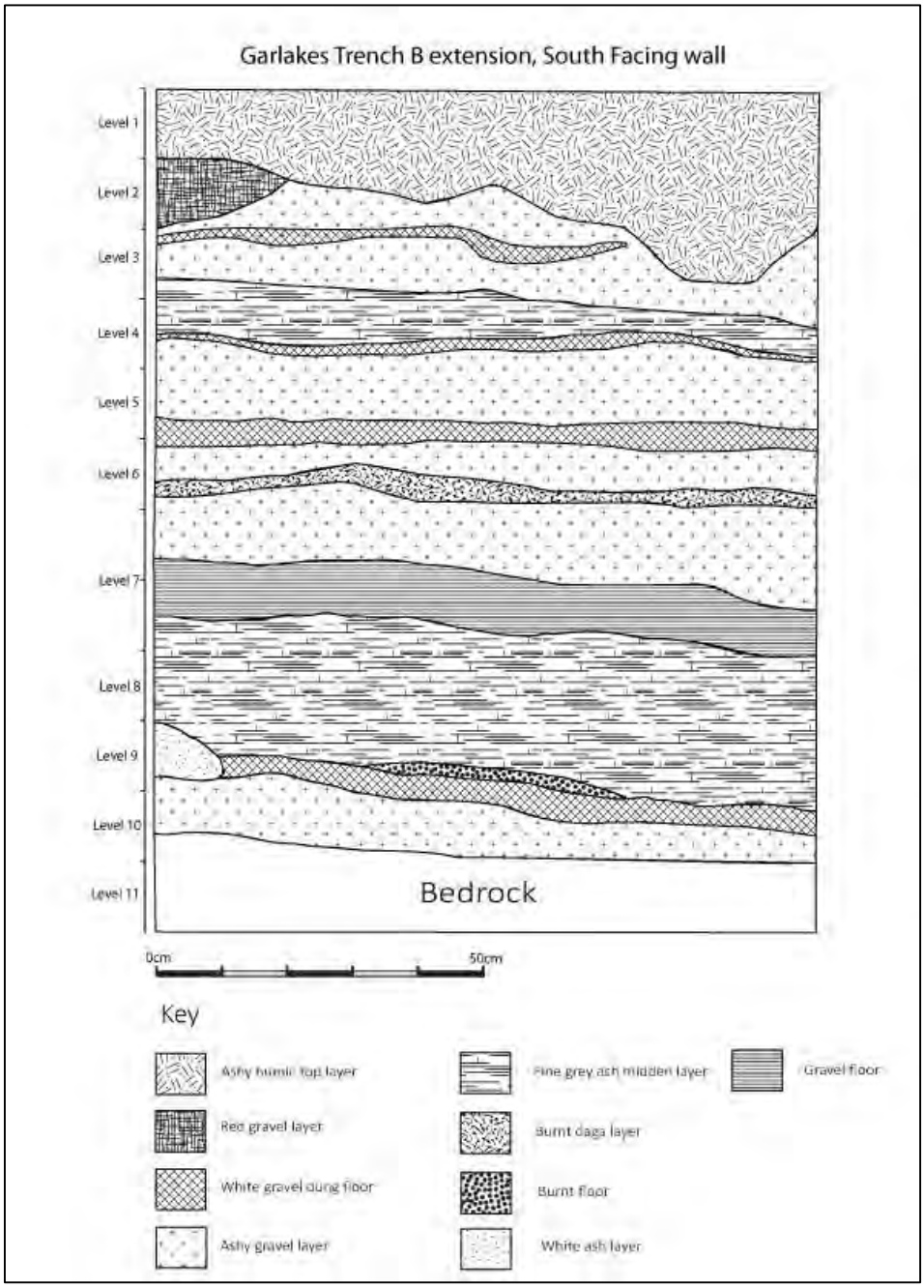


Figure 14: Wall section of Garlake's Trench B extension.

This stratigraphy, again, was much like Garlake's (1968) section, containing occupation horizons sealed by *dhaka* floors with collapsed hut rubble contained above the floors. The excavation recovered many ceramics as well as beads.

4.4.2 Excavation procedures: Little Mapela

Three 1m X 1m test pits were excavated at various locations on the edge of Little Mapela in order to obtain a larger amount of representative material culture and some indication of depth of deposit. An area was also excavated in 10cm spits in order to identify the stratigraphy.

Excavation Area 1

Located below the summit of enclosure in an area of dense surface material culture. This trench was positioned to the south east of Garlake's Trench A. The stratigraphy was a relatively uniformed ashy midden recovering a fair amount of material culture. Figure 15 illustrates the sections of this excavation.

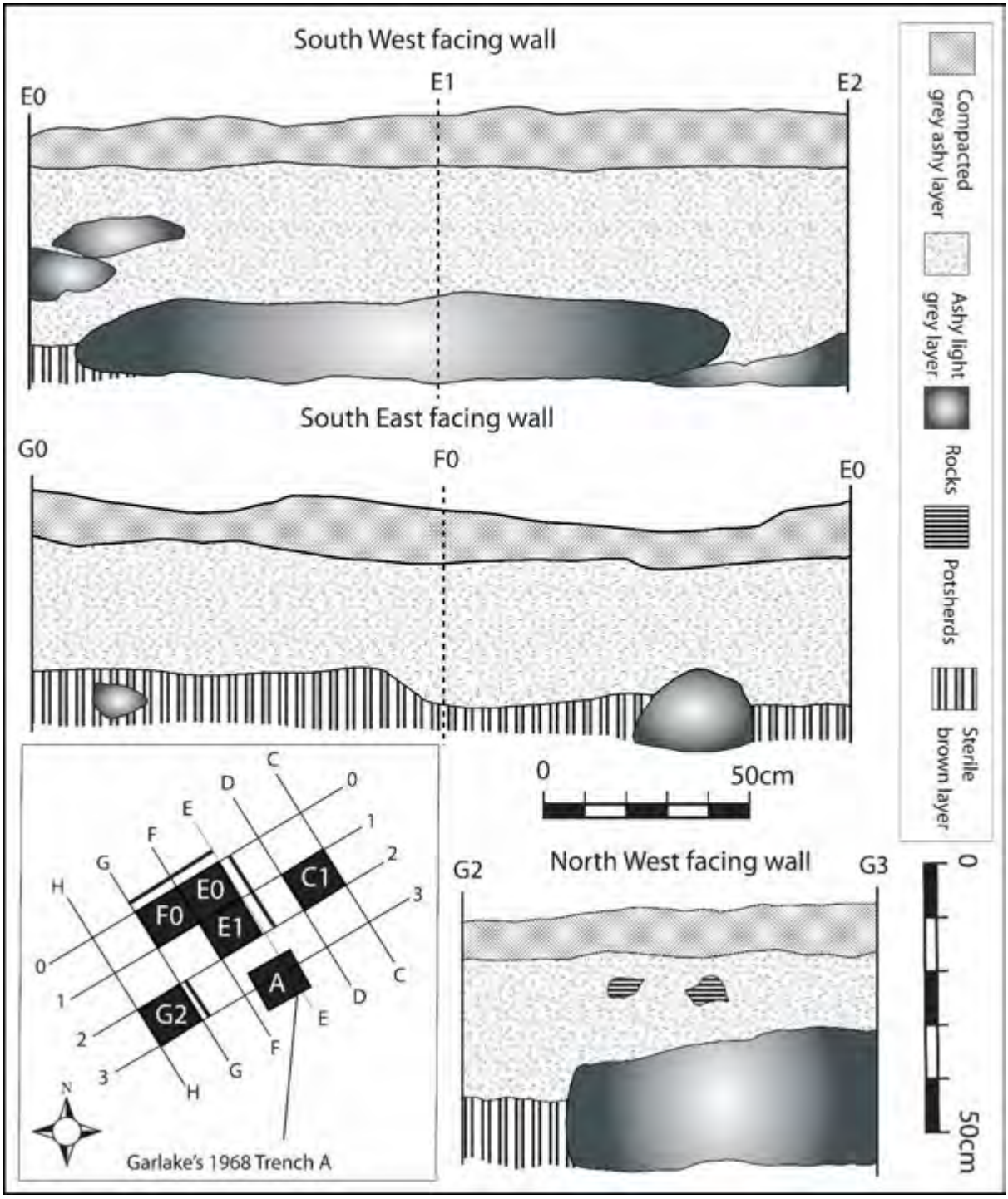


Figure 15: Wall section of Little Mapela Excavation (illustrated by Dr Foreman Bandama)

4.5 Radiocarbon Dating

Twelve samples, nine samples from the Terrace Excavation Area 1 and three from the Lower Summit excavation were submitted for radiocarbon dating to estimate the duration of occupation at the site. The material for dating was mostly carbonised seeds and charcoal from short lived samples such as twigs. The

uncalibrated and calibrated dates for Mapela and Little Mapela are presented in the following tables (Table 2 and 3).

Laboratory number	Material dated	Uncalibrated date	Calibrated Date
Mapela Terrace Excavation			
Beta-362445 (AMS)	Carbonised twigs	770 +/- 30 BP	Cal AD 1220 to 1280
Beta-362446 (conventional)	charcoal	770 +/- 30 BP	Cal AD 1220 to 1280
Beta-362447 (AMS)	Carbonised seeds	770 +/- 30 BP	Cal AD 1220 to 1280
Beta-362448 (AMS)	charcoal	740 +/- 30 BP	Cal AD 1250 to 1290
Beta-362449 (AMS)	charcoal	820 +/- 30 BP	Cal AD 1160 to 1270
Beta-362450 (AMS)	charcoal	890 +/- 30 BP	Cal AD 1050 to 1080
Beta-362451 (AMS)	charcoal	860 +/- 30 BP	Cal AD 1160 to 1260
Beta-362452 (AMS)	charcoal	830 +/- 30 BP	Cal AD 1160 to 1260
Beta-362453 (AMS)	charcoal	900 +/- 30 BP	Cal AD 1030 to 1220
Mapela Lower Summit			
Beta – 381207 (AMS)	charcoal	870 +/- 30 BP	Cal AD 1162 to 1261
Beta – 381208 (conventional)	charcoal	750 +/- 30 BP	Cal AD 1231 to 1385
Beta – 381209 (AMS)	charcoal	900 +/- 30 BP	Cal AD 1052 to 1256

Table 2: Radiocarbon dates from Terrace Excavation Area 1 Trench 1 (calibrated with OxCal version 4.4 using Hogg *et al*. 2013) (Published in Chirikure *et al* 2014)

Table 2 shows that occupation at Mapela Hill started in the 11th century and ended in the late 14th century. The 11th century occupation on the terrace and on the lower summit is associated with K2 pottery while later dates are associated with Mapungubwe pottery.

Laboratory number	Material dated	Uncalibrated dates	Calibrated Dates
Beta – 392077	charcoal	710 +/- 30 BP	AD 1280 to 1325
Beta – 392078	charcoal	540 +/- 30 BP	AD 1400 to 1445
Beta – 392079	charcoal	620 +/- 30 BP	AD 1315 to 1355
Beta – 392080	charcoal	630 +/- 30 BP	AD 1300 to 1405
Beta – 392081	charcoal	470 +/- 30 BP	AD 1435 to 1495
Beta – 392082	charcoal	670 +/- 30 BP	AD 1290 to 1400
Beta – 392084	charcoal	490 +/- 30 BP	AD 1415 to 1460

Table 3: Radiocarbon dates from Little Mapela excavations calibrated with OxCal version 4.4 using Hogg *et al*. 2013) (Published in Chirikure *et al* 2014)

Table 3 shows that occupation at Little Mapela was much later when compared to that of Mapela. The earliest dates suggest that occupation at Little Mapela dates to the late 13th century. The indications from the dates are that the site was abandoned in the mid-15th century.

4.6 Summary

In conclusion, fieldwork was conducted on Mapela and Little Mapela to generate material culture aiming to understand the cultural behaviours attested at the site. Pedestrian surveys suggested that the sites were intensively occupied but Mapela has a denser occupation on the flats than Little Mapela. The mapping revealed that the Mapela homesteads were associated with cattle kraals and granaries. At Little Mapela, the cattle kraals exist on the flats on the southern side. The excavations yielded ceramics, glass beads and other materials that when analysed, illuminate lifeways of the inhabitants of the two sites. Excavations recovered material which was submitted for radiocarbon dating. Although Mapela is a very big site, the dates indicate that occupation started in the 11th century and ended in the 14th century. Little Mapela is much later but overlapped with Mapela for some time. The analysis of the two sites is presented in the next chapter.

Chapter 5: Ceramic Analysis

5.1 Introduction

Ceramics are an extremely abundant material culture category found at Iron Age sites in southern Africa. Because the clay is fired, ceramics have a very high survival rate spanning the two-thousand-year long farming community habitation in the region (Huffman 1974; Huffman 1982; Pikirayi 2007). Typological studies of ceramics play a pivotal role in understanding the Iron Age past and archaeologists such as Soper, Maggs and Huffman to name a few, have reconstructed localised and regional cultural historical sequences based on comparative studies of ceramics (Soper 1971; Maggs 1984; Huffman 2007). Because for over forty years archaeologists have correlated ceramic typologies with radiocarbon dates, it is easy to fit pottery from newly studied sites into the broader regional chronological framework established for the Iron Age (Maggs 1982). Therefore, typologies provide a high degree of chronological certainty regarding the development of Iron Age communities.

5.2 Ceramic Analysis

Ceramics have been studied for many decades at various levels of analysis including identifying cultural groups, fat residue studies as well as production and distribution. Typologies are, "analyses that form classes by the intersection of categories of different dimensions." (Huffman, 1980:128). Typological approaches in southern Africa started in the 1930s with Gertrude Caton-Thompson investigating ceramics at Great Zimbabwe (Caton-Thompson, 1931). This was followed by a more rigorous typological analysis of ceramics in the 1950s which provided a basis for regional identities (whilst excluding studies of production and distribution). In the 1970s, single trait listing was the main method of interpretation and with that announced a desire to relate the ceramic sequences to modern societies through the use of ethno archaeology (Pikirayi, 2007).

Ceramics have been proven to be very useful when identifying cultural groups in southern Africa. Huffman (1974) has used this approach to investigate the relationships between ceramics and language and concluded that a 'core concept' approach can be used to correlate ceramics and languages in southern Africa. By using historical and linguistic data to track Shona speaking and Sotho-Tswana speaking societies which are the origin of Venda, and comparing that evidence to the ceramic evidence, Huffman saw that the ceramic style reflected that of the linguistic distribution. Language is the primary method of communicating thoughts about the world to each other and therefore there is a strong relationship between worldview, language and material culture (Huffman, 1974; 1980; 2007). Evers (1982) went on to test the reliability of this method. Evers (1982) noted that ceramic style formed part of the larger design style and was reflected on other material culture used by the same group. For example, amongst the Pedi, Gwembe Valley Tonga etc. the designs appearing on ceramics were also reflected on other items of material culture. This crystallised the link between typologies, and the identification of groups in the archaeological record.

However, typologies do have some limitations. Classification systems are arbitrary because certain traits are selected in order to class groups together. One could say that this subjective decision is a downfall of using typologies to reflect groups of people (Pikirayi and Lindahl 2013). With regards to ceramics, it is vital to ensure selected traits accurately reflect various groups. However, this is not always possible. Huffman's (1980) sample size was very small and also considered groups that are widely separated. Therefore, if ceramics from a wider region were tested, the larger distance between them would make differences between them more prominent. However, if ceramics from a smaller region were tested, differences would be less easy to identify, if differences exist at all. For example, a study of ceramics made by different ethnic groups under the Pedi kingdom, Schoeman (1997) demonstrated that various groups can make the same ceramic style. It is also important to remember that typologies are not always straightforward linear progressions.

Nonetheless, regional typological studies of ceramics have proved to be a source for identifying groups in southern Africa, and can be used as the basis for investigating regional group interactions. For example,

Calabrese (2005) has investigated the interactions between Zhizo and Leopard's Kopje groups by examining influences on their ceramic styles. In Calabrese's (2005) study, by conducting an intensive study on the ceramics he was able to identify that Zhizo groups were the subordinate groups to the newcoming Leopard's Kopje elites, identifying for the first time in southern Africa a separation of classes. The Zhizo ceramic style had been altered to such an extent as a result of the Leopard's Kopje influence, that Calabrese (2005) announced a new ceramic style called Leokwe. Huffman (2007) provided a very useful ceramic sequence for all regions in southern Africa. He identified key features of ceramics associated with various cultural groups, thereby making it possible to identify which groups occupied a site in time. However, because ceramic styles change through time, it is not always easy to separate different styles. For example K2, Transitional K2 and Mapungubwe share similar attributes and this makes it difficult to identify which cultural group is represented through time. However, this may be overcome with the added use of radiocarbon dating.

5.2.1 The Multi-Dimensional Approach

Huffman (1980) has identified the multi-dimensional approach in ceramic typologies. He concluded that it was more beneficial to analyse a combination of profile, design layout and motif combinations to identify groups. The most complex type of vessel must be used, that is, the type with the most motif combinations on the most complex profile (Huffman, 2007). This approach has been used by many Iron Age archaeologists and therefore provides further confidence in this study. Maggs (1984) used this approach to understand ceramics in the Tugela basin in the Early Iron Age and Evers (1982) used this method to recognise groups in the Iron Age through analysis of the ceramics. According to Lindahl (1995) this multidimensional approach showed that depending on the method used, stylistic differences could be seen which were not noticed before and may be an identity marker between different groups.

Firstly, the profile of the vessel needs to be considered because it determines the type of surface to decorate, which every potter is confronted with (Huffman, 2007). The vessel profiles in this study are mainly short-necked jars, bowls, beakers and necked jars. The decoration placement is the second component of the multi-dimensional approach and relates to placement of decoration in relation to vessel shape. Table 4 below shows the position and vessel body position used in this study.

Table 4: Position numbers associated with vessel body position

Position	Vessel body position
1	Lip
2	Neck
3	Shoulder
4	Body
5	Base

Decoration technique and motif is the third and fourth component of the multi-dimensional approach. The most common techniques found in this study are comb-stamping, fine incision and wide incision. The decoration motif refers to the design of the decoration and the commonly found characteristics in this study are those of horizontal lines, oblique lines in triangle shapes and cross-hatching. A combination of these attributes is used in the multi-dimensional approach and if the archaeological context and stratigraphy are added to this information, one can understand groups regarding interaction and migration.

In this study, the multi-dimensional approach was used to analyse the ceramics recovered in excavation. A ceramic recording form seen in Appendix A was used for each diagnostic sherd. This data capture form recorded the most important features described in Huffman's multidimensional approach thereby making it possible to identify trends in the ceramic assemblage. Once this had been established, it was possible to make intra and inter site comparisons of the ceramics. Using Huffman's (2007) illustrations of the sequence

of the ceramic motifs found in the Mapela Hill region (Appendix F to K), it became possible to identify which cultural groups occupied the site through time.

5.2.2 Summary

Ceramics are the most durable and abundant material culture found in Iron Age sites. They reflect group identity, interaction and culture history. Huffman's multi-dimensional approach involving the study of profile, design layout and decoration motif proved to be the most suitable method to use in this investigation. The method has been used by many archaeologists and this will allow for easy comparison of results to sites such as K2 and Mapungubwe. Some limitations to this method have been mentioned, however they will not affect this study because the Leopard's Kopje Culture is well-known and has been correlated with tight radiocarbon dates.

5.3 Ceramic Results

5.3.1 Introduction

In all excavations at Mapela Hill and Little Mapela, a total of 4950 ceramic sherds were recovered. 413 of these were diagnostic, 80 of which were decorated. 12 decorated sherds were collected as Surface Finds. A sherd was diagnostic if it contained any decoration, or if it contained a rim. Some rimmed pieces were too small to identify vessel shape, however were still recorded as diagnostic for data capture. Appendix E provides a table presenting the abundance of pottery from each level of each trench. Terrace Excavation Area 1 yielded the most decorated ceramics, with Terrace Excavation Area 2 yielding the least. The following sections will present results of various attributes of the ceramics in turn, namely lip form, surface treatment, vessel shape, as well as a multidimensional analysis.

5.3.2 Lip Forms and Surface Treatment

The majority of the rimmed ceramic assemblage was made up of rounded lip forms (86%). The remainder of the assemblage comprised of tapered lip forms (10%) and bevelled lip forms (4%).

20% of decorated and rimmed pieces were burnished in the entire assemblage. Graphite burnishing was the dominant form of burnishing of ceramics. This occurred mostly on the outside of ceramics, however, many bowls were burnished on the interior rather than the exterior. A few jar sherds contained brown burnishing. A part from this, only 2 sherds containing brown burnishing were recovered.

5.3.3 Vessel Shape

All diagnostic sherds comprised of either Short-Necked Jars, Bowls and Bellied Pots. Figure 16 below illustrates different vessel shapes recovered in excavation.

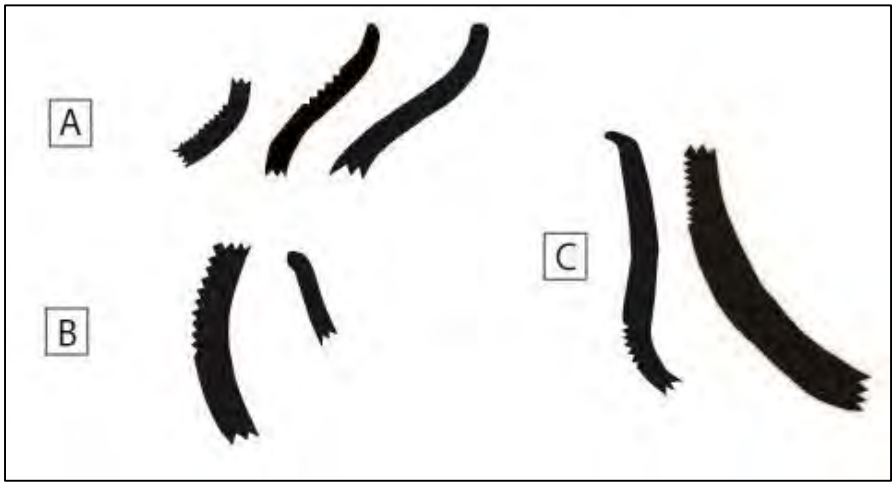


Figure 16 A: Short-necked Jar types; B: Bowl types; C: Beaker types

Short-Necked Jars (hereafter shortened as 'SNJ') (85%) were the dominant vessel shape, whilst Bowls (14%) and Beakers (6%) were less frequent. The vessel shapes will now be presented by layer in each trench.

Excavation Area 1

Level	Vessel shape	Number of sherds
1	SNJ	4
3	SNJ	1

Table 5: Vessel shapes in each level in Excavation Area 1

This trench yielded only 4 diagnostic sherds, all of which were SNJ's shown in Table 5.

Terrace Excavation Area 2

Level	Vessel shape	Number of sherds
1	Bowl	2
1	SNJ	1
2	SNJ	1
3	Bowl	1
4	SNJ	1
4	Beaker	1

Table 6: Vessel shapes in each level in Terrace Excavation Area 2, Trench 1

The Trench 1 excavation comprised of a combination of SNJ's, Bowls and Beakers. However it can be seen that the beakers are situated towards the bottom of the trench and the bowls are situated towards the top of the trench shown in in Table 6.

Level	Vessel shape	Number of sherds
1	Beaker	1
3	SNJ	1
4	SNJ	1

Table 7: Vessel shapes from Terrace Excavation Area 2 Wall Rescue Excavation

This excavation contained a beaker and some SNJ's. The beaker is situated towards the top of the trench shown in Table 7.

Terrace Excavation Area 1

Level	Vessel shape	Number of sherds
2	SNJ	1
3	Bowl	1
3	SNJ	3
5	SNJ	2
8	SNJ	1
15	SNJ	3
16	SNJ	3
17	SNJ	1
17	Beaker	1
18	SNJ	3
18	Bowl	1

Table 8: Vessel shapes recovered from Terrace Excavation Area 1

This trench revealed many diagnostic sherds and displays a combination of Bowls, SNJ's as well as Beakers. The beaker is located towards the bottom of the trench and the SNJ's and Bowls are scattered throughout the deposit. Table 8 shows the analysis.

Lower Summit Trench 1

Level	Vessel shape	Number of sherds
1	Bowl	2
1	SNJ	2
2	SNJ	2
4	SNJ	1
5	SNJ	1
6	Beaker	1

Table 9: Vessel shapes recovered from Lower Summit Trench 1

Level	Vessel shape	Number of sherds
2	SNJ	2
3	Bowl	1
5	SNJ	1

Table 10: Vessel shapes recovered from Lower Summit Trench 2

This excavation area yielded bowls towards the top of the trench, SNJ's in the middle of the occupation and beakers towards the bottom of the trench shown in Tables 9 and 10.

Garlakes Trench A extension

Level	Vessel shape	Number of sherds
3	SNJ	4
3	Bowl	2
4	SNJ	2
8	SNJ	1
8	SNJ	1
9	SNJ	2
10	Beaker	2
10	SNJ	3

Table 11: Vessel shapes recovered from Garlakes Trench A extension

This trench yielded a combination of SNJ's, Bowls and Beakers. The Beakers are situated towards the bottom of the trench, the SNJ's are found throughout the stratigraphy and the Bowls were only towards the top of the trench shown in Table 11.

Garlakes Trench B extension

Level	Vessel shape	Number of sherds
3	Bowl	2

Table 12: Vessel shapes recovered from Garlakes Trench B extension

Only Bowls were recovered in excavation from this trench as the deposit did not yield much material culture shown in Table 12.

In summary, the vessel profiles recovered from Mapela Hill were a combination of Bowls, SNJ's and Beakers. The SNJ's were scattered throughout the deposit, the bowls were mainly recovered towards the surface of the trenches and the beakers were only recovered towards the bottom of the trench. The next section will present the decoration placement of each decorated sherd in each trench.

5.3.4 Decoration Placement

The Decoration Placement was recorded from each decorated sherd. Majority of decoration was situated on the shoulder of vessels, some were situated on the lower neck and shoulder of vessels and

only a few were situated solely on the neck. The following presents the decoration placement from each sherd in each trench.

Excavation Area 1

	1 (Rim)	2 (Neck)	2-3 (Lower neck to shoulder)	3 (Shoulder)	4 (Body)
Level	#	#	#	#	#
1	-	1	-	2	1
3	-	1	-	-	-

Table 13: Decoration placement on sherds recovered from Excavation Area 1

Most of the sherds recovered in Excavation Area 1 contained decoration on the shoulder and body of the vessels. Only a few sherds contained decoration on the neck shown in Table 13.

Terrace Excavation Area 2 Trench 1

	1 (Rim)	2 (Neck)	2-3 (Lower neck to shoulder)	3 (Shoulder)	4 (Body)
Level	#	#	#	#	#
1	-	-	-	3	-
2	-	-	1	-	-
3	-	-	1	-	-
4	-	-	-	2	-

Table 14: Decoration placement on sherds recovered from Terrace Excavation Area 2 Trench 1

This excavation yielded decorated sherds mostly containing decoration on the shoulder of vessels. Only a few sherds separate from this with decoration on the lower neck to shoulder shown in Table 14.

Terrace Excavation Area 2 Wall Rescue

	1 (Rim)	2 (Neck)	2-3 (Lower neck to shoulder)	3 (Shoulder)	4 (Body)
Level	#	#	#	#	#
1	-	-	-	1	-
3	-	-	-	1	-
4	-	-	1	-	-

Table 15: Decoration placement on sherds recovered from Terrace Excavation Area 2 Wall Rescue

The ceramics from the Wall Rescue excavation are decorated on the lower neck to shoulder towards the bottom of the trench, and only decorated on the shoulder towards the top of the trench shown in Table 15.

Terrace Excavation Area 1

	1 (Rim)	2 (Neck)	2-3 (Lower neck to shoulder)	3 (Shoulder)	4 (Body)
Level	#	#	#	#	#
2	-	-	-	2	-
3	-	-	-	4	-
5	-	-	-	2	-
8	-	-	-	1	-
15	-	-	1	1	-
17	-	-	1	-	-
18	-	-	3	1	-

Table 16: Decoration placement on vessels recovered from Terrace Excavation Area 1

Towards the bottom of the trench, the decorated ceramics contain decoration on the lower neck to shoulder of vessels. Towards the top of the trench a change to decoration on the shoulder alone can be seen in Table 16.

Lower Summit Trench 1

	1 (Rim)	2 (Neck)	2-3 (Lower neck to shoulder)	3 (Shoulder)	4 (Body)
Level	#	#	#	#	#
1	-	-	-	3	-
2	-	1	1	-	-
4	-	-	-	1	-
5	-	-	-	2	-

Table 17: Decoration placement on vessels recovered from Lower Summit Trench 1

The decorated vessels in this trench mainly contained decoration on the shoulder of vessels. However 2 sherds part from this by being decorated on the neck and lower neck to shoulder. This can be seen in Table 17.

Lower Summit Trench 2

	1 (Rim)	2 (Neck)	2-3 (Lower neck to shoulder)	3 (Shoulder)	4 (Body)
Level	#	#	#	#	#
2	-	1	-	1	-
3	-	-	1	-	-
5	-	-	-	1	-

Table 18: Decoration placement on vessels recovered from Lower Summit Trench 2.

The sherds in this excavation contained decoration mainly on the shoulder throughtout the excavation. Only two sherds separate from this with decoration on the neck and lower neck to shoulder seen in Table 18.

Garlakes Trench A extension

	1 (Rim)	2 (Neck)	2-3 (Lower neck to shoulder)	3 (Shoulder)	4 (Body)
Level	#	#	#	#	#
3	-	-	-	6	-
4	-	-	-	1	-
8	-	-	-	1	-
9	-	-	2	-	-
10	-	-	2	3	-

Table 19: Decoration placement on vessels recovered from Garlakes Trench A extension

The decorated sherds recovered from Garlakes Trench A show a combination of placement on the lower neck to shoulder towards the bottom of the trench. Towards the top of the trench, decoration on the soulder dominates with no other decoration located anywhere else on the profile seen in Table 19.

Garlakes Trench B Extension

	1 (Rim)	2 (Neck)	2-3 (Lower neck to shoulder)	3 (Shoulder)	4 (Body)
Level	#	#	#	#	#
3	-	-	-	1	-
6	-	-	1	-	-

Table 20: Decoration placement on vessels recovered from Garlakes Trench B extension

Towards the bottom levels of this trench, the decoration placement is located on the lower neck to shoulder. This differs from towards the top of the trench where only shoulder decoration is evident seen in Table 20.

Little Mapela Excavation

	1 (Rim)	2 (Neck)	2-3 (Lower neck to shoulder)	3 (Shoulder)	4 (Body)
Level	#	#	#	#	#
1	-	-	-	3	-
2	-	1	1	-	-
4	-	-	-	1	-
5	-	-	-	2	-

Table 21: Decoration placement on sherds recovered from Little Mapela.

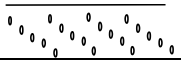
The decoration placements on sherds from Little Mapela include a combination of shoulder, neck and lower neck to shoulder positions seen in Table 21. There is no clear trend in the results, probably owing to the shallow deposit of the trench.

In summary, the decoration placement on all decorated vessels changes from the bottom levels of the trench displaying decoration on the lower neck to shoulder as well as shoulder decoration. This differs from the top layers of the trench where only shoulder decoration is evident. The next section will combine the decoration technique, decoration placement and decoration motif in order to use a multidimensional approach to examine the ceramic sherds in each level in each trench.

5.3.5 A Multidimensional Analysis

In order to discuss the ceramic results in light of regional ceramic data, a multidimensional analysis will be used. This includes a combination of attributes namely decoration placement, decoration technique and decoration motif. The results for each trench will be presented and commented on, thereafter a conclusion will be presented to summarize key features displayed in the Mapela Hill ceramics.

Excavation Area 1

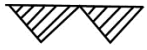
Level	Vessel Form	Decoration technique	Motif	Placement	Nº of sherds
1	SNJ	F/I		2	1
1	SNJ	F/I		3	2
1	SNJ	F/I		4	1
3	SNJ	CS & F/I		2	1

SNJ: Short-necked Jar F/I: Fine Incision CS: Comb Stamping

Table 22: Multidimensional types from Excavation Area 1

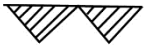
The ceramics recovered from this excavation are combined of upward facing triangles on the shoulder and lower necks of jars towards the top of the trench. Towards the bottom of the trench the decoration motif is different from the rest of the assemblage being the only comb stamped sherd in the excavation seen in Table 22.

Terrace Excavation Area 2

Level	Vessel Form	Decoration technique	Motif	Placement	Nº of sherds
1	SNJ	F/I		3	1
1	Bowl	F/I		3	1
1	Bowl	F/I		3	1
2	SNJ	F/I		2 to 3	1
3	Bowl	F/I		2 to 3	1
4	Beaker	F/I		3	1
4	SNJ	F/I		3	1

SNJ: Short-necked Jar F/I: Fine Incision

Table 23: Multidimensional types recovered from Terrace Excavation Area 2 Trench 1

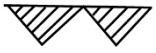
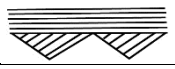
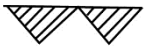
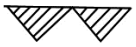
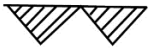
Level	Vessel Form	Decoration technique	Motif	Placement	Nº of sherds
1	Beaker	F/I		3	1
3	SNJ	F/I		3	1
4	SNJ	F/I		2 to 3	1

SNJ: Short-necked Jar F/I: Fine Incision

Table 24: Multidimensional types recovered from Terrace Excavation Area 2 Wall Rescue

The ceramics recovered from this excavation area show a combination of upturned and downturned triangle on beakers and SNJ's towards the bottom of the trench, and the same motif on the shoulder of SNJ's towards the top of the trench. These features are seen in Tables 23 and 24.

Terrace Excavation Area 1

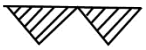
Level	Vessel Form	Decoration technique	Motif	Placement	Nº of sherds
2	SNJ	F/I		3	2
3	SNJ	F/I & PS		3	1
3	SNJ	F/I		3	1
3	Bowl	F/I		3	1
3	SNJ	F/I		3	1
5	SNJ	F/I		3	1
5	SNJ	F/I		3	1
8	Bowl	F/I		3	1
15	SNJ	F/I		2 to 3	1
15	SNJ	F/I		3	1
17	SNJ	F/I		2 to 3	1
18	SNJ	F/I		2 to 3	1
18	SNJ	F/I		3	1
18	SNJ	F/I		2 to 3	1
18	SNJ	F/I		2 to 3	1

SNJ: Short-necked Jar F/I: Fine Incision PS: Punctate Stamping

Table 25: Multidimensional types recovered from Terrace Excavation Area 1

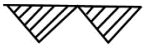
Towards the bottom of this trench, arcades on lower necks and shoulders of jars and upturned and downturned triangles on the same position is the dominant type. Towards the top of the trench, shoulder decoration dominates with the same motif style seen in Table 25.

Lower Summit Excavations

Level	Vessel Form	Decoration technique	Motif	Placement	Nº of sherds
1	SNJ	F/I		3	1
1	Bowl	F/I		3	2
2	SNJ	F/I		2	1
2	SNJ	F/I		2 to 3	1
4	SNJ	F/I		3	1
5	SNJ	F/I		3	1
6	Beaker	F/I		3	1

SNJ: Short-necked Jar F/I: Fine Incision

Table 26: Multidimensional types recovered from the Lower Summit excavation, Trench 1

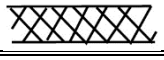
Level	Vessel Form	Decoration technique	Motif	Placement	Nº of sherds
2	SNJ	F/I		3	1
2	SNJ	F/I & P/S		2	1
3	SNJ	F/I		2	1
5	SNJ	F/I		2 to 3	1

SNJ: Short-necked Jar F/I: Fine Incision PS: Punctate Stamping

Table 27: Multidimensional types recovered from Lower Summit excavation, Trench 2

The ceramics recovered in this excavation (Table 26 and 27) show upturned triangles and interlocking triangles in the lower levels of the trenches. In the middle of the trenches, upturned as well as downturned triangles are common in SNJ's and towards the top of the trench, bowls containing downturned crosshatched triangles as well as upward facing triangles are common.

Garlake's Trench A extension

Level	Vessel Form	Decoration technique	Motif	Placement	N^{o} of sherds
3	SNJ	F/I		3	3
3	Bowl	F/I		3	1
3	SNJ	F/I		3	1
3	Bowl	F/I		3	1
4	SNJ	F/I		3	1
8	SNJ	F/I		3	1
9	SNJ	F/I		2 to 3	1
9	SNJ	F/I		2 to 3	1
10	SNJ	P/S		2 to 3	1
10	SNJ	F/I		2 to 3	1
10	SNJ	F/I		3	2
10	Beaker	F/I		3	1

SNJ: Short-necked Jar F/I: Fine Incision PS: Punctate Stamping

Table 28: Multidimensional types recovered from Garlakes Trench A extension

This trench recovered many decorated ceramics (Table 28). Towards the bottom of the trench, interlocking triangles on beakers shoulders and arcades on lowers necks and shoulders of SNJ's dominated. Towards the top of the trench, cross hatched triangles on SNJ's and geometric designs on shoulders of bowls and SNJ's dominated.

Garlakes Trench B extension

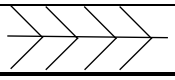
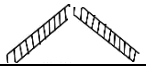
Level	Vessel Form	Decoration technique	Motif	Placement	N^{o} of sherds
3	Bowl	F/I		3	1
6	Bowl	F/I		2 to 3	1

SNJ: Short-necked Jar F/I: Fine Incision

Table 29: Multidimensional types recovered from Garlakes Trench B extension.

The decorated ceramics in this trench (Table 29) were comprised of downturned triangles with incision and cross hatching on shoulder as well as lower neck to shoulder placements.

Little Mapela Excavation

Level	Vessel Form	Decoration technique	Motif	Placement	Nº of sherds
1	SNJ	F/I		2	1
1	SNJ	F/I		3	1
1	SNJ	F/I		2 to 3	1
2	Bowl	P/S		3	1
2	SNJ	F/I		2	1
2	SNJ	F/I		3	3
3	SNJ	F/I		3	1

SNJ: Short-necked Jar F/I: Fine Incision PS: Punctate Stamping

Table 30: Multidimensional types recovered from Little Mapela

The decorated ceramics recovered from Little Mapela (Table 30) contained hatching in the neck on vessels, geometric patterns and lines of incision on the shoulder of jars throughout the deposit. One bowl was recovered with punctate stamping on the shoulder of the vessel.

5.4 Discussion and Conclusion

Although the sample size of the ceramic assemblage is small, it is possible to make some tentative conclusions about the cultural groups which occupied this site through time using the well-established ceramic sequence initiated by Huffman (2007). This section will compare Huffman's ceramic sequence to those of Mapela and identify which motifs are represented in each excavation

area. Thereafter, the Mapela Hill ceramics will be compared to the quite different Little Mapela ceramics.

At the foot of Mapela Hill in the Excavation Area 1, the existence of comb stamping decoration towards the bottom of the trench indicate a short Zhizo occupation (illustration number 057: Appendix M). This is so because comb stamping does not appear in any of the ceramic sequences from Leopard's Kopje groups. Above this, given by the existence of downturned triangles on shoulders of SNJ's, a K2 occupation existed (illustration Number 054: Appendix M). Unfortunately, the Zhizo occupation is not long enough or on a large enough scale to explore the relationship between the two groups represented here. However, future work should be aimed at this direction.

On the terraces of the hill, we find upturned and downturned arcades and triangles on the lower neck and shoulders of jars towards the bottom of the trench (for example illustration numbers 081, 083, 070, 073 and 071: Appendix P). According to Huffman in Appendix F and G these attributes are typical of K2 and transitional K2 ceramics. This is emphasised by the existence of beakers containing interlocking triangle decoration on the shoulders: exclusively a transitional K2 feature (for example, illustration numbers 078, 079 and 038: Appendix Q and S). In the middle of the trenches upturned and downturned triangles exist on the shoulders of jars from level 9 and 10 of Garlakes Trench A excavation (for example illustration numbers, 026, 035, 030, 092, 090 and 068: Appendix T, S, R and P). Towards the top of the trenches, geometric designs on bowls and downturned triangles on shoulders of jars dominate the assemblage from level 3 and 4 in Garlakes Trench A extension, and levels 2 and 3 in the Lower Summit trenches (for example illustration numbers 027, 028 and 029:Appendix S). According to Appendices H and I, these are key features of Mapungubwe facies.

The Mapela ceramics are very different from the Little Mapela ceramics in that the Little Mapela ceramics do not show any development through time. The ceramics are mostly geometric designs and downturned triangles typical of the Mapungubwe phase (for example, illustration number 008,

010, 003 and 004). However, the surface collections shown in Appendix U and V from Mapela Hill and Little Mapela show that the two sites are both a part of the Leopard's Kopje Culture. Both containing downturned triangle motif on the shoulders of jars and elaborately decorated bowls (for example illustration numbers 043, 052, 053, 050 and 051: Appendix L), just that Little Mapela is a later development of Mapela Hill.

In summary, the ceramic analysis can conclude the following. Mapela Hill shows a sequence of occupation with a short Zhizo occupation on the foot of the hill, followed by a later K2 occupation. The evidence is not conclusive enough to identify a relationship between the two occupations. On the terraces and summit of the hill, there is a K2 occupation at the earliest levels of the site. This is followed by a Transitional K2 phase and a later Mapungubwe phase. The Little Mapela ceramics are of the Mapungubwe type and could therefore be a later extension of Mapela Hill itself. The next Chapter will present an analysis of the glass bead sequence at Mapela Hill.

Chapter 6: Glass Bead Analysis and Results

6.1 Introduction

Glass beads are commonly recovered from Iron Age sites. In southern Africa, glass beads were brought from across the Indian Ocean and traded for various items such as gold, cotton and ivory. Because they are an exotic good, archaeologists are able to make inferences about the status of communities by examining the abundance of the exotic goods. Wood (2005) for the first time compiled a seriation of southern African glass beads allowing archaeologists to use them as chronological indicators. Archaeologists can also use glass beads to identify local trading patterns by establishing relationships between capital states and their hinterland.

6.2 Bead Analysis

The glass beads in southern Africa have been classified by different archaeologists using various techniques and different terminologies (Gardner, 1963; Robinson, 1966; 1961; Karklans, 1985; Davison 1973; Chittick, 1974). As a result, it becomes difficult to compare the glass beads from one site to another, thereby hindering a regional approach. Wood (2005) provided a standardised approach for glass bead analysis, highlighting key features of each series therefore making intra and inter-site comparisons very straightforward. Because the main aim of this project is to compare the archaeology of Mapela Hill to that of broader southern Africa, it will be suitable to classify and analyse the Mapela Hill glass beads according to Wood's (2005) methodology outlined below.

Wood (2005) adapted her classification system from Kidd & Kidd (1970) and Karklins (1985). Attributes under examination which separate out different bead series are: Method of manufacture, shape, end treatment, size range, length ratio, diaphaneity and colour. This report of Mapela Hill glass beads has used

shape, size range, colour and diaphaneity as these are the most common variations found within the K2/Mapungubwe bead sphere.

Shape is divided into tube, cylinder, oblate, sphere, ellipsoid, barrel, bicone and lenticular. Size ranges were adapted from Chittick (1974) and classified in table 31 below as:

Table 31: Size ranges for glass beads according to Wood (2005: 34)

Size	**Diameter**
Minute	<2.5mm
Small	2.5-3.5mm
Medium	3.5-4.5mm
Large	>4.5mm

Diapheneity classifications were defined by Wood (2005: 35) as:

"Transparent- objects can be clearly seen through glass.

Transparent-translucent- glass is slightly cloudy (often due to bubbles).

Translucent-transparent- glass cloudy but light passes easily through bead.

Translucent- light passes through entire bead.

Translucent-opaque- glow of light from most of bead.

Opaque-translucent- slight glow of light at edges of bead.

Opaque- no light seen through edge of bead."

Levels of patination were classified as either, none, light, medium, heavy or very heavy (no colour remaining on bead).

In an attempt to simplify the bead series in the Shashe- Limpopo Basin, Woods (2005) named the series after the places they were dominantly found. Some key features of each series are provided below.

6.2.1 The K2 Series

The K2 series is comprised of two variations namely Drawn beads and Garden Rollers. Drawn beads will be discussed first.

1) Drawn Beads

Drawn beads appear in southern Africa in the mid-10th century and were imported up until the end of the 12th century. They are characteristically reheated transparent to translucent drawn tubes & cylinders. The easiest to recognise are the transparent turquoise tubes. However, colours range from blue-green to greenish blue and even a few green. These beads are seldom patinated. Large numbers of these beads are only found at K2 itself and related Shashi Limpopo sites such as Pont Drift, Schroda and Skutwater. In Botswana, a few were found at Mmamagwe and Bosutswe but mainly found at commoner site of Kgaswe B55. In Zimbabwe, they have been found at Gokomere Tunnel Site (Robinson (1963), Mabveni (Robinson 1961) and Great Zimbabwe Phase II sites (Robinson 1966). The figure 17 illustrates typical drawn beads identified by Wood (2000).

Figure 17: K2 series from Wood (2000: 77)

2) Garden Roller Beads

Garden rollers were manufactured from recycled K2 series glass beads. There have been several techniques recorded to work the glass, but nearly all include a clay mould. These beads are usually translucent to opaque-translucent. Most of them are barrel shaped, however a few are spherical and some are cylindrical. They are mostly found at K2. In Botswana, they are found at Thatswane, Bosutswe, Moritsane, Mmamagwa and Kaitshe, Sua Pan. In Zimbabwe, they are found at Leopards Kopje Main Kraal, Mt Alice, Taba Zika Mambo, Chivowa Hill found by archaeologists such as Huffman (1974), Schoefield (1938) and Robinson (1966). Figure 18 illustrates these typical Garden Roller beads.

Figure 18: K2 Garden Roller beads Woods (2000: 77)

6.2.2 Indo- Pacific Bead Series

These beads also arrived in the 10th century. Yellow and green were the first to arrive at Schroda and Pont Drift. Brownish-red beads are later and post-date Schroda. Black beads are rare but do occur in pre Mapungubwe contexts. Light orange beads occur occasionally in the series. The figure 19 illustrates these glass beads.

Figure 19: Indo Pacific beads (Wood, 2000: 78)

6.2.3 The Mapungubwe Series

Mapungubwe series are mostly small, drawn oblate beads and are uniform in shape. Opaque black oblates are the most popular colour. Others range from translucent to opaque-translucent and include blue-green, light yellow, green and orange. Transparent to translucent-transparent cobalt blue and a purplish to brownish colour commonly referred to as plum. Black beads commonly devitrify giving an opaque white/yellow appearance. This is a typical feature which is only found in this Mapungubwe series. They occur at various Mapungubwe phase sites. In Botswana, small numbers have been recovered at Bosutswe and unknown numbers at Mmamagwe. In Zimbabwe at Mapela (Garlake, 1968), Woolandale (Robinson, 1966); Taba Zika Mambo (Robinson, 1966); Great Zimbabwe Phase II (Robinson, 1961); Runyani Ruin and Khami (earliest Levels) (Garlake, 1968) amongst others. Figure 20 illustrates these typical Mapungubwe oblates.

Figure 20: Mapungubwe bead series (Wood, 2000: 78)

6.3 Glass Bead Results

With a colour range of green, blue-green, green, black and yellow and all being oblates, the glass beads recovered from Mapela Hill were typical Mapungubwe oblates. A total of 262 glass beads were analysed because of the scale of this study, however, a few thousand were recovered in excavation (Figure 21 showing glass beads from the bead cache; Figure 22 showing glass beads from other excavations). It was ensured that each size, colour and type category of bead was incorporated into the analysis. Refer to Appendix W for classifications of each bead. For analysis purposes, each bead was allocated a class type described in Table 32.

Figure 21: Thousands of glass beads recovered from the Cave of Beads at Mapela Hill

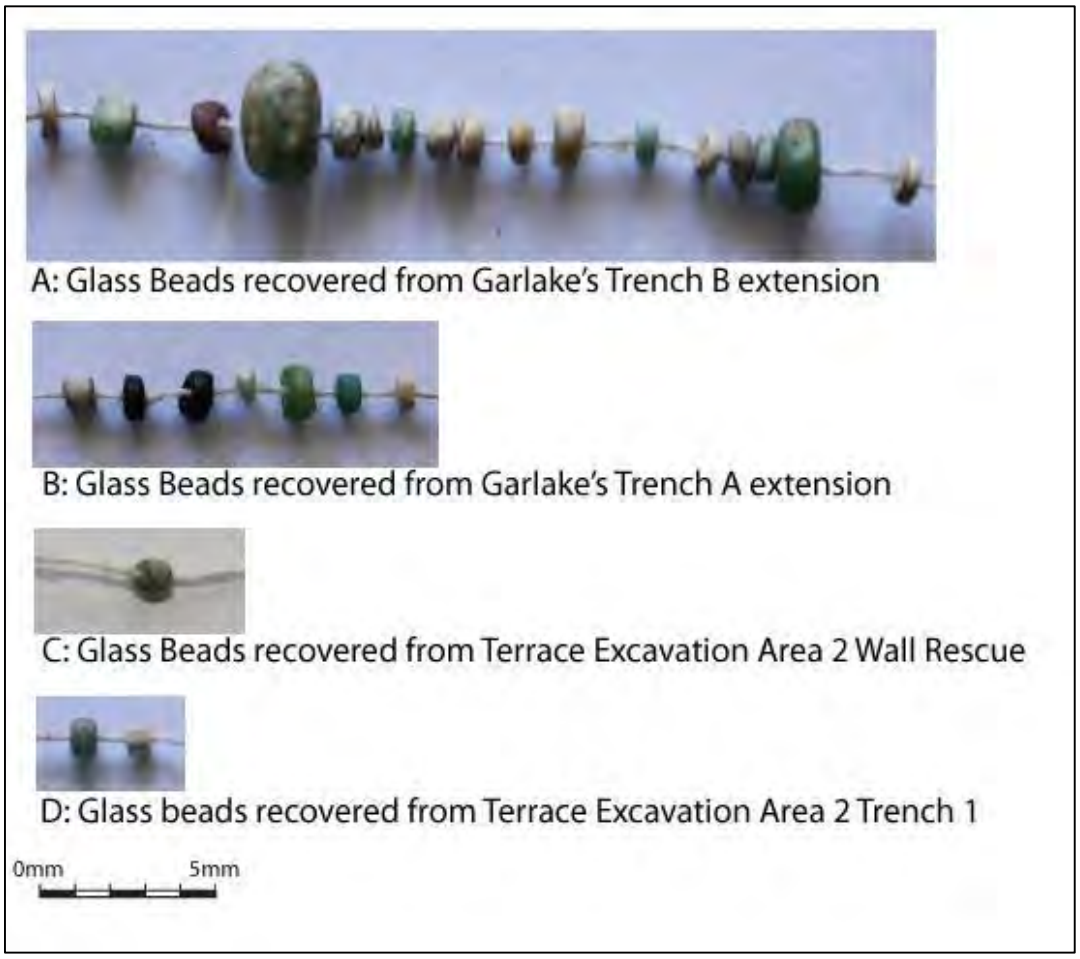


Figure 22: Photographs of glass beads recovered from various trenches.

Table 32: Description of glass bead types

Class Type	Description
1	opaque/translucent, blue and blue-green, slight to no patination
2	Translucent to translucent-opaque, blue slight patination
3	Opaque, white devitrified
4	Opaque, black no patination
5	Opaque, blue-green, medium to heavy patination
6	Opaque, green slightly patinated

Figures 23 shows photographs of each classification 'type' used in this study.

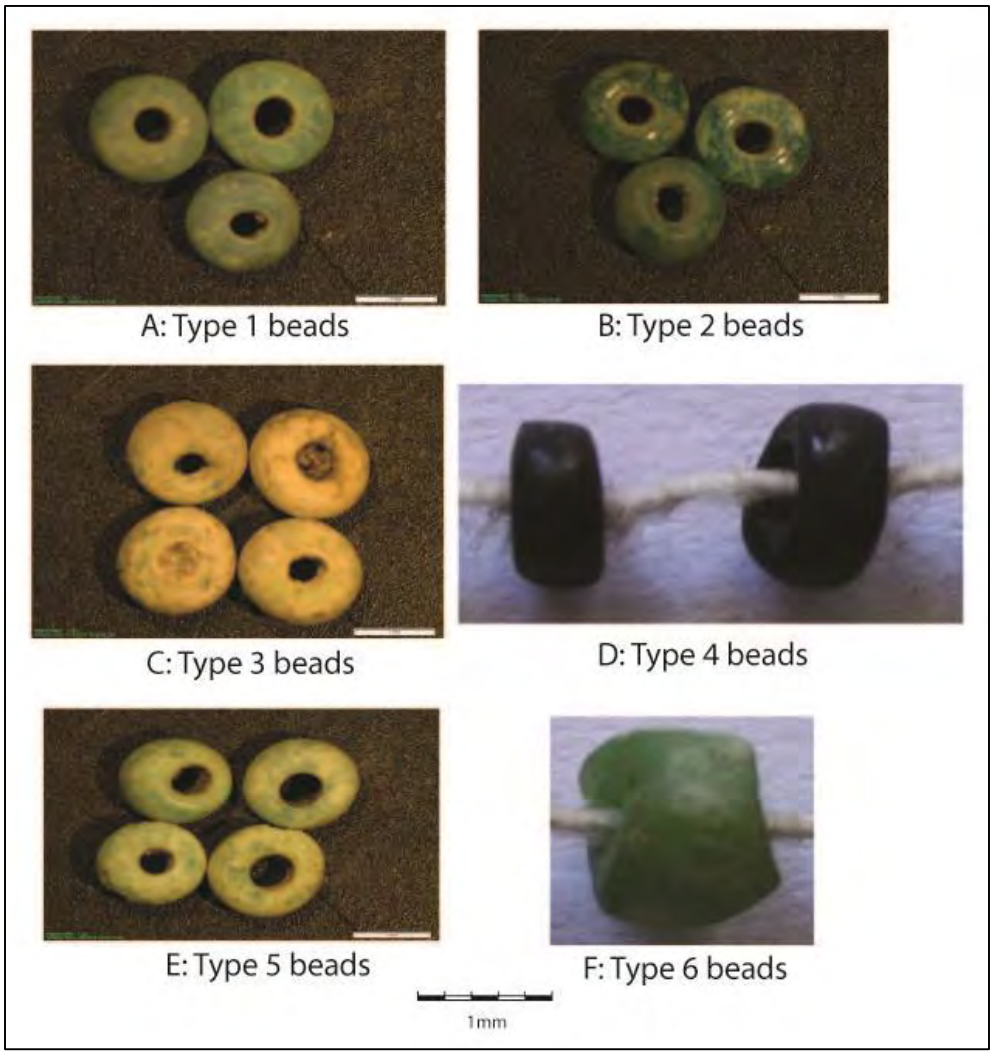


Figure 23: Photographs of each bead type used in classification

Figures 24 and 25 show the abundance of the various bead types identified during analysis. The results show that blue-green coloured oblates were the most common in the assemblage. Also, a high majority of white devitrified beads were encountered as seen in Figure 24. According to Wood (2005) this is a common characteristic encountered in the Mapungubwe oblate series. The most common type of bead encountered was Type 5 (40% of the assemblage). These are typical Mapungubwe oblate series described by Wood (2005).

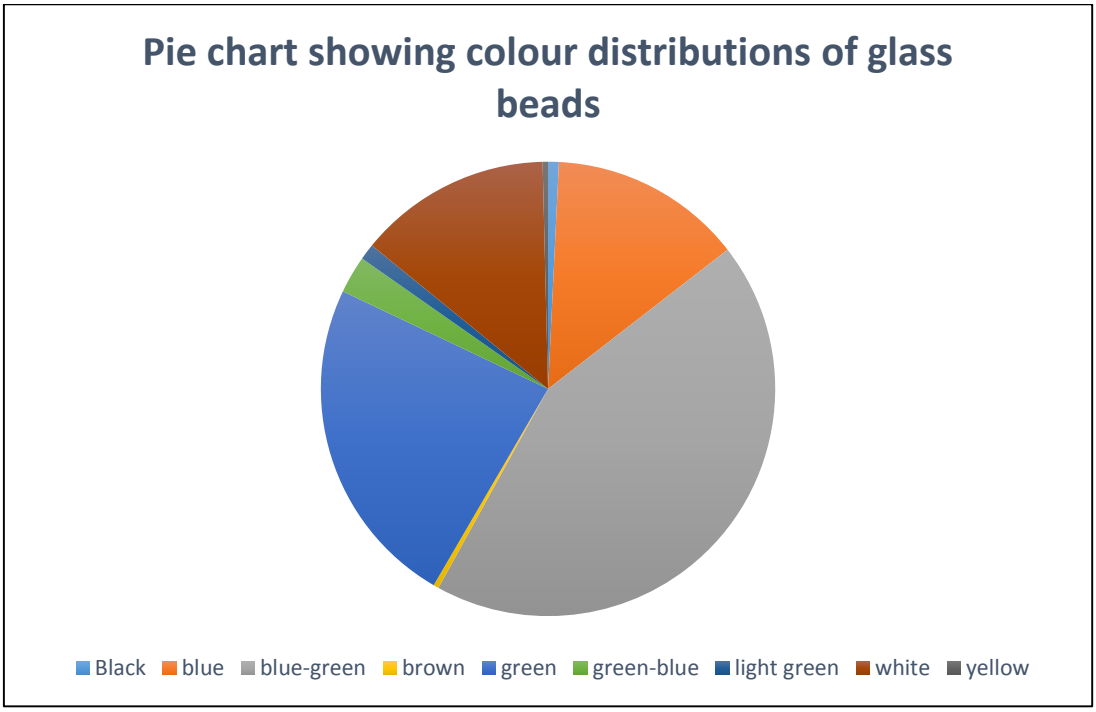


Figure 24: Colour distribution of glass beads from all excavations at Mapela Hill

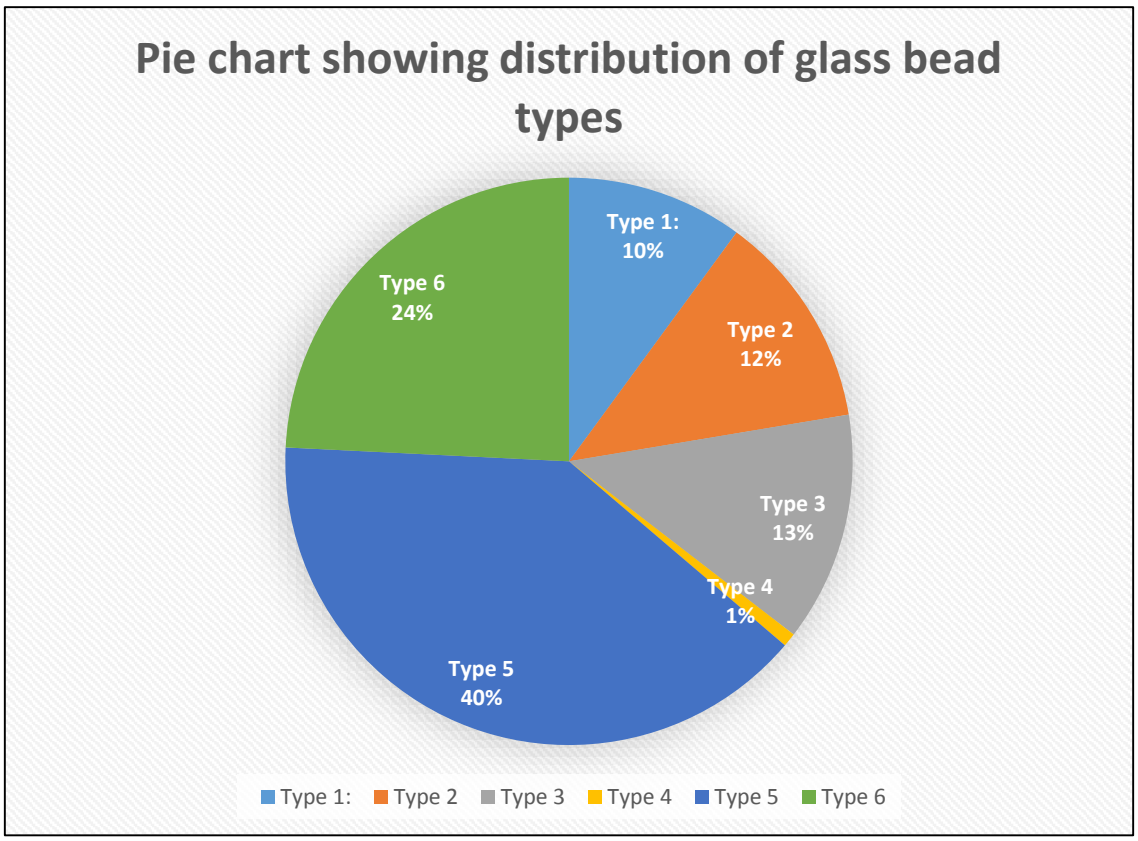


Figure 25: Distribution of glass bead types from all excavations at Mapela Hill

One bead which may have been a barrel shaped K2 garden roller was excavated from the lower levels of Garlakes Trench Extension B. This bead was a barrel shaped- translucent-opaque beads and was much larger than the rest of the recovered beads. In Figure 26 the size relationship between the Garden Roller and the oblates on either side can be seen.

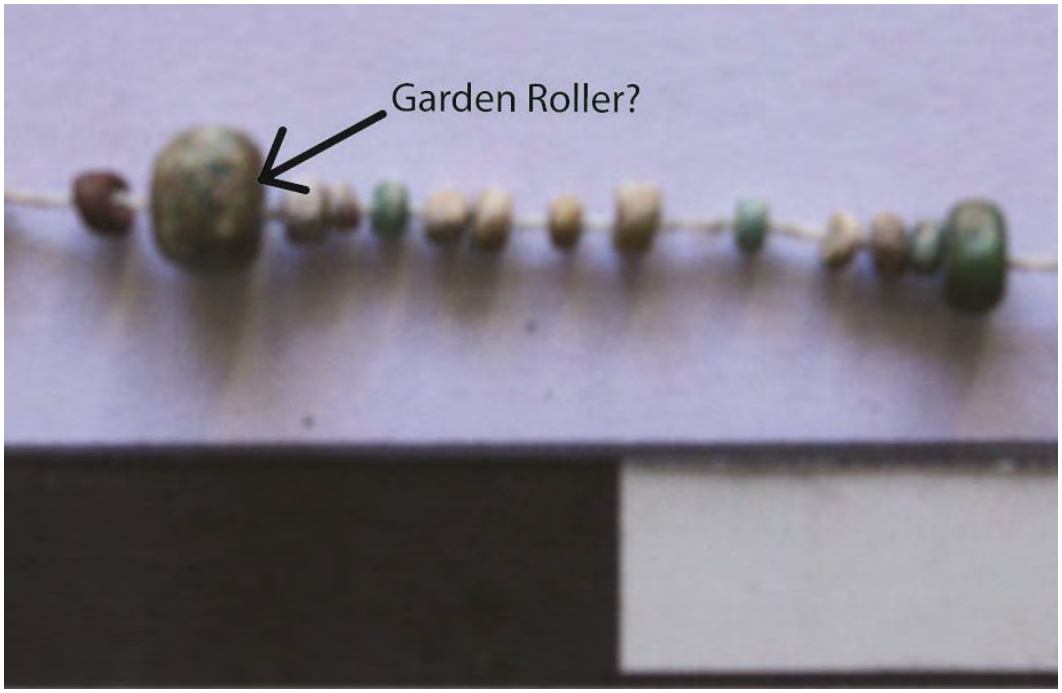


Figure 26: Photograph of a possible garden roller bead

The glass beads recovered from Mapela Hill occur in abundance all around the site, indicating a high involvement in trade activity. They are most similar to those recovered from Mapungubwe, Malumba and Taba Zikamambo.

6.4 Conclusion

The excavations at Mapela Hill recovered thousands of glass beads. As a result of the scale and scope of this study, only a portion of the glass beads could be analysed. Nonetheless, some conclusions can be drawn. Mapela Hill was intensely active in international trade. According to Woods' (2000; 2005) analysis they are typical Mapungubwe oblates characteristically blue-green and black in colour as well as containing devitrified black beads. We can use the glass beads as a means of relative dating, and conclude that the site was occupied during the Mapungubwe period. The next chapter presents the analysis and results of the stone walling, metal and *dhaka* material culture.

Chapter 7: Fauna, Stone Walling, Metals and *Dhaka* fragments Analysis and Results

7.1 Introduction

The fauna, stone walling, metals and *dhaka* remains will be discussed in turn in this chapter. These features were described and photographed as a means of documentation. Since the onset of domestication in past societies, archaeologists have turned to faunal remains in order to understand complex issues such as animal exploitation, subsistence strategies and cultural issues surrounding animals such as cattle. Researchers such as Thorp (1984a; 1984b) have made way in identifying stratification of class-based societies at sites such as Great Zimbabwe and Khami through faunal analysis. Archaeologists such as Manyanga (2001; 2006) have turned to faunal studies to identify resource exploitation during drier periods in south central Zimbabwe as a means of contributing to our knowledge of adaptation strategies used by farming groups. Faunal remains from major sites such as Mapungubwe and Bosutswe have been investigated in order to identify animal resource exploitation and its cultural implications (Plug, 1996; Voigt, 1983). As a result of these studies, faunal reports have become a necessity in order to obtain a holistic understanding of any Iron Age site.

Evidence of stone walling in southern Africa has been associated with the Zimbabwe Culture embedded in the rise of complexity and state formation. It has been hypothesised that stone walling is an elite entity and the first walling exists at Mapungubwe (Huffman, 2007; 2014; 2015). However, various types of stone walling exist on the landscape, showing an evolution through time. Whitty (1960) has classified stone walling in southern Africa and most identifications of stone walling are based on his work.

Metal working is relatively abundant at Little Mapela showing craft specialisation. *Dhaka* fragments have been correlated to the onset of the Zimbabwe Culture and therefore is a vital component of any material cultural study. This section will present evidence and insight to each of these attributes.

7.2 Faunal Analysis

The methodology use in this study was based on Brain's (1974) research. The excavated bones were brushed of excess dust using paint brushes on site, stored and labelled in sealed, clear plastic bags. In the laboratory, these bones were cleaned again using a paint brush to rid of surplus dust. The bones were separated in identifiable and non-identifiable skeletal parts. The latter were those too fragmented or not a skeletal part able to identify to a species level. The non-identifiable bones were separated into different categories namely miscellaneous, vertebrae, rib fragments, bones flake and enamel fragments, each category was weighed, counted and this information was inserted into a data base. The non-identifiable bones are still valuable sources of information pertaining to skeletal element representation and taphonomic studies.

Table 33 shows a species list which was compiled using Smithers (1983) in order to determine animal distribution in the past and present.

Table 33: Modern existing species list

Latin name	**English name**
Canis	Dog/jackal
Equus burchelli	Zebra
Phacochoerus aethiopicus	Warthog
Giraffa camelopardalis	Giraffe
Bos taurus	Cattle
Ovis/Capra	Sheep/Goat
Damaliscus lunatus	Tsessebe
Sylivicapra grimmia	Common duiker
Oseotragus oreotragus	Klipspringer
Raphicerus campestris	Steenbok
Aepyceros meampus	Impala

Syncerus Caffer	Buffalo
Tragelaphus strepsiceros	Kudu
Reduncina arundinum	Reedbuck
Tragelaphus oryx	Eland
Connochaetes taurinus	Blue Wildebeest
Hippotragus niger	Sable
Kobus ellipsiprymnus	Waterbuck
Raphicerus sharpei	Sharpe's Grysbok
	Small Bovid
	Medium Bovid
	Large Bovid
	Very large Bovid
	Tortoise
	Giant land snail
	Freshwater mussel

The identifiable bones were separated into cranial and post-cranial groups to facilitate species identification. Where possible, the bones were identified to a species level. Some bones could not be identified to a species level, and these were placed into broader categories such as carnivores, bovids, primates, rodents and others. The bovid group was the largest, and was separated into size classes Bov I, II, III, IV according to Brain (1974). The Bov I class encompasses all antelope including the common duiker and smaller animals. Bov II included larger antelopes namely Reedbuck and smaller. Bov III included larger animals such as cow and kudu, whilst Bov IV included the largest eland and buffalo species. This method has been used by many faunal specialists (Plug, I., & Voigt, E. A., 1985; Plug, I., 2000) and therefore seems reliable for this study.

7.2.1 Faunal Results

A total of 104 identifiable bones were analysed in this sample. 59.4% were domesticates and 40.6% were wild species. Figure 27 illustrates the mass in grams represented by each species. The total mass of identifiable bones analysed was 1650.8g. Cattle were the dominant species with goat/sheep and wild Bovids also a high mass relative to the whole sample.

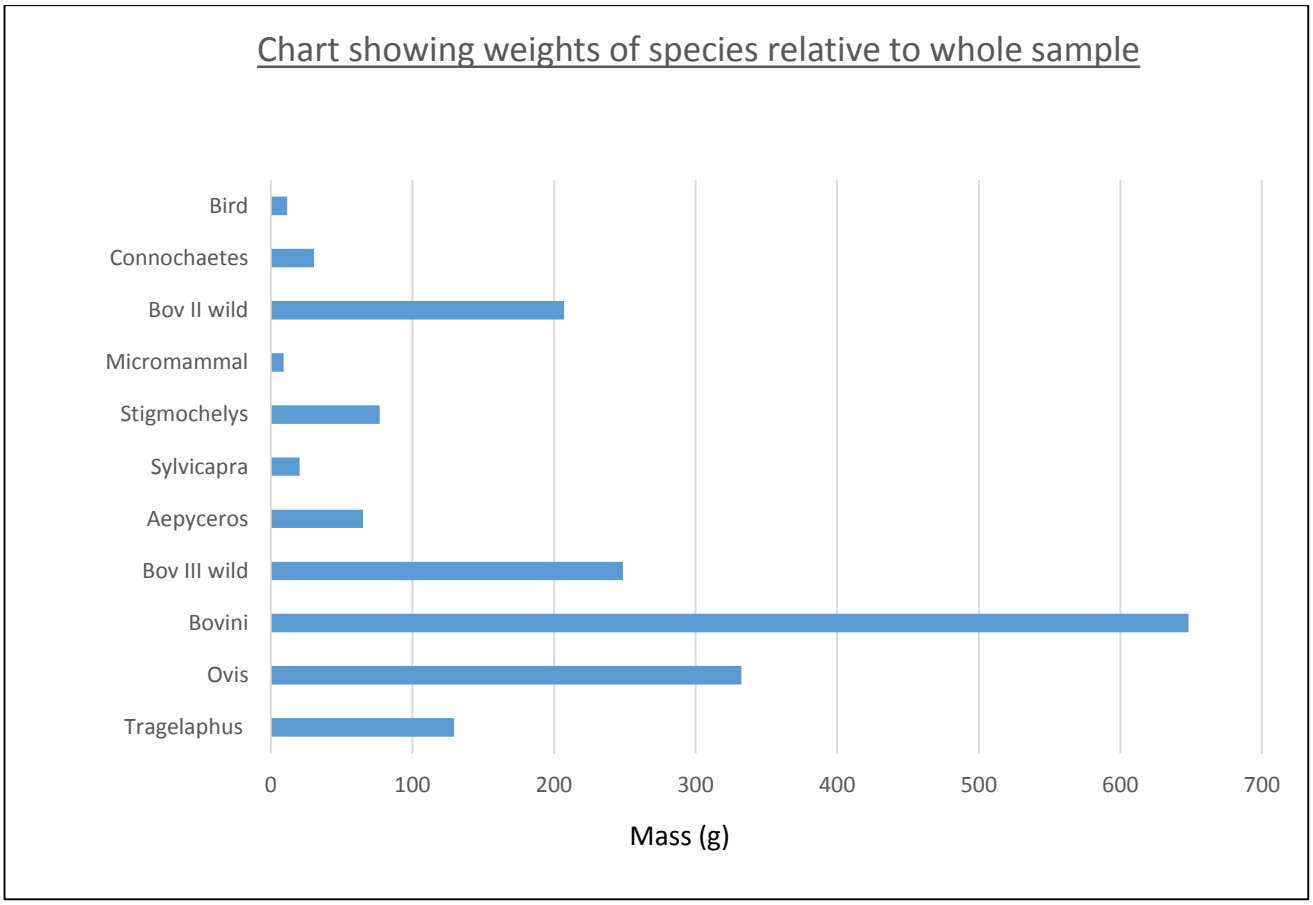


Figure 27: Mass of each species represented in total identifiable sample.

The tables below indicate the Minimum Number of Individuals of each identifiable species found in each excavation area in each level. NISP refers to the Number of Skeletal Parts, QSP refers to the Quantifiable Skeletal parts and MNI refers to the Minimum Number of Individuals.

	Site: Mapela Hill				Provenance: Garlake's Trench B extension								
	SPECIES	**NISP**	**QSP**	**MNI**	**MASS(grams)**	**TEETH**			**SKELETAL PART**				
LEVEL						**D**	**U**	**P**	**C**	**P-C**	**SCF**	**SAS**	**O**
1	*Ovis/Capra*	1	1	1	42					1			
7	*Bovini*	2	2	1	67					2			
	Bov III wild	2	2	1	76					2			
8	*Ovis/Capra*	2	2	1	107			2					
	Bov II wild	1	1	1	80					1			
	Bovini	1	1	1	20					1			
9	*Aepyceros melampus*	1	1	1	46			1					
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site: Mapela Hill				Provenance: Garlake's Trench A extension								
	SPECIES	**NISP**	**QSP**	**MNI**	**MASS(grams)**	**TEETH**			**SKELETAL PART**				
LEVEL						**D**	**U**	**P**	**C**	**P-C**	**SCF**	**SAS**	**O**
1	*Stigmochelys pardalis*	1	1	1	8						1		
2	*Bov II wild*	1	1	1	30					1			
	Micromammal	2	2	1	7					2			
4	*Micromammal*	1	1	1	2					1			
10	*Ovis/Capra*	1	1	1	14					1			
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site: Mapela Hill	Provenance: Terrace excavation Area 2 Wall Rescue Trench											
	SPECIES	**NISP**	**QSP**	**MNI**	**MASS(grams)**	**TEETH**			**SKELETAL PART**				
LEVEL						**D**	**U**	**P**	**C**	**P-C**	**SCF**	**SAS**	**O**
2	*Tragelaphus strepsiceros*	1	1	1	18					1			
	Leopard Toitoise	5	1	1	15						5		
4	*Bovini*	1	1	1	34					1			
	Bov II wild	1	1	1	97					1			
	Leopard Toitoise	3	1	1	27						3		
5	*Bov II wild*	1	1	1	42					1			
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site: Mapela Hill	Provenance: Terrace excavation Area 2 Trench 1											
	SPECIES	**NISP**	**QSP**	**MNI**	**MASS(grams)**	**TEETH**			**SKELETAL PART**				
LEVEL						**D**	**U**	**P**	**C**	**P-C**	**SCF**	**SAS**	**O**
2	*Stigmochelys pardalis*	1	1	1	6						1		
3	*Bov III wild*	1	1	1	26					2			
	Connochaetes	1	1	1	30,4			1					
6	*Bovini (juvenile)*	1	1	1	20					1			
7	*Bovini*	1	1	1	30					1			
8	*Stigmochelys pardalis*	1	1	1	12						1		
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site: Little Mapela		Provenance: Midden 1 Trench 1 Square F0										
	SPECIES	**NISP**	**QSP**	**MNI**	**MASS(grams)**	**TEETH**			**SKELETAL PART**				
LEVEL						**D**	**U**	**P**	**C**	**P-C**	**SCF**	**SAS**	**O**
1	*Bovini*	4	2	1	53,9					4			
	Bov III	1	1	1	14					1			
	Tragelaphus strepsiceros	1	1	1	44,5					1			
2	*Bovini*	3	3	1	140,5					3			
	Ovis/Capra	1	1	1	5					2			
	Bov III	2	2	1	32					2			
3	*Bovini*	1	1	1	15					1			
4	*Tragelaphus strepsiceros*	1	1	1	20,2					1			
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site: Little Mapela	Provenance: Test Pit 3											
	SPECIES	**NISP**	**QSP**	**MNI**	**MASS(grams)**	**TEETH**			**SKELETAL PART**				
LEVEL						**D**	**U**	**P**	**C**	**P-C**	**SCF**	**SAS**	**O**
1	*Ovis/Capra*	2	2	1	21					2			
2	*Bov I wild*	1	1	1	16					1			
	Bird (medium)	1	1	1	2					1			
	Stigmochelys pardalis	1	1	1	2					1			
3	*Ovis/Capra*	3	3	1	98					3			
	Stigmochelys pardalis	9	1	1	20					9			
4	*Bird (small-medium)*	1	1	1	3,5					1			
	Bird (medium)	1	1	1	6					1			
	Stigmochelys pardalis	7	1	1	14,6						7		
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site: Little Mapela	Provenance: Midden 1 Trench 1 Square E0											
	SPECIES	**NISP**	**QSP**	**MNI**	**MASS(grams)**	**TEETH**			**SKELETAL PART**				
LEVEL						**D**	**U**	**P**	**C**	**P-C**	**SCF**	**SAS**	**O**
2	*Bovini*	2	2	1	32,4					2			
	Ovis/Capra	1	1	1	10,4					1			
	Bov III	2	1	1	28					2			
4	*Sylvicapra grimmia*	1	1	1	10,4					1			
	Ovis/Capra (Juvenile)	1	1	1	20					1			
	Bov III wild	2	2	1	10,8			1		1			
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site: Little Mapela	Provenance: Midden 1 Trench 1 Square C0											
	SPECIES	**NISP**	**QSP**	**MNI**	**MASS(grams)**	**TEETH**			**SKELETAL PART**				
LEVEL						**D**	**U**	**P**	**C**	**P-C**	**SCF**	**SAS**	**O**
1	*Bovini*	1	1	1	30					1			
2	*Sylvicapra grimmia*	1	1	1	10					1			
	Bovini	1	1	1	8					1			
	Stigmochelys pardalis	2	2	1	2				2				
3	*Bovini*	1	1	1	23					1			
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site: Little Mapela		Provenance: Midden 1 Trench 1 Square E1										
	SPECIES	**NISP**	**QSP**	**MNI**	**MASS(grams)**	**TEETH**			**SKELETAL PART**				
LEVEL						**D**	**U**	**P**	**C**	**P-C**	**SCF**	**SAS**	**O**
1	*Bovini*	2	2	1	61,2					2			
	Bov III wild	1	1	1	23,8					1			
	Ovis/Capra	1	1	1	15					1			
2	*Bov III wild*	1	1	1	17					1			
	Stigmochelys pardalis	3	3	1	12,2				3				
3	*Bovini*	1	1	1	30,4					1			
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site: Little Mapela	Provenance: Midden 1 Trench 1 Square G0											
	SPECIES	**NISP**	**QSP**	**MNI**	**MASS(grams)**	**TEETH**			**SKELETAL PART**				
LEVEL						**D**	**U**	**P**	**C**	**P-C**	**SCF**	**SAS**	**O**
1	*Bov III*	1	1	1	10					1			
2	*Tragelaphus strepsiceros*	1	1	1	46,6					1			
3	*Bovini*	2	2	1	90,7					2			
	Bov III wild	1	1	1	11					1			
	Aepyceros melampus	1	1	1	19					1			
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

7.3 Stone Walling Analysis and Results

According to Van Waarden (2012), 420 stone walled sites typical of the Zimbabwe Culture exist in Zimbabwe itself, 106 have been reported in Botswana and some 27 in South Africa. Over the years, research has focused on identifying classifications for stone walling, however since the advent of radiocarbon dating, only some 20 of these sites have been dated (Van Waarden , 2012). This makes it very difficult to identify when these walls were build and in which sequence. Nonetheless, we know that the raw material used to construct this walling was mostly granite, probably for its exfoliating properties which makes it more predictable to fracture in a predictable way. Other raw material have been used such as sandstone, schist and calcrete however these fractures are less predictable.

The stone walling is characterised by dry walling i.e. no mortar has been used. Early walling was placed fairly randomly as long as a flat vertical surface resulted. This is called P-style walling and has been described by Whitty (1960). This developed into Q style walling where stones of even thickness were placed in regular courses. A construction of a combination of the two styles produces type PQ (Van Waarden, 2012). When this coursing was of good enough quality, decoration patterns such as checked and chevron could be included, all characteristics of R. Figure 28 illustrates these styles of walling.

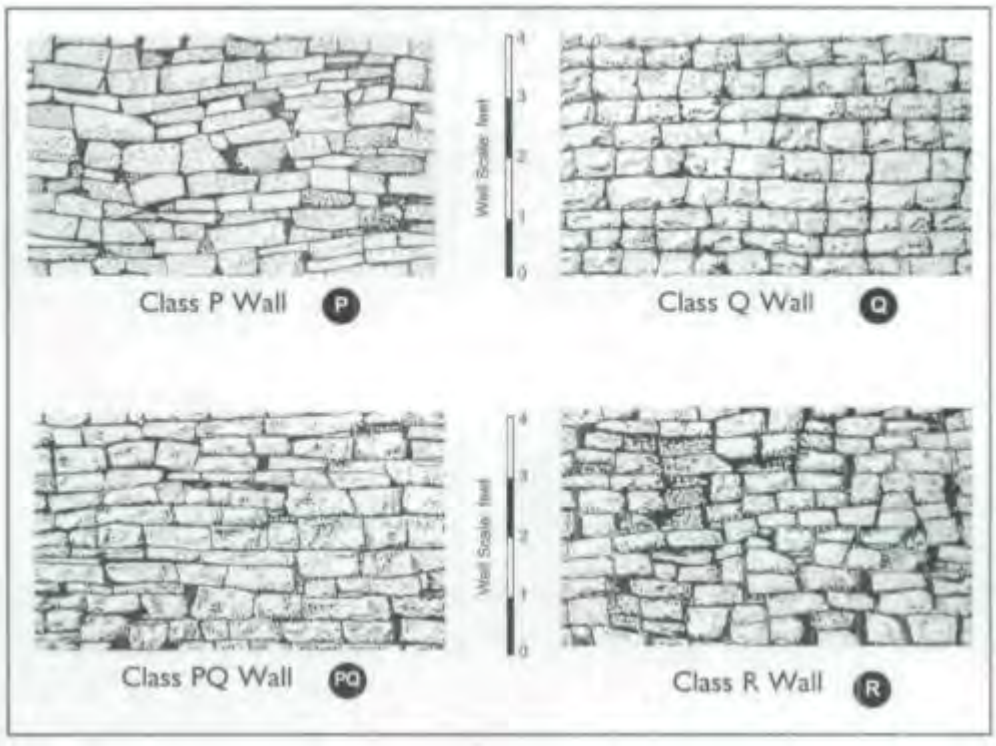


Figure 28: Types of drystone walls modified after Whitty (1960) (from Chirikure and Pikirayi 2008: Figure: 4, 981)

The terraced walling commonly seen in Iron Age sites was constructed first by building an outside wall, filling it with evenly sized smaller stones, and supported by another inside wall. This is shown in Figure 29. A cross section of this type of walling shown by Robinson (1959:81) shows the stages of development shown in Figure 30.

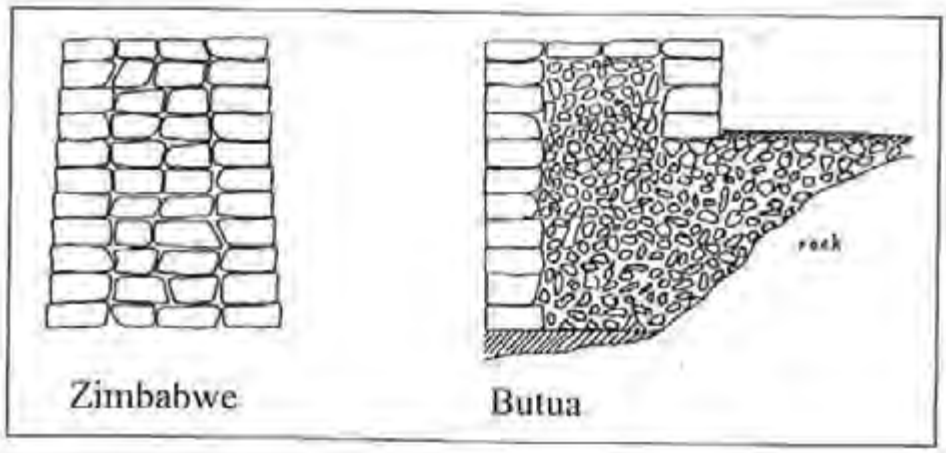


Figure 29: The construction technique of Zimbabwe type freestanding walls, and Khami style terracing (Van Waarden, 2012:74)

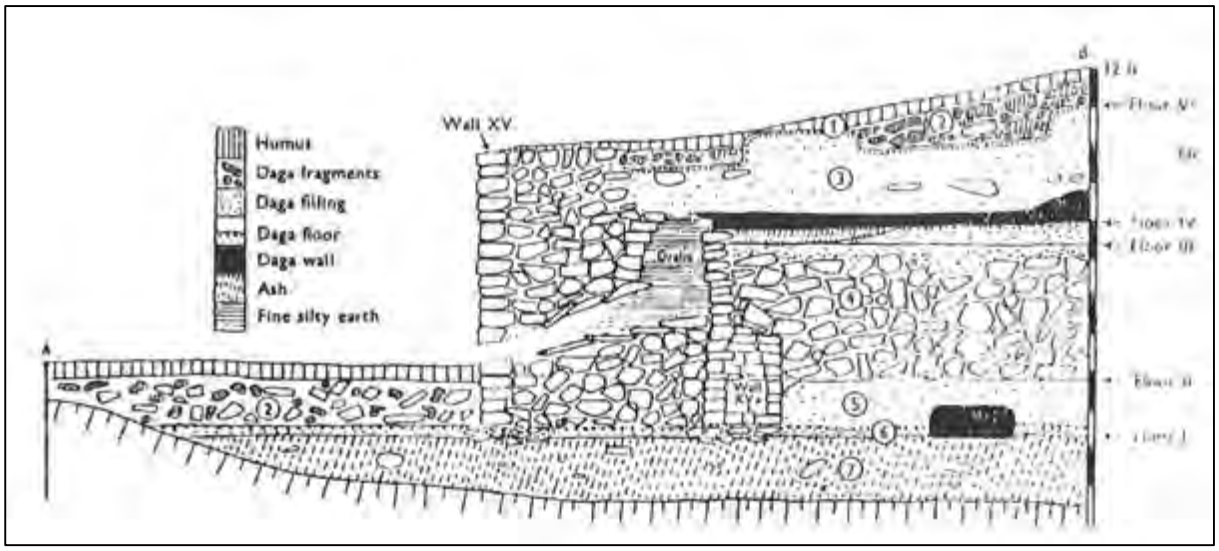


Figure 30: Stages of development of terraced walling (Robinson, 1959: 81)

Terraced walling is useful on steep-sided slopes where the walling forms a platform on which houses can be built. These house would not be screened from view, however they will be elevated from the lower levels. Van Waarden (2012) has identified that at many sites such as Mupanipani Ruin, the walling cannot be classified simply. Sometimes, a wall which has P-style layout typical of the Zimbabwe Culture, also contains a rubble core, typical of terracing. This makes the evolution of walling in southern Africa very tricky to untie.

7.3.1 Stone Walling Results

Mapela Hill contains many terraces from the base of the hill all the way to the top of the hill. These terraces are all supported by revetment stone walling, some of which are up to 2 meters high. The stone walling is uncoarsed walling, however it is clear that suitable sized rocks were used in strategic places on the walls. The walls are of the local granitic type, similar to the local regions geology. Figures 31 illustrates the walling at Mapela Hill.

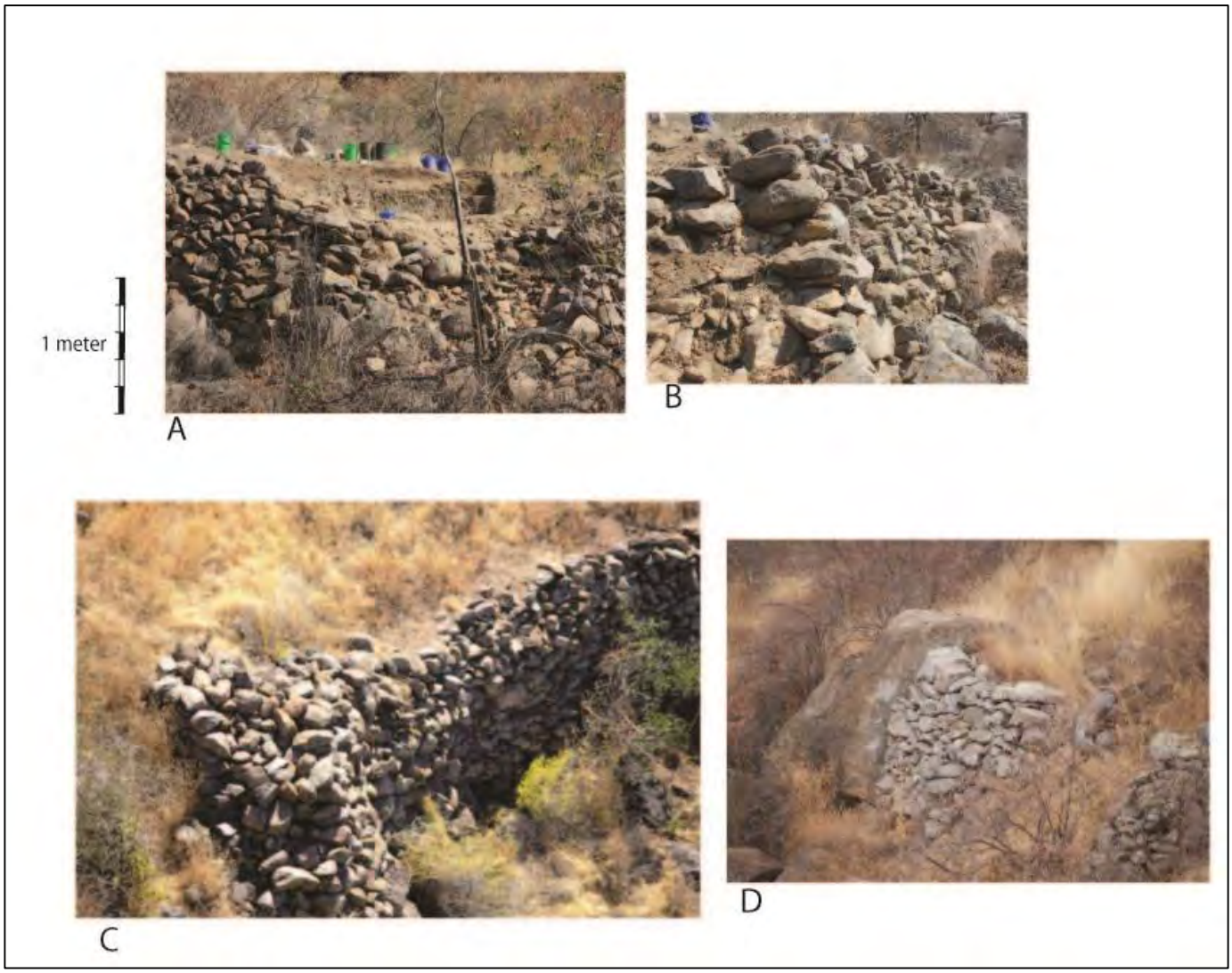


Figure 31: Stone walling at Mapela Hill (A: frontal photograph of the wall rescue excavation; B: showing depth of wall at wall rescue excavation; C: showing terraced walling near Terrace Excavation Area 1; D: showing revetment walling on southern side of Mapela Hill)

One important point to note is that the revetment walling at Mapela Hill forms platforms on which successions of hut floors have been observed in excavation. The middens excavated in these areas contains a deposit which is very rich in material culture. With the steep-sided nature of the hill itself, it would be impossible for the deposit to exist without those retaining stone walls.

Little Mapela contains Zimbabwe style freestanding walling on the lower summit of the hill. The entrance to the enclosure is decorated with chevron patterns seen in Figure 31. This style is very different to that found at Mapela Hill. Figure 32 to 34 illustrates this.

Figure 32: Zimbabwe style freestanding walling found at the summit of Little Mapela Hill

Figure 33: Little Mapela walling on the western side of curtain wall with a monolith

Figure 34: Retaining wall on eastern side of Mapela

7.4 Metal Analysis and Results

Most of the metals were recovered from Little Mapela Hill with only a few fragments and small objects recovered from Mapela. Objects were mostly small iron and copper coils however a few spearheads were recovered in excavation. Some slag was found in certain areas of the site showing metal working. Nonetheless, the metal objects as well as the metal-working debris indicate that metal-working was practiced in relatively high frequency throughout the occupation of both sites (Figures 35 to 37).

Figure 35: Metal objects recovered from Mapela Excavations

Figure 36: Slag recovered in excavation.

Figure 37: Iron objects recovered from Little Mapela

7.5 *Dhaka* floors, spindle whorls and clay pipes

As a result of erosion, successions of fired *dhaka* floors commonly known as Zimbabwe cement has been revealed. Figure 38 shows a photograph of some floors on the northern edge of Mapela hilltop. Other fired floors were encountered in high frequency owing to the dense occupation at the site.

Figure 38: Fired floors on northern edge of Mapela Hill.

Figure 39: Burnt *dhaka* house fragments recovered from the northern side of Mapela hill.

Figure 40: Surface collections of unfinished spindle whorls and a fragment of a clay pipe recovered from Mapela Hill.

On the surface of the site, numerous complete and incomplete spindle whorls were recovered showing that these populations were actively involved in cotton manufacture and trade.

7.6 Discussion and Conclusion

Due to the small sample size of faunal remains in this study due to access constraints, it is difficult to draw solid conclusions, however it is possible to make some inferences with the given data. It is not surprising that the most common faunal remains were those of cattle. Cattle played a significant role in cultural practices such as bride wealth as well as ritual practices in farming communities (Manyanga et al 2001). However, the abundance of the species could account to the wealth and prestige of the site. The numerous cattle kraals as well as the dominance of cattle in the faunal assemblage suggests that cattle rearing was an important practice at this site. If farming societies had an abundance of cattle, they could be used for bride wealth, thereby increasing the population and the settlement community.

The combination of domesticates as well as wild animal remains gives insight into resource exploitation within the site. Studies conducted by Manyanga (2001) have shown that in south central Zimbabwe, farming societies have typically included hunting strategies of wild animals in their subsistence patterns during times of drought. Climatic reconstructions in this area have been very broad and it is therefore difficult to identify localised oscillations in climate, however the work done by Tyson and Lindsey (1992) shows that there was an onset of the Little Ice Age at around AD1300. This led to cooler and drier conditions in the region. With the evidence of wild animal remains at Mapela Hill, it is plausible that these groups too turned to wild animal exploitation as the environment was not suitable to keep domesticates. This is interesting in two main respects. Firstly, the decline and abandonment of Mapungubwe has been explained by the onset of the Little Ice Age at AD1300. If populations at Mapela Hill, some 90kms away from Mapungubwe were able to adapt to this change in environment by including wild animals into their diet, it poses questions about the

adaptive capacity of the capital at Mapungubwe. This has also been noted by Manyanya (2001) where sites such as Malumba and Mwenezi Farm were occupied continuously after the decline of Mapungubwe as a result of wild animal resource exploitation. If other sites in the region were continuously occupied, then why was Mapungubwe abandoned? Secondly, a study conducted by Smith (2005) on faunal remains from various sites in the Limpopo Valley resulted in a localised environmental reconstruction which showed that the onset of the Little Ice Age was in fact much later in date than originally thought. This invites further investigation into environmental reconstructions in the Iron Age and its impact on state systems.

The stone walling at Mapela and Little Mapela Hill are abundant. Mapela Hill shows vast terracing creating platforms on each, from the foot of the hill to the top of the hill. Some of this walling is up to 2m high. The walling at Mapela is an interesting attribute because of the correlation between walling and the onset of complexity in the region. The stratigraphic analysis at the Wall Rescue excavation on terrace excavation area 2 show that the base of the walls date to the Transitional K2 period. The walling at Little Mapela, according to Whitty's (1960) descriptions are P and PQ styles and therefore illustrate a later extension of the site. This conforms to the radiocarbon dates retrieved. Some of the walling here have monoliths on the top.

On the summit of Mapela Hill a succession of *dhaka* floors has been recorded. This shows that the site dates to the beginning of the Zimbabwe period as this style of flooring is specific to this period. Spindle whorls were recovered from the surface of Mapela Hill indicating cotton production at this site. Various metal tools such as spear ends, and bits of coiled copper and Iron wire were recovered in excavation as well as on the surface of both sites.

In summary, Mapela Hill and Little Mapela revealed an abundance of material cultural deposit dating to before and after the development of the Zimbabwe Culture. The fauna results provided preliminary insight

into the lifeways of the occupants of Mapela Hill. The vast stone walling at Mapela Hill was uncoarsed revetment stone walling and a later extension was evident at Little Mapela with P and PQ styled walls existing. In terms of metals, slags as well as finished products were recovered in excavation showing the inhabitants had specialised in craft production. Mapela Hill contained utilitarian tools such as spear heads whilst Little Mapela contained more ornamental metal fragments such and bangles and bracelets. The *dhaka* structures comprised of post-hole impression *dhaka* as well as thick flooring commonly known as Zimbabwe cement. The next chapter provides a discussion of the material culture recovered from both sites.

Chapter 8: Discussion

8.1 Introduction

By building on Garlake's (1968) important work at Mapela Hill, this study has reinforced the significance of Mapela Hill in the regional complex in early state formation in southern Africa. Mapela Hill is a hilltop located near the West Nicholson gold belt, in an area suitable for floodplain agriculture, in south-western Zimbabwe. These features alone make Mapela Hill of utmost importance in any study of the rise of complexity in the region. Radiocarbon dating revealed that Mapela Hill was occupied from the 11th century AD continuously until the 15th century AD. Relative dating using the glass bead and ceramic sequence confirmed these dates. The ceramic analysis revealed that the site was occupied in a sequence with Zhizo and later K2 groups occupying the flats of the hill, K2 and Transitional K2 groups occupying the earliest levels of the terraces and summit, and Mapungubwe groups occupying the later levels of the terraces and summit. These occupations are contemporary with massive revetment stone walling creating platforms from the flats right to the top of the hill. An abundance of exotic Mapungubwe glass beads shows that the site was a major player in the Indian Ocean trade route. The thick *dhaka* floor sequence excavated on the terraces as well as the summit of the hill are an important indicator of the Zimbabwe Culture. Further, these floor successions show an intense occupation of the site. Given the abundance of material culture recovered at the site, this chapter compares it to Garlakes (1968) results, as well as other sites in the region, and provides a discussion of the implications.

8.2 Using ceramics to identify cultural groups

In order to classify the ceramics from Mapela Hill, Garlake (1968) used Robinsons (1966) descriptions of Leopards Kopje ceramics. He concluded that Mapela Hill was a late Leopard's Kopje phase and most closely resembled the ceramics from Taba Zikamambo and Woolandale Estate. This was due to the hatched

or cross hatched triangles and interlocking bands existing across the shoulder of the decorated pots, as well as the noticeable lack of beakers, beaker bowls and bowls with heavily flattened rims.

Using Huffman's (1974; 2007) analysis of Leopard's Kopje ceramics, this study has been able to identify key features of the Northern Leopard's Kopje as well as the Southern Leopards Kopje ceramic facies. There are subtle differences between the Mambo-Woolandale and K2-Mapungubwe ceramics. According to Huffman (1974), Mambo ceramics do not have polychrome layouts or stamped and incised border bands. They are characterised by jars with arcades, incised border or short oblique border bands in the neck, high burnished beakers, open and restricted bowls and highly burnished beaker bowls with bands of incision and punctuates on the upper shoulder. Mambo ceramics typically have an emphasis on simple bands (Huffman, 2015). Woolandale ceramics are typically defined by recurved jars with multiple dragged meanders and chevrons in the neck, and highly burnished small necked bowls with a band of interlocking triangles on shoulder. Huffman (2015: 18) also notes that a key feature of Woolandale ceramics is "hatched triangles in the mid-neck of jar forms: if the triangles point up, they occupy the lower neck".

According to Huffman (2007) K2 facies consists of beakers with cross hatching and hatching on the shoulder, upward facing incised triangles on the neck of shouldered jars, as well as simple hatching in the necks of pots. TK2 facies are made up of interlocking triangles on the shoulders of beakers and jars, upward and downward facing incised arcades on the neck of long necked jars, the shoulder of short necked jars and the lips of beakers, upward and downward facing incised triangles on the shoulder of jars and upward facing incised triangles on the necks of shouldered jars and beakers. The Mapungubwe series is characterised by "necked bowls with a high black burnish and elaborate shoulder decoration" (Huffman, 2015: 18). Other characteristics are downward facing triangles on the shoulder leading to the body of shouldered jars. Generally with the Mapungubwe series, the motifs have moved from the neck down to the shoulder and body of the vessels.

Huffman (1974) provided very useful statistics pertaining to the change in decoration motifs and techniques of Gokomere and Zhizo seriations compared to Mambo and Woolandale seriations. His results showed that there was not a gradual shift between the two, but rather an abrupt change in motif and decoration from Gokomere/Zhizo to Mambo/Woolandale. This was very informative when establishing a connection between these two groups. Unfortunately, these percentages have not been provided for Mambo/Woolandale and K2/Mapungubwe series so we are left with a very subjective method of distinguishing Woolandale from Mapungubwe ceramics.

8.2.1 Mapela Hill ceramics

The ceramics from Mapela Hill contain mainly upward and downward facing triangles on the shoulders of jars (Numbers 043, 047, 046, 053, 051, 050,024, 022, 023, 017, 018, 019, 015, 068, 079, 091, 090, 092, 030, 035, 025, 026, 003, 004), interlocking triangles on shoulders of jars (020, 089), upward and downward facing arcades on lower necks and shoulders of jars (Numbers 070, 071, 073 036), interlocking triangles on beaker shoulders (Numbers 016, 078, 079, 038) as well as elaborate decoration on the shoulder of bowls (Numbers 053, 027). Note that the numbers in brackets refer to the ceramic illustrations seen in the appendices. Appendix B shows the typological classification of the ceramics recovered from Mapela Hill. Using the ceramic information provided by Huffman (1974; 2007; 2015) the characteristics of the ceramics from Mapela Hill are all reminiscent of K2 and Mapungubwe facies. The absence of any meandering motifs on the neck of jars as described by Huffman (2007) shows that the Mapela ceramics are not of the Woolandale facies. There are only five sherds (Numbers 044, 085, 076, 009, 005) with simple hatching in the neck, out of the total decorated sherds. This should not be enough to classify this assemblage as Woolandale, because they are known to exist in Mapungubwe facies as well. Figure 41 shows photographs of ceramic sherds which were commonly found in the Mapela decorated assemblage. Upward and downward facing arcades (G & H), interlocking triangles of beakers and jars (D & F), bowls with geometric

designs (A & B) as well as downward facing incised and crossed hatched motifs (C, E & G) were very common.

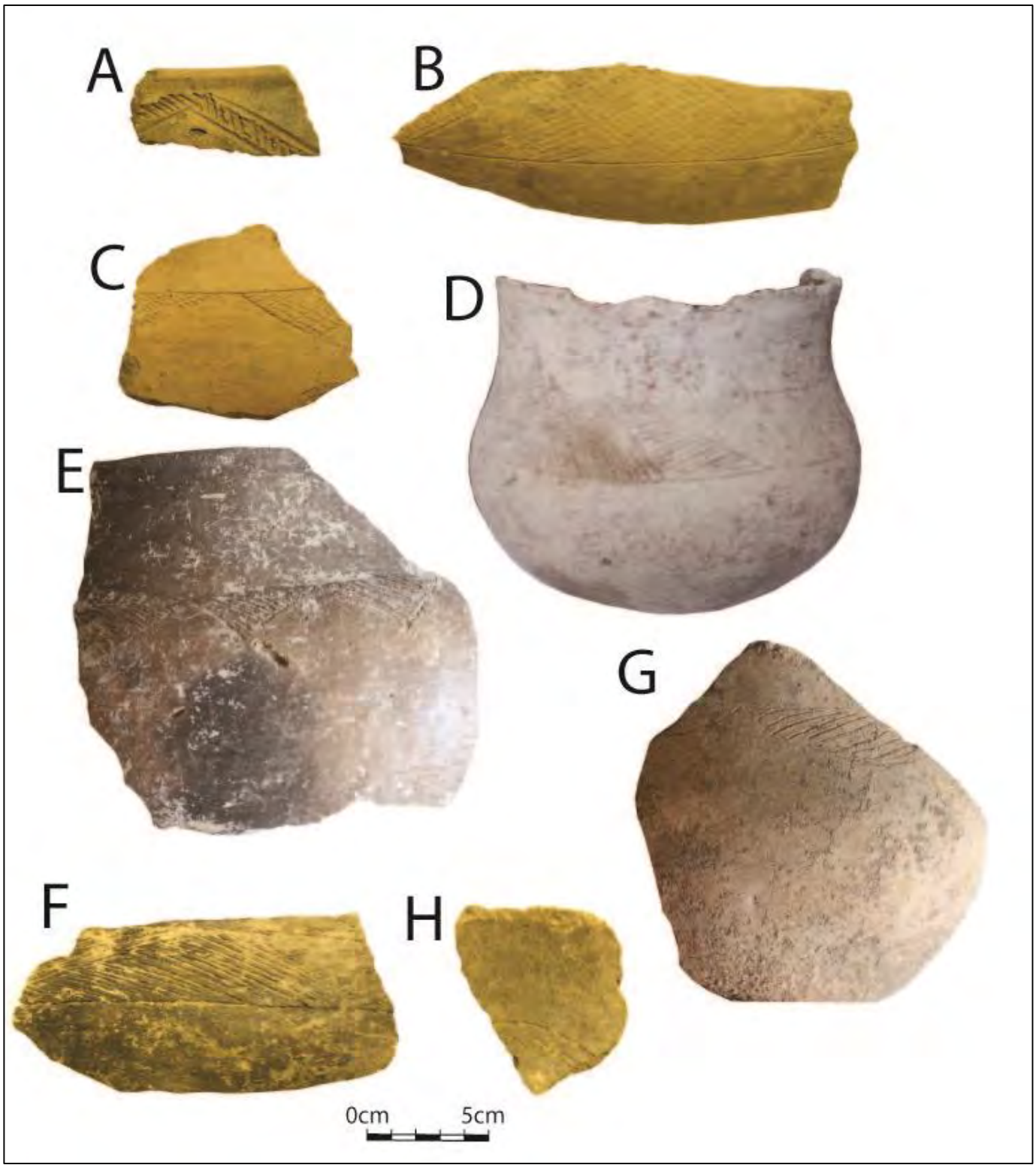


Figure 41: Ceramic sherds typically found at Mapela Hill

Understanding inter-site relationships is paramount in Iron Age archaeological studies. For this reason, I have assembled ceramic data from various authors in Tables 9 to 14, identifying the most common ceramic types recovered at Shroda Area 5 (Calabrese, 2005), Mapungubwe spoil heap (Calabrese, 2005), Skutwater (van Ewyk, 1987), Leopard's Kopje Main Kraal (Huffman, 1974) and Blue Jay/Bunting Close site (Huffman, 1974). The ceramics from Mapela Hill will then be compared to these sites.

Table 34: Top 5 most frequent ceramic types from Schroda Area 5 (adapted from Calabrese 2005)

Type	Decoration Placement	Levels III and IV (%)
Comb- Stamping, Recurved Jars: Horizontal lines	Central Neck	21,05
Incised, Recurved Jars: Diagonal lines	Central Neck	14,47
Comb-Stamping, Recurved Jars: Diagonal lines	Central Neck	12,5
Incised, Recurved Jars: Horizontal Lines	Central Neck	5,94
Incised, Recurved Jars: Diagonal Lines	Rim	2,31

Table 35:Top 5 most frequent ceramic types from two Mapungubwe spoil heaps (adapted from Calabrese 2005)

Type	Decoration Placement	Number	Percentage
Incised, Recurved Jars: Upturned triangles	Lower neck to shoulder	37	11,28
Incised, Recurved Jars: Downturned triangles	Shoulder	36	10,98
Incised, Recurved Jars: Upturned arcades	Lower neck to shoulder	24	7,32
Incised, Bellied Jars: Downturned triangles	Shoulder	16	4,88
Incised, Recurved Jars: Upturned triangles	Lower Neck	16	4,88

Total: 328

Table 36: Top 7 most frequent
ceramic types from Skutwater (collected from Van Ewyk 1987)

Type	Decoration Placement	Number	Percentage
Recurved Jars: Incision, Upturned triangles and interlocking triangles	Shoulder	103	28,61
Recurved Jars: Punctate stamping in horizontal line	Shoulder	31	8,61
Recurved Jars: Incision, Upturned arcades	Shoulder	29	8,06
Recurved Jars: Incision, Upturned arcades	Shoulder	28	7,78
Bowl: Upturned and Interlocking Triangles	Shoulder	21	5,83
Necked Jar: Incision, Upturned and Interlocking triangles	Shoulder	20	5,56
Bellied Pot: Incision, Upturned Arcades	Shoulder	19	5,28

Total: 360

Table 37: Top 5 most frequent ceramic types from Leopard's
Kopje Main Kraal (adapted from Huffman, 1974) Refer to Appendix C for
illustrations of classes.

Class	Decoration Placement	Number	Percentage
2c: Recurved and Shortnecked Jars: Diagonal lines and upturned triangles	Lower neck and shoulder	130	21,99
12a: open bowls:		92	15,57
3b: Shortnecked Jars: Upturned arcades, upturned triangles,	Lower neck	83	14,04
7: Beakers, hatching, horizontal lines and triangles	Body and shoulder	58	9,81
3a: Necked Jars: Horizontal lines of incision, diagonal lines	Central and lower neck	56	9,47

Total: 591

Table 38: Top 4 most frequent ceramic types from Blue Jay/ Bunting Close site (adapted from Huffman 1974). Refer to Appendix D for Illustrations of classes.

Class	Decoration Placement	Number	Percentage	Total: 115
1: Necked Jars: Diagonal and Horizontal lines, Waving patterns and downturned triangles	Central and lower neck	66	57,4	
4: Bowls: Undecorated	N/A	19	16,5	
2: Short necked jars: Interlocking triangles	Shoulder	15	13	
3: Beakers and bowls: undecorated	N/A	5	4,3	

Table 39: Top 6 most frequent ceramic types from all excavations at Mapela Hill

Type	Decoration Placement	Number	Percentage	Total: 80
Recurved Jars, Incised: Downturned triangle	Shoulder	12	13,48	
Recurved Jars, Incised: Upturned triangle	Shoulder	8	8,99	
Recurved Jars, Incised: Downturned triangle	Lower neck to shoulder	7	7,87	
Recurved Jars, Incised: Oblique lines in band	Shoulder	5	5,62	
Recurved Jars, Incised and cross hatched: Downturned triangle	Shoulder	4	4,49	
Recurved Jars, Incised: Oblique lines in band	Lower neck to Shoulder	4	4,49	

Comparing the statistics in the tables 34 to 39 above, it is clearly seen that the ceramics are most similar to that of Mapungubwe and Leopard's Kopje Main Kraal. The most common type of ceramic at Mapela comprising of 13% of the decorated assemblage is the downturned triangle on shoulders of jars. This is one of the most common motif recovered from Mapungubwe Spoil Heap by Calabrese (2005) composing of 10.98% of the decorated assemblage. The most common being the upturned triangle on the lower neck and shoulders of jars (11.2%). Other ceramic types existing at Mapela are the same as those at the other sites tabulated above, for example the upturned and downturned arcades and the upturned triangles each existing in majority from sites such as Skutwater, Leopard's Kopje and Blue Jay. One important observation in this statistical analysis of the ceramic types recovered from various sites, are the variable sample sizes of decorated sherds. If we are comparing a very small sample size with a very large sample size, the smaller sample size percentages will be exaggerated. Therefore, it is also important to consider sample sizes when drawing conclusions using ceramic data. From many sites for example Woolandale, the information needed to provide a regional comparison of ceramics such as sample sizes, a full typological analysis and percentages of motifs is simply not there. This makes it very difficult to make inferences about differences between northern Leopards Kopje and southern Leopards Kopje, for example.

Huffman (2015) has used a preliminary results paper authored by Chirikure *et al* (2014) to conclude that the ceramics at Mapela Hill are typical Woolandale facies. He came to this conclusion due to the supposed absence of necked bowls with a high black burnish and elaborate shoulder decoration as well as the diagnostic jar forms with pendant cross-hatched triangles on the upper shoulder at Mapela. Owing to the fact that there are no percentages available for each motif featuring in each facies, it may seem plausible to draw this conclusion. However, by providing percentage for the most common motifs, it can be seen that necked bowls with elaborate decoration exist (these sherds are evident in numbers 027, 032, 053) and so do pendant cross hatched triangles on the upper shoulder (these sherds are evident in numbers 046, 051,

074, 034, 030, 025, 004). It clear that these ceramics do exist at Mapela Hill, and having thoroughly examined and accurately recorded the whole ceramic assemblage from the site, the most statistically and scientifically sound conclusion to draw, is that Mapela Hill is in fact a K2/Mapungubwe site.

Using the ceramic information from Huffman (1974; 2007), Gardner (1963), and Fouche (1937), as well as ceramic results from other sites in the region, outlined above, I am able to conclude that the cultural sequence at Mapela Hill is as follows. There is a short Zhizo occupation at the flats of Mapela Hill characterised by the comb-stamping and wide incision motifs on the ceramics, followed by a brief K2 occupation. On the terraces of the hill, specifically observed in Terrace Excavation Area 1 and Area 2, in stratigraphical order, at the earliest levels we find a K2 occupation followed by a Transitional K2 occupation, followed by an intense Mapungubwe occupation. This sequence also applies at the Summit of the Hill, with a Transitional K2 occupation at the earliest levels, followed by a Mapungubwe occupation at the later levels. It is important to remember that recovering K2 sherds on the terraces of Mapela Hill, is not a rarity. In fact, Gardner (1963) also recovered K2 decorated sherds on the southern Terrace of Mapungubwe itself. Although the conventional framework states that K2 groups did not occupy hilltops, the archaeology on the ground at Mapela does not support this. Further, there was a Venda occupation at the later levels of Mapungubwe itself, a fact that archaeologists fail to mention in current frameworks (Gardner, 1963). It is vital to bear in mind that the region as a whole is scattered with different cultural groups occupying the same area, migrating, interacting, and developing all at the same time. Current ceramic typologies do not give enough credit to this very ethnically complex system.

Due to the existence of a Zhizo occupation at the foot of Mapela Hill, future research could be aimed at identifying the relationship between these groups and the Leopard's Kopje groups on the hill. Calabrese (2000) conducted analysis of the same nature at Leokwe Hill, and identified a new ceramic style called Leokwe. This resulted from the small number of Zhizo groups being left behind in the Shashe Limpopo

Basin who became socially and politically inferior to the new incoming Leopard Kopje groups. The inferior Zhizo ceramic style adapted from a Leopards Kopje influence so much so that it could no longer be classified as Zhizo facies. However, due to the very shallow Zhizo deposit encountered at Mapela Hill as well as the lack of radiocarbon dates for this occupation, it is not possible to comment further on this interaction.

8.2.2 Little Mapela ceramics

At Little Mapela, the ceramics are somewhat different to those at Main Mapela. There are a few downward facing triangle cross hatched incisions and oblique incisions on the shoulders of jars (Appendix V; 003, 004) implicating a late Mapungubwe occupation. However the sample size of decorated sherds was too small to be confident in this. A preliminary interpretation is that of Garlake (1968), Little Mapela could have been contemporaneous with the end of the occupation at Main Mapela and therefore an extension of the site. However, with the existence of elaborate Zimbabwe Period freestanding walls, it could have been occupied through to the Zimbabwe Period. The depth of deposit in the Little Mapela trenches was very shallow, implying a less intense occupation than at Main Mapela. No hiatus was noticeable in the stratigraphy.

Identification of cultural groups using ceramics, albeit a very useful methodology, does have its limitations when attempting to separate two very similar cultural and linguistic groups such as the Northern and Southern Leopards Kopje. In future research, there needs to be a more in-depth analysis of how and why these two groups are culturally distinct, if a distinction exists at all. If these hurdles cannot be overcome, perhaps Hall's (1984) call for an alternative technical examination of the production, use and distribution of ceramics in the Iron Age may be a more appropriate area of research to develop and grow the field of African ceramic studies into something sustainable.

8.3 Glass beads as indicators of trade

More than 2000 glass beads were recovered in various excavation areas at Mapela Hill. This shows that Mapela was a major player in the Indian Ocean trading network. One of the aims of this project was to provide a cultural history of the site, and due to the scale and scope of this study it was only necessary to analyse a sample of the total beads. The glass beads for this study were the same types as those Garlake (1968) recovered, just in more abundance. Small oblates blue-green, black, yellow, and translucent light blue in colour composed of most of the assemblage as in Garlake's (1968) analysis. One separation from Galarke's (1968) excavation is that no cylinders were recovered. Garlake (1968) recovered translucent K2 cylinders in his excavations. The beads were relatively homogenous in total as well as when compared to other sites in the region. The beads from Mapela Hill easily fall within the K2-Mapungubwe series. The Mapungubwe series being defined by the black oblates, blue-green oblates and the devitrified beads which are typically whitish in colour. The number of beads recovered thus far is surprisingly large relative to the small area of the site we have excavated. It is recommended that future chemical analysis of the beads should be conducted in order to comment further on them.

Wood (2012) has conducted much work with glass beads in southern Africa, and her findings showed that there was in fact no significant different between the number of beads at 'elite' sites and those at 'commoner' sites. This is emphasised by historical documents of middlemen moving from village to village bartering and trading beads. This would therefore make it difficult for the regulation of trade as proposed at Mapungubwe and Great Zimbabwe even possible. This can be seen where 'lesser' significant sites than Mapungubwe contain thousands of glass beads such as Mapela, Malumba and others. If this is the case and everybody had access to trade and glass beads, then we have to question the reliance of exotic trade on implicating elite sites.

8.4 Stone walling and *Dhaka* remains in the Middle Limpopo Valley

A key development in the Zimbabwe Culture is the separation of activities as well as of elites and commoners. This is thought to have been identified through the existence of prestige stone walling which forms a protective barrier around the king's residence at the top of a hill. Allegedly, the first stone walling to have existed in the Zimbabwe Culture can be found at Mapungubwe (Huffman, 1996b; 2000; 2001; 2007; 2014; 2015). According to Huffman, Mapungubwe is the only site which contains two different types of walling; rough as well as coarsed. Although the stone walling at Mapela Hill is extensive revetment uncoarsed walling, Garlake (1968: 2) documented the stone work at Mapela is "probably greater than on any other Iron Age living site, excluding the largest Later Iron Age ruins". In the Zimbabwe Pattern, prestige walling, "first and foremost forms a protective barrier around a sacred leader, or it elevates and shields them from view" (Huffman, 2015: 15). The summit of Mapela Hill has unnaturally prevented access by the five ft. high revetment stone wall which runs some 120 ft. long forming an Upper Platform. It is not possible to see this area from the foot of the hill. Therefore, although there are a few coarsed walling recorded at Mapela Hill, it is clear that there was a deliberate attempt to ensure difficulty of access to the summit of the hill. According to Garlakes (1968) excavations on the Upper Platform, a thick *dhaka* floor very different from those at the rest of the site was excavated. Next to this floor was a *dhaka* kerb, typical of elite housing observed in the Zimbabwe Culture. The excavations for this study revealed multiple thick *dhaka* flooring known as Zimbabwe cement. This type of flooring, together with the high stone wall bounding the Upper Platform allows a possible interpretation that this Upper Platform was in fact an elite area. Due to the multiple floors encountered in excavation, it is safe to say that the summit of the hill had been intensely occupied during its occupation.

The remainder of Mapela Hill contains very high revetment terraces often with a lens of floors at the top. Walling of up to two metres high at some points, shows that constructing these expansive walls would have demanded a very large labour force. The Wall Rescue excavation in Terrace Excavation Area 2 resulted in

the recovery of K2/Mapungubwe ceramics. One area of terraced walling had fallen away due to heavy rains, and as a result, the midden deposit being supported by the revetment walling had also eroded away. This leaves the only plausible conclusion, that the midden behind the wall could not have been deposited without the existence of the stone walling due to the steep sided nature of the hill. The recovery of a whole Transitional K2 decorated pot (number 020) at the base of the trench, resting on the core material of the wall as well as a few Mapungubwe and Transitional K2 decorated sherds, implies that the walls were constructed contemporary with or even prior to the Transitional K2 occupation at the site. However, absolute dating techniques are needed to confirm this.

Van Waarden (1998) provides an insight to why these revetment terraces exist extensively at most sites dating to the Mapungubwe period, but are not very abundant at Mapungubwe and Bosutswe. The 'elite' walling existing at Great Zimbabwe provides a physical and visual barrier between the elites and the commoners. However, according to Van Waarden (1998) Mapungubwe, like Mapela as well as the other 41 hilltop sites recorded in the Tati cluster, only contain revetment stone walling. This is so because groups were trying to provide more space to construct houses on the steep sided slopes. Not much terracing exists at Mapungubwe or Bosutswe because these are sandstone flat-topped sites with a steep sided cliff on all edges from the summit to the flats. It would therefore not be necessary to build terraces, firstly because the top of the hill would be large enough for a suitable number of huts, and secondly, because the steep-sided nature of the hill would not allow enough space regardless of the terraced walling.

Van Waarden (1998) uses four examples of walled sites in the Tati cluster to make an argument for an external origin of walling outside of the Middle Limpopo. In her theory, the importance of gold at Mapungubwe cannot go unnoticed. The closest gold supply to Mapungubwe lies in the Tati cluster, and she poses that gold was traded with groups in the Tati cluster for beads, cloth and other exotic goods. This would provide sufficient opportunity for interaction and therefore to share ideas of constructing stone

walling. The radiocarbon dates established in the Tati cluster date earlier than Mapungubwe implying a north to south development. The change from no stone walling at K2 to a sudden introduction at - Mapungubwe is too much of a change in such a short period of time and therefore, the walling must have come from elsewhere. In Van Waardens (1998) interpretation, Mapela Hill is at an important location lying at the junction of the Shashe and Shashane Rivers, making it possible that the site played a key role in transporting gold and exotic goods between Mapungubwe and other sites further up towards the Sowa Pan. If this theory on the origin of stone walling is correct, it would make sense that the walling at Mapela and the earlier walling at Mapungubwe is similar to that of sites in the Tati cluster. This would make Mapela walling a vital component in the study of the origin of walling in the Zimbabwe Pattern.

8.5 Chronology of the Shashe Limpopo River Basin

The chronology of Mapela Hill was established using absolute as well as relative dating techniques. Radiocarbon dating samples were composed of charcoal, burnt sorghum and burnt bone. Bayesian modelling was the chosen statistical program used to incorporate the material culture of the site into the scientific chronology. It was established that Main Mapela was occupied from the 11th century through to the 14th century AD and that Little Mapela was a later extension of the site dating from the 14th to the 15th century AD. The ceramic analysis shows that the K2 and Mapungubwe series existed from AD1000-AD1300 which falls into this radiocarbon dating chronology. From these dates, it is clear that Mapela Hill was occupied for some 300 years at least and the abundance of material culture recovered in excavation shows that it must have demanded a certain level of specialisation and control over its people. The expansive stone walls would have demanded high labour, the abundance of glass beads shows an active involvement in the Indian Ocean trade network, metal working as well as the recovery of figurines shows craft specialisation, and the recovery of grain bin foundations shows a reliance on agriculture. The size of the site allows for a very large population to be supported. It would be hasty to suggest any demographic

information as there is no objective method of estimating this accurately. However, some 20 hut floors have been recorded in recent surveys. From this we are able to say that Mapela Hill would be able to support some few hundred people. It is important to note here that archaeologists took decades to fully understand the political and social extent of the site of Mapungubwe. The work at Mapela Hill is a result of three field seasons and is only tentative. Most of the site is untouched and there is still much work to be done. It is helpful however, to provide preliminary observations of the results from these excavations.

The dates encompass the proposed ideological shifts in worldview which signify the development of socio-political complexity and class distinction which occurred around K2 to Mapungubwe in the Middle Limpopo Valley. Having discussed the archaeology of Mapela Hill specifically, I will now discuss the larger implications of the origin of complexity in southern Africa.

8.6 Frameworks for socio-political complexity in southern Africa: New directions

Iron Age studies in the Shashe-Limpopo region were until recently dominated by one model, that Mapungubwe is the first capital of southern Africa. The reasons for this framework have been discussed in this study. As the archaeology of a few lesser known sites has been illuminated however, it becomes clear that issues of complexity do not apply to one site alone. This is not to say that Mapungubwe is not important, but rather it is plausible that the features we observe at Mapungubwe are also occurring at other sites (See van Waarden 2011; Chirikure *et al* 2013; 2014) If this is the case, then we should consider alternative theories of the rise of complexity.

Garlake's (1974) survey and excavation work in the field in Zimbabwe provided an opportunity for basic material cultural analysis in the region to be made available to Iron Age archaeologists. He encouraged researchers to get into the field and uncover more sites not only in Zimbabwe but in the region as a whole.

From his experiences, he suggested there may be a multi-capital system in place during the Middle Iron Age, where Mapungubwe was not the only capital of the time, but other sites such as Mapela played a significant role in controlling trade and moving towards a more politically complex landscape. Information on the major sites included in the conventional framework such as Schroda, K2, Mapungubwe, Great Zimbabwe, Bosutswe, and Taba Zikamambo are widely available. However, there are large expanses of land in between these sites of which we have very little archaeological knowledge. If the material cultures from newly investigated sites are not released by publication, then it becomes very difficult to move the field into a direction which is sustainable.

When examining the Iron Age material culture of the Shashe Limpopo River Basin, one thing becomes very clear: hilltop sites, stone walling's, exotic glass beads and Zimbabwe cement are very common elements displayed at hundreds of sites across the region dating to the same time periods. Mapela Hill being no exception, also exhibits these attributes. There should not be a focus on Mapungubwe alone, when these features exist across the whole landscape. When new information on the ground does not support existing frameworks, archaeologists should be motivated to develop new models for early state formation.

8.7 Summary

Having built on Garlake's (1968) work at the site, it is now clear that Mapela Hill falls within the previously assumed to be a district centre under the Mapungubwe hegemony and contains many features which are similar to Mapungubwe itself. The vast revetment stone walling, hill complex layout, numerous glass beads and metal working recovered as well as the chronology of the site, little doubt remains that this site was one of great significance in the region. Although a larger scale of excavations needs to be conducted at Mapela Hill in order to comment on the layout of the site, the extent of control, as well as identify various activity areas, this study will allow future researchers to incorporate the material culture recovered here for comparative purposes. It is hoped that this work will contribute to answering future questions refining the

Leopard's Kopje culture, ceramic analyses, the origin of stone walling as well as moving towards a better understanding of group interaction and migration at the confluence of Zimbabwe, Botswana and South Africa.

Chapter 9: Conclusion

9.1 Introduction

Garlake (1968) conducted test excavations and mapped the summit of Mapela Hill as a part of a regional survey project to identify archaeological sites in south-western Zimbabwe. This report was the only primary source of information available on the archaeology of Mapela Hill. Archaeologists used this information when investigating Mapela's role in issues such as socio-political complexity. As a result, they developed contrasting theories including Mapela being a district centre under the Mapungubwe hegemony (Huffman, 2007), Mapela being its own state (Beach, 1980), and the site being a vital component in regional trade (Van Waarden, 2011). However, a visit to the site showed that Garlake's map was less than 1% of the entire site of Mapela Hill, deeming any prior interpretation of the site to be debatable. There was an extensive amount of work still to be done in order to understand the material culture at Mapela Hill, thus the motivation behind this study.

9.2 Strengths, Limitations and Future Directions

This study consisted of excavating eight trenches at Mapela and four at Little Mapela. With the collected material, tight radiocarbon dates could be obtained. The results of this analysis shows that Mapela Hill was a major site occupied by K2 and Mapungubwe groups from around AD1000, much earlier than previously thought. Mapela Hill itself was occupied continuously for some 300 years, and a later development occurred at Little Mapela for some 100 years at around AD1400. The sheer size and intense occupation of the site show that it could have played an important political role in the region. This study has provided more radiocarbon dates, giving insight to the occupation of the region. However, many unexcavated areas of the site remain. In future research, excavations need to target deep middens on the terraces and more

excavations on the flats. This will allow for an insight into the sequence of occupation of the site within itself.

For the first time, a multi-dimensional analysis of the ceramics recovered from Mapela Hill was presented. This was crucial in engaging in debates about the identification of cultural groups through the analysis of ceramics. This methodology has been used extensively in the region and is therefore appropriate for any regional understanding of migration, interaction and identification of cultural groups. The ceramics results were compared to other sites in the region. The results showed that Mapela Hill was occupied by K2 and Mapungubwe groups in a sequence through time. One difficulty in using this method is that the same attributes are represented in different ceramic facies therefore encouraging a subjective approach in identifying cultural groups. Ceramic typologies are not simple linear continuities and future directions should be aimed at revising ceramic characteristics of the northern and southern Leopard's Kopje Culture. This should include boundaries of each extension as well as interactions and migrations between the two.

Thousands of K2 and Mapungubwe glass beads were recovered in excavation at Mapela Hill showing that this site, like many others in the region was an active player in the Indian Ocean trade network. The bead assemblage at Mapela Hill proved very useful both as a relative chronological indicator, and when used alongside the ceramic analysis. Due to time constraints and the scale of the required dissertation, only a classification of the beads could be provided. Future directions could focus on a chemical analysis study of the glass beads allowing for questions regarding trade routes and distribution patterns to be raised.

For the first time, an analysis of the faunal remains at Mapela Hill has been provided. The results showed that domesticates were the dominant resource used, but hunting of wild animals occurred too. Future work should be directed at reconstructing paleoenvironments in investigating resilience and adaptations of

populations in the region. This could build on the work of Manyanga (2006) and Smith (2005) leading to developments in understanding the rise and decline of state systems.

Globally, studies of early farming societies have shifted in focus, from identifying the first states and first significant sites, to a focus on studies of the function of sites (Yoffee, 2005). How groups ordered themselves within a site in terms of hierarchy, separation of tasks and the regulation of trade seems to have moved the field forward to a new level. As a result of a redirection of questions, archaeologists have been able to understand how early systems functioned, and from this, been able to suggest new frameworks for the rise of complexity. If newly studied Iron Age sites in southern Africa do not conform to the conventional frameworks, then a way around this could be instead of identifying the first capital, rather identify how any site functions at a basic level.

Mapela Hill contains vast revetment stone walling up to two meters in height from the base of the hill to the summit. It also contains multiple sequences of *dhaka* floors encountered in most trenches at the site. Interestingly, a combination of these features as well as a specific settlement layout, and active involvement in trade has been associated with the rise of complexity in the region. Although Mapungubwe and K2 are supposedly the first states in southern Africa, this study has shown that features existing at Mapela, K2 and Mapungubwe are not unique to the region. A literature survey has shown that many hilltop settlements contain stone-walls and *dhaka* floors however most of these sites have not been radiocarbon dated. The conventional framework continues to maintain that Mapungubwe is the first state capital of the regional, however it is flawed in that newly investigated sites do not conform to this approach. Future work needs to involve more excavations at relatively understudied sites in Botswana, South Africa and Zimbabwe to obtain tight radiocarbon dates, obtain an understanding of the material culture as well as to understand which cultural groups are represented in these regions. This will allow for an adjustment of the framework and ultimately a better understanding of the rise of socio-political complexity in the region.

9.3 Summary

The results of the material cultural analysis at Mapela Hill are far-reaching. Mapela Hill is a southern Leopard's Kopje site which was occupied for some 400 years encompassing the rise of complexity in southern Africa. However, the vast stone walls, *dhaka* floors, cattle kraals, hilltop occupation and abundance of glass beads are not unique to the region. There still remains to be a vast expanse of land in which sites, like Mapela Hill have not been excavated yet contain these features. Excavating these sites will provide the potential to generate more data as well as suggest new interpretations in our understanding of socio-political complexity. If these features are evident at numerous sites, then the current linear model for the rise of complex state systems in southern Africa needs to be adjusted to explain the archaeology on the ground.

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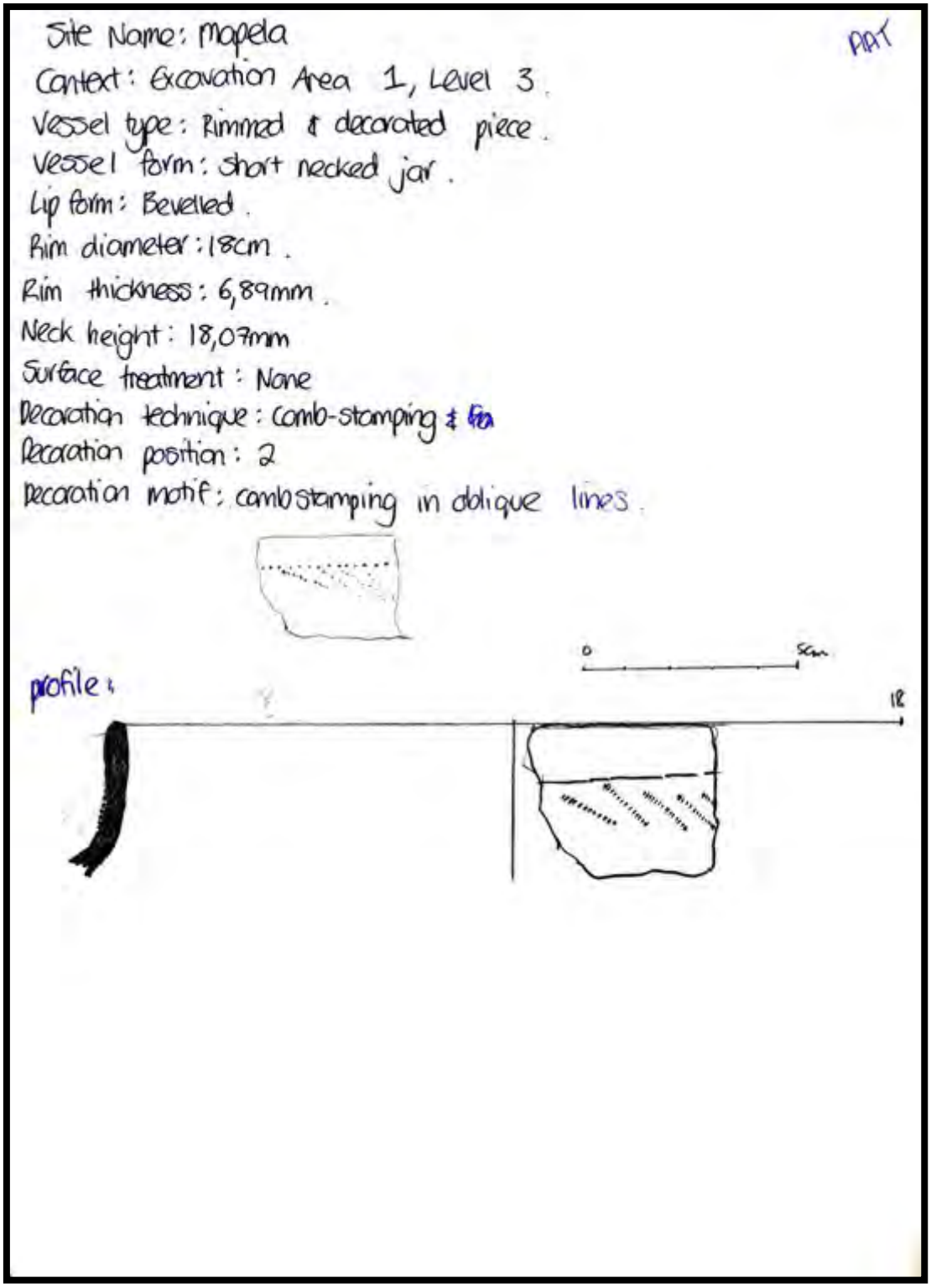
Appendices

Appendix A showing an example of a ceramic recording form used in this study.



Appendix B showing ceramic types recovered from Mapela Hill in excavation and surface finds

Type	Decoration placement	Number	Percentage	Example of illustration number
Simple shallow bowls, Incision: Upturned triangle	Body	2	2,25	053, 086
Simple shallow bowls, Incision: Downturned triangle	Body	2	2,25	50
Simple shallow bowls, Incision: Geometric Cross-hatching	Body	2	2,25	27
Simple shallow bowls, Incision: Single horizontal line	Rim to body	2	2,25	31
Beakers, Incised: Geometric Interlocking triangles	Body	3	3,37	038, 078, 016
Beakers, Incised and Cross hatching: Geometric interlocking triangles	Body	3	3,37	79
Beakers, Incised and Cross hatching: Downturned triangle	Body	2	2,25	74
Recurved Jars, Incised: Upturned triangle	Shoulder	8	8,99	042, 024, 023, 079, 068, 062
Recurved Jars, Incised and Cross hatched: Upturned triangle	Lower neck to Shoulder	2	2,25	34
	Shoulder	2	2,25	52
Recurved Jars, Incised and cross hatched: Downturned triangle	Lower neck to Shoulder	1	2,25	46
	Shoulder	4	4,49	051, 030, 025
Recurved Jars, Incised: Downturned triangle	Lower neck to shoulder	7	7,87	072, 069, 087, 090, 015
	Shoulder	12	13,48	035, 080, 053, 043, 022, 017, 018, 019
Recurved Jars, Incised: Downturned arcade	Lower neck to Shoulder	3	3,37	071, 037
Recurved Jars, Incised: Upturned arcade	Lower neck to Shoulder	4	4,49	036, 070, 083
	Shoulder	2	2,25	73
Recurved Jars, Incised: Interlocking triangle in band	Shoulder	2	3,37	20
Recurved Jars, Incised and Cross hatched: Geometric design in band	Shoulder	3	3,37	028, 029, 032
Recurved Jars, Incised: Oblique wide incision	Central Neck	1	3,37	56

Recurved Jars, Incised: Oblique lines in band	Lower neck to Shoulder	4	4,49	045, 044
	Shoulder	5	5,62	054, 084, 021, 040, 085
Recurved Jars, Incised with punctate stamping	Central Neck	1	2,25	88
Recurved Jars, Incised with comb stamping	Central to Lower neck	2	2,25	57
Recurved Jars, Line of Horizontal Incision	Lower neck to Shoulder	1	3,37	39

Appendix C: Illustrations of Leopards Kopje Main Kraal ceramics (Huffman, 1974)

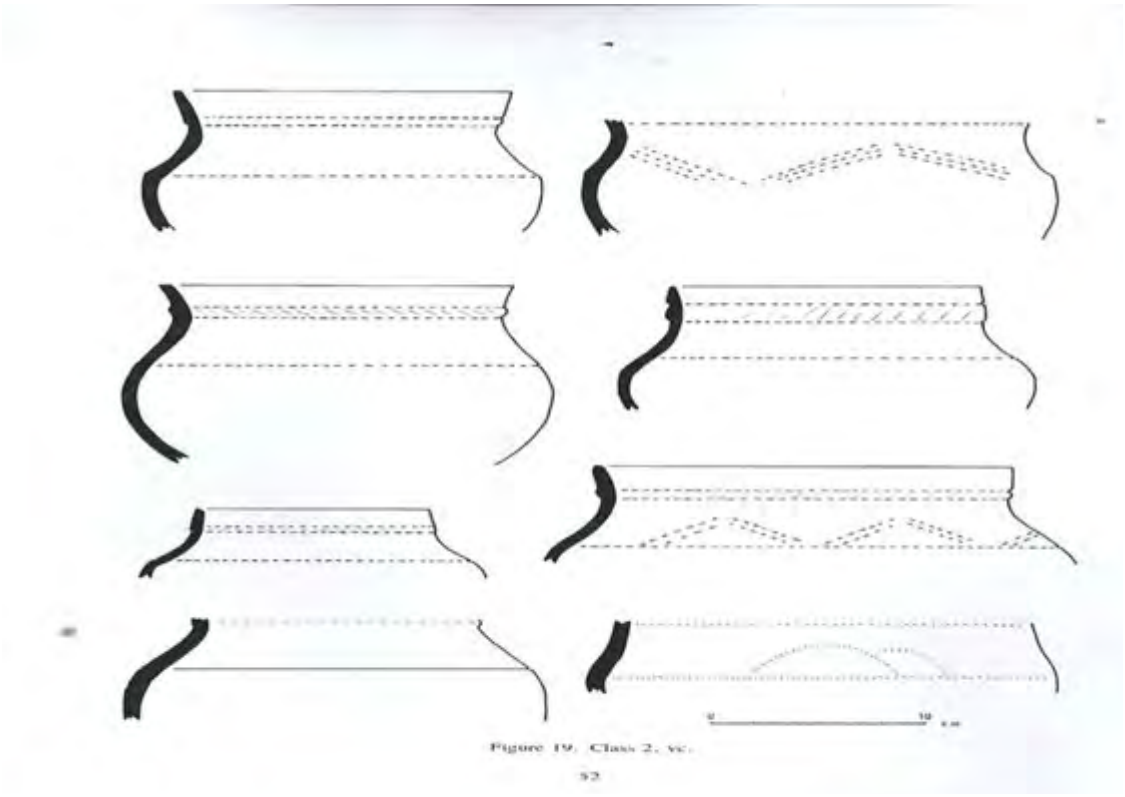


Figure 19. Class 2, vc.

52

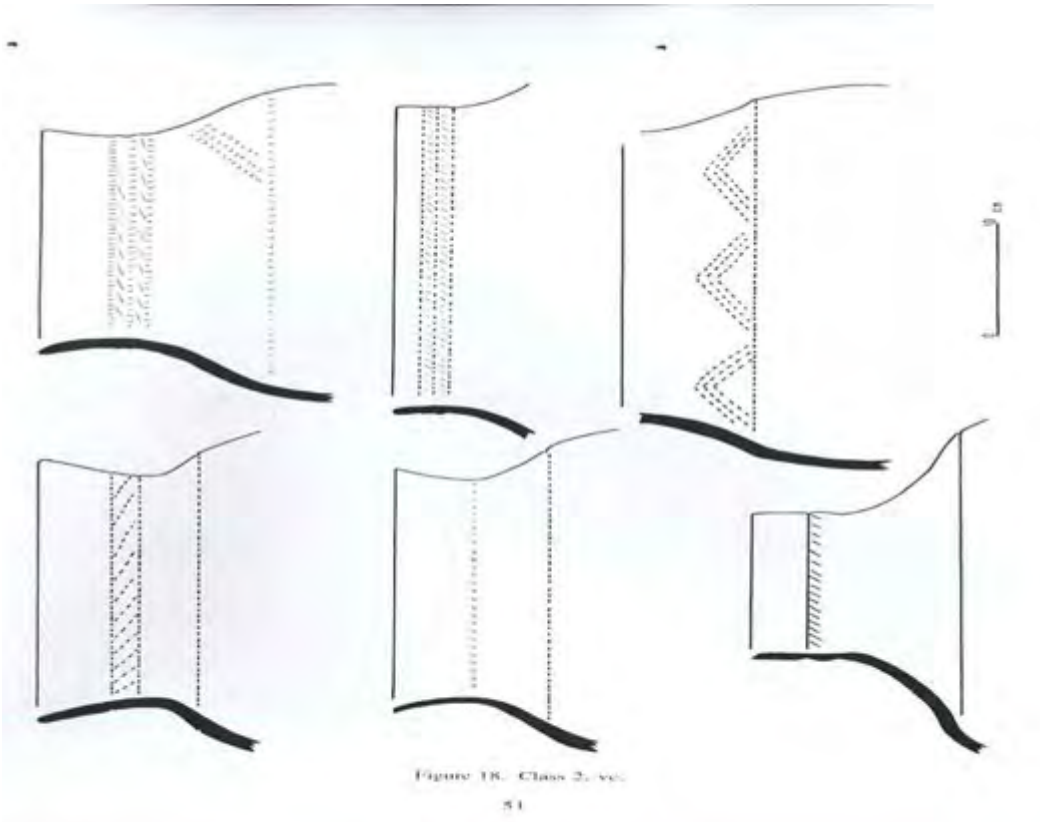


Figure 18. Class 2, vc.

51

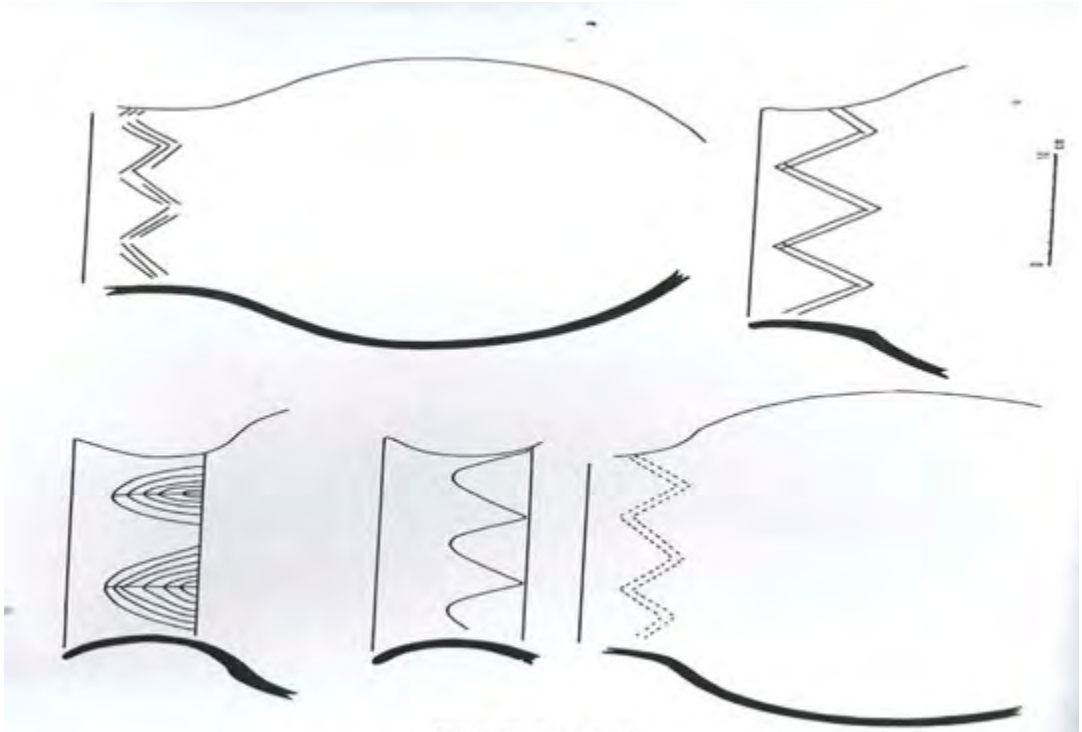


Figure 25. Class 3, vb.

58

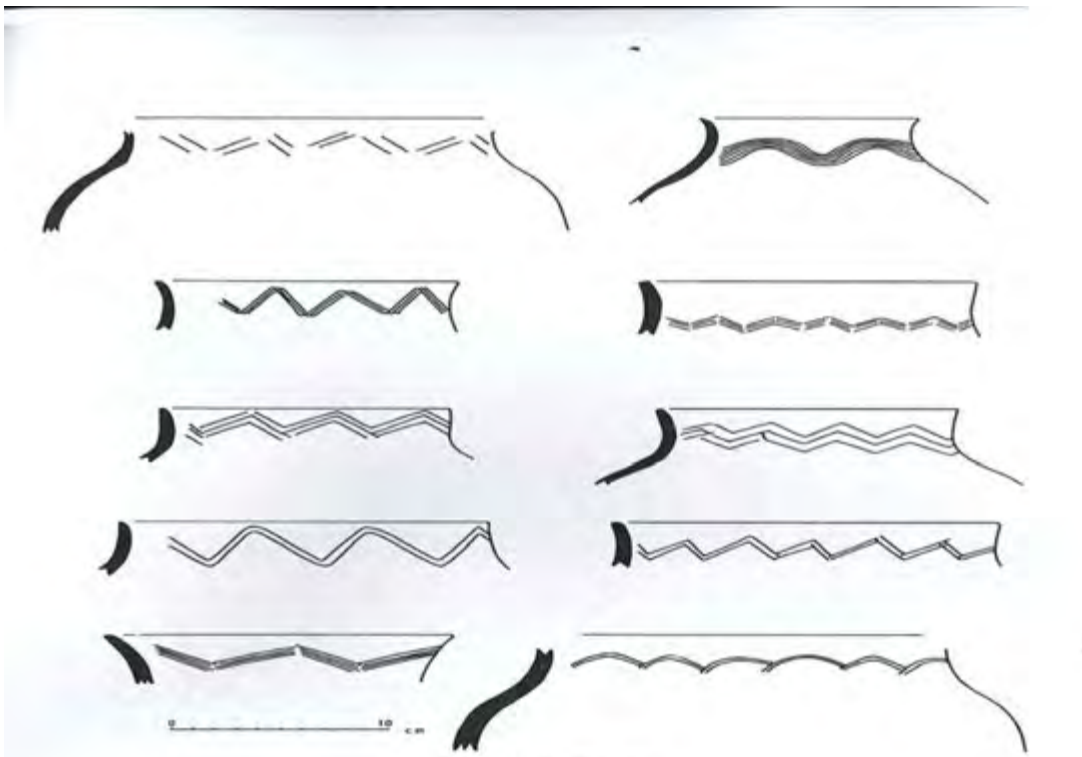


Figure 26. Class 3, vb.

59

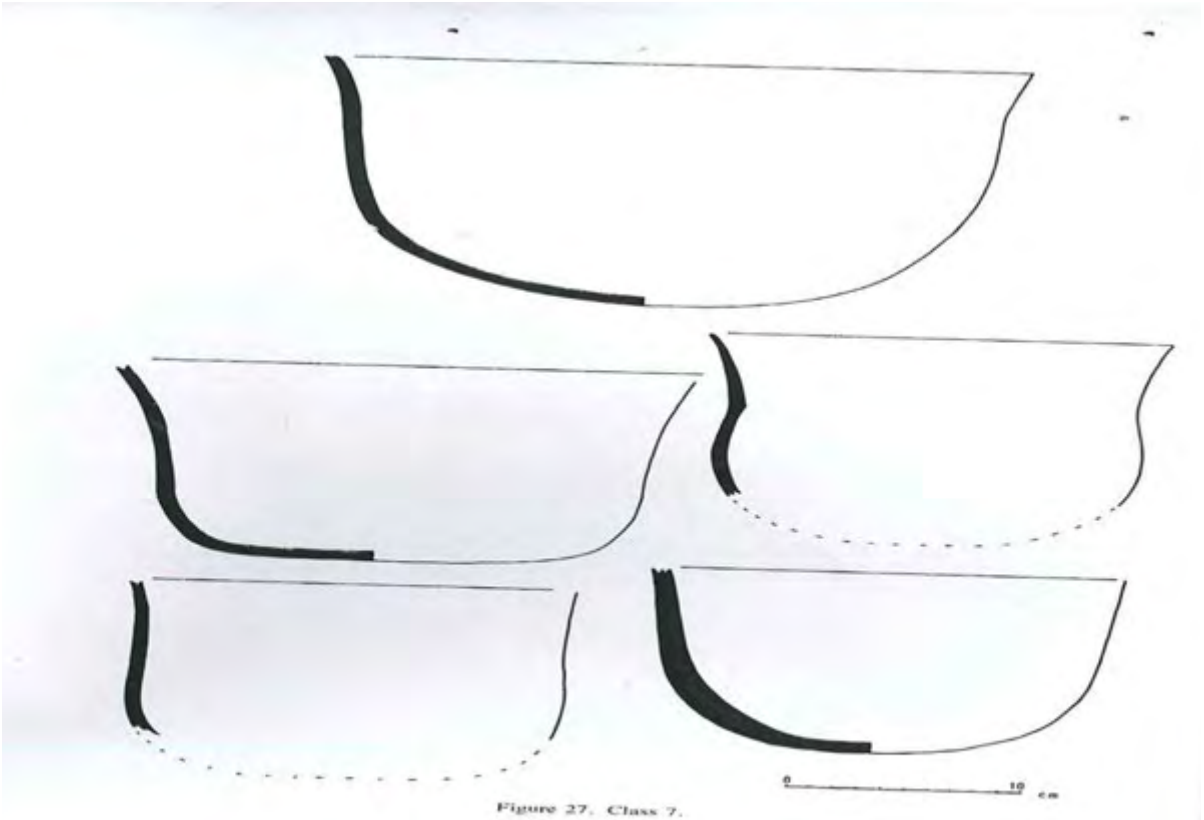


Figure 27. Class 7.

60

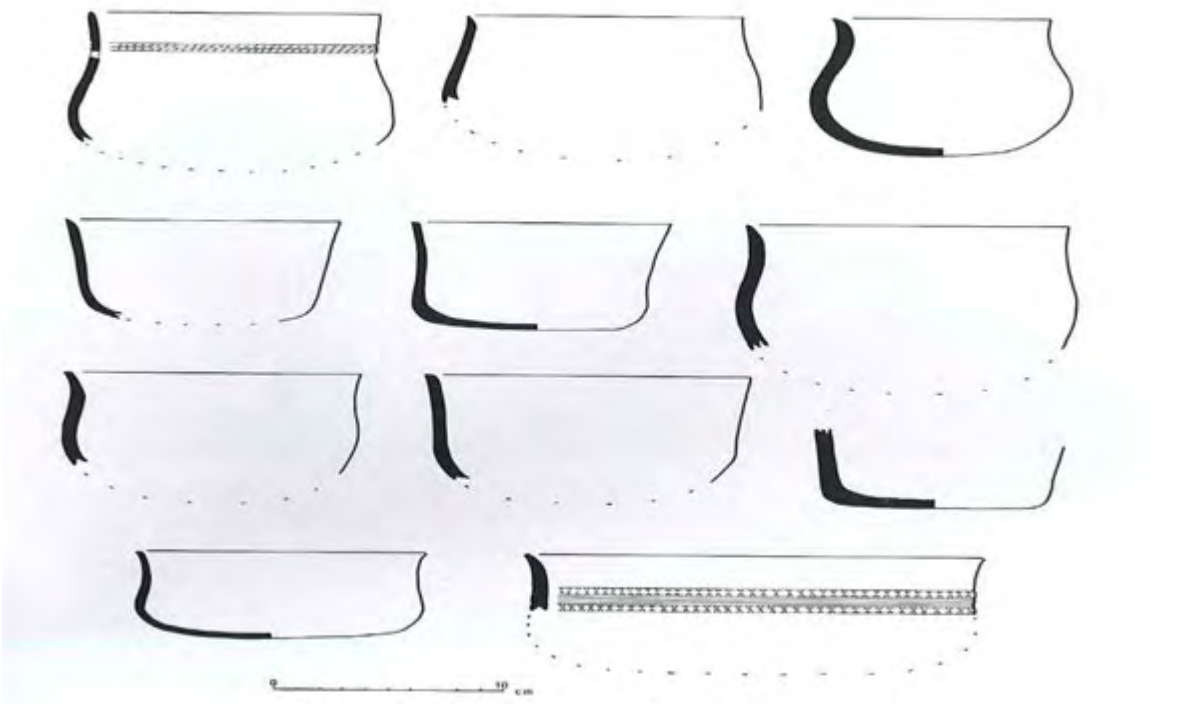


Figure 28. Class 7, rows 1-3. Class 8, row 4.

61

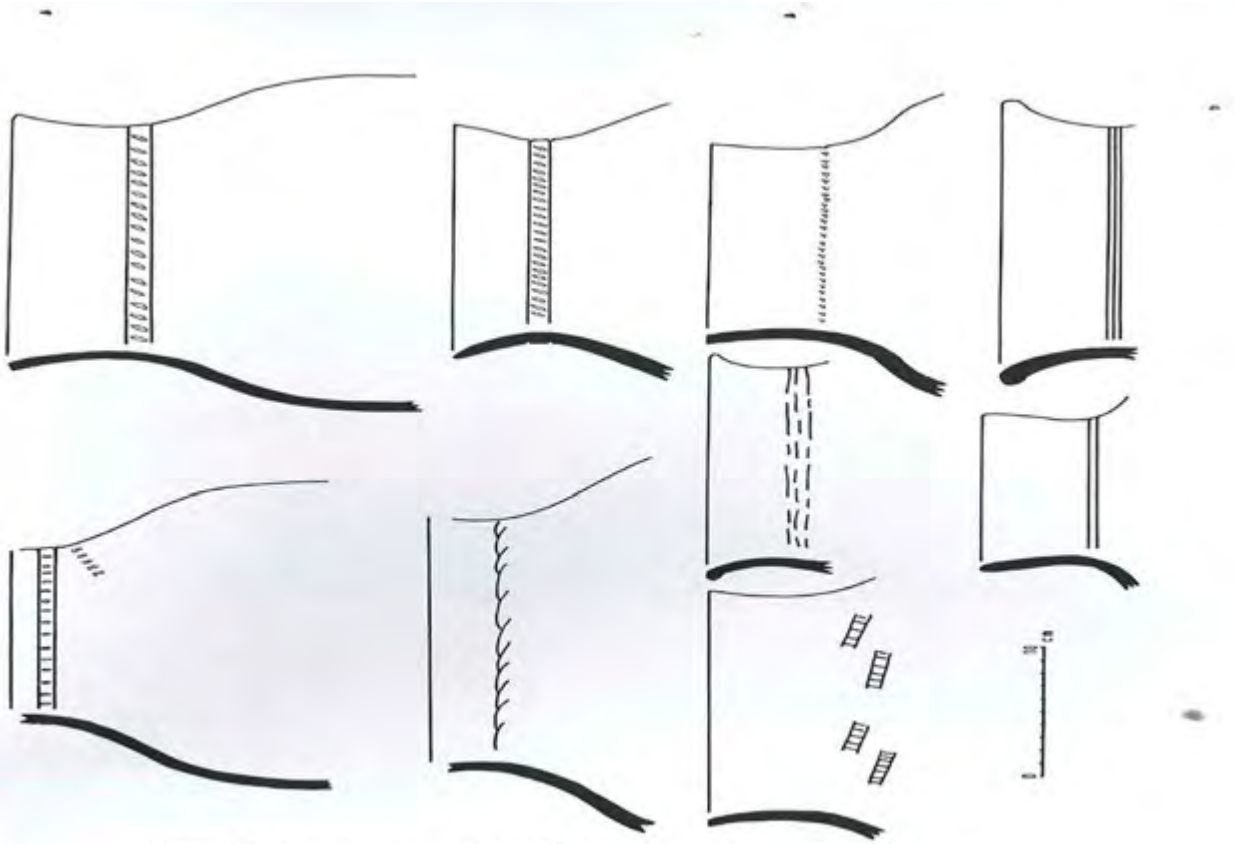


Figure 24. Class 3, va, rows 1, 2 and 4, Class 3, vc, row 3, numbers 1 and 2.

57

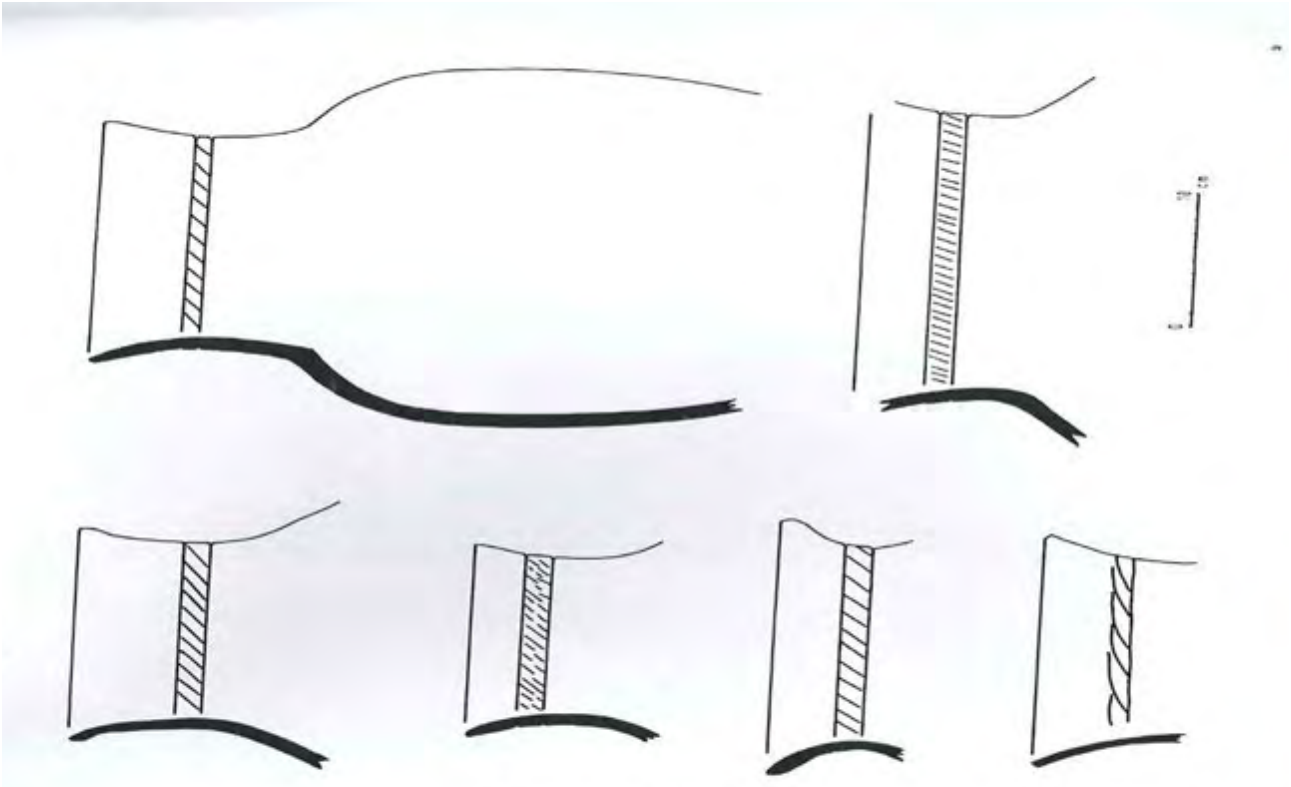


Figure 23. Class 3, va.

56

Appendix D: Illustrations of Huffmans (1974) Blue Jay/Bunting Close ceramic types

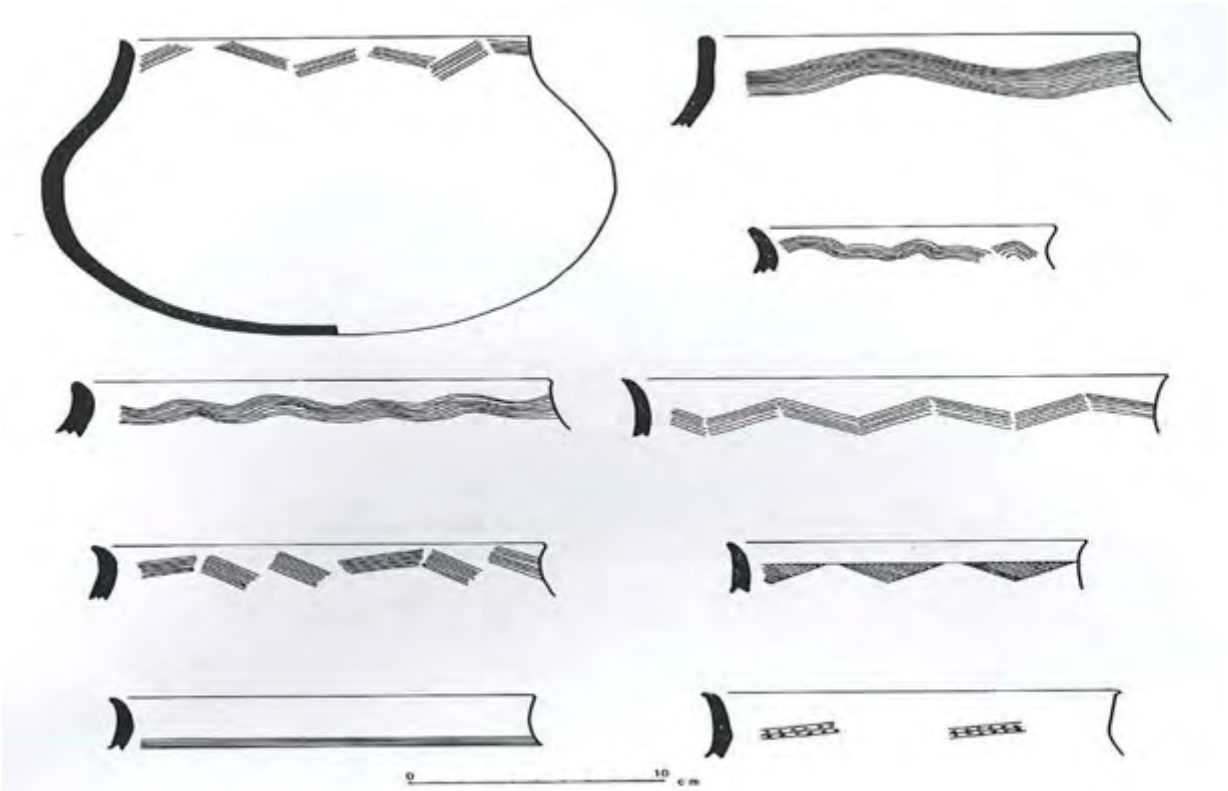


Figure 40. Class 1.

91

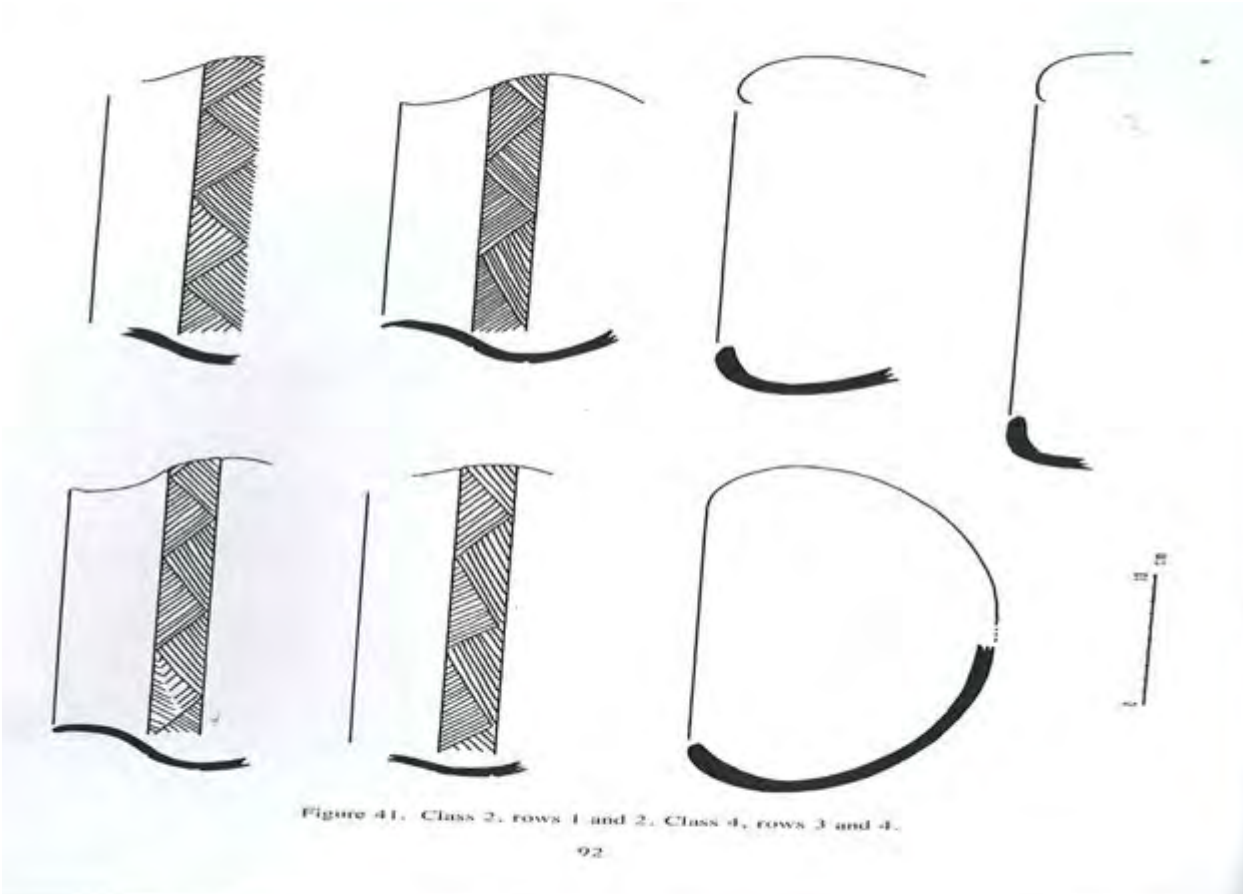


Figure 41. Class 2, rows 1 and 2. Class 4, rows 3 and 4.

92

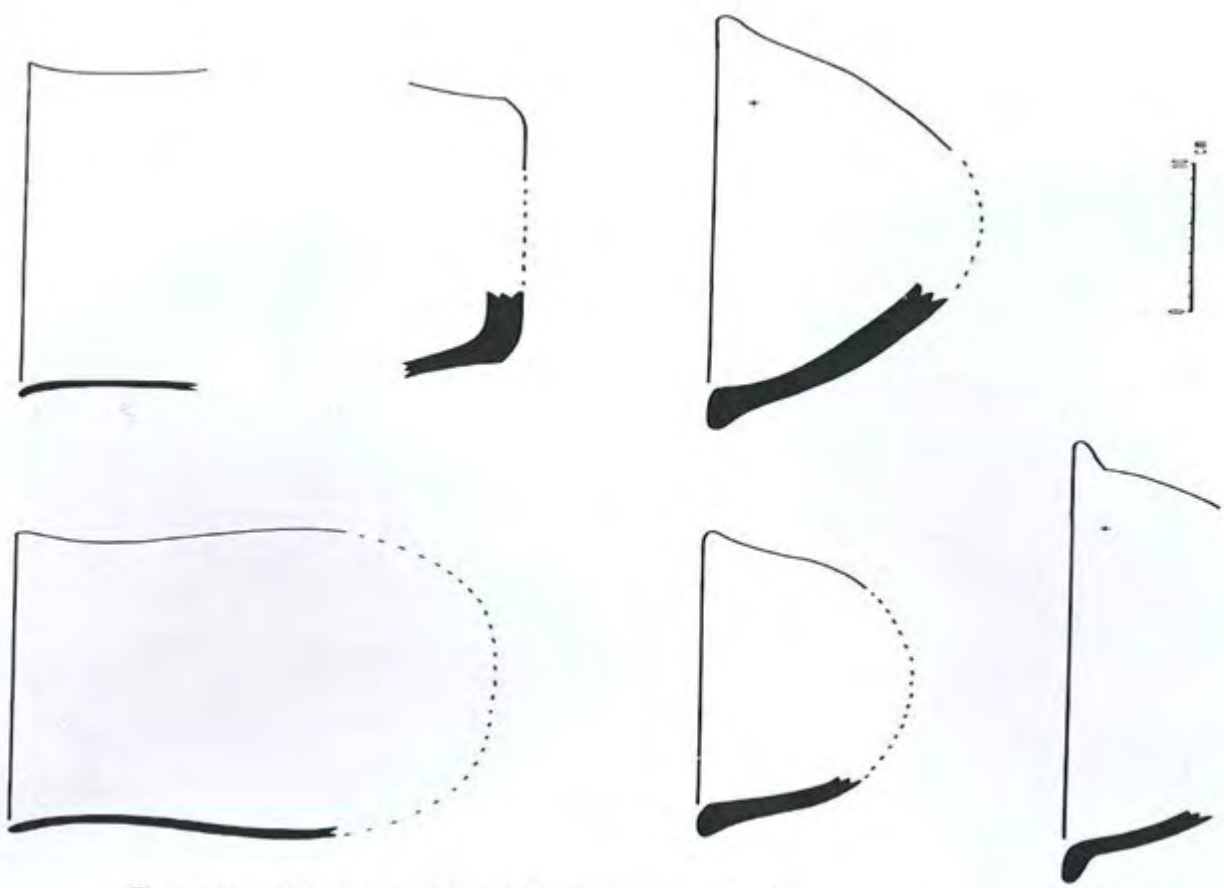


Figure 42. Class 3, rows 1 and 2. Class 7, rows 3 and 4. + = not from excavation.

93

Appendix E: Raw ceramic data from all excavations at Mapela Hill

Site	Excavation area	Trench	Square	Level	Undiagnostic	Diagnostic	
						Rimmed	Decorated
Mapela Hill	Garlakes Trench A extension	NA	NA	1	11	1	0
Mapela Hill	Garlakes Trench A extension	NA	NA	2	15	0	0
Mapela Hill	Garlakes Trench A extension	NA	NA	3	10	0	1
Mapela Hill	Garlakes Trench A extension	NA	NA	4	18	0	0
Mapela Hill	Garlakes Trench A extension	NA	NA	5	2	0	0
Mapela Hill	Garlakes Trench A extension	NA	NA	6	11	0	1
Mapela Hill	Garlakes Trench A extension	NA	NA	7	5	1	0
Mapela Hill	Garlakes Trench A extension	NA	NA	8	9	1	0
Mapela Hill	Garlakes Trench A extension	NA	NA	9	7	0	0
Mapela Hill	Garlakes Trench A extension	NA	NA	10	19	0	0
Mapela Hill	Garlakes Trench A extension	NA	NA	11	18	3	0
Mapela Hill	Garlakes Trench A extension	NA	NA	12	16	0	0
Mapela Hill	Garlakes Trench B extension	NA	NA	1	18	0	0
Mapela Hill	Garlakes Trench B extension	NA	NA	2	21	0	0

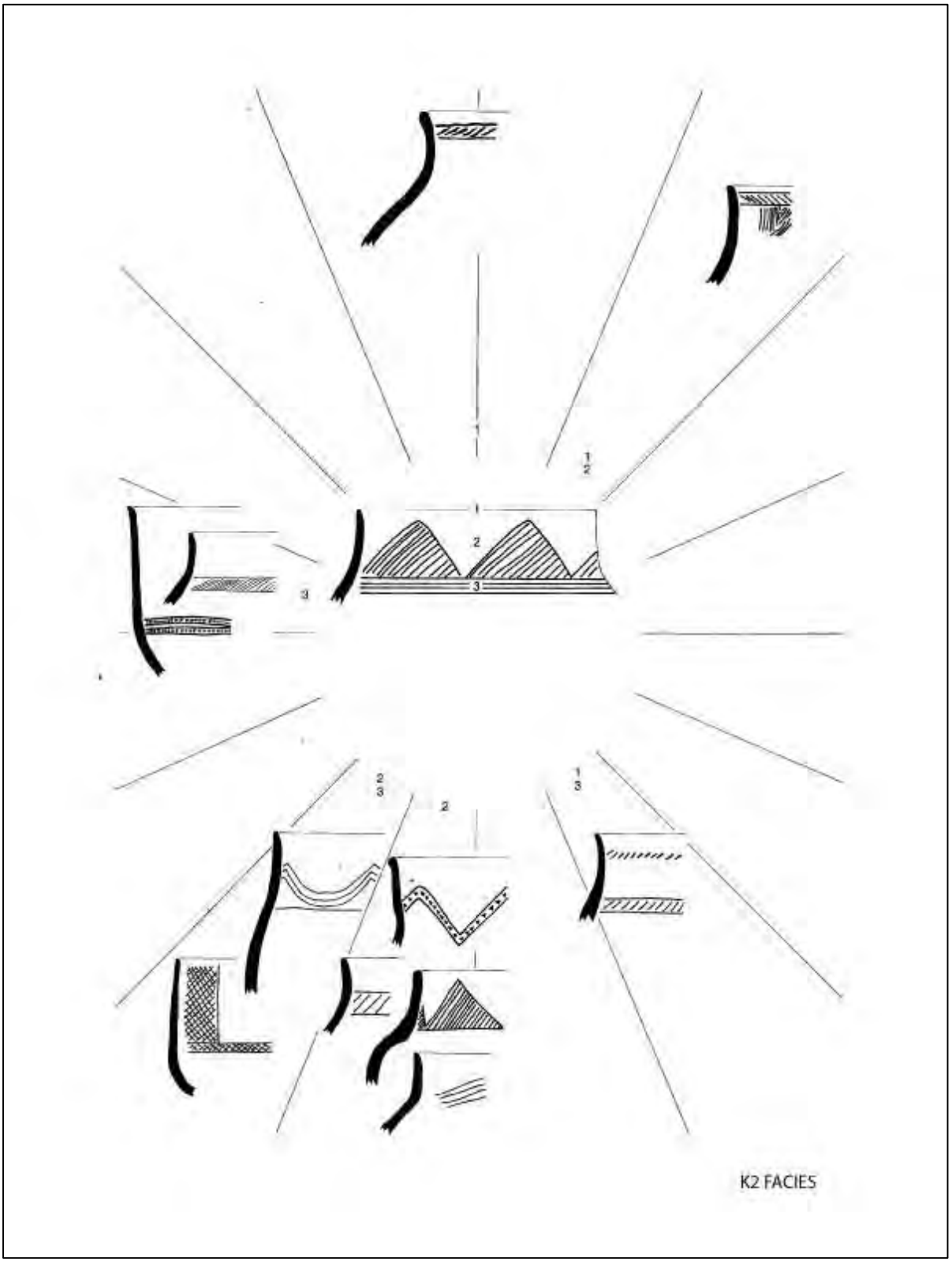
Mapela Hill	Garlakes Trench B extension	NA	NA	3	31	3	6
Mapela Hill	Garlakes Trench B extension	NA	NA	4	3	1	1
Mapela Hill	Garlakes Trench B extension	NA	NA	5	9	0	0
Mapela Hill	Garlakes Trench B extension	NA	NA	6	12	0	0
Mapela Hill	Garlakes Trench B extension	NA	NA	7	73	3	0
Mapela Hill	Garlakes Trench B extension	NA	NA	8	54	6	1
Mapela Hill	Garlakes Trench B extension	NA	NA	9	21	1	2
Mapela Hill	Garlakes Trench B extension	NA	NA	10	73	6	5
Mapela Hill	Garlakes Trench B extension	NA	NA	11	20	4	0
Mapela HIll	Lower Summit	1	NA	1	0	15	3
Mapela HIll	Lower Summit	1	NA	2	92	6	2
Mapela HIll	Lower Summit	1	NA	3	16	2	0
Mapela HIll	Lower Summit	1	NA	4	2	5	1
Mapela HIll	Lower Summit	1	NA	5	27	4	0
Mapela HIll	Lower Summit	1	NA	6	23	3	3
Mapela Hill	Lower Summit	2	NA	1	75	0	0
Mapela Hill	Lower Summit	2	NA	2	188	6	2
Mapela Hill	Lower Summit	2	NA	3	136	10	1
Mapela Hill	Lower Summit	2	NA	4	56	3	1
Mapela Hill	Lower Summit	2	NA	5	13	3	1
Mapela Hill	Terrace Excavation Area 1	1	NA	1	105	10	0
Mapela Hill	Terrace Excavation Area 1	1	NA	2	145	6	3
Mapela Hill	Terrace Excavation Area 1	1	NA	3	127	7	5
Mapela Hill	Terrace Excavation Area 1	1	NA	4	39	0	0

Mapela Hill	Terrace Excavation Area 1	1	NA	5	131	3	2
Mapela Hill	Terrace Excavation Area 1	1	NA	6	20	0	0
Mapela Hill	Terrace Excavation Area 1	1	NA	7	207	4	0
Mapela Hill	Terrace Excavation Area 1	1	NA	8	59	3	1
Mapela Hill	Terrace Excavation Area 1	1	NA	9	147	0	0
Mapela Hill	Terrace Excavation Area 1	1	NA	10	125	3	3
Mapela Hill	Terrace Excavation Area 1	1	NA	11	57	80	0
Mapela Hill	Terrace Excavation Area 1	1	NA	12	20	1	0
Mapela Hill	Terrace Excavation Area 1	1	NA	13	14	1	2
Mapela Hill	Terrace Excavation Area 1	1	NA	14	15	3	0
Mapela Hill	Terrace Excavation Area 1	1	NA	15	19	3	2
Mapela Hill	Terrace Excavation Area 1	1	NA	16	14	1	0
Mapela Hill	Terrace Excavation Area 1	1	NA	17	15	3	2
Mapela Hill	Terrace Excavation Area 1	1	NA	18	7	4	3
Mapela Hill	Terrace excavation Area 2	1	NA	1	41	1	0
Mapela Hill	Terrace excavation Area 2	1	NA	2	125	1	0
Mapela Hill	Terrace excavation Area 2	1	NA	3	188	0	1
Mapela Hill	Terrace excavation Area 2	1	NA	4	79	1	0
Mapela Hill	Terrace excavation Area 2	1	NA	5	46	1	0
Mapela Hill	Terrace excavation Area 2	1	NA	6	74	1	0
Mapela Hill	Terrace excavation Area 2	1	NA	7	34	2	0
Mapela Hill	Terrace excavation Area 2	1	NA	8	33	2	0
Mapela Hill	Terrace excavation Area 2	1	NA	9	16	0	0
Mapela Hill	Terrace Excavation Area 2	Wall Rescue	NA	Surface layer	268	6	4
Mapela Hill	Terrace Excavation Area 2	Wall Rescue	NA	Vitrified dung layer	232	0	1
Mapela Hill	Terrace Excavation Area 2	Wall Rescue	NA	Ash/Grey soil layer	14	1	0
Mapela Hill	Terrace Excavation Area 2	Wall Rescue	NA	Very hard vitrified dung layer	41	1	2

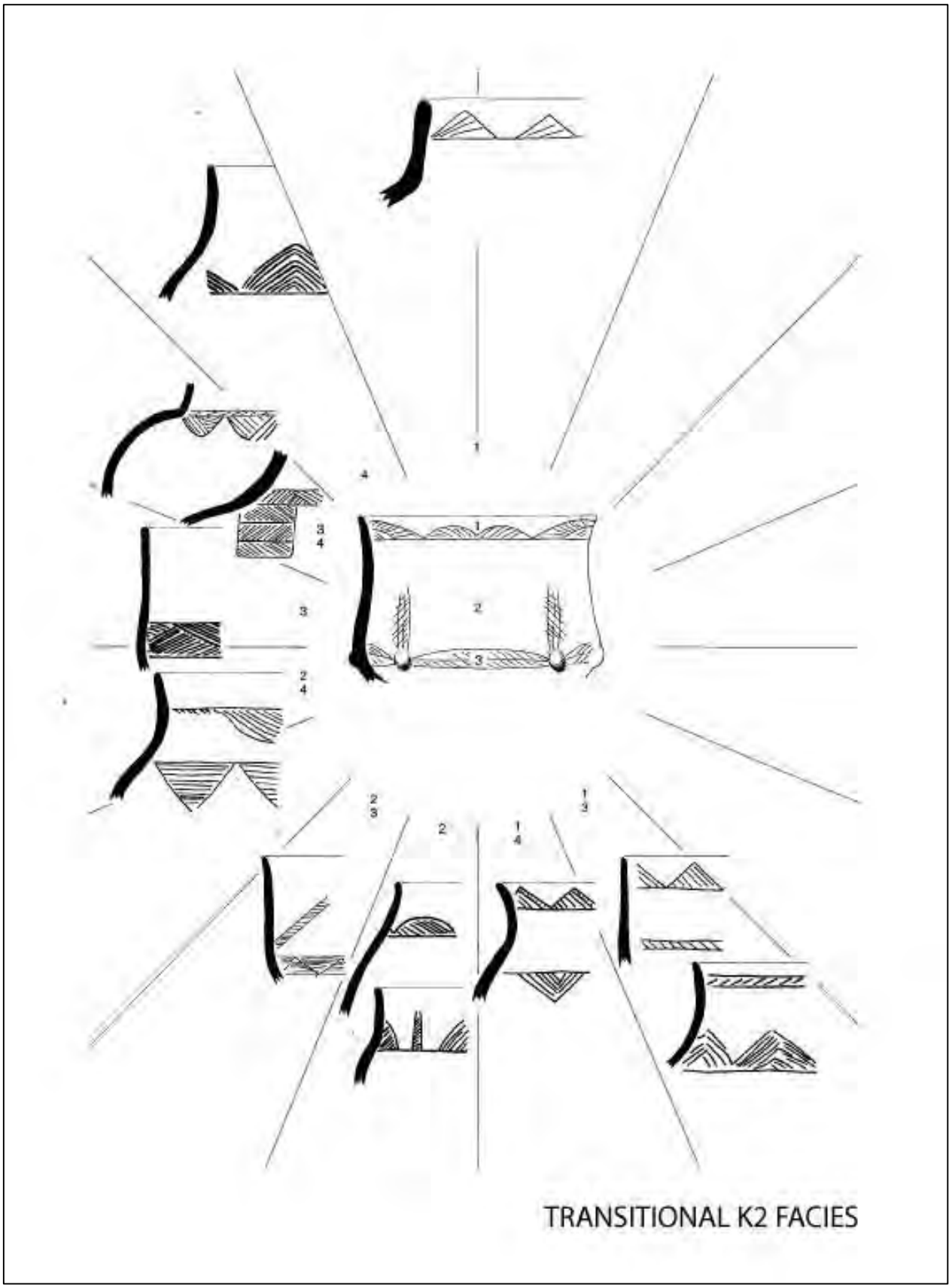
Mapela Hill	Terrace Excavation Area 2	Wall Rescue	NA	Red soil layer	2	1	0
Mapela Hill	Terrace Excavation Area 2	Wall Rescue	NA	Below pot layer	28	2	1
Mapela Hill	Excavation Area 1	1	NA	1	77	4	4
Mapela Hill	Excavation Area 1	1	NA	2	11	0	0
Mapela Hill	Excavation Area 1	1	NA	3	36	6	1
Little Mapela	Test Pit 1	NA	NA	1	55	5	0
Little Mapela	Test Pit 1	NA	NA	2	15	0	0
Little Mapela	Test Pit 1	NA	NA	3	32	2	0
Little Mapela	Test Pit 2	NA	NA	1	39	2	1
Little Mapela	Test Pit 2	NA	NA	2	43	6	1
Little Mapela	Test Pit 2	NA	NA	3	17	0	0
Little Mapela	Test Pit 3	NA	NA	1	35	1	1
Little Mapela	Test Pit 3	NA	NA	2	35	2	0
Little Mapela	Test Pit 3	NA	NA	3	75	3	0
Little Mapela	Test Pit 3	NA	NA	4	15	0	0
Little Mapela	Midden 1	1	G2	1	43	4	0
Little Mapela	Midden 1	1	G2	2	40	1	2
Little Mapela	Midden 1	1	G2	3	30	3	0
Little Mapela	Midden 1	1	F0	1	72	9	1
Little Mapela	Midden 1	1	F0	2	52	6	1
Little Mapela	Midden 1	1	F0	3	43	8	0
Little Mapela	Midden 1	1	F0	4	7	0	0
Little Mapela	Midden 1	1	E1	1	104	8	1
Little Mapela	Midden 1	1	E1	2	51	6	0
Little Mapela	Midden 1	1	E1	3	34	5	0
Little Mapela	Midden 1	1	E0	1	134	4	1
Little Mapela	Midden 1	1	E0	2	95	2	0
Little Mapela	Midden 1	1	E0	3	66	6	0
Little Mapela	Midden 1	1	E0	4	5	3	0
Little Mapela	Midden 1	1	C1	1	25	3	0

Little Mapela	Midden 1	1	C1	2	54	4	2
Little Mapela	Midden 1	1	C1	3	19	3	1

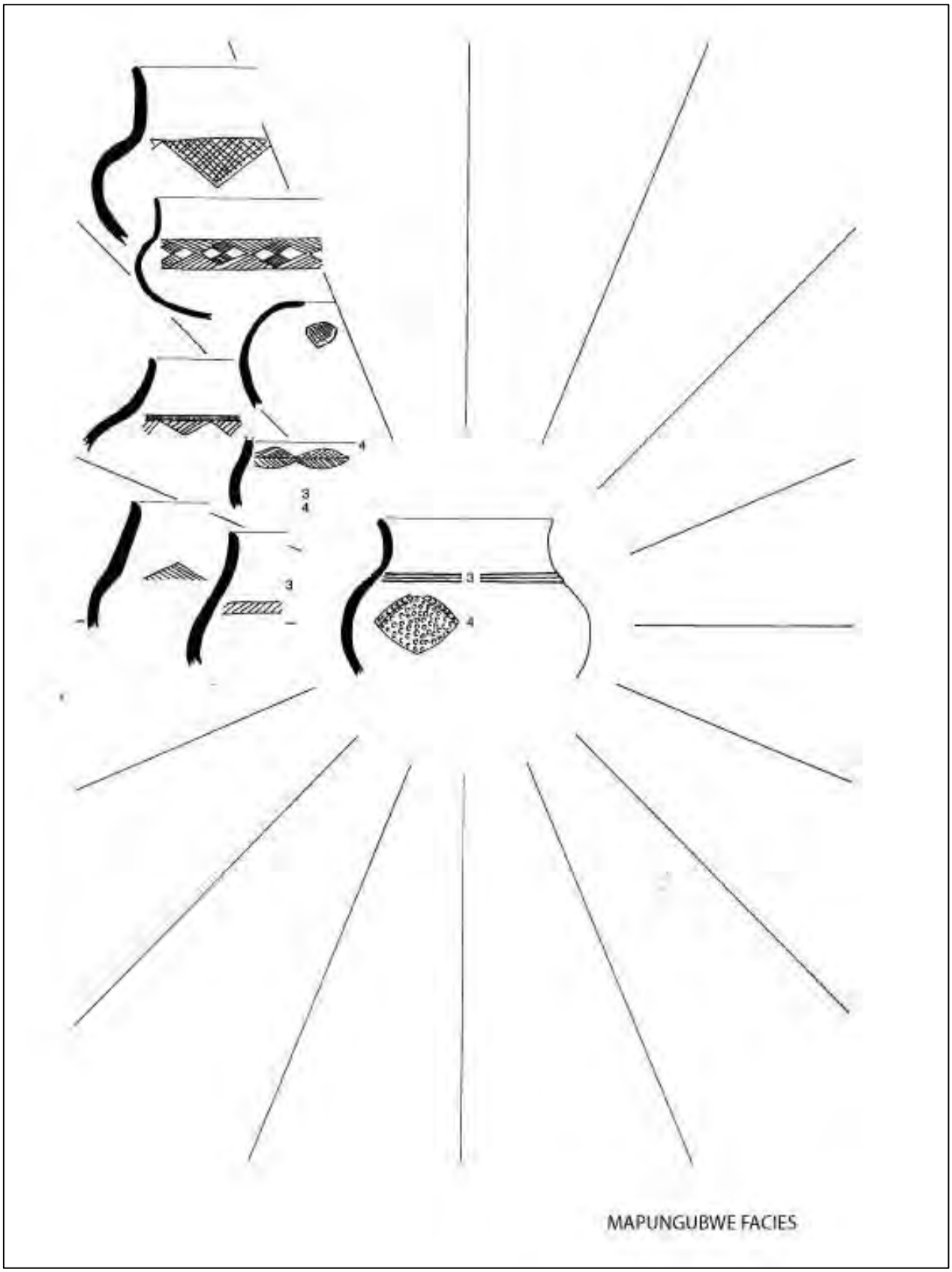
Appendix F illustrating motifs of K2 facies (adapted from Huffman, 2007)



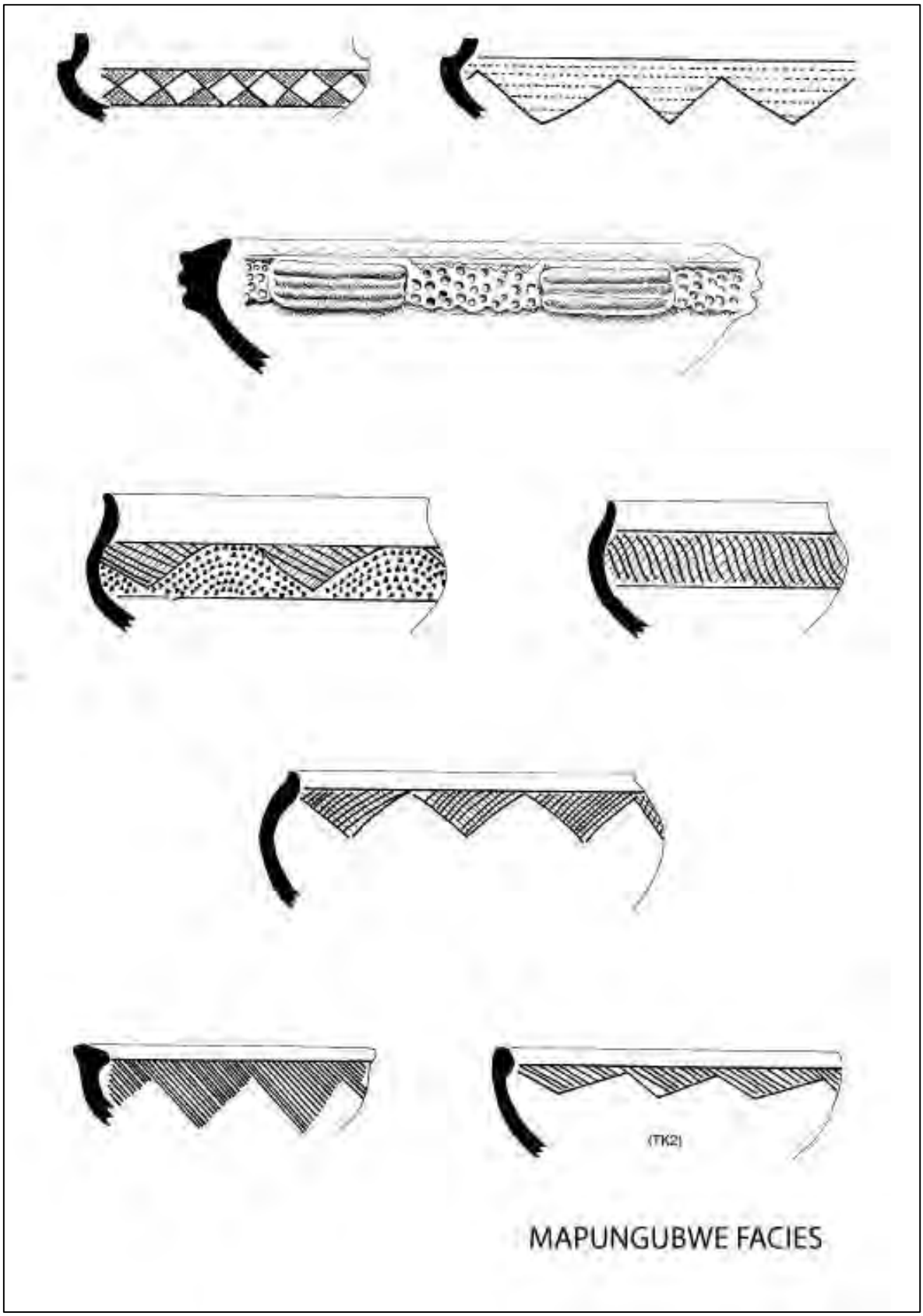
Appendix G illustrating motifs present in Transitional K2 facies (adapted from Huffman, 2007)



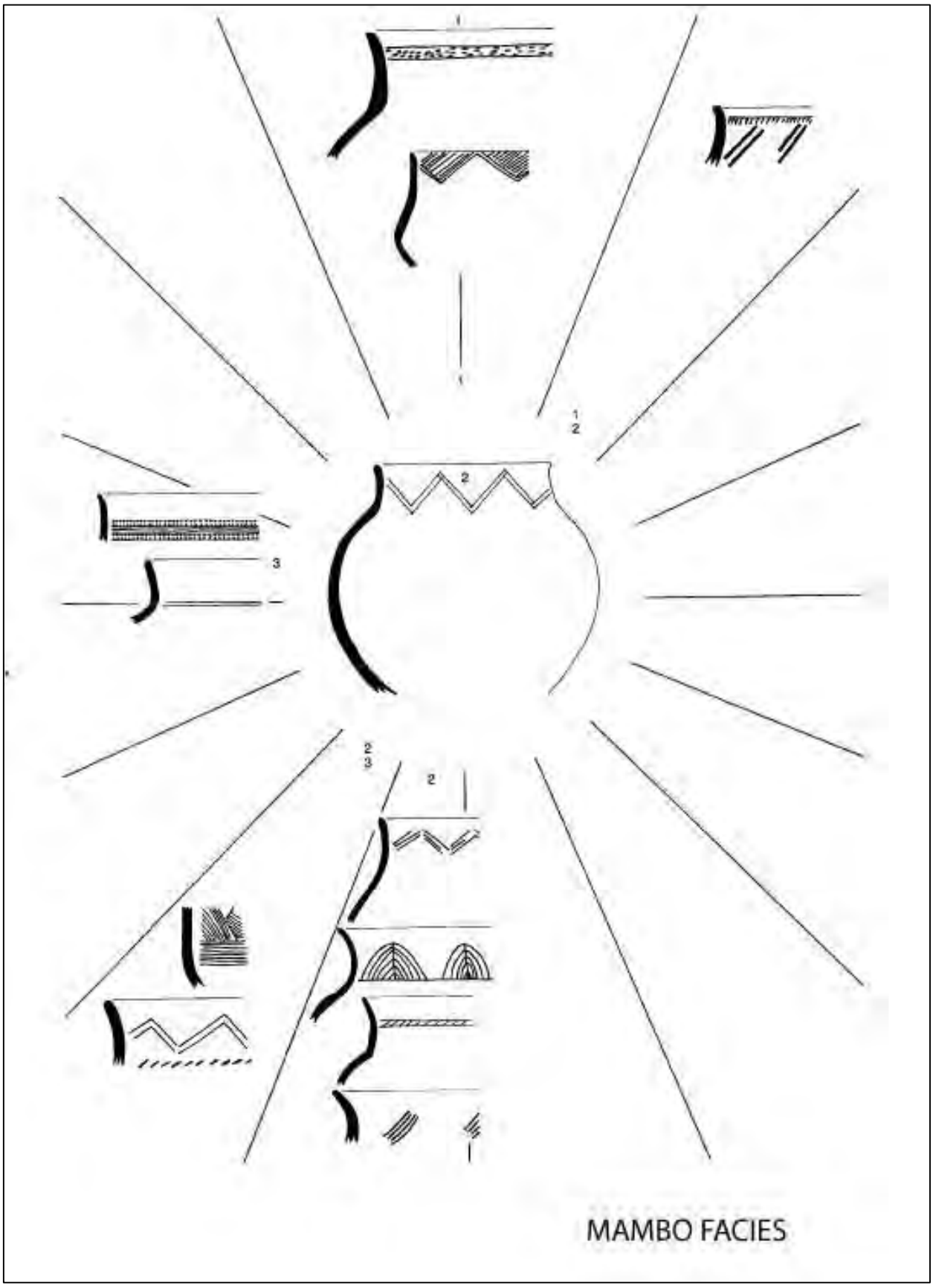
Appendix H illustrating Mapungubwe ceramic motifs (adapted from Huffman, 2007)



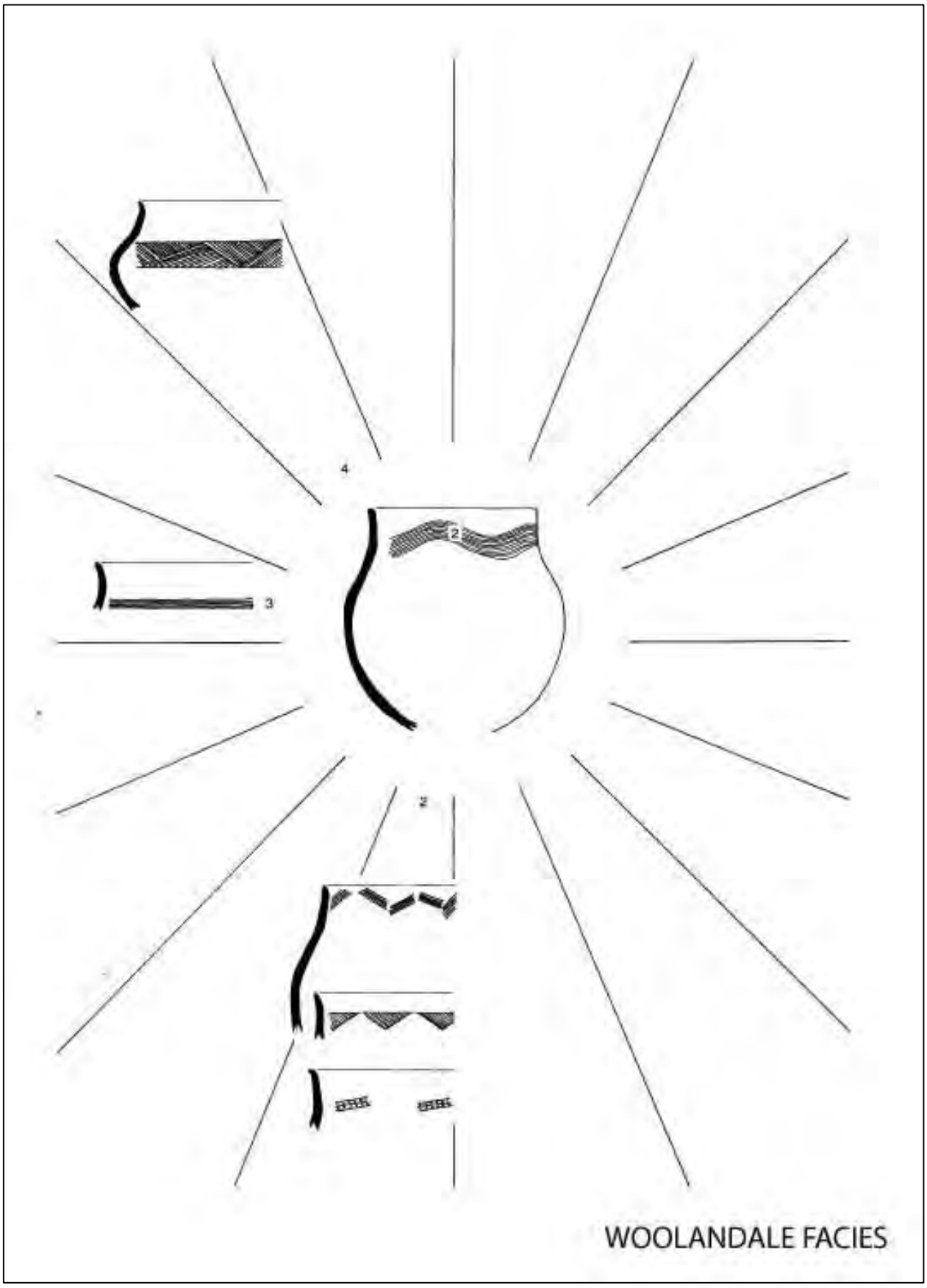
Appendix I illustrating Mapungubwe bowls facies (adapted from Huffman, 2007).



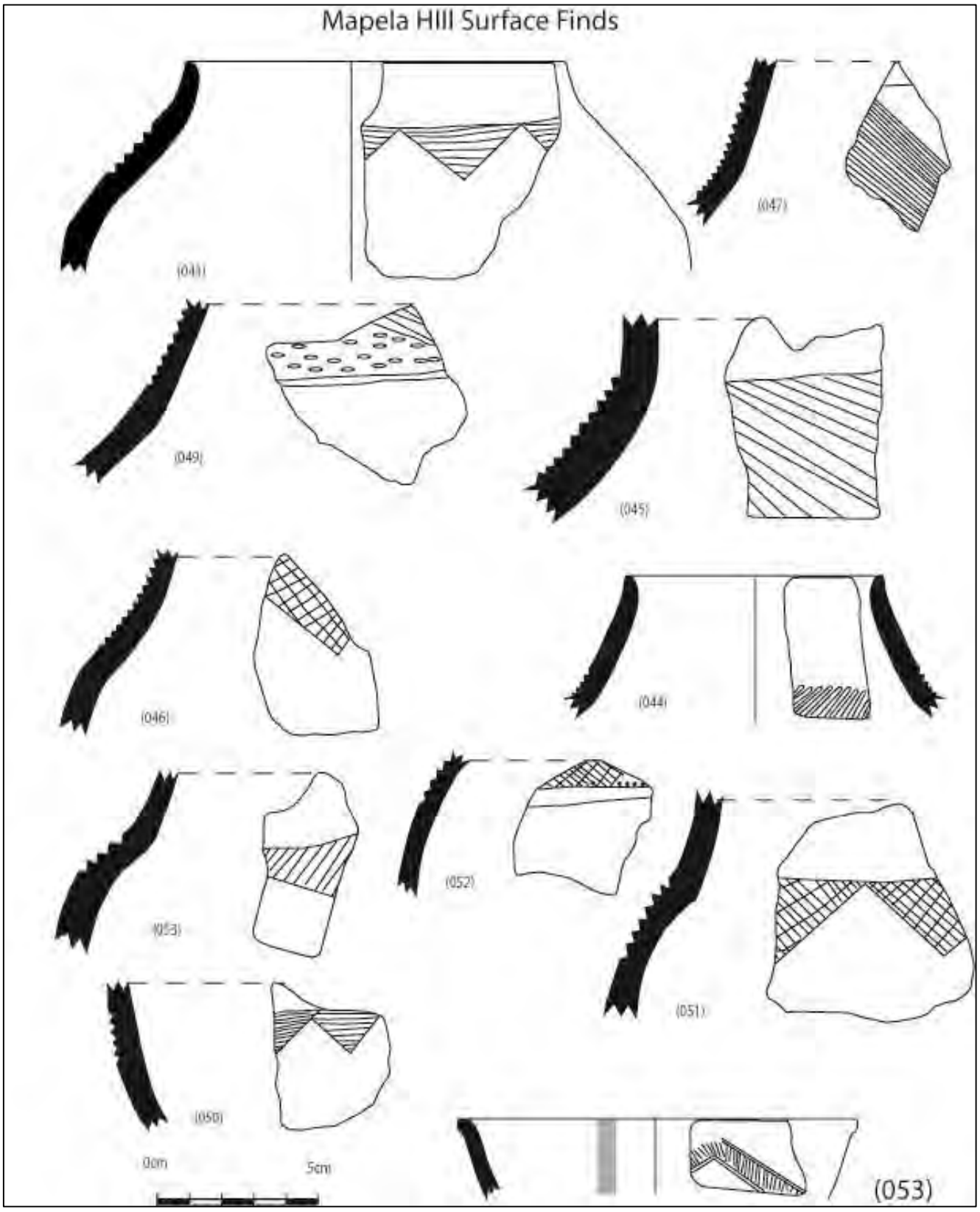
Appendix J illustrating Mambo facies (adapted from Huffman, 2007)



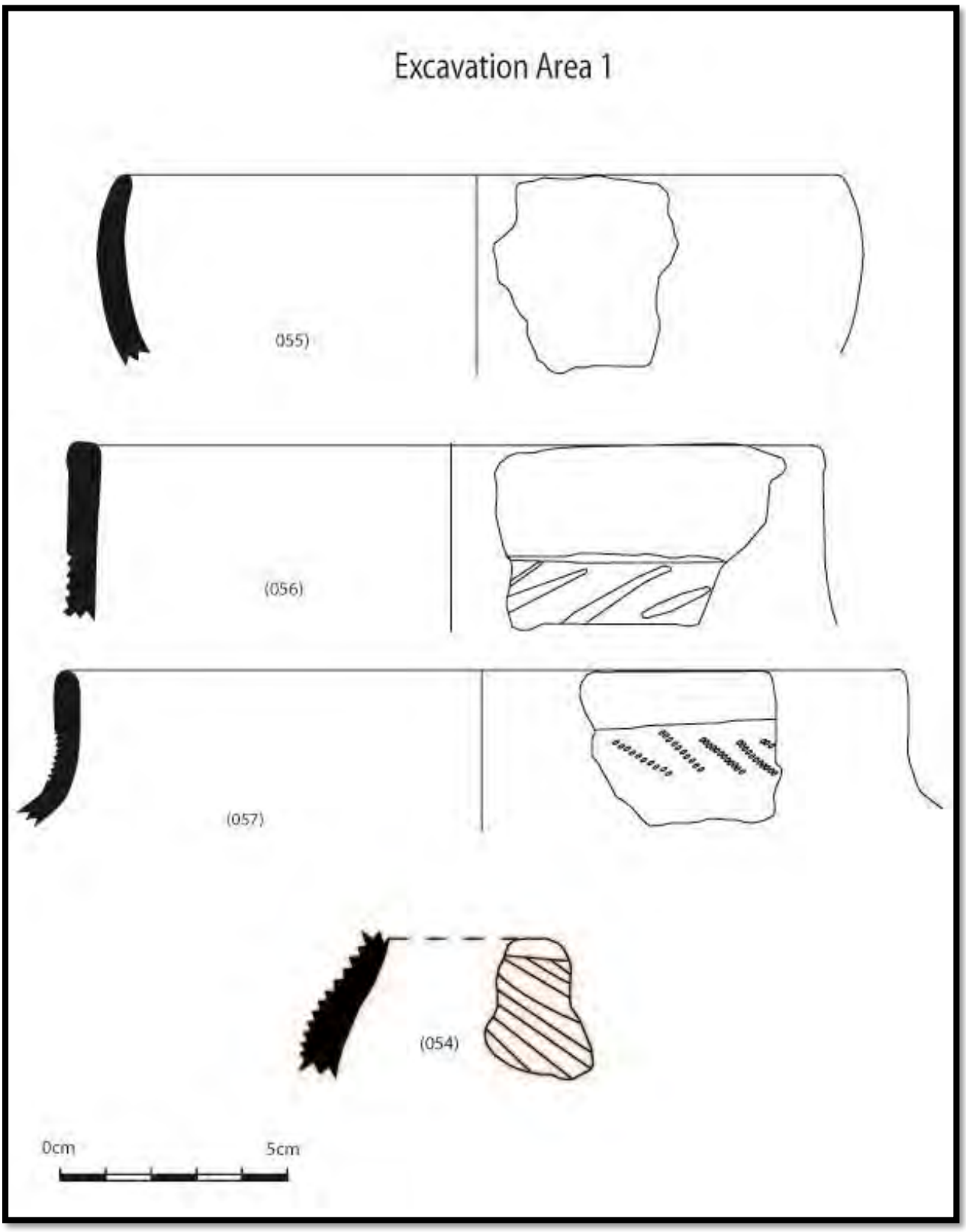
Appendix K illustrating Woolandale facies (adapted from Huffman, 2007)



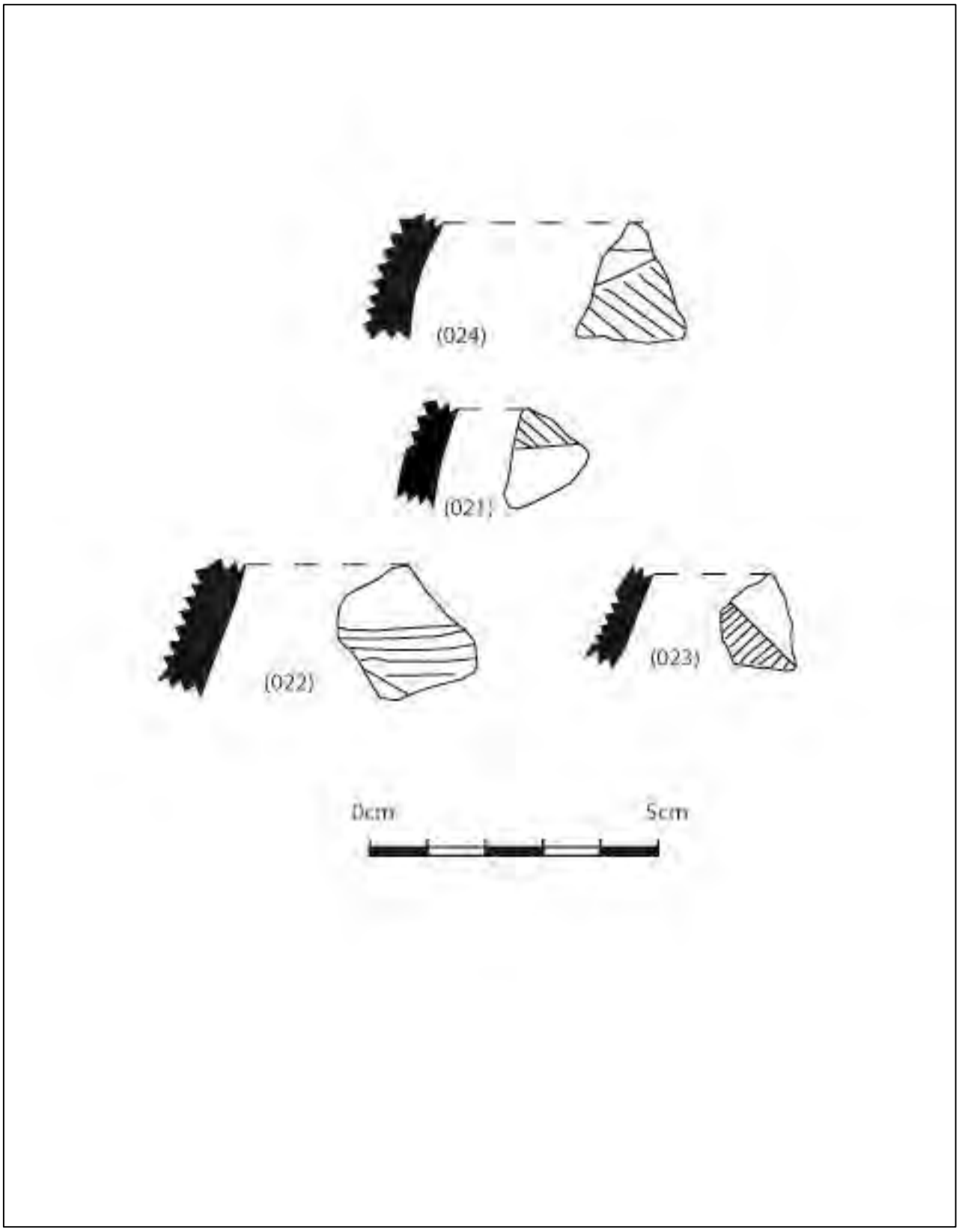
Appendix L showing ceramic illustrations from Mapela Hill Surface Finds



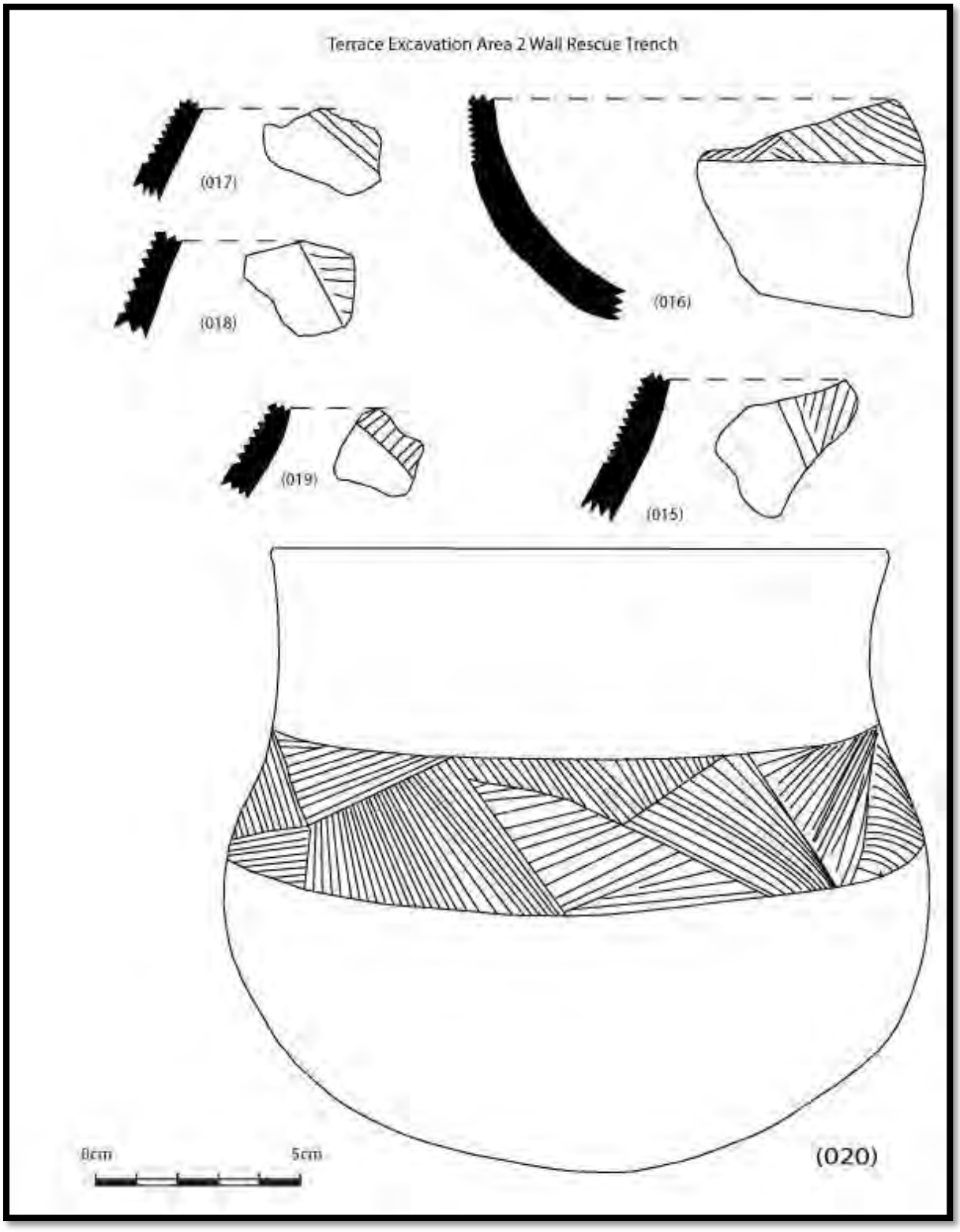
Appendix M showing ceramics illustrations from Mapela Hill Excavation Area 1



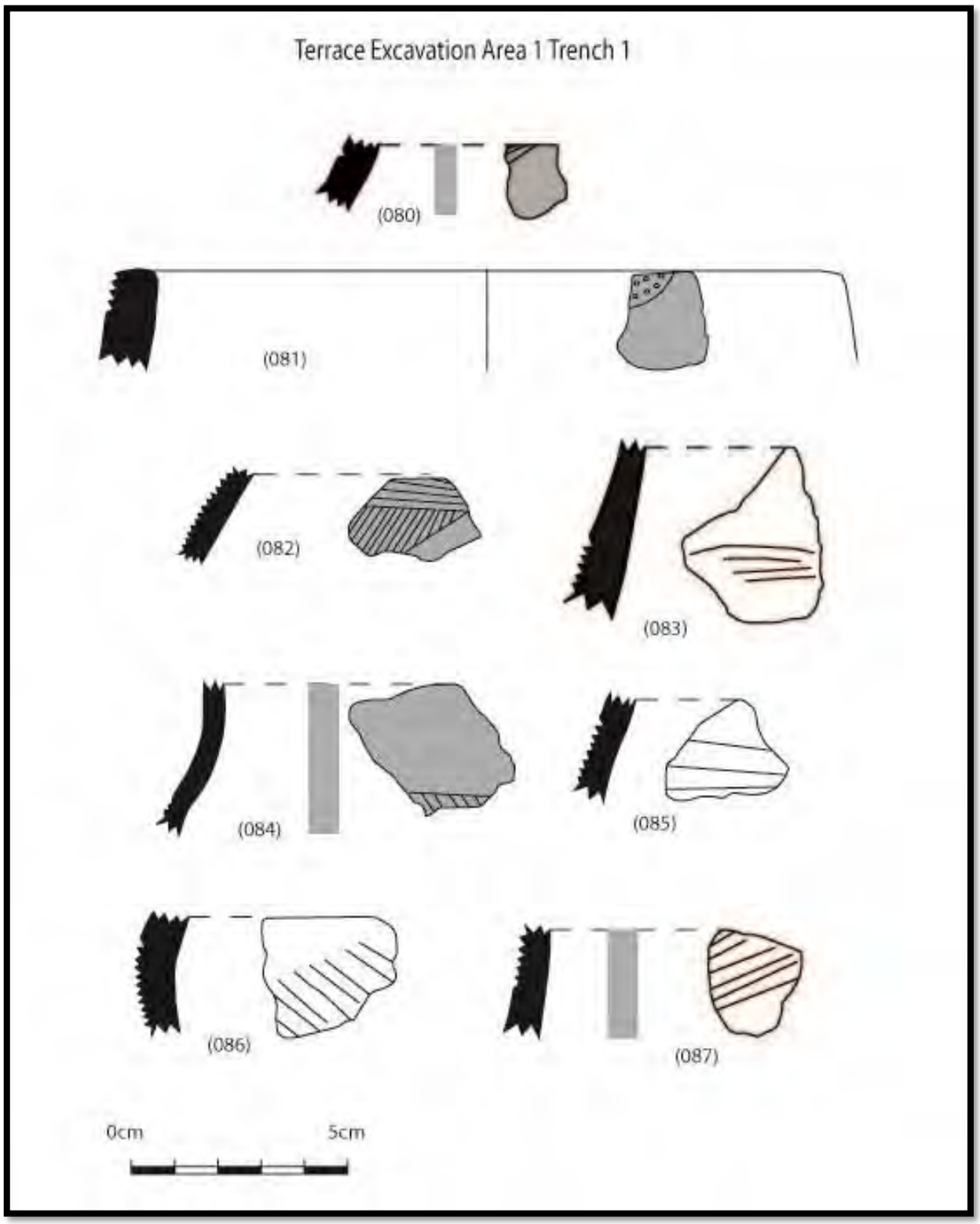
Appendix N showing ceramic illustrations from Mapela Hill Terrace Excavation Area 2 Trench 1

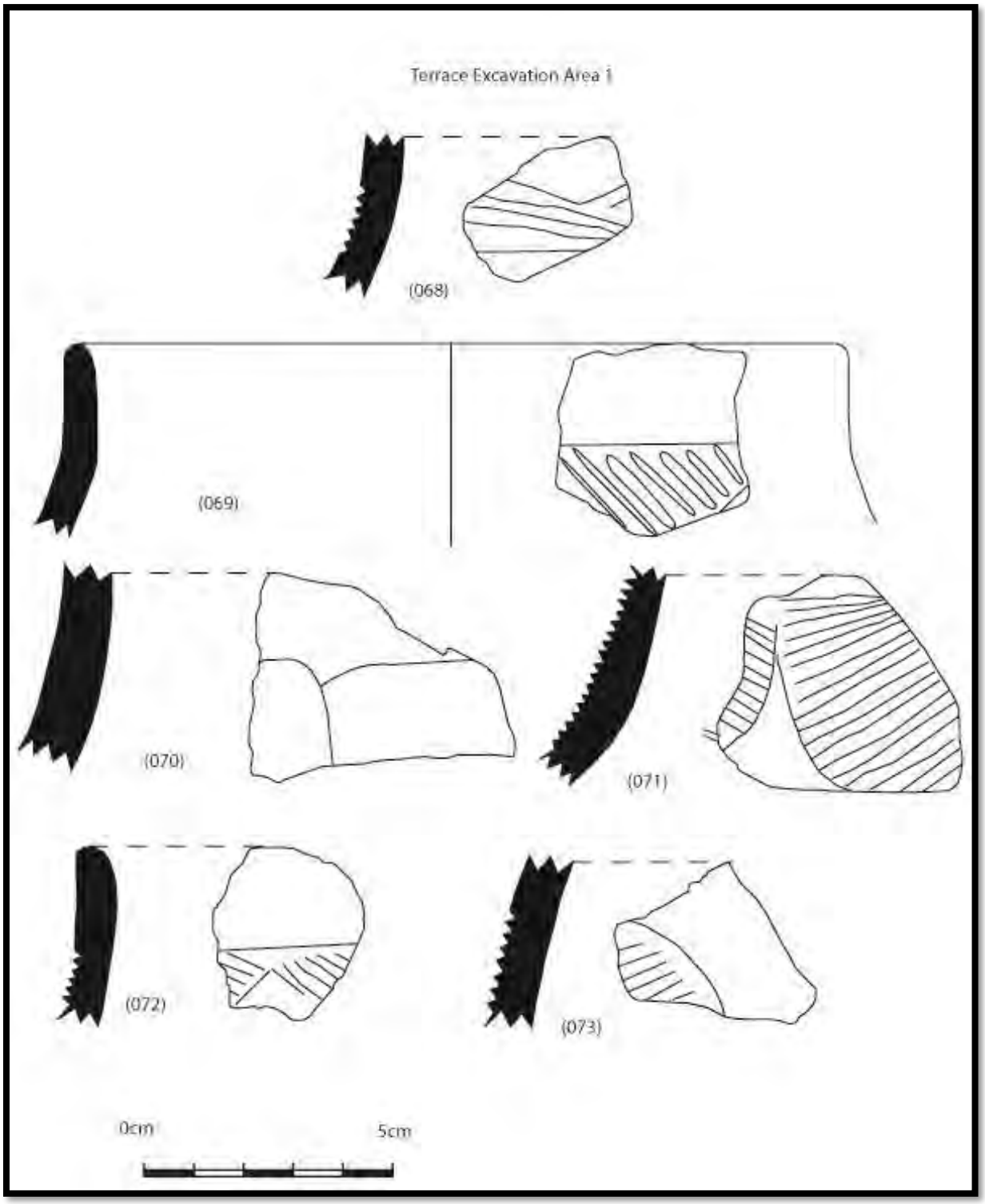


Appendix O showing ceramic illustrations from Mapela Hill Terrace excavations Area 2 Wall rescue

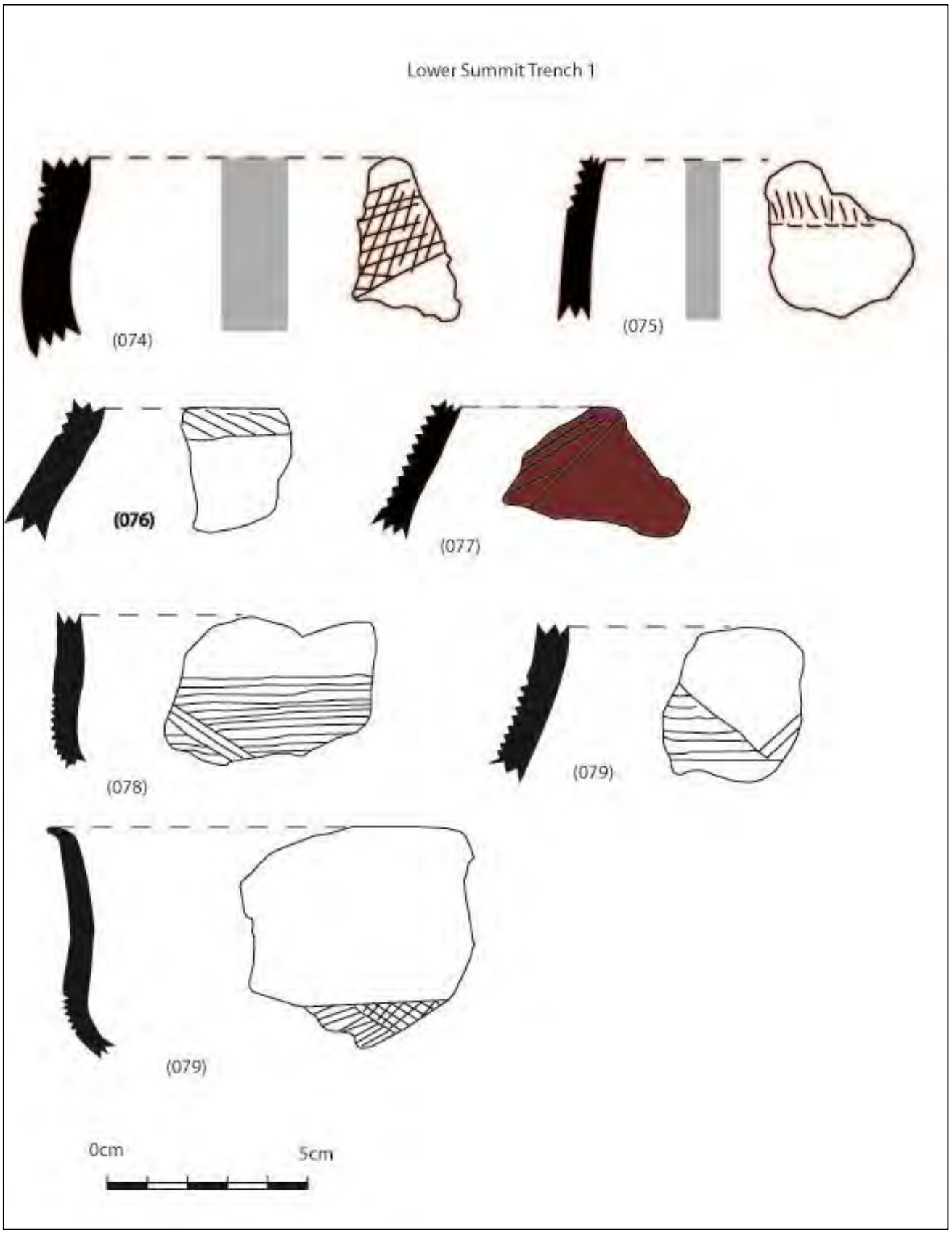


Appendix P showing ceramic illustrations from Mapela Hill Terrace Excavation Area 1 Trench 1

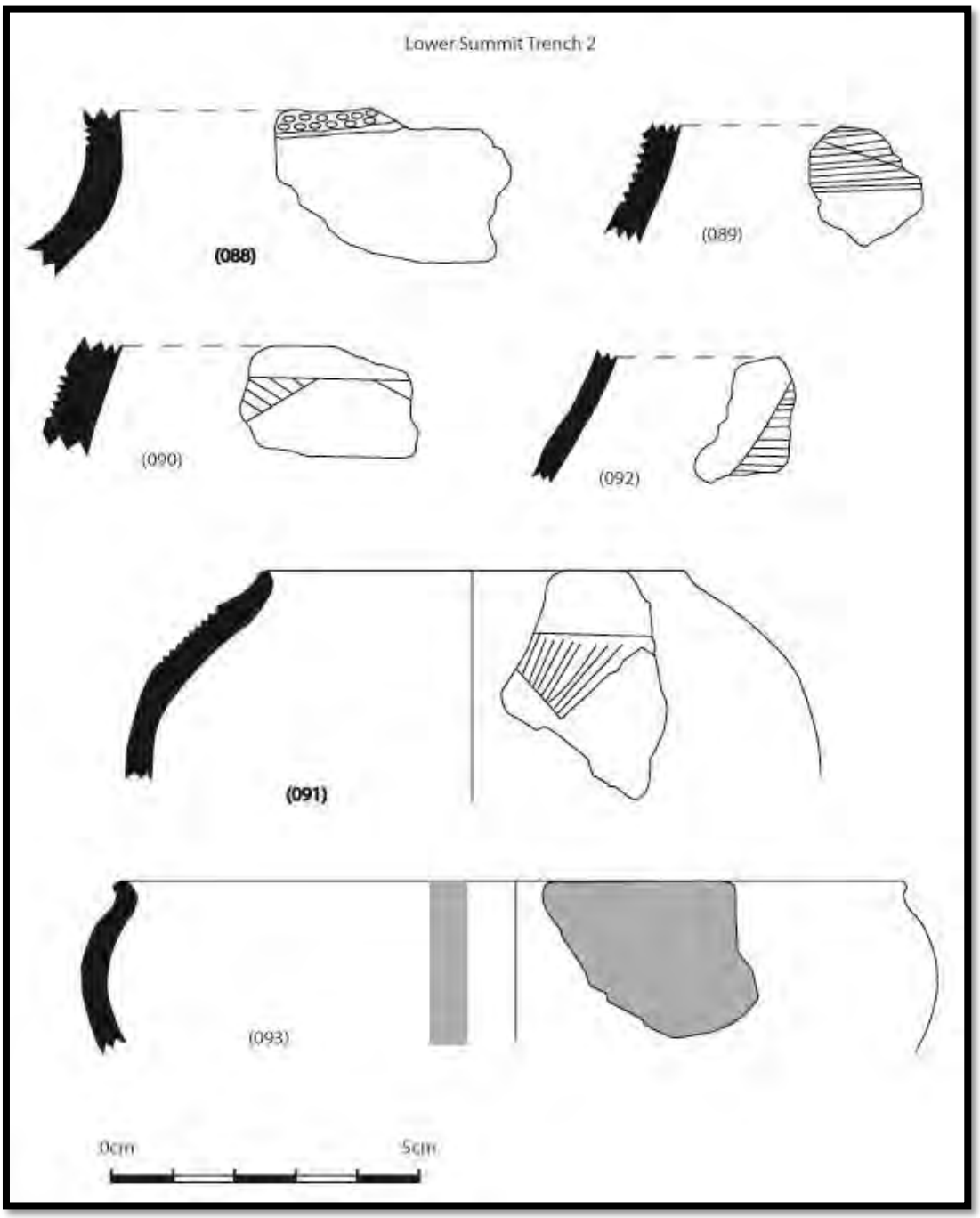



Terrace Excavation Area 1
(068)
(069)
(070)
(071)
(072)
(073)
0cm
5cm

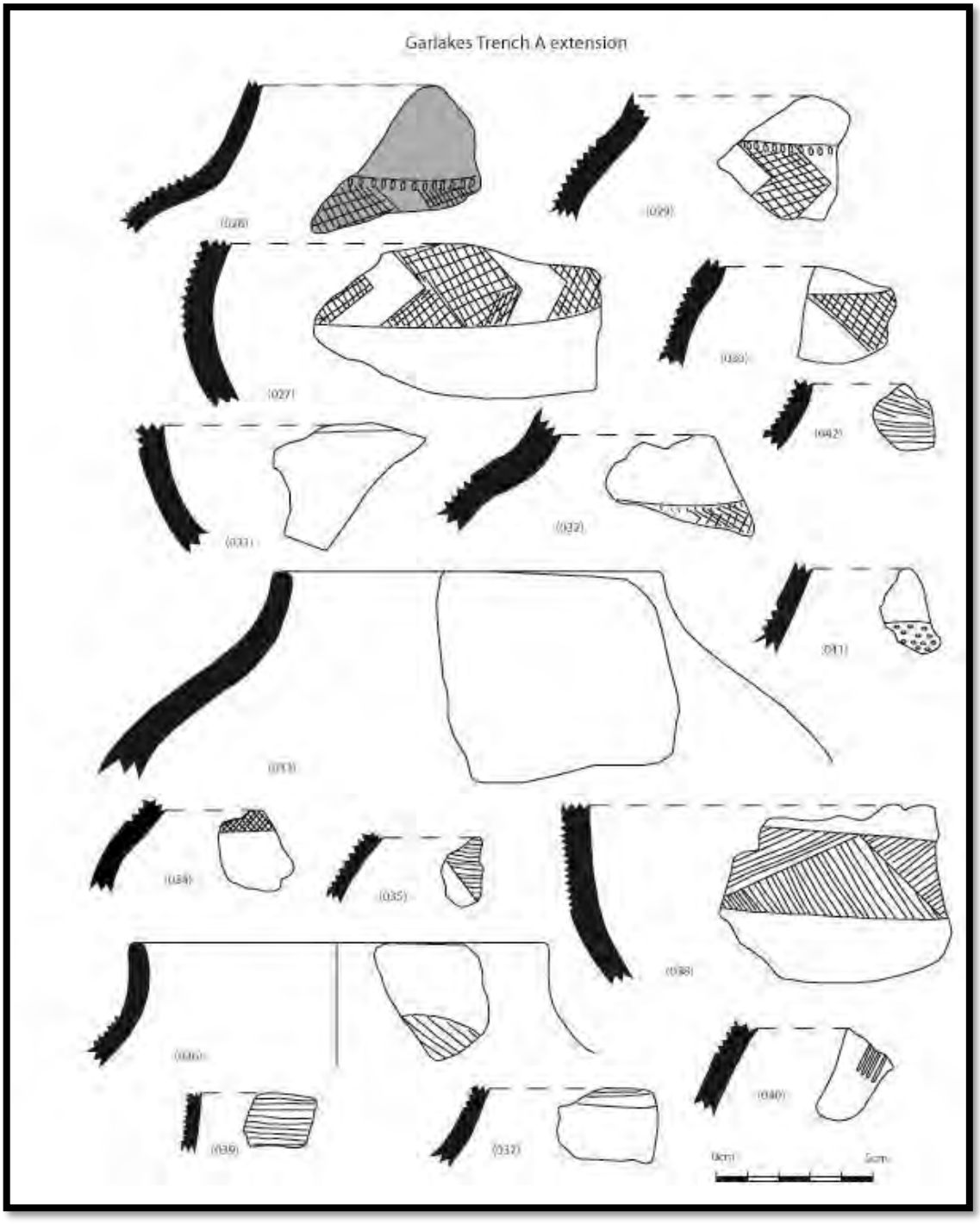
Appendix Q showing ceramic illustrations from Mapela Hill Lower Summit trench 1



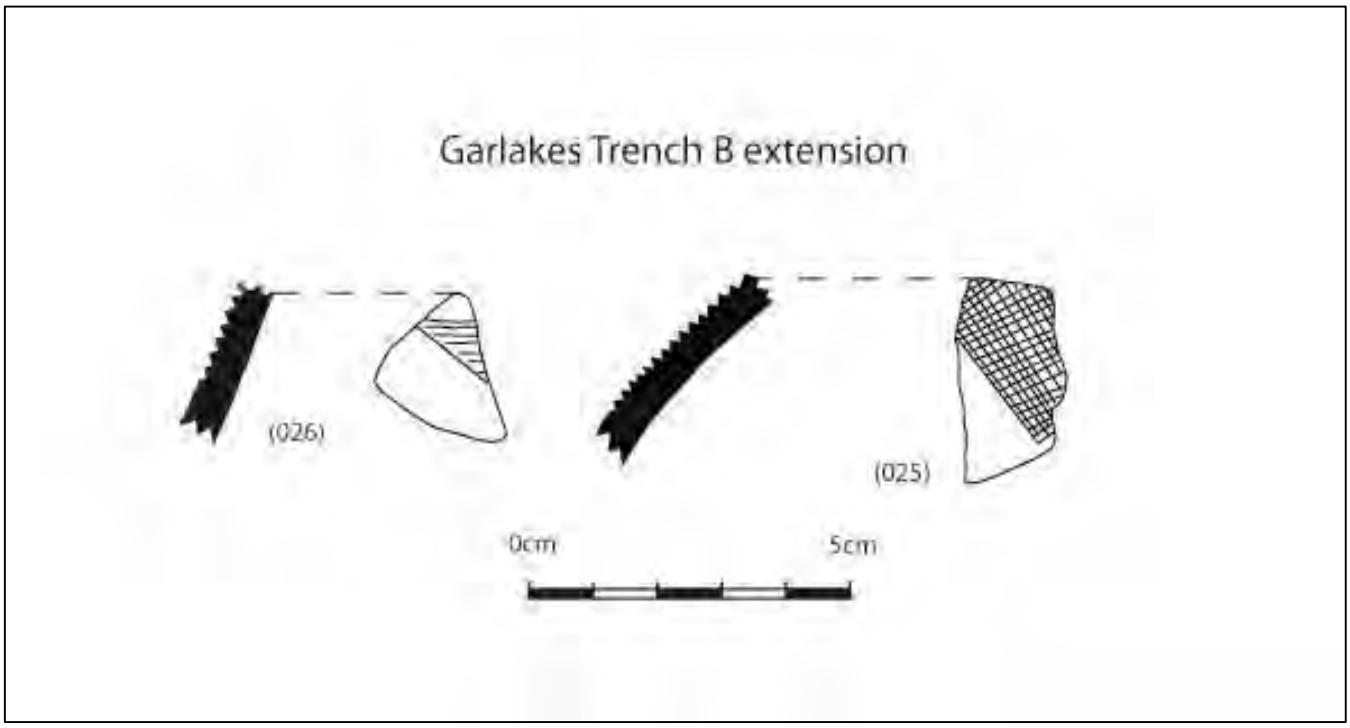
Appendix R showing ceramic illustrations from Mapela Hill Lower Summit Trench 2



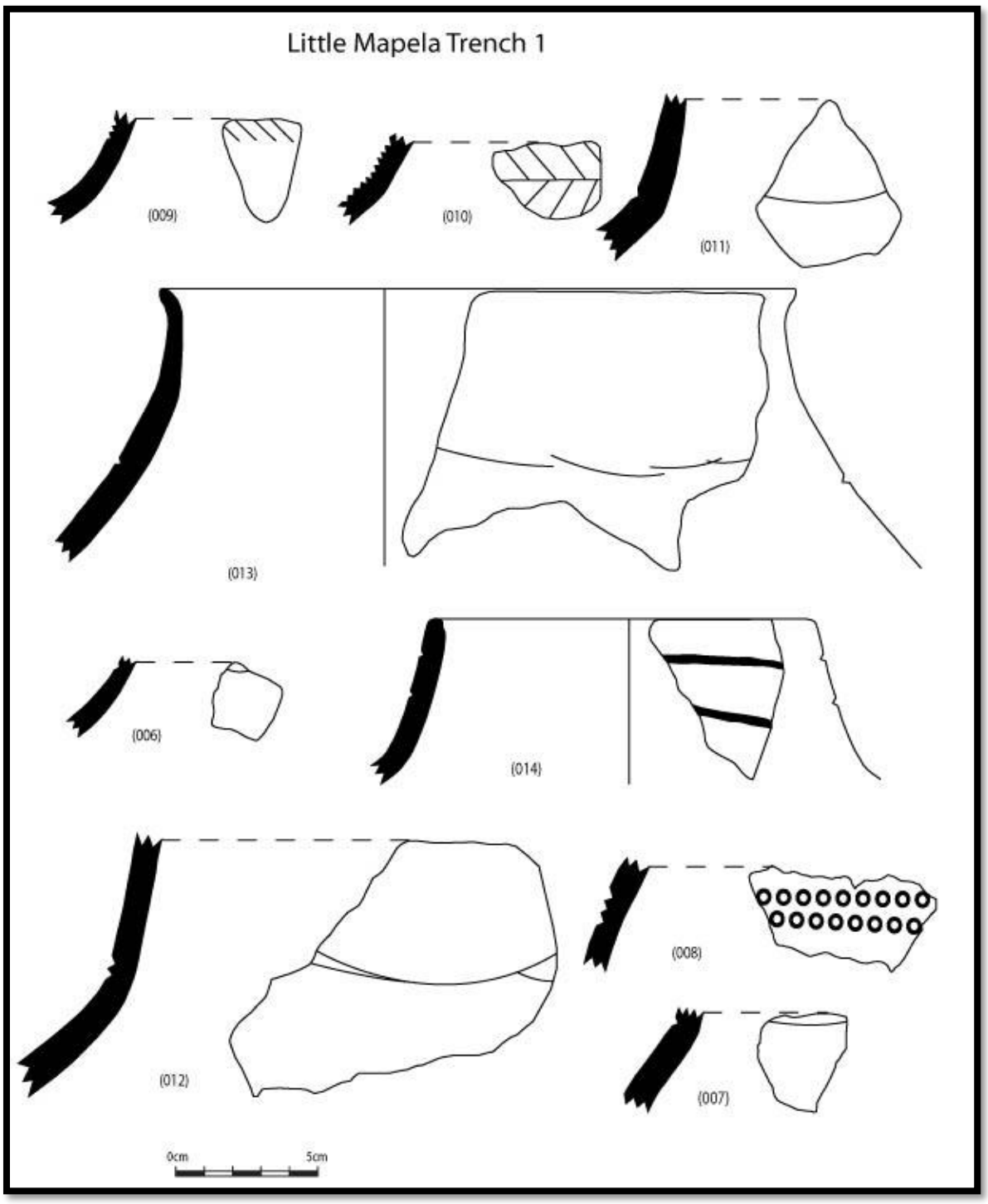
Appendix S showing ceramic illustrations from Mapela Hill Garlakes Trench A extension



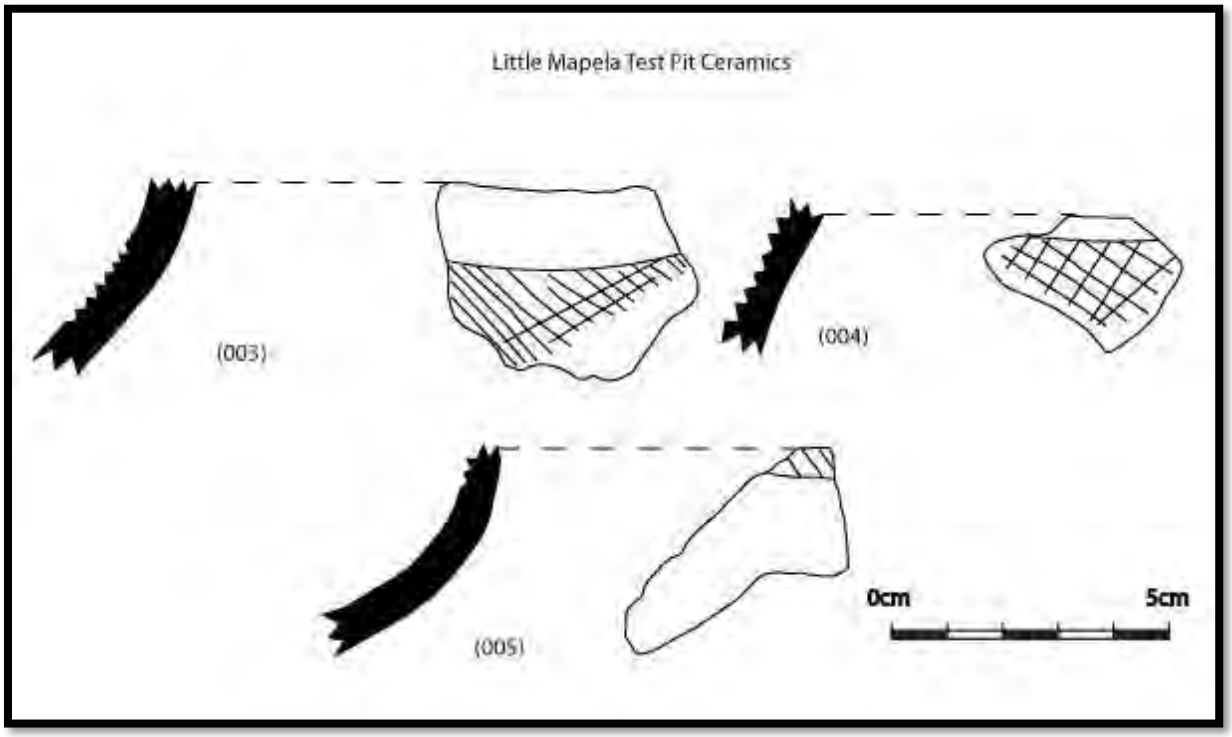
Appendix T showing ceramic illustrations from Mapela Hill Garlakes Trench B



Appendix U showing ceramic illustrations from Little Mapela Excavation Area 1



Appendix V showing ceramic illustrations from Little Mapela Test Pits



Appendix W showing glass beads recovered in excavation

Excavation Area	Trench	Level	Diameter	Length	Shape	Diaphaneity	Colour	Patination	Series
Garlakes Trench A	1	3	2,42	1,93	oblate	Translucent-opaque	blue green	None	Mapungubwe oblate
Garlakes Trench A	1	3	2,55	1,4	oblate	opaque	white	heavy	Mapungubwe oblate
Garlakes Trench A	1	4	3,01	2,23	oblate	Translucent	light green	None	Mapungubwe oblate
Garlakes Trench A	1	5	2,16	1,39	oblate	opaque	white	heavy	Mapungubwe oblate
Garlakes Trench A	1	8	3,22	1,81	oblate	opaque	black	none	Mapungubwe oblate
Garlakes Trench A	1	10	3,07	1,74	oblate	opaque	black	none	Mapungubwe oblate
Garlakes Trench A	1	10	2,47	2,72	cylinder	opaque	white	heavy	Mapungubwe oblate
Garlakes Trench B	1	4	2,52	1,47	oblate	opaque	white	heavy	Mapungubwe oblate
Garlakes Trench B	1	4	2,77	1,45	oblate	opaque	white	heavy	Mapungubwe oblate
Garlakes Trench B	1	5	2,75	1,74	oblate	opaque	white	heavy	Mapungubwe oblate
Garlakes Trench B	1	5	3,09	1,86	oblate	Translucent-opaque	yellow	slight	Mapungubwe oblate
Garlakes Trench B	1	6	2,7	1,92	oblate	opaque	white	heavy	Mapungubwe oblate
Garlakes Trench B	1	6	2,46	1,27	oblate	opaque	white	heavy	Mapungubwe oblate
Garlakes Trench B	1	6	2,63	1,72	oblate	opaque	white	heavy	Mapungubwe oblate
Garlakes Trench B	1	7	2,4	1,49	oblate	opaque	white	heavy	Mapungubwe oblate
Garlakes Trench B	1	9	2,54	1,49	oblate	Translucent-Transparent	green-blue	slight	Mapungubwe oblate
Garlakes Trench B	1	9	2,61	1,55	oblate	Translucent-opaque	light green	slight	Mapungubwe oblate
Garlakes Trench B	1	9	4,4	2,7	oblate	Translucent-Transparent	light green	none	?
Garlakes Trench B	1	9	2,17	1,44	oblate	opaque	white	heavy	Mapungubwe oblate
Garlakes Trench B	1	9	2,43	1,78	oblate	Translucent-Transparent	blue-green	slight	Mapungubwe oblate
Garlakes Trench B	1	9	2,91	2,02	oblate	opaque	white	heavy	Mapungubwe oblate
Garlakes Trench B	1	10	5,62	4,88	sphere	translucent	blue-green	slight	Garden Roller?
Garlakes Trench B	1	10	3,27	1,56	oblate	opaque-translucent	brown	none	Mapungubwe oblate
Garlakes Trench B	1	10	2,92	3,06	cylinder	opaque-translucent	blue-green	slight	?
Garlakes Trench B	1	10	2,51	1,03	oblate	opaque	white	heavy	Mapungubwe oblate
Terrace Excavation Area 2	1	3	3,4	3,11	oblate	opaque-translucent	white	moderate	Mapungubwe oblate
Terrace Excavation Area 2	1	7	2,67	2,61	oblate	opaque-translucent	white	heavy	Mapungubwe oblate
Terrace Excavation Area 2	Wall Rescue	3	3,06	2,13	oblate	opaque-translucent	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,57	1,1	oblate	opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,53	1,2	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,69	1,22	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,61	1,28	oblate	translucent/opaque	blue	slight	Mapungubwe oblate

Cave of Beads	N/A	N/A	2,62	1,29	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,53	1,29	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,71	1,3	oblate	opaque	green	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,61	1,3	oblate	translucent/opaque	blue-green	none	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,72	1,31	oblate	opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,46	1,32	oblate	translucent/opaque	blue	none	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,67	1,33	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,34	1,33	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,52	1,34	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,66	1,34	oblate	opaque	green	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,68	1,34	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,65	1,34	oblate	opaque/translucent	blue	none	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,7	1,34	oblate	opaque/translucent	blue	slight	*
Cave of Beads	N/A	N/A	2,51	1,34	oblate	translucent	blue	slight	*
Cave of Beads	N/A	N/A	2,61	1,34	oblate	translucent/opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,57	1,35	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,7	1,35	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,5	1,36	oblate	translucent/opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,69	1,37	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,53	1,38	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,16	1,39	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,49	1,39	oblate	opaque/translucent	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,61	1,39	oblate	translucent/opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,7	1,39	oblate	translucent/opaque	blue	none	*
Cave of Beads	N/A	N/A	2,6	1,4	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,54	1,4	oblate	opaque/translucent	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,55	1,4	oblate	opaque/translucent	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,67	1,41	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,57	1,41	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,65	1,41	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,5	1,41	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,57	1,41	oblate	treanslucent	blue	slight	*
Cave of Beads	N/A	N/A	2,49	1,42	oblate	translucent/opaque	blue	none	Mapungubwe oblate

Cave of Beads	N/A	N/A	2,52	1,43	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,64	1,43	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,68	1,43	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,6	1,43	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,67	1,43	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,54	1,44	oblate	opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,66	1,44	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,63	1,44	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,5	1,44	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,66	1,44	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,48	1,44	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,54	1,44	oblate	opaque	green-blue	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,76	1,44	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,54	1,45	oblate	opaque	green-blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,56	1,45	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,64	1,46	oblate	opaque	blue	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	3,02	1,46	oblate	opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,63	1,46	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,61	1,46	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,67	1,46	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,71	1,47	oblate	op	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,6	1,47	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,37	1,47	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,58	1,47	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,58	1,47	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,54	1,47	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,7	1,48	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,6	1,48	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,58	1,48	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,59	1,48	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	3,07	1,49	oblate	opaque	blue-green	slight	oblong shape, not unif
Cave of Beads	N/A	N/A	2,53	1,49	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,57	1,49	oblate	opaque	green-blue	slight	Mapungubwe oblate

Cave of Beads	N/A	N/A	2,99	1,49	oblate	opaque/translucent	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,69	1,5	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,47	1,5	oblate	translucent/opaque	blue	none	*
Cave of Beads	N/A	N/A	2,47	1,51	oblate	opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,64	1,51	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,56	1,51	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,65	1,51	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,57	1,51	oblate	translucent/opaque	blue	none	*
Cave of Beads	N/A	N/A	2,69	1,52	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,59	1,52	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,58	1,53	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,53	1,53	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,62	1,53	oblate	translucent/opaque	blue-green	none	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,65	1,54	oblate	opaque	blue-green	none	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,67	1,54	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,54	1,54	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,67	1,54	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,92	1,54	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,53	1,54	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,53	1,54	oblate	translucent/opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,49	1,55	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,43	1,55	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,68	1,55	oblate	opaque	white	very heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,82	1,55	oblate	opaque/translucent	blue	slight	*
Cave of Beads	N/A	N/A	2,7	1,55	oblate	translucent	blue	none	*
Cave of Beads	N/A	N/A	2,47	1,56	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,81	1,56	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,69	1,56	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,64	1,56	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,72	1,57	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,64	1,57	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,73	1,57	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,55	1,57	oblate	opaque	green	medium	Mapungubwe oblate

Cave of Beads	N/A	N/A	2,62	1,57	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,55	1,57	oblate	translucent/opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,6	1,58	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,48	1,58	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,54	1,58	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,56	1,59	oblate	opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,62	1,59	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,8	1,59	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,47	1,59	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,61	1,59	oblate	opaque	green	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,48	1,59	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,67	1,59	oblate	opaque/translucent	blue	none	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,54	1,59	oblate	opaque/translucent	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,57	1,6	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,66	1,6	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,49	1,6	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,5	1,6	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,65	1,6	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,72	1,6	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,63	1,6	oblate	treanslucent	blue	slight	*
Cave of Beads	N/A	N/A	2,5	1,61	oblate	opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,57	1,61	oblate	opaque	blue-green	none	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,52	1,61	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,44	1,61	oblate	opaque	green	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,48	1,61	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,58	1,61	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,63	1,61	oblate	translucent/opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,66	1,62	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,68	1,62	oblate	opaque	green	none	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,51	1,63	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,6	1,63	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,58	1,63	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,62	1,63	oblate	opaque	green	medium	Mapungubwe oblate

Cave of Beads	N/A	N/A	2,75	1,64	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,55	1,64	oblate	opaque	blue-green	none	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,6	1,64	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,88	1,64	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,51	1,65	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,62	1,65	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,45	1,65	oblate	opaque	white	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,64	1,65	oblate	opaque/translucent	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,5	1,65	oblate	translucent/opaque	blue	none	*
Cave of Beads	N/A	N/A	2,49	1,65	oblate	translucent/opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,66	1,66	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,65	1,66	oblate	opaque/translucent	blue	slight	*
Cave of Beads	N/A	N/A	2,4	1,66	oblate	translucent/opaque	blue	sn	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,56	1,67	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,67	1,67	oblate	opaque	blue-green	slight	slightly oblong, not cir
Cave of Beads	N/A	N/A	2,56	1,67	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,57	1,67	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,56	1,67	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,67	1,68	oblate	opaque	blue/green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,46	1,68	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,51	1,68	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,62	1,68	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,64	1,68	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,49	1,68	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,54	1,68	oblate	opaque/translucent	blue	none	*
Cave of Beads	N/A	N/A	2,55	1,68	oblate	opaque/translucent	green-blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,67	1,69	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,64	1,69	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,55	1,69	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,55	1,69	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,51	1,69	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,6	1,7	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,59	1,7	oblate	opaque	blue-green	medium	Mapungubwe oblate

Cave of Beads	N/A	N/A	2,41	1,7	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,55	1,7	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,91	1,7	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,44	1,7	oblate	opaque	green	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,61	1,7	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,63	1,7	oblate	opaque	green	none	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,64	1,7	oblate	opaque	white	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,51	1,71	oblate	opaque	green	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,6	1,72	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,61	1,72	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,51	1,73	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,65	1,73	oblate	opaque	green	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,58	1,73	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,55	1,73	oblate	translucent/opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,69	1,74	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,4	1,74	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,57	1,74	oblate	opaque	green-blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,83	1,74	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,62	1,74	oblate	opaque/translucent	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,58	1,74	oblate	opaque/translucent	green-blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,64	1,75	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,61	1,75	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,68	1,75	oblate	translucent/opaque	blue	none	*
Cave of Beads	N/A	N/A	2,78	1,76	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,54	1,77	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,85	1,77	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,73	1,77	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,69	1,78	oblate	opaque	green	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,62	1,78	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,59	1,79	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,88	1,79	oblate	opaque	white	heavy	devitrified
Cave of Beads	N/A	N/A	2,69	1,8	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,63	1,8	oblate	opaque	blue-green	slight	Mapungubwe oblate

Cave of Beads	N/A	N/A	2,49	1,8	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,53	1,8	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,52	1,8	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,68	1,81	oblate	opaque	green	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,57	1,81	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,65	1,82	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,31	1,82	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,46	1,83	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,71	1,83	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,46	1,83	oblate	opaque	green	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,71	1,83	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,67	1,84	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,71	1,85	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,47	1,86	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,3	1,87	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,52	1,87	oblate	opaque/translucent	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,42	1,87	oblate	translucent/opaque	blue	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,46	1,88	oblate	opaque	blue-green	none	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,42	1,88	oblate	opaque	green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,62	1,89	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,46	1,9	oblate	opaque	green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,56	1,91	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,58	1,92	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,32	1,94	oblate	opaque	blue-green	medium	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,85	1,94	oblate	opaque	white	heavy	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,58	1,95	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,9	1,95	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,32	1,97	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,37	1,98	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,47	2,02	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,54	2,02	oblate	translucent/opaque	blue	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	2,52	2,09	oblate	opaque	blue-green	slight	Mapungubwe oblate
Cave of Beads	N/A	N/A	3,69	2,41	oblate	opaque	blue-green	slight	Mapungubwe oblate