

CHAPTER V

ARCHAEOLOGICAL RESEARCH AT THE BALENI THERMAL SPRING

The central focus of this dissertation is to characterise salt production during the EIA by identifying the context, intensity and concentration of production. Each of these parameters require specific research strategies. This chapter is structured around these specific research goals as presented in Chapter I. The first part deals with the archaeological research concerned with salt production activity areas. The ensuing data is primarily related to the discussion of the context and intensity of production. Research on this theme covers a series of surveys and excavations conducted in the immediate area around the swamp. Excavations in this area also allowed the creation of a culture historical sequence of salt production activities at Baleni.

The second part of this chapter is primarily related to research on the concentration of production. The degree of concentration, as indicated in Chapter I, describes whether producers are nucleated within a single production community. To this aim, I sought to identify the presence of producer communities around Baleni within a 1,5km radius of the spring. A survey of this area identified two settlements that fell within the temporal scope of this study. Their spatial proximity to the salt production source does not inevitably imply nucleated production. Because these sites may represent prolonged seasonal extraction, excavations at these sites sought to clarify both the length of occupation and the nature of activities carried out there.

Areas of Salt Production

As indicated in Chapter II, salt can be obtained from a variety of sources at Baleni. A salt crust can be gathered from around the swamp, as well as from the swampy depressions around secondary spring eyes and small rivulets. Salt production processes, both past and present, have uniquely transformed the surroundings of Baleni. The most visible alteration are the distinct mounds of leached-out earth, which, continued over numerous years have resulted in a landscape, pockmarked by hundreds of mounds. These mounds constitute the

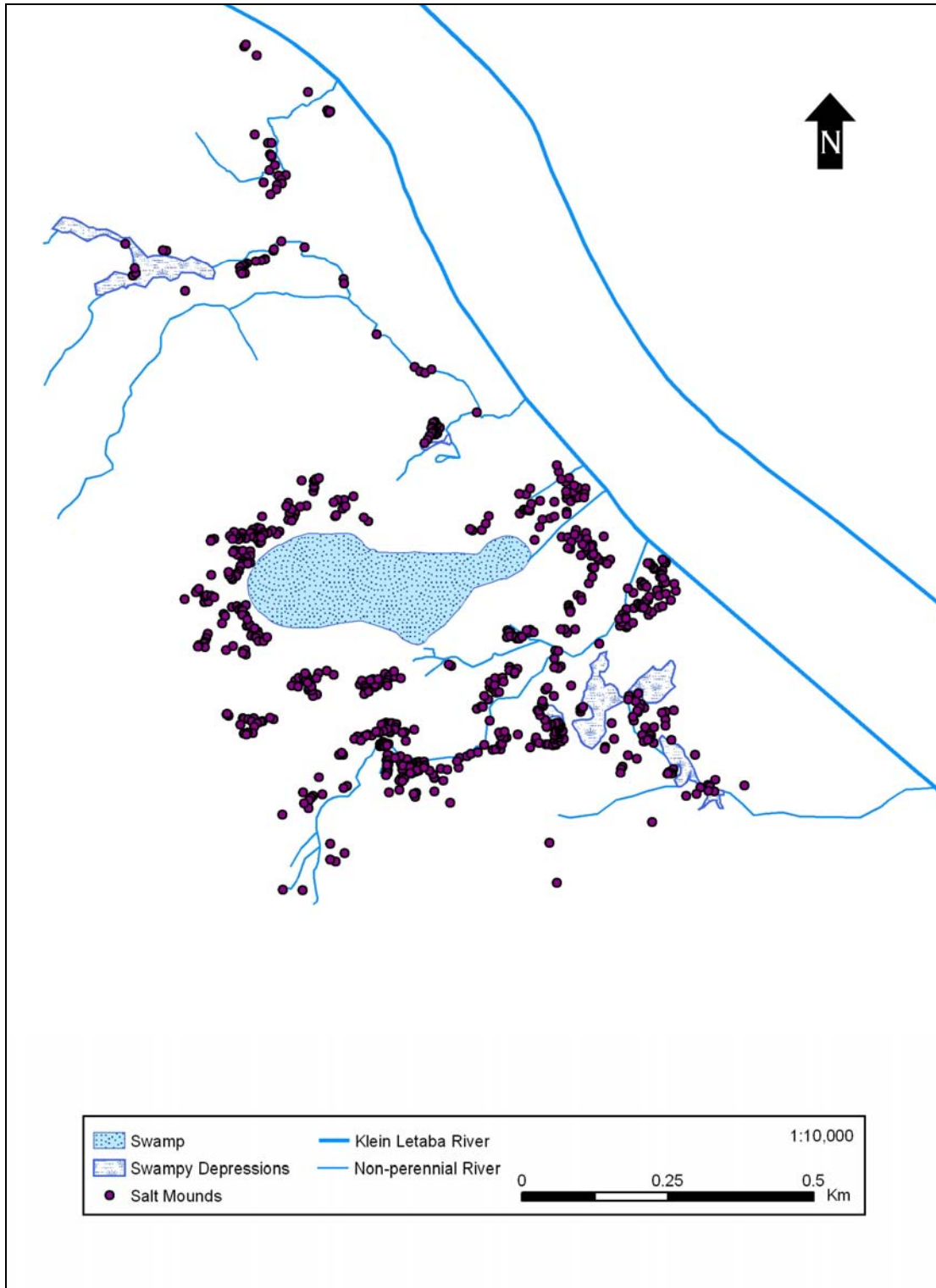


Figure 14: Location of mounds of salt making activity areas

physical remains of past salt production, and three surveys recorded their spatial distribution as an indication of the extent of production activities. The first survey completed during May 2003, focused on the immediate area adjacent to the swamp within a radius of approximately 500m. Two additional surveys in September 2003 and September 2004 recorded workshops in the adjacent region up to 1,5km away from the spring. All three were pedestrian surveys during which individual, leached out mounds were plotted using both a Global Positioning System (GPS) and an Electronic Distance Measurement device (EDM).

The surveys recorded 730 individual mounds in total (Figure 14). The spatial variation of the mounds is represented by a trend surface map (Figure 16) compiled using a Geographic Information System (GIS). The results indicate a clear preference in the location of salt making activities. Production mounds are concentrated within 250m of the southern, eastern and western edges of the swamp. The highest density of production occurs mostly on the banks of dry streams within this area. Mounds along the western edge of the swamp were generally much higher. Here, numerous mounds have formed on top of each other to create embankments in excess of 2m. Lower concentrations of mounds are also located along the edges of the swampy depressions. Although the salt crust that forms in these areas was evidently utilised, the swamp formed the centre of production activities.



Figure 15: Mound formed of leached out filter content containing archaeological material.

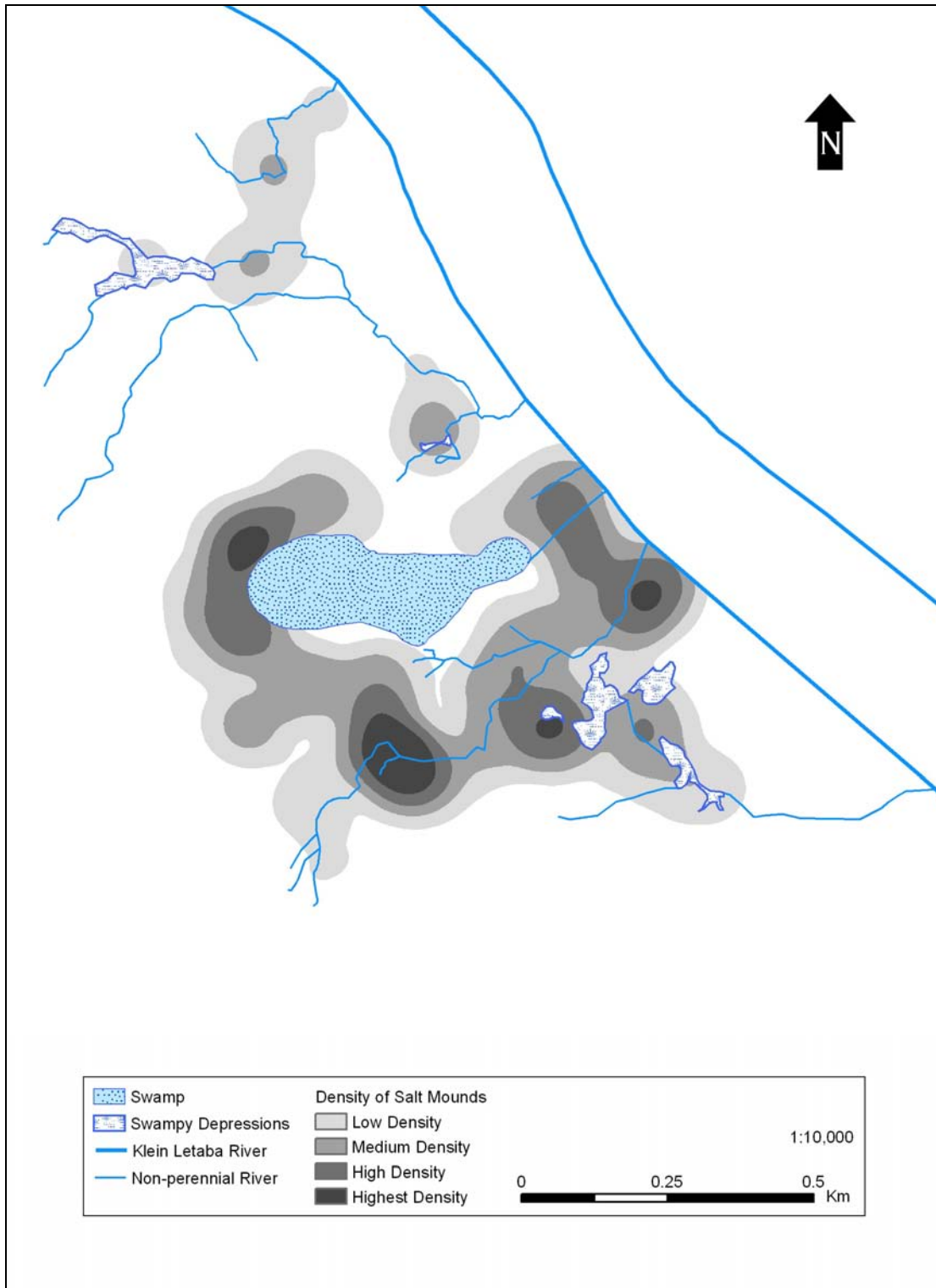


Figure 16: Trend surface map of the density salt making production activities.

Excavation Methodology

The excavations at the Baleni salt production areas were investigations into the chronology of the sites, and did not cover a particularly large surface area. The excavations were used to provide an “archaeological clock” which would place the settlements “in time” (cf. Connah 1996: 65).

Three cuttings were placed at different locations around the swamp (Figure 17). Excavations were carried out during two periods. The first of these was between 8 and 13 February 2004. During this period two cuttings, BAL01 and BAL02 were completed. The third cutting, BAL03, was completed between 19 and 25 March 2004. The excavation teams during both periods, were comprised primarily of graduate students from the University of Pretoria. Excavations proceeded with trowels, brushes and buckets. All the excavated materials were dry screened through a 5mm steel mesh and hand sorted. All biological and cultural material were kept and transported to Pretoria for analysis.

The excavation at BAL03, located at the south-western edge of the swamp, was a 2m x 1,5m cutting that reached sterile soil at 2,1m below surface. This excavation provided a detailed multi component ceramic assemblage, which together with four C14 samples provided a chronological “key” to Baleni. BAL01 and BAL02 were single component excavations of mounds on the bank of a non-perennial stream that drains into the Klein Letaba River. Horizontal expansion of the stream had cut into the surrounding deposit to form deep, vertical sidewalls exposing leached out mounds located on the banks. The excavation procedure entailed placing the excavation units parallel to the bank, approximately 30cm from the edge. The exposed sidewall was cleared and levelled up to the edge of the excavation unit. This provided a “readymade” profile from which the natural strata were easily identifiable. The rationale behind this method was that it would provide a lot of data in relatively quick time. This was indeed the case, but it quickly became evident that the excavations at BAL01 and BAL02 were limited in terms of chronological depth.

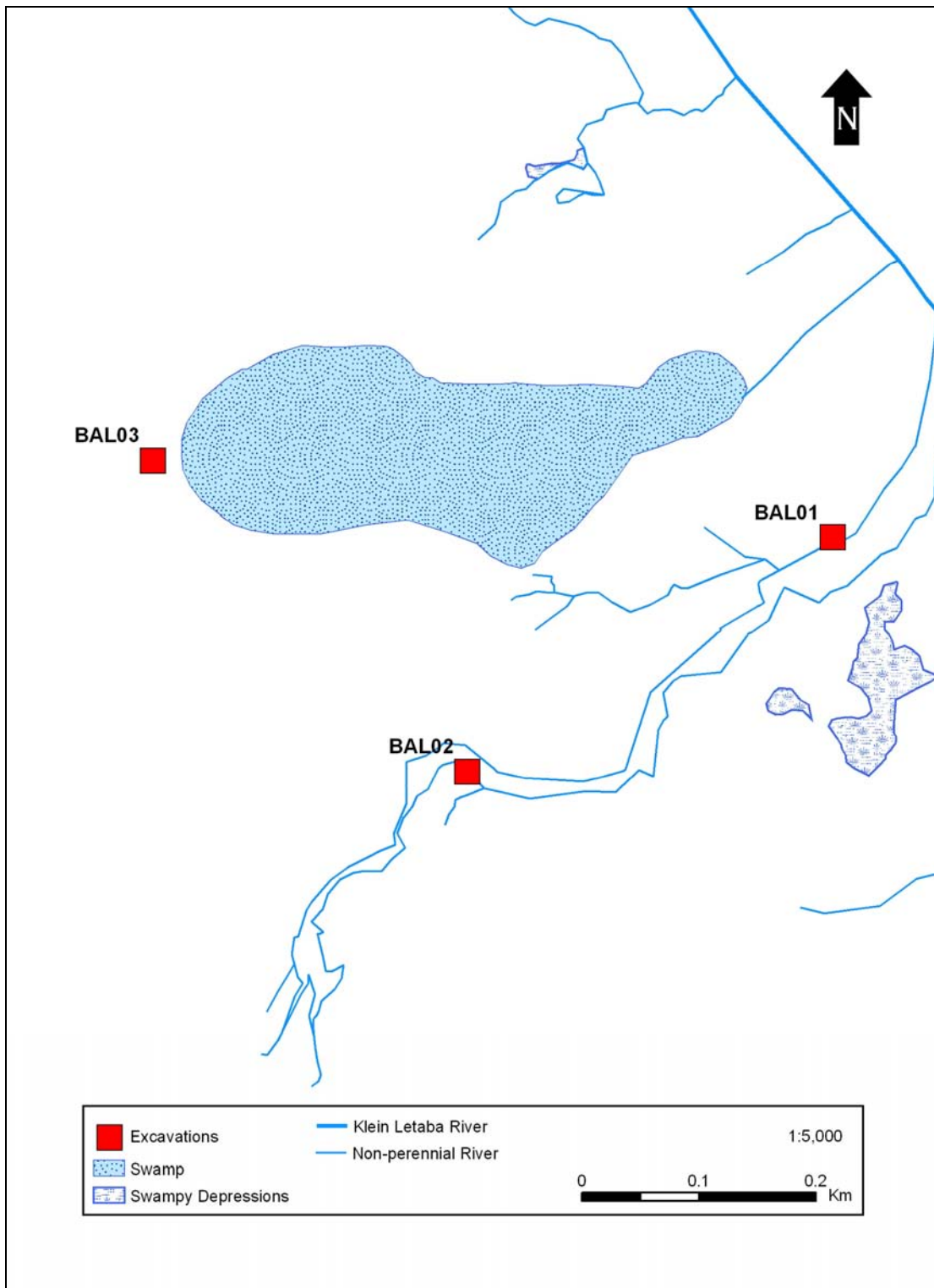


Figure 17: Location of excavations of salt production areas.

Excavation BAL01

At BAL01, the non-perennial stream that the unit was placed next to, forms a deep vertical wall on its northern bank. Because of horizontal movement by the stream, new archaeological deposits are constantly being exposed in its sidewalls. The opposite southern bank of the stream is much lower and slopes away gradually. The only time when water can be found in this stream is directly after heavy rains when water flows quickly down the river. Water flow in the stream results in cycles of sand deposition and removal on the stream bed. This results in varying depth in the stream bed, which was measured at 2,78m below Datum BAL01 on 9 February 2003 by means of level and staff (Figure 18).

The cutting at BAL01 measured 1,5m x 1m, with the two longer sides parallel to the edge of the bank and the orientation of the unit being 330° magnetic north. The northwest corner of the cutting was placed 6m south of Datum BAL01 (S23 °25' 12.1"; E30° 54' 54.4"). All measurements during excavations were taken from Datum BAL01. The excavations proceeded with trowels and brushes.



Figure 18: South-west profile of BAL01 before it was cleared.

BAL01 is a single component Mzonjani site (see Chapter 6). The excavation provided a straightforward stratigraphy comprised of only two contemporary strata, excavated in natural layers. Both layers were sandy loam in texture, but were well defined in terms of colour. Leaching and root activity resulted in a diffused limit between the two strata in the south-eastern corner of the excavation. The first stratigraphic layer was dark brown in colour, humus-like and contained a lot of organic material and coarse gravel inclusions lower down. The second layer was greyish dark brown, with scattered small ash lenses, which was excavated with the rest of the layer. The excavation ended on reaching sterile soil 0.60m below datum (Figure 21).

The most abundant finds were ceramic fragments. Isolated bone fragments were present in both strata. Stratigraphic unit 2 also contained fragments of a freshwater mussel shell. Charcoal was collected in unit 2 and kept for future dating requirements.

As seen in Figure 20, stratigraphic event 2 contained a comparatively greater volume of ceramics than event 1. These shards were also better preserved and less fragmented.

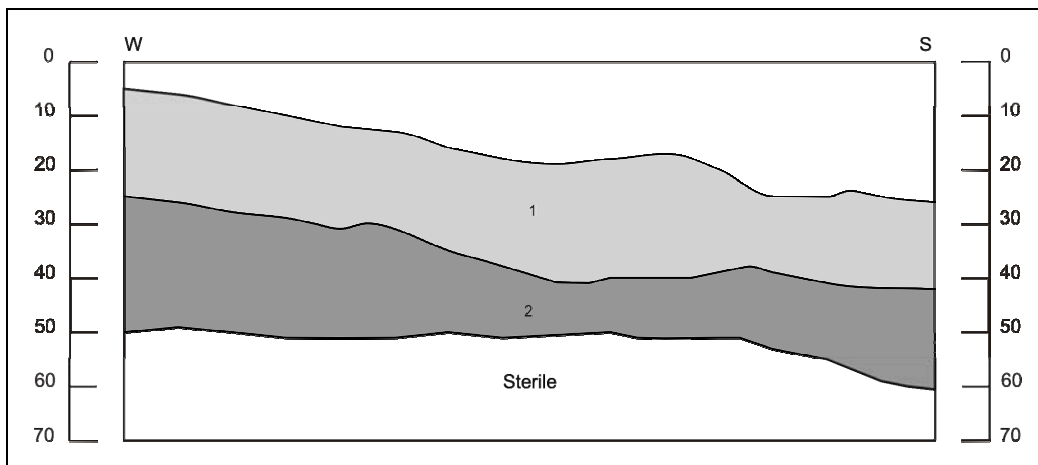


Figure 19: South-west profile of BAL01 after it was cleared.

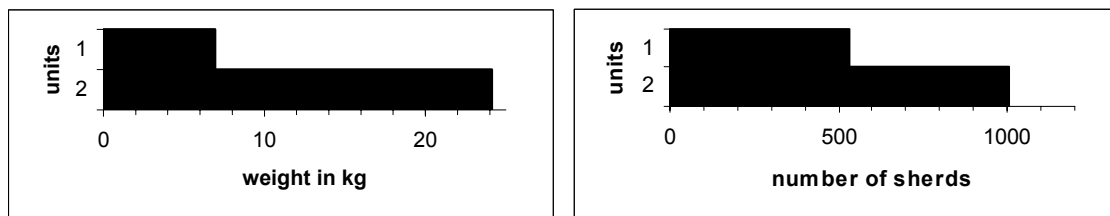


Figure 20: Shard weight per stratigraphic unit and the number of shards per stratigraphic unit in BAL01.

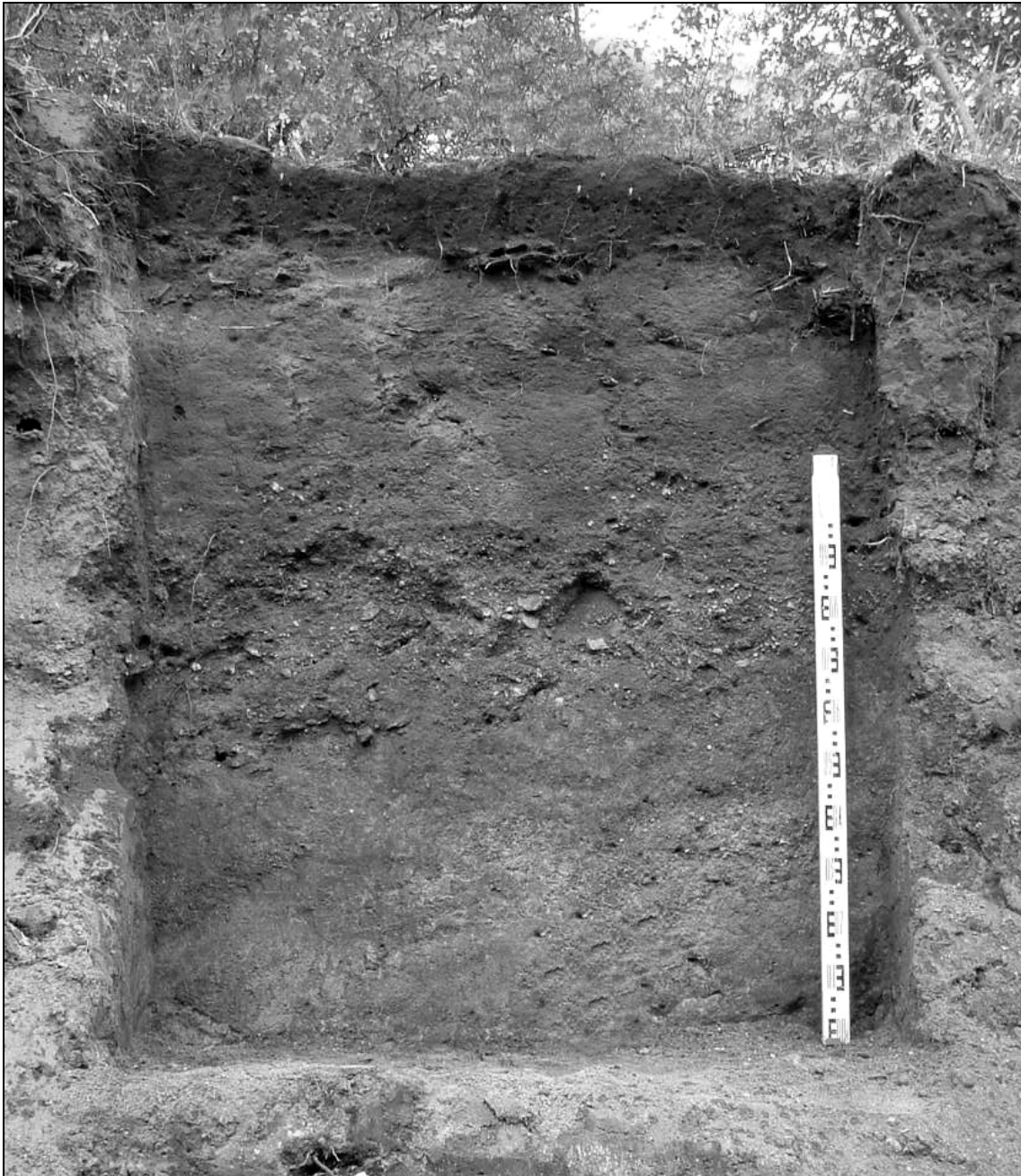


Figure 21: North-east profile of BAL01 at the end of excavation.

Excavation BAL02

The cutting at BAL 02 was placed 300m west of BAL01, on the southern bank of the same stream. Here, the bank gradually slopes up and does not cut into the natural deposit as steeply as at BAL01. At BAL02 a series of leached out mounds, located in a turn in the stream, forms an artificial embankment (Figure 22). Datum BAL02 (S23° 25' 19.00"; E30 54' 43.7") was placed on the top of the embankment. Horizontal expansion of the stream had cut into the mounds along the edge of the embankment and this served as the location for BAL02. The mound's base was approximately 40cm higher than that of the stream bed. The bed was measured at 2.67m below Datum BAL02 on the 10th of February 2004 by means of level and staff. All measurements of depth during the excavation were taken from Datum BAL02.



Figure 22: BAL02 prior to excavation.

BAL02 was a 1,8m x 0,5m cutting with the longest side laid out parallel to, and 30cm from the stream edge. The longer sides of the excavation unit was orientated 310° magnetic north, and placed 2,5m south (180° magnetic north) from Datum BAL02.

The eroded profile was prepared for excavation by removing loose earth and debris and cutting a straight edge with a shovel and trowels (Figure 24). The cleared section revealed a very complex stratigraphy. The deposit of BAL02 displayed a mound-like stratification and contained numerous lenses and pockets of river sand, ash and charcoal. This suggests that it formed through deposition of the leached out content from salt strainers. The deposits were therefore the result of one depositional event as was evident in the cleared north-eastern profile (Figure 23). Although the strata were culturally from the same period, 10cm spits were employed to assert vertical control.

Excavation of BAL02 was terminated before reaching sterile soil. This was done since the unit was virtually devoid of any archaeological material and due to time constraints, it would prove unproductive to continue at BAL02. The main aim of the excavation was to collect datable material, and since inspection of the lower stratigraphic units visible in section indicated that even less material would be forthcoming from these levels, the excavation of BAL 02 was discontinued at a depth of 50cm below the datum. Up to that point, the excavation had only delivered a few ceramic fragments that were identified as being from the Late Iron Age Letaba phase.

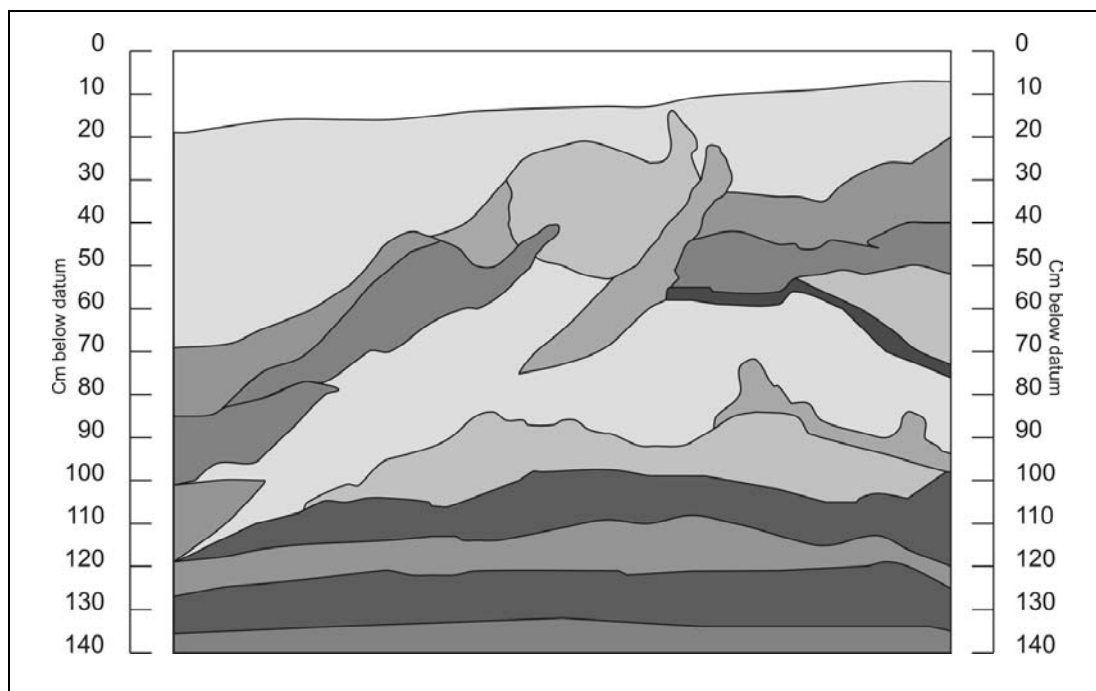


Figure 23: BAL02 north-east profile.



Figure 24: Cleared south-east profile before excavation.

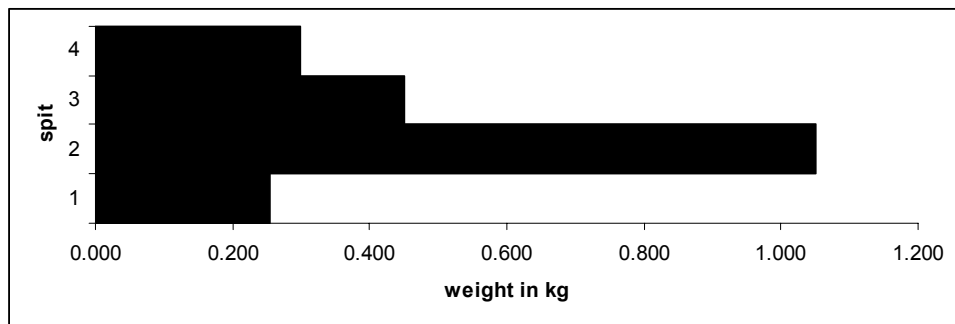


Figure 25: Ceramic weight per spit of BAL02.

Excavation BAL03

Along the south-western edge of the swamp, concentrated salt making has resulted in the formation of a large embankment (Figure 26). The possibility of this area to provide a deep well stratified chronology led to the excavation of BAL03. The cutting at BAL03 measured 2m x 1,5m and was orientated with its sides to the cardinal points of the compass, the two longer sides being the northern and southern profiles. The cutting was placed 24m north and 6m east from the datum BAL03 (S23° 25' 10.49"; E30° 54' 34.78"). All the excavation's depth measurements were taken from Datum BAL03-A placed 24m along the primary northern axis and 1,75m above the primary datum BAL03 (Figure 27).



Figure 26: View of the BAL03 mound area.

Experience from the excavation of BAL02 made it clear that the quick deposition that characterises the formation of a salt mound would entail various layers butting against or intertwined with those next to, and above them. Discerning natural levels during excavations would therefore prove difficult and time consuming. Since the quick deposition of sediment would make most strata on a horizontal level contemporary, excavation of BAL03 proceeded

by means of 10cm spits. This method would provide the needed vertical control during excavations (cf. Hester 1997: 242).

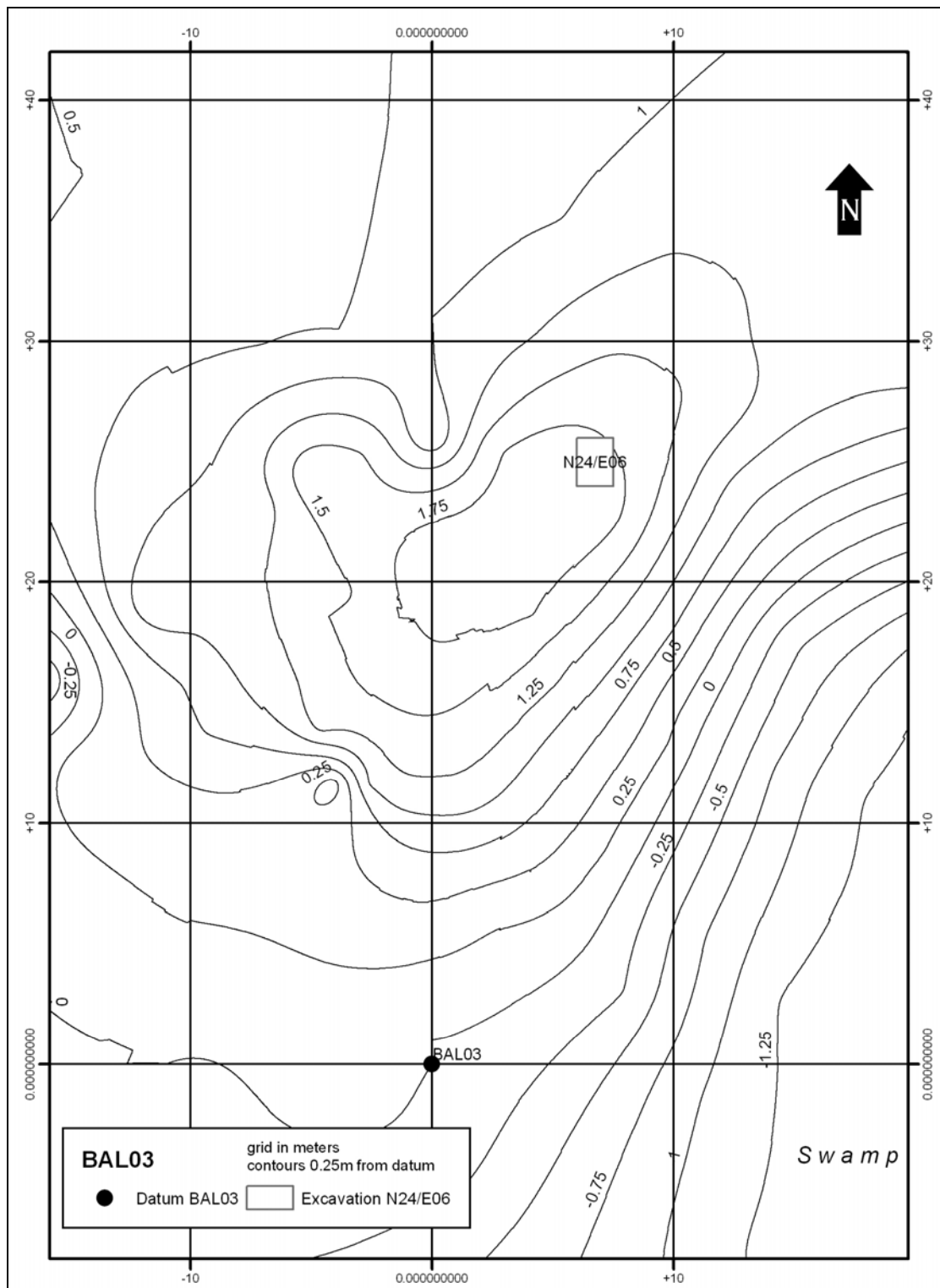


Figure 27: Site map of BAL03 indicating location of excavation unit N24/E06

By combining the profiles in isometric view, five distinct salt production events are clearly visible. An event, in this case, is the formation of a single “mound”, through the rapid deposition of material. Each event is associated with a specific ceramic phase. Five carbon samples, one from each event, were sent to the Quaternary Dating Research Unit (QUADRU) at the Centre of Science Industry and Research (CSIR) in Pretoria for radiocarbon analysis. The results will be discussed in more detail in the next chapter (Chapter VI) when the dates will be placed in the context of the associated ceramic assemblage from each event. All the dates mentioned in the text were calibrated with the radiocarbon calibration curve from the data of Stuiver and Pearson (1993) and adjusted for the southern hemisphere (Talma and Vogel 1993). The discussion of the excavation of BAL03 presented below, will be in terms of the five identified events.

Event 1

The most recent event comprised the top 60cm of the excavation (Figure 28). The deposit was mostly a uniform yellowish-dark brown, sandy loam interspersed with small ash lenses. This deposit was loosely compact with gravel inclusions found throughout. Charcoal samples from spit 4 (50-60cm below datum) were collected and calibrated to AD 1646 ±45 (Pta-9340). The associated ceramic phase for this event is Letaba.

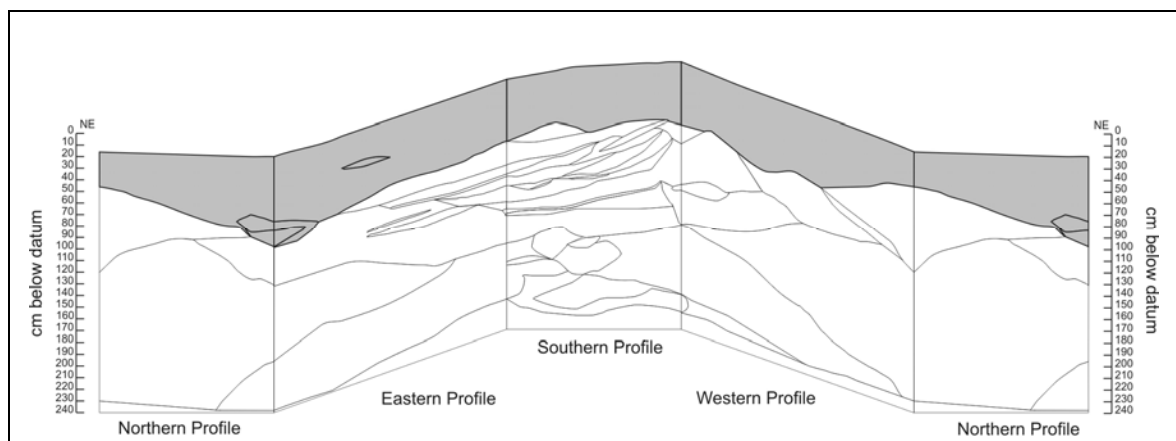


Figure 28: BAL03 Event 1

Event 2

The next depositional event was found between 50cm and 140cm (Figure 29). This event is characterized by a series of diagonal stratigraphic layers, most visible in the southern profile. A mound-like stratification is clearly visible as it slopes down in a west-east direction. The C14 sample for this event was collected from spit 9 (100cm -110cm below datum) and calibrated to AD 1658 ± 45 (Pta-9351). Letaba ceramics also characterise this event.

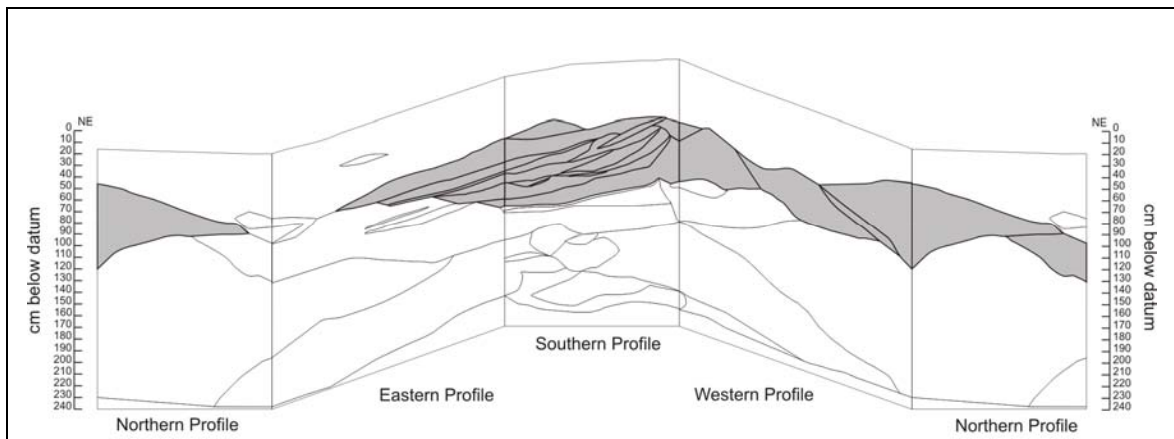


Figure 29: BAL03 Event 2

Event 3

The third event is located around 100cm - 140cm below datum (Figure 30). As opposed to the numerous small strata of the previous event, this event contained one primary layer of dark brown sandy loam, visible in the eastern, southern and northern profiles with smaller well defined layers of orange and red clay butting against it. Interspersed within the deposit were layers and lenses of well defined coarse, orange sand and very fine light grey ash with charcoal inclusions. Carbon samples from spit 12 (130cm – 140cm below datum) were collected and calibrated to AD 1430 ±50 (Pta-9341). This event is associated with Eiland ceramics.

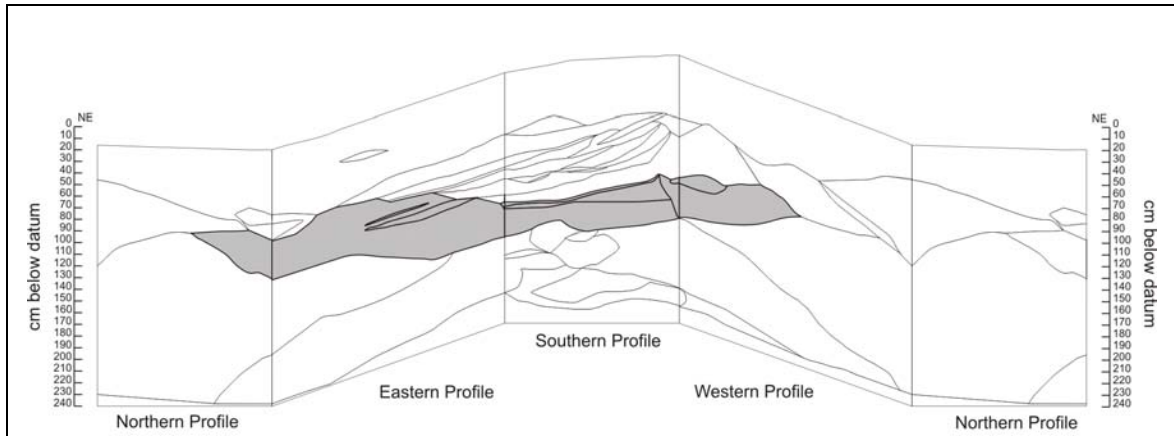


Figure 30: BAL03 Event 3

Event 4

The fourth event was located from 100cm to 240cm below datum (Figure 31). This uniform sandy-loam layer was a dark orange-brown with darker and reddish brown inclusions. Pockets of grey inclusions indicated the remnants of ash lenses that had fused with the surrounding sandy loam matrix. The limits of the inclusions were not well defined and the entire event had a general diffused character caused by water seepage. Contained in the event were numerous, almost intact, Mzonjani phase vessels. The associated radiocarbon date (Pta-9422) was calibrated to AD 400 ± 60.

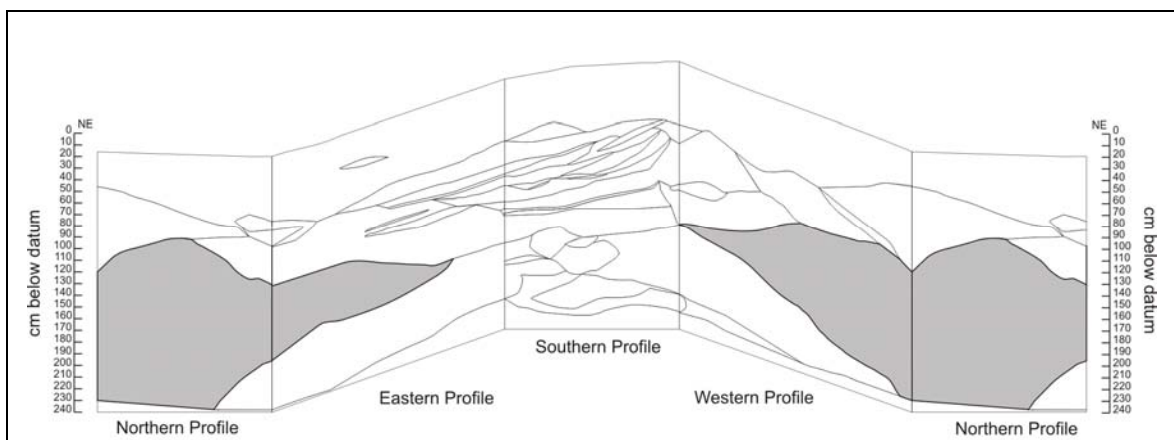


Figure 31: BAL03 Event 4

Event 5

The earliest event consisted of a series of contemporary strata and lenses deposited to form a mound between 140cm and 240cm (Figure 32). The bottom-most stratigraphic layer in this event was one of blackish dark brown clay with a high quantity of charcoal inclusions. Charcoal from this layer was collected and was calibrated to AD 60 ±50 (Pta-9349). Being on the same level as the swamp, this bottom level was very moist, with water seeping in from the sides of the cutting. The permanent waterlogged state of this layer resulted in the shards being extremely weathered. The strata above were mostly sandy loam of blackish brown and yellowish dark-brown colour. The strata were very diffused without any clear boundaries or limits. The excavation was ended on bedrock, which was a solid bed of shist, 2.4m below Datum BAL03-A.

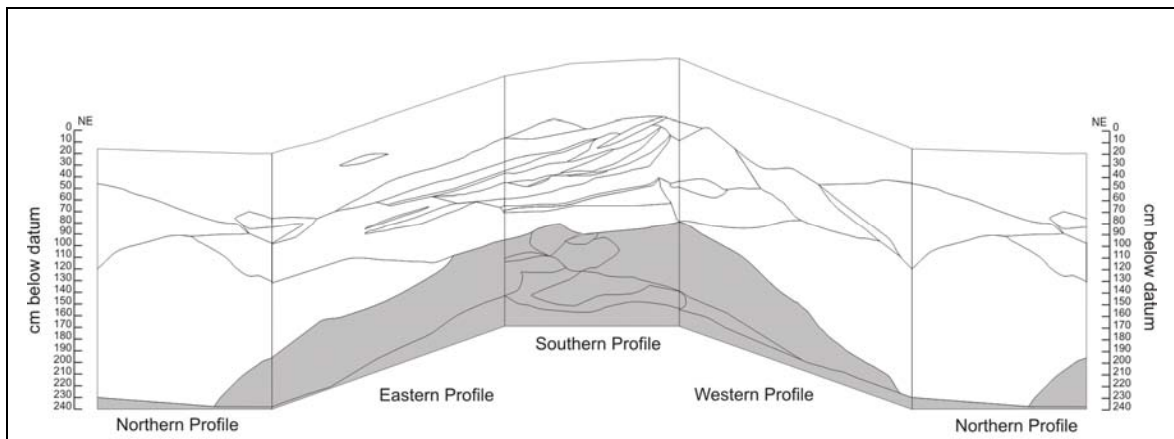


Figure 32: BAL03 Event 5

Results

Ceramics were the most abundant material and were present in every spit. There was a much greater number of shards and total ceramic weight in the lower levels of BAL03 (Figure 33). In some spits, the ceramics displayed extreme fragmentation. This can best be seen by comparing the histograms showing the weight of shards per spit (Figure 33), and the number of shards per spit (Figure 34).

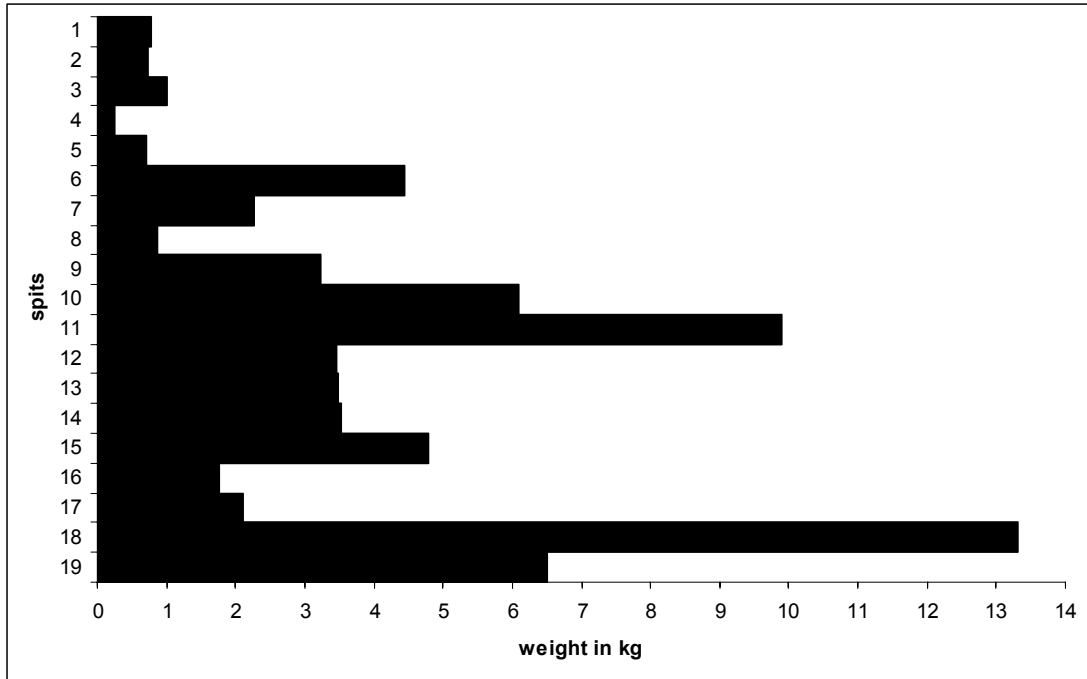


Figure 33: Weight of ceramic shards per spit

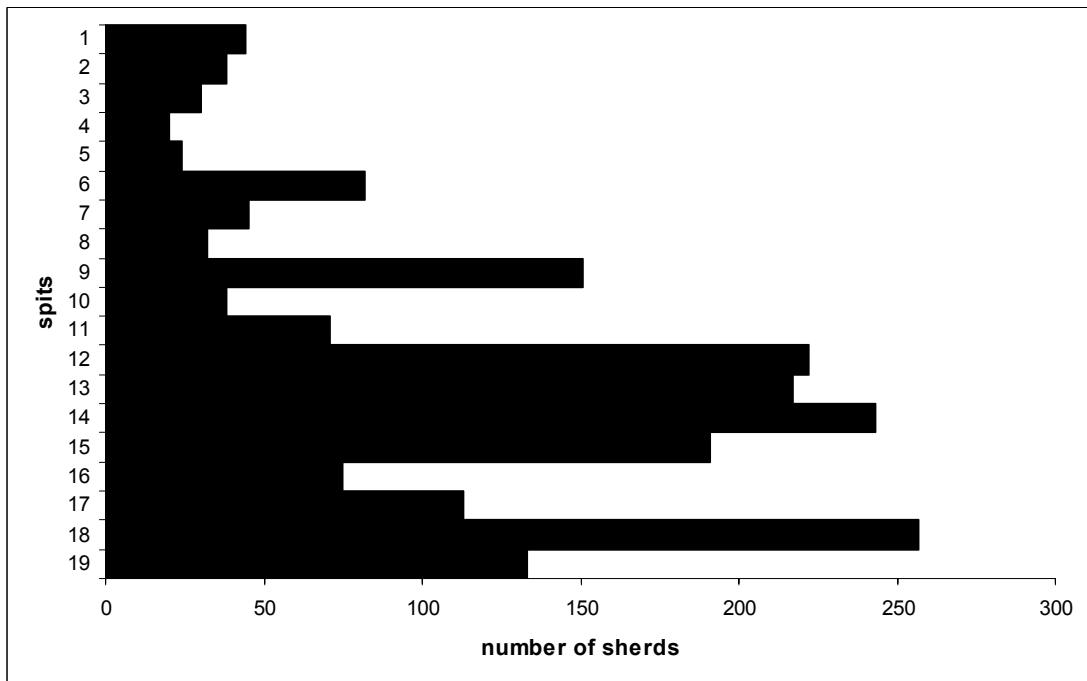


Figure 34: Number of ceramic sherds per spit

Producing Communities at Baleni

The final phase of research was on EIA settlements located within the 1.5km radius around the spring. As indicated earlier, the presence of such settlements are essential in considerations of the concentration of production. Concentration of production, as defined in Chapter I, entails the spatial relationship between producers and consumers. This could take the form of a permanent community of producers, or temporary exploitation. Temporary production activities could also vary in length of time, and result in evidence of prolonged habitation (cf. Burton 1984; White and Pigott 1996). To investigate the parameter of concentration, a pedestrian survey covered the area in a radius of 1.5km around the Baleni spring.

Visible signs of architecture served as the primary criteria for the positive classification of a feature as a settlement. This included stonewalls as well as dagga and hut floors. Secondary diagnostic features included upper and lower grinding stones and ceramic scatters. These were not classified as settlements if no primary indicators were found in context. The central coordinates of each identified feature were captured with a handheld GPS (Garmin E-Trex Legend). Coordinates were fed into a Geographic Information System, and a distribution map was compiled of settlements and associated features.

Survey Methodology

The method employed in site location and initial recording was an orthodox methodology developed for total coverage pedestrian surveys by Feder (1997: 54-55). Prior surveys of salt workshops had already covered the immediate area around the swamp (see **Areas of Salt Production** above, p.43 to p60). As a result, this survey was started 300m out from a base point located on the eastern edge of the swamp and extended a further 1200m away in a circular pattern (Figure 35). Coverage was achieved by walking 30 transects spaced at 12° increments. The first transect was started at true north (0°), with the following 29 transects covering the full 360°. The survey team consisted of nine individuals spaced 10m-15m apart, thereby effectively covering 100m - 135m per transect. A Geographic Information System was employed to import the start and end coordinates of the transects into a handheld GPS as waypoints. During the survey, a combination of GPS and prismatic compass were used to

follow the transect route which would otherwise have proven difficult with just a compass in dense undergrowth.

Survey Adequacy

The structure of the survey meant that total coverage was obtained in the areas closest to the pan where the transects were spaced right next to one another. Distance between the transects increased with distance away from the pan. At the furthest point from the survey base, the distance between transects was approximately 60m. While this small distance can be seen as insignificant, I nevertheless tested the adequacy of the survey by applying a simple formula suggested by Sundstrom (1993). The formula computes the probability of sites being intersected by the transects. The expression is a function of the size and shape of the archaeological site, and the spacing of the transects.

In the test, I assume that the target sites are circular in shape, with a radius of at least 20m, and therefore a surface area of 1256m². This relatively small size is seen as an adequate estimate. The probability (P), of finding a site of this size, at the end of a transect where spacing is 60m, would be:

$$P = \frac{2\sqrt{(a^2 + b^2)}/2}{d} = \frac{2\sqrt{(20^2 + 20^2)}/2}{60} = 0.66$$

Equation 1: Test for survey adequacy, where *a* and *b* are the two semi-axes of the ellipse (in this case the site is circular), and *d* the distance between the transects.

At the point where the distance between transects was greatest, the survey had a 66% probability of finding archaeological sites above 1256m². As the transects move in towards the base point, this figure increases to 100% over a distance of 300m. This means that the survey obtained full coverage for 95% of the survey area and a very high probability of locating sites for the remaining 5%.

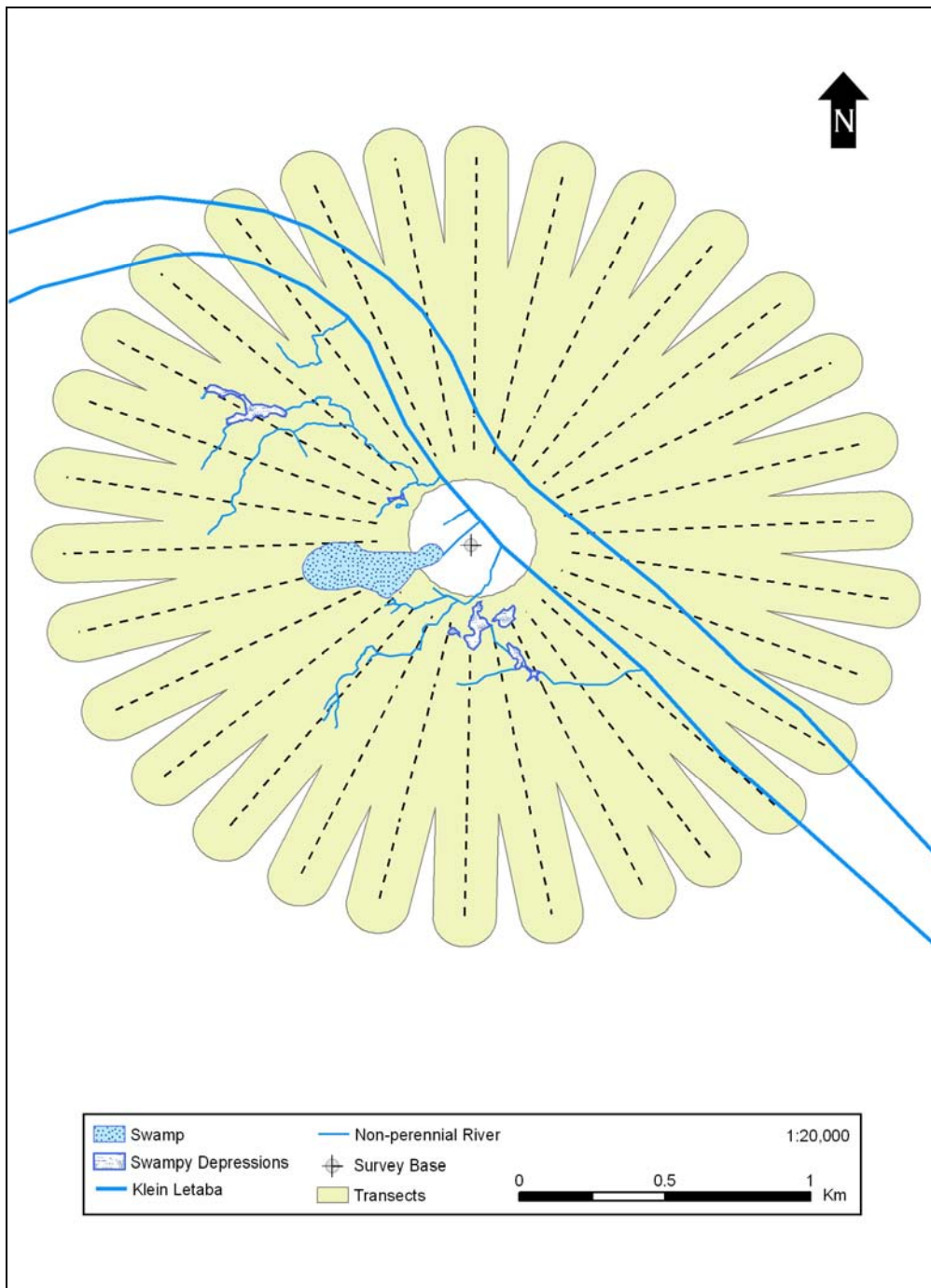


Figure 35: Survey transects and area covered by survey.

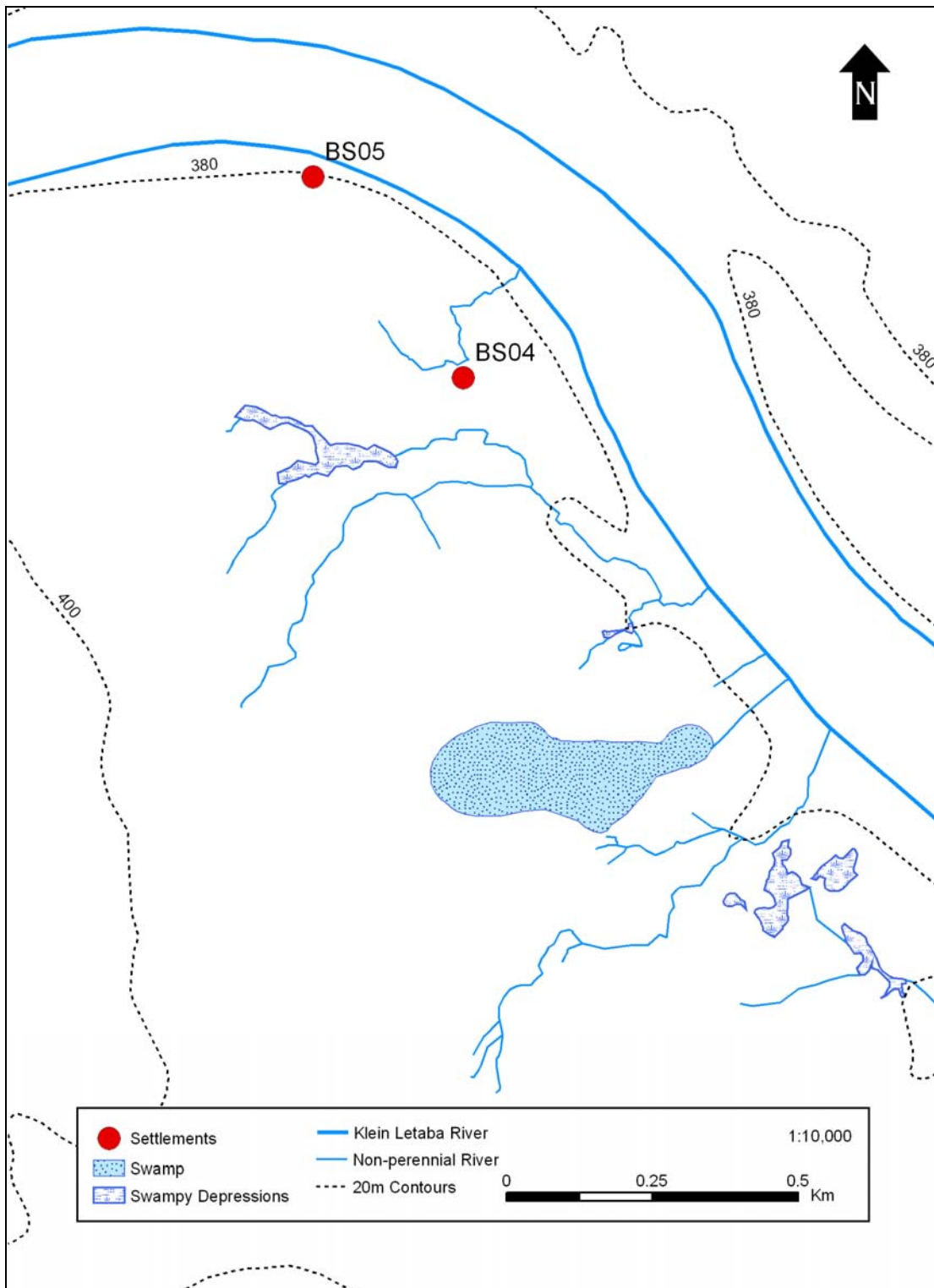


Figure 36: Settlements identified during survey

The survey identified two early first millennium settlements within the coverage area (Figure 36). Both sites were located more than 1.5km from the swamp. Despite being located a distance from the area of concentrated production, the sites are situated close to a large swampy depression where a salt crust forms during the dry season. Excavations of both sites during September 2004 analysed how these settlements utilised the available salt resources.

Settlement BS04

This site (located at S23 24' 48.12"; E30 54' 37.38") is situated 250m from the southern bank of the Klein Letaba River and was identified by the presence of ceramic and daga scatters on the surface. A deep erosion gully cuts through the middle of the site (Figure 38) and archaeological material was recovered from both sides of the donga (Figure 37 and Figure 39). The extensive erosion made it difficult to determine the approximate size of the settlement. Estimates are that it did not exceed 2000m².

During the September 2004 fieldwork period, a detailed survey was carried out and a series of shovel test pits placed in arbitrary positions on the site. These actions made it clear that the site had been almost totally destroyed by the erosion gully. Daga was identified in four places, all on the edge of the donga. These daga features had been eroded to a point where no interpretative context remains. The daga was on sterile soil without any cultural deposits below it. Although the fragments were mostly very small, some had post mark impressions. There was no indication that the daga was burnt, negating its archaeological preservation. Seen in view of the first millennium ceramics on the site, the daga could be from either grain bins or huts. Additional test pits placed further away from the donga indicates that the cultural deposit on the site only extended approximately 5cm down before sterile soil is reached. Despite the disturbed nature of the site, the test pits did provide diagnostic ceramic fragments that allowed me to establish a temporal context for the daga. Subsequent analysis of ceramic vessels (see Chapter VI) indicates that occupation of BS04 occurred during the Silver Leaves ceramic phase. The location of the site, close to the Klein Letaba River, is consistent with patterns observed for EIA settlements in KwaZulu-Natal and the Kruger National Park (Maggs 1994/1995: 172; Meyer 1984: 297). The size of the site is, however, smaller than most settlements from this period. Although the extensive erosion limits the interpretive implications of the site, the small size and general lack of cultural material does seem to indicate that BS04 was an atypical EIA site.



Figure 37: Ceramic material exposed in sidewall of donga.



Figure 38: Sidewall of donga that cuts through BS04.

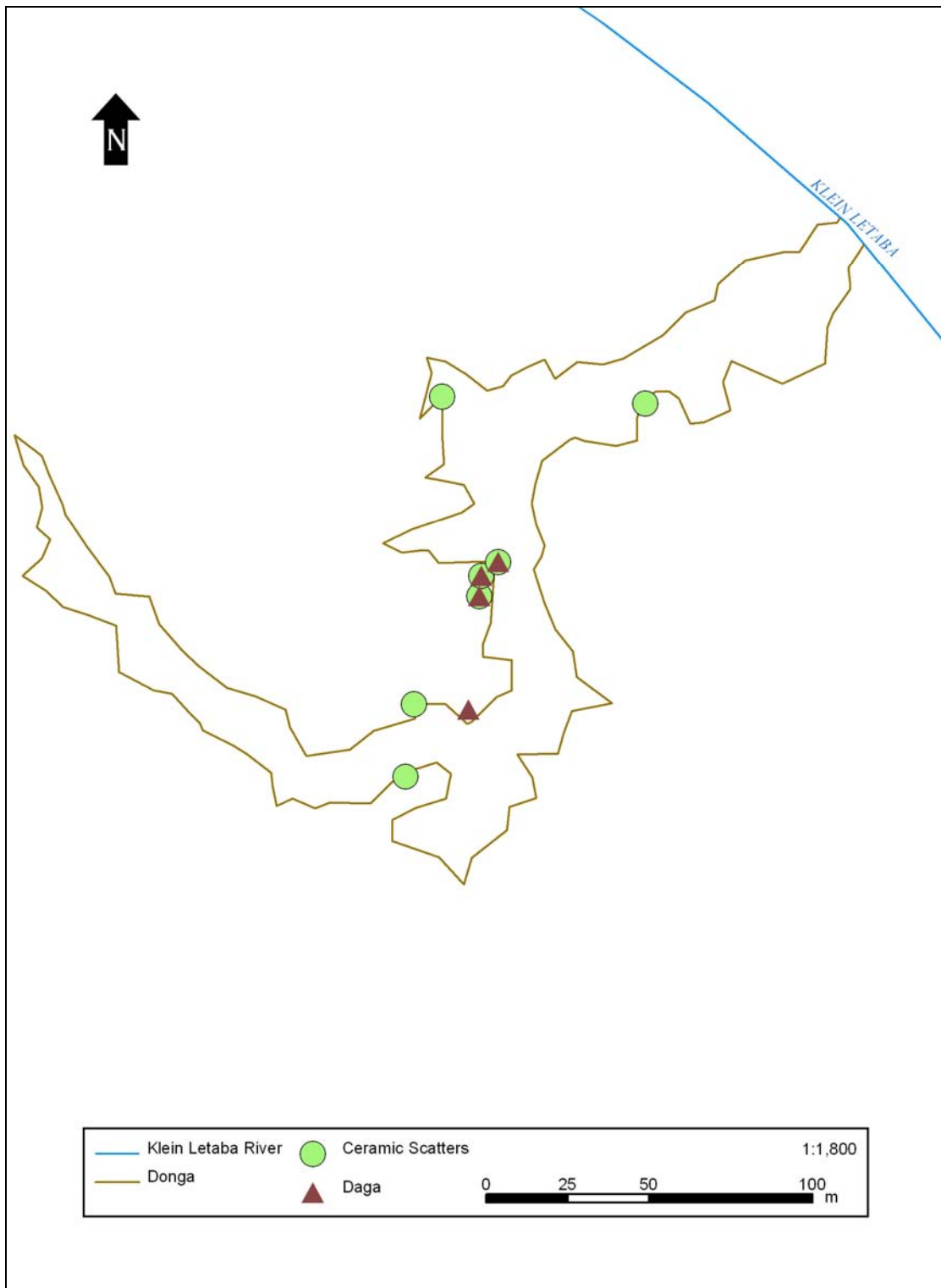


Figure 39: BS04 with associated hut rubble and ceramic scatters

Settlement BS05

BS05 is located 500m north-east of BS04 on the steep southern bank of the Klein Letaba River. The site was identified by the presence of ceramic scatters and hut rubble visible on the surface. Although limited erosion had taken place in some areas, the archaeological deposit on most of the site was undisturbed (Figure 40) Figure 40: View of BS05 from west to east. Estimates of the site size were around 5000m². Because initial investigation indicated that BS05 was the best preserved of the two EIA settlements, the site was intensively sampled by means of a detailed survey and mapping, shovel test pits and 5 excavations units (Figure 41).



Figure 40: View of BS05 from west to east.

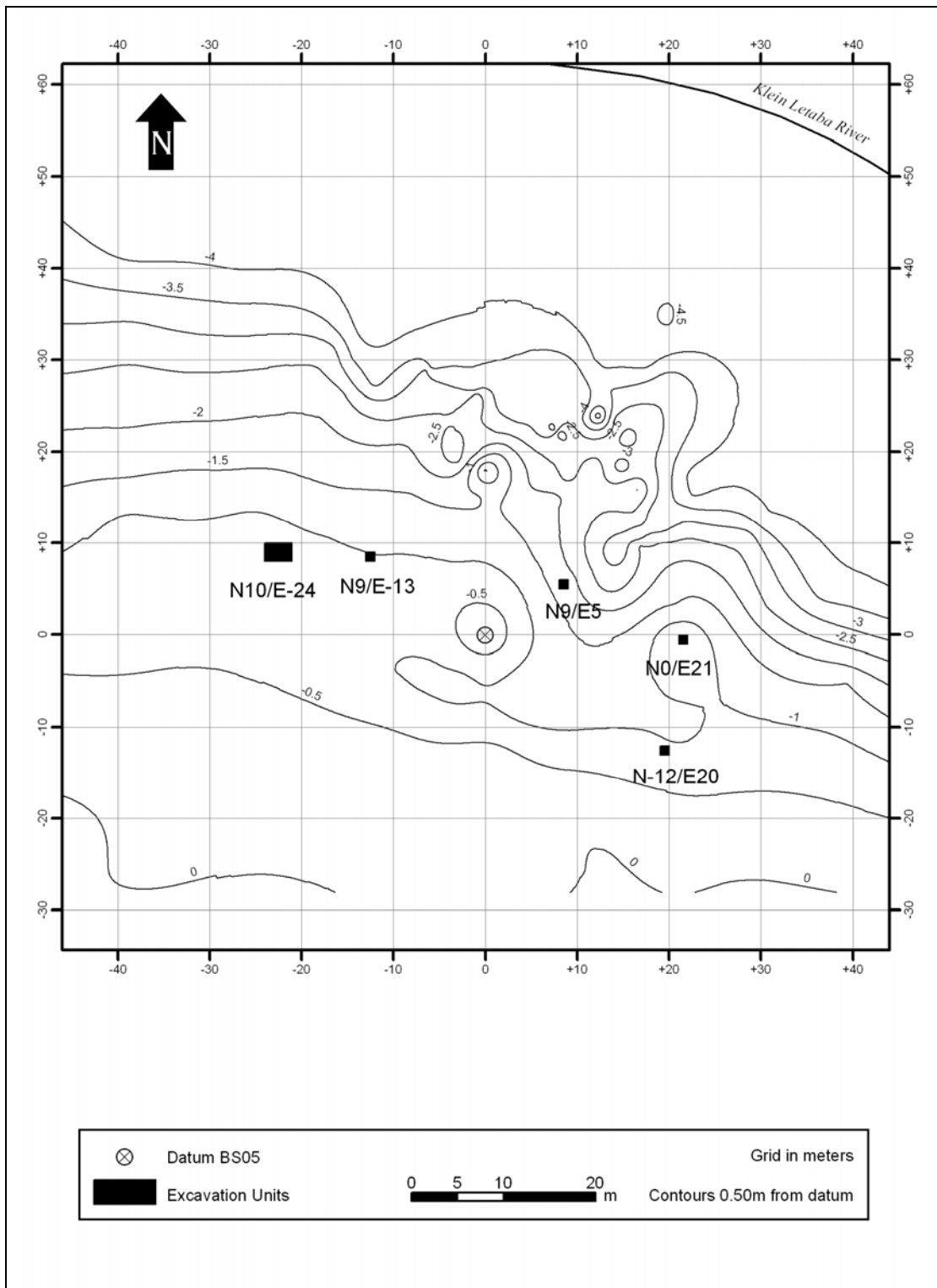


Figure 41 BS05 site map and location of excavations

Shovel Test Pits

Shovel test pits were dug to determine settlement layout, obtain datable material and locate possible areas where excavation trenches could be placed. During a three day period, 177 shovel test pits that covered the spatial extent of the site, were completed (Figure 42). Test pits were spaced in a 3m grid, with its origin at the centrally located Datum BS05 (S23° 24' 36.12"; E30° 54' 24.54"). Deposits from the test pits were screened through a 5mm steel mesh and all cultural and biological material was bagged and recorded. The profiles of the test pits were also recorded in order to observe any stratigraphic changes. Other observations included depth of the deposits and soil descriptions.

Six daga structures were uncovered by the test pits and their positions plotted (Figure 43). The weight of the ceramics recovered from individual test pits was used in order to determine which areas had a high concentration of archaeological material. The north-western area exhibited a significantly higher ceramic density than any other area of the site. Subsequent excavations (see below) indicated that this area was a low mound of leached out filter content associated with salt production.

Excavations

The test pits identified several areas that necessitated further investigation. The abnormally high density of ceramics in the north-western area of the site (Figure 44) indicated that the area could provide important data concerning site function. The daga features visible on the surface and uncovered by the test pits were also excavated. Here the specific aim was to determine whether these structures were huts or grain bins. All excavations were carried out with trowel and brush. Deposits were screened through a 5mm steel mesh and all cultural and biological material was collected for later analysis.

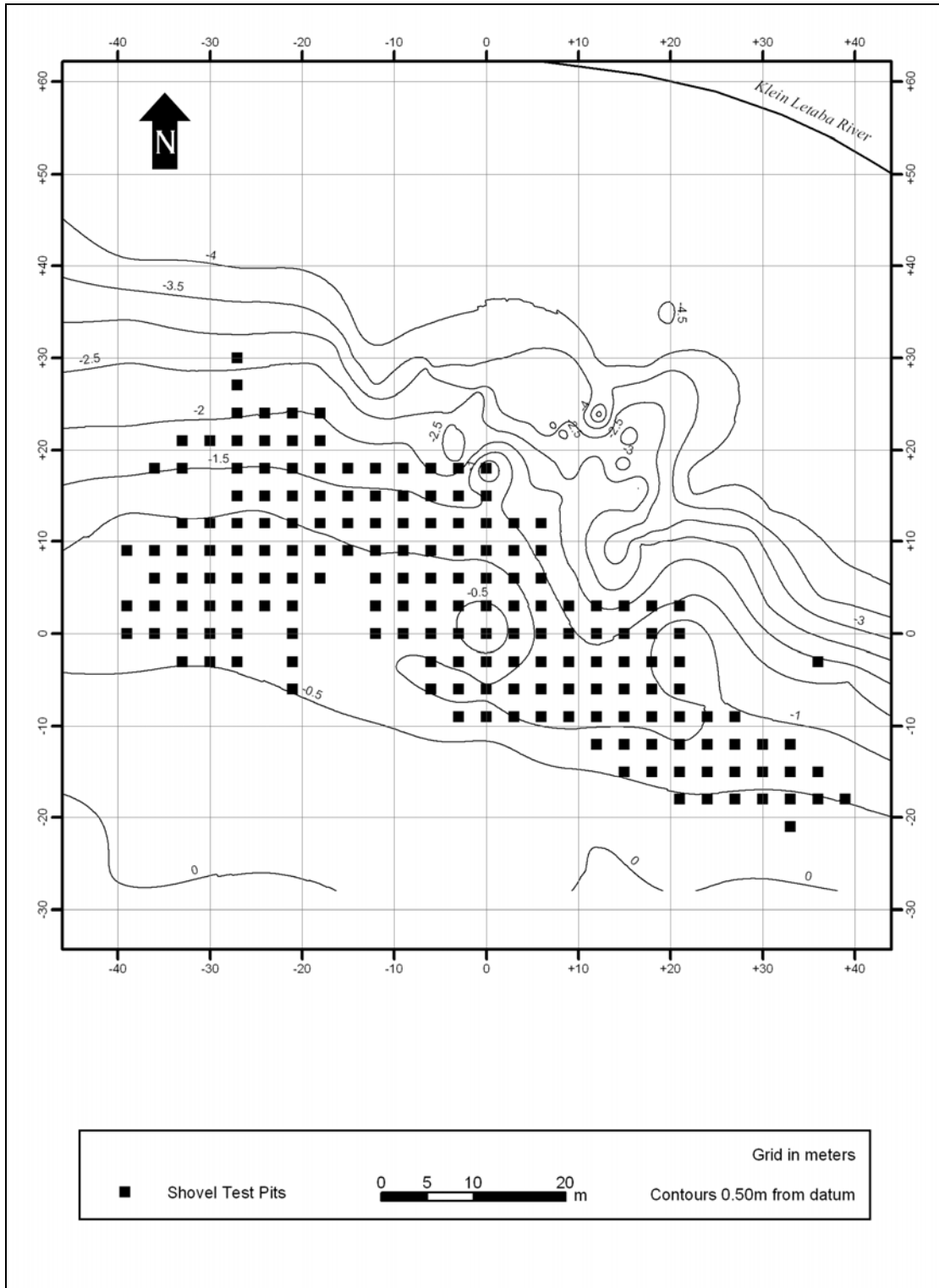


Figure 42: Shovel test pits at BS05

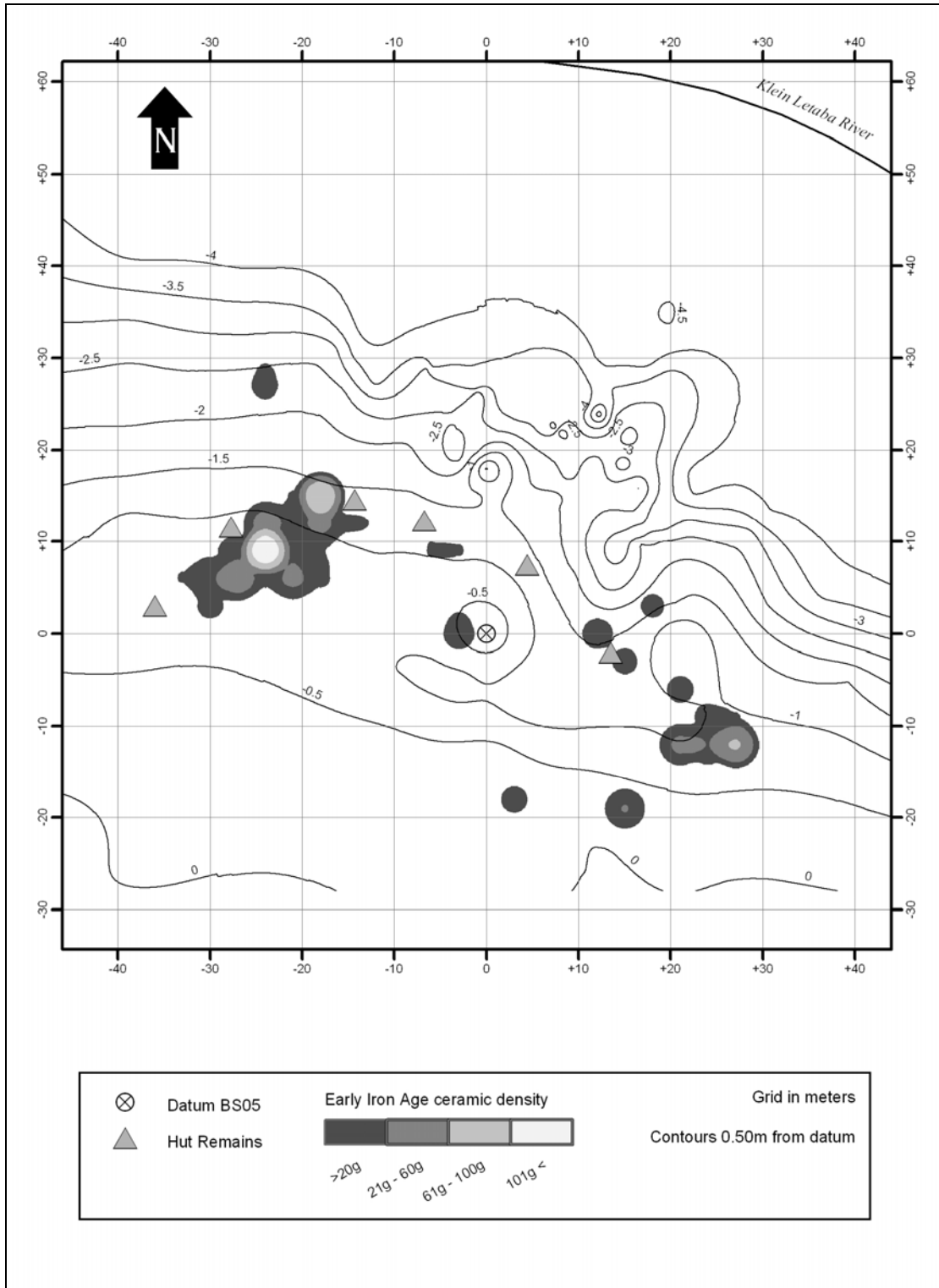


Figure 43: Trend surface map of ceramic density calculated from ceramic weights from test pits.

N10/E-24

This excavation was a 3m x 2m unit placed in the north-western area that had an abnormally high ceramic density. All archaeological material came from one layer of unstratified sandy clay of reddish brown colour. Excavations reached sterile soil at approximately 20cm below datum. The uniform deposit had inclusions of fine gravel and a few cobbles. The lower parts of the deposit produced a very high density of potshards almost forming a ceramic floor above the sterile ground. These ceramics displayed a high rate of fragmentation. In the centre of the unit, a small concentration of daga was also found that extended into the sterile layer. Excavating into the sterile soil indicated that the solid daga chunk continued down a further 5cm. The absence of any other daga, its small size and the absence of a floor surface, indicates that it probably was not part of a structure, but deposited together with the ceramics, and trampled into the ground. The only other archaeological material that came from the unit were small fragments of non-identifiable bone.

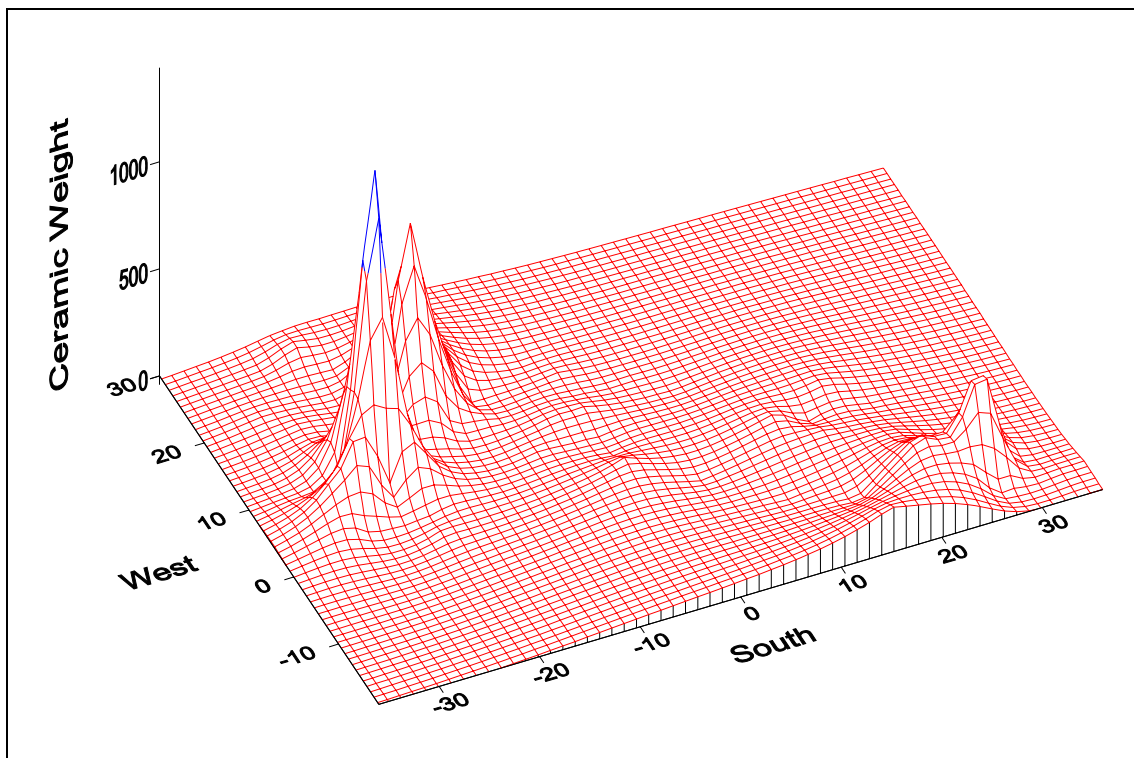


Figure 44: Ceramic weights from shovel test pits, with peaks in the north-western region indicating mound area.

N09/E05

This 1,5m x 1,5m unit was placed over daga visible on the surface. An adjacent test pit had shown that the solid rubble continued down below the surface. A thin layer of topsoil was removed before a deposit of solid daga rubble of reddish-brown colour was encountered. This deposit was a dense layer of debris above portions of a flat daga floor, 1,5cm thick, which rested on sterile soil. Fragments of a curved wall with post impressions of approximately 10cm in diameter were excavated above the floor (Figure 45). Excavations stopped on virgin soil 10cm below the surface. The only additional material from this excavation was undecorated ceramic fragments.

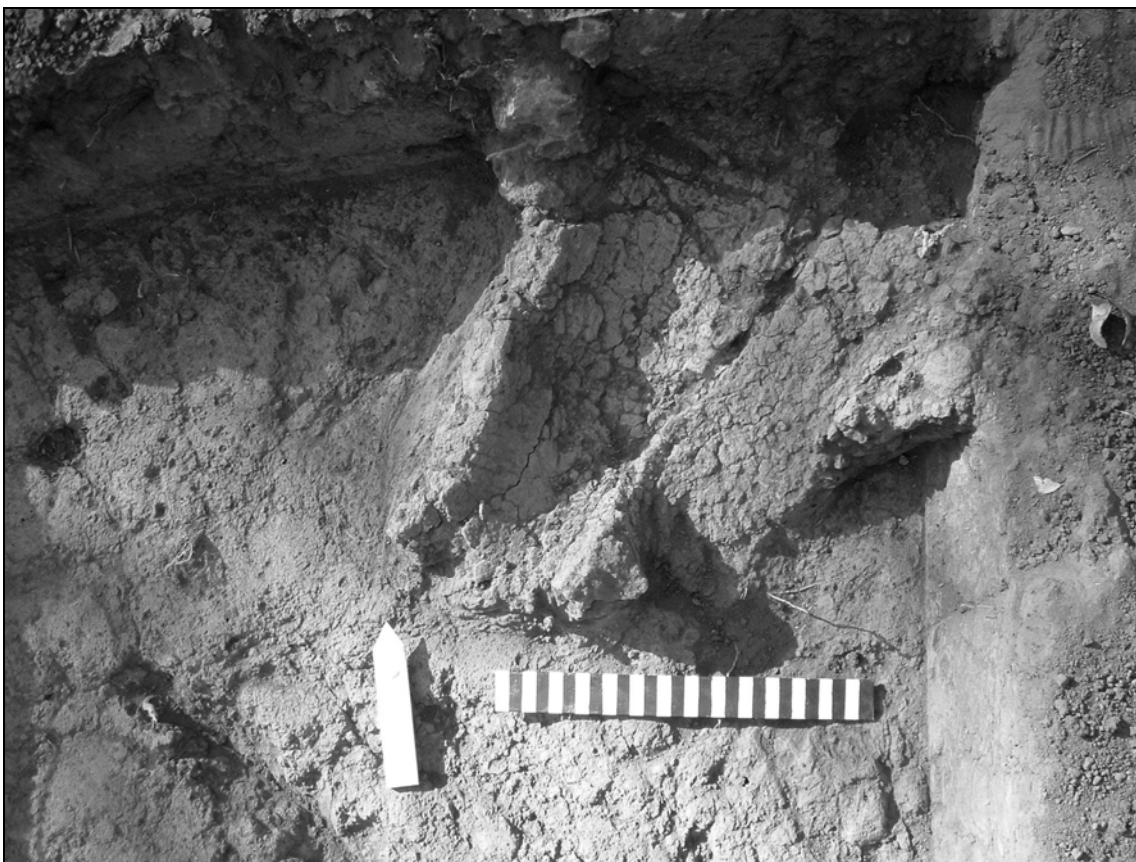


Figure 45: Post impression in daga.

N09/E-13

This excavation was a 1m x 1m unit placed next to a shovel test pit that had produced a high number of ceramics. The unit consisted out of two loci, the first a thin layer of topsoil, and

the second a 10cm layer of deposit above sterile. This reddish-brown layer had a few gravel inclusions. The excavation uncovered only a few undecorated ceramic fragments.

N0/E21

This unit was placed over a test pit that had produced ceramic fragments from a single pot, and the excavations intended to obtain additional material from this area of the site. After the topsoil was removed, the deposit was a uniform reddish loam with gravel inclusions. The only excavated material was a few undecorated ceramic shards. Excavations stopped on sterile, 20cm below the surface.

N-12/E20

This 1m x 1m unit was opened on the eastern part of the settlement and aimed to provide additional material from this area. The unit contained two stratigraphic layers. The first was top soil, 5cm deep, that did not produce any material. The second locus was a very compact sandy clay with a large quantity of gravel inclusions. The excavations delivered a high quantity of ceramics and a few bone fragments and was ended on sterile 18cm below datum.

Occupation at Baleni during the Early First Millennium AD

The excavations at BS05 indicated that there was a single occupation of the site during the early first millennium AD and the ceramic data (discussed in Chapter VI) attributes it to the Mzonjani phase. The daga rubble uncovered by test pits and excavation N09/E05 are consistent with huts uncovered at other EIA settlements. These structures on BS05 did not have the stone-and-floor features usually associated with collapsed grain bins (cf. Huffman 1993: 222). Daga visible on the surface were concentrated in roughly circular areas of 1,5m - 2m in extent, indicating an approximate size of these structures. The mound-like area, excavated as N10/E-24, generally resembles the salt workshop mounds excavated at BAL01, BAL02 and BAL03. It was, however, lower than the mounds around the spring and lacked the small lenses and complex stratigraphy that characterized the other deposits. This could be due to erosion processes that washed away the surrounding matrix of ash and sand, leaving only a compacted layer of ceramics. To assess whether the hypothesis concerning this area's function as a salt production area is correct, ceramics from N10/E-24 were analysed for use-wear patterns and compared with the workshop assemblages. The results (see Chapter VI for

discussion of the procedures and results in detail) indicated that the assemblage is, in terms of use-wear and typologically, consistent with the pattern expected for a salt workshop.

Excavations at BS05 did not yield evidence usually associated with EIA settlements such as pits, grain bins, middens, burials and evidence of stock keeping. Similarly, no evidence of metal working, typically found on sites from this period was encountered. The absence of these features could not be due to the sampling strategy, since the 177 shovel test pits and subsequent excavations covered the spatial extent of the site. The very limited faunal remains could be due to preservation conditions, but no features associated with food production (such as grinding stones) were uncovered. The single, unstratified layer of deposit and the lack of additional cultural features indicate that BS05 was not a permanent settlement, or that occupation lasted for a relatively short period. Combined with the data from the mound area it is clear that salt production took place during a short period of occupation. These lines of evidence support a hypothesis whereby BS05 was a temporary EIA settlement with its inhabitants being actively involved in salt production activities.

The excavations of salt production sites and the temporary settlements produced a substantial ceramic assemblage. Ceramic vessels, as the principal artefact associated with salt production activities, present an opportunity to characterise production during the EIA in terms of production technology. The next chapter presents the analysis of the ceramic data and interprets it in terms of the culture historical sequence, as well as parameters of production organization.