

**THE ARCHAEOLOGICAL EXCAVATIONS THE EKUBO
ECOESTATE: Phase 1**

For Buk'Indalo Consultancy cc & Star Choice Trading cc

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INTRODUCTION

Umlando was contracted to undertake the archaeological excavations and monitoring for the Ekubo Eco-estate, Port Edward. The area was first archaeologically surveyed by Maggs (1984), who noted that the several artefacts from the Port Edward area are probably related that the São João. The São João sank in 1552 AD in the small bay between the development area and Port Edward. It is believed that approx. 150 people died, and the rest made camp on a flat area of land near the wreck site.

The Captain of the São João died on his way northwards, and no documents exist as to the exact location of the São João survivor's campsite and mass grave. There is agreement as to where the São João sank, but there is little agreement as to where the survivors camped for 12 days. The only agreement is that the survivor's camp is in the Port Edward area.

The Ekubo Eco-estate development occurs in one of the areas flagged as a possible survivor's camp and mass burial of approximately 150 people (Burger 2003). Several beads and porcelain fragments have been observed and sampled along the beach and in the hills of the Ekubo Eco-estate (Maggs 1984; Burger 2003). Members of the public have also illegally sampled these artefacts.

The initial Ekubo Eco-Estate survey report (Anderson and Anderson 2004) located and noted several areas of archaeological and historical sensitivity. The management plan had set aside several areas that would require some form of mitigation and/or monitoring before, during and after construction. This management plan was adapted to coincide with the development construction timetable. This report deals only with the areas excavated and monitored for the construction of various roads.

METHOD

Our premise was that the São João campsite and mass burial did exist in the development area, and that we would need to locate the physical remains of these activities. We utilised the same criteria for defining archaeological sites as we do for Stone Age and Iron Age sites. These criteria are: 10 or more stone tools or five or

more sherds from different pots, as well as other associated artefacts. In this instance, we substituted stone tools and pots for Chinese and/or European ceramics, and would include carnelian beads as evidence for a campsite. Furthermore, evidence for a campsite should include fireplaces, refuse pits, faunal remains with metal cutmarks, etc. The evidence for the mass graves would be the skeletons themselves. One tends not to find more than 2 - 3 skeletons on an Iron Age site, if any at all. Thus, any large numbers of skeletons in the area may be attributed to the mass graves. The skeletons should include artefacts associated with the nationality of the sailors¹ and time period.

The initial scope of the current excavations was to excavate only in the road reserve and servitudes, and if necessary further excavations would occur later. The developers identified the road reserve as a high priority area. These roads had been previously surveyed and demarcated and would need to be cut or filled. The road scrapings consisted of removing the first 30 cm of topsoil with a bulldozer fitted with a blade. The bulldozer would take several scrapes to reach the desired level. We² monitored these scrapings and then excavated in the scraped areas.

The second phase of monitoring consisted of supervising a mechanical excavator for the sewer lines. These excavations occurred mostly on the borders of the sensitive areas, except for PED2, and were 1 m wide and varied from 1 m – 2.5 meters in depth. This enabled us to have a longitudinal soil profile of most of the hill, and thus make decisions regarding the depth of the archaeological excavations.

The archaeological excavations consisted of placing 2 m x 2 m squares along the scraped roads. The squares varied in depth but did not extend deeper than the Stone Age deposits, as these predated the São João wreck of 1552 AD.

A further scrape was undertaken once the initial test-pit excavations were completed. This only occurred in areas where the test-pit excavations had been completed. The scrape was necessary as the roads needed to be cut and/or filled. This second scrape was also monitored.

¹ In this case any non-southern African nationality would suffice.

² In this case there were 5 people monitoring various aspects of the scraping activities. The bulldozer was stopped if it opened a sensitive area, e.g. at EKU4

As each area was cleared for the road reserves and/or sewer pipelines it was noted in the Environmental Site Notebook. Any restrictions to the road or pipeline were also noted and discussed with the Resident Engineer.

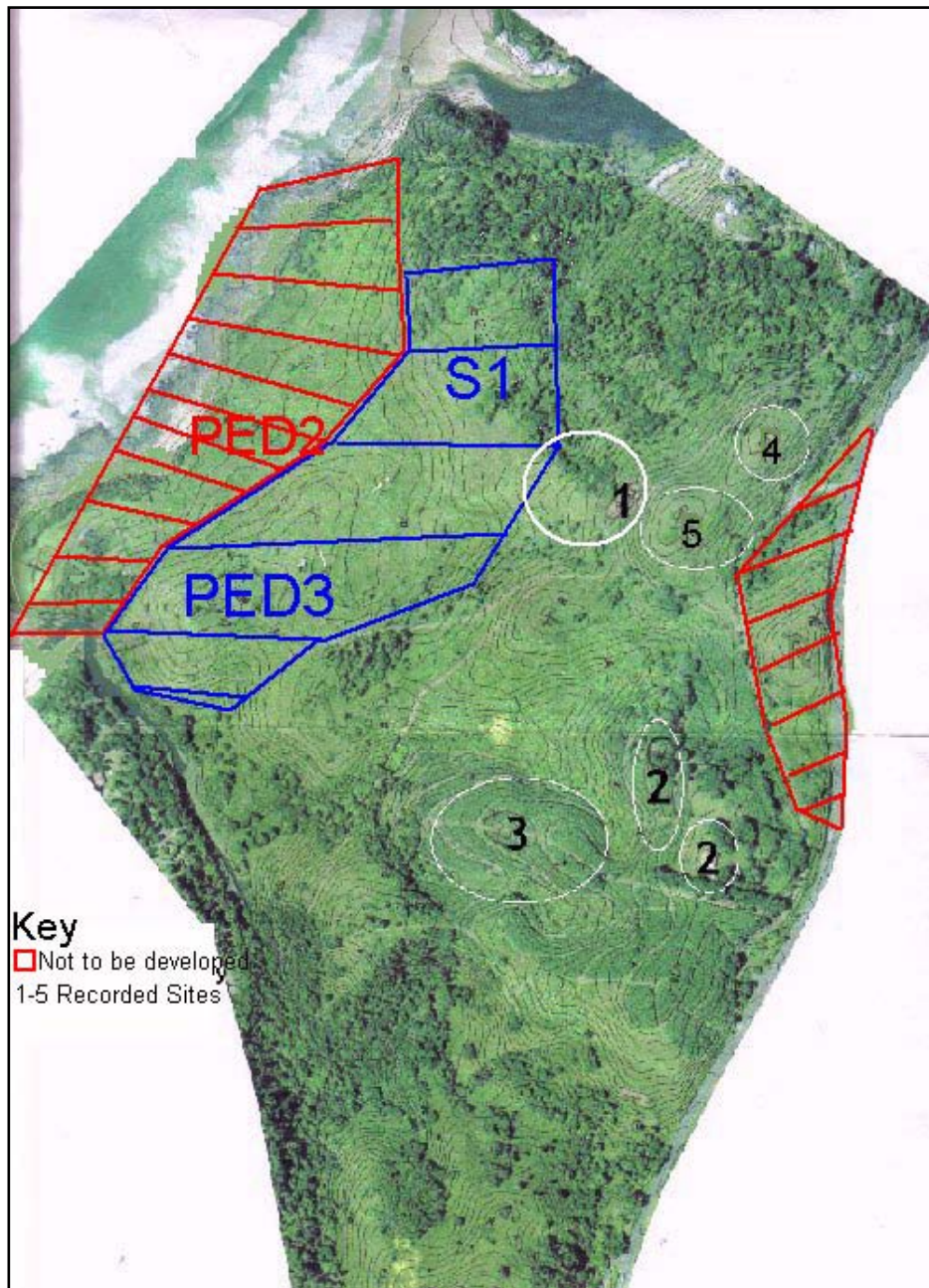
RESULTS

Fig. 1 indicates the general sensitive areas demarcated in the initial report. Those areas indicated “not to be developed” imply that no development was planned. This map was revised, as more accuracy was needed for the construction of the roads. Tables 1 and 2 list the artefact types and frequencies from the excavations.

PED2

PED2 was initially excluded from the management plan, as no development was to occur in this area. The initial report had demarcated it as a sensitive area. However, on our arrival we were informed that a sewer pipeline had been placed from PED2 to the beginning of PED3. The pipeline was approximately 1 m wide and varied between 1 m to 2 m in depth. In addition to the sewer pipeline, parts of the road had been graded and cleared. This was undertaken without either archaeological supervision nor approval, and thus not part of the RoD agreement.

Fig. 1 Locality Map Of Sensitive Area Relating To The Ekubo Eco Estate Development



The Environmental Control Officer (ECO) was unaware of these activities. The ECO had requested that these activities cease with immediate effect on his next site visit. By the time this was done, parts of the pipeline had been covered. We inspected the area and could not find any artefactual evidence on the surface. Several areas had been left uncovered and we did not observe any archaeological horizons in these areas. Thus while development had occurred in a sensitive area without permission or permits, it did not affect any (potential) sites. This is still not acceptable in terms of the RoD.

Further developments are planned for the PED2 area. These include fencing, a boarded walkway and an emergency access road. All of these developments have the potential to affect shell middens and other possible sites previously observed in the area. **No** development is allowed to occur in this area unless it has been cleared by the project archaeologist.

S1

S1 is a sensitive area running from the base of a hill (and old sand quarry) to PED2. Several areas were noted as being geologically, or topographically, different from the rest of the landscape: large mounds along relatively flat areas. Other sections of S1 included a small hill that appeared to have archaeological potential but the vegetation was too dense to notice any artefacts during the surveys.

We supervised the scraping of the road at S1. Several isolated stone tools and upper grinding stones were observed. These were also observed at the sand quarry and are similar to stone artefacts observed at PED3. The earth mounds at S1 are termite mounds and thus a natural phenomenon.

The road reserve at S1 was cleared for further road works only. S1 should be monitored during the housing construction phase of this development.

One note of caution is that several trees and/or plants were removed under environmental supervision. This was however not undertaken with archaeological supervision. While this impact is very low, the roots may have been within the

unconfirmed mass grave of 1552. The environmental aspect of this project needs to take into account the archaeological aspect as well.

EKU4

EKU4 was previously noted as a Late Iron Age site. We observed pottery, grinding stones and daga fragments during our initial surveys. The mitigation for this site was to undertake test-pit excavations to determine the full potential of the site. The road clearance was supposed to be approx. 30 cm deep, however we stopped the grading at approx. 20 cm as several artefacts were observed.

EKU 4 is located on Road 3. Before the scraping and excavations at EKU4, another road was graded on EKU4 without archaeological supervision and/or permission. The road negatively affected the eastern part of the site. It is not possible to determine the degree of the impact as the road was subsequently covered with topsoil and vegetation. This infringement was noted with the Environmental Control Officer and is not acceptable in terms of the RoD and the management plan. We need to discuss this infringement with the ECO and Amafa aKwaZulu-Natali, in order to determine the degree and type of penalty.

We began our excavations in the initial cleared area, only to be informed the next day that the road clearance had been incorrectly placed. The excavations were in mid-process and we could not stop the excavations without losing archaeological information. We completed the first squares, and then moved the excavations closer to the new road clearance. This was undertaken while the road was being rescraped under archaeological supervision. Very little material came from the second road scraping; however, the first scraping and excavations yielded many artefacts. The

Table 1: Artefact types and frequencies from EKU4

Site	Square	Spit ³	Sherds	Whole Pot	Ceramic	Marine Shell	Bone	Glass Beads	Glass Bottle	Upper grind stone	Lower grind stone	Daga	Ochre	LSA ⁴	Cores	MSA ⁵
EKU4	0	1	3	0	0	0	0	0	0	1	2	0	0	2	0	0
EKU4	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
EKU4	0	3	0	0	0	0	0	0	0	1	0	0	0	0	5	0
EKU4	0	4	0	0	0	0	0	0	0	1	0	0	0	1	1	0
EKU4	0	5	0	0	0	0	0	0	0	2	2	0	0	0	2	0
EKU4	20	1	15	0	0	0	0	0	0	0	0	0	0	0	0	1
EKU4	20	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0
EKU4	20	3	0	0	0	0	0	0	0	4	0	0	0	0	1	4
EKU4	23	1-2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
EKU4	25	3	1	0	0	0	0	0	0	0	0	0	0	1	0	0
EKU4	30	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0
EKU4	35	1	7	0	0	0	0	0	0	1	0	0	0	1	0	0
EKU4	35	2	7	0	0	0	0	0	0	0	0	1	0	0	0	0
EKU4	35	3	1	0	0	0	0	0	0	0	0	0	0	1	0	0
EKU4	40	1	14	0	0	0	0	0	0	0	0	4	0	0	0	0
EKU4	40	2	2	0	0	0	0	0	0	0	1	0	0	0	0	0
EKU4	40	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0
EKU4	45	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0
EKU4	45	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1
EKU4	47	2	1	0	0	0	0	0	0	0	0	0	1	0	0	0
EKU4	50	1	23	0	0	0	0	3	0	0	0	0	0	0	0	0
EKU4	50	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0
EKU4	50	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
EKU4	55	1	9	0	0	0	0	0	0	0	0	0	0	1	0	0
EKU4	55	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0
EKU4	60	1	6	0	0	0	0	0	0	1	0	0	0	0	0	0
EKU4	60	4	0	0	0	0	0	0	0	4	0	0	0	0	1	4
EKU4	60	5	0	2	0	0	0	0	0	8	2	0	0	0	0	2
EKU4	65	1	41	0	0	0	0	0	0	0	0	0	0	1	0	0
EKU4	65	2	40	1	0	Turbo spp.	Fish	1	0	0	0	0	0	0	0	0
EKU4	Surf	Surf	23	0	0	0	0	0	1	1	0	1	0	2	0	1
Total			226	3	0	N/A	N/A	4	1	25	8	6	1	10	10	13

³ Spits are 10 cm deep layers in these excavations⁴ LSA = Late Stone Age⁵ MSA = Middle Stone Age

PED3 Site	Road	Sq.	Spit	Sherds	Ceramic	Marine Shell	Bone	Glass Bottle	Upper g/stone	Lower g/stone	Ochre	LSA	Cores	MSA
PED3	2	60	3	0	0	0	0	0	0	0	0	1	0	0
PED3	2	Surf		1	4	whelk	0	1	0	0	0	0	0	0
PED3	19	2	3	0	0	0	0	0	0	0	0	0	0	0
PED3	20			0	1	0	0	0	0	0	0	0	0	0
PED3	2A	0	1	0	0	0	0	0	0	0	0	0	1	0
PED3	2A	0	2	0	0	0	0	0	0	0	0	0	1	0
PED3	2A	0	3	0	0	0	0	0	0	0	0	0	0	1
PED3	2A	10	5	0	0	0	0	0	0	0	0	0	1	1
PED3	2A	18	1	0	0	0	0	0	0	0	0	1	0	0
PED3	2A	18	2	1	0	0	0	0	0	0	1	0	0	0
PED3	2A	20	2	3	0	0	0	0	0	0	0	0	0	1
PED3	2A	20	3	1	0	0	0	0	0	0	0	0	0	0
PED3	2A	30	1	0	0	0	1	0	0	0	0	0	0	0
PED3	2A	30	4	0	0	0	0	0	1	0	0	0	1	0
PED3	2A	30	5	0	0	0	0	0	2	0	0	0	0	0
PED3	2A	50	2	0	0	whelk	0	0	0	0	0	0	0	0
PED3	2A	50	3	1	0	0	0	0	1	0	0	0	0	0
PED3	2A	50	4	0	0	0	0	0	1	0	0	0	0	0
PED3	2A	60	1	1	0	whelk	0	0	0	0	0	0	0	0
PED3	2A	60	2	1	0	whelk	0	0	0	0	0	1	0	0
PED3	2A	80	1	1	0	whelk	0	0	0	0	0	0	0	0
PED3	2A	80	2	0	0	0	0	0	2	0	0	0	0	0
Total				14	8	N/A	3	4	20	1	3	37	23	42

following is a description of the site that will be affected by the housing development, and not the road. Road 3 was cleared for further work.

A total of twelve 2 m x 2 m squares were excavated: six on each side of the road (fig. 2). Most of the squares were excavated to a depth of 50 cm – 60 cm⁶. The Light Brown Sand (LBS), associated with the Stone Age levels, occurs at this lower depth. In this case, Middle Stone Age levels.

Each square has a high concentration of pottery, especially the eastern squares. The eastern squares are those areas that will be affected by the housing. The pottery decreases significantly along the northern and western squares, except for the Square 65 that has a small shell midden and complete pot (fig. 3). The pottery is thin-walled and undecorated. The pottery is currently being curated and a full description will be given in the final report.

Several daga (hut floor) fragments were observed during road scrapings and the excavations. These fragments tend to occur along the southern half of the excavations.

Both upper and lower grindingstones were excavated. Most of the lower grindingstones were fragmented. Squares 0 and 60 had concentrations of upper grinding stones in a possible pit.

Four glass trade beads were recorded from Sq. 40 (fig.4). Three beads were a maximum of 0.5cm in diameter. These can be described as follows:

- Round light pink (<0.5 cm in diameter)
- Round navy blue (<0.5 cm in diameter)
- Round white (<0.5 cm in diameter)
- Oblong opaque red with semi-cylindrical groove (~1 cm in diameter)

Three species of marine shell were present on the site: *Perna perna*, *Ostridaeae spp*, and *Patella spp*. These were located in Sq. 65 within, and underneath, a complete cooking vessel.

⁶ The mechanical scraper had already cleared approx. 20cm of topsoil.

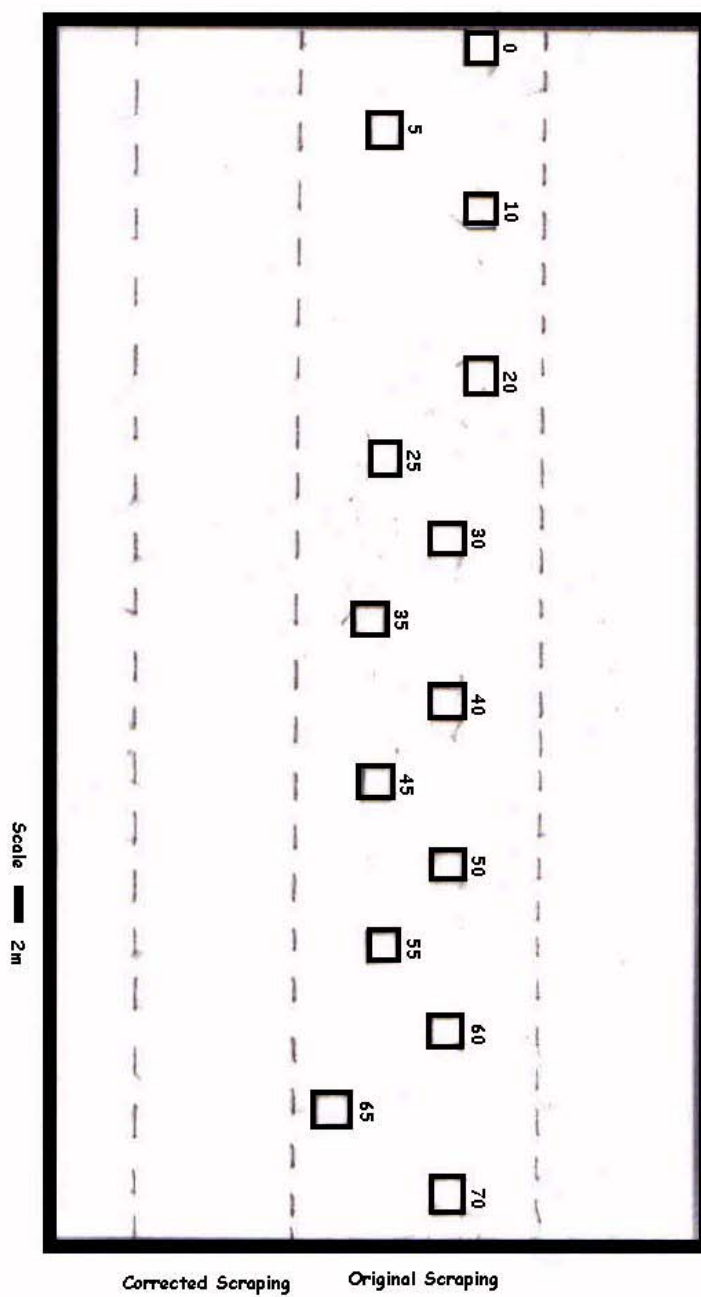
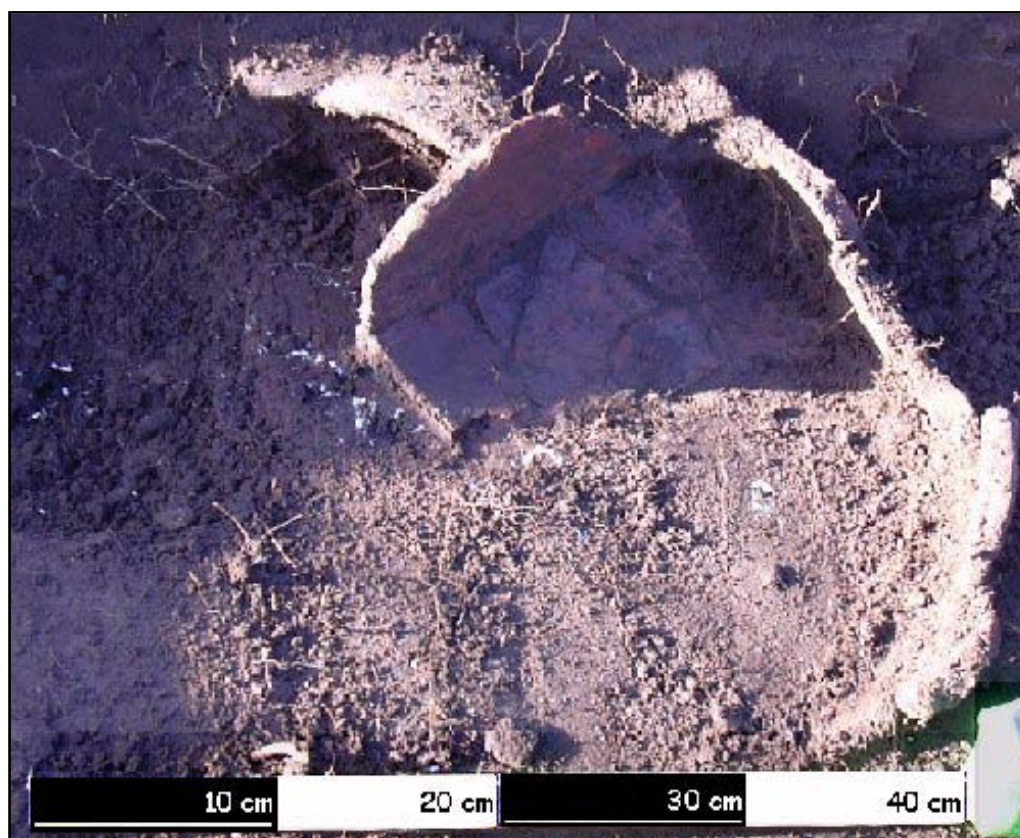
Fig. 2: Excavation Plan for Eku4

Fig. 3: Complete Pot at EKU4 Sq. 65



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Fig. 4: Glass Beads From EKU4



⁷ Scale is in centimetres

A few fragments of charcoal were observed in the upper layers, however these could be attributed to more modern burnings. We only sampled charcoal from the complete pot of Sq. 65.

The high density of artefacts suggests that a better sample will be recovered if further excavations were undertaken. The test-pits have thus recognised that the site is of significance and that further excavations will be required.

The only development that may occur on this hill is that for Road 3.

PED3

PED3 has been flagged as having high significance for the São João survivor's campsite. The campsite was for the 300 – 400 survivors of the shipwreck⁸. The campsite would thus be a substantial size, even if it were only for 12 days.

Three roads and two sewer lines were monitored at PED3. The roads are 2, 19 and 20. Excavations were undertaken at these roads (Figures 5 – 9).

We began the program with monitoring the mechanical scraper while it removed the upper layers at ~10cm per scrape. The scrape went to a maximum depth of 30 cm. Several artefacts were observed during this initial scrape. These include:

- A few fragments of porcelain,
- Potentially old glass bottles
- Iron Age pottery and grinding stones
- Late Stone Age stone tools
- Modern artefacts such as glass, fragments of ceramics from skeet shooting, bottles and metal objects.

The locations of the artefacts uncovered during the scrape were noted for the future excavations.

Road 2

We divided Road 2 into two areas that can be viewed as the northern and southern areas. A total of 13 squares were excavated in the southern area and 10 in the northern area. All of the squares are 2 m x 2 m squares and were excavated to various depths.

⁸ The São João had approx. 500 people on board, of which at least 120 died and were buried near Port Edward.

Fig. 5 General Excavation And Monitoring Map of PED3 In Relation To Designated Erf

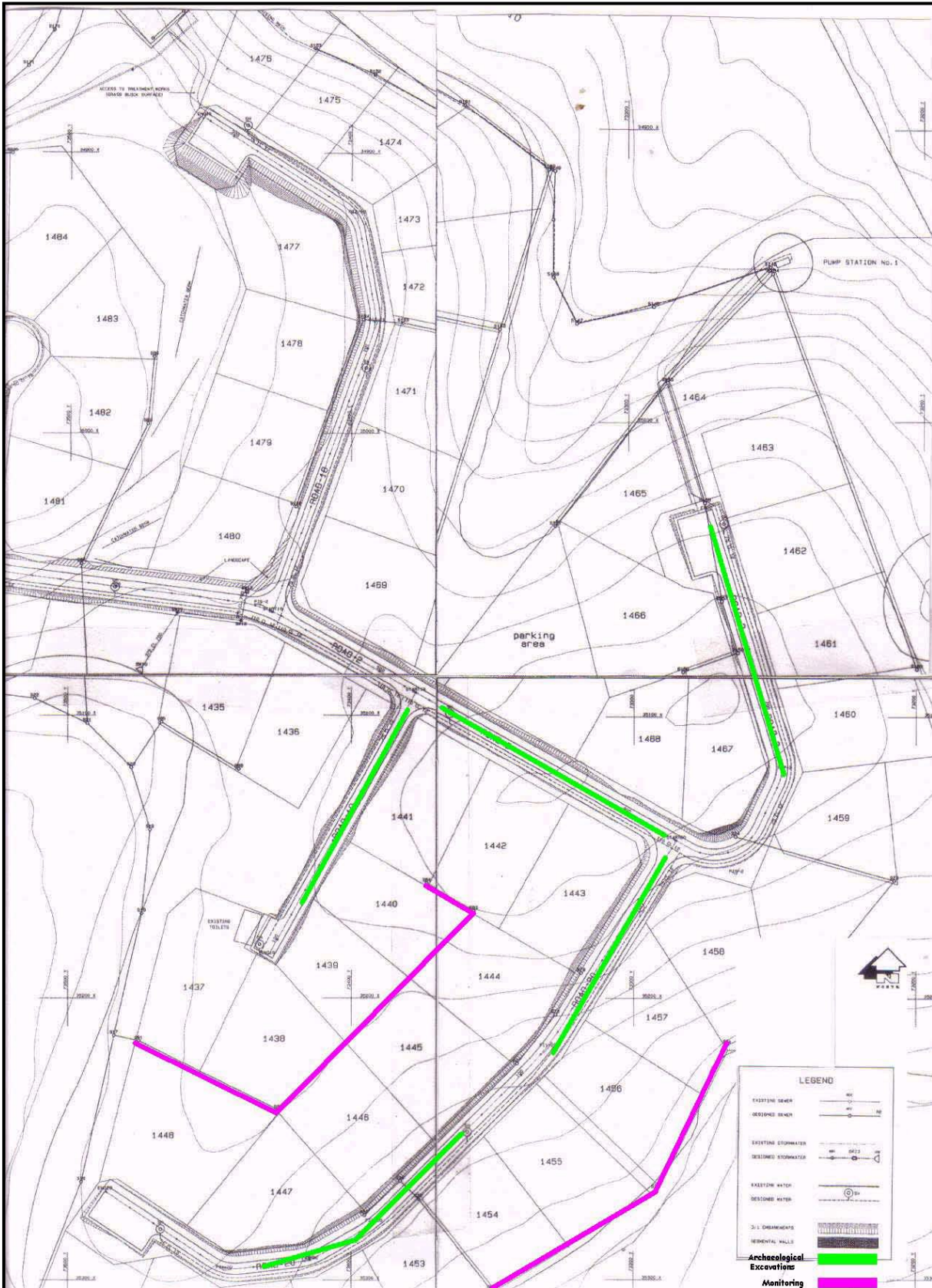


Fig. 6: PED3 Road 2 Southern Excavations

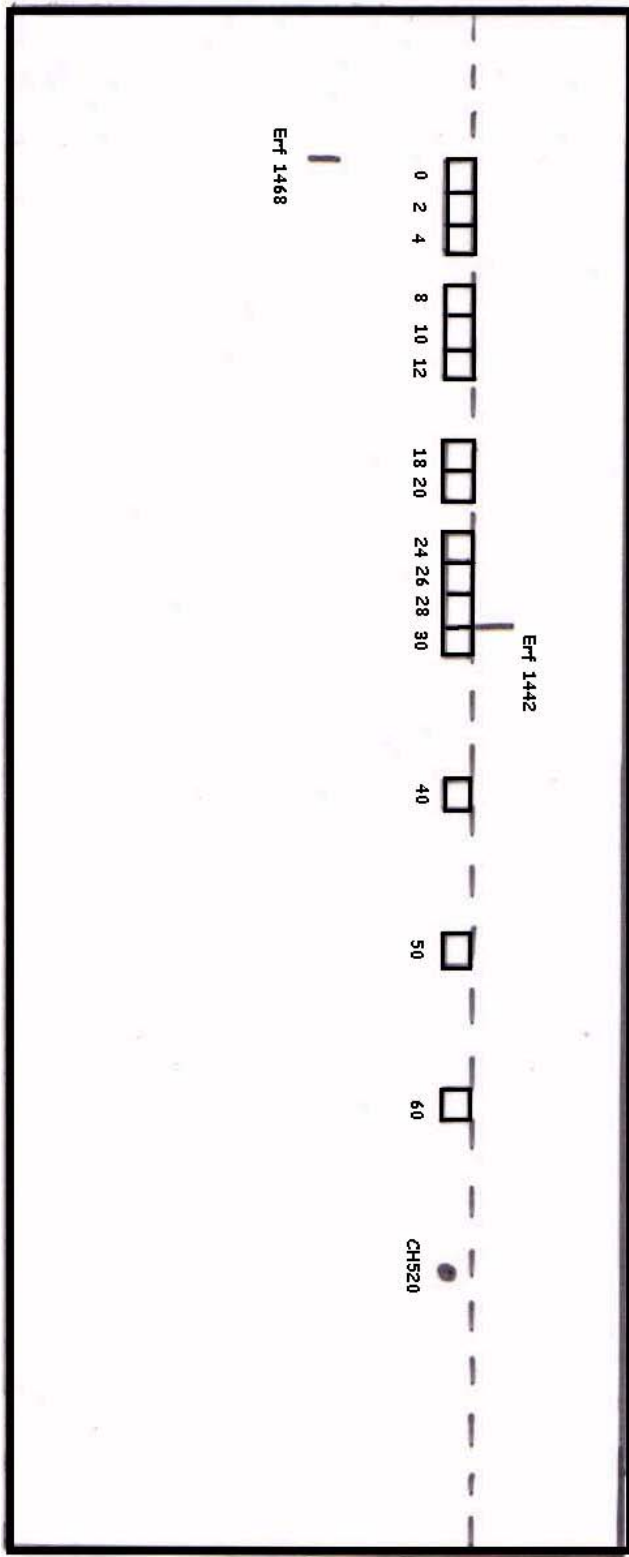


Fig. 7 PED3 Road 2 Northern Excavations

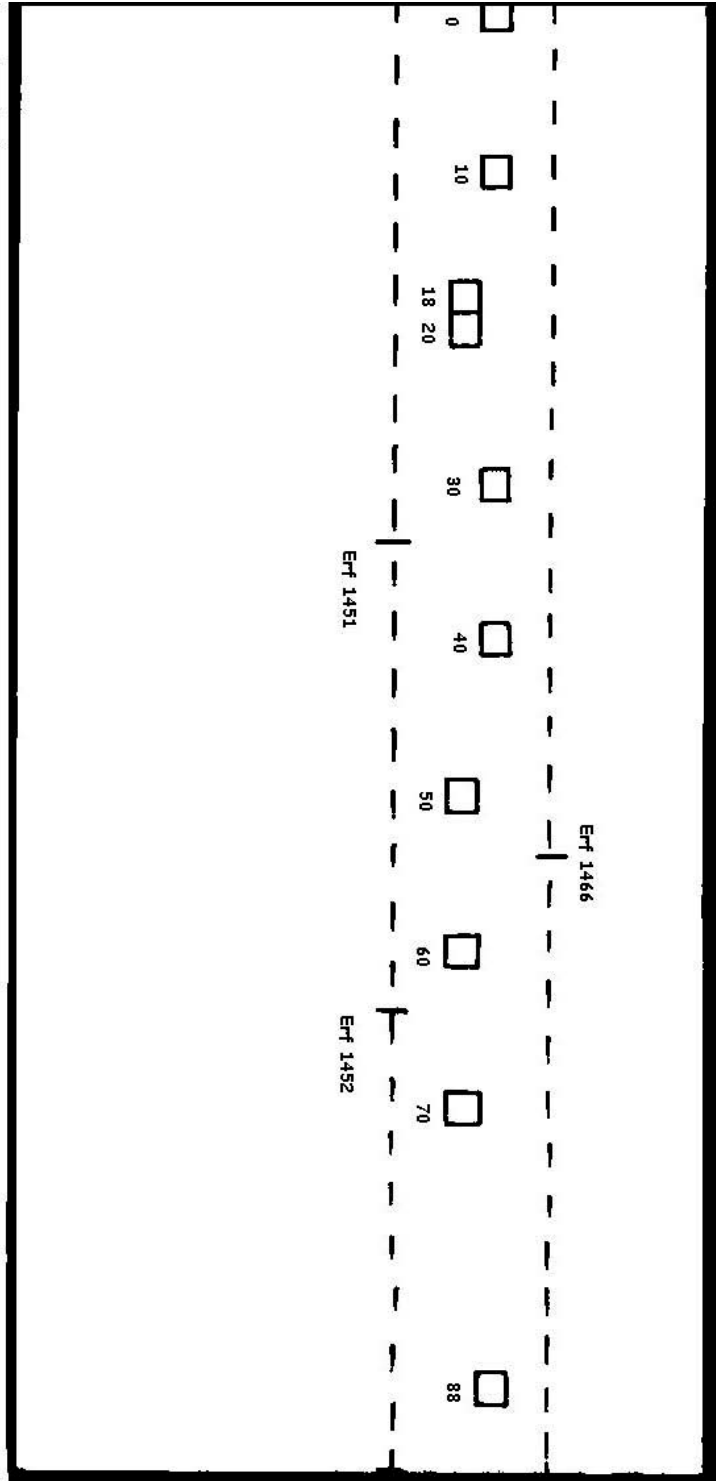


Fig. 8: PED3 Road 19 Excavations

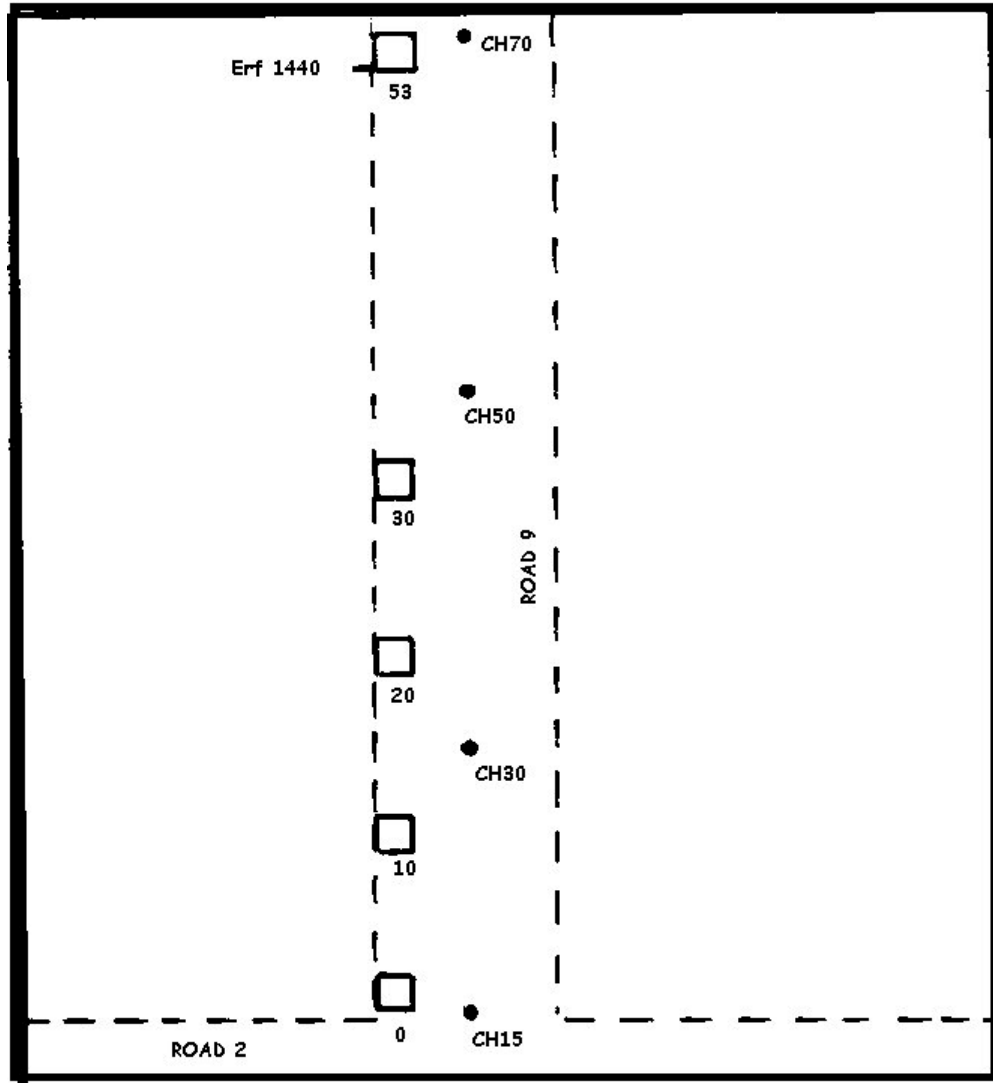
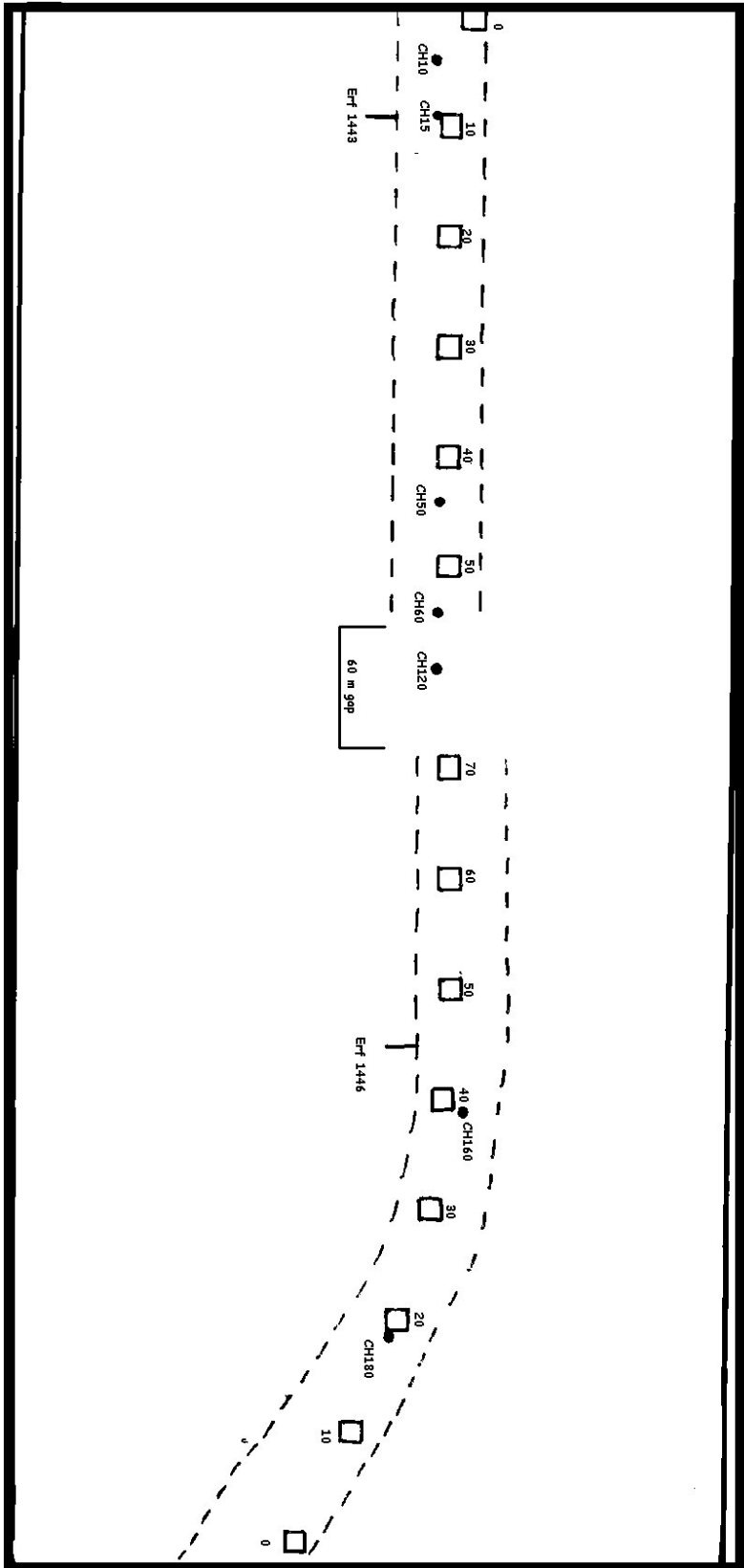


Fig. 9: PED3 Road 20 northern & Southern Excavations



The porcelain has the characteristic white background with blue images (fig. 10). The porcelain is similar to that of the Sao Bento and that reported by Maggs (1984). Four of these sherds are located along the southern part of Road 2, and none came from the northern part.

The porcelain was located either on the surface during the scrapings or in the first 10 cm of the excavations.

The Late Iron Age (LIA) pottery consisted of a few undecorated and thin-walled sherds. The pottery was found on the surface, but mostly in the upper 30 cm.

The grinding stones consisted mostly of upper grinding stones, however Sq. 20 had one lower grinding stone. This is a grinding stone used for maize.

Some faunal remains were recovered from Road 2. These remains are probably related to domestic cattle and are in association with the Late Iron Age occupation.

A few marine shell fragments were observed at Road 2. These were mostly brown mussels (*Perna perna*), whelk and oyster fragments. The brown mussel appears to be more recent in origin and probably dates to the last 20 years.

One glass bottleneck and rim was recovered during the bulldozing activity (fig. 11). The glass appears to be hand blown.

The most common occurring artefacts from this area are stone tools. These stone tools date to the Late Stone Age. None of these tools were formal tools⁹, and tend to be the general non-specific tools associated with coastal hunter-gatherer sites. The stone tool assemblage includes hammer stones, grinding stones and cores. The tools are made from locally available quartzite and shales, as well as the foreign cryptocrystalline silicates (CCS).

It is rare to find a LSA site with semi-intact features and such a high frequency of stone tools along the eastern seaboard. I have only recorded one other such site north of Richards Bay.

⁹ Formal tools are stone tools that have been modified to achieve a specific function or style

Fig. : Ceramics from PED3



* Ceramic with green print is probably recent and not related to the São João

Fig. Glass Neck And Rim From PED3, Road 2



Road 19

Road 19 occurs along the western parts of PED3. It is at the base of the small hill and borders a small wetland and stream.

A total of five 2 m x 2 m squares were placed on Road 19. These varied between depths of 30 – 60 cm below the new surface. The sterile, or LSA, LBS layer was consistently located between 40 cm and 50 cm below the surface. In this area, the LBS layer did not contain any LSA material.

Very few artefacts came from this road. These include a few upper grinding stones and one pottery sherd. Several modern artefacts did occur in this area, but they were not kept.

The decrease in artefact density, in comparison with Road 2, suggests that this is probably the edge of LSA, LIA and São João site. This relates to Road 2 (southern excavations) where squares 50 and 60 (the squares closer to Road 19) yielded very few artefacts.

Road 20

Two sets of excavations were placed along Road 20: north and south. These two excavations covered the southern and eastern borders of PED3. The northern excavations had a total of five 2 m x 2 m squares down to a depth of 40 – 50 cm. The LBS layers emerged below the 40 cm level.

Very few artefacts were recovered from the northern excavations. These yielded a few isolated LIA sherds and two São João-type ceramics. The ceramics were located in the area closest to Road 2 (fig. 10).

The southern excavations and monitoring yielded one old glass neck and rim and one São João-type ceramic bowl. These were located within 10 cm of the new surface. The soil in this area consists mostly of hard black clay. This soil probably softens in the wetter seasons where it probably becomes part of the wetland.

SEWER LINES AT PED3

The main sewer line at PED3 is situated along the eastern border, while a second line ran between Roads 19 and 20. A “backactor” (or excavator) was used to excavate the servitudes. These servitudes were monitored instead of excavated as the initial impact would be small (in

terms of width) and it was well suited for locating the mass burials and or features. We would also be able to obtain a long soil profile of PED3, which would assist in future excavations. Admittedly, we would not be able to observe the smaller artefacts with this method.

We did not observe any features or mass burials along these servitudes. The soils profile indicated the LBS layer is wind blown beach sand, and that the layers below consist of rocks and hard clay, or waterlogged soil. The waterlogged soil would not be conducive for the preservation of organic remains. The harder subsurface would make it difficult to excavate for mass burials. If any mass burials did occur in the area then they either would occur higher up the hills, or would be mostly eroded by the wetland.

The profile also indicated that the LBS layer is the lowest layer in which it was likely to find LSA material, and that any Iron Age (and subsequent Historical) material would occur above the LBS layer.

EKUBO ECO-ESTATE GENERAL MONITORING

Several areas outside of the demarcated areas were visited as potential human remains and/or artefacts were observed.

We undertook test-pit excavations at Road 5 as potential human bones were observed. The road works were halted in that specific area until the excavations were completed. These remains were from domestic cattle, and they probably relate to the nearby historical dairy.

Another area was examined between Roads 17 and 18 as potential human bones were reported. The analyses of these remains concluded that they were the faunal remains of domestic cattle.

DISCUSSION AND MANAGEMENT PLAN

The excavations yielded somewhat unexpected results. We were expecting to locate the São João survivor's campsite and mass graves. Instead, we uncovered significant LSA and LIA sites and little evidence for the São João campsite.

The LIA site at PED3 probably post-dates the São João shipwreck. The lower grinding stone from Sq. 2 was used to grind maize. Maize arrived in southern Africa after the mid-16th century. Thus, the São João campsite should occur between the LSA and LIA layers in this area. Clearly, no such layer was uncovered. The LIA artefacts from PED3 were of low significance and no further mitigation is required for this layer.

The general area of PED3 did yield artefacts from the São João ship. A total of six porcelain plates/bowls were recovered from PED3. In addition, Burger (2002) stated she found peppercorns and some ceramics in this area as well. The frequency of artefacts suggest that a site (the São João specifically) exists in this area. This area would have been defined as a site if it were an Iron Age site. The next question to ask is if the site is of any archaeological and historical significance? No one disputes the historical significance of the São João. The queries should focus on the archaeological significance. So far, no features, rare artefacts, spatial patterns, etc have been recorded. The frequency of artefacts is at the bottom end of the scale, and just makes the criteria for an archaeological site.

A second question to ask is if any features would remain in this area after the survivors left the camp. Of the 500 people, only approx. 300-350 people survived the wreck. They set up a temporary camp for 12 days of which they probably survived on the bare necessities possibly and shellfish and fish. The archaeological evidence would thus be in shell middens, possible livestock remains, large to small firepits. It is possible that they stacked, or stored, crates as part of a defensive structure and that crates or contents were left behind. An example of this would be the peppercorns and carnelian beads that have been located near PED3. While these features may exist, they were not located in any of the test pit excavations, monitoring and/or scrapings. The only features that were observed were those directly associated with LIA or LSA levels.

The last question to ask is if the organic remains would still remain so many years in an acidic soils. Many sites along the eastern seaboard lack organic remains as they corrode very fast. The organic remains tend to last for short periods only if they are surrounded by marine shell – normally a maximum of 600 – 800 years – and then they are poorly preserved. The organic remains from the São João, such as bones, are unlikely to be in a well preserved state. The only faunal remains that were located at PED3 were those from the LIA layers, that probably post-dated the São João.

In general, it would highly unlikely that one would be able to find evidence for the São João wreck, apart from in the form of a mass grave. One would literally need to excavate the entire hill to locate a few features. The evidence for the survivor's camp is sparse, however this is not

surprising, as very few sites would have much evidence of human occupation if they were only occupied for 12 days some 500 years ago.

The Late Iron Age site at EKU4 is of medium-high significance. It is rare to find LIA sites with such a high density of pottery and daga fragments. The site also included two stone features (from grinding stones), a shell midden with a complete pot, a few (and various) glass beads, and a high frequency of grinding stones. LIA sites, or specifically late LIA, tend to have fewer artefactual remains. The site also has a spatial component. That means, there are several features on the site that may yield spatial information.

This site requires further mitigation. Mitigation will be in the form of further excavations on the hill. The excavations should cover enough of the area in order to record the spatial features of the site and to salvage more artefacts. The excavations will occur in the individual properties and over the various parts of the hill.

The Late Stone Age site is the most interesting site of all the entire development. The site probably dates between 5 000 and 2000 years ago. It is rare to find an open LSA site that is still in primary context. That is, the site is not in an enclosed area, such as a cave, and it has the potential to have spatial features that may indicate the camp layout. Only one other LSA such as this site exists in Kwa-Zulu Natal (Anderson 2004). The site also occurs over a large area of PED3. This suggests that the site is extensive or that there are several occupational episodes. I believe that the Road 2 excavations were part of the centre of the site, as Road 19 and 20 found very few LSA artefacts.

The site also has a variety of stone tools made from various raw materials. Elsewhere, coastal LSA sites tend to have a low variety of tools and they tend to be made on similar raw materials.

The LSA site will require further mitigation. Mitigation will be in the form of excavations around PED3. The excavations should find the borders of the site and expose those areas that have high concentrations of artefacts. Several properties will require excavations and these are the properties in the PED3 area.

It is not possible to state the specific areas to be affected in each property, as the buildings will vary from house to house. I suggest a general approach be undertaken where a certain number of squares are excavated per plot. I suggest that at least four squares on each corner and one in the centre be excavated. In this way, each plot will be adequately sampled and the overall spatial plan

of each site may be viewed. Further squares may be excavated if deemed necessary. Furthermore, this type of excavation will indicate the sensitive areas of each erf. This approach should be used for EKU4 and PED3

In summary, PED3 and EKU4 still require further mitigation in the form of excavations. Both sites have significant archaeological horizons that would need to be sampled. These excavations should occur ahead of construction activities. PED2 is still a sensitive area and no work should occur in that area without archaeological approval. This is especially for the fencing and access roads.

REFERENCES

Anderson, G. and Anderson, L. 2004. The Archaeological survey of the Ekubo Eco-Estate. Umlando Report.

Burger, E. 2003. *Reinvestigating the wreck of the 16th century Portuguese galleon São João*. MA thesis submitted to University of Pretoria, Faculty of Humanities.

Maggs, T. 1984. The great galleon São João: remains from a mid-16th century wreck on the Natal south coast. *Annals of the Natal Museum* **26 (1)**: 173 – 186.