



BPI for Palaeontological Research

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Dear Ms Wuite,

Palaeontological Desktop Study – Two Rivers, Steelpoort

As requested, herewith a Desktop Palaeontological Impact Assessment with regard to the proposed new tailings storage facility at the Two Rivers Platinum mine, close to Steelpoort, Limpopo Province.

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Yours sincerely

Bruce Rubidge PhD, FGSSA, FRSSA, Pr Sci Nat

**PALAEONTOLOGICAL DESKTOP STUDY
TWO RIVERS PLATINUM MINE, STEELPOORT, LIMPOPO PROVINCE**

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EXECUTIVE SUMMARY

A desktop Palaeontological Impact Assessment was undertaken on the proposed new Tailings Storage Facility of the Two Rivers Platinum Mine situated close to Steelpoort in the Limpopo Province.

The entire proposed development area is underlain by igneous rocks of the Rustenberg Layered Suite of the Bushveld Igneous Complex. This is an intrusive igneous body comprising a series of ultramafic-mafic layers and a suite of associated granitoid rocks. As these rocks are Precambrian in age and are of igneous origin it is highly unlikely that fossils will be affected by the proposed subsurface mining development. Overlying the rocks of the Rustenberg Layered suite, there may be exposures of unconsolidated Quaternary deposits. These are the only sedimentary deposits in the area which could be affected by the development, and as the deposits are not consolidated it is very unlikely that any fossils will be present.

In my opinion this development will not negatively affect palaeontological heritage. If, in the extremely unlikely event that fossils are exposed in the calcrete deposits in the process of development activities, a qualified palaeontologist must be contacted to assess the exposure for fossils so that the necessary rescue operations are implemented.

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REPORT

Background Information of the development

This desktop report is part of a Heritage Impact Assessment to determine the effect of the proposed proposed new Tailings Storage Facility of the Two Rivers Platinum Mine situated on portion 2 of the farm De Grooteboom 373 KT south west of Steelpoort in the Limpopo Province.

The study was commissioned by GCS Water & Environmental Consultants and I was asked to provide a desktop assessment of the affect that the proposed development will have on the palaeontological heritage.

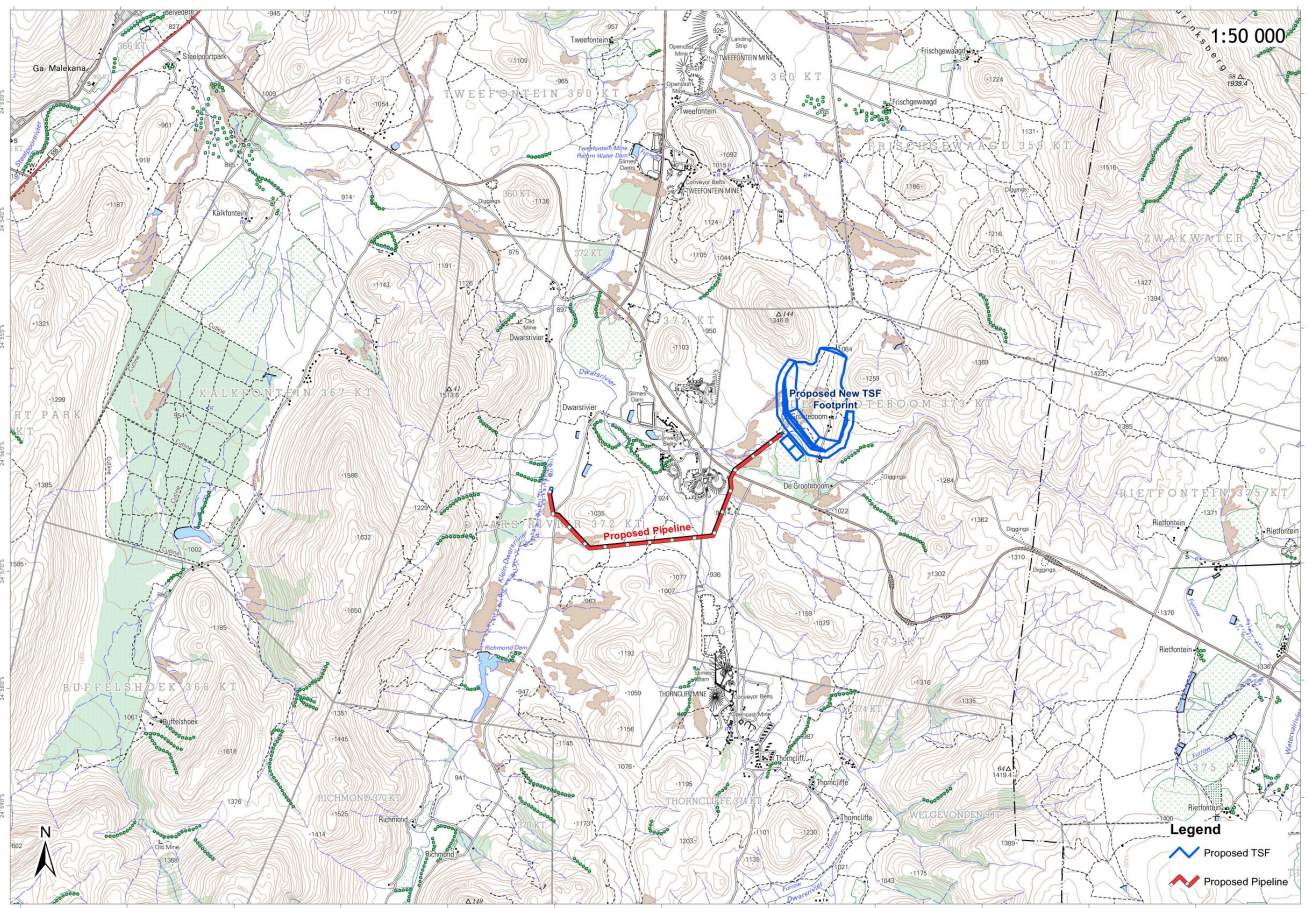


Figure 1: Map showing the position of the proposed new Tailings Storage Facility of the Two Rivers Platinum Mine, south west of Steelpoort.

Details of the study area

The study area proposed for the development of the new Tailings Storage Facility of the Two Rivers Platinum Mine is on portion 2 of the farm De Grootboom 373 KT south west of Steelpoort in the Limpopo Province (Figure 1) and is covered by the 1:50 000 topographical map Sheets 2430CC.

Geological Setting

The entire area is underlain by Precambrian igneous rocks of the Rustenberg Layered Suite of the Bushveld Igneous Complex. This is an intrusive igneous body comprising a series of ultramafic-mafic layers and a suite of associated granitoid rocks. Overlying the rocks of the Rustenberg Layered suite, the geological map indicates that there are unconsolidated Quaternary deposits (Figure 2).

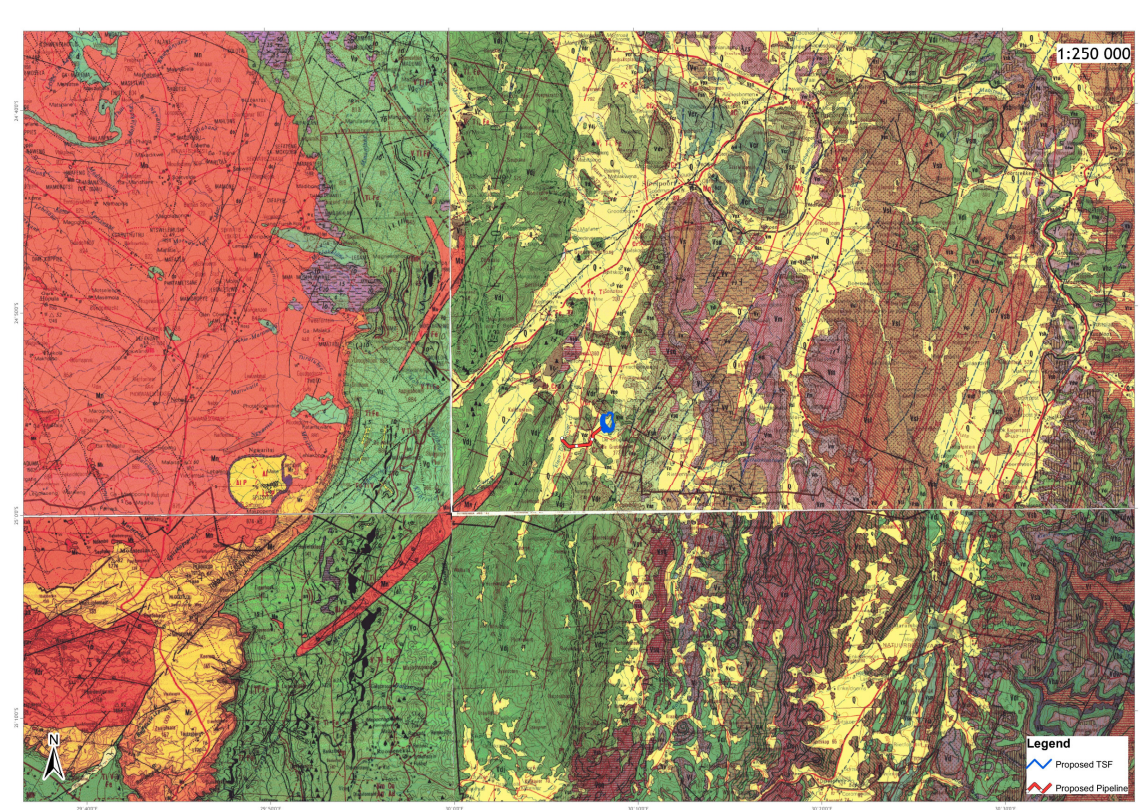


Figure 2: Geology of the Study area (1:250 000 Geological Map Series of the Republic of South Africa, Sheet number 2428 Nylstroom and 2430 Pilgrim's Rest)

Palaeontological Heritage

As the rocks of the Bushveld Igneous Complex are Precambrian in age and are of igneous origin it is highly unlikely that fossils will be affected by the proposed mining development. The Quaternary alluvial sediments which are covered by vegetation are the only sedimentary deposits in the area which could host fossils of Quaternary-aged animals and plants, but as these, deposits are not consolidated it is very unlikely that any fossils will be present.

Recommendation

It is extremely unlikely that the proposed development will have any affect on palaeontological heritage. However if fossils are exposed in the Quaternary alluvial deposits it will create a unique opportunity to explore the area for fossils. It is thus recommended that, in the unlikely event that fossils are exposed as a result of construction activities, a qualified palaeontologist must be contacted to assess the exposure for fossils before further development takes place so that the necessary rescue operations are implemented. Depending on the nature of the fossils discovered this could entail excavation and removal to a registered palaeontological museum collection. A list of professional palaeontologists is available from South African Heritage Resources Agency (SAHRA).

Conclusions

The proposed development of the new tailings storage facility of the Two Rivers Platinum Mine is on portion 2 of the farm De Grooteboom 373 KT south west of Steelpoort in the Limpopo Province. Thea area is underlain by Precambrian aged igneous rocks of the Bushveld Igneous Complex which in turn are overlain by unconsolidated Quaternary aged alluvial deposits. It is extremely unlikely that fossils will be exposed as a result of the development. From a palaeontological perspective, the development of the proposed Tailings Storage Facility should proceed but, if fossils are uncovered in the course of construction activities, the developer immediately calls in a qualified palaeontologist to assess the situation and, if necessary, undertake excavation of the fossils.

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