

TUMELO COAL MINES (PTY) LTD: TUMELO COLLIERY
APPLICATION FOR AMENDMENT TO INCLUDE PARTIAL PILLAR EXTRACTION OF THE 2 SEAM

REFERENCE NUMBER: MP 30/5/1/2/2/10115 MR

18 March 2020

South African Heritage Resources Agency

Attention: Nokukhanya Khumalo, Heritage Offices

Tel: 021 462 4502

Email: nkhumalo@sahra.org.za

CaseID: **14848**

Dear Madam,

Your Letter dated 10 March 2020 pertaining to Case ID 14848 refers.

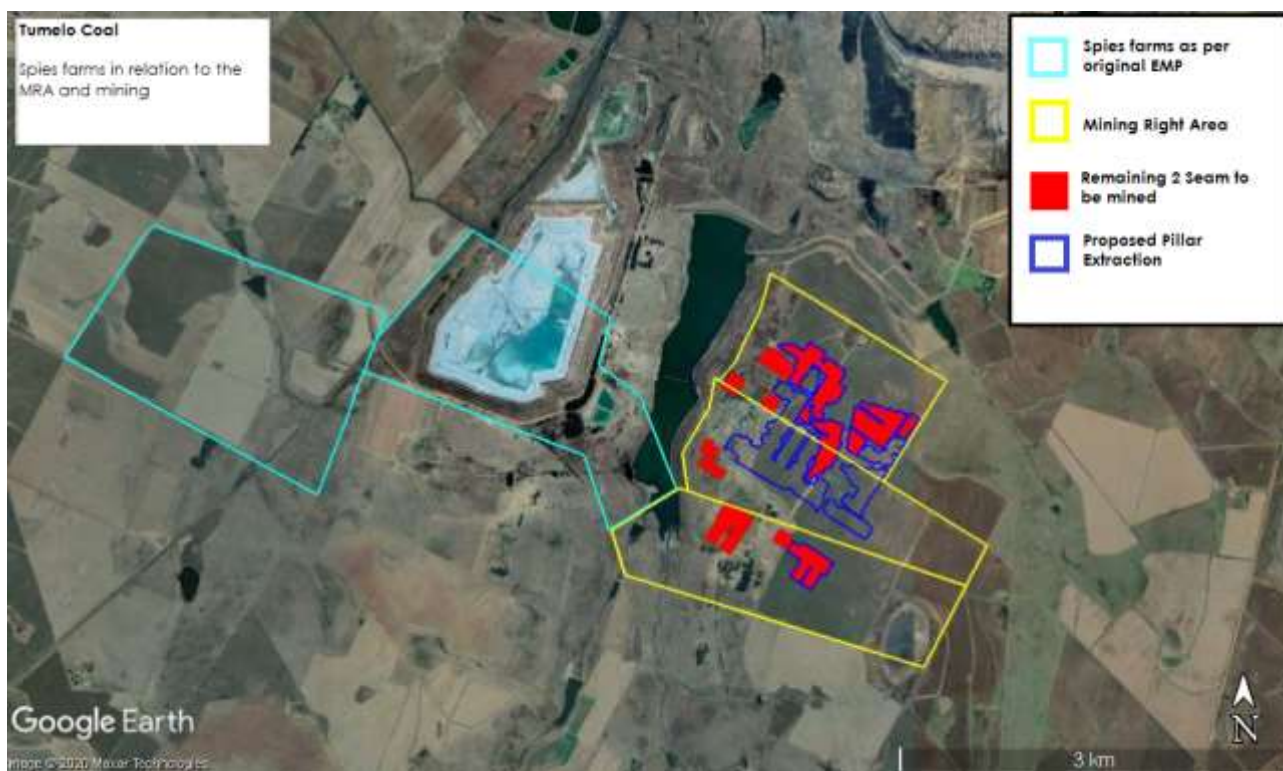
This letter contains the points that were noted in your letter with the response below each point.

- **Please submit the original heritage reports that were undertaken for the original EIA. If there were no heritage studies undertaken for the development, then an assessment of the impacts to heritage resources must be done as part of the EIA phase as it is a requirement of NEMA Section 24(4)b(iii), because the activity may cause subsidence which is an indirect impact to heritage resource.**

A survey for heritage resources was undertaken by Digby Wells and Associates in 2006 as part of the original Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) report for underground coal mining at Tumelo. On page 70 of the approved EIA/EMP report (Digby Wells and Associates, 2006) Section 4.3, it states that no archaeological artefacts or graves were identified in the vicinity of the boxcut/infrastructure area. It was noted however that a graveyard containing approx. twenty (20) graves was identified at the Spies family farmstead. Plan 1 depicts the approved Mining Right Area in relation to the Spies family farm. It is evident that no underground mining is proposed on the aforementioned farm as this falls outside the Mining Right Area (MRA). Subsidence from the proposed mining and partial pillar extraction will therefore not impact, directly or indirectly, the aforementioned graves.

Mines are only obligated to identify heritage resources that their activities may impact upon. As the identified heritage resources are not located within the MRA, or in proximity to where the partial pillar extraction is proposed, no further heritage assessments are considered warranted.





Plan 1 Spies farms and MRA

- **The HIA must include a detailed Archaeological Impact assessment and it must comply with section 38(3) of the National Heritage Resources Act, Act 25 of 1999 (NHRA). The AIA must comply with the SAHRA 2007 Minimum Standards: Archaeological and Palaeontological Component of Impact Assessments.**

The approved EIA/EMP (Digby Wells and Associates, 2006) contains the information regarding the heritage resources that were identified in and around the MRA, please refer to Appendix A for a copy of the report. It is noted that the EIA/EMP report was compiled in 2006 prior to publication of the SAHRA 2007 Minimum Standard.

The Part two Amendment for Tumelo relates to a change in mine plan to include partial pillar extraction, and will not impact any new surface areas. The extent of the original MRA remains unchanged and no underground activities are proposed outside the approved boundary therefore it is not considered necessary to undertake any additional Heritage studies.

Furthermore, the geotechnical report (which will be uploaded to the Tumelo case on SAHRIS) assessed the proposed pillar extraction and concluded that in the unlikely event that subsidence does occur the surface impacts will be limited to Subsidence Class C or Class D:

- "Class C can be described as: "Noticeable in flat terrain, smooth, cracks 2 – 10cm wide, compression ridges 1 – 5 cm high"
 - Class D can be described as: "Noticeable in most terrain, visible vertical displacements across cracks, cracks 10 – 50cm wide, compression ridges 5 – 50cm high" (G-Ro, Geotechnical Services (Pty) Ltd, 2013).
- **As the proposed development area is currently being mined, a Letter of Recommendations for Exemption may be submitted if the specialist deems it appropriate. The exemption letter should include a map of the development, photos and a track log.**

As mentioned previously, the Part two Amendment for Tumelo will not impact any new surface areas and the MRA remains unchanged therefore it is not considered necessary to undertake any additional studies.

No impacts on the identified heritage resources is expected to arise from the proposed project, as none were identified within the MRA (Digby Wells and Associates, 2006).

- **Furthermore, the development area is of very high palaeontological sensitivity as per the SAHRIS PalaeoSensitivity map, therefore, a field based palaeontological study must be done. The report must comply with the SAHRA 2012 Minimum Standards.**

The Palaeontological study has been uploaded to SAHRIS, this was undertaken on a desktop level by a professional in Palaeontology (Prof Marion Bamford, 2019). Based on the findings of the assessment there is no need for a field-based assessment as the underground mineable area was already, and still is, being mined and has been approved; this application relates to partial pillar extraction of the existing underground mined areas. Therefore, no new underground areas will be targeted, only areas where there already has been activity. Prof. Marion Bamford concludes in her report that *"The average depth of the 2 Seam to surface is approximately 50 metres, whilst the number 4 seam is approximately 30 m below the ground surface. Mining is undertaken by the bord-and-pillar method, therefore the shales between seams will only be impacted where access shafts are placed. Since fossils plants of the Glossopteris flora will be associated with the shales close to the coal seams a Fossil Chance Find Protocol should be added to the EMP."* Based on this information, and the fact that no additional shafts will be constructed, it is recommended that no further palaeontological site visits are required unless fossils are found by the geologist or responsible person. As such a chance find protocol has been included in the Part 2 Amendment Report.

In conclusion, there are no new surface activities proposed that could impact on heritage resources. The extent of the MRA remains unchanged, and partial pillar extraction will be limited to the approved underground areas (i.e. no additional seams will be affected). The graves identified in previous survey is located outside the MRA, and therefore will not be impacted by the existing underground mining activities or the proposed partial pillar extraction. As per the recommendations of the rock mechanics report (G-Ro, Geotechnical Services (Pty) Ltd, 2013) the mine plan for pillar extraction excludes all areas where surface infrastructure is overlying, thus negating the possibility of subsidence causing damage to built-environment heritage resources (though none were identified in the MRA (Digby Wells and Associates, 2006)).

I trust this document will sufficiently address your concerns and requirements.

Kind Regards,



Michelle Venter

Registered Environmental Assessment Practitioner 2019/456 (EAPASA)

1 References

- Digby Wells and Associates. (2006). *Environmental Impact Assessment Report and Environmental Management Programme_Boschmanskop Coal Mines*. Johannesburg.
- G-Ro, Geotechnical Services (Pty) Ltd. (2013). *Geotechnical Report on the Feasibility of Checkerboarding the mined out areas at Tumelo Coal Mine*. Johannesburg.
- Prof Marion Bamford. (2019). *Palaeontological Impact Assessment for the Section 102 Amendment Application for the existing Tumelo Colliery*. Johannesburg.

Appendix A- Screenshot of Section 4.3.1.1 and Section 4.3.1.2 of the Approved 2006 EIA/EMP

Boschmanskop Coal Mine

EIA/EMP Report

July 2006

4.3 Cultural and Social characteristics

4.3.1 Cultural Features and Characteristics

4.3.1.1 Archaeological

No archaeological artefacts have been unearthed or discovered in the vicinity of the proposed boxcut area.

4.3.1.2 Cultural

During the site visit on 29 October 2002 only one set of graves were noted. The set is located at the back of the Spies farmhouse and comprises approximately 15 graves. During the drilling of the monitoring boreholes additional graves were noted at the labourers houses further down the slope towards the dam. There are approximately five graves here.

4.3.2 Socio-Economic Features and Characteristics

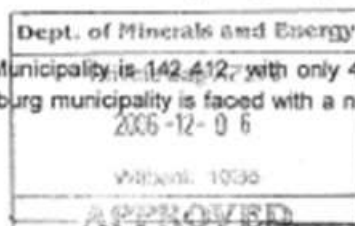
4.3.2.1 Regional Socio- Economic structure

The below information is sourced from the Municipal Demarcation Board (www.demarcation.org.za), Gaffney's Local Government in South Africa, The Gaffney Group, Johannesburg, South Africa and Statistics South Africa, Census 2001. The following sections of this report are based on data obtained from the 2001 national census. Digby Wells and Associates is therefore not responsible for any errors or inaccuracies which may be apparent in the data below.

Middelburg Municipal Area

Boschmanskop Coal Mine, falls under the Middelburg Municipal area, which in turn is under the jurisdiction of the Nkangala District Municipality in the Mpumalanga Province. The Middelburg municipal area is about 3 977 km² and includes the towns, amongst others, such as: Middelburg, Hendrina, and Doornkop. The Middelburg Municipal area is an important industrial zone, and the ongoing exploitation of coal in the district has contributed to the region growing into an industrial complex.

The total population of Middelburg Municipality is 142 412, with only 47 678 (43%) people being employed. The Middelburg municipality is faced with a number



70