

12 August 2021

Ms. Thingahangwi Tshivhase
South African Heritage Resources Agency,
Sancardia Mall 1st floor,
Corner Steve Biko and Stanza Bopape Street, Pretoria

Dear Ms Tshivhase,

PERMIT APPLICATION FOR GROUND-PENETRATING RADAR SURVEY AND TEST EXCAVATIONS, MOGALAKWENA MINE, FARM ZWARTFONTEIN 818 LR, MOKOPANE, LIMPOPO

1. INTRODUCTION

PGS Heritage (Pty) Ltd has been appointed by Anglo American Platinum (AAP) Mogalakwena Mine Complex to assist with an application to conduct a Ground-Penetrating Radar (GPR) survey and test excavations at the location of a single grave buried behind the wall of a previous homestead belonging to the Kgodu family, that has been disturbed by mining related activities.

2. BACKGROUND INFORMATION

During the stakeholder engagement process for the proposed Mothlotlo and Bundwall Grave Relocation Project undertaken in 2019, a baby grave was identified by the Kgodu family (MMC 76). According to the family, the baby was buried behind the bedroom in a blanket. Subsequently, site notices were placed at the site on Monday, 18 November 2019 (**refer Figure 1 - Figure 2**).

On Tuesday, 20 July 2021 a team from AAP and PGS inspected the site after the family representative indicated that she believes the site to have been disturbed by the expansion of waste rock dumping activities. During the site visit it was observed that the waste rock dump is located extremely close to the location of the grave. On Wednesday, 21 July 2021 the team along with the Kgodu family went back to the location of site **MMC 76 (Figure 3 - Figure 4)**. The Kgodu family indicated that they cannot see or determine the exact location of the grave or the remains of their homestead as the site had been disturbed by mining activities. During the site visit, it was determined that the grave could possibly be located under the waste rock at the edge of the dump. It was explained to the family by the AAP team that the mine will take steps to verify the location and status of the grave and the homestead using GPR Assessments and Test Excavations. It is currently not certain what the status of the features and grave is, as the site has been impacted by the expanding mine waste rock dump and the surface of the area where the site was recorded in 2019 appears to have been disturbed. A GPR survey and test excavation of the site is needed, to determine the depth of the disturbance that occurred here and to establish whether the foundations of the homestead are still intact.

3. LOCATION

The recorded gravesite at MMC 76 is located at the following location:

- Farm Zwartfontein 818 LR at GPS Coordinates S 23.96170 E 28.902137, Mokokwane, Mogalakwena Local Municipality, Limpopo Province (**Figure 5 - Figure 6**).



Figure 1 - View of the site notices that were placed at site MMC 76 on Monday, 18 November 2019.



Figure 2 – Closer view of the grave recorded at MMC 76 in 2019. The scale is in 10cm increments.



Figure 3 – Photograph taken on Tuesday, 20 July 2021 providing a general view of site MMC 76 as it appears at present. The approximate location of the grave is indicated by the yellow arrow.



Figure 4 – Members of the Kgodu family with representatives from PGS and AAP inspecting the site. This photograph was taken on Wednesday, 21 July 2021.



Figure 5 - Google Earth image showing the location of site MMC 76 within the broader Mogalakwena Mine Complex.



Figure 6 - Google Earth image of the site location showing the proposed Test Excavation and GPR Area (red circle). The position of site MMC 76 as recorded in 2019 is also indicated.

4. HISTORICAL BACKGROUND

An assessment of old topographical maps indicated that the site was located close to residential features depicted as huts on the 1970 map (First Edition 2328DD 1970 Limburg 1:50 000 Topographic sheet) (**Figure 7**). As such, the possible location of the homestead located at **MMC 76** is indicated on this map.

The existence of the homestead is also confirmed by old aerial photographs (**Figure 8 - Figure 9**). Aerial Photographs (682_023_08488 dating to 1972 & 999B_014_03475 dating to 1995) from the CDNGI Geospatial Portal indicate the presence of a homestead or structures near the location of MMC 76. The general area seems to have been resided in with a number of homesteads shown.

Google Earth imagery and historic aerial photographs revealed that there used to be buildings at this location. Google Earth images from 2009 and 2019 also confirm the presence of a homestead at the location of **MMC 76** (**Figure 10 - Figure 11**). From these images the demolished remains of several homesteads, including the homestead located at **MMC 76** can be observed.

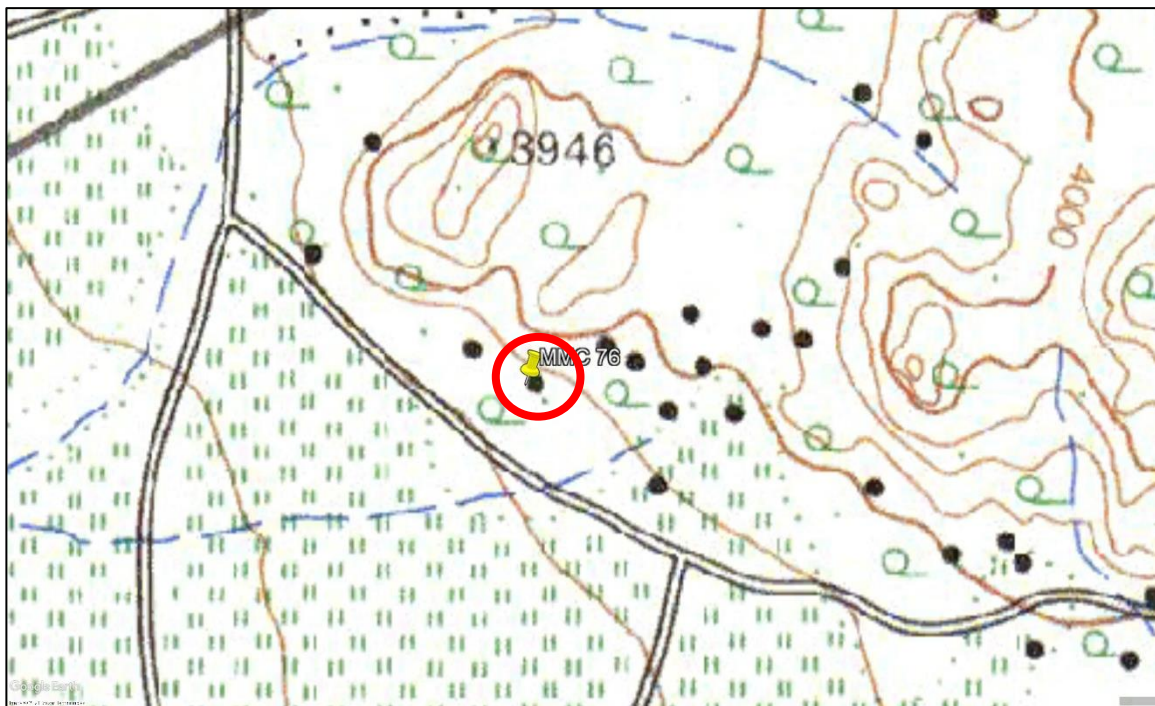


Figure 7 - First Edition of the 2328DD Topographic Map Sheet dating to 1970. The position of the recorded grave at site MMC 76 is depicted. It is clear from this section of the map that at the time a homestead was located in close proximity to the grave site.



Figure 8 -Section of the 1972 aerial photograph (682_023_08488) showing several structures and homesteads at the foot of a small hill near the location of MMC 76 (red circle).



Figure 9 - Section of the 1995 aerial photograph (999B_014_03475) showing the several structures at the n foot of a small hill near the location of MMC 76 (red circle).



Figure 10 - Google Earth image from 2009 indicating the remains of the homestead located at site MMC 76.

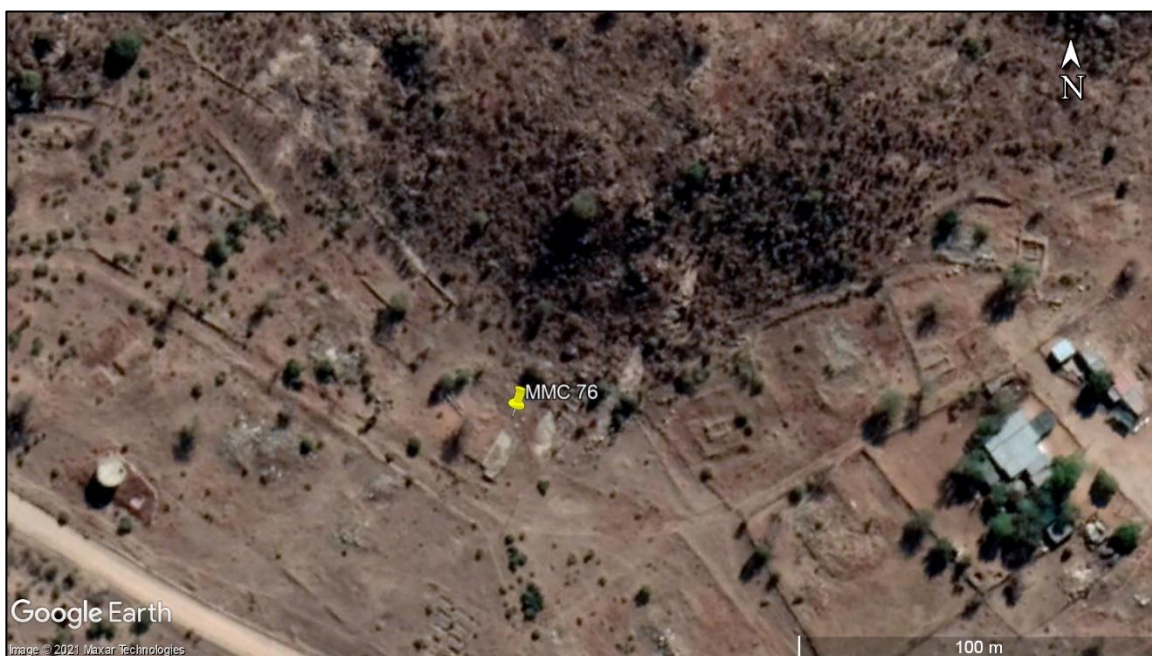


Figure 11 - Google Earth image from 2019 indicating the remains of the homestead located at site MMC 76.

5. PROPOSED METHODOLOGY

The following methodology will be followed during the GPR survey. The aim of the GPR survey is to detect any anomalies consistent with the burials in the surrounding soil matrix.

- 1) The features will be documented and together with the surrounding area, will then be cleared of any vegetation that might obstruct the use of the GPR equipment.
- 2) The stone and soil mounds marking the features will then be levelled by hand. Continuous documentation will ensure that it can be reconstructed after the GPR survey.
- 3) A survey grid will be laid out over the area to be scanned. The area will be as large as possible, considering the adjacent construction activities which have severely encroached on the features. During the GPR survey the location of the grave and the homestead will be investigated
- 4) Radargrams will be collected every 25cm on both the X and Y-axis of the grid.
- 5) The data will be processed to see if any anomalies are present. Additional to the vertical radargrams, the post-processing software will also produce horizontal slices every 5cm.

Should the radargrams prove to be inconclusive, test excavations will be conducted. The following methodology will be followed during the test excavations. The aim of this method is to remove enough of the topsoil until a clear display of the soil stratigraphy beneath is revealed.

- 1) As mentioned above, each feature will be documented and measured, the surface is then cleared of all debris and photographed. All observations regarding construction, materials and characteristics of the surface features are documented.
- 2) The topsoil is then carefully removed in 1mx1m test pits measured out on each feature of 30cm by hand. Observations will be made of the changing soil matrix and any patterns in stratigraphy indicating a grave pit.
- 3) Any archaeological features are noted and photographed. The presence of a burial pit can normally be ascertained by differences in the soil matrix. This would include a change in soil colour and/or texture due to prior disturbance if a pit or other alteration in the stratigraphy took place.
- 4) The feature will not be fully excavated and will be backfilled afterwards accordingly no matter the outcome. Should the features prove to be graves, the surface of the feature will be restored.

Once the grave pit has been identified, the feature will be restored to previous conditions before the GPR survey and test excavations and a formal grave relocation process will commence. If the features do not contain any changes in the soil matrix it can be confirmed as being only surface features and mining in the area can continue after approval from SAHRA.

Considering the above information, we are hereby requesting to conduct a GPR survey and test excavations in an area at the location of the grave and the homestead, to determine the presence of the grave.

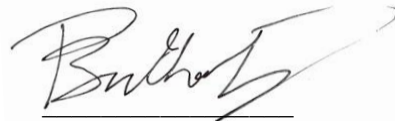
Thank you in advance for your urgency to resolve the issue.

Sincerely



Cherene de Bruyn
Archaeologist
PGS Heritage

cherene@pgsheritage.co.za
012 332 5305
072 437 1430



Polke Birkholtz
Director
PGS Heritage

Email: polke@pgsheritage.co.za
012 332 5305
082 717 6661

