THE ARCHAEOLOGICAL EXCAVATIONS AT THE SIBAYA NODE 6 DEVELOPMENT

For

WALLACE & GREEN

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Abbreviations

HP	Historical Period
IIA	Indeterminate Iron Age
LIA	Late Iron Age
EIA	Early Iron Age
ISA	Indeterminate Stone Age
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
HIA	Heritage Impact Assessment
PIA	Palaeontological Impact Assessment

GENERAL AGE. GROUPS DATE

Period	Pottery Group	Associated language/people	Years ago
ESA	N/A	Foragers/hunter/gatherers	1.5 million - 250 000
MSA	N/A	Hunter gatherers	250 000 – 30 000
LSA	N/A	San Hunter gatherers	30 000 – 2 000
EIA	1	Mzonjani	1 700 – 1 500
EIA	2	Msuluzi	1500 - 1300
EIA...	3	Ndondondwane	1300 – 1100
EIA	4	Ntshekane	1100 - 900
LIA	5	Blackburn/Mpambanyoni	900- 700
LIA	6	Moor Park	700 - 500
LIA	7	Thembi-Tsonga	500 – 250/300
Historical	Groups 8,9	Mthiyane /Sokhulu	200 – present

ESA = Early Stone Age

MSA = Middle Stone Age

LSA = Late Stone Age

EIA = Early Iron Age

LIA = Late Iron Age

INTRODUCTION

Umlando was appointed by Wallace & Green to undertake archaeological excavations at three sites at the proposed Sibaya Node 6 development. The development is located at eMdloti; along the inland dune system and just south of the Mdloti River (fig. 1). The Node 6 will be mixed use development and the framework plan for that is being finalised.

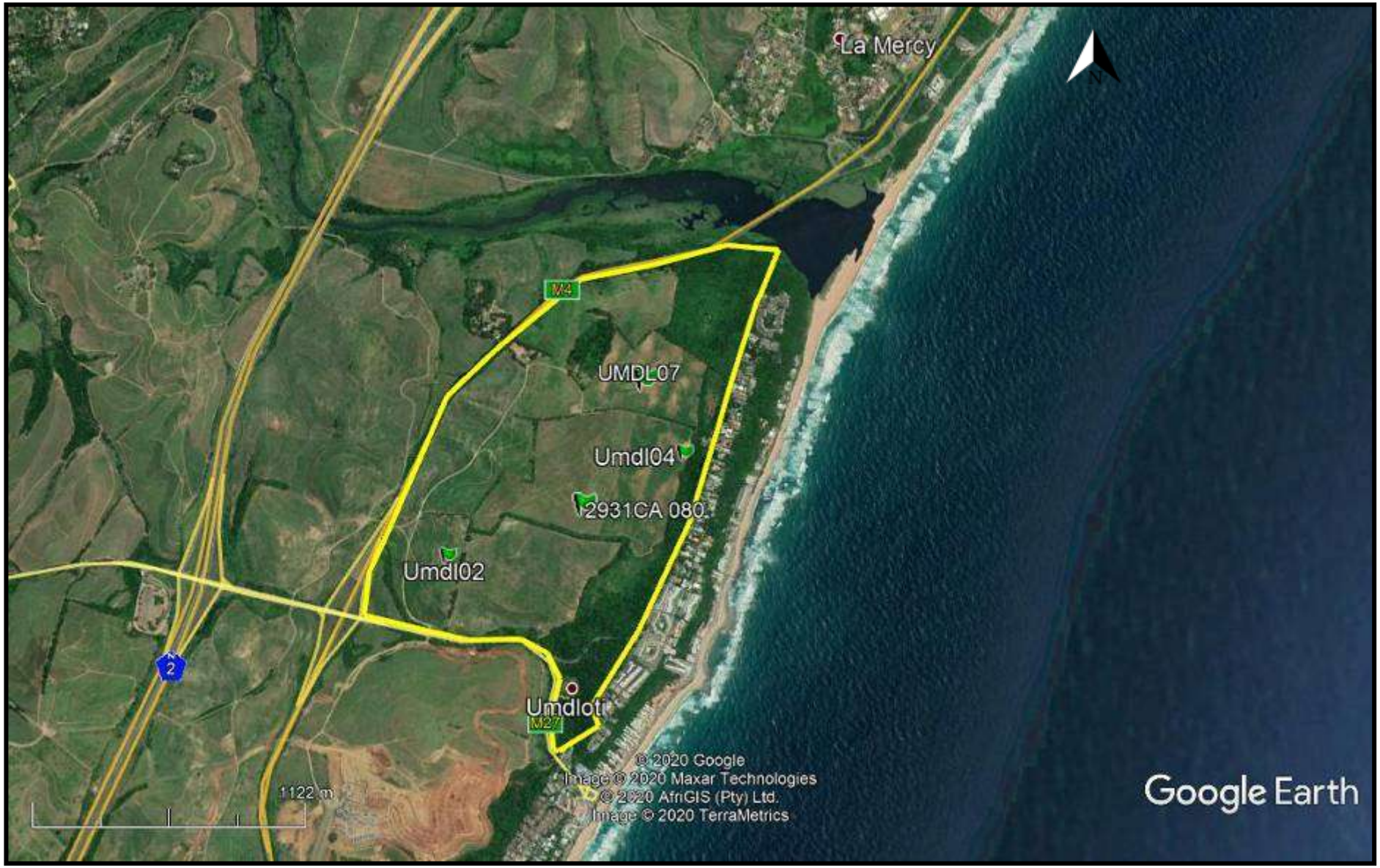
Development will consist of:

- deep excavations (1.5m+)
- pipelines
- roads
- buildings

The area has been under cultivation since the 1890s and initially formed part of Cotton Lands Farm. More recently it has been under sugar cane cultivation.

The heritage survey recorded twelve archaeological sites of which three require mitigation and four require re-assessment after the sugar cane has been removed. The palaeontology of the area falls under the highly to very highly sensitive category. The development will probably affect these layers during construction and will require some form of mitigation.

FIG. 1: LOCATIONS OF THE SITES



METHOD

Before excavations begin, I walk the site to determine areas of concentrated artefacts. These areas are flagged for potential excavations. A base line is then set up that roughly divides the site into two sides ('A' and 'B') and then 3m x 3m squares are marked for excavations. The numbering of the squares are then in relation to the base line and sides. For example:

- Square A30 will be on the base line at to the 30m mark
- Square A30.15 will be at base line 30m mark and 15mto the east
- Square A-20.20 will be 20m south of the 0m mark and 20m eastwards.

The flagged areas are then mapped according to the base line with the 3m x 3m square in the middle of that specific area. The excavations then proceed in 10cm spits, unless there is an obvious change in soil colour and/or content. All artefacts are then labelled according to the excavation squares and spit numbers.

Some curation of artefacts occurs on site when needed; however the main curation occurs in the office where the artefacts are cleaned, weighed, analysed, data-based, bagged and packed into storage boxes according to the requirements of KZNARI.

Shell middens tend to yield vast quantities of shell and artefacts. The middens are sorted for non-shell artefacts and the shell is not kept. However, the best examples of a shell midden are taken as a 'bulk sample' where all of the material is kept. These bulks are thus representative of that midden.

Rescue excavations aim to save a representative sample of a site for future research where it is not possible to neither excavate an entire site nor undertake detailed analyses of the artefacts.

EXCAVATION RESULTS

UMDL02

UMDL02 occurs on a small hill with a steep slope. The hill flattens to a spur to the south. UMDL02 was originally flagged as a site requiring further investigation after vegetation had been removed. The site assessment before excavations started noted a small area with a concentration of pottery and a shell midden. After heavy rains, we noticed a shell midden along the access track: UML02A. The midden was at least 50cm below the surface and was flagged for a test excavation. Figure 2 shows the location of the excavations.

Excavations & Stratigraphy:

A total of 14 3m x 3m squares were excavated (fig. 3 - 4). The maximum depth was 70cm below the surface; however, most squares were 40cm – 50cm deep. The first 20cm consists of surface, topsoil and sugar cane roots in a humic brown sand. The main cultural horizon occurs at around 30cm – 40cm deep in a dark brown sand. Some of the artefacts occur in Spit 5 where the sand tends to become light brown. On the eastern half of the site, the cultural deposit goes down to 70cm. Spit 1 – 5 are associated with the Blackburn Phase of the Late Iron Age Spits 6 – 7 are associated with Ntshekane Phase of the Early Iron Age. Spits 5 – 6 have a few shards from each phase in it.

The results of the excavations are given in Table 1 and Fig. 5. Table 2 shows the spatial results per square, while combining all the spits. Table 2 combines two different time periods in one square.

A total of 138.178kg of artefacts and ecofacts were recovered from the 14 excavated squares.

FIG. 2: GENERAL VIEW OF THE 2020 EXCAVATION AREA

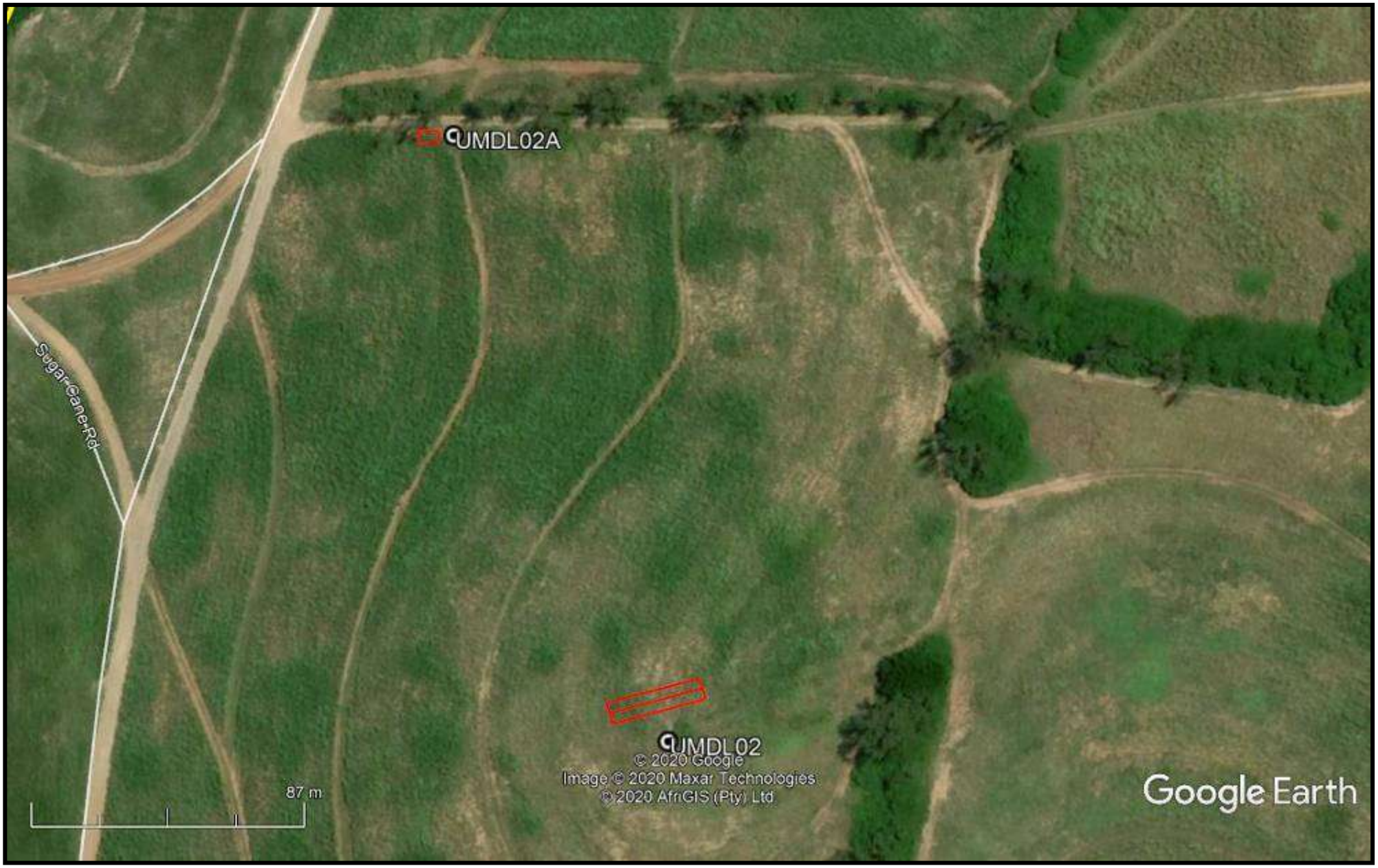


FIG. 3: GENERAL EXCAVATIONS AT UMDL02

FIG. 4: EXCAVATION PLAN OF UMDL02

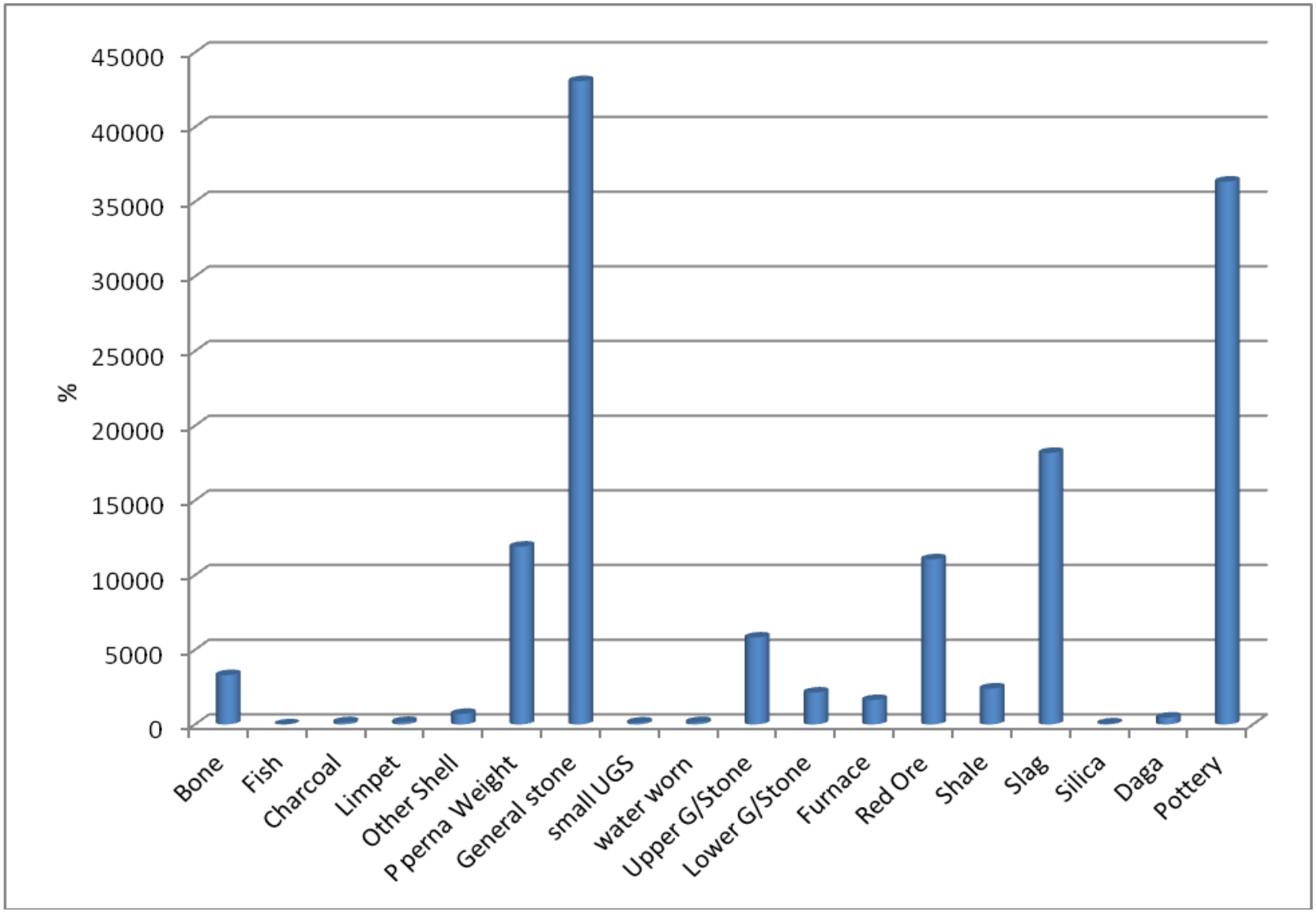
TABLE 1: SUMMARY OF TOTAL ARTEFACTS AT UMDL02

Organic	Bone	g	3300
	Fish	g	1
	Charcoal	g	140
Shell	Limpet	n	2
		g	160
	Other Shell	g	703
	P. perna	Left	37
		Right	36
	P perna Weight	g	11901
Stone	General stone	g	43066
	Small UGS	n	2
		g	118
	water worn stone		149
	Upper G/Stone	n	16
		g	5816
	Lower G/Stone	n	8
		g	2130
metallurgy	Furnace	g	1633
	Red Ore	g	11048
	Shale	g	2402
	Slag	g	18172
	Silica	g	56
	Daga	g	454
	Pottery	g	36343
	Soil sample	n	1
	Total weight	g	138178

TABLE 2: ARTEFACTS PER SQUARE AT UMDLO2

	Square		A0	A21	A24	A9	A4	A9	B12	B15	B18	B30	b30	B6	B9	C15	C9
Organic	Bone		60	62	922	1790	0	24	0	160	167	48	3	7.5	0	**50**	6.5
	Fish		0	0	0	0	0	0	0	0	0	0	1	0	0	**0**	0
	coal		12	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0
	Charcoal		0	0	0	0	0	0	10	116	1	0	3	0	0	**0**	10
Shell	Limpet	weight	0	0	0	0	0	0	0	0	0	160	0	0	0	**0**	0
	Other Shell		8	0	0	0	0	0	6	0	6	17	646	6	0	**0**	0
	P. perna	(grams)	0	0	0	0	0	0	0	0	1	4	11896	0	0	**0**	0
Stone	General stone	stone	6038	3040	2648	2652	478	7302	4362	3540	1858	218	905	1279	5066	**1102**	1862
	small UGS	weight	0	88	0	0	0	30	0	0	0	0	0	0	0	**0**	0
	water worn	stone	24	0	8	0	4	22	24	12	20	0	34	0	0	**0**	0
	Upper G/Stone	weight	0	44	0	746	0	1798	0	628	0	408	74	50	1064	**340**	664
	Lower G/Stone	weight	208	0	0	0	0	0	0	0	0	1536	122	264	0	**0**	0
Metallurgy	Furnace		0	26	30	132	0	32	15	204	228	0	0	182	410	**0**	266
	Tuyere		20	24	0	0	0	264	96	0	0	0	0	0	150	**0**	0
	Red Ore		106	572	360	254	0	2758	3556	168	1316	230	0	1612	66	**0**	50
	Shale		12	62	38	70	0	0	22	206	172	32	0	8	54	**844**	838
	Slag		1076	216	682	134	10	4518	3088	674	760	4	0	1702	1798	**368**	3142
	Flux		0	0	0	0	0	46	0	2	0	0	0	8	0	**0**	0
	Pottery	(grams)	1250	1851	4870	5730	260	5240	1718	2570	2920	690	80	1972	2176	**1106**	2968
	Daga		52	0	36	0	0	0	0	0	0	0	10	126	230	**0**	0
	Figurine		0	0	0	0	0	0	0	0	0	0	0	20	0	**0**	0

FIG. 5: TOTAL WEIGHT OF ARTEFACTS AT UMDL02



ORGANIC REMAINS

The faunal remains at the site consisted mainly of *Bos taurus*. Other faunal remains include bird and warthog/bush pig. The faunal remains were well preserved and many were still whole, especially for *Bos taurus*.

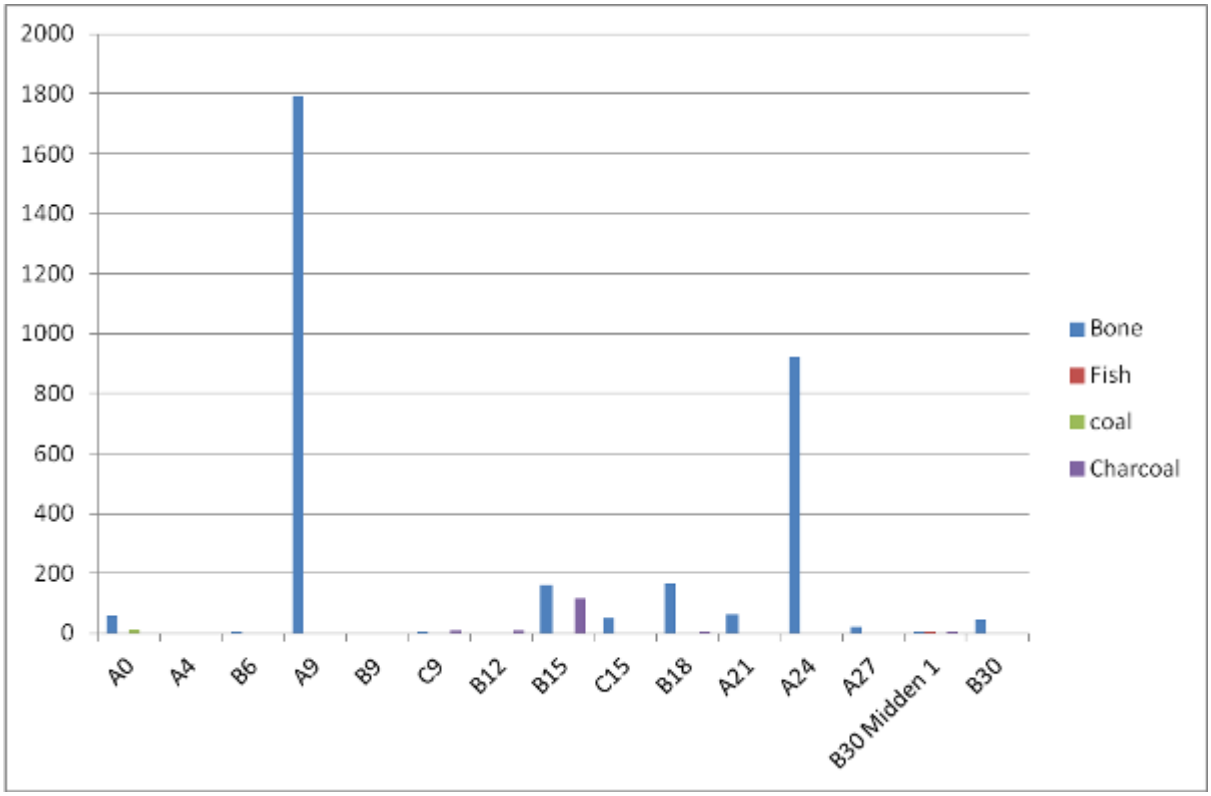
Fish remains were located in the shell midden. However 1 otolith was noted on the surface near sq A9. The fish appear to be small in size.

One piece of coal/anthracite was noted in Square A0, Spit 2. The coal may be associated with the site, or from more modern times.

Several pieces of charcoal were recorded throughout the site. The charcoal appears to be *in situ* and could be used for radiocarbon dating.

Most of the faunal remains come from Square A9 and then A24 (fig. 6). The former is associated with the Blackburn Phase while the latter is associated with the Nthsekane Phase.

FIG. 6: SPATIAL LOCATION OF ORGANIC REMAINS AT UMDL02



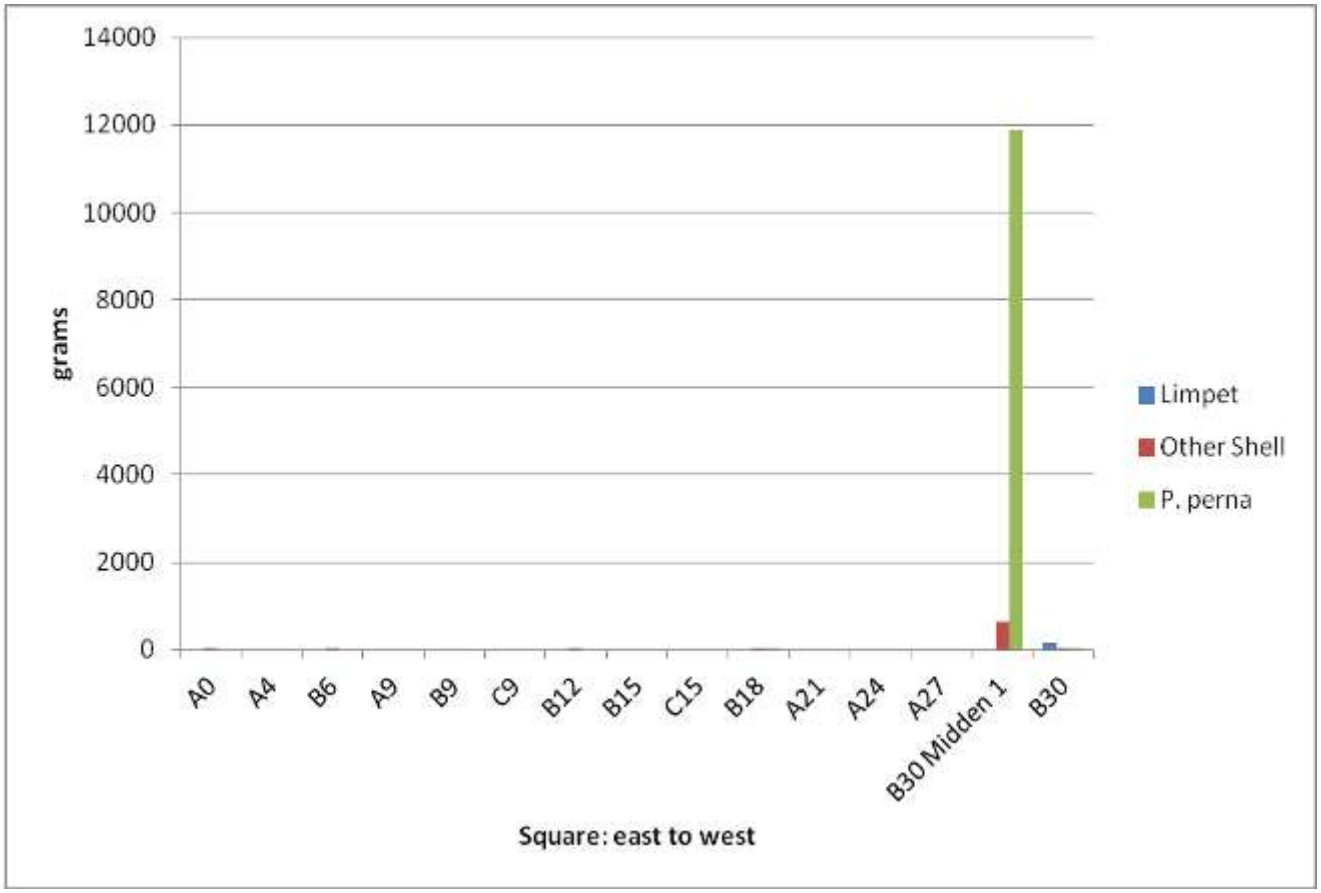
MARINE SHELL

Most of the marine shell came from Midden 1, Square B30. Midden 1 was a small midden that occurred in patches across Square B30 and B30 extension (fig. 7). Only 12.7kg of shell was excavated, which is small in comparison to the other sites. 127.5cm^3 buckets of Midden 1 were excavated. Midden 1 is almost exclusively made up from *Perna perna*. Oyster and limpets make a small portion of the marine shell, while a few whelks occur. The shell occurs mainly in the west, or edge of the site (fig. 8).

No measurable shell, from any species, occurred in Midden 1. This is a result of the midden being compressed.

FIG. 7: MIDDEN 1 AT UMDL02

FIG. 8: LOCATION OF MARINE SHELL AT UMDL02



STONE

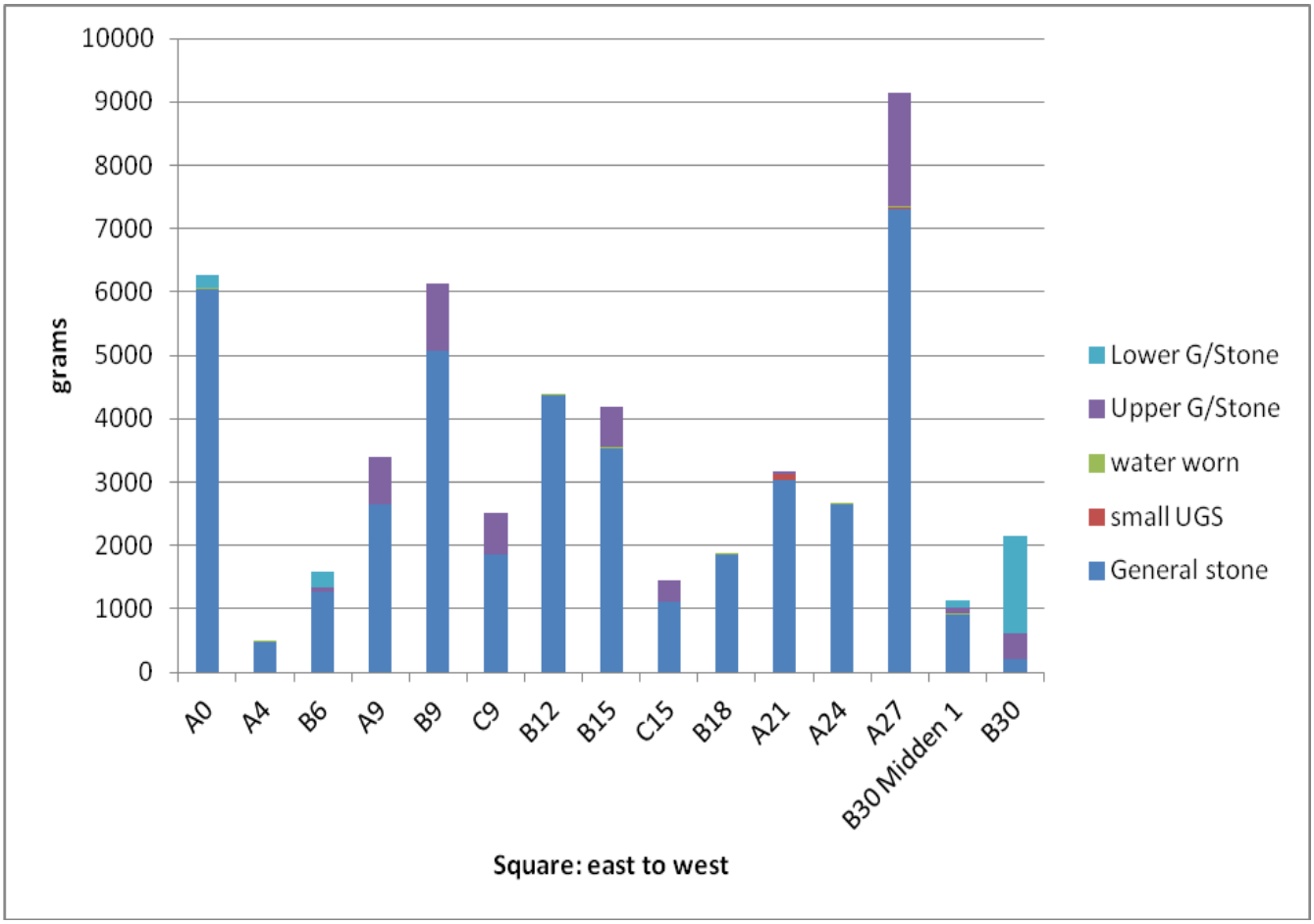
The stone category excludes iron ore used for metallurgical activity. It does include quartz and quartzite that occur as grinding stones, but were also broken and used as part of the flux.

'General Stone' is a term used for fragments of stone that are not recognisable tools. These would include fire cracked flakes, manuports, and broken grinding stones. These stones include quartz, quartzite, sandstone, and Cretaceous/Pleistocene beach. General Stone is the main type of stone at UMDL02 and 43kg was excavated. General Stone occurs nearly equally across the site (fig. 9).

Very few grinding stones occur at the site, and this is expected for an iron working area.

All of the water worn stone comes from Midden 1.

FIG. 9: LOCATION OF STONES AT UMDL02



METALLURGY

Fig. 10 shows the total results for metallurgy at UMDL02. Fig. 11 shows the spatial relationship of the artefacts across the site.

No intact furnace was recorded; however several fragments of fire burnt clay were noted. This could be a result of ploughing activity, or the furnaces were broken after use. Most of the furnace fragments occur in the centre of the site. Furnaces in KZN Late Iron Age tend to be pairs of oval shaped clay structures varying in size and depth. Given the amount of slag left at the site, there should be several furnaces, but this is not the case.

'Red Ore' is a generic term for iron ore that contains a lot of hematite. It is the most favoured iron ore at UMDL02.

FIG. 10: METALLURGICAL ARTEFACTS AT UMDL02

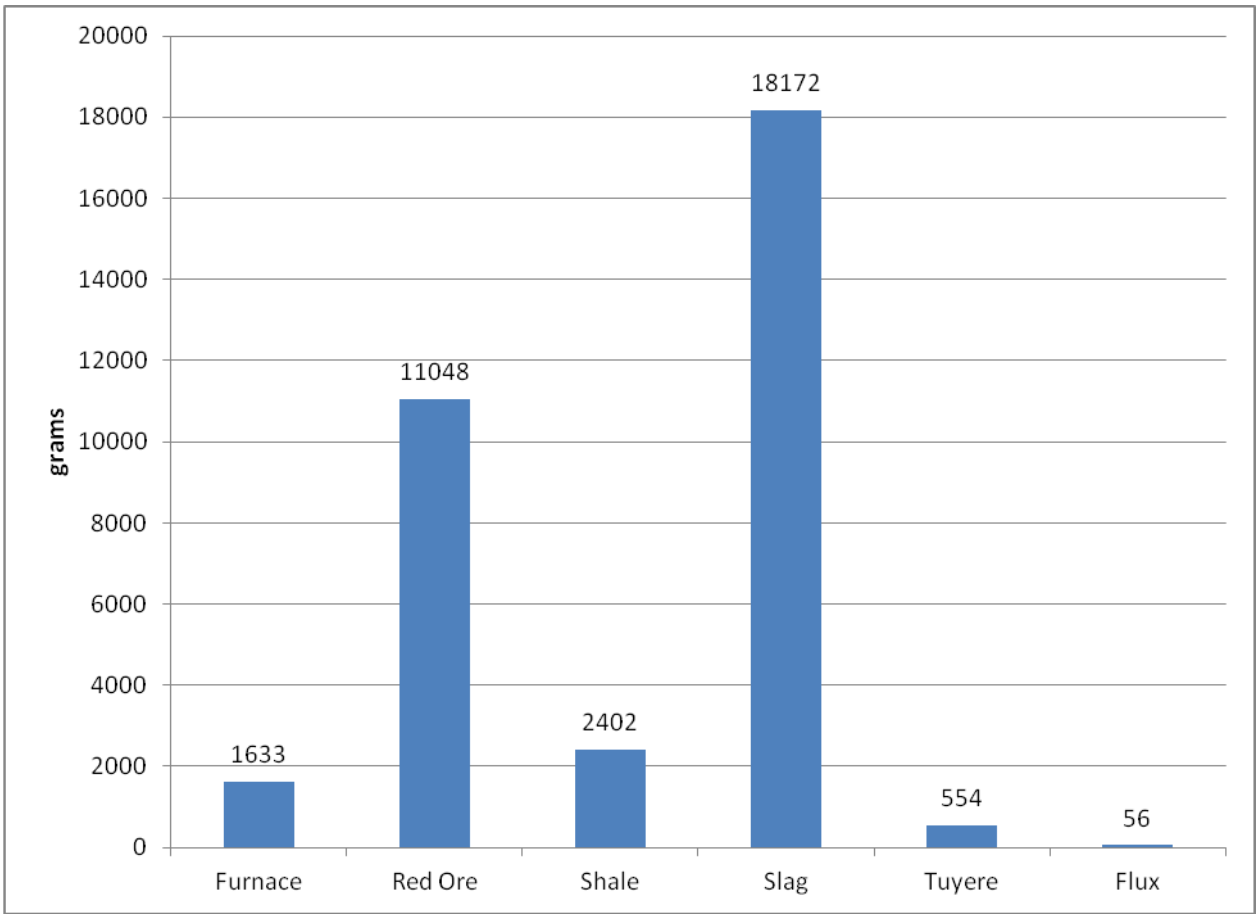
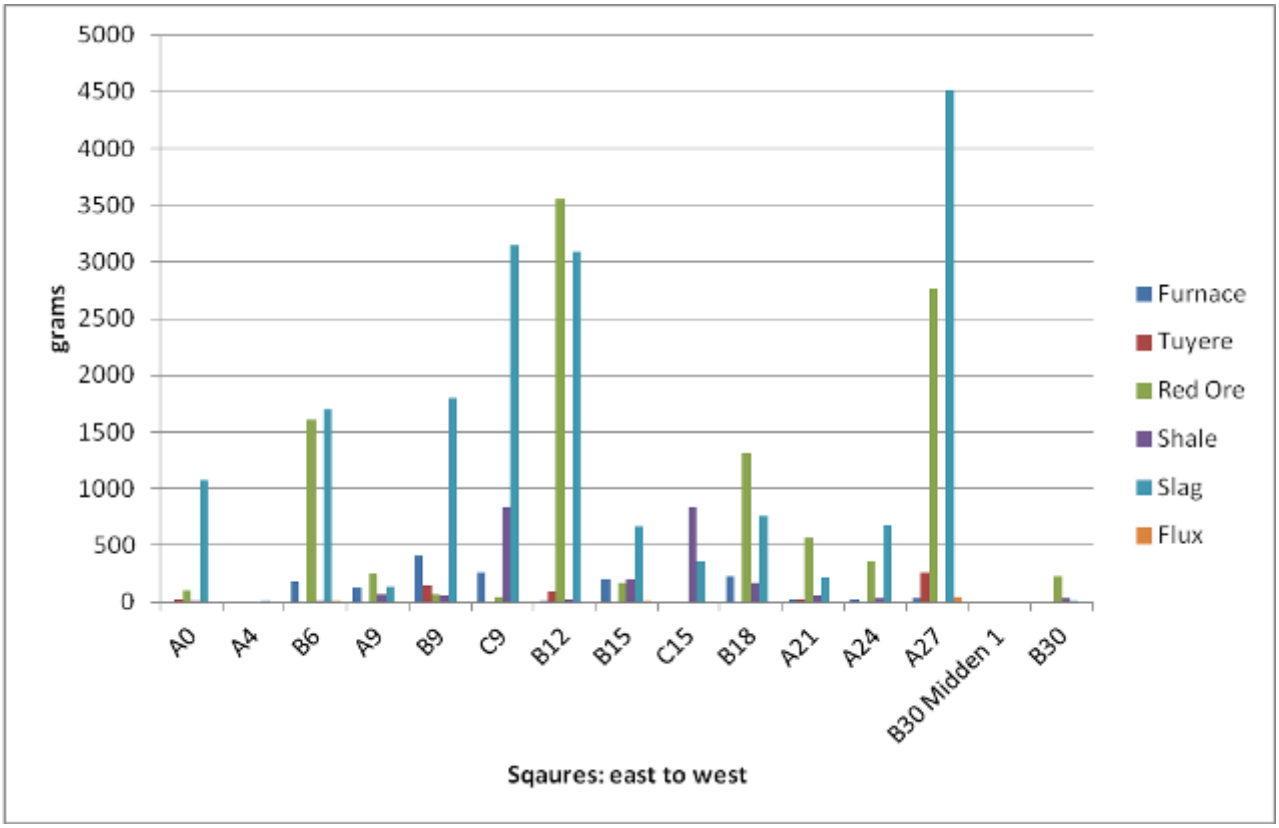


FIG. 11: METALLURGICAL ARTEFACTS PER ASQUARE AT UMDL02



Shale appears to have been used either as a source of iron ore, or part of the flux. It occurs in small quantities at the site.

Slag is the most common occurring metallurgical artefact at UMDL02. A total of 18.172kg of slag was excavated. Slag, and bloom, is the end result of iron smelting and this is then smithied into artefacts. The slag varied in size and shapes (fig. 12) and appears to be of very high quality. Some of the slag appears to be bloom as it has the characteristic shape, and impressions, of being left in the sand to cool down. The concentration of slag, within the small area of the site, suggests that this was a highly used iron smelting site.

FIG. 12: EXAMPLES OF SLAG AT UMDL02

Flux is the additives used in iron smelting to remove impurities from the iron. The flux separates from the bloom and can create chunks, or rivulettes, of blue or green glass. Often quartz and/or quartzite is crushed and used as the flux. Fig. 13 shows an example of the end product of flux (see fig. XX for a broken piece).

FIG. 13: FLUX AT UMDL02

Tuyeres are the pipes that attach to the bellows, to blow oxygen into the furnace to increase the heat. The tuyeres are often covered in flux or molten iron at the lower half and this results in well preserved complete artefacts. This is not the case at UMDL02, where most of the furnaces and tuyeres are broken (fig. 14).

FIG. 14: TUYERE FRAGEMENT FROM UMDL02

POTTERY

The pottery decorations at UMDL02 suggest two distinct occupations. The Ntshekane pottery is located in Spits 6 – 7, while the Blackburn pottery is located in Spits 1 -5. There is some mixing in Spits 5 and 6, and this is due to the downward slope around Squares A27.

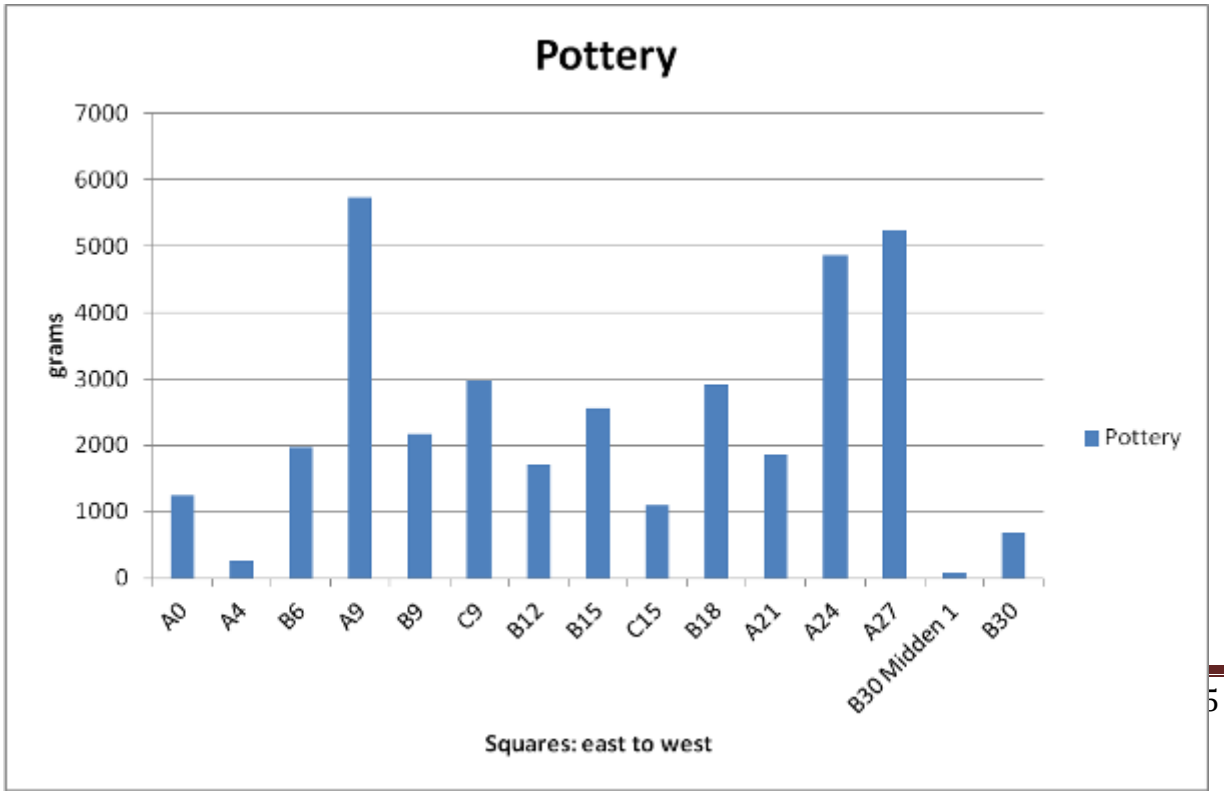
Ntshekane pottery is defined by fine cross hatching around the neck of the pot and it is dated to the end of the EIA (fig. 15). The Blackburn pottery is very different and is noted for a variety of lip notching and circular impressions on the neck and/or body of the pot (fig. 16). The pottery is typical pottery as described at the site Blackburn (Davies 1971).

The Ntshekane pottery is only found along the western part of the site (fig. 17): From Square 21 – 27: it does not occur under Midden 1.

FIG. 15: NTSHEKANE POTTERY AT UMDL02

FIG. 16: BLACKBURN POTTERY AT UMDL02

FIG. 17 POTTERY PER SQUARE AT UMDL02



UMDL02A

At the base of the hill, 200m northwest of UMDL02, was a shell midden that had been exposed by recent rains and a track cutting. It initially appeared to be different so I placed one test square. The midden occurs 50cm below the surface and occurs within a hard clay soil (fig. 18). The previous middens all occur well above this clay layer. A total of 4.5kg of shell was removed of which 99% was *P. perna*. Some oyster did occur. Two grinding/hammer stones and a quartz medium side scraper were recorded from the midden. The scraper is important as it dates the midden to the Late Stone Age.

FIG. 18: MIDDEN AT UMDL02A

GENERAL DISCUSSION

UMDL02 is an iron smelting site that mostly dates to 700 - 900 years ago. The large amounts of slag indicate that it was a significant iron smelting site, and it is also the first one of this age to be excavated in the general area. The lack of complete furnaces and tuyeres is interesting as most of the iron smelting layers occur below the depth of a plough blade (unless larger blades were used).

The food remains are of mostly domestic cattle and *P. perna*. The amount of remains is not much, but this is to be expected as iron smelting sites are not domestic sites.

The occurrence of Ntshekane pottery is of special importance. The Ntshekane Phase is the final phase in the Early Iron Age and dates to 900 – 1100 years ago. One of the main Iron Age academic debates involves the transition form the Early Iron Age to the Late Iron Age. One side argues that the transition occurs because of an influx of a new cultural group that replaced the previous group. The change was abrupt where there is a sudden change in pottery styles that are reflective of language. The other side argues that change came from within the community and not as a result of a new culture. The occurrence of Ntshekane pottery directly below the Blackburn layers would favour the former argument. However, the sample size at the site is very small for the Ntshekane occupation and only occurs between Squares 23 - 29. It appears as if there are just 3- 4 pots in total representing this phase. Faunal remains can be for radiocarbon dating, and both pottery phases have associated remains. The site thus has academic relevance.

UMDL07

UMDL07 occurs ear the top of the hill overlooking the Mdloti River (fig's 19 -20). The site consists of several scatters of shell and pottery on a gentle slope and over a

100m by 50m area. The area has been under sugarcane cultivation since the 19th century.

FIG. 19: GENERAL LOCATION OF UMDL07

FIG. 20: GENERAL VIEW OF UMDL07

Excavations & Stratigraphy:

The site is a single occupation site with the main cultural horizon at 30cm – 50cm. The first 20cm – 30cm consists of surface, topsoil and sugar cane roots in a humic brown sand. The main cultural horizon occurs at around 30cm – 40cm below the surface in a dark brown sand. Some of the artefacts occur in Spit 5 where the sand tends to become light brown. In a few squares there is a harder red sand in Spit 5.

A total of 15 3m x 3m squares were placed around the site (fig. 21). One square was placed ¬200m form the main site to test the occurrence of a potential site. The latter square has marine shell and faunal remains on the surface, however there was no cultural horizon.

The main excavation targeted shell middens and areas of high pottery concentrations. Square A0 occurs near the top of the hill, while Square A90.3 occurs at the base of the slope. The excavations ran in a general south-north orientation. Twos squares yield no material.

The results of the excavation are given in Table 3 and Fig. 22. Table 4 shows the spatial results per square, while combining all the spits.

A total of 126.0825kg of artefacts and ecofacts were recovered from the 14 excavated squares.

FIG. 21: EXCAVATION PLAN OF UMDL07

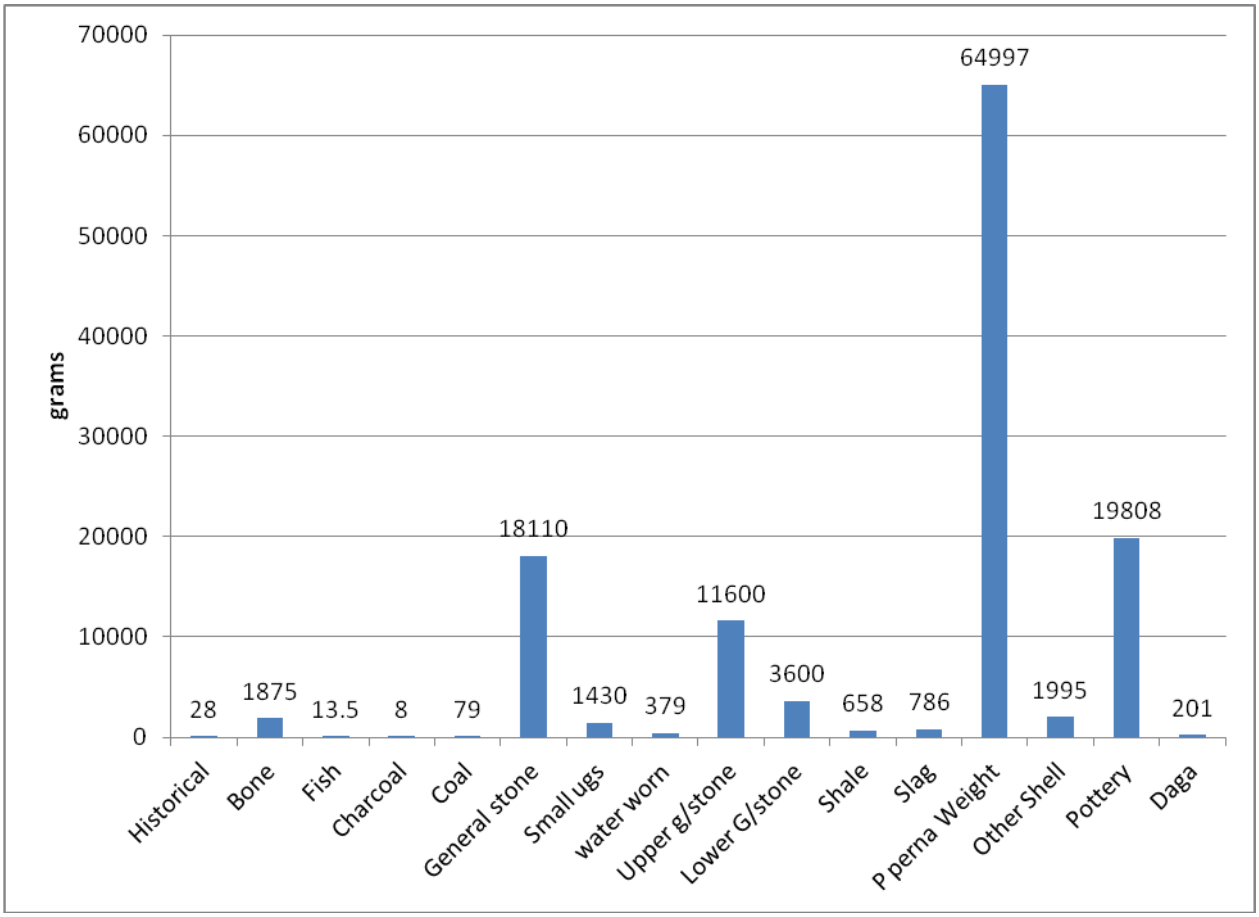
TABLE 3: SUMMARY OF TOTAL ARTEFACTS AT UMDL07

	Historical	n	3
		g	28
Organic	Bone	g	1875
	Fish	g	13.5
	Charcoal	g	8
	Coal	g	79
Stone	General stone	g	18110
	Small UGS	n	10
		g	1430
	Water worn stone		379
	Upper G/Stone	n	23
		g	11600
	Lower G/Stone	n	7
		g	3600
Metallurgy	Shale	g	658
	Slag	g	786
Shell	P. perna	Left	355
		Right	346
	P perna Weight	g	64997
	Other Shell	g	1995
	Pottery	g	19808
	Daga	g	201
	Total weight	g	126082.5

TABLE 4: ARTEFACTS PER SQUARE AT UMDLO7

Square	Historical	Bone	Fish	Charcoal	Coal	General Stone	Small UGS	Water Worn	Upper G/Stone	Lower G/Stone	Shale	Slag	Other Shell	P. Perna	Pottery	Daga	Weight
A0	0	4	0	0	0	320	0	0	0	0	48	0	42	0	994	0	1408
A13.16	28	412	0.5	0	0	5282	174	16	2746	0	28	0	218	0	2926	16	11846.5
B32.9	0	152	0	0	0	3840	482	0	0	474	299	0	116	0	1668	0	7031
B44.10	0	1	0	0	0	146	0	0	864	0	5	738	0	0	1008	124	2886
B50.9	0	56	0	0	0	118	0	0	398	0	0	0	36	0	1740	0	2348
A55.2	0	236	2	3	4	2238	352	268	3598	4	0	0	527	42571	1994	2	52033
A62.7	0	10	0	0	0	668	0	0	700	0	0	0	30	0	810	0	2218
A76.13	0	200	0	0	0	924	0	0	0	458	0	0	561	0	1764	0	3907
B60.9	0	44	0	0	0	644	0	0	698	0	0	0	0	0	270	0	1656
B63.3	0	4	0	0	0	290	206	24	0	0	0	8	34	0	474	0	1040
B73.6	0	742	11	5	75	3116	60	57	1410	2664	278	40	303	22426	4416	59	35943
A90.3	0	14	0	0	0	524	156	14	1186	0	0	0	128	0	1744	0	3766

FIG. 22: TOTAL WEIGHT OF ARTEFACTS AT UMDL07



HISTORICAL ARTEFACTS

Two shotgun cartridge bases were recorded in Spit 1. They are Eley-Kynoch 12 bore ICE and date to the 1940s (fig. 23).

FIG. 23: SHOTGUN CARTRIDGE AT UMDL07

ORGANIC REMAINS

Figures 24 and 25 summarise the organic remains from the excavations. Most of the organic remains are from faunal remains. The faunal remains tend to be located in the shell middens. The most common faunal remains are *Bos taurus* (fig. 26), with a few bird and small bovid. The small bovid is probably goat. The faunal remains are well preserved.

Fish remains are in the form of the vertebrae. They only occur in, or near, the shell middens. This is probably a result of the excavations as shell middens are excavated by trowels and sorted in the office, whereas normal excavations are undertaken with a spade.

Very few pieces of charcoal were excavated. All charcoal from the Spits 1 – 3 were ignored due to sugar cane burning practices. Only charcoal from shell middens or a feature was sampled.

One piece of coal/anthracite was excavated from Spit 2. It is probably intrusive and not part of the site.

FIG. 24: ORGANIC REMAIN TOTAL WEIGHTS FROM UMDL07

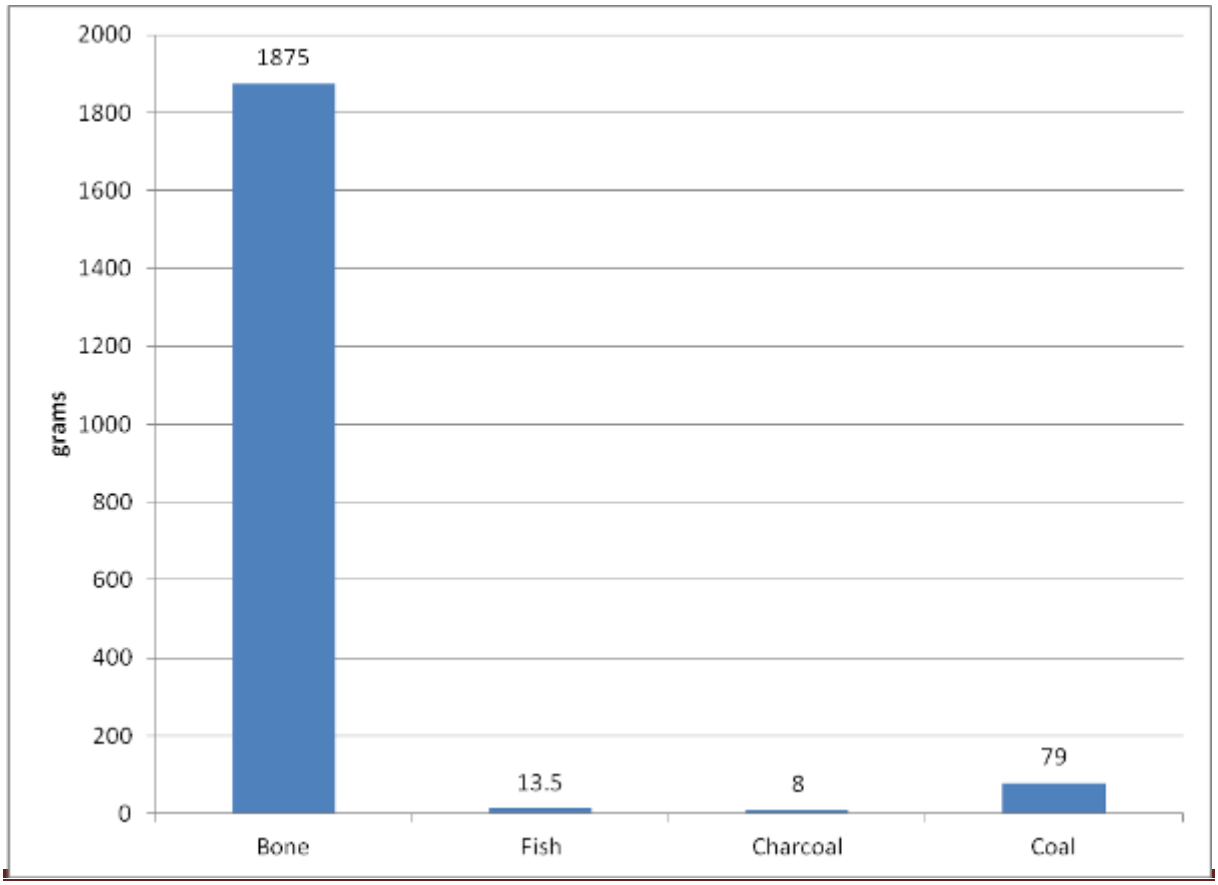
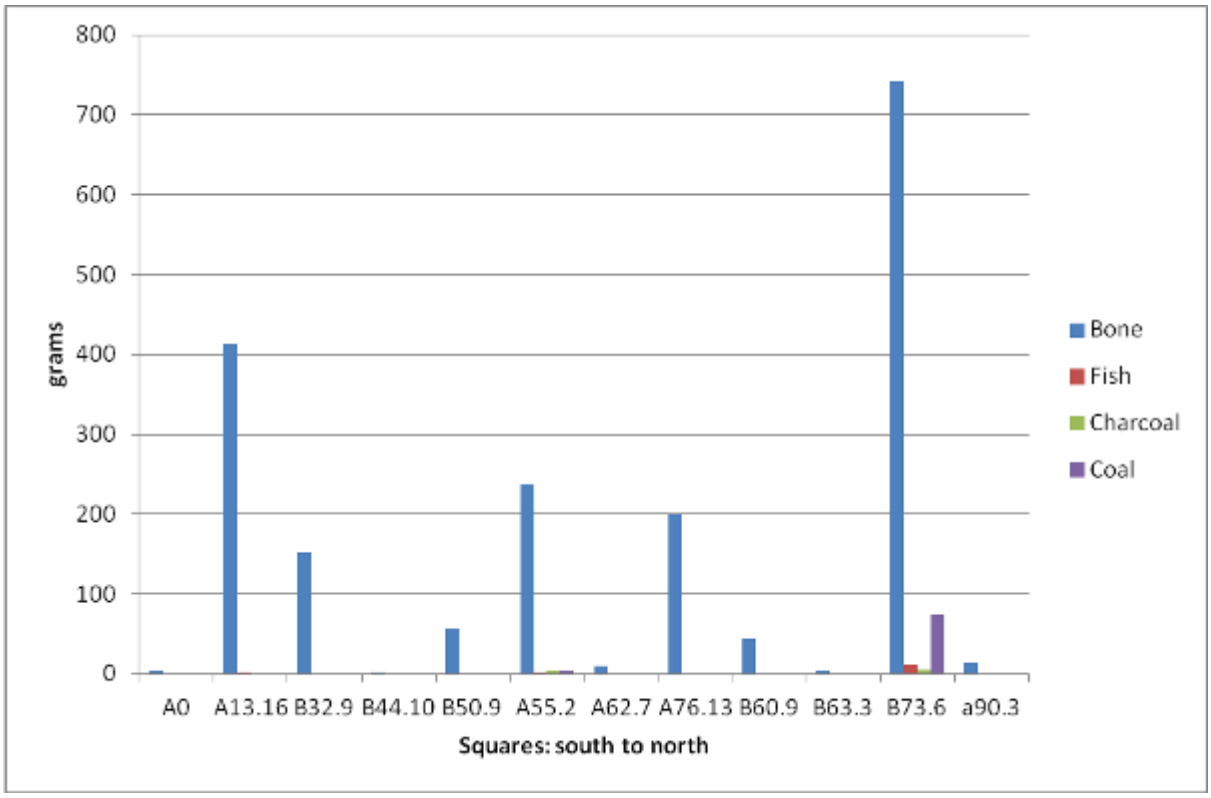


FIG. 25: SPATIAL LOCATION OF ORGANIC REMAINS AT UMDL07



MARINE SHELL

Two shell middens were excavated from Squares Sq A55.2 and Sq. B73.6. Both middens covered most of the 3m x 3m square and were a maximum depth of 10cm. Midden 1 was a semi-compacted lens (fig. 26) with 187cm^3 of shell. Midden 2 was a very compacted lens with 120cm^3 of shell (fig. 27). Both middens consist of very broken shells. Both middens are predominantly *P. perna* with a small percentage of P*atella (Scutellastra) longicosta* and a few *Patella (Scutellastra) barbara*. Oysters, and whelk did occur but in very small numbers. Figures 28 and 29 shows the species differences and general location of the shellfish remains.

FIG. 26: MIDDEN 1 AT UMDL07

FIG. 27: MIDDEN 2 AT UMDL07

FIG. 27: SHELLFISH SPECIES AT UMDL07

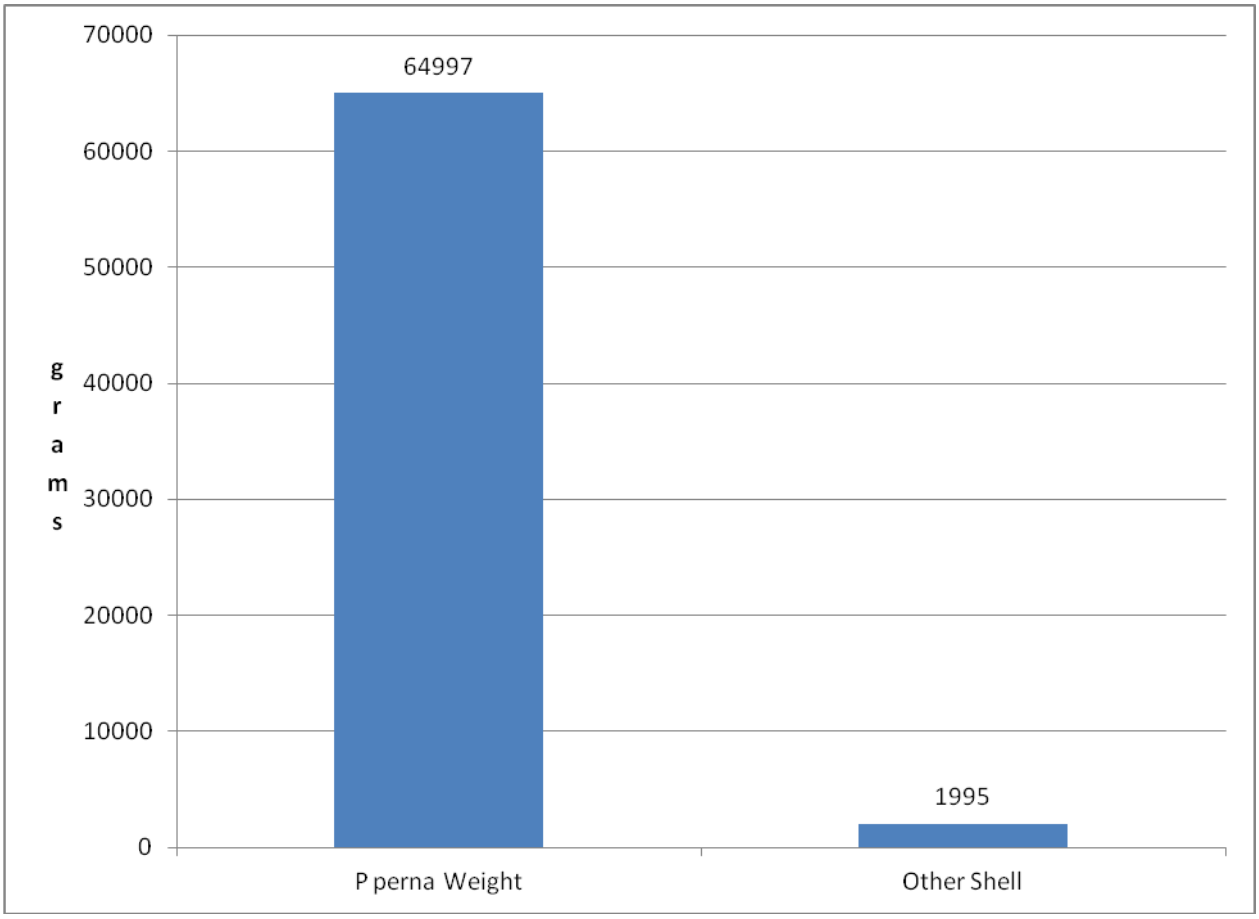
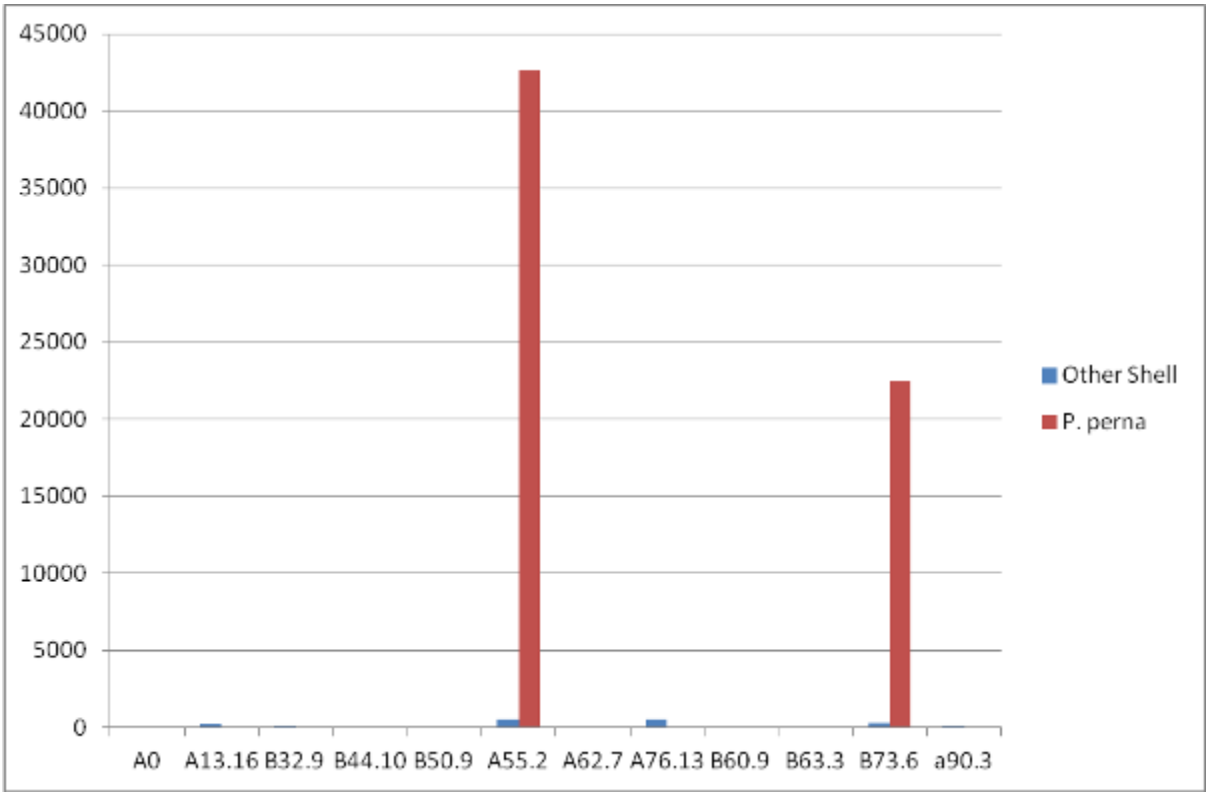


FIG. 28: LOCATION OF MARINE SHELL AT UMDL07



STONE

The stone category excludes iron ore used for metallurgical activity. It does include quartz and quartzite that occur as grinding stones, but were also broken and used as part of the flux.

Figures 29 – 30 show the types of stones excavated at UMDL07 and where they were located. 'General Stone' is a term used for fragments of stone that are not a recognisable tool. These would include fire cracked flakes, manuports, and broken grinding stones. These stones include quartz, quartzite, sandstone, dolerite and Cretaceous/Pleistocene beach. General Stone is the main type of stone at UMDL07 and 18kg was excavated. General Stone occurs nearly equally across the site.

Small grinding stones are stones that are used for polishing pottery and floors or crushing plants for medicinal purposes. Only 10 of these were excavated.

Several upper grinding stones were excavated at the site. These tend to occur across the site. A total of 23 upper grinding stones were excavated.

All of the water worn stone comes from the shell middens. These are the small stones that are normally attached to *P. perna* or general beach pebbles.

Lower grinding stones are made from dolerite, Cretaceous/Pleistocene beach and/or sandstone. They are be used for grinding sorghum, softening shellfish meat, etc. Only 7 broken grinding stones were excavated.

FIG. 29: TYPES OF STONES AT UMDL07

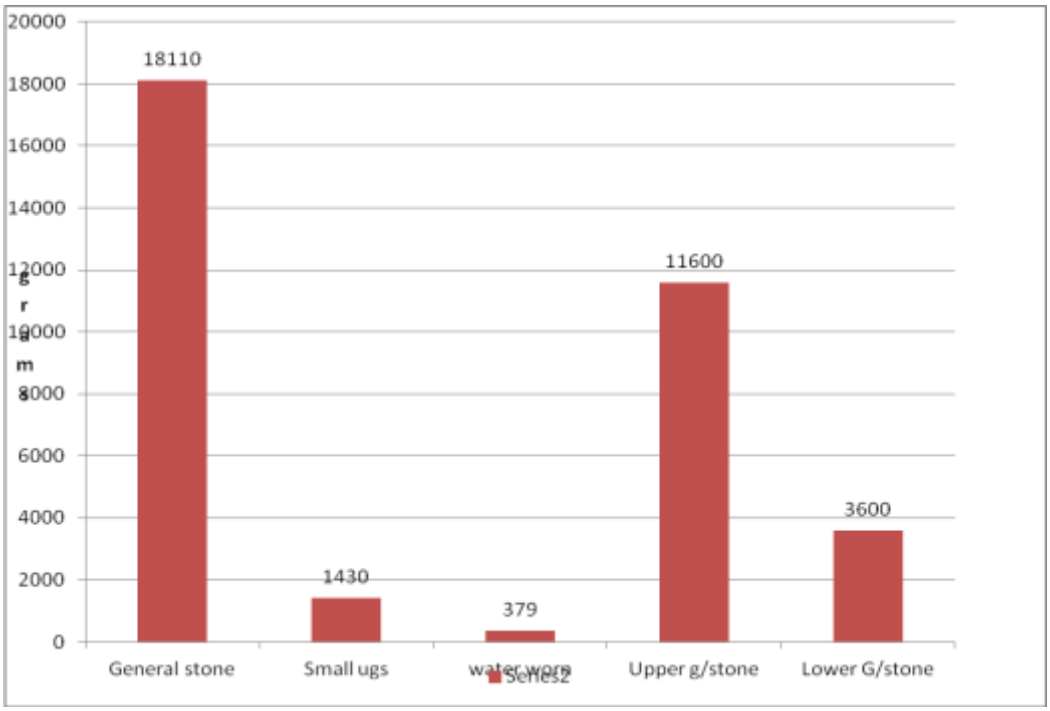
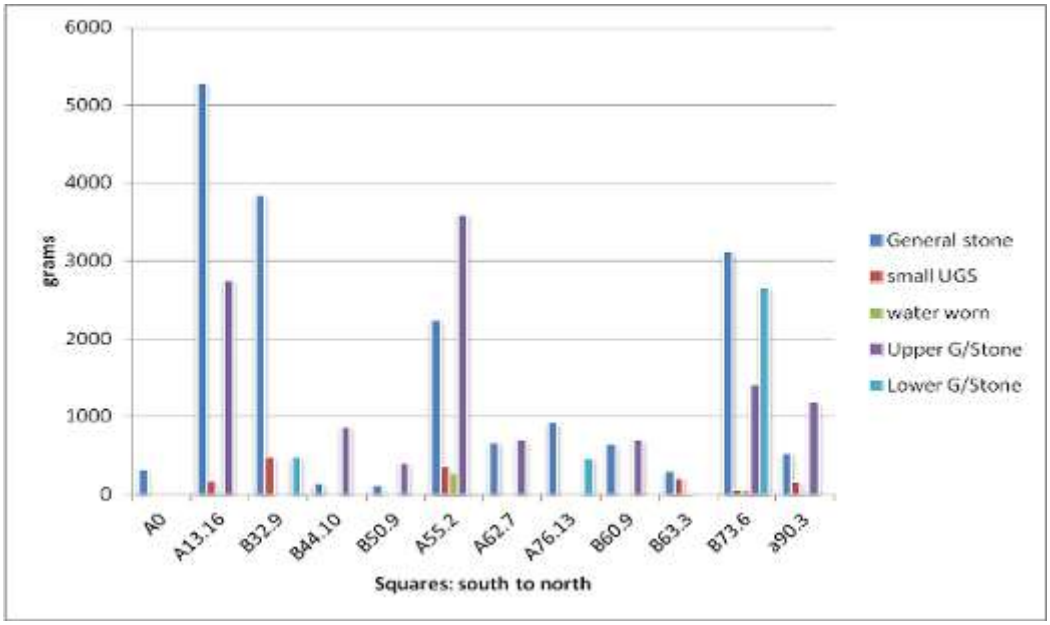


FIG. 30 LOCATION OF STONE TYPES AT UMDL07



METALLURGY

Figures 31 – 32 show the types of metallurgical artefacts that occur across the site. Very few artefacts associated with metallurgical activity occur at UMDL07. Only 8 pieces (658g) of shale and 3 pieces (786g) of slag occur at the site. This is in stark contrast to UMDL02.

FIG. 31: METALLURGICAL ARTEFACTS AT UMDL07

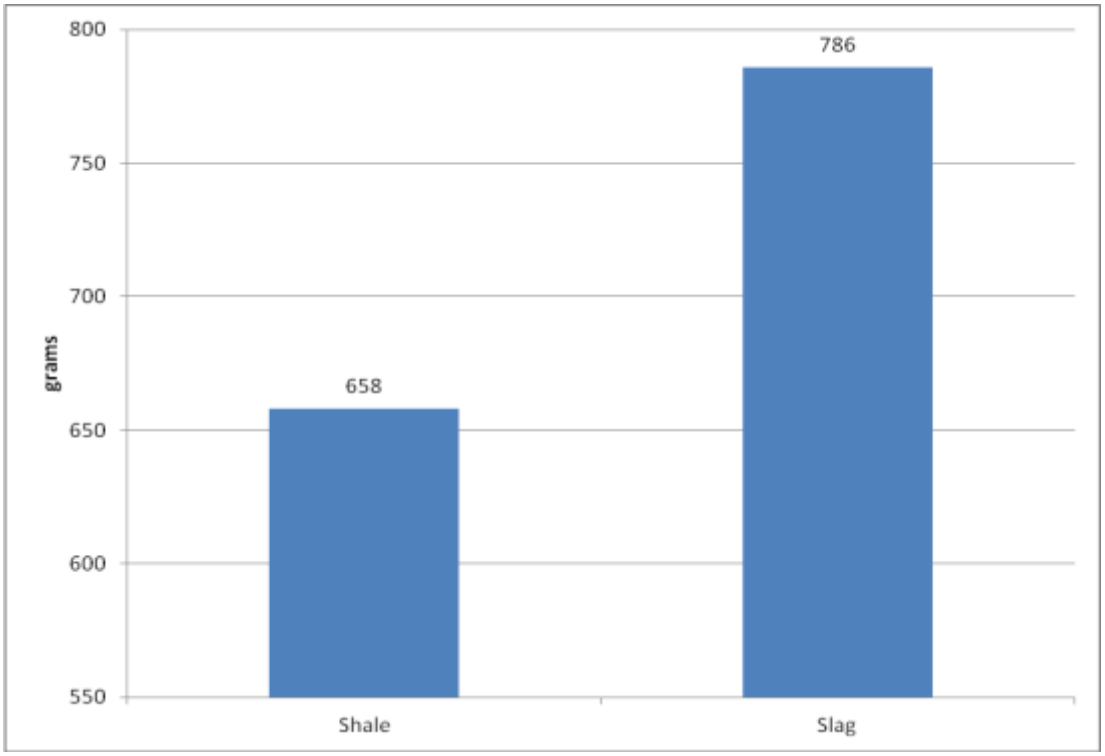
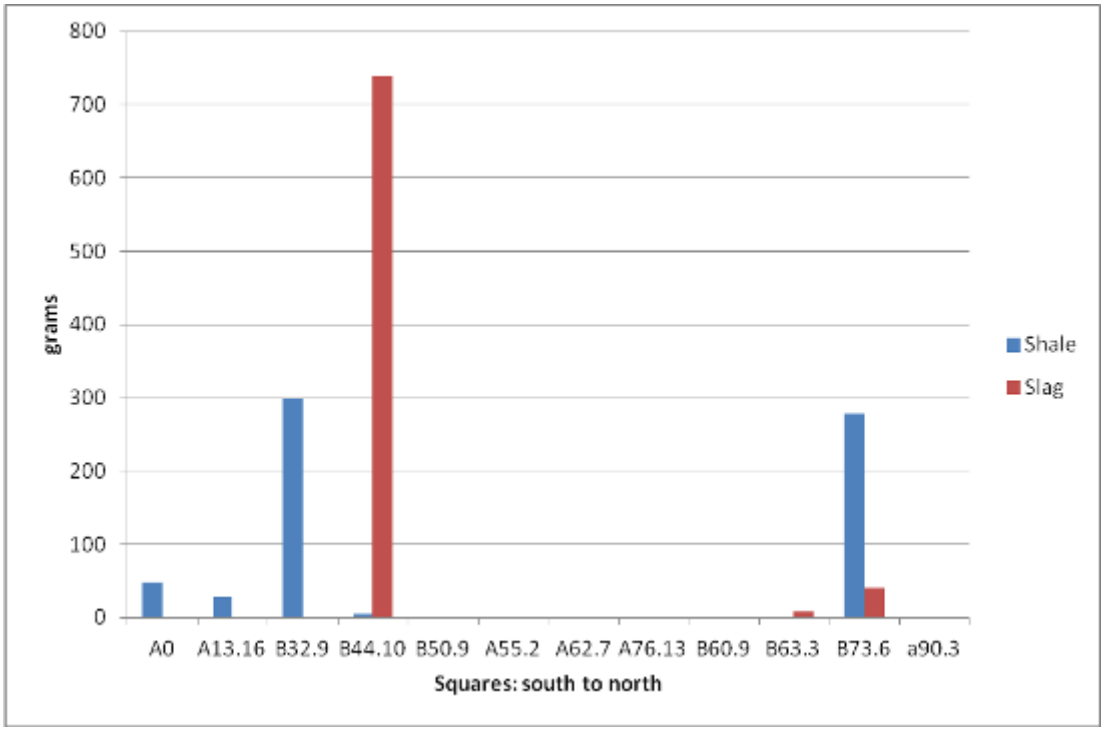


FIG. 32: METALLURGICAL ARTEFACTS PER ASQUARE AT UMDL07



POTTERY

The pottery was found in all the excavated squares (fig. 33). Midden 2 has the highest number of pottery shards, while Midden 1 has a third of the amount. The decorations are as follows:

- Rims
    - Tapered
    - Flat
    - Lip notching across the whole rim: ovals and triangles
    - Lip notching across one side of the rim
    - Lip notching across alternative sides of the rim
- Neck
    - Double row of horizontal circular impressions
    - Triple row of horizontal circular impressions between 6 vertical rows.
    - 6+ vertical incisions
    - Straight or everted
    - Two *intsumpa* 'nipples'

The pottery is mostly brown in colour, while a few are dark brown and one has a red burnish (fig. 34). The pottery is Blackburn pottery.

FIG. 33: POTTERY DISTRIBUTION AT UMDL07

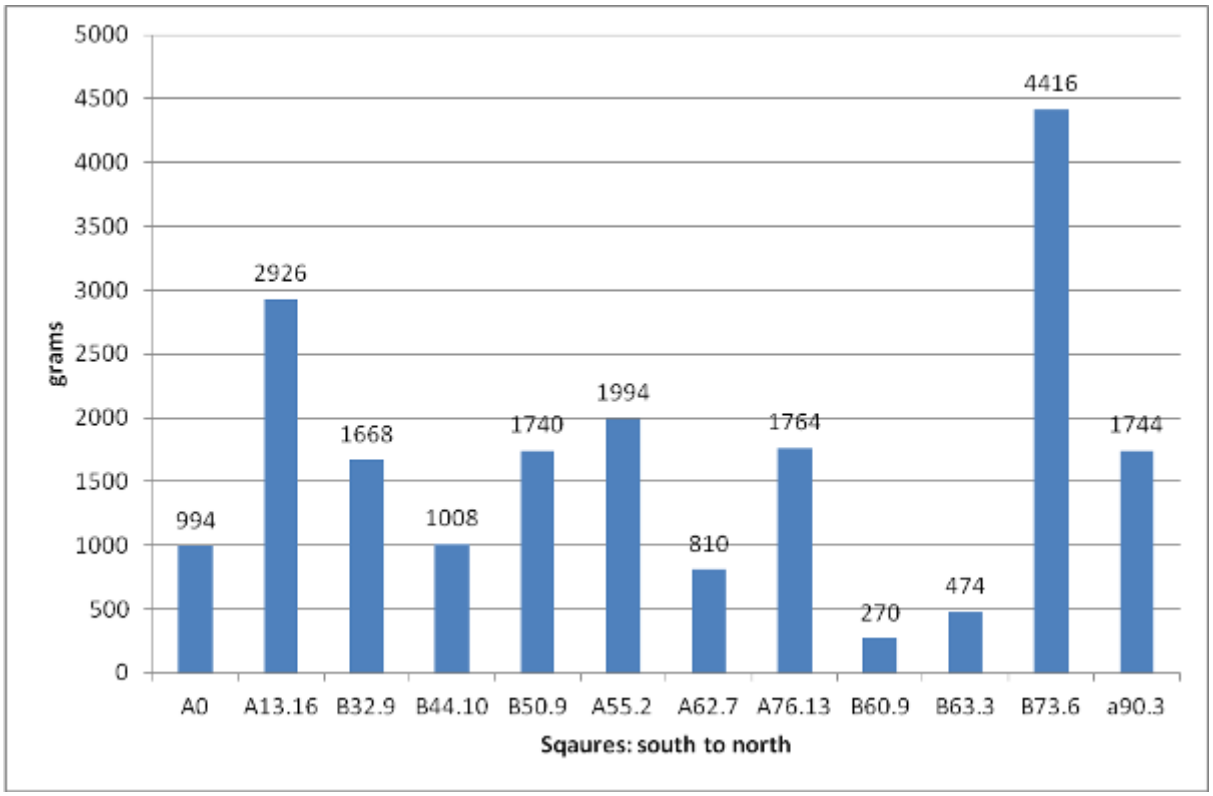


FIG. 34: BLACKBURN POTTERY AT UMDL07

DAGA

Only 201g of daga fragments were excavated. Most of these were from Midden 2.

FIGURINE

A single clay figurine fragment was excavated from Sq. 13.16. The artefact is either part of a figurine or a pot leg (fig. 35).

FIG. 35: CLAY FIGURINE AT UMDL07

GENERAL DISCUSSION

UMDL07 is a small settlement of at least five houses dating to 900 – 700 years ago. The number of settlements is related to the number of separate shell middens noted on the surface. The artefacts indicate the typical domestic early Late Iron Age scenario and are in contrast to UMDL02 that is an iron smelting site from the same period. The shell middens indicate a preference for seafood, specifically *P. perna*, with a small variety of shell species. The mussels were too broken to obtain relative sizes.

2931CA080

2931CA080 site was first recorded in 1934 (Schofield 1935, 1936) and then later by Galloway (1936) and Davies (1948 – Natal Museum Site record forms). The site number refers to it National Site Number. UMDL02 and UMDL07 have not been given National Site numbers as this naming system appears to have stopped C 2010.

2931CA080 occurs on the main hill of the development with a good view of the surrounding area (fig.'s 36 – 37). The entire hill has scatters of artefacts, however, the excavations concentrated around the southern half were artefact concentrations and cultural horizons would occur.

Excavations & Stratigraphy:

A total of 45 3m x 3m squares were excavated at the site (fig. 38). The base line was set up to start at the bottom ridge of the hill and over the summit to the other side: 150m in length on a northwest to southeast line. Areas of surface artefact concentrations were original excavated, and later the excavation results determined

the location of the squares. That is once the general settlement pattern was worked out; I could concentrate on areas where I knew there would be more artefacts.

The upper part of the site (Squares 83 – 125) consists of three main layers. The upper 20cm consists of topsoil and sugarcane roots. Spits 3 – 4 was the main cultural horizon in a darker brown sand, followed mostly by a harder red sand. Squares -21 to 70 were mostly on a small gradient on the west side of the hill. Here the upper 20cm of the deposit was top soil and roots. This was followed by 30cm - 50cm of brown sand that was the main cultural horizon. Below this is the light brown/yellow sand that marked the end of the cultural horizon. The depth of the cultural horizon increased as the excavations moved northwest and southwest.

FIG. 36: GENERAL VIEW OF THE 2020 EXCAVATION AREA

FIG. 37: GENERAL VIEWS AT 2931CA080

FIG. 38: EXCAVATION PLAN OF 2931CA080

FIG. 39: GENERAL STRATIGRAPHY AT 2931CA080

At total of 247.626kg of artefacts was excavated, sorted and curated, of which marine shell and pottery were the main categories. Table 5 shows the combined totals for 2931CA080, while Table 6 shows the results per square. Fig. 40 shows these total artefact weights.

TABLE 5: SUMMARY OF TOTAL ARTEFACTS AT 2931CA080

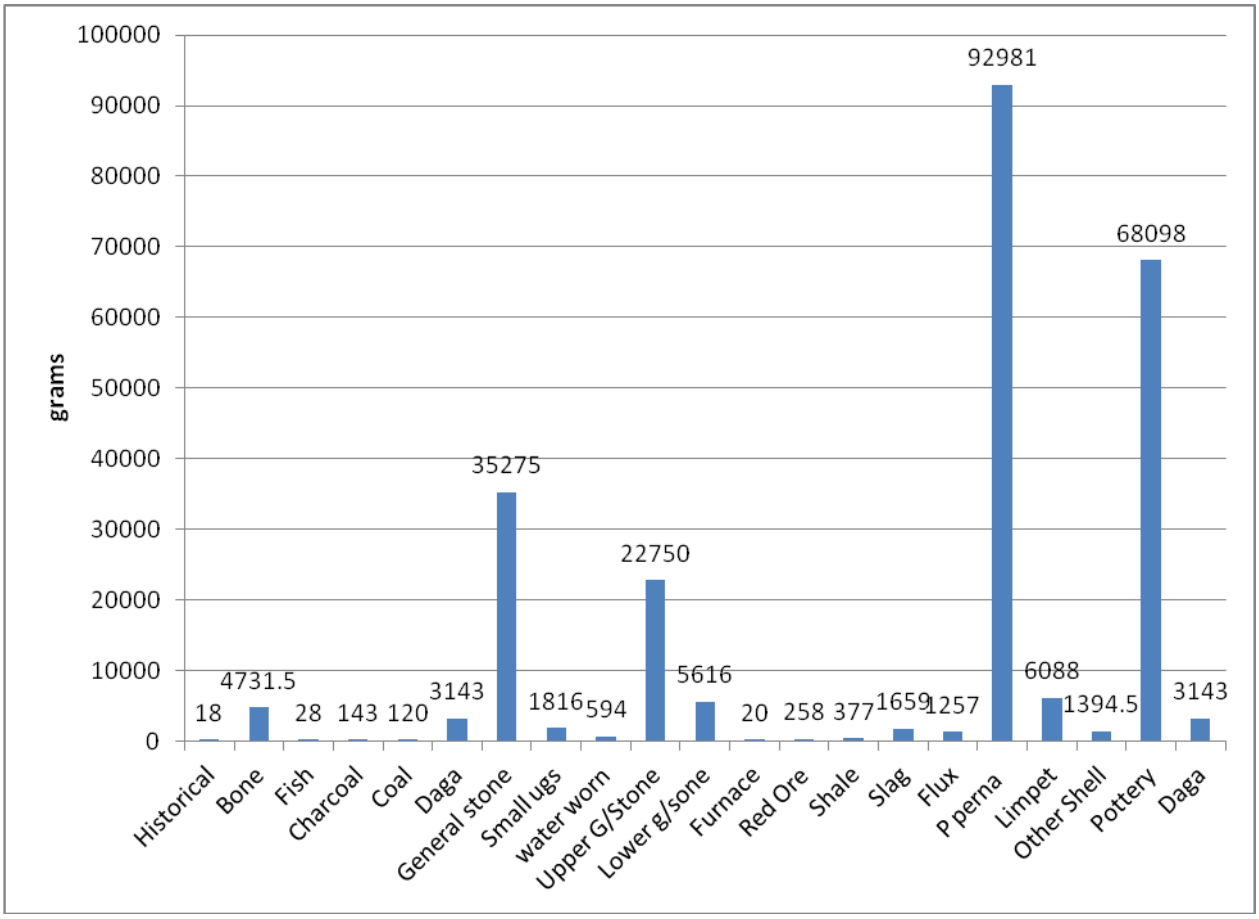
	Historical	n	3
		g	18
organic	Bone	g	4731.5
	Fish	g	28
	Charcoal	g	143
	Coal	g	120
	Daga	g	3143
Stone	General stone	g	35275
	Small UGS	n	28
		g	3940
	Water worn	g	594
	Upper G/Stone	n	34
		g	22750
	Lower G/Stone	n	14
		g	5616
Metallurgy	Furnace	g	20
	Red Ore	g	258
	Shale	g	377
	Slag	g	1659
	Flux	g	1257
Shell	P. perna	Left	496
		Right	543
	P perna Weight	g	92981
	Limpet	n	0
		g	6088
	Other Shell	g	1394.5
	Pottery	g	68098
	Daga	g	3143
	Soil samples	n	6
	Total weight	g	247626

TABLE 6: ARTEFACTS PER SQUARE AT 2931CA080

Square	Historical	Bone	Fish	coal	Charcoal	Furnace	Tuyere	Red Ore	Shale	Slag	Flux	General stone	small UGS	water worn	Upper G/Stone	Lower G/Stone	Limpet	Other Shell	P. perna	Pottery	figurine	Daga	total
-27.2	0	112	0	0	0	0	0	0	0	0	8	78	0	4	1988	1674	140	0	228	2060	0	54	6346
-21.7	0	110	0	0	0	0	0	0	46	0	0	736	0	0	0	0	0	0	0	832	0	28	1752
-20.27	0	38	0	0	0	0	0	0	22	0	16	454	0	0	0	0	0	0	0	484	0	0	1014
-20.2	0	66	0	0	0	0	0	0	0	6	2	596	0	0	636	0	0	0.5	0	1344	0	42	2692.5
-13.31	0	176.5	0	0	8	0	0	236	30	0	11	1800	42	0	1612	0	1142	0	724	3515	0	32	9328.5
-13.14	0	1206	0	8	0	0	0	0	0	0	1	1658	0	0	840	486	0	26	0	4074	0	68	8367
-12.31	0	8	0	0	0	0	0	0	0	0	16	322	124	0	0	0	0	0	0	814	0	0	1284
-12.2	0	374	0	20	0	4	0	0	12	0	16	913	0	2	850	0	3606	133	0	6450	0	24	15119
-12	0	378	0	0	0	0	0	0	0	26	6	1225	8	0	1638	6	208	0	0	3040	0	0	7371
-2.28	0	28	0	0	0	0	0	0	0	0	12	1370	0	4	1270	0	824	0	16	2020	0	68	5612
0.2	0	182	0	0	0	0	52	22	0	252	14	2634	0	42	354	0	0	0	0	3958	0	0	7510
0.31	0	238	0	0	0	0	0	0	0	24	41	1696	0	0	832	0	0	42	0	2956	0	116	5945
1	0	26	0	0	0	0	0	0	0	140	0	308	0	0	0	420	0	30	0	1676	0	0	2600
6	0	24	0	0	0	0	0	0	0	32	0	1394	0	0	0	0	0	0	0	576	0	0	2026
12	0	23	0	0	0	0	0	0	0	144	46	1512	0	0	0	0	0	4	836	1286	8	0	3023
12.15	0	1	0	0	0	0	0	0	2	4	52	1104	0	0	450	1332	0	2	0	1262	0	52	4261
12.20	0	566	0	0	2	0	0	0	0	0	4	114	0	116	0	0	0	92	13558	2506	0	32	16990
12.31	0	320	0	48	0	16	0	0	0	94	36	803	46	0	2896	0	0	0	2715	1228	0	0	5487
12.7	0	10	0	0	0	0	0	0	0	6	0	1044	130	0	0	528	0	2	0	1142	0	0	2862
13	0	256	0	0	0	0	0	0	0	20	10	224	0	0	0	0	0	0	0	580	0	0	1090
15	0	172	0	0	18	0	0	0	0	0	56	852	178	0	414	0	0	20	0	2344	0	20	4074
18	2	16	0	0	0	0	0	0	0	0	30	994	0	0	0	0	0	0	0	474	0	0	1516
21	0	0	0	0	0	0	0	0	0	0	118	68	0	0	0	0	0	0	0	1064	0	0	1250
27.18	0	0	0	0	0	0	0	0	0	0	12	108	0	0	1736	0	0	0	0	1386	0	0	3242
27.9	0	40	0	0	0	0	0	0	0	0	26	30	0	0	0	0	0	0	0	599	0	86	781
38.15	0	141	5	0	34	0	0	0	0	0	282	1090	0	294	0	84	0	504	50947	3586	0	180	57661
41.24	0	2	0	0	0	0	0	0	0	0	0	664	128	0	1824	530	0	13	0	2364	0	0	5525
47	0	0	0	0	10	0	0	0	0	0	42	594	0	0	0	0	0	0	0	894	0	0	1540

Square	Historical	Bone	Fish	coal	Charcoal	Furnace	Tuyere	Red Ore	Shale	Slag	Flux	General stone	small UGS	water worn	Upper G/Stone	Lower G/Stone	Limpet	Other Shell	P. perna	Pottery	figurine	Daga	total
47.12	0	24	0	0	10	0	0	0	0	11	62	824	12	0	3250	0	0	0	0	1420	0	4	5617
47.22	0	12	0	14	6	0	0	0	32	0	10	236	0	20	0	0	0	28	0	1186	0	24	1568
49.22	0	42	23	0	34	0	0	0	5	0	58	1110	0	91	1302	0	168	488	23957	4014	0	1740	33557
51	6	46	0	16	0	0	0	0	0	32	59	2950	0	2	258	0	0	6	0	1086	0	0	4461
51.9	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0	0	0	0	156	0	0	190
78	0	0	0	0	0	0	0	0	62	0	14	1040	0	0	600	0	0	0	0	350	0	0	2066
81.11	0	0	0	4	0	0	0	0	56	0	18	1396	114	0	0	0	0	0	0	350	0	0	1938
83.36	0	0	0	0	5	0	0	0	0	0	0	930	254	0	0	0	0	4	0	754	0	38	1985
86.18	0	2	0	0	0	0	0	0	0	0	0	592	0	0	0	152	0	0	0	784	0	58	1588
86.6	0	0	0	6	0	0	0	0	50	252	16	262	0	0	0	404	0	0	0	1098	0	20	2108
97.1	10	16	0	0	0	0	0	0	0	10	66	82	0	0	0	0	0	0	0	320	0	0	504
97.37	0	46	0	12	0	0	0	0	60	0	0	1216	0	10	0	0	0	0	0	1078	0	60	2482
100	0	0	0	0	16	0	0	0	0	0	0	38	0	0	0	0	0	0	0	190	0	0	244
100.22	0	0	0	0	0	0	0	0	0	172	0	622	696	0	0	0	0	0	0	516	0	202	2208
105.13	0	4	0	0	0	0	0	0	0	0	13	106	84	0	0	0	0	0	0	226	0	194	627
108	0	0	0	0	0	0	0	0	0	0	0	102	0	0	0	0	0	0	0	134	0	0	236
125	0	0	0	0	0	0	160	0	0	368	56	292	0	0	0	0	0	0	0	308	0	0	1184

FIG. 40: TOTAL WEIGHT OF ARTEFACTS AT 2931CA080



HISTORICAL FINDS

A 24mm General Service button of British Army origin was found in Sq A-12.20, spit 1 (fig. 41). The button was made by Smith & Wright, who only become a Smith & Wright Ltd company in 1888 (http://www.ukdfd.co.uk/pages/buttonsntoz.html). These were mass produced buttons for the army, which increased in WWI. While some of the buttons without the Ltd could still have been used for a year or two after the change, it is highly likely that the button predates the 20th century. The button was probably dropped by chance

Several old glass bottle fragments were noted throughout the area. These had the characteristic oxidation on the outside suggesting some historical age.

A single Wolff & Co shotgun cartridge was found in Sq. A18, Spits 1 – 2. Wollf and Co date to c. 1928 and are German in origin. Fig. 42 shows the 1928 advertisement for the cartridge.

FIG. 41: SMITH & WRIGHT BUTTON AT 2931CA080

FIG. 42: WOLFF & CO CARTRIDGE & ADVERT

ORGANIC REMAINS

Figures 43 and 44 show the total and spatial weights of organic remains at the site.

The main type of faunal remains is *Bos taurus* and small bovid (such as goat). The molars from a hippopotamus and a warthog were excavated form the site (fig. 45). A few bird bones were noted.

FIG. 43: ORGANIC TOTAL WEIGHTS FROM 2931CA080

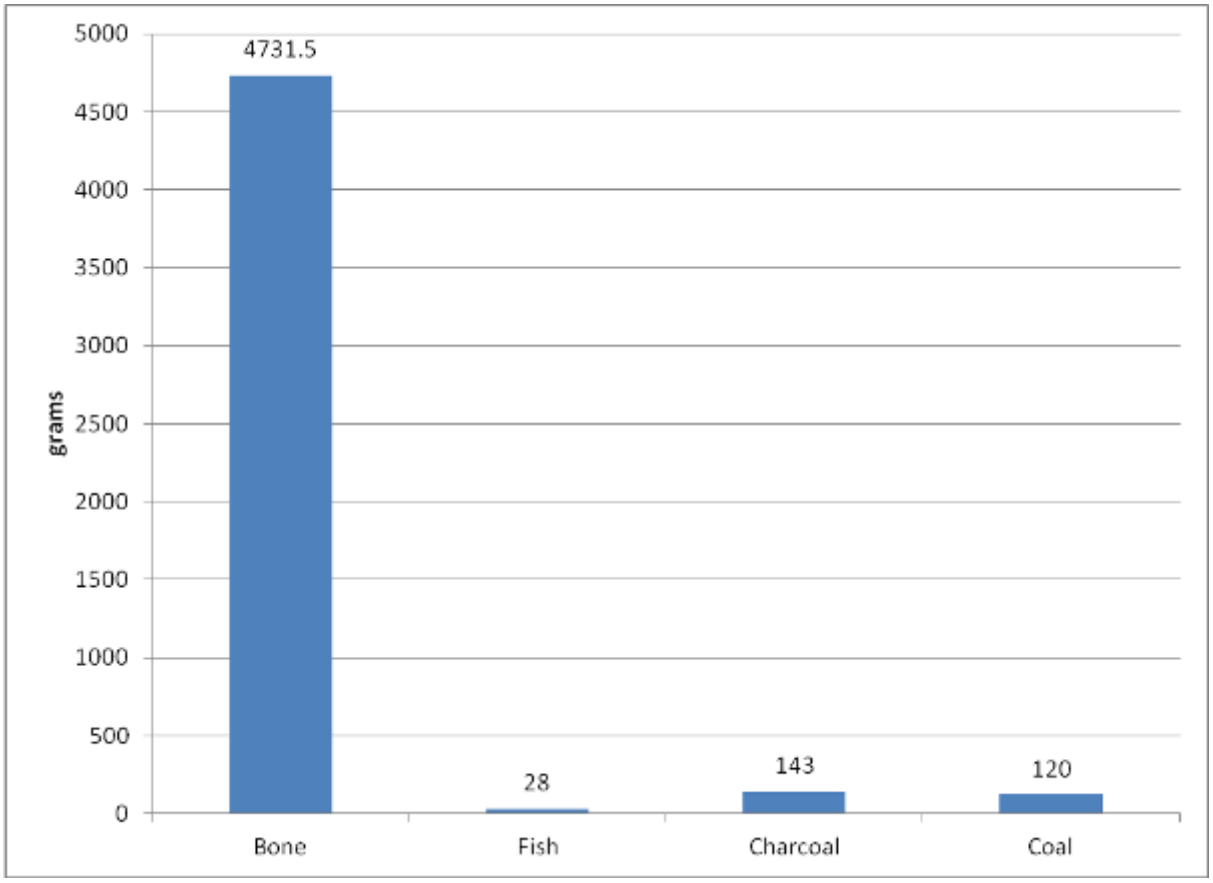


FIG. 44: SPATIAL LOCATION OF ORGANIC REMAINS AT 2931CA080

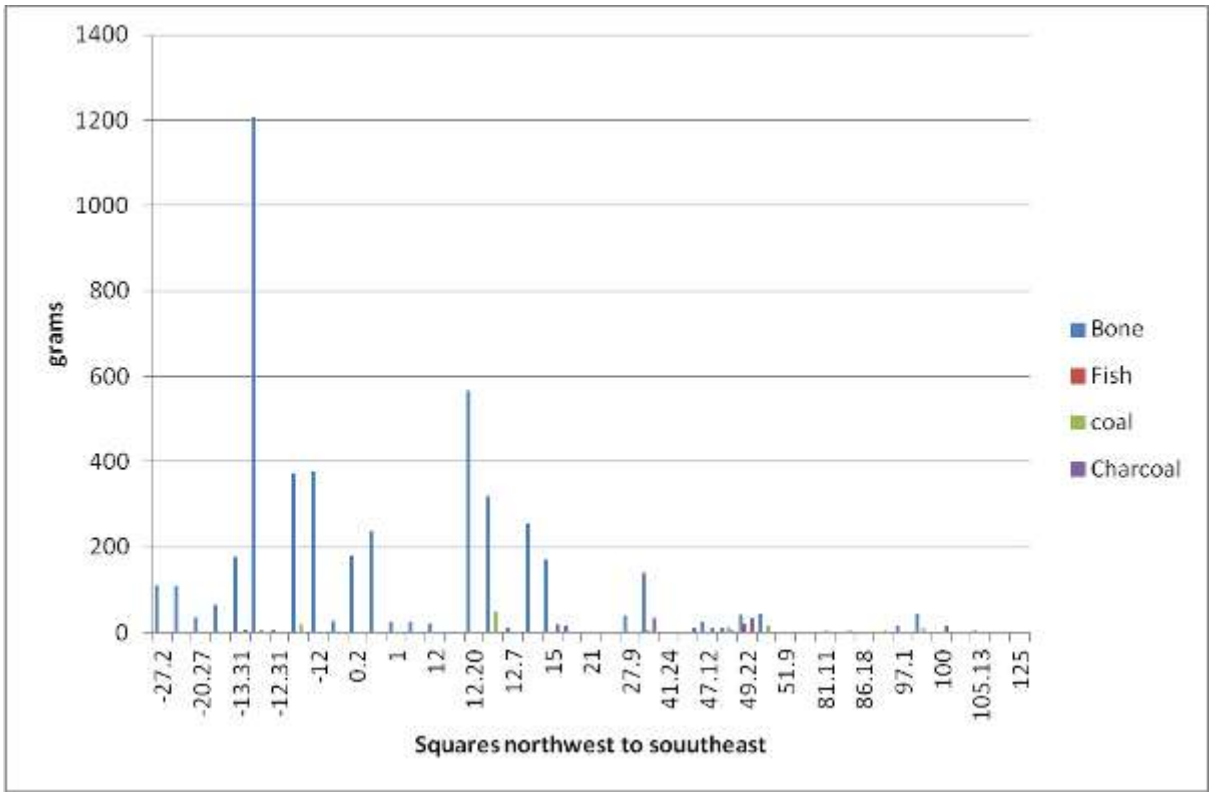


FIG. 45: HIPPOPOTAMUS AND WARTHOG MOLARS FROM 2931CA080

A total of 28g of fish bone was excavated from Midden 1 and Midden 2. The fish were small-medium in size. An otolith was collected from the surface near the road and Midden 3-4.

The charcoal is mostly from Middens 1 – 4, but it is a very small sample.

As at the other sites, coal/anthracite was found in the upper 20cm. These are unlikely to be part of the main site.

MARINE SHELL

Marine shell occurs all over the site on the surface. Areas with concentrations of marine shell were targeted for potential shell middens. Four squares have various sized shell middens. Sq. A12 had an ephemeral layer of shell that never formed a proper midden. Squares A49.20 (Midden 1), and A38.15 (midden 2) were two very large middens yielding 255c m^3 and 367.7cm^3 of shell respectively. These middens extended over the entire square. Middens 3 and 4 occur in Sq. A-12.20 and are probably the same midden. These two middens yielded 180cm^3 of shell. Figures 46 – 49 show the middens.

FIG. 46: MIDDEN AT SQ A12.0

FIG. 47: MIDDEN 1 AT SQA49.20

FIG. 48: MIDDEN 2 AT SQ A38.15

FIG. 49: MIDDEN 3 & 4 AT SQ A12.20

The most common shell in the middens is *P. perna*, and 92.981kg of this shell was sorted. Other shell species included P*atella (Scutellastra) longicosta* and a few *Patella (Scutellastra) barbara,* oyster and whelk (fig. 50). Figures 51 – 52 show the total weights and locations of the middens.

FIG. 50: SHELL SPECIES AT 2931CA080

FIG. 51: TOTAL SHELL SPECIES AND WEIGHT AT 2931CA080

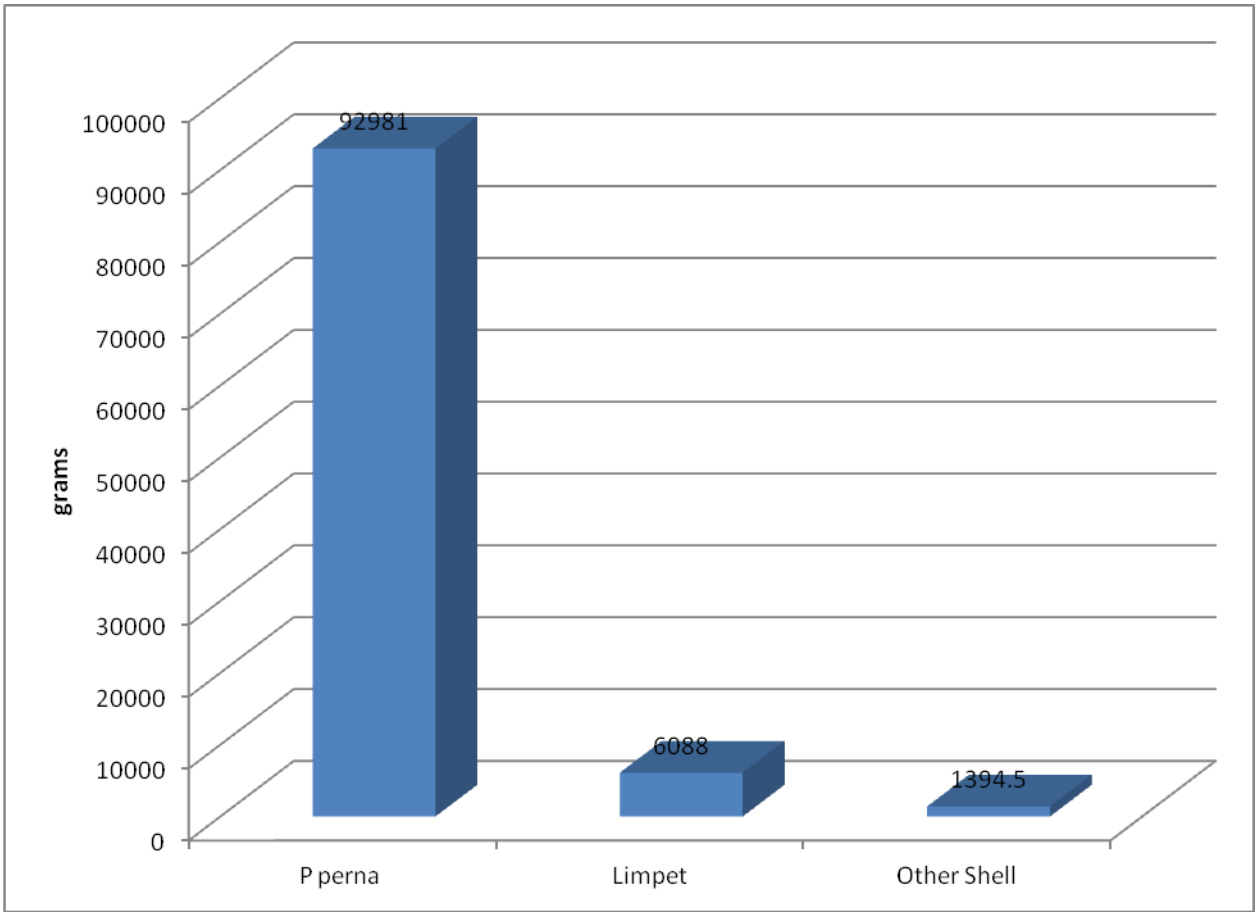
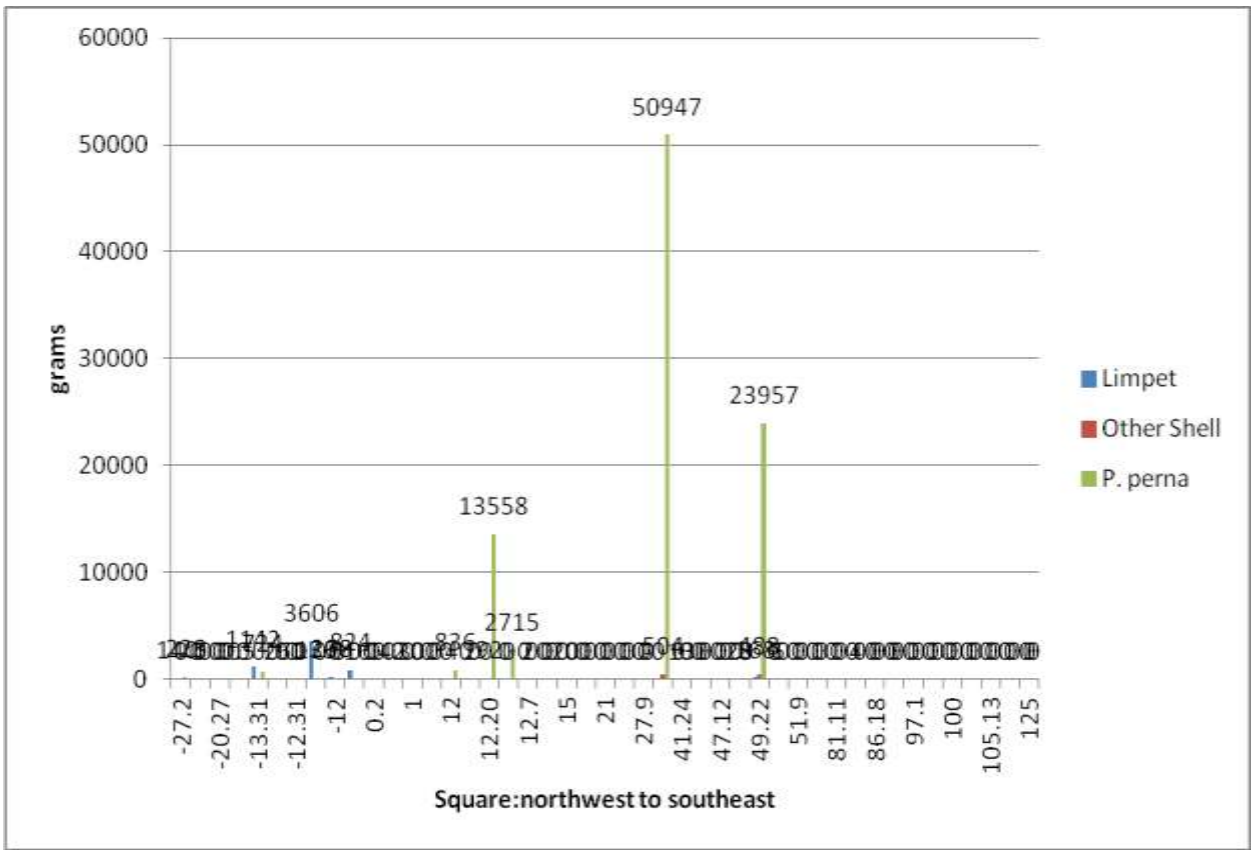


FIG. 52: SHELL LOCATIONS AT 2931CA080



STONE

The stone category excludes iron ore used for metallurgical activity. It does include quartz and quartzite that occur as grinding stones, but were also broken and used as part of the flux. Figures 53 – 54 show the total stone weights form the site and per square.

'General Stone' is a term used for fragments of stone that are not a recognisable tool. These would include fire cracked flakes, manuports, and broken grinding stones. These stones include quartz, quartzite, sandstone, and Cretaceous/Pleistocene beach. General Stone is the main type of stone at 2931CA080 and 43kg was excavated. General Stone occurs nearly equally across the site (fig. 54).

Small upper grinding stones were used for polishing pottery, hut floors and/or grinding *muthi*. A total of 28 of these were excavated across the site, but mostly along the north western half.

A total of 34 upper grinding stones were excavated, and many more occur on the surface of the site. The upper grinding stones varied from 400g to 1.500g in weight, and some doubled as a hammer stone. The upper grinding stones are mostly made from quartzite river pebbles.

Only 14 lower grinding stones were excavated. These were all fragmented in varied in sizes. They were made from dolerite, quartzite or Cretaceous/Pleistocene beach. No classical sorghum grinding stones were noted.

All of the water worn stone comes from the middens.

FIG. 53: TOTAL STONE WEIGHT AT 2931CA080

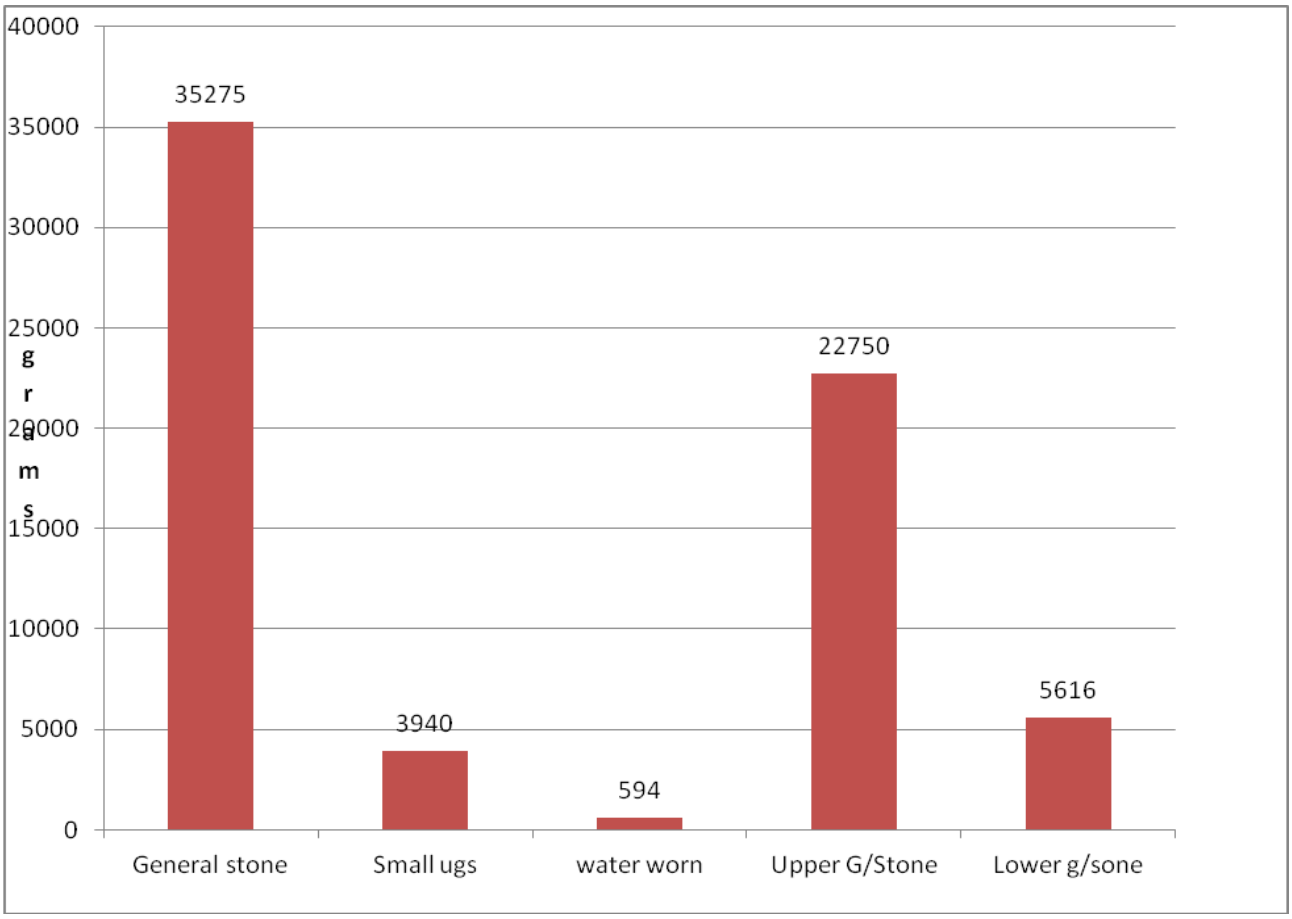
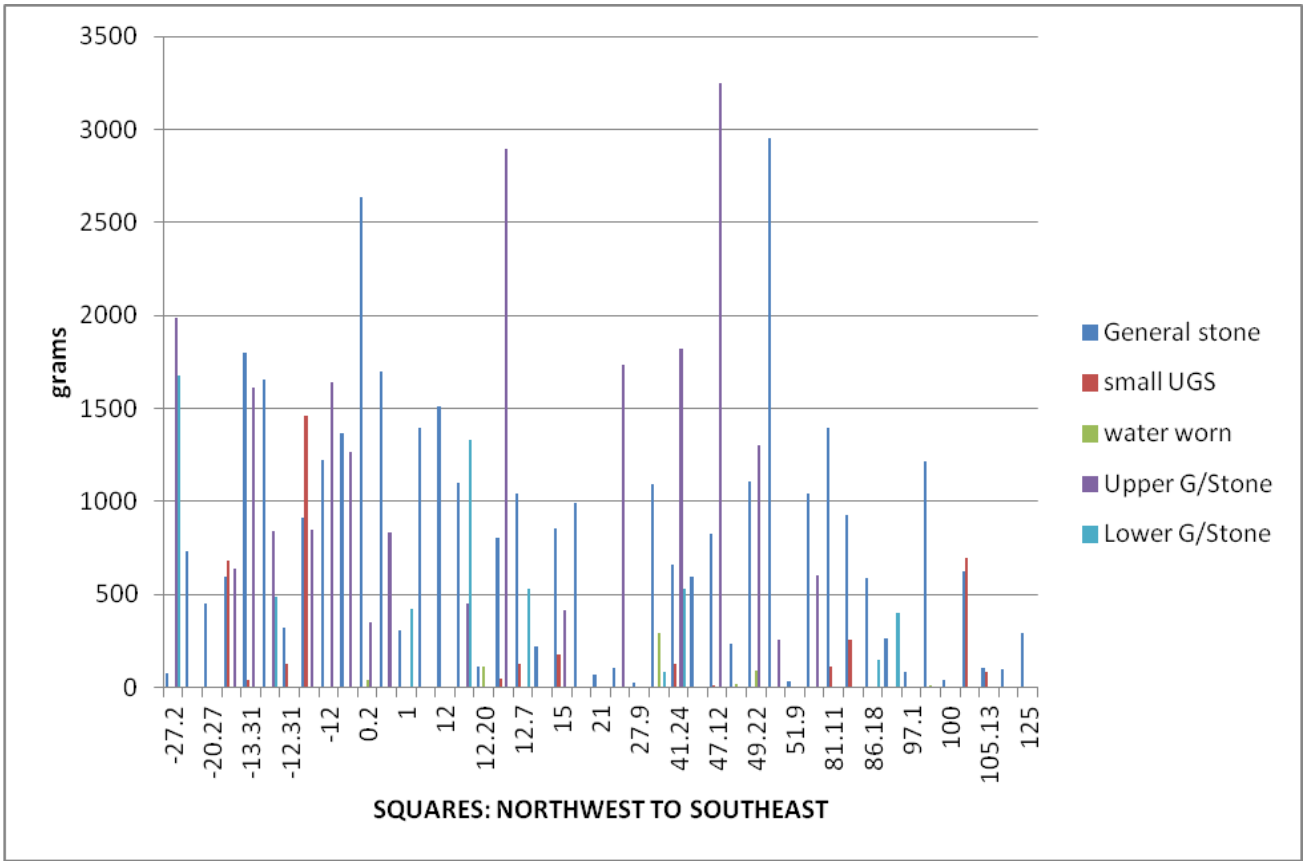


FIG. 54: STONE TYPES ACROSS THE SITE



METALLURGY

There is evidence of metal working activity at 2931CA080; however the site itself is not an iron smelting, or smithying site. It is more a case of artefacts being brought over from UMDL02. Figures 55 – 56 show the total weights and location in each square. One furnace fragment was recorded at the site. It could also be daga that was burnt.

'Red ore', i.e. rock with high hematite content, occurs as fragments. One small piece would be referred to as ochre and could have been used to create the red burnish on some of the pots.

The shale was used as possible whetstones. Many of the shale fragments were too small to be identified.

Only 1.6kg of slag was excavated at the site and most of it was concentrated in the middle of the site. It appears as if the slag was being brought back to the site from UMDL02 in small amounts, but not be to be used.

The flux also occurs in small amounts at the site: 1.2kg. As with the slag it appears to have been brought in to the site from UMDL02. Fig. 57 shows an example of the flux direct from excavations.

FIG. 55: METALLURGICAL ARTEFACTS AT 2931CA080

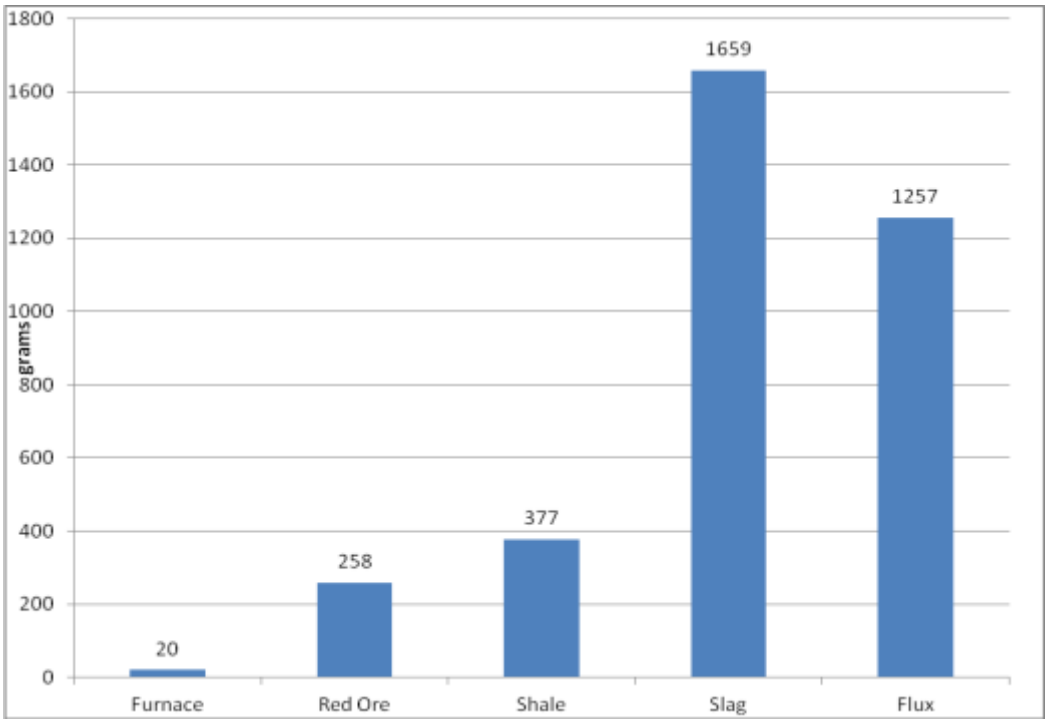


FIG. 56: METALLURGICAL ARTEFACTS PER SQUARE AT 2931CA080

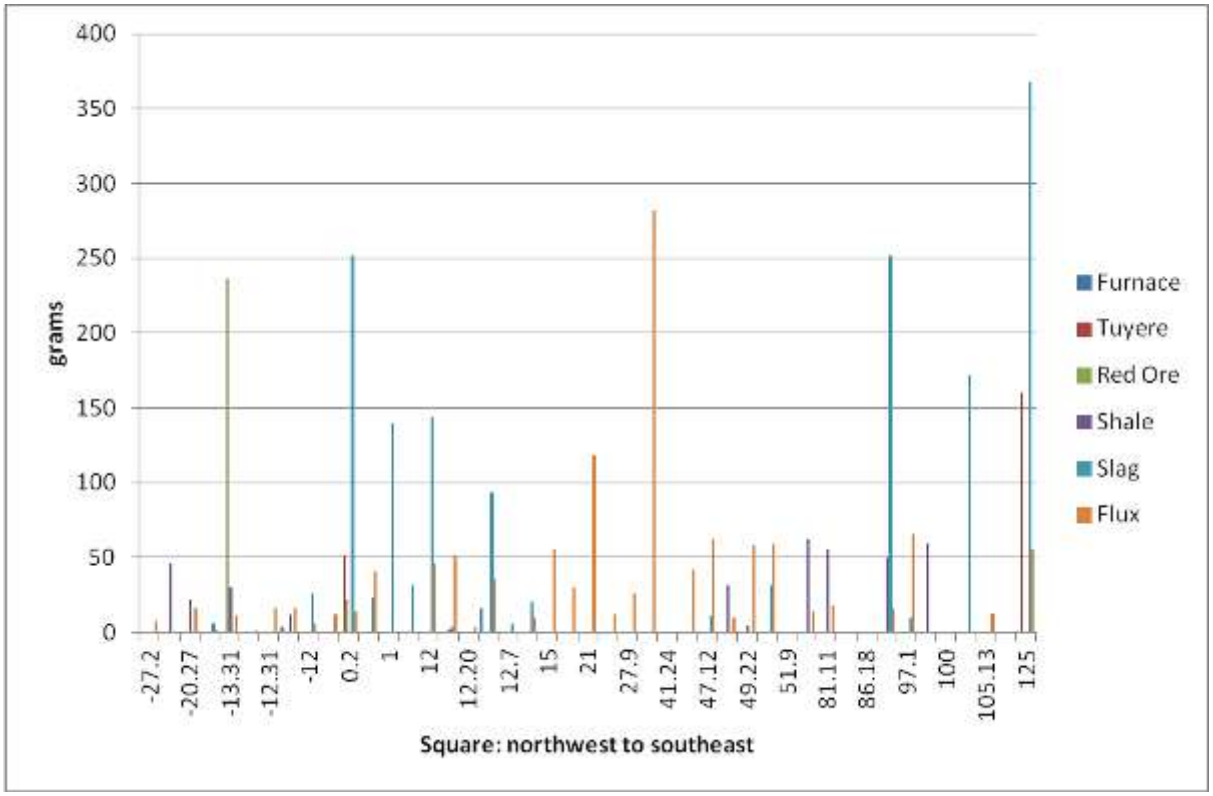


FIG. 57: EXAMPLE OF THE FLUX END PRODUCT AT 2931CA080

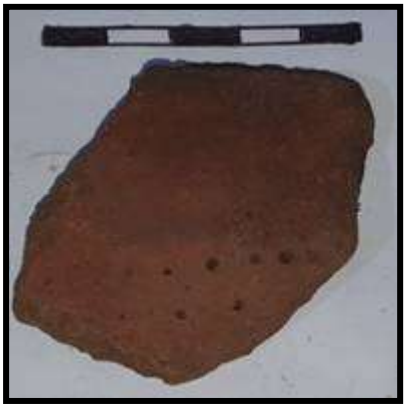
POTTERY

The pottery decorations at the site can be divided into two distinct phases. The first phase is associated with the first farming communities in KZN: the Mzonjani Phase. The Mzonjani Phase dates from c. 1 700 – 1 500 years ago (fig. 58). The pottery is distinct with heavy decorations around the neck and/or shoulder. It is very weathered and thick pottery sherds. The low density of Mzonjani sherds suggests that this was a satellite settlement: other Mzonjani sites in the general area have a much higher density of artefacts on the surface and in the excavation. All of the Mzonjani sherds occur at the top of the hill.

FIG. 58: MZONJANI POTTERY AT 2931AC080

The next phase of pottery is Blackburn pottery. This type of pottery is located across the entire site and has the distinctive lip notching and oval-like impression on the neck and shoulder. Blackburn pottery dates from c. 900 – to 700 years ago and represents the first Nguni-speaking people in KZN. The Blackburn pottery is a replica of that found at the type-site and figure 59 shows a variety of the decorations. Some sherds have a graphite burnish along the neck. The key features of Blackburn pottery are the lip notching and circular impressions. The graphite neck polishing is another feature to be noted.

FIG. 59: BLACKBURN POTTERY AT 2931CA080



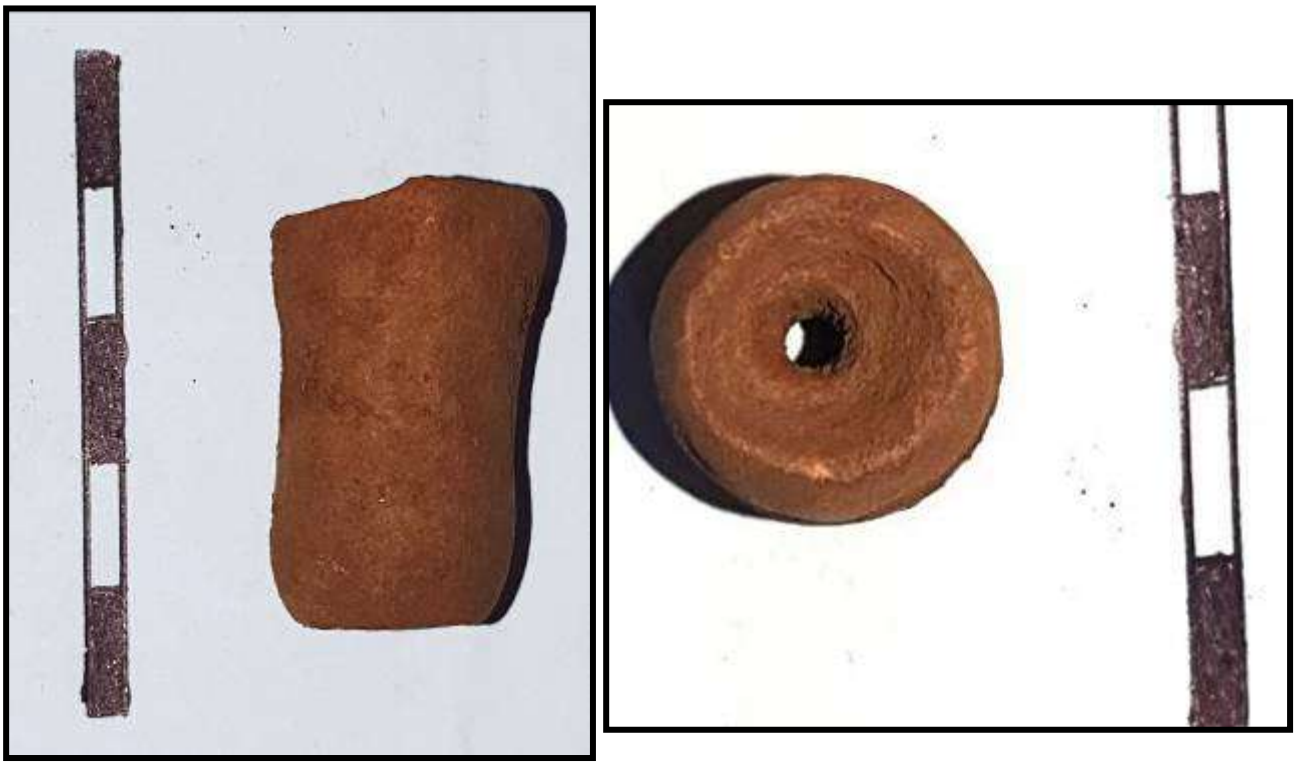
2931CA080 thus has the first occupation of both the Early Iron Age and the Late Iron Age.

Three kilograms of daga came from the site. Daga is the remains of a house floor. Most of the daga comes from the shell midden suggesting that the floor was replaced.

CLAY PIPES

Two clay smoking pipes were excavated in the north western squares: both were not whole and broken. Both fragments were cylindrical fragments (fig. 60) and one had two. *intsumpa* on it. These are probably *Cannibis sativa* smoking pipes and are very rare finds. One pipe had residue inside it.

FIG. 60: CLAY SMOKING PIPES



Two shell pendants were recorded at the site (fig. 61). One shell was a white mussel pendant with the perforation at the apex. The second was in the process of being made into a pendant and it had two attempted perforations at the apex.

FIG. 61: SHELL PENDANTS AT 2931CA080

FEATURES

In Sq. A -20.20 were five ash pits of varying sizes and depths. Three were ~50cm wide and 30cm deep, one was 60cm wide and 90cm deep, and one was 1.4m wide and 60cm deep (fig.62). The pits were filled with a mixture of ash and sand and contained no artefacts.

FIG. 62: ASH PITS AT 2931CA080

A human skeleton was found at Sq A-27.20 (fig. 63). This was located on the northwest edge of the site. The remains were poorly preserved and treated with diluted wood glue so that they did not disintegrate. The remains consist of a cranium and two forearms facing southwest. The cranium had been pushed forward and rotated (probably by ploughs) so that the maxilla and mandible were facing down and the occipital part of the cranium was facing upwards. The cranium was removed with the hard sand to be partially curated at the office. The forearms were then removed and the excavations extended in the general area to locate other body parts.

An initial assessment of the skeleton is that of an adult with all of the teeth having erupted. The cranium is small and the mandible is too eroded to suggest the sex.

No further human remains were located; however the area has been demarcated as being highly sensitive and will require monitoring during construction.

GENERAL DISCUSSION

2931CA081 has two main occupations. The first is the Early Iron Age Mzonjani occupation that appears to be very low in density. This mainly occurs at the top of the hill. The second occupation relates to the Blackburn occupation. The occupation at the top of the hill appears to be ephemeral, while the main site has a high density of occupation. Either the top of the hill is a later occupation, or an extension of the main site.

The site appears to consist of an outer semi-circle of shell middens that surround a central area with a lot of cattle bones. The shell middens are probably behind the original houses and the high density of cattle bones in the centre could be the main kraal. This means that the ash pits are on the outer edge of the settlement, with the human remains marking the very edge. This then conforms to the standard settlement pattern for Nguni-speaking people. It is thus a domestic settlement.

FIG. 63: HUMAN SKELETAL REMAINS AT 2931CA080

UMDL04

UMDL04 is located at the edge of the main development and probably in the environmental buffer zone (fig. 64). The survey report noted that this could be one of the rubbish dumps related to the late 19th century – early 20th century campsites. During the initial survey I noted historical artefacts in the sand, and that the area should be sampled before any construction occurs. This is to make sure it is not damaged by accident and the material then lost.

FIG. 64: GENERAL VIEW OF UMDL04

The artefacts, except the pellet gun pellets, suggest a turn of the 20th century date.

The artefacts consisted of:

- Glass bottles (fig. 65)
    - Blue and clear medicinal
    - Green beer and/or case gin
    - General opaque
- Ceramics (fig. 66)
    - Ceramic beads (possibly for Victorian ceramic water filters)

    - Transfer print plate
- Metal (fig. 66)
    - Pellet gun pellets
- Glass beads (fig. 67)
    - White
    - Pink
    - Dark blue
    - Light blue
    - Red
    - Orange
    - Black
    - Black and white stripes

FIG. 65: GLASS BOTTLES AT UMDL04

FIG. 66: CERAMICS AND PELLETS AT UMDL04

FIG. 67: GLASS BEADS AT UMDL04

GENERAL COMMENT

The main excavations at the three sites indicate a human occupation from 900 to 700 years ago. Some earlier occupation did occur with the Mzonjani phase and then the Ntshekane Phase. At UMDL02 there were ~4 Ntshekane pots in a very small area. These did not look as if there was an occupation horizon from this phase, more a case of the pots being dumped there by either group of people.

Iron Smelting is known to have a lot of taboos and avoidance behaviours. Many iron smelting sites are away from the main living area and tend to be “isolated” It is for this reason that I believe UMDL02 and 2931CA080 are related to each other. The males from 2931CA080 would have gone to UMDL02 to smelt iron.

UMDL07 does not appear to be contemporaneous with the other two Blackburn sites. It may be a few, or several, years distance between the two: there is a 200 year period to these sites before they merge into the Moor Park Phase (Davies 1974).

UMDL02 and 2931CA080 are important sites as they show an interaction on the landscape. These people could have been contempories to those at Blackburn itself (on the hill to the west of Sibaya Casino). This site was excavated in 1971 by Davies (1971). One human skeleton was excavated in that area by the Natal museum (Anderson 2003). The skeleton at 2931CA080 is the second coastal skeleton dating to this time period. A large iron smelting site dating to this time period has not been excavated before.

All three sites require monitoring in specific areas during earthmoving activity. These areas have been conveyed to the developer and Wallace & Green. These are:

- UMDL02: area around the excavations
- UMDO07: area around the excavations
- 2931CA080: area around the skeleton.

CONCLUSION

Three sites were excavated as part of the mitigation for the proposed development at Sibaya Node 6. The excavations recorded three Blackburn sites of which two were domestic settlements and one was an iron smelting site. A human skeleton was excavated at 2931CA080. The excavations yielded valuable information regarding the first Nguni-speaking people along the eastern seaboard 900 years ago.

Areas that were noted as possibly sensitive during the survey were resurveyed after the sugar cane had been cleared. No further mitigation is required at these sites.

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