

**A. Annual Permit Report on the 2014 annual research excavations at
Spitzkloof**

Prepared for:

South African Heritage Resources Agency

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Permit holder:	Dr Genevieve Dewar, University of Toronto
Site name:	Spitzkloof Rockshelter

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B. Executive Summary

The third field season at Spitzkloof B focused on continuing to excavate the unit with the exception of a 50 cm x 2 m step along the south edge of the excavation. The step had been left *in situ* during the 2013 season due to clear signs of snail burrowing. The assemblage produced a quartz flake dominated industry with a few bladelets. Other artefact types include charcoal, ostrich eggshell, and bone with tortoise clearly dominating the assemblage. There are a few beads ~4 mm in diameter. There was a crayfish mandible and a black mussel shell. Using a Nikon total station to piece plot every artefact over 2.5 cm in size meant that we were excavating very slowly. Based on the visual depth of the talus slope and the morphology of the shelter there is at least 1.3 m of material yet unexcavated. We opened a new unit 2 m west of the main unit (N8) to assess spatial patterns, it was rich in large beads and bead preforms, however the deposit was heavily churned by rodent burrows. Numerous scientific studies are underway in order to identify past economic strategies and palaeoenvironmental signals including: geoarchaeology, botanical (phytoliths, pollen, and charcoal), lithics and faunal analyses. This is a multi-disciplinary research program including numerous international institutions.

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C. SAHRIS Site Links

<http://www.sahra.org.za/sahris/sites/spitzkloof-0>

<http://www.sahra.org.za/sahris/sites/spitzkloof>

<http://www.sahra.org.za/sahris/cases/radiocarbon-dating-spitzkloof-rockshelter-export>

<http://www.sahra.org.za/sahris/cases/temporary-export-3-boxes-bone-and-1-box-ostrich-egg-shell-excavated-spitzkloof-rock-shelter>

<http://www.sahra.org.za/sahris/objects/spitzkloof-assemblage>

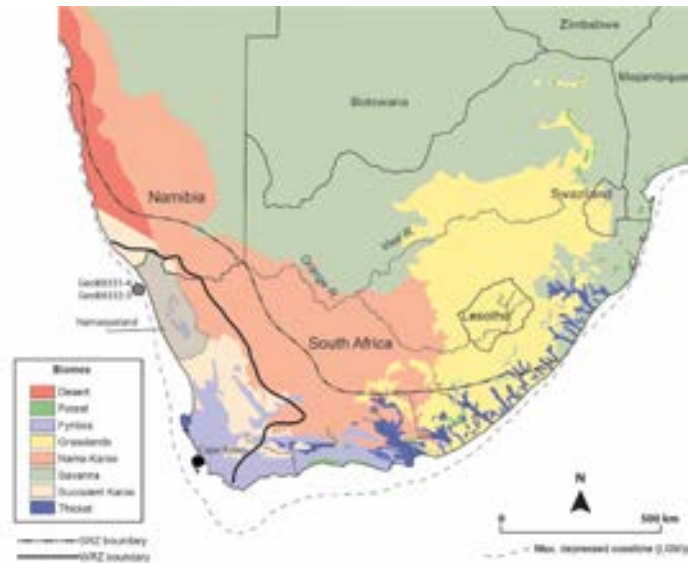
<http://www.sahra.org.za/sahris/objects/spitzkloof-b-2015-lithics-and-oes>

<http://www.sahra.org.za/sahris/node/120618>

<http://www.sahra.org.za/sahris/node/117560>

D. Location details

Site name:	Spitzkloof Rockshelter
GPS coordinates:	28° 51' 47.4012" S, 17° 4' 39.162" E
Nearest town:	Lekkersing
Local District:	Richtersveld
Magisterial District:	Namakwa
Province:	Northern Cape
Age of excavated materials:	700 to 41,400 years Before Present



E. List of all participating researchers

Project Director Dr Genevieve Dewar, PhD
University of Toronto

Project Director Dr Brian Stewart, PhD
University of Michigan

Teaching Assistant Dr Ben Collins, PhD
University of Toronto

Teaching Assistant Mr Hugo Pinto
Archaeological Services

Teaching Assistant Ms Sarah Kivisto
University of Toronto

+6 international undergraduate students – see formal report below for student names

F. Curation of materials

Institution:	McGregor Museum
Curator:	David Morris
Contact details of curator:	dmorris@museumsnc.co.za
Institutional address:	5 Atlas St. Herlear, Kimberley, 8301 RSA
Institution for post-ex. analysis:	University of Cape Town
Institutional address:	Department of Archaeology, Private Bag, Rondebosch, RSA

The material is currently housed at the Department of Archaeology at UCT while it is being analyzed. The material will be shipped to the McGregor Museum upon completion of analysis. Artefacts have been divided according to material (lithics, animal bone, OES, marine shell, other organic remains, soil samples) and are stored in individual zip-lock plastic bags with respect to the excavation square, quadrant and context from where they were excavated, and artefact/ sample number for piece-plotted items. This information is written alongside the site code and excavation year on the outside of the artefact bag and on tags within small zip-lock plastic bags placed inside the labelled artefact bag.

For the purposes of temporary storage and transport prior to final accession at McGregor Museum, the artefact/ sample bags are kept in appropriate cardboard artefact boxes with different material types stored separately. Each box is labelled with the site code, excavation year, material type, squares and contexts of the artefact/ sample bags contained within.

H. Archaeological research collection and excavation

2014 Research Excavation

Responsible Person 1	Dr Genevieve Dewar, University of Toronto
Responsible Person 2	Dr Brian Stewart, University of Michigan
Responsible Person 3	
Number of participants	11
Duration of fieldwork	4 weeks
Excavation equipment used	Leaf trowel, hand-pick, brush, hand-shovel, sieve (1.5mm mesh), Total Station (EDM).
Indication of volume excavated	628 L, 0.628 m ³
Samples	<i>See formal report attached</i>

Description of work/
Methodology

Excavation Method:

A 1m by 1m grid was laid out on site and tied-in to previous year's excavation grid using a Nikon Total Station (EDM). Excavation proceeded in 1m² units that were further sub-divided into four 0.5m by 0.5m quadrants (NW, NE, SW and SE quadrants). Individual grid squares are referenced by north-south 'columns' labelled alphabetically and numbered east-west 'rows'.

Archaeological deposits were excavated using hand tools (leaf trowels, brushes and occasionally geological hammer/ small pick) with respect to stratigraphic interfaces of archaeological features or between distinct layers of sediment differentiated by colour, composition, compaction and/ or inclusions. Site records were compiled using an adaptation of the Single Context Recording system (Museum of London Archaeology Service 1994) whereby each structure, deposit (layer or feature fill) and cut (post-hole, pit, etc.) was assigned an individual Context number from a running register. Stratigraphic layers were excavated in horizontal spits with a maximum depth of 30mm or to the interface with the underlying Context, whichever was reached first. Each Context was fully excavated within a 1m² unit before proceeding with excavation of the next underlying Context. The sediment from each quadrant was excavated and sieved separately through a 1.5 mm mesh, with the sieved residue manually sorted to recover artefacts, faunal remains, charcoal and other macro-botanical or organic remains. Each artefact with a maximum dimension ≥ 25 mm was assigned an individual artefact number from a running register, piece-plotted *in situ* and its coordinates recorded using the EDM to an accuracy of ± 10 mm on the Easting/ Northing axes and ± 2 mm on the z-axis. Charcoal fragments with a maximum dimension ≥ 25 mm identified in the course of excavation were also piece-plotted as individual samples for possible radiocarbon dating and botanical analysis. Complete flakes, retouched pieces and complete skeletal elements with maximum dimensions below 25 mm were also individually piece-plotted when identified in the course of excavation. The orientation and bedding planes of larger artefacts (≥ 50 mm) were recorded as two or more coordinates if their *in situ* position was not disturbed in the course of excavation. All other archaeological material was collected in the sieved residue. All collected artefacts, ecofacts and samples were labelled according to the context, quadrant and grid square they were recovered from.

The EDM was also used to record depths of excavation spits and survey the exposed rock face, boulders and surface of deposit across the shelter. This spatial data will be used to generate 3D plots of excavated material and models of the site layout using GIS software packages such as Global MapperTM and Geomagic[®].

The 'opening' of each Context (or spit thereof) was photographed in plan with a digital camera, and stratigraphic interfaces between different exposed Contexts were illustrated in separate overlays onto these 'opening' photographs, thus producing plans of stratigraphic relationships. Excavation data for each Context (or spit thereof) was recorded on individual, standardised digital Context Record forms using the File Maker Pro 11 database software on Apple iPads. Context Record forms compile detailed descriptions of the excavated sediment (including colour, composition, compaction, inclusions, spatial dimensions, bucket volume excavated, etc.); stratigraphic relationships with surrounding contexts; observations by excavator and their interpretation on what the excavated Context represents.

Description of work:

Excavation of the four 1m² units J7, K7, J8 and K8 continued from the levels reached in the 2013 fieldwork season. With the exception of the southern quadrants of J7 and K7 that were retained as a higher sediment pedestal partway through the 2013 season at a depth of ca. 0.3 m due to disturbance resulting from snail burrows, the remainder of the units was excavated to a depth of approximately 0.6m.

In addition to continuing excavation of these four squares, a fifth 1 m² unit was opened 2 m west of the main 2 m x 2 m trench at grid square N8. The main purpose of excavating square N8 was to test whether there was any significant spatial variation in deposits across the shelter from those investigated in the central 2 m x 2 m trench. N8 was excavated to a maximum depth of ca. 0.3 m and exposed an uppermost 'meta-strata' layer of pale grey silty-sand with frequent roof spall, interspersed with hearth deposits represented by concentrations of ash and charcoal, confirming these layers are consistent with the upper deposits within the main 4m x 4m excavation trench.

However, it was evident that a great portion of deposit within N8 had been substantially disturbed by burrowing rodents, and it was decided to halt excavation of N8.

Site management

At the completion of the fieldwork season, exposed archaeological deposits along the base and vertical profiles of excavated squares were covered with permeable plastic sheeting and protected with sandbags placed along the base and against the vertical sections. All excavated squares were then backfilled to the level of the surrounding ground surface with sieved sediment and sand from the dried riverbed at the base of the valley. Special care was taken to ensure that no plastic sheeting was visible and that sediment on the ground surface was blended-in to disguise the presence of excavation trenches.

Table listing stratigraphic units (contexts) and approximate volume excavated:

context	Square	10 L bkts	bone	lithics	charcoal	OES	ochre	Pottery	other
1014	K8	0.4	x	x	x	x			
1014A	K8	1.0	x	x	x				
1015	K8	4.9	x	x	x	x			x
1016	K8	0.2	x	x	x	x			
1017	K8	3.5	x	x	x	x			
1018	K8	0.8	x	x	x	x			
1019A	K8	0.05							
1021	K8	1.3	x	x	x	x			
1022	K8	0.05			x				
1023	K8	0.15	x	x	x	x			
1024	K8	0.3	x						
1025	K8	3.3	x	x	x	x			
1026	K8	0.2		x	x				
1027	K8	0.4	x	x		x			
2013	J8	0.4	x	x	x				
2014	J8	0.8		x	x				
2015	J8	1		x	x	x			
2016	J8	2.4	x	x	x				
2017	J8	6.1	x	x	x	x			
2017a	J8	2.3	x	x	x	x			
2019	J8	0.1							
2020	J8	1.3	x	x	x				
2021	J8	0.4	x	x	x				
2022	J8	0.2		x	x				
2023	J8	0.2		x	x				
2024	J8	0.2		x	x				
3014	J7			x					
rem									

3015	J7	0.9	x			x		x
3016	J7	0.4				x		
3017	J7	0.3	x			x		
3018	J7	0.6	x		x	x		
3019	J7	0.6			x	x		x
3020	J7	1.4	x		x	x		
3022	J7	0.5	x		x	x		
3024	J7	0.6				x		
3025	J7	0.5	x		x	x		
3026	J7	0.1	x		x	x		
3027	J7	0.5	x		x	x		
4012	K7	0.2	x		x	x		
4013	K7	1.1	x		x	x		x
4014	K7	1	x		x	x		x
4015	K7	0.3			x			
4016	K7	0.1	x		x			
4017	K7	0.3	x		x	x		x
4018	K7	0.8			x			x
4019	K7	0.1	x		x	x		
4020	K7	2.1	x		x	x		x
4022	K7	0.4			x			x
4023	K7	1			x			x
4024	K7	-			x			
4025	K7	0.2				x		
4026	K7	0.2			x	x		
4027	K7	0.2				x		
4028	K7	0.1	x					
4029	K7	0.1						
4030	K7	0.6	x					
4031	K7	0.8						
5000	N8	1.2	x		x	x		x
5001	N8	0.9	x		x	x		x
5002	N8	1.5	x		x	x		x
5004	N8	0.7	x		x	x		x
5005	N8	1.3	x		x	x		x
5006	N8	0.7	x		x	x		x
5007	N8	0.2	x		x	x		x
5008	N8	0.7			x	x		x
5009	N8	0.8	x		x	x		x
5010	N8	3	x		x	x		x
5011	N8	0.5	x		x	x		
5012	N8	0.3			x	x		
5013	N8	0.6	x		x	x		

5014	N8	1.1	x	x	x	x
5015	N8	0.5	x	x	x	x
5016	N8	0.1	x		x	
5017	N8	0.4	x	x	x	
5019	N8	0.6	x	x	x	x

*Other are typically beads and bead preforms

1. Introduction

This is the report for the third excavation season at Spitzkloof B Rockshelter (28° 51.79' S 17° 04.65'E) that occurred from July to August 2014. The site is located 30 km inland from the Atlantic Ocean and 30 km due south from the Orange River in the Richtersveld Municipality, Northern Cape, South Africa (Fig. 1). Spitzkloof B is the middle of three eroded rockshelters within a folded outcrop of quartzite in the Stinkfontein subgroup (Frimmel 2003) overlooking quartzitic gravel plains in Northern Namaqualand. Immediately in front of the shelter is a dry tributary of the Holgat River (Fig. 2).

The primary research questions of the project called 'Adaptations to Marginal Environments in Middle Stone Age' (AMEMSA) are: When, where and how did early *Homo sapiens* develop the adaptive plasticity required to colonize and continuously occupy environments where resources are unpredictable in space and time? Did they develop new social-economic strategies and technology *in situ* or were these creative solutions developed elsewhere. Ultimately this research project is aimed at contributing to the evidence for the migration of early humans 'Out of Africa' and eventually colonizing the old world and ultimately the deserts of Australia. The Spitzkloof shelters are a very important component of this research program as they represent the arid environment within the larger research project (Dewar & Stewart 2012, Dewar & Stewart *In press*, Stewart et al. 2012, Stewart et al. *In press*).

2. Background

2.1 Environment

The Spitzkloof Rockshelters are located in the winter rainfall zone that receives greater than 66% of its precipitation during the austral winter months (Dewar & Orton 2013). The region is a semi-arid desert and the southern extension of the Namib Desert on the west coast of South Africa. The area is desolate with the coastal strip consisting of Holocene white sand dunes and older red sands in the interior (Le Roux and Schelpe 1981, Acocks 1998). Drainage is westward toward the Atlantic Ocean but low rainfall ranging from 50 to 150 mm per annum mean that rivers rarely flow (Mucina et al. 2006). The biome is classified as Succulent Karroo and temperatures in the vicinity of the site exceed 30 °C during the summer while winter minimums are below freezing. The region is a diversity hotspot for some succulent and reptilian species (Mucina et al. 2006) but prey species are low in diversity, species richness, and evenness. All flora and fauna are arid adapted specialists and obtain the majority of their water intake through coastal fogs (*Malmokkies*) that range up to 90 km inland. The vegetation is Lekkersing Succulent Shrubland (Mucina et al. 2006), dominated by dwarf shrubbery while larger species such as *Acacia karoo* can be found along dry riverbeds in front of the shelter.

2.2 Previous Archaeological Investigations

Relative to most regions in South Africa, very little archaeological research has been conducted in Namaqualand because a large proportion of the area was previously inaccessible diamond mining territory. However over the past 20 years the Archaeology Contracts Office and others have begun to survey the region for various projects including Heritage, Environmental, and Archaeological Impact Assessment's. Over 1500 open sites have been catalogued with surface material identifying occupation of the area from the Early Stone Age through to the historic period (Dewar 2008, Halkett 2002, 2003, 2006a, 2006b; Halkett and Dewar 2007; Halkett & Hart 1997, 1998; Halkett & Orton 2004, 2005a, 2005b, 2007; Orton 2007a, 2009a, 2012; Orton & Halkett 2005, 2006; Webley 1992, 2002, 2007, 2009; Webley & Orton 2013). More rare is the presence of shelters with archaeological deposits that allow for the development of chronological sequences providing context for open sites. Currently there are two academic research projects addressing this, the Vaarsch River project in southern Namaqualand (Mackay et al. 2010, Steele et al. 2012) and this project at Spitzkloof in northern Namaqualand (Collins et al. in prep, Dewar & Stewart 2012, Dewar & Stewart *In press*)

2.2.1 Northern Namaqualand

Spitzkloof A was excavated from April to May 2010 and again in 2011 (Dewar and Stewart 2012, *In press*). After two field seasons units G3 and F3 are 1.9 m deep while F4 is 50 cm deep. The second field season was cut short when a large termite void was discovered one meter down the face of the south profile in unit G3. The void was 1 x 2 meters in size and extended through what would have been unit G4.

After discovering the dangerous nature of this void, the sections were shored up with sand bags and sediment samples were collected along the north wall of unit G3.

2.2.1.1 Previous work at Spitzkloof B

In July 2012 we returned to Spitzkloof with an extended permit to work in shelter B due to the dangers of the termite void discovered in shelter A (see Dewar 2013). The B shelter was surveyed and drawn using a Leica total station and tied into the datum established in 2010. The mouth of the shelter is twenty-five meters wide and six meters deep facing northeast. A four-meter square grid was surveyed onto the deposit with care to avoid the back wall and the edge of the drip line (Fig. 3).

The units were labelled J8, K8, J7 and K7. The sediment was excavated in 50 cm² quadrants using small leaf trowels and brushes and processed through a 1.5 mm dry sieve. All bucket counts (10 L buckets) were recorded to estimate volume of material. Organic rich deposits including all hearths and ash dumps were floated and the fine fraction was collected separately. The site was excavated stratigraphically using a modified single context method. Every context was excavated in 3 cm spits or by single context whichever was thinner. All data were recorded on single context recording sheets using a File Maker Pro 11 database on iPads. Each quadrant had a dedicated tablet and the data were uploaded to a laptop. Each one m² unit was given a different numbering system to avoid biasing the interpretation of the contexts during excavation: K8 is recorded as 1000's, J8 is 2000's, K7 is 3000's and J7 is 4000's. For the first season, plan drawings of every context were recorded using grid paper and pencil. During excavation season two, and three we drew the opening of the context on the iPads using the

application iDraw. We also photographed the opening of every new context / feature with a digital camera. Depths were measured using both the total station and a line level with a measuring tape. All material 2.5 cm and over was piece plotted *in situ* using the total station and bagged and numbered separately. All sorted material was bagged by relevant artefact categories on site. We used hatpins and white plastic botanical labels to mark the boundaries of the contexts in the profile walls (Dewar 2013). While the material will ultimately be stored at the McGregor Museum in Kimberley, the artefacts are temporarily housed at UCT for continued analysis.

3. Current Excavations

In July 2014, we returned to Spitzkloof B with six international undergraduate students, two graduate student TA's as well as Genevieve Dewar, Brian Stewart, and Hugo Pinto. This season was run as an archaeological field school through the IFR (www.ifrglobal.org). Our excavation season was shortened by a week due to engine problems with the Bakkie but nevertheless we were able to continue excavating units J8, K8 and the northern quadrants of J7 and K7 (Fig. 3). We avoided working on the southern quadrants of J7 and K7 (SW and SE) due to snail disturbance: presence of snails in 10 cm diameter pockets, vertical lithics, and concreted vegetation. We continued to excavate in a predominantly brown (most common Munsell colour: 10 YR 4/4 brown) sandy silt below the grey roof spall of the late Holocene deposits. We had to temporarily stop excavating the northern quadrants of K8 and J8 due to heavily concreted gypsum deposits (that caused large chunks of material to be removed) in order to get the remaining deposit down to the same level that the gypsum removal exposed. Overall the artefact frequency was quite low compared to previous years. We excavated a further 43 cm to reach a total depth of 85 cm removing 631 L (0.631 m³). We continued the labelling system piece-plotting every artefact/ecofact over 2.5 cm giving them a number in sequence of its discovery.

3.1 Dating

This year we obtained two radiocarbon dates from the base of the excavation (Table 1) that produced much older than expected results. Our previous dates placed the uppermost deposits in the late Holocene (700 BP and 1400 BP) however our new dates are pre-Last Glacial Maximum (LGM) Marine Isotope Stage 2 (30 ka and 33 ka). As both dates are similar to each other and from different contexts, they are unlikely to be outliers.

3.2 Micromorphology

As the excavation remains quite shallow we have not yet taken sediment samples for the B shelter.

4. Artefacts

4.1 Bone

The organic preservation is fairly good at Spitzkloof B allowing for the preservation of some organic material including bone. The bone from this season will be analysed in the near future as a part of a proposed Masters project.

In total only 34 elements ranged from 2.5 to 5 cm in length and were individually piece plotted. A further 7 bones were greater than 5 cm and received two spatial identifiers. The vast majority of the identifiable bone is from *Chersina angulata* followed by size 3 bovids (likely *Oryx gazelle*), a size 4 ungulate (cf. zebra: Brain 1981), small bovid, and small snake. Thus, the

diversity of species in this deposit is low compared to the samples collected from the late Holocene deposits. These species are present in the environment today and indicate a similar environment to today. However further study is required.

4.2 Charcoal

Charcoal was fairly rich throughout the deposit with a total of 60 pieces greater than 2.5 cm piece-plotted with an additional 11 pieces >5 cm, receiving two point locaters at each end.

4.3 Lithics

The majority of lithics from the site consist of milky-quartz flakes although some quartz crystal, heat treated CCS, tabular quartzite and silcrete was observed. Bladelets are the most common artefact after flakes. A total of 152 lithics were over 2.5 cm in length, receiving a piece-plot number, although this means we may not have plotted all the bladelets. There was little evidence of retouch but there was some present and analysis has not yet been completed. There were also a few bipolar cores, one anvil, two manuports, and broken qtz blades. Dr Jayson Orton has the lithics and is in the process of identifying them. So far, the majority of the lithic signature seems to represent a Robberg-like industry, however the artefact signature does not match the radiocarbon dates, so we need to obtain more dates to further refine the layers and the interpretation.

4.4 Ostrich eggshell (OES)

Ostrich eggshell is present in these contexts with a total of 67 body sherds large enough to piece plot. The external aspect of the shell reflects a range of colours: sunny yellow to light brown, dark red, and white.

4.5 Ostrich eggshell artefacts

There were many small broken and complete beads (~4 mm) and large bead preforms (~10 mm) from the newly opened N8 unit, but due to heavy disturbance by rodents it is unclear where the beads or preforms originated from. There were also two pieces of engraved ostrich eggshell from N8. The main unit produced fewer beads but they were of the small 4 mm variety.

4.6 Shell

One *Choromytilus meridionalis* (black mussel) shell fragment was found. While it is possible that a bird of prey brought the marine shell to the site it is unlikely given the low frequency of rodents in the deposit, their preferred diet. There were also many *Trigonephrus sp.* land dune snails that are common in the region today. This is the source of the major disturbance in this material.

5. Discussion & Conclusion

The assemblage from this excavation produced the usual artefact classes: bone, ostrich eggshell sherds (one engraved) and beads, charcoal, and lithics. The frequency of these material remains dropped off noticeably as we continued to work but this would be expected if we were working in deposits dated to 30 ka and 33 ka. We clearly need to obtain radiocarbon dates from key contexts to sort out when the transition from the Holocene to the Pleistocene occurs at SPTZB. The vast majority of artefacts including most of the beads and bead preforms came from the newly opened unit N8, but as that unit is extremely disturbed the artefacts provide little help to

interpreting how the space was used and when. We have no intentions of obtaining radiocarbon dates for N8 and will not continue to excavate that unit. The lithics are most heavily dominated by qtz flakes while Robberg-like bladelets are present. This suggests that we likely have an early microlithic LSA assemblage but only further dates will tell us for sure.

The faunal species brought to the site are locally available today and reflect a palaeoenvironmental signal that suggests the region was similar to the current semi-arid desert environment. The prevalence of *Chersina angulate*, *Oryx taurotragus*, a small bovid, and size 4 ungulates suggests an opportunistic economic strategy focussed on locally available species from the surrounding foothills (Skinner & Chimbimba 2005). The marine shell indicates some contact with the coast that is currently 30 km west of the site.

6. Future Work

Future work will include the excavation of the step left in the southern quadrants in order to obtain a larger sample of the bladelets. We will also carefully scrutinize the contexts and piece plotted charcoal to further refine the dating of these layers. We predict an additional 1.3 m of deposit is present based on the morphology of the shelter. This excavation is planned for July/August 2015 and funding has been obtained from SSHRC (Social Science and Humanities Research Council of Canada). We also need to continue systematic survey of the region in order to identify other sites and raw material sources. This will be done using standard survey methods and high-resolution GPS handheld units.

7. Team See Figure 6

Report:	Genevieve Dewar
2014 Fieldwork team:	Genevieve Dewar Brian Stewart Hugo Pinto Ben Collins Sarah Kivisto Camille Tamo Elizabeth Holmes Jasmine Kelly Anna Marshall Hanna Larcinisse Justin Fleetwood

8. References

- Acocks, J.P.H. 1988. *Veld types of South Africa*. Memoirs of the Botanical Survey of South Africa No. 57 3rd ed. Cape Town.
- Dewar, G. 2008. *The archaeology of the coastal desert of Namaqualand, South Africa: a regional synthesis*. Oxford: British Archaeological Reports International Series 1761.
- Dewar, G. 2013. Report on the first excavation season at Spitzkloof B. For South African Heritage Resources Agency. Unpublished report. Toronto: University of Toronto.

Dewar, G. & Stewart, B. (*In press*). Paleoenvironments, sea level change and settlement in Namaqualand, South Africa during MIS 6-2. In: Stewart, B. and Jones, S. (Eds.) Africa during stages 6-2: population dynamics and palaeoenvironments. Vertebrate Paleobiology and Paleoanthropology. New York: Springer Press.

Dewar, G., Norman, L., Rhodes, S., Dorland, S., McFadden, L., and Goodwin, R. (In Prep). Southern Africa and the LGM: Desert life during the last glacial maximum.

Dewar, G. & Stewart, B. 2012. Preliminary results of excavations at Spitzkloof Rockshelter, Richtersveld, South Africa. *Quaternary International*. 270: 30-39.

Dewar, G. & Jerardino, A. 2007. Micromammals: when humans are the hunters. *Journal of Taphonomy* 5: 1-14.

Dewar, G., Halkett, D., Hart, T., Orton, J. & Sealy, J. 2006. Implications of a mass kill site of springbok (*Antidorcas marsupialis*) in South Africa: hunting practices, gender relations and sharing in the Later Stone Age. *Journal of Archaeological Science* 33: 1266-1275.

Dewar, G. and Orton, J. 2013. Subsistence, settlement, and material culture on the central Namaqualand coastline In: A. Jerardino, D. Braun, and A. Malan (Eds.) The archaeology of the west coast of South Africa. Cambridge Monographs in African Archaeology 84 British International Reports Series 2526: 109-123.

Halkett, D. 2002. Phase 1 archaeological survey: assessment of mining blocks in the BMC and KN areas, Namaqualand. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Halkett, D. 2003. A report on the archaeological mitigation program at De Beers Namaqualand Mines: March 2002 to June 2003. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Halkett, D. 2006a. Phase 1 archaeological assessment of mining targets in the BMC and KNC mining areas, Namaqualand, April/May 2006. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Halkett, D. 2006b. Phase 1 archaeological assessment of mining targets in the BMC mining area, Namaqualand, July/August 2006. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Halkett, D. & Dewar, G. 2007. Mitigation of archaeological sites within the Buffels marine and Koingnaas complexes, Namaqualand, July to October 2006. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Halkett, D. & Hart, T. 1997. An archaeological assessment of the coastal strip, and a proposed heritage management plan for: De Beers Namaqualand Mines. Vols 1 & 2. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Halkett, D. & Hart, T. 1998. Phase 1 archaeological survey: assessment of the proposed 1998 mining blocks on the Buffels Marine (BMC), Koingnaas (KN) and Buffels Inland (BIC) complexes. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Halkett, D. & Orton, J. 2004. Phase 1 archaeological survey: assessment of mining blocks and prospecting trenches in the BMC and KNC areas, Namaqualand. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Halkett, D. & Orton, J. 2005a. Phase 1 archaeological assessment of mining targets in the BMC and KNC mining areas, Namaqualand, April and September 2005. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Halkett, D. & Orton, J. 2005b. Phase 1 archaeological assessment of mining targets in the BMC and KNC mining areas, Namaqualand, November/December 2005. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Halkett, D. & Orton, J. 2007. Phase 1 archaeological assessment of mining block extensions in the KNC mining area, Namaqualand, May 2007. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Le Roux, A. and Schelpe, E.A.C.L.E. 1981. *Namaqualand and Clanwilliam: South African wild flower guide*. Cape Town: The Botanical Society of South Africa

Mackay, A., Orton, J., Schwartz, S. & Steele, T. 2010. Soutfontein (SFT)-001: preliminary report on an open-air site rich in bifacial points, southern Namaqualand, South Africa. *South African Archaeological Bulletin* 65: 84–95.

Mucina, L., Jürgens, N., Le Roux, A., Rutherford, M.C., Schmeidel, U. Esler, K.J., Powrie, L.W., Desmet, P.G. & Milton, S.J. 2006b. Succulent Karoo biome. In: Mucina, L. & Rutherford, M.C. (eds) *The vegetation of South Africa, Lesotho and Swaziland*: 220–299. *Strelitzia* 19. Pretoria: South African National Biodiversity Institute.

Orton, J. 2007a. Mitigation of archaeological sites within the Buffels Marine, Buffels Inland and Koingnaas Complexes, Namaqualand, August to September 2007. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Orton, J. 2007b. The sampling of ephemeral shell scatters in Namaqualand, South Africa. *South African archaeological Bulletin* 62: 74–78.

Orton, J. 2008a. A late Pleistocene microlithic Later Stone Age assemblage from coastal Namaqualand, South Africa. *Before Farming* [Online Version] 2008/1: article 3.

Orton, J. 2008b. Later Stone Age ostrich eggshell bead manufacture in the Northern Cape, South Africa. *Journal of Archaeological Science* 35: 1765–1775.

Orton, J. 2009a. Archaeological mitigation on erven 13 and 14, Hondeklipbaai, Namakwa Magisterial District, Northern Cape. Unpublished report prepared for HKB Eiendomme BK. Archaeology Contracts Office, University of Cape Town.

Orton, J. & Halkett, D. 2005. A report on the archaeological mitigation program at De Beers Namaqualand Mines, August to September 2004. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Orton, J. & Halkett, D. 2006. Mitigation of archaeological sites within the Buffels Marine and Koingnaas Complexes, Namaqualand, September 2005 to May 2006. Unpublished report prepared for De Beers Consolidated Mines. University of Cape Town: Archaeology Contracts Office.

Orton, J., Hart, T. & Halkett, D. 2005. Shell middens in Namaqualand: two hunter-gatherer sites at Rooiwalbaai, Northern Cape Province, South Africa. *South African Archaeological Bulletin* 60: 24–32.

Orton, J., Mackay, A., Schwartz, S. & Steele, T. In press. Two Holocene rock shelter deposits from the Knersvlakte, southern Namaqualand, South Africa. *Southern African Humanities*.

Steele, T., Mackay, A., Orton, J., & Schwartz, S. (2012). Varsche Rivier 003, a new Middle Stone Age site in southern Namaqualand, South Africa. *South African Archaeological Bulletin*, 67, 108-119.

Stewart, B.A., Parker, A.G., Dewar G.I., and Morley, M. (*In press*). Follow the Senqu: afromontane foragers in late Pleistocene Lesotho. In: Stewart, B. and Jones, S. (Eds.), *Africa during stages 6-2: population dynamics and palaeoenvironments Vertebrate Paleobiology and Paleoanthropology*. New York: Springer Press.

Stewart, B.A., Dewar G.I. Morley, M., Inglis, R., Wheeler, M., Jacobs, Z. and Roberts, R. 2012. Afromontane foragers of the late Pleistocene: site formation, chronology and occupational pulsing at Melikane Rockshelter, Lesotho. *Quaternary International* 270: 40-60.

Webley, L.E. 1992. The history and archaeology of pastoralism and hunter-gatherer settlement in the north-western Cape, South Africa. Unpublished PhD thesis: University of Cape Town.

Webley, L. 2002. The re-excavation of Spoegrivier Cave on the West Coast of South Africa. *Annals of the Eastern Cape Museums* 2: 19–49.

Webley, L. 2007. Archaeological evidence for pastoralist land-use and settlement in Namaqualand over the last 2000 years. *Journal of Arid Environments* 70: 629–640.

Webley, L. 2009. Archaeological impact assessment: Port Nolloth borrow pits, Richtersveld Municipality, Northern Cape. Unpublished report prepared for Richtersveld Municipality. University of Cape Town: Archaeology Contracts Office.

Webley, L. & Orton, J. 2013. Excavation of two shell middens at Port Nolloth on the Namaqualand coastline, Northern Cape. *South African Archaeological Bulletin* 69(197): 86-92.

Van der Merwe, N., & Vogel, J. 1983. Recent carbon isotope research and its implications for African archaeology. *African Archaeology Review* 1: 33-56.

Table 1. Radiocarbon ages of charcoal from Spitzkloof B, Namaqualand, South Africa. The AMS ¹⁴C dates were run at Direct AMS Radiocarbon Dating Services.

Lab No.	Context	Date in ¹⁴ C BP
D-AMS 005181	Feature 1	718 ± 25
D-AMS 005182	Feature 6	1,473 ± 30
D-AMS 010598	4023	29,991 ± 145
D-AMS 010599	2023	33,203 ± 150

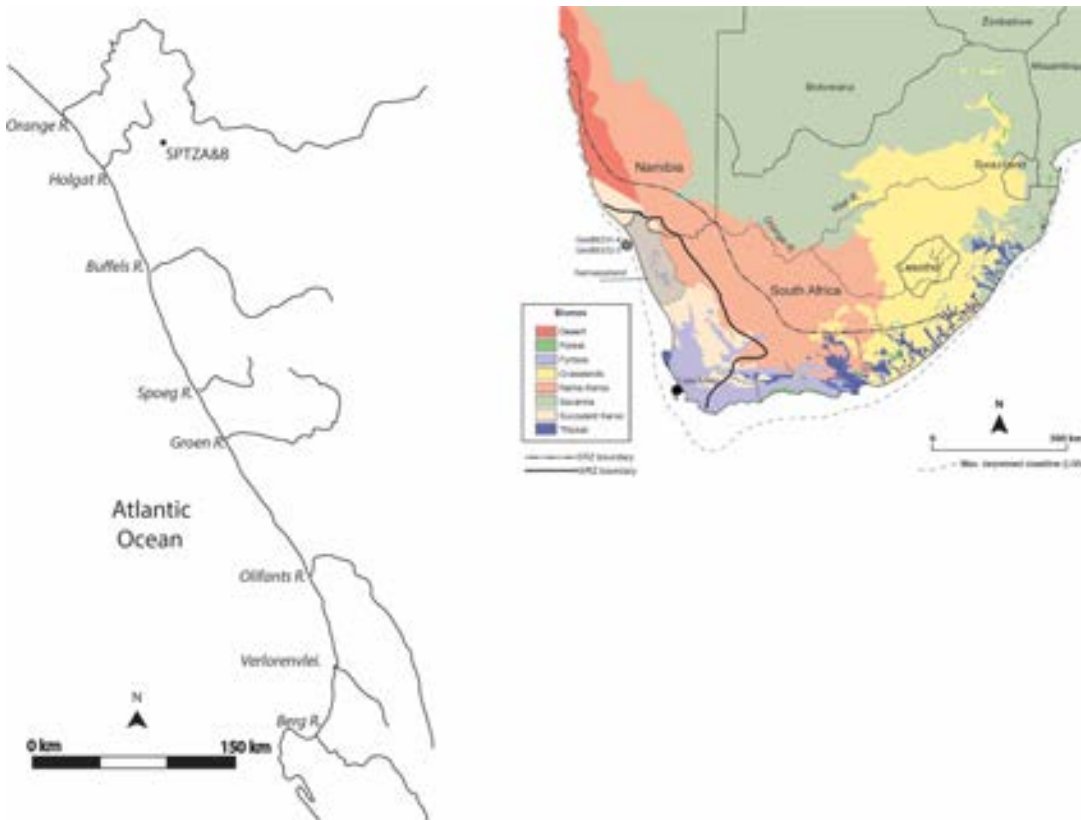


Figure 1. Map showing the location of the Spitzkloof A and B near the Holgat River in the Richtersveld, Northern Cape, South Africa.



Figure 2. Photograph of Spitzkloof A on the right and B on the left, taken facing south from the outcrop across the dry tributary from the site. (Photo taken by Michael Korchok).



Figure 3. Plan view Top left: Pre-excavation at Spitzkloof B, facing southwest looking into the back of the shelter. Below: End of the 2014 excavation season showing the step in the southern quadrants of J7 and K7, facing south.



Figure 4. West wall profile at the end of the SPTZB 2014 excavation season. This image shows the southwest wall of unit K7 and is 50 cm across and 85 cm deep.

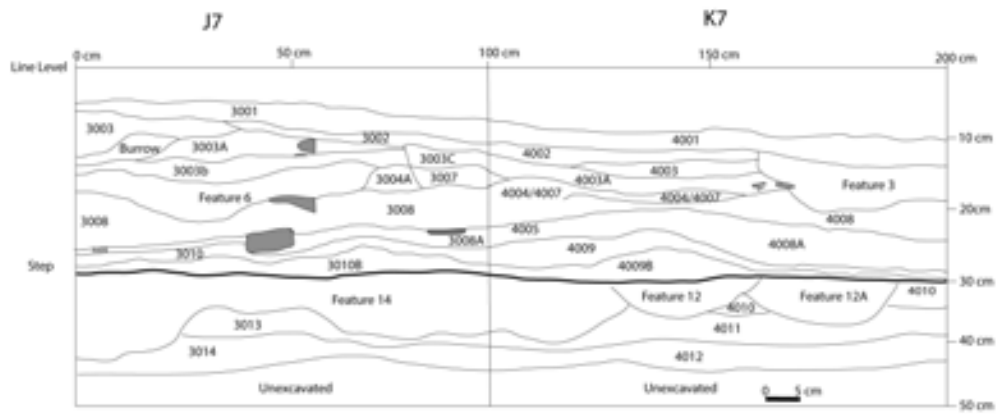


Figure 5. South wall profile of SPTZB



Figure 6. The SPTZB 2014 field crew.



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