

**ARCHAEOLOGICAL IMPACT ASSESSMENT REPORT ON THE REDAN
ENGRAVING SITE: SPRINGFIELD COAL MINING PROJECT SITUATED
BETWEEN VEREENIGING AND MEYERTON, IN THE SEDIBENG
DISTRICT MUNICIPALITY, GAUTENG PROVINCE**

Assessment conducted under Section 38(3) of the National Heritage Resource Act (No. 25 of 1999)

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Declaration

I, Jeremy Hollmann, declare that I am an independent archaeological consultant specialising in rock art. I have no links to the client commissioning the report or to the applicants for the mining project

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- Inform employers or clients of any professional or personal interest that may impair the objectivity of their work.
- Provide clients with access to the provisions of this code and the Minimum Standards of Practice.
- Assist government departments wherever reasonable by supplying adequate and accurate information.
- Report on concerns beyond their own brief to the relevant heritage resources authority and ASAPA.
- Respect requests for confidentiality expressed by clients (confidentiality can only be applied to information of non-archaeological nature gained in the course of the contract), provided that such confidence will not contribute to unnecessary degradation of the cultural heritage resources or jeopardise the interests of the public in respect of the national estate.
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- Specify limitations, constraints and knowledge gaps and clearly indicate aspects that could not be investigated, and the reasons for these omissions.
- Record all relevant communications and decisions in writing.
- Involve specialists where appropriate or required and not attempt to conduct work for which they are not accredited, or do not have the necessary experience and/or expertise.
- Reflect any community or stakeholder issues that have been identified and indicate how each has been considered/resolved.
- Recognise, respect, and protect where necessary, the knowledge of local and affected communities.
- Respect the confidentiality requirements of stakeholder communities, e.g., initiation sites, ceremonies, burial rites and sacred artefacts and localities where these are affected.
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- Describe fully in writing all salaries or fees and the extent and kinds of service to be rendered.
- Accept payment for a particular service or report from one source only, except with the full knowledge and consent of multiple parties, were so concerned.
- Refrain from undertaking assessments for which they are not accredited, or do not have, or cannot provide, the relevant experience and/or expertise.
- Not mislead the public or clients in any way
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JC Hollmann

Signed: 21 September 2020.

Executive Summary

A rock art specialist was commissioned by PGS Heritage to conduct an Archaeological Impact Assessment (AIA) on the Redan engraving site for the Springfield Mining project (Sedibeng District Municipality, Gauteng). The Springfield Coal Mining Project (Springfield Project) is a proposed opencast colliery, located in, on and around the old workings of the abandoned Springfield Colliery, 7km South of Meyerton & 10km North of Vereeniging in the Sedibeng District Municipality of the Gauteng Province

The Redan engraving site (KF004) is a Category II Provincial Heritage Site and is the only remaining large engraving site in Gauteng. It is legally protected from any developments or activities that threaten its integrity. No mining, or activities of any other kind are permitted within the buffer zone around the site.

Natural weathering is causing parts of the rock surface to break off and to crumble. As a result, an undetermined number of the engravings have been damaged. Natural weathering is ongoing and cannot be prevented. It seems inevitable that over an undetermined period of time more of the engravings will be damaged and destroyed in this way.

The presence of sinkholes in the vicinity of the engraving site suggest that the site could be vulnerable to destruction if the current sinkhole gets bigger or if additional sinkholes develop in the area.

Human threats to the Redan engraving site include fire, which heats the rock and, in some cases, causes the engraved rock surfaces to flake off. Access to the Redan engraving site is currently uncontrolled and the site is vulnerable to damage to the outcrops and surrounding areas, theft of the engravings, vandalism, and littering of the site.

A Conservation Management Plan (CMP) for the Redan engraving site needs to be drawn up and implemented.

If the site itself and a buffer zone around the site is established as a no-go zone for any mining and associated activities, such activities will not pose a threat to the Redan engraving site.

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1 SCOPE AND PURPOSE OF REPORT

This report is a component of the Heritage Impact Assessment (HIA) for the Environmental Assessment Report prepared for the proposed Springfield Coal Mining Project (Springfield Project) an opencast colliery, located in, on and around the old workings of the abandoned Springfield Colliery, 7km South of Meyerton & 10km North of Vereeniging in the Sedibeng District Municipality of the Gauteng Province. The report was prepared for PGS Heritage in order to provide key information on which to base heritage management decisions about the Redan engraving site, an open-air rock art site and Provincial Heritage Site (Category II), situated between Vereeniging and Meyerton, within the Sedibeng District Municipality, Gauteng Province.

The report details the archaeological significance and heritage value of the Redan engraving site. It provides a written and visual account of the size and location of the engraving site, the outcrops on which the engravings were made and an indication of the appearance and distribution of the engravings. It identifies threats to the integrity and preservation of the engraving site and suggests mitigation measures and the development of a Conservation Management Plan (CMP).

Relevant publications and databases were consulted in compiling this report. These provide a baseline against which the current condition of the site may be compared. The published data include the mapping of the engravings on each of the individual large rocks on which they were made and detailed drawings and photographs of the engravings. In addition to consulting the existing literature, the site was visited, and the engraved rocks (but not all the engravings) were located, examined, evaluated and documented photographically.

The report incorporates observations and data collection (notes and photographs) collected on a one-day site inspection.

2 METHODS USED TO ASSESS THE SITE

The methods used to assess the site included the following:

2.1 Desktop study

Published and unpublished literature on the Redan engraving site (listed below) was located and consulted.

2.2 On-site inspection of the site

An on-site inspection was carried out on 1 September 2020. The weather was cloudy and there was no direct sunlight. As a result, only the deepest and best preserved of the engravings could be found and photographed. However, this limitation does not interfere with the aims of this report which are to identify

and evaluate the factors that contribute to the present condition of the site and to make recommendations regarding the proposed prospecting activities.

The extent and the boundaries of the engraving site were confirmed by locating and marking each of the 18 large sandstone outcrops according to the site map published by Willcox and Pager (1967: fig.1). A GPS reading was taken at each outcrop (Appendix A). The surrounding area was carefully inspected for any signs of additional engravings, but none were noted. The engravings are confined to the sandstone outcrops which are a distinctive feature in what is otherwise flat terrain without any other significant outcrops.

The engraved area was defined and measured ground using a GPS.

Photographic documentation of the position of each of the engraved rock outcrops was carried out (Appendix C).

Photographic documentation of weathering processes that are affecting the integrity of the rock surface itself and that are contributing to the deterioration of some of the engravings were photographically documented and cross referenced to Willcox and Pager's map of the site (1967: fig. 1).

The clearest and characteristic engravings were photographed.

Specific instances of damage and deterioration to some of the engravings were noted and photographed.

Observations were made of the surrounding environment in terms of potential threats to the site

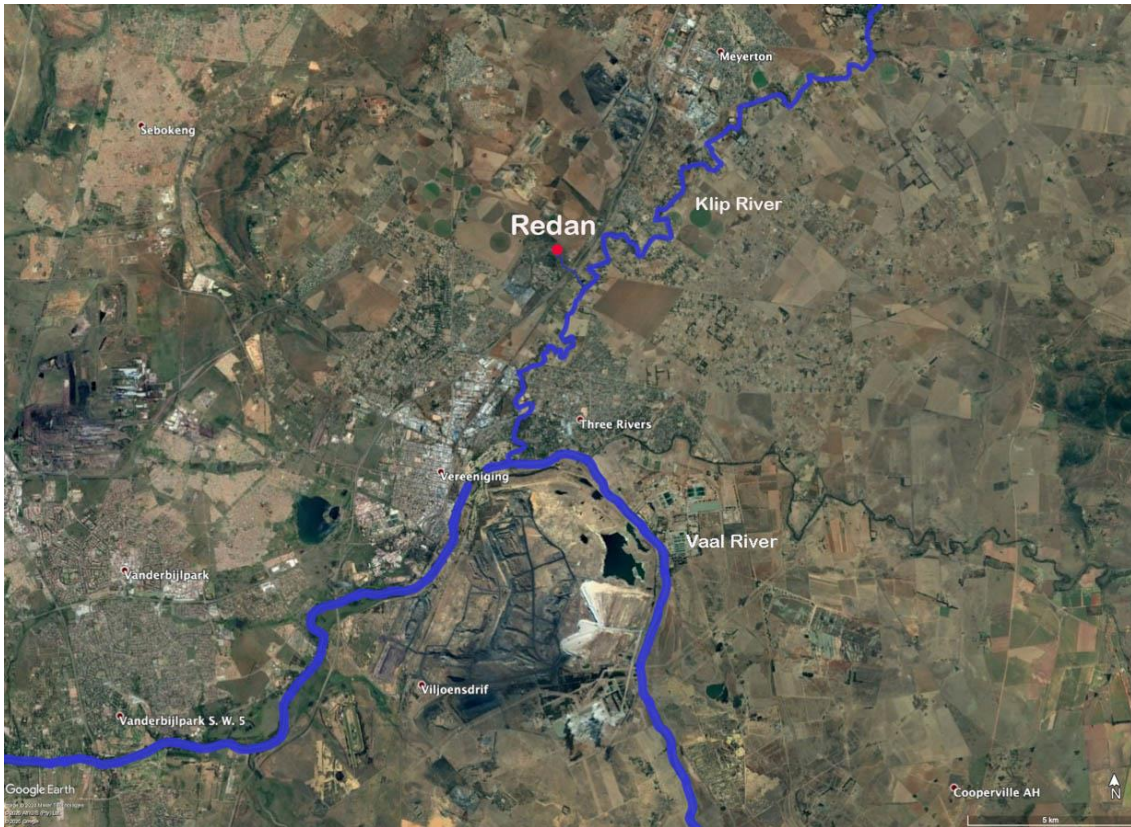


Figure 1. The Redan engraving site is situated close to a wetland that was formerly a stream that flowed into the Klip River. Its location close to water might have been an important part of Khoi women's initiation rites

3 DETAILS OF ASSESSMENT

3.1 Site Location and description

The Redan engraving site is located on the farm Kookfontein in the Sedibeng District Municipality, approximately 700 m west of the M61 between Vereeniging and Meyerton, close to the Springfield Junior Secondary School (Chan 2017: 35). The site is located 50 m east of a wetland area which was formerly a stream that flowed into the Klip River (Chan 2017: 36). The site is located on the western edge of agricultural fields. On the other side of the wetland (i.e. west of the engraving site) are remnants of the Springfield Colliery.

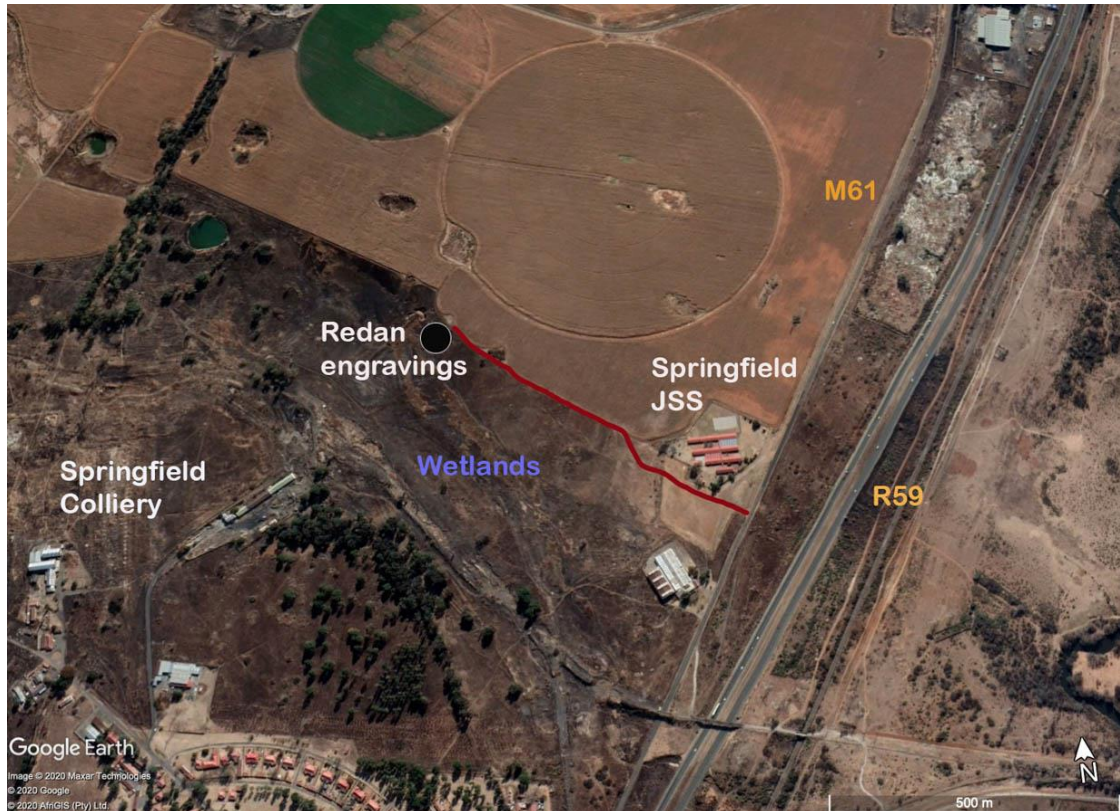


Figure 2. The Redan engraving site is located about 700 m west of the M61

The Redan engraving site comprises an isolated cluster of Ecca sandstone outcrops about 0.1957 ha in area, approximately 55 m along a NW to SE axis and 45 m (at its widest) along a NE to SW axis. Although it is not more than 2 m above ground level the outcrop stands out in contrast to the surrounding flat terrain. Before 20th century industrialisation the outcrop would have been a local landmark.



Figure 3. View of the Redan engraving site looking to the east. Behind the sandstone outcrops are agricultural fields



Figure 4. Overview of the Redan engraving site with each of the engraved outcrops labelled according to the survey carried out by Willcox & Pager (1967) (Google Earth 2020)

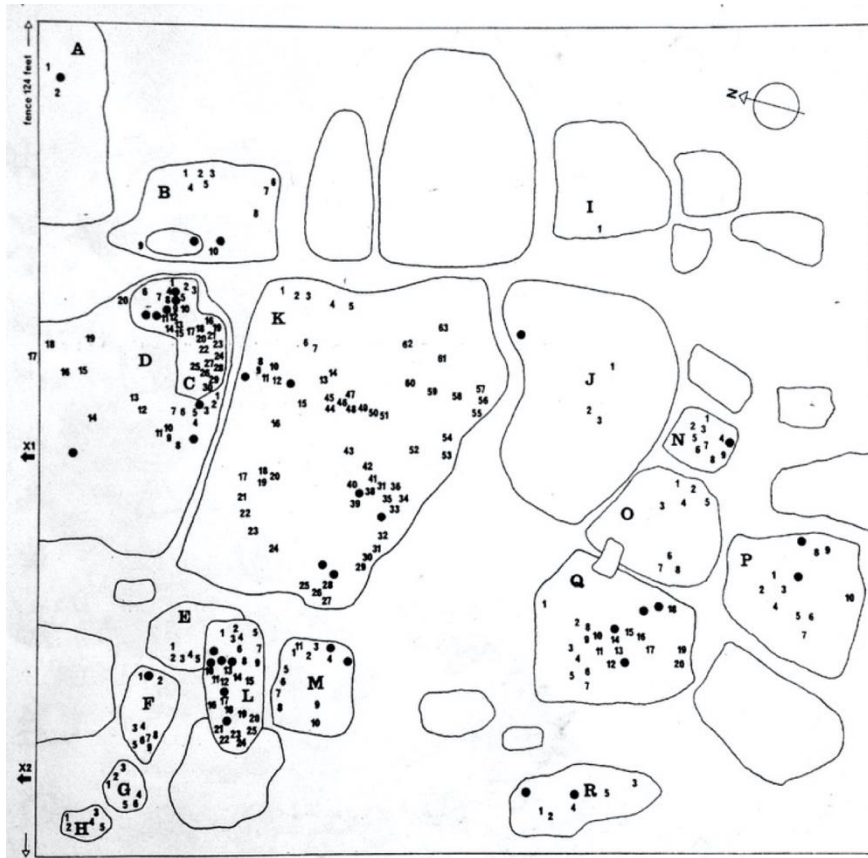


Figure 5. Diagram of the position and number of engravings recorded on the rocks at Redan by Harald Pager in the 1960s (Willcox & Pager 1967)

The presence of a circular arrangement of stones at the north western end of the outcrop was noted and is mentioned by Prins (2005). There is a sinkhole between 10 and 20 m deep 50 m north west of the outcrop. Around the north west and north east edges of the outcrop are the remains of ash heaps. A photograph from 2000 shows the ruin of a small building on the north east edge of the outcrop but there was no sign of this except for a few bricks on the day of the on-site inspection



Figure 6. Ruin next to the Redan engraving site (subsequently destroyed). The engravings are on the sandstone rock outcrops in the middle of the picture. Picture from the African Rock Art Database (<http://www.sarada.co.za/#/library/redan/images/RSA-RED1-143>)



Figure 7. Every engraving a Redan is unique, but most of them are geometric designs such as this one, which has concentric circles and 'rays'. Rock K

3.2 Description of engravings

The Redan site is well known for its engraved geometric designs, most of which are variations of circular motifs (73,8 % according to Willcox and Pager [1967: 493]). Research and documentation of the site has been carried out by Willcox and Pager (1967), as well as Prins (2005) and Chan (2017). Although many of the engravings are not easy to see, there may be as many as 273 engravings at Redan (Prins 2005). These motifs are often detailed and contain concentric circles and lines ('rays'). In addition to these 'geometric' designs, there are a small number of engravings of animals, including a possible eland, lion and hartebeest (Willcox & Pager 1967: 493).



Figure 8. Possible engraving of a lion (bottom left of picture) alongside geometric designs. Rock C



Figure 9. One of the cupules (small cavities) hollowed out by people. The dark colour of the cupule and the water trail could be staining from mineral deposits. Rock K

In addition, there are several areas of rock where people scoured out existing hollows and also created their own cupules (small cavities). All but one of these cupules are located next to natural depressions

in the rock where water accumulates after good rains (Willcox & Pager 19767: 492). The cupules are stained black and the water that overflows from the cupules and the natural depression and trickles down the rock also leaves a black stain. The presence of these cupules is an important archaeological feature at Redan site because such arrangements of cupules around water are not common. There are also smaller areas of smoothed rock (ca. 200 x 200 mm) and seven grooves also that were made around the largest of the natural depressions (Willcox & Pager 1967: 492; Prins 2005: 245).



Figure 10. The rock has been smoothed friction caused by people rubbing the rock. Here people made shallow grooves by rubbing the rock with unknown objects (perhaps stone). Rock K

The Redan engravings look very different to hunter-gatherer (Bushman/San) rock art, which depicts people animals in a realistic way. Recent research has suggested that the Redan engraving site was a Khoi women's initiation site (Prins 2005, 2007; Chan 2017). There are sites similar to Redan with 'geometric' designs at engraving sites along the Gariep, Vaal, and Riet River as well as on smaller tributaries and streams that drain into the major rivers (Fock 1969; Morris 1988).

This type of geometric engraving is almost always in the vicinity of permanent water (Fock 1969, Morris 1988). The 'geometric' designs might have been created as part of Khoi women's initiation ceremonies in which people painted their bodies with designs (Morris 2002; Prins 2005). Some Khoi groups also require that the elders take the newly initiated woman down to the water to perform certain ceremonies.

There are no absolute dates available for the age of the Redan engravings. Their maximum age is limited by the weathering rate of the sandstone into which they were pecked, and their minimum age is probably around 200 years ago before the Klip River valley became increasingly populated.

3.3 Heritage background of Redan engraving site

The cultural and heritage importance of Redan was officially recognised in 1971 when it was declared a National Monument. In terms of the current National Heritage Resources Act (Act 25 of 1999), or NHRA it is a Provincial Heritage Site (Grade II) under the administration of the South African Heritage Resources Agency (SAHRA). This grading was granted because the site has special qualities which make it significant (NHRA 1999:7(1)). Redan is the only remaining major rock art site of its kind in Gauteng (Chan 2017: 34 citing Prins 2005: vi). There were another six engraving sites in the Vereeniging area, but these have all been destroyed by construction and mining activities and the raising of the level of the Vaal River (Prins 2007). Redan is therefore an important and exceptional heritage resource

In the 1950s, probably in response to fears that the site would be damaged (Prins 2007: 45), Cecil Van Riet Lowe of the Historic Monuments Commission ordered the removal of the largest of the geometric motifs from the Redan engraving site. The engraving was taken to the University of the Witwatersrand in Johannesburg and it is displayed in the Origins Centre Museum.



Figure 11. The Redan engraving site was fenced around the time that it was declared a National Monument in 1971. The fence was subsequently torn down by vandals. Photo credit: African Rock Art Digital Archive RSA RED1 13

Around the time that it was declared a National Monument the site was enclosed by a 2 m high diamond mesh fence with angled steel poles, barbed wire and a gate, together with a National Monuments Commission plaque. Despite these measures the Redan engraving site remained under threat from human activity. The fence was subsequently torn down and removed by looters and the site became degraded by litter and a small amount of graffiti. There was unsupervised access to the site via a gate at the nearby Springfield Junior Secondary School.



*Figure 12. This gateway at the Springfield Junior Secondary School was used to access the site in the past.
Photo credit: African Rock Art Digital Archive RSA-RED1-55P*

In the early 2000s attempts were made to protect and promote Redan as a tourist destination but these did not materialise. The current owners of the land monitor any movement or activity at the engraving site. Their vigilance might have helped to deter unknown visitors to the site.

3.4 Description of findings and potential implications of findings for proposed activity



Figure 13. Fragments of engraved rock found at the base of Rock J on 1 September 2020. The rock surface is cracking as a result of natural weathering



Figure 14. The fragments could be refitted onto the part of the rock from which they originated

3.4.1 Weathering of engraved surfaces

The surface of the engraved sandstone outcrops consists of an outer crust from about 10 to 20 mm thick. This crust is friable and as a result some of the rock surfaces are breaking off or crumbling to sand. Some of the engravings have been damaged and destroyed as a result of weathering. The engraved surfaces might also be susceptible to cracking caused by alternating heating and cooling of the rock surface in the winter months when freezing temperatures are reached. It is not known how many of the 273 engravings have been and are being destroyed in this way.

Chan (2017: 2) raises concerns about the damage caused by “acid rain” as a result of industrial activity but does not supply any direct evidence.



Figure 15. Natural weathering is a severe threat to the Redan engravings. It has caused part of this engraving to crack and crumble. This process is occurring on many of the rocks on the outcrop. Rock L



Figure 16. Another example of natural weathering on an engraved surface. Notice the engravings immediately to the left of the damaged surface. Rock Q

3.4.2 Veld fires in and around the engraving site

On the day of the on-site inspection it was noted the veld had been burnt fairly recently (within the past month). Photographs of the Redan engravings from the African Rock Art Database (www.sarada.co.za) from the late 1960s to 2000 show that the veld surrounding the site was burnt. A review of the area over the past 30 years using Google Earth shows that fires could be annual occurrences at the Redan engraving site (see Chan 2017). Sandstone surfaces flake and crack under high temperatures caused by fires. It appears that at Redan the engravings made on rock surfaces close to ground level have been damaged by fire. Photographs of Rocks G and H, for example, taken on the on-site visit in 2020 shows that they have probably flaked extensively as a result of fire damage.



Figure 17. Rock G appears to have flaked extensively, most likely because the heat of fires has caused the surfaces to flake off



Figure 18. Close up photograph of the damage caused to the engraved rock by the heat of fires. Rock G

3.4.3 Vandalism, rubbish and possible theft

There is currently no access control to the engraving site. There is a dirt track off the M61 immediately south of the Springfield Junior Secondary School that passes west of the agricultural field and within a few metres east of the engraving site. A farm road passes a few metres from the site, so it is very easy to access. The site is therefore very vulnerable to theft, vandalism and any other damage.



Figure 19. View of the outcrops of sandstone that comprise the Redan engraving site and the farm road that passes within a few metres of the site

On the day of the site inspection vehicle tracks were noted around the engraving site and in one area it seemed that a vehicle may have driven on some of the rocks (fortunately not engraved). A few scratches were noted on one of the engraved outcrops. There are some engraved initials on one surface that are probably historical in nature (i.e. older than 60 years).



Figure 20. Historic graffiti at Redan engraving site. The initials 'HAW' have been carved into the rock

There is litter in and around the site, in the form of glass and plastic bottles, plastic bags and the accumulated contents of the ash heaps that are next to the outcrop. Litter may be blown across the veld by the wind and then gets trapped amongst the rocks and bushes. People might also litter when they visit the site.

It is possible that over the years people may have illegally removed pieces of engraved rock as some of the engravings are on small sections of rock that could easily be broken off. This is speculation but the threat of theft is real.

4 RECOMMENDATIONS

The Redan engraving site is a Provincial Heritage Site (Grade II) and must be protected from direct and secondary impacts on its safety and its contents.

The engraving site and a buffer zone are a no-go zone for any mining or mining related activities.

A Conservation Management Plan (CMP), including a more detailed condition survey of the site, should be developed for the Redan engraving site in order to manage the site and to protect it from fire and unauthorised access.

5 MITIGATION MEASURES

The following measures, amongst others, should be considered in the CMP for the Redan engraving site:

The destruction caused by fire could be reduced or eliminated by controlling the growth of vegetation (grass and shrubs) in and around the engraved outcrops. Grass growing in between and around the outcrops must be kept short so that fire cannot come close to the engravings. This is especially important in the autumn and winter months when the grass is dry and flammable. The relatively few shrubs and small trees and their position in relation to the engraved outcrops do not appear to be a threat to the engravings. They should therefore not be pruned or removed.

In order to combat graffiti, littering and theft, people should not be permitted to visit the Redan engraving site without the knowledge and permission of the landowners or their designated representatives. Further measures and arrangements regarding access to the site should be addressed in the CMP. It is important that other stakeholders, including tourism authorities, are considered in compiling the CMP.

6 REASONED OPINION

As a Provincial Heritage Site, the Redan engraving site is legally protected from any development at the site itself and within the buffer zone around the site. Mining and any other activities may not be carried out at the Redan engraving site, its engravings and the buffer zone. If these conditions are observed, then mining activities will not have a negative impact of safety of the Redan engraving site.

7 REFERENCES

CHAN, J.C. 2017. Visualising the voices of Redan: an experimental application of Forensic anthropology and Narrative Identity to a disappearing landscape. Dissertation submitted in partial fulfilment of the requirements for the degree Master of Arts in Graphic Design, North West University.

FOCK, G.J. 1969. Non-representational rock art in the Northern Cape. *Annals of the Cape Provincial Museums (Natural History)* 6, part 11: 103–136.

MORRIS, D. 1988. Engraved in place and time: a review of variability in the rock art of the Northern Cape and Karoo. *South African Archaeological Bulletin* 43: 109–121.

PRINS, M. 2005. *The Primordial Circle - The Prehistoric Rock Engravings Of Redan, Vereeniging*. Thesis submitted for the degree Philosophiae Doctor in the subject group History, School of Basic Sciences, Vaal Triangle Faculty, North-West University.

PRINS, M. 2007. From apathy to oblivion? The shameful history of heritage resource management in the Vaal Triangle. *The Journal for Transdisciplinary Research in Southern Africa* 3(1): 39-52.

WILLCOX, A.R. & H.L. PAGER. 1967. The petroglyphs of Redan, Transvaal. *South African Journal of Science* November: 492–499

Internet References

<https://www.sarada.co.za/>

8 APPENDICES

Appendix A: Co-ordinates of the engraved rocks at Redan engraving site

Rock identification	GPS co-ordinates (degrees/minutes/seconds)
Rock A	S 26 36 39.6 E 27 58 05.8
Rock B	S 26 36 39.9 E 27 58 06.0
Rock C	S 26 36 40.1 E 27 58 05.9
Rock D	S 26 36 40.1 E 27 58 05.7
Rock E	S 26 36 40.3 E 27 58 05.5
Rock F	S 26 36 40.3 E 27 58 05.3
Rock G	S 26 36 40.2 E 27 58 05.3
Rock H	S 26 36 40.2 E 27 58 05.2
Rock I	S 26 36 40.6 E 27 58 06.3
Rock J	S 26 36 40.7 E 27 58 06.1
Rock K	S 26 36 40.3 E 27 58 05.8
Rock L	S 26 36 40.4 E 27 58 05.5
Rock M	S 26 36 40.5 E 27 58 05.5
Rock N	S 26 36 40.8 E 27 58 06.1
Rock O	S 26 36 40.8 E 27 58 06.0
Rock P	S 26 36 41.1 E 27 58 05.9
Rock Q	S 26 36 40.8 E 27 58 05.8
Rock R	S 26 36 40.8 E 27 58 05.5

Appendix B: Engraved sandstone outcrops at Redan Engraving Site



Figure 21. Rock A



Figure 22. Rock C



Figure 23. Rock D



Figure 24. Rock E



Figure 25. Rock F



Figure 26. Rock G



Figure 27. Rock H



Figure 28. Rock I



Figure 29. Rock J



Figure 30. Rock K



Figure 31. Rock L



Figure 32. Rock M



Figure 33. Rock N



Figure 34. Rock O



Figure 35. Rock P



Figure 36. Rock Q



Figure 37. Rock R

Appendix C: Specialist CV

JEREMY HOLLMANN Rock Art Specialist

EDUCATION:

Doctor of Philosophy (Anthropology) (2011, University of the Western Cape)

Master of Arts (Rock art) (distinction) (2003, University of Witwatersrand)

Bachelor of Social Science (1986, University of Cape Town)

MEMBERSHIP OF PROFESSIONAL BODIES

Member of the Association of Southern African Professional Archaeologists (ASAPA)

Principal Investigator for Rock Art status in the Cultural Resource Management Section of ASAPA

CURRENT POSITION

Independent rock art specialist, with expertise especially in photographic documentation and research

Honorary Research Fellow, Rock Art Research Institute, University of Witwatersrand, South Africa

PREVIOUS ROCK ART RELATED POSITIONS

2013 Postdoctoral fellow in the School of Geography, Archaeology and Environmental Studies, University of the Witwatersrand, Johannesburg

2005 Worked at the KwaZulu – Natal Museum, Pietermaritzburg for seven years as Senior Curator in the Department of Human Sciences

1998 Worked at the Rock Art Research Institute (RARI), University of the Witwatersrand for six and a half years.

CONSULTANCY PROJECTS

2018-2019

Document rock art in the eastern Highlands of Lesotho for the Polihali Dam project, PGS Heritage

2017

Undertake comparative analysis for the Uganda National Museum for the Ugandan World Heritage Site rock art nomination.

Co-ordinate and assist with planning and scheduling a TV documentary on San rock art in the Drakensberg as part of a series called Archaeological Investigations produced by Tournez S'il Vous Plaît Productions.

2016

Assisted Japanese film crew from 'Bee World' sponsored by Yamada Bee Farm to find locations to film San paintings of bees and honey in the uKhahlamba-Drakensberg, and to participate in interviews on the subject (contact: Rie Fuji).

Process images and write reports on 29 rock art sites as part of the Clanwilliam Dam Mitigation Project, Western Cape Province (for PGS Heritage).

Co-supervise the removal of three panels of rock art from two rock art sites on the edge of the Clanwilliam Dam, Western Cape Province.

Advise on rock art display at the Klerksdorp Municipal Museum, North West Province.

2015

Document 29 rock art sites around the Clanwilliam Dam as part of the Clanwilliam Dam Mitigation Project, Western Cape Province (for PGS Heritage).

Document rock inscriptions on the farm Wonderheuwel, Carnarvon, Northern Cape Province (for Heritage Contracts and Archaeological Consulting).

Document rock art at Waterfall Shelter, Kamberg Nature Reserve, KwaZulu-Natal (for PGS Heritage).

Report on the protection of rock art sites on portion 5 of Driekuil 280 in North-West Province, South Africa (for PGS Heritage).

2010-2011

Carried out preliminary archaeological impact assessment as well as mitigation of 2929BD 025 Vaalekop Shelter, for the Mooi-Mngeni Transfer Scheme.

Carried out survey for rock art on portions 3, 4 and 5 of the farms Overvlakte 125 MS, Bergen op Zoom 124 MS and Erfrust 123 MS, Limpopo Province, South Africa for Vele Colliery (opencast mining and infrastructure)

2006

Supervised the removal and cutting of engravings from site Driekuil I and allocated engravings to mine site museum, Klerksdorp Museum and to the Rock Art Research Institute at the University of the Witwatersrand.

2004/2005

Archaeological impact assessment and documentation of engraving site at Driekuil, Central Region, North-West Province for the African Trust and Mining Company.

Documented 24 sites using photography and tracing in North East District Botswana for Majola and Sons and the Department of Water Affairs, Botswana.

Prepared photographs and tracings of Khoekhoen imagery from the Williston District, Northern Cape Province, for an exhibition organised by the Williston Museum.

Made presentation at National Department of Education round table conference in IKS systems for high school History co-ordinators.

2000

Documented rock paintings and wrote interpretive text for Monteco Nature Reserve, Montagu District, Western Cape Province.

ARCHAEOLOGY AND HERITAGE REPORTS (selected)

J.C. Hollmann. 2019. Specialist Archaeological Rock Art Report. Lesotho Highlands Water Authority Contract LHDA No.: C2065. Commissioned by PGS Heritage

J.C. Hollmann. 2017. Comparative analysis: Nyero and Other Geometric Rock Art Sites in Eastern Uganda. Report for Uganda National Museum for their World Heritage Site rock art nomination.

J. C. Hollmann. 2016. Report on the documentation and removal of rock art affected by the raising of

the Clanwilliam dam wall, Western Cape Province, South Africa. Prepared for PGS Heritage (Pty) Ltd.

J.C. Hollmann. 2015. Imaging Survey Of Waterfall Shelter, Kamberg Nature Reserve, Maloti Drakensberg Park World Heritage (MDP WHS), Kwazulu-Natal, South Africa. Compiled for PGS Heritage (Pty) Ltd and submitted to Heritage KwaZulu-Natal (Amafa).

J.C. Hollmann. 2015. Report on the protection of rock art sites on Portion 5 of Driekuil 280 IP North-West Province, South Africa. Compiled for PGS Heritage (Pty) Ltd and submitted to Sino-Rock.

J.C. Hollmann. 2012. Removal of rock art from Vaalekop Shelter 2829BD 025. Submitted to Heritage KwaZulu-Natal (Amafa).

J.C. Hollmann. 2010. Report on the Vaalekop rock art site (2829BD 025). Compiled for Business Enterprises at the University of Pretoria (Pty) Ltd.

J.C. Hollmann. 2010. Report on 3 rock art sites in the Upper Tsitsana Valley, Eastern Cape Province. Compiled for the Mount Fletcher Tourism Organisation.

J. C. Hollmann. 2009 Report on Monteco rock art site off Oxwagon Trail, Montagu, Western Cape.

J. C. Hollmann. 2009 Report on the Keisie River rock art sites, Montagu, Western Cape.

J.C. Hollmann. 2009. The rock art of the Mehlosing Tourist Trail. Based on a visit made to 8 rock art sites in August 2005

J. Deacon and J.C. Hollmann. 2008. Report on graffiti removal from Hedlane 1 (2829CC 118) Mohwabane (2829CA 009), Mqurhu (2828DB 079). Submitted to Heritage KwaZulu-Natal (Amafa).

J.C. Hollmann and N. Sibetha. 2008. Cleaning the painted rocks removed from Mohwabane Shelter (2829CA 009) Ebusingatha Valley. Submitted to SAHRA.

J.C. Hollmann. 2007. Report on the removal of graffiti from 3 rock art sites in the amaNgwane Traditional Authority Area, Bergville, KwaZulu-Natal: Esibayeni (2829CC 114); Mkhovo Cliffs (2829CC 094); Hedlane (2829CC 118). Submitted to Heritage KwaZulu-Natal (Amafa) to fulfil the conditions of Permit # 0006/16.

J.C. Hollmann. 2007. Report on location of fence to keep livestock out of Kwamfazi 2 rock art shelter (National site number 2829CC 121). Submitted to Heritage KwaZulu-Natal (Amafa).

J.C. Hollmann. 2006. Driekuil I, Central region, North-West Province: Final report on archaeological impact assessment, mitigation and removal of engravings in terms of SAHRA permit #80/05/04/008/51.

J.C. Hollmann. 2005. The documentation of engravings on Driekuil Hill, farm Driekuil 280 IP, Lichtenburg, North-West Province, South Africa. Phase 2 Mitigation Report commissioned by Wonderstone Limited.

J.C. Hollmann and T.N. Huffman. 2005. An archaeological assessment of the Driekuil engraving site, Northwest Province. A Phase 1 Report prepared for Wonderstone (Pty) Ltd.

J.C. Hollmann and C Namono. 2005. Rock art in the environs of Ntimbale Dam, North East District, Botswana. Photographs and tracings of rock-paintings east of the Majwanamatshwana and Ntimbale Hills, North-East District, Botswana. 165 pages. Report prepared for Majola and Sons, Francistown, Botswana and the Department of Water Affairs, Gaborone, Botswana.