



11 May, 2020

Attention: Ms Natasha Higgitt
SAHRA Case Officer Northern Cape
South African Heritage Resources Agency (SAHRA)
Head Office
111 Harrington Street
CAPE TOWN
8001

Dear Ms Higgitt

RE: Letter of Recommendation for Exemption of a Heritage Impact Assessment (HIA) for the Pella Bulk Water Pipeline Project, Northern Cape

1. Project Background

Black Mountain Mining (Pty) Ltd, part of Vedanta Zinc International (VZI), owns and operates the Gamsberg Zinc Mine. The Gamsberg Zinc Mine as currently approved will produce up to 10 mtpa in an open pit mine together with a concentrator plant and associated infrastructure. Water is currently sourced from the Orange River through an intake pump house located at Pella Drift, almost 30 km to the north east of the Gamsberg Zinc Mine. Currently a total of 28 Ml/day water is pumped through the existing bulk water pipelines.

In order to ensure that the pipeline capacity will meet the future water demand and allow for the complete utilization of the currently licensed abstraction volume of 44 Ml/day Black Mountain Mining (Pty) Ltd, in conjunction with Sedibeng Water, is proposing to **replace** and upgrade the **existing** old underground pipeline and associated infrastructure (Figure 1 & 2). This new pipeline will be located within the existing servitude and will supply water to the proposed Gamsberg Smelter Project and existing Gamsberg Zinc Mine, Black Mountain Mine and the surrounding towns (including Aggeneys, Pella, Pofadder and local landowners).

This servitude was previously assessed by Webley and Halkett (2017), they recorded Stone Age artefact scatters of low significance. The proposed pipeline is currently located within an existing registered servitude, impacted on by the two existing pipelines (one above ground and one underground) and there is a very low likelihood that any sites of significance will be impacted on by the proposed project. It is recommended that the project can commence without a Heritage Impact Assessment (HIA) on the condition that a chance find procedure is

implemented as part of the Environmental Management Programme (EMPr) and based on approval from South African Heritage Resource Agency (SAHRA).

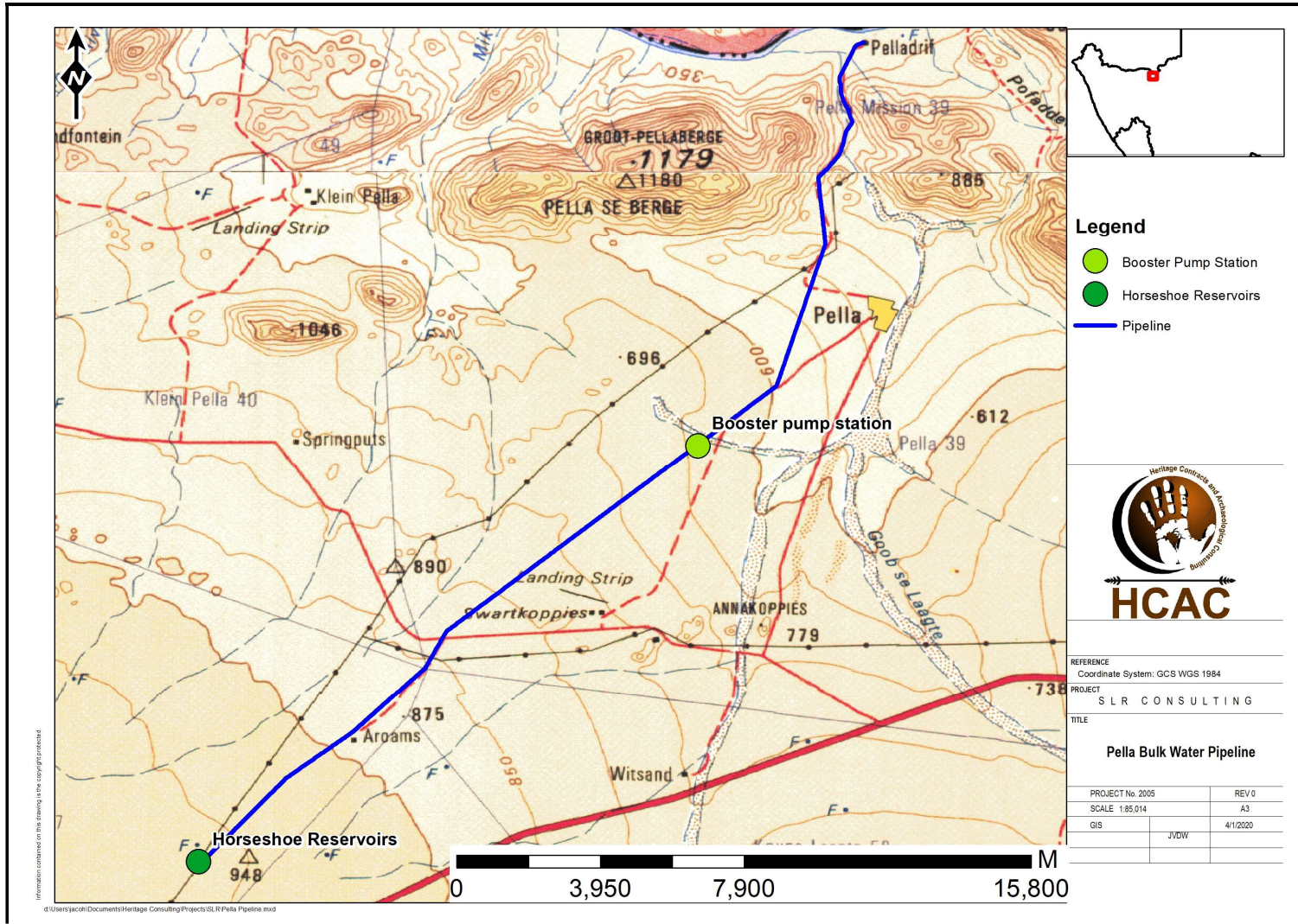


Figure 1. Regional locality map (1: 250 000 topographical map).

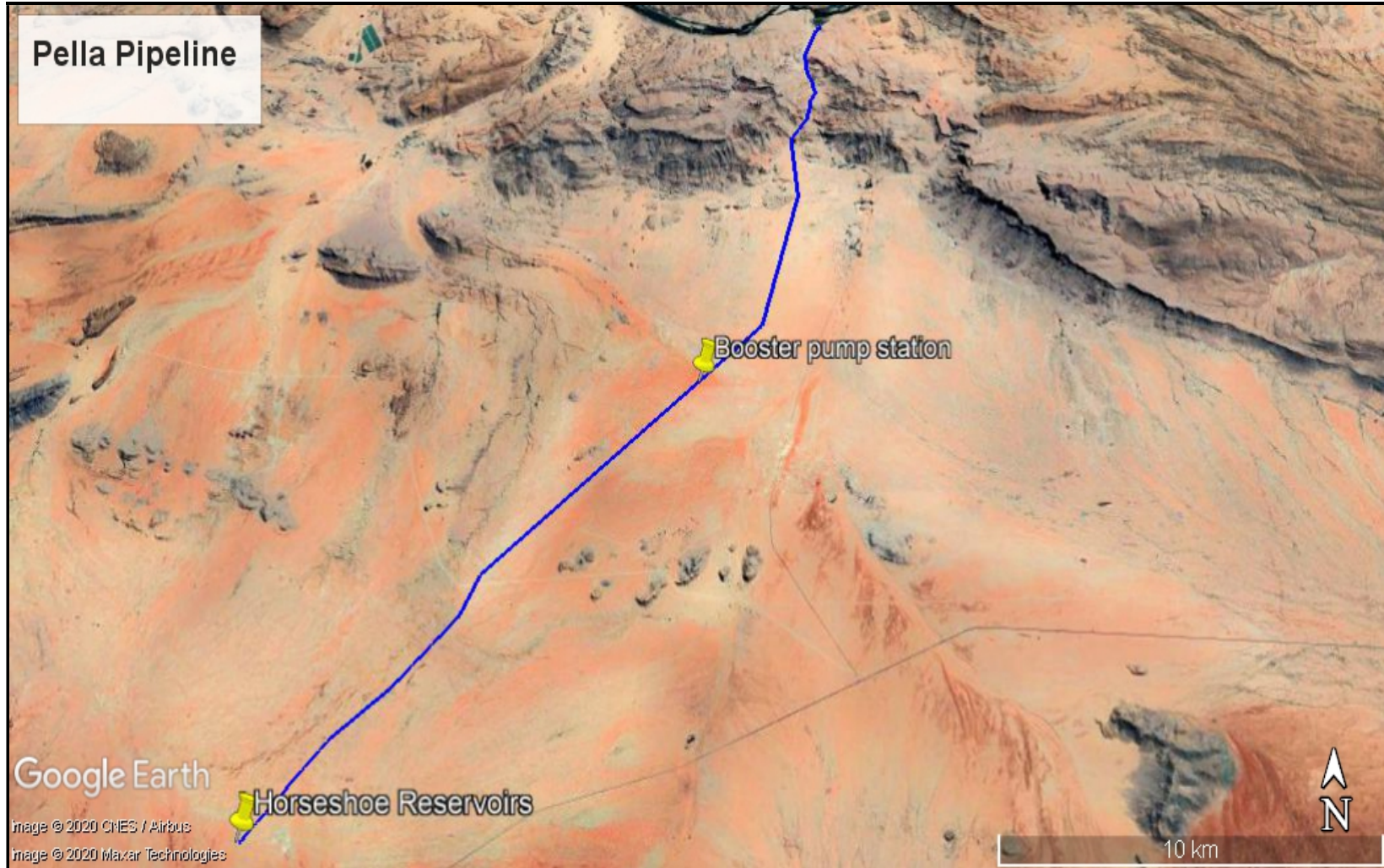


Figure 2. Google Image of the study area.

2. The Heritage Character of the Study area

2.1. Literature review

The following studies were conducted in the general vicinity of the Pella bulk water pipeline project and were consulted for this report:

Author	Year	Project	Findings
Webley, L.	2012	Desktop Heritage Impact Assessment: Proposed 1.5 Ha Extension of Gravel Mine, Portion 2 Of the Farm Aroams 57, Near Aggeneys, Northern Cape Province.	No sites
Webley, L. & Halkett, D.	2012	Heritage Impact Assessment: Proposed Aggeneys Photo-Voltaic Solar Power Plant on Portion 1 Of the Farm Aroams 57, Northern Cape Province.	Stone Age artefacts
Pether J.	2012	Note in Support of Exemption from Desktop Palaeontological Impact Assessment Environmental Management Plan for The Proposed Extension of Existing Raumix Aggregates (Pty) Ltd. Quarry Near Aggeneys, Northern Cape Portion of Portion 2 Of the Farm Aroams 57, Namaqualand.	No Sites
Rossouw, L.	2013	Phase 1 Heritage Impact Assessment for proposed prospecting drilling on Portion 2 of Rozybosch No.41 and Remaining Extent & Portion 1 of Wortel No. 42, Namaqualand District, NC Province.	No sites
Morris, D	2017	Amendment of the Final Heritage Impact Assessment for the proposed AGGENEIS – PAULPUTS 400kV Transmission Powerline and Substations Upgrade, Northern Cape.	Stone age sites (artefacts and grinding hollows) as well as historical structures.
Webley, L. & Halkett, D.	2017	Heritage Impact Assessment: Proposed Construction of The Letsoai Csp 1 Solar Facility on The Remaining Extent of The Farm Hartebeest Vlei 86, Near Aggeneys, As Well As Waterpipeline To the Orange River, Northern Cape.	Stone Age sites and artefacts
Van der Walt, J.	2019a	Heritage Impact Assessment Van Zyl Sillimanite Mining Permit, Unpublished report for Greenmined Environmental.	No sites of significance were identified.
Van der Walt, J.	2019b	Heritage Impact Assessment Van Zyl Prospecting right application, Unpublished report for Greenmined Environmental.	No sites of significance were identified.
Van der Walt, J & Orton, J.	2019	Heritage Impact Assessment Lime Sales Mining Right Application, Aroams, Northern Cape.	No sites but isolated artefacts were noted.

2.2. Historical Background

The background of the greater study area has been summarised as follows by Orton in Van der Walt and Orton (2019):

Archaeological sites in the area tend to be focused on three types of landscape features:

1. *Places where water can be obtained – generally after rainstorms. These include pans and low, flat bedrock outcrops that have hollows and crevices that trap water.*
2. *The bases of rocky hills and outcrops. These areas frequently reveal low stone-walled structures, either at the base of the hills or, less frequently, on the rocky hills; and*
3. *On and along sand dunes*

Beaumont *et al.* (1995) have noted that there is a low-density background scatter of artefacts throughout Bushmanland. In the Aggeneys area, however, this scatter tends to be quite ephemeral. Several other surveys in the region support this distribution of archaeological materials (Halkett 2010; Morris 2011a, 2011b, 2013; Orton 2015, 2016; Webley & Halkett 2012). Within the Gamsberg inselberg, however, scatters of Early Stone Age (ESA) artefacts have been recorded in open, often eroding areas (Morris 2010; Orton 2014).

Morris (2010) located bedrock exposures with fissures in them that trap water after rain just north of the N14, while further examples were reported from the area to the south of Aggeneys (Morris 2013). The rocks bear grinding hollows with associated scatters of stone artefacts, pottery and ostrich eggshell located around them. To the west of Aggeneys, Orton (2016) found a very large bedrock outcrop with a pool of water collected at a low point and many grinding grooves and artefact scatters around it. Pans tend to be rare in the Aggeneys area but Orton (in prep.) did locate a small Later Stone Age (LSA) scatter alongside a pan to the south of Aggeneys.

Just east of Aggeneys, Webley and Halkett (2012) examined an area to the north of the N14 and recorded many isolated artefacts and a few occurrences of light quartz and quartzite artefact scatters. Orton (2015) worked in the same area and located an isolated heavily used, grooved double-sided lower grindstone. Morris's (2011b) nearby survey found much sand cover and only a small number of isolated quartz artefacts. To the south of Aggeneys Orton (in prep.) made similar findings but also noted a few isolated lower grindstones.

Morris (2011b) notes the presence of a rock painting on a boulder at Aggeneys. The painting is a finger painting likely associated with the Khoekhoen. Similar art is found on granite outcrops throughout Namaqualand but in very low densities (Orton 2013). A small finger-painted image also lies within the Gamsberg Inselberg to the south of the study area and N14 (Morris 2010; Orton 2014). Neither of these sites has any associated archaeological deposits but a small rock shelter high on Gamsberg has been excavated and found to contain a deposit some 30 cm deep (Orton 2014). Sites with deep deposits are incredibly rare in Bushmanland and sadly excavations at this site were never completed and the deposit has not been dated.

2.3. Historical Information

Because it lies so far from the original Cape Colony (i.e. Cape Town), northern Bushmanland was colonised quite late with most farms only surveyed and granted in the very late 19th or even early 20th centuries. As a result, very few historical structures and features exist on the landscape. The majority of buildings date to the early-mid-20th century and tend to be of low or no heritage significance. A number of surveys in the Bushmanland area have recorded possible isolated graves represented by unusual rocks (either isolated standing rocks or unnatural clusters). Two examples occur alongside a rocky koppie to the southeast of Aggeneys (Orton, in prep.), while others were seen to the west of Aggeneys (Orton 2016). These could be related to early '*trekboers*' passing through the area. Because they lived a very nomadic lifestyle, the physical traces of these early European stock farmers are extremely ephemeral. The ruins of small stone structures that are occasionally found alongside rock outcrops in Bushmanland are likely to represent huts and small livestock enclosures built either by 19th century '*trekboers*' or by early 20th century shepherds. They may have been covered with sticks and skins or by tarpaulins.

Some of the place names in the region reflect the living heritage of the Khoekhoen. Gamsberg (also Ghaamsberg), for example, derives from the Khoekhoen word meaning 'grassy spring' (Raper n.d.). There are unconfirmed historical reports that a massacre of Bushmen may have occurred in a kloof of the Gamsberg (Robinson 1978) but surveys have failed to yield any evidence of this. Morris (2013) seems confident of this event, however, and suggests that the kloof at the south-eastern edge of the inselberg was the location where the killing occurred.

3. Findings

3.1. Archaeology

The proposed project is located in an existing servitude in which there are two existing pipelines, the servitude is thus considered to be impacted on and is therefore disturbed from a heritage point of view. Furthermore, the greater study area is also of low heritage sensitivity. Previously, Morris (2012) applied for exemption for the construction of the above ground pipeline located in the same servitude as the current project as part of a Basic Assessment for the upgrading of the Pella Water Board Water Infrastructure, Northern Cape. Environmental Approval was given for the project in April 2013 (Reference NC/BA/NAM/KHA/PEL- AGG1/2012/NCP/EIA/0000190/2012). The conditions included for the project included the following:

- If any human remains are uncovered during the construction of the site, work should stop in that area and Heritage Northern Cape and the SAHRA Burials Unit should be notified. They will investigate and propose a way forward.
- Should any archaeological materials (artefacts; cultural material such as historic glass, ceramics; subsurface structures) be uncovered or exposed during earthworks or excavations, they will immediately be reported to the SAHRA. After assessment, and if appropriate, a permit will be obtained from SAHRA to remove such remains.

A second study by Webley and Halkett (2017) was conducted for a proposed Concentrated Solar Plant facility and this study included the water pipeline located in the current servitude under investigation and recorded 4 sites close to the pipeline (Table 1 and Figure 3). These sites comprise scatters of Stone Age artefacts and are considered of low significance. These recorded sites are located along focal points on the landscape (e.g.,

ridges and rocky outcrops) and will not be impacted upon by the proposed pipeline. It should be noted that Webley and Halkett (2017) did not survey the entire line due to access restrictions, areas covered are indicated in purple in Figure 4.

Table 1. Recorded sites along the pipeline route (Webley & Halkett 2017).

Site Number	Latitude	Longitude	Description
LO23	-29.09948903	19.06473298	Next to a rocky knoll, near the pipeline route to Pella, a scatter of quartz flakes. Considered to be of low significance.
LO24	-29.09902602	19.06472602	Quartz artefacts, around a koppie, near the pipeline route to Pella. Considered to be of low significance.
DO36	-29.01489903	19.13812903	Scatter of quartz Middle Stone Age (MSA) artefactual material including flakes, cores and chunks adjacent to the northern side of a prominent rocky koppie. The area is very disturbed by human activity and is alongside the existing pipe trench and road. Quartz band seen on and adjacent to the koppie. A number of shallow overhangs were noted on the north side of the koppie but do not appear to have been used during the LSA as no characteristic artefacts were observed. Considered to be of low significance.
DO37	-29.06448604	19.11168697	Some typical quartz MSA alongside a quartz band. Quartz crystal was noted within the band but does not appear to have been used for artefacts. Considered to be of low significance.

The area in which the pipeline is located can be described as of low heritage sensitivity, with excellent visibility (Figure 5 – 8) that has previously been impacted on by pipeline and powerline construction (Figure 5 and 6). The recorded sites by Webley & Halkett (2017) are all located outside of the current servitude and no heritage features of high significance are expected to be impacted on (Figure 3 as well as zoomed in views in Appendix A).

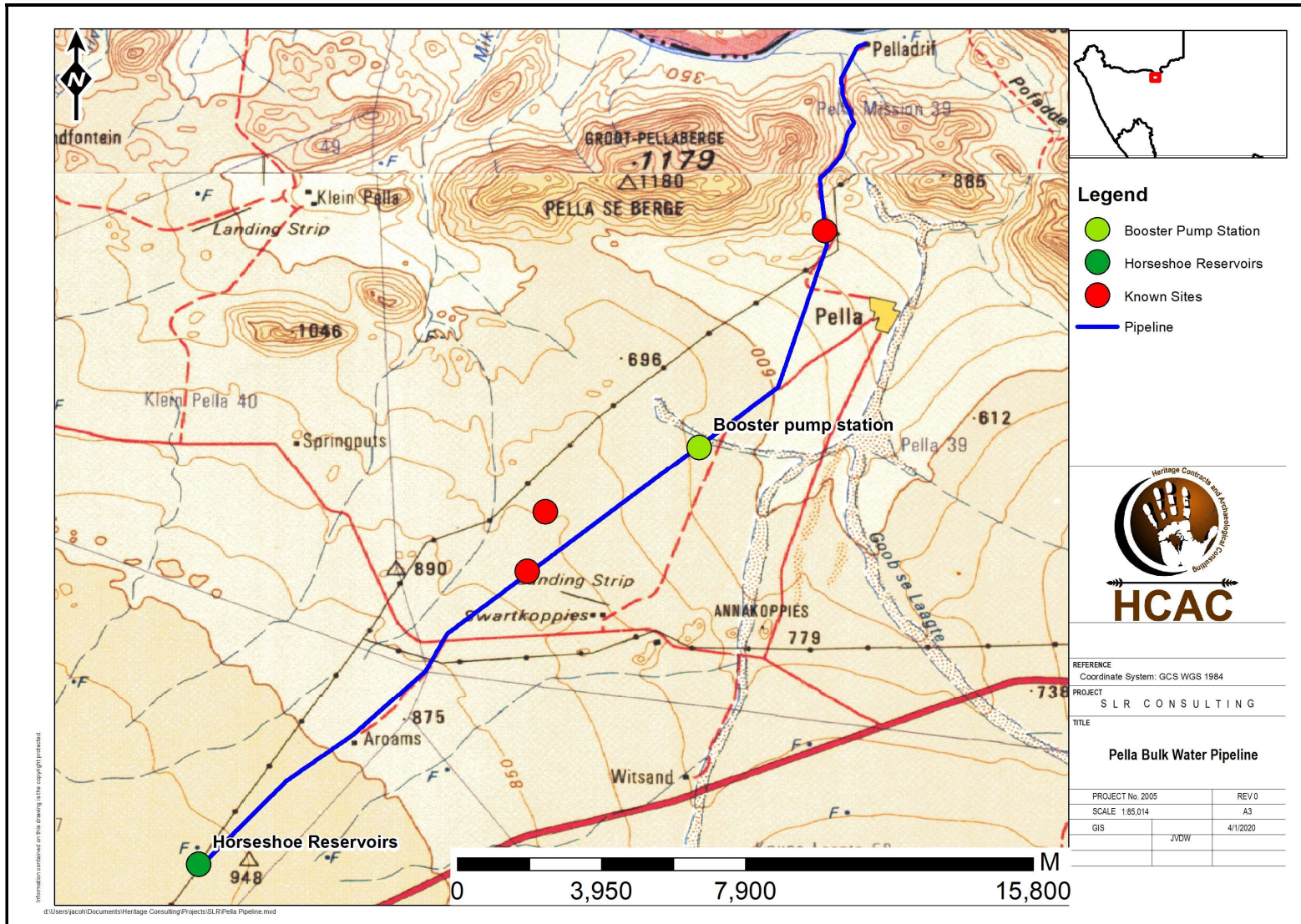


Figure 3. Known sites in relation to the pipeline.



Figure 4. Track logs of the survey conducted by Webley and Halkett (Adapted from Webley and Halkett 2017).



Figure 5. General site conditions- indicating high visibility and existing infrastructure.



Figure 6. General site conditions- indicating high visibility and existing infrastructure.



Figure 7. General site conditions.



Figure 8. Abstraction tower at the Orange River

3.2. Palaeontology

The study area is indicated as of insignificant to low palaeontological significance on the SAHRA paleontological map (Figure 9). Due to the existing disturbance of the site it is not expected that surface indicators are still visible. Given the nature and relatively small scale of the development, potential impact on palaeontological heritage resources within the proposed development footprint is considered low.

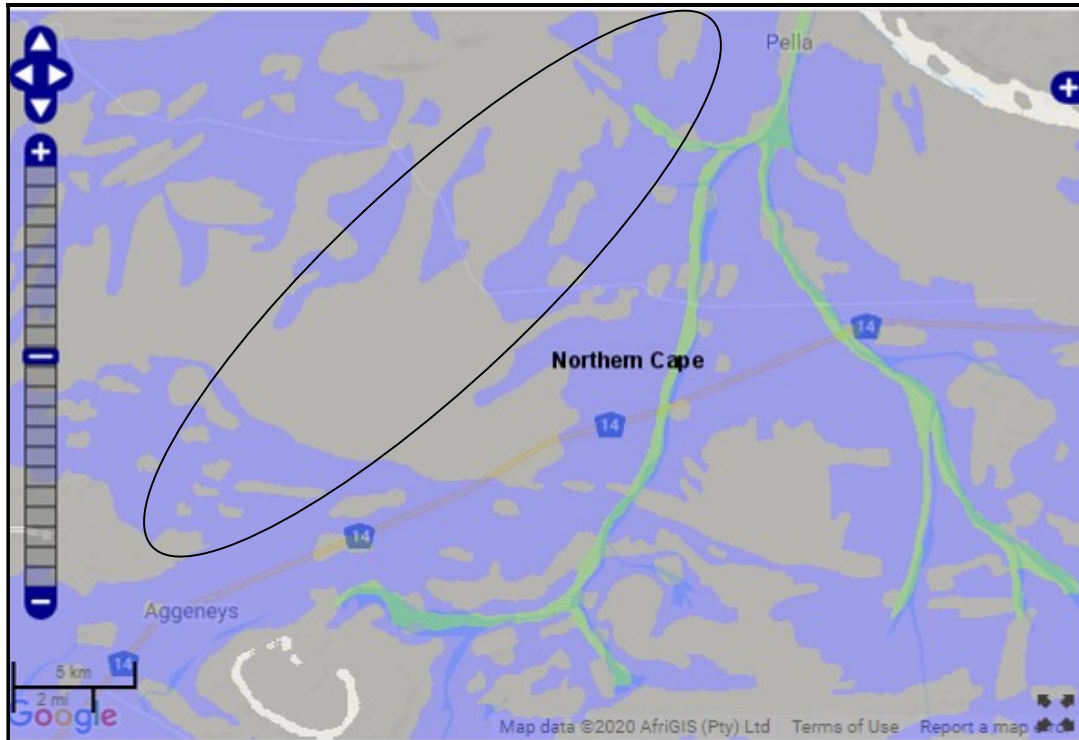


Figure 9. Paleontological sensitivity of the approximate study area (in black) as indicated on the SAHRA Paleontological Map (Key in table below)

Colour	Sensitivity	Required Action
RED	VERY HIGH	Field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	Desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	Desktop study is required
BLUE	LOW	No palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	No palaeontological studies are required
WHITE/CLEAR	UNKNOWN	These areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

4. Conclusion

From a heritage perspective the study area is, generally speaking, of low heritage significance and has previously been impacted upon by the two existing pipelines within the registered servitude. An assessment of the same servitude by Morris (2012) motivated for exemption from an HIA as part of a Basic Assessment undertaken in 2013. A second assessment of the same servitude (Webley & Halkett 2017) for a proposed Concentrated Solar Plant facility recorded 4 scatters of Stone Age artefacts of low significance. These recorded sites are located along focal points on the landscape (e.g., ridges and rocky outcrops) and will not be impacted on by the proposed pipeline. The study area is also of low to insignificant paleontological sensitivity. Due to the apparent lack of known heritage resources of significance in the study area it is recommended that the project is exempted from an HIA (following Morris 2012 and based on the assessment by Webley & Halkett 2017) but that a chance find procedure should be included in the EMPr as outlined below.

4.1. Chance find procedure

If during construction any possible finds such as stone tool scatters, artefacts or bone and fossil remains are made, the operations must be stopped and a qualified archaeologist or palaeontologist must be contacted for an assessment of the find. A short summary of chance find procedures is discussed below.

This procedure applies to the developer's permanent employees, its subsidiaries, contractors and subcontractors, and service providers. The aim of this procedure is to establish monitoring and reporting procedures to ensure compliance with this policy and its associated procedures. Construction crews must be properly inducted to ensure they are fully aware of the procedures regarding chance finds as discussed below.

- If during the planning and design phase, construction, operational or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance or fossil material, this person must immediately cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager.
- It is the responsibility of the senior on-site manager to make an initial assessment of the extent of the find and confirm the extent of the work stoppage in that area.
- The senior on-site manager will inform the Environmental Control Officer (ECO) of the chance find and its immediate impact on operations. The ECO will then contact a professional archaeologist or palaeontologist for an assessment of the finds who will notify the SAHRA.

Any further queries can be forwarded to Jaco van der Walt on Cell: +27 82 373 8491 or to jaco@heritageconsultants.co.za.



Jaco van der Walt
Archaeologist

5. References

- Beaumont, P.B., Smith, A.B., & Vogel, J.C. 1995. Before the Einiqua: the archaeology of the frontier zone. In A. B. Smith (ed.) Einiqualand: studies of the Orange River frontier. Cape Town: UCT Press.
- Halkett, D. 2010. An assessment of impact on archaeological heritage resulting from replacement of a section of the existing bulkwater supply pipeline from Pella to Pofadder, Northern Cape. Unpublished report prepared for Van Zyl Environmental. St James: ACO Associates cc.
- Morris, D. 2010. Cultural Heritage Assessment Gamsberg: supplementary observations to a previous specialist report on archaeological resources. Unpublished report. Kimberley: McGregor Museum.
- Morris, D. 2011a. A Phase 1 Heritage Impact Assessment for the proposed Aggeneis – Paulputs 220kV transmission line. Unpublished report for SSI Engineers and Environmental Consultants. Kimberley: McGregor Museum.
- Morris, D. 2011b. Black Mountain Concentrated Solar Power Facility Development at Aggeneys, Northern Cape: Heritage Impact Assessment. Unpublished report for SRK Consulting. Kimberley: McGregor Museum.
- Morris, D. 2013. Heritage Impact Assessment: proposed Aggeneys Photovoltaic Solar Energy Facility at Bloemhoek near Aggeneys, Northern Cape Province. Unpublished report prepared for Solar Capital (Pty) Ltd. Kimberley: McGregor Museum.
- Orton, J. 2013. Geometric rock art in western South Africa and its implications for the spread of early herding. *South African Archaeological Bulletin* 68: 27-40.
- Orton, J. 2014. Final archaeological mitigation report for the Gamsberg Zinc Mine, Aggeneys, Northern Cape. Unpublished report prepared for ERM Southern Africa (Pty) Ltd. Diep River: ACO Associates cc.
- Orton, J. 2015. Final archaeological survey for the proposed Aggeneys Solar Energy Facility, Namakwaland Magisterial District, Northern Cape. Unpublished report prepared for Savannah Environmental (Pty) Ltd. Muizenberg: ASHA Consulting (Pty) Ltd.
- Orton, J. 2016. Heritage Impact Assessment for the proposed Sol Invictus 1 PV Facility, Namakwaland Magisterial District, Northern Cape. Unpublished report prepared for Savannah Environmental (Pty) Ltd. Muizenberg: ASHA Consulting (Pty) Ltd.
- Raper, P.E. Dictionary of Southern African Place Names. n.d. Onomastic Research Centre, Human Sciences research Council. Accessed online at https://archive.org/stream/DictionaryOfSouthernAfricanPlaceNames/SaPlaceNames_djvu.txt on 19 June 2015.
- Van der Walt, J. 2019a. Heritage Impact Assessment Van Zyl Sillimanite Mining Permit, Unpublished report for Greenmined Environmental.

Van der Walt, J. 2019b. Heritage Impact Assessment Van Zyl Prospecting right application, Unpublished report for Greenmined Environmental.

Van der Walt, J & Orton, J. 2019 . Heritage Impact Assessment Lime Sales Mining Right Application, Aroams, Northern Cape.

Webley, L. & Halkett, D. 2017. Heritage impact assessment: proposed Aggeneys Photo-Voltaic Solar Power Plant on Portion 1 of the farm Aroams 57, Northern Cape Province. Unpublished report prepared for Digby Wells Environmental. St James: ACO Associates.

APPENDIX A

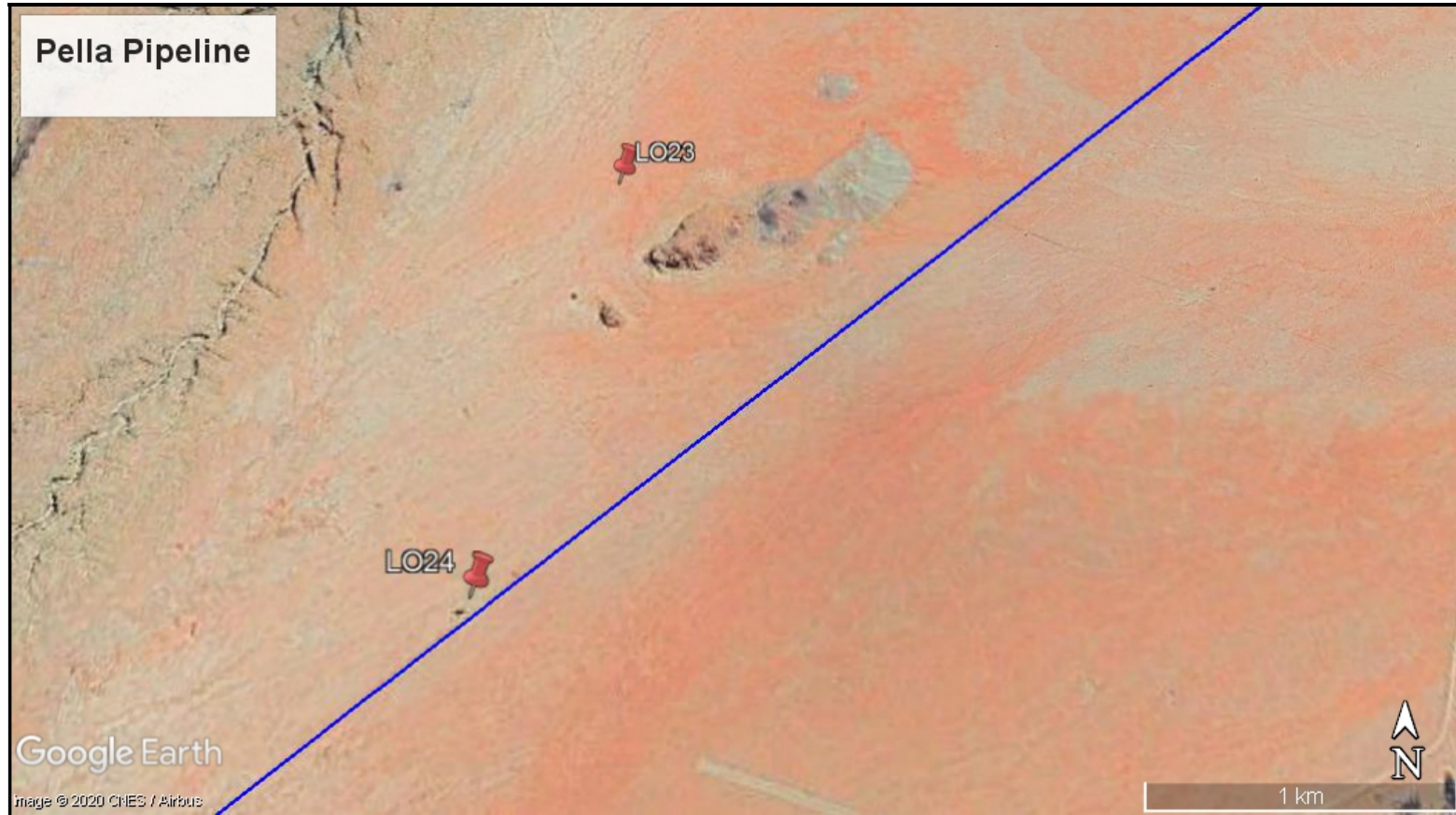


Figure 10. Zoomed in view of Site LO 23 and 24



Figure 11. Zoomed in view of Site DO 37.



Figure 12. Zoomed in view of Site DO36