

ADDENDUM TO REPORT

**EXPANSION OF AGRICULTURAL ACTIVITIES: PROPOSED
CONSTRUCTION OF CHICKEN LAYER HOUSES ON BOTHA FARM
(REMAIDER ERF 4000) PRIESKA, NORTHERN CAPE PROVINCE**

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Executive summary

1. Introduction

ACRM was requested by Enviro Logic to conduct an additional, Archaeological Heritage Impact Assessment for the proposed construction of chicken layer houses on Botha Farm (Rem. Erf 4000) near Prieska in the Northern Cape.

This report is an addendum to an AIA that was undertaken by ACRM on Botha Farm, in 2017.

2. The study site

The site for the proposed chicken layer houses is situated directly alongside the proposed new agricultural development (i. e. Site C), and existing vineyards, in the eastern portion of the farm, on land that is fairly severely degraded. Vegetation has been cleared from the site, and some of the top soils have also been removed. A gravel road and several smaller footpaths cross the site. Some diggings occur in the south western corner, while piles of rubble, stone and old vines cover the eastern boundary. The footprint area for the chicken houses, including associated infrastructure is about 3.2ha in extent.

2. Observations

A detailed field assessment of the proposed development site was undertaken on 2nd October 2018 in which the following observations were made:

A relatively large number, but highly dispersed, scatter, of stone tools of *low* (Grade IIIC) significance, were recorded during the baseline study. All the tools occur on a substrate of banded ironstone/jasperlite gravels, which were likely, utilised as a source of raw material by LSA hunter-gatherers for making stone implements. More than 90% of the lithics are in fine grained jasperlite, which is an ideal raw material for making stone implements because of its superior flaking qualities. A few tools in quartz, CCS/opaline/agate and lydianite/indurated shale were also found.

The majority of the tools recorded during the study are assigned to the Later Stone Age (LSA), while limited numbers of Middle Stone Age (MSA) flakes in banded ironstone, indurated shale and quartzite were recorded. Several ESA flakes/large cutting tools (LCTs) in weathered indurated shale were also found.

Many of the banded ironstone pieces are retouched and/or utilized, while several step flaked tools (probably wood working adzes), pointed flakes, and scrapers were also found. No pottery, bone, ostrich eggshell or any other organic remains were found.

No graves or typical grave markers were encountered during the field study.

There are no old buildings, structures, or features on the proposed development site.

3. Conclusion

The study has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to, proposed development activities commencing. The majority

of tools are assigned to the LSA, but a limited number of MSA and only two ESA flakes were encountered. The remains are spread thinly and unevenly over the surrounding landscape.

More than 90% of the tools are in banded ironstone with the remainder in quartzite, quartz, lydianite/indurated shale and CCS. It is very likely that extensive surface gravels of banded ironstone were also used as source material by LSA people for making stone tools.

No settlement sites, or any evidence of human occupation was noted and indications are that the tools most likely represented discarded flakes, flake tools, chunks and cores. All the tools occur in a degraded and transformed context.

The remains have been graded as having *low* (Grade IIIC) significance.

The study has captured a good record of the archaeological heritage present across the proposed development site, which mirror the range, types of tools and raw materials recorded in the proposed agricultural areas (i. e. Sites A-C) on the farm, and in the surrounding area.

4. Recommendations

With regard to the proposed development of chicken layer houses on the Farm Botha (Remainder Erf 4000), the following recommendations are made:

1. No archaeological mitigation is required.
2. Should any unmarked human burials/remains or ostrich eggshell water flask caches for example, be uncovered, or exposed during construction activities, these must immediately be reported to the archaeologist (Jonathan Kaplan 082 321 0172), or the South African Heritage Resources Agency (Ms Natasha Higgitt 021 462 4502).

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1. INTRODUCTION

ACRM was requested by Enviro Logic to conduct an additional Archaeological Heritage Impact Assessment for the proposed development of chicken layer houses on Botha Farm (Rem. Erf 4000), near Prieska in the Northern Cape (Figures 1 & 2).

This report is an addendum to an AIA that was undertaken by ACRM on Botha Farm, in 2017 (Kaplan 2017).

2. THE DEVELOPMENT PROPOSAL

The proposed development entails the construction of twelve new chicken layer houses, a packaging and storing facility for eggs, and associated infrastructure on a footprint area measuring 3.18 ha in extent (Figure 3).

A 500m long, buried water supply pipeline will be constructed from the existing pump station at the Orange River to the layer houses, and will follow existing gravel farm roads. Trenches for the pipeline will be $\pm 0.9\text{m}$ deep and 0.3 m wide.

In addition, an underground power line ($\pm 500\text{m}$ long) from an existing transformer to the layer houses will also be installed alongside existing gravel farm roads.

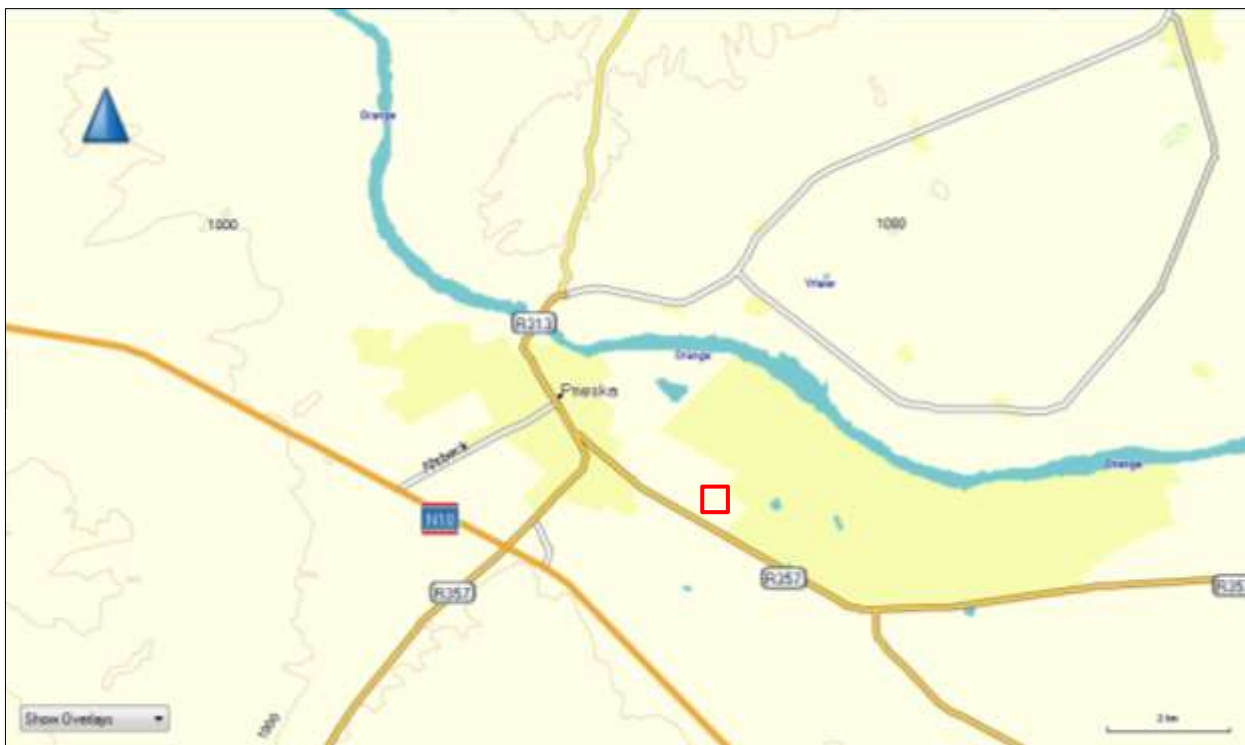


Figure 1. Locality Map. Red polygon indicates the location of Botha Farm, near Prieska

Archaeological Impact Assessment, proposed construction of chicken layer houses on Botha Farm near Prieska



Figure 2. Google earth satellite map indicating the location of Botha Farm near Prieska



Figure 3. Red polygon to the right of the satellite image indicates the position of the proposed chicken layer houses. The black polygon is the proposed footprint area of the new agricultural development.

3. DESCRIPTION OF THE RECEIVING ENVIRONMENT

The site for the proposed new chicken layer houses is a fairly level piece of land situated directly alongside the proposed new agricultural development (i. e. Site C), and existing vineyards and infrastructure, in the eastern portion of the farm, on old agricultural land that is already fairly severely degraded. Some vegetation has been cleared from the site, and top soils have also been removed. A gravel farm road and several small footpaths cross the site. Some diggings occur in the south western corner, while stacks of old vines and piles of stone and building rubble have been deposited alongside the eastern boundary. The site dips slightly in the north western corner and is covered in dense Driedoring vegetation along the northern boundary. There are no significant landscape features on the proposed site, which is located on a substrate of ironstone gravels and some limestone. Surrounding land use is agriculture (Figures 4 & 5).



Figure 4. View of the proposed development site facing north west. The pellet making factory is on the farm can be seen in the distance



Figure 5. View of the proposed development site facing south

4. STUDY APPROACH

4.1 Method of survey

The purpose of the study is to assess the sensitivity of archaeological resources in the study area, to determine the potential impacts on such resources, and to avoid and/or minimize such impacts by means of management and/or mitigation measures.

The significance of archaeological resources was assessed in terms of their content and context. Attributes considered in determining significance include artefact and/or ecofact types, rarity of finds, exceptional items, organic preservation, potential for future research, density of finds and the context in which archaeological traces occur.

A 1-day field assessment was undertaken by ACRM on 2nd October 2018. The position of identified archaeological resources, were plotted using a hand held GPS unit set on the map datum WGS 84. Individual stone implements were not point plotted, however. A track path of the survey was also captured.

4.2 Constraints and limitations

There were no constraints or limitations associated with the study. Archaeological visibility was very good and mobility was unhindered.

4.3 Identification of potential risks

Archaeological resources will be impacted by the proposed development, but it is maintained that the study has captured a good record of the archaeological heritage present, which is representative of findings documented in the proposed agricultural areas (i. e. Sites A-C).

5. FINDINGS

Trackpaths and waypoints of archaeological occurrences are illustrated in Figure 6.

A spreadsheet of waypoints and description of archaeological remains is presented in Table 1.

A relatively large number, but highly dispersed, scatter, of stone tools of *low* (Grade IIIC) significance, were recorded during the baseline study. All the tools occur on a substrate of banded ironstone/jasperlite gravels, which were likely, utilised as a source of raw material by LSA hunter-gatherers for making stone implements. More than 90% of the lithics are in fine grained jasperlite, which is an ideal raw material for making stone implements because of its superior flaking qualities. A few tools in quartz, CCS/opaline/agate and lydianite/indurated shale were also found.

The majority of the tools recorded during the study are assigned to the Later Stone Age (LSA), while limited numbers of Middle Stone Age (MSA) flakes in banded ironstone, indurated shale and quartzite were recorded. Several ESA flakes/large cutting tools (LCTs) in weathered indurated shale were also found.

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Many of the banded ironstone pieces are retouched and/or utilized, while several step flaked tools (probably wood working adzes), pointed flakes, and scrapers were also found.

No pottery, bone, ostrich eggshell or any other organic remains were found.

The limited numbers, and disturbed context in which they were found means that the remains have been graded as having *low* (Grade IIIC) significance,

A collection of tools and the context in which they were found is illustrated in Figures 7-20.



Figure 6. Trackpaths in blue and waypoints of archaeological finds

	Name of Farm	Lat/long	Description of finds	Grading	Mitigation
	Botha Farm (Rem. Erf 4000), Prieska		All in banded ironstone, unless otherwise stated		
0018		S29° 41.203' E22° 47.018'	Dispersed, low density scatter of utilized/retouched flakes and chunks and a few round cores, on compact surface of ironstone gravels, including a few lydianite/indurated shale flakes and chunks and a large round scraper. No pottery, OES, etc	IIIC	None required
0027		S29° 41.189' E22° 47.015'	Same as above, including large step flaked (?adze) tool, chunk, flakes, core and MSA flake	IIIC	None required
0037		S29° 41.192' E22° 47.020'	Same as above, including step flaked tool (?adze), chunks and core – all utilized and / or retouched	IIIC	None required
0047		S29° 41.186' E22° 47.017'	Same as above – on surface	IIIC	None required

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			substrate of banded ironstone gravels		
0057		S29° 41.145' E22° 47.049'	Same as above	IIIC	None required
0067		S29° 41.177' E22° 47.017'	Same as above, including quartz flake, and CCS/banded agate utilized/retouched flake	IIIC	None required
0087		S29° 41.185' E22° 46.993'	Pointed flake, step flaked tool (?adze), quartz notched pebble	IIIC	None required
0097		S29° 41.167' E22° 46.997'	A few dispersed flakes, including 2 retouched chunky MSA quartzite flakes on large across a large scraped area	IIIC	None required
0107		S29° 41.190' E22° 46.983'	Banded ironstone utilized/retouched pieces, modern glass, inc. a few fragments of Case bottles, ESA flake, several retouched lydianite chunk in large scraped and bush cleared area	IIIC	None required
0117		S29° 41.147' E22° 46.998'	MSA quartzite flake	IIIC	None required
0127		S29° 41.160' E22° 46.981'	Quartzite core	IIIC	None required
0137		S29° 41.153' E22° 46.987'	A few dispersed lithics, including retouched MSA lydianite flake, core and chunk, and large weathered ESA lydianite flake – in large scraped area	IIIC	None required
0148		S29° 41.140' E22° 47.029'	MSA quartzite flake, and a few banded ironstone flakes and a core	IIIC	None required
0157		S29° 41.136' E22° 47.052'	Dispersed scatter of tools on substrate of ironstone gravels, inc. utilized lydianite flake alongside gravel road	IIIC	None required
0167		S29° 41.145' E22° 47.039'	Chunky MSA quartzite blade, ironstone flakes, round core, quartz chunk on ironstone gravels	IIIC	None required
0177		S29° 41.143' E22° 47.028'	Several flakes, chunks, weathered indurated flake, MSA quartzite flake on ironstone gravels	IIIC	None required
0187		S29° 41.126' E22° 47.039'	Cloudy broken utilized quartz flake	IIIC	None required
0197		S29° 41.126' E22° 47.047'	MSA quartzite flake and banded ironstone flakes/lithics on extensive surface gravels, alongside small footpath/animal track	IIIC	None required
0207		S29° 41.129' E22° 47.013'	Large, pointed indurated shale flake, retouched MSA quartzite flake, and dispersed ironstone lithics	IIIC	None required
0217		S29° 41.141' E22° 46.990'	Pointed indurated shale/lydianite flake, and dispersed, low density scatter of utilized and retouched banded ironstone pieces alongside gravel farm road on south western boundary	IIIC	None required
0227		S29° 41.108' E22° 47.024'	Dispersed scatter of lithics, inc. large ironstone chunk	IIIC	None required
0237		S29° 41.131' E22° 47.011'	Large MSA quartzite chunk	IIIC	None required
0247		S29° 41.098' E22° 47.045'	Dispersed tools, including MSA quartzite flake on cleared patch of gravels	IIIC	None required
0257		S29° 41.077' E22° 47.055'	Dispersed scatter of lithics on extensive cleared and scraped patch	IIIC	None required

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			of gravel, including retouched and utilized pieces, large flakes, cobbles, red opaline flake		
0267		S29° 41.105' E22° 47.055'	Same as above	IIIC	None required
0277		S29° 41.103' E22° 47.079'	MSA quartzite flake	IIIC	None required
0287		S29° 41.121' E22° 47.067'	Dispersed scatter of flakes, chunks, round core, small opaline chunk, on large scraped patch of ironstone gravel	IIIC	
0297		S29° 41.142' E22° 47.064'	Utilized and retouched pieces, including large limestone flake, on large scraped patch of ground, alongside pile of building rubble and old vines.	IIIC	None required
0307		S29° 41.118' E22° 47.097'	Banded ironstone core	IIIC	None required

Table 1. Spreadsheet of waypoints and description of archaeological finds



Figure 7. Collection of tools. Scale is in cm



Figure 9. Collection of tools. Scale is in cm



Figure 8. Collection of tools. Scale is in cm



Figure 10. Collection of tools. Scale is in cm

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Figure 11. Collection of tools. Scale is in cm



Figure 13. Collection of tools. Scale is in cm



Figure 12. Collection of tools. Scale is in cm



Figure 14. Collection of tools. Scale is in cm



Figure 12. Collection of tools. Scale is in cm



Figure 16. Collection of tools. Scale is in cm



Figure 17. Collection of tools. Scale is in cm



Figure 18. Context in which the remains were found



Figure 19. Context in which the remains were found



Figure 20. Context in which the remains were found

6. GRAVES

No graves or typical grave markers were encountered during the field study.

7. BUILDINGS, STRUCTURE AND FEATURES

No old buildings, structures or features, or any old equipment is present on the proposed development site

8. CONCLUSION

The study has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to the development commencing. The majority of tools are assigned to the LSA, while a limited number of MSA quartzite flakes were also recorded. Only two ESA tools were found.

More than 90% of the implements are in locally available banded ironstone with the remainder in quartzite, quartz, lydianite/indurated shale and opaline (CCS).

It is very likely that extensive surface gravels of ironstone were also used as source material by LSA people for making stone tools.

No settlement sites or evidence of human occupation was noted and indications are that the tools mostly represented discarded flakes, flake tools chunks and cores.

The study has captured a good record of the archaeological heritage present across the proposed development site, which mirror the range, types of tools and raw materials recorded in the proposed agricultural areas (i. e. Sites A-C) on the farm, and in the surrounding area (Kaplan 2011, 2012, 2017).

9. RECOMMENDATIONS

With regard to the proposed development of chicken layer houses, and associated infrastructure, on the Farm Botha (Remainder Erf 4000) near Prieska, the following recommendations are made:

3. No archaeological mitigation is required.

4. Should any unmarked human burials/remains or ostrich eggshell water flask caches for example, be uncovered, or exposed during construction activities, these must immediately be reported to the archaeologist (Jonathan Kaplan 082 321 0172), or the South African Heritage Resources Agency (Ms Natasha Higgitt 021 462 4502).

10. REFERENCES

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