
PHASE 1b ARCHAEOLOGICAL MONITORING – FINAL REPORT

**THE XASHIMBA ABATTOIR, NEAR QUEENSTOWN,
EASTERN CAPE, SOUTH AFRICA**

DATE: 2013-11-07



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SPECIALIST DECLARATION OF INTEREST

I, Karen van Ryneveld (Company – ArchaeoMaps; Qualification – MSc Archaeology), declare that:

- I am suitably qualified and accredited to act as independent specialist in this application;
- I do not have any financial or personal interest in the application, its' proponent or any subsidiaries, aside from fair remuneration for specialist services rendered; and
- That work conducted has been done in an objective manner – and that any circumstances that may have compromised objectivity have been reported on transparently.



SIGNATURE –

DATE – 2013-11-07

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EXECUTIVE SUMMARY

TERMS OF REFERENCE –

Isi-Xwiba Consulting has been appointed as Environmental Control Officer (ECO) by the project engineers, COSEC, on behalf of the project proponent, the Department of Agriculture, for the authorized *Xashimba Abattoir* project, Stockenstrroomsloot Noord 434, near Queenstown, EC. ArchaeoMaps has been appointed by Isi-Xwiba Consulting to conduct the SAHRA required Phase 1bAM monitoring for the development.

THE PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT –

PROJECT AREA: Stockenstrroomsloot Noord 434, near Queenstown, Eastern Cape [1:50,000 Map Ref – 3126DC].

COVERAGE & GAP ANALYSIS: Phase 1b archaeological monitoring at the *Xashimba Abattoir* project.

FIELD METHODOLOGY: One day field assessment; GPS co-ordinates – Garmin Oregon 550; Photographic documentation – Pentax K20D. Site significance assessment – SAHRA 2007 system.

SUMMARY:

Map Code	Co-ordinates	Site	Recommendations
Phase 1 AIA identified archaeological sites and occurrences, Xashimba Abattoir project, EC			
STC01	S31°55'30.9"; E26°40'20.6"	Stone Age	MSA Site
Q1	S31°55'33.0"; E26°40'24.7"	Stone Age	Low density occurrence
GT1	S31°55'30.7"; E26°40'28.5"	Stone Age	Low density occurrence
GT2	S31°55'32.8"; E26°40'29.0"	-	-
GT3	S31°55'32.2"; E26°50'31.2"	-	-
Newly identified archaeological occurrences, Xashimba Abattoir project, EC			
STC02	S31°55'30.6"; E26°40'25.7"	Stone Age	MSA occurrence
1 st Foundation excavations		-	Medium density occurrence
2 nd Foundation excavations		-	Low density occurrence
3 rd Foundation excavations		-	Only infrequent artefacts

RECOMMENDATIONS –

With reference to archaeological and cultural heritage compliance, as per the requirements of the NHRA 1999, it is recommended that this report serves to meet Phase 1bAM requirements for the project. It is recommended that the construction of the site office and parking lot proceeds as planned. Should archaeological lenses approximating 50-70cm in depth be identified during foundation excavations of the site office the developer should ensure that an archaeological site inspection be done to determine if a Phase 2 mitigation project would be necessary.

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1) INTRODUCTION

❖ Background to the Xashimba Abattoir Phase 1b Monitoring

The following documentation refers:

- Van Ryneveld, K. (ArchaeoMaps). 2011. *Phase 1 Archaeological Impact Assessment – The Xashimba Abattoir, near Queenstown, Eastern Cape, South Africa*; and
- SAHRA Review Comment on Archaeological and Palaeontological Impact Assessment – The Xashimba Abattoir. SAHRA File No: 9/2/077/0001. 2012-02-06.

The *Xashimba Abattoir* development is situated on an approximate 5ha portion of the property Stockenstroomsloot Noord 434 at general development co-ordinate S31°55'31.2"; E26°40'26.4", approximately 20km west of Queenstown on the Queenstown / Tarkastad road (R61) [1:50,000 map ref – 3126DC].



Map 1: General locality of the *Xashimba Abattoir*, near Queenstown

One archaeological and cultural heritage site was identified during the Phase 1 AIA of the project, being Site STC01 (S31°55'30.9"; E26°40'20.6"), a Middle Stone Age (MSA) site. Site STC01 was described as (Van Ryneveld 2011): ‘... situated approximately 600m south of the Klaas Smits River, 600m north of the Queenstown / Tarkastad road (R61) and 70m west of the preferred Xashimba Abattoir study site... Site STC01 is not identifiable from the surface. Stone Age deposits were identified in the exposed sections of an existing borrow pit, measuring approximately 30x20m in size, with varying section height but reaching approximately 1.5m at its greatest depth. Stratigraphic composition of sections do vary but can be simplified as a top approximate 10cm anthropic sterile member, underlain by the main Stone Age member, varying in width between 20-50cm where artefacts and raw material gravel are found in a red sand layer. The main Stone Age member is in turn underlain by a calcrete layer, which contains artefacts in

lesser densities and indicative of evident disturbance that have affected the lower parts of the main Stone Age member. The calcrete member varies in average width between 30-60cm from a solid calcrete to a fairly decomposed like calcrete with more soil admixture (but calcrete is absent in places). Underlying the calcrete is the anthropic and geological basal flaky shale member....'

The site description continued to comment on artefact densities, or difficulties in identifying artefact densities, typology and technology. Typical of MSA type sites site extent proved to be problematic and the site description provided further comment thereon (Van Ryneveld 2011): 'Site extent cannot at present be described... and the deposit can reasonably be expected to continue across a fairly large area. Additional sub-surface information, mainly from the proposed Xashimba Abattoir study site does serve to give an indication of site extent. At a second borrow pit (Q1 –S3155'33.0"; E2640'24.7") situated approximately 120m south-east of the Site STC01 borrow pit, exposed sub-surface sections of approximately 70cm in depth yielded only a very shallow topsoil member underlain by calcrete and the geological basal shale member. No artefact member could be identified although a few artefacts were found on the surface of the pit indicating that they must have eroded from the sections, but in quantities too low to ascribe an artefact ratio. Sub-surface sections of geo-hydrological test pits confirm this radical decrease in artefact density across the Xashimba Abattoir study site: At geo-hydrological test pit 1 (GT1 – S3155'30.7"; E2640'28.5"), with a depth of approximately 30cm, a few artefacts were uncovered from the excavated mound material, while geo-hydrological test pit 2 (GT2 –S3155'32.8"; E2640'29.0") and test pit 3 (GT3 – S3355'32.2"; E2640'31.2"), with approximate depths of 20cm and 70cm respectively, proved to be anthropically sterile. The above implies that the STC01 artefact member in effect stops somewhere between the Site STC01 borrow pit (or the site proper) and the borrow pit Q1/GT1 line, with low quantities of artefacts marking the perimeter of the site.'

Site STC01 was ascribed a SAHRA *Medium Significance* and a *Generally Protected B Field Rating*. It was recommended that the site be formally conserved within the existing farm camp fence and permanently sign-posted. The Phase 1 AIA report further recommended that Phase 2 archaeological monitoring, under a SAHRA collections permit be done during the construction phase to monitor Stone Age occurrences identified in the geo-hydrological test pits and at the quarry at the *Xashimba Abattoir* site.

ARCHAEOLOGICAL SITES AND OCCURRENCES, XASHIMBA ABATTOIR, QUEENSTOWN, EC			
Site Code	Co-ordinate	Type	Description
STC01	S31°55'30.9"; E26°40'20.6"	Stone Age	MSA Site
Q1	S31°55'33.0"; E26°40'24.7"	Stone Age	Low density occurrence
GT1	S31°55'30.7"; E26°40'28.5"	Stone Age	Low density occurrence
GT2	S31°55'32.8"; E26°40'29.0"	-	-
GT3	S31°55'32.2"; E26°50'31.2"	-	-

Table 1: Phase 1 AIA identified archaeological sites and occurrences, *Xashimba Abattoir* project



Map 2: Results of the Phase 1 AIA for the *Xashimba Abattoir* development

The SAHRA Review Comment (2012) stated that:

- If Alternative Site 1 is chosen, Site STC01 be protected and conserved. Sign-posting of the site, as suggested by Ms van Ryneveld, may be undertaken.
- From the information gathered on the ground by the archaeologist, it is expected that the extent of Site STC01 will continue on the area where the abattoir and the related infrastructure are proposed. Therefore monitoring by an archaeologist is requested during construction. This will help recording the extent of the site and understand its distribution and density. A report must be submitted to SAHRA APM Unit upon completion of the monitoring.
- If the archaeologist deems it necessary, a representative sample of the already exposed sections may be collected. However, if the newly identified material is more representative and suitable to gather new information about the site, then it is required that the archaeologist contacts the SAHRA APM Unit before any collection may occur.
- If Alternative Site 2 is chosen as favorite option, a Phase 2 mitigation must be undertaken on Site STC01 before any development trenching may occur. In this instance mitigation in the form of excavation and sampling must be undertaken before any earth-moving activity resulting from this proposed project begins. A photographic record must be established immediately before, during and after mitigation. The archaeologist will require a mitigation permit from SAHRA in terms of s. 35 of the National Heritage Resources Act (Act 25 of 1999). On receipt of a satisfactory mitigation (Phase 2) permit report from the archaeologist SAHRA will make further recommendations in terms of the site such as its final destruction or additional sampling.

2) PHASE 1B ARCHAEOLOGICAL MONITORING

An Environmental Authorization (EA) for the *Xashimba Abattoir* project was issued with development to take place on Alternative Site 1, the preferred study site, implying also the conservation of Site STC01, situated on Alternative Site 2. Formal site conservation and Phase 1b archaeological monitoring (AM) as required in the SAHRA Review Comment (2012) are further reported on.

❖ Formal Conservation and Sign-posting of Site STC01

Site STC01 has been formally conserved within the existing farm camp. The site has been permanently sign-posted with signage having already served successfully as a heritage site indicator during the planning of an Eskom power line, where Eskom was able to take reasonable measures for heritage site conservation already during the planning phase of the power line development (Pers. Comm: Chris Bradfield).

❖ On-site Monitoring during Construction of the Xashimba Abattoir

The Phase 1bAM was done on 2012-12-19. The assessment was done by foot and limited to a Phase 1b surface assessment; no excavation or test pitting was done. The assessment was done in the company of Chris Bradfield.

Archaeological and cultural heritage site significance assessment and associated mitigation recommendations were done according to the system prescribed by SAHRA (2007).

SAHRA ARCHAEOLOGICAL AND CULTURAL HERITAGE SITE SIGNIFICANCE ASSESSMENT			
Site Significance	Field Rating	Grade	Recommended Mitigation
High Significance	National Significance	Grade I	Site conservation / Site development
High Significance	Provincial Significance	Grade II	Site conservation / Site development
High Significance	Local Significance	Grade III-A	Site conservation or extensive mitigation prior to development / destruction
High Significance	Local Significance	Grade III-B	Site conservation or extensive mitigation prior to development / destruction
High / Medium Significance	Generally Protected A	Grade IV-A	Site conservation or mitigation prior to development / destruction
Medium Significance	Generally Protected B	Grade IV-B	Site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
Low Significance	Generally Protected C	Grade IV-C	On-site sampling, monitoring or no archaeological mitigation required prior to or during development / destruction

Table 2: SAHRA archaeological and cultural heritage site significance assessment

THE Q1 AREA: The Q1 quarry has been backfilled for purposes of the development, implying that no additional sub-surface evidence was exposed.

THE STC02 AREA: At the time of the Phase 1bAM 3 deep foundations, in excess of 2m in depth each, were dug in the general vicinity of STC02 (S31°55'30.6"; E26°40'25.7"). Here sub-surface evidence indicated a complex

geomorphology, inferred to be closely tied with palaeo-environmental conditions indicative of a much wetter past that spells of springs or fountains and deep shafts, backfilled in time with red Hutton sands. Closely tied with the sub-surface geomorphology, it came to the fore that Site STC01, reported on originally as a borrow pit (Van Ryneveld 2011) is in fact a natural depression, supporting the complex geomorphology identified at the 3 foundation excavations at STC02.

At the 1st of the foundation excavations a stratigraphic sequence containing a clear artefactual member was identified. The approximate 15cm artefact member underlay an approximate 5cm sterile surface member. Below the artefact member red sands constitute an approximate 40cm anthropogenic sterile member, in turn underlain by the geological basal layer. A relative artefact ratio (artefacts: m in situ section) of 20+:1 was established, with artefacts mainly produced from hornfels. Artefacts identified in this member, can similarly to the artefacts identified at STC01, be assigned to a Volman (1984) MSA2 to MSA3, with fairly remarkable types. Good typology characterizing the assemblage is directly ascribed to the knapping qualities of the raw material used, with convergent flakes, blades, flake-blades and scrapers being the most prominent types, but including cores and other knapping *debitage*. The artefact occurrence is described as a lens, of which the size could not be established, but is inferred to be fairly small, since it disappears virtually in totality at sections inspected at the 2nd foundation excavation, situated less than 10m from the 1st.

At the 2nd foundation excavation artefacts, typologically and technologically similar to those at STC01 and the 1st foundation excavation were still present in the top 20cm of the section, though in far less quantities than at the 1st foundation excavation with artefact ratios of <10-1:1 in situ section recorded. This member was underlain by a decomposed calcrete member of approximately 80cm in thickness which overlays a red Hutton sand member.

At the 3rd foundation excavation, again situated more or less 10m from the 2nd foundation excavation only infrequent artefacts were encountered with densities too low to ascribe an artefact ratio. Artefacts identified were again typologically and technologically similar to those reported on, implying that they are of the original same deposit. Identified artefacts were all present within the top approximate 15cm of the section. Here a notably complex geomorphology with a shaft filled with red Hutton sand testifies to complex palaeo-water action and processes.

Close proximity of the 3 foundation excavations associated with the radical change in sub-surface section composition implies that artefact occurrences are mostly the result of past water disturbance which resulted in solution lenses and pockets, testimony to a radically impacted on secondary context. To date the best identified deposits remain the stratigraphic sequence identified at the STC01 natural depression, although a fair amount of post-depositional water impact can be inferred to have impacted on the deposit.

NEWLY IDENTIFIED ARCHAEOLOGICAL OCCURRENCES, XASHIMBA ABATTOIR, QUEENSTOWN, EC			
Site Code	Co-ordinate	Type	Description
STC02	S31°55'30.6"; E26°40'25.7"	Stone Age	MSA occurrence
1 st Foundation excavations	-	-	Medium density occurrence
2 nd Foundation excavations	-	-	Low density occurrence
3 rd Foundation excavations	-	-	Only infrequent artefacts

Table 3: Newly identified archaeological occurrences, *Xashimba Abattoir* project



Map 3: Results of the Phase 1bAM assessment



Plate 1: View in the vicinity of Q1



Plate 3: Stratigraphic sequence at the 1st foundation excavation



Plate 2: General view of the 1st foundation excavation



Plate 4: Close-up of the artefact lens at the 1st foundation excavation



Plate 5: Close-up of the artefact lens at the 2nd foundation excavation



Plate 7: General view of the 3rd foundation excavation



Plate 6: General view of the 2nd foundation excavation



Plate 8: Selected artefacts from the general STC02 area

3) CONSTRUCTION OF RELATED INFRASTRUCTURE ON ALTERNATIVE SITE 2

At present it is proposed to construct a site office and parking lot on the Alternative Site 2 area. While a number of sites were considered for the infrastructure, the locales are preferred based on site layout and operation. An approximate 30m conservation buffer will be maintained around Site STC01. It is recommended that construction of the site office and parking lot proceeds as planned, based on Phase 1 AIA and specifically Phase 1bAM evidence supporting the secondary context of the artefact lenses and solution pockets, while formal site conservation of Site STC01 together with the approximate 30m conservation buffer will ensure that, to date, the best identified deposits are conserved.

The developer can reasonably expect to encounter anthropogenic material during the course of construction, not as much during construction of the parking lot, which will be situated on top of the anthropic sterile surface, but rather during foundation excavations of the site office. Should lenses or solution pockets similar to that at Site STC01 be encountered, in other words where lenses of artefacts approximates 50-70cm in thickness, the developer should ensure that an archaeological site inspection be done to determine whether sampling or further Phase 2 testing would be necessary. Should only thin lenses, in the region of 10-15cm in thickness be encountered then it can reasonably be inferred that already recorded palaeo-environmental episodes and conditions have impacted on archaeological deposits to an extent that Phase 2 mitigation would serve little purpose to further our understanding of the assemblage.

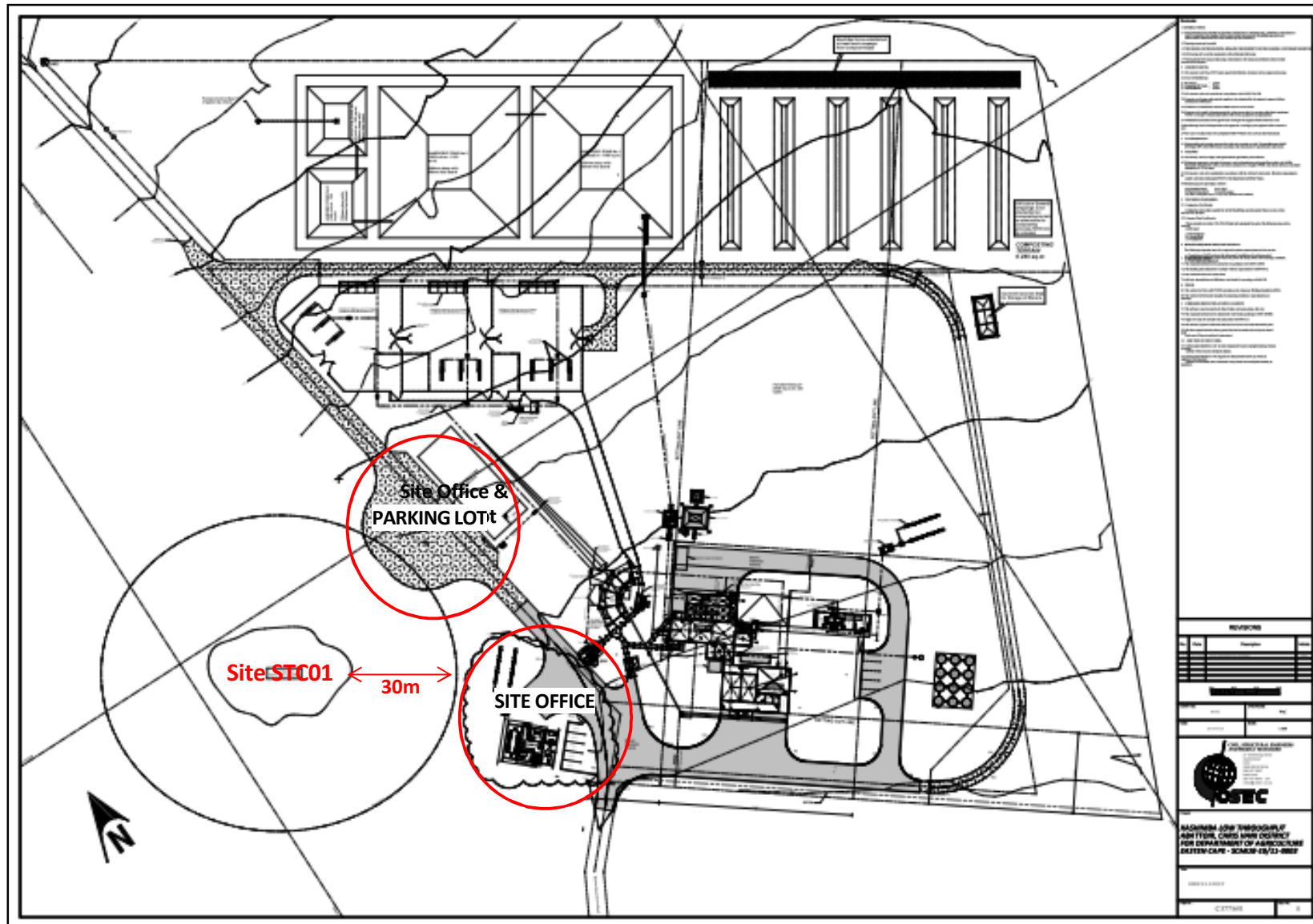


Figure 1: Layout of the Xashimba Abattoir indicating the site office and parking lot in relation to Site STC01 on Alternative Site 2

4) RECOMMENDATIONS

With reference to archaeological and cultural heritage compliance, as per the requirements of the NHRA 1999, it is recommended that this report serves to meet Phase 1bAM requirements for the project. It is recommended that the construction of the site office and parking lot proceeds as planned. Should archaeological lenses approximating 50-70cm in depth be identified during foundation excavations of the site office the developer should ensure that an archaeological site inspection be done to determine if a Phase 2 mitigation project would be necessary

PHASE 1b ARCHAEOLOGICAL MONITORING – XASHIMBA ABATTOIR, NEAR QUEENSTOWN, EC				
STOCKENSTROOMSLOOT NOORD 434				
Map Code	Type / Period	Description	Co-ordinates	Recommendations
Phase 1 AIA identified archaeological sites and occurrences, Xashimba Abattoir project, EC				
STC01	Stone Age	MSA Site	S31°55'30.9"; E26°40'20.6"	Conservation
Q1	Stone Age	MSA low density occurrence	S31°55'33.0"; E26°40'24.7"	Destruction
GT1	Stone Age	MSA low density occurrence	S31°55'30.7"; E26°40'28.5"	Destruction
GT2	-	-	S31°55'32.8"; E26°40'29.0"	N/A
GT3	-	-	S31°55'32.2"; E26°50'31.2"	N/A
Newly identified archaeological occurrences, Xashimba Abattoir project, EC				
STC02	Stone Age	-	S31°55'30.6"; E26°40'25.7"	-
1 st FE	Stone Age	MSA Medium density occurrence	-	Destruction
2 nd FE	Stone Age	MSA low density occurrence	-	Destruction
3 rd FE	Stone Age	-	-	Destruction

Table 4: Phase 1 AIA and Phase 1bAM – co-ordinate details

5) REFERENCES

1. SAHRA Review Comment on Archaeological and Palaeontological Impact Assessment – The Xashimba Abattoir. SAHRA File No: 9/2/077/0001. 2012-02-06.
2. Van Ryneveld, K. (ArchaeoMaps). 2011. *Phase 1 Archaeological Impact Assessment – The Xashimba Abattoir, near Queenstown, Eastern Cape, South Africa*; and
3. Volman T.P. 1984. *Early Prehistory of Southern Africa*. In Klein, R.G. *Southern Africa Prehistory and Palaeoenvironments*. Rotterdam: A.A. Balkema