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16 June 2023

Dr Ragna Redelstorff
Heritage Officer Archaeology, Palaeontology & Meteorites Unit
South African Heritage Resources Agency
111 Harrington Street
Cape Town 8001

Dear Dr Redelstorff

RE: Request for Exemption of any Palaeontological Impact Assessment for the proposed Amendments for Samancor Buffelsfontein East and West Sections, near Marikana, North West Province

In my capacity as a professional palaeontologist, I am requesting exemption for palaeontological impact assessment in terms of the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998) which requires that the proposed development must be preceded by the relevant impact assessment, in this case for palaeontology. This letter confirms the recommendation made in 2013 by Bamford but provides a higher resolution geological map.

This letter is for both Buffelsfontein East and Buffelsfontein West operations.

Buffelsfontein East Section

Background

Elemental Sustainability (Pty) Ltd. (Elemental) was appointed by Samancor Chrome Ltd Western Chrome Mine to submit an amendment application for the environmental authorisation (EA) in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the Waste Management Licence (WML) in terms of National Environmental Management Waste Act, 2008 (Act No. 59 of 2008) (NEMWA) as amended, and the Environmental Impact Assessment Regulations of 2014, as amended for the proposed activities at Buffelsfontein East. A Section 102 application in terms of the Mineral and Petroleum Resources Development Act, 2002 (MPRDA) (Act

28 of 2002) was submitted to the Department of Mineral Resources and Energy (DMRE) to amend the Mining Works Programme (MWP) and the Environmental Management Programme (EMPr).

Mining at Buffelsfontein East (DMRE Ref. No.: NW 30/1/2/2/480MR) was undertaken with opencast and underground mining methods through two approved Environmental Management Programme's (dated December 2001 and December 2008) and a Water Use License (January 2016) . Opencast mining of chrome was approved for Pits A, B and C. The applicant commenced with mining of the approved chrome seams at Pit A. Pits C and B have not been mined.

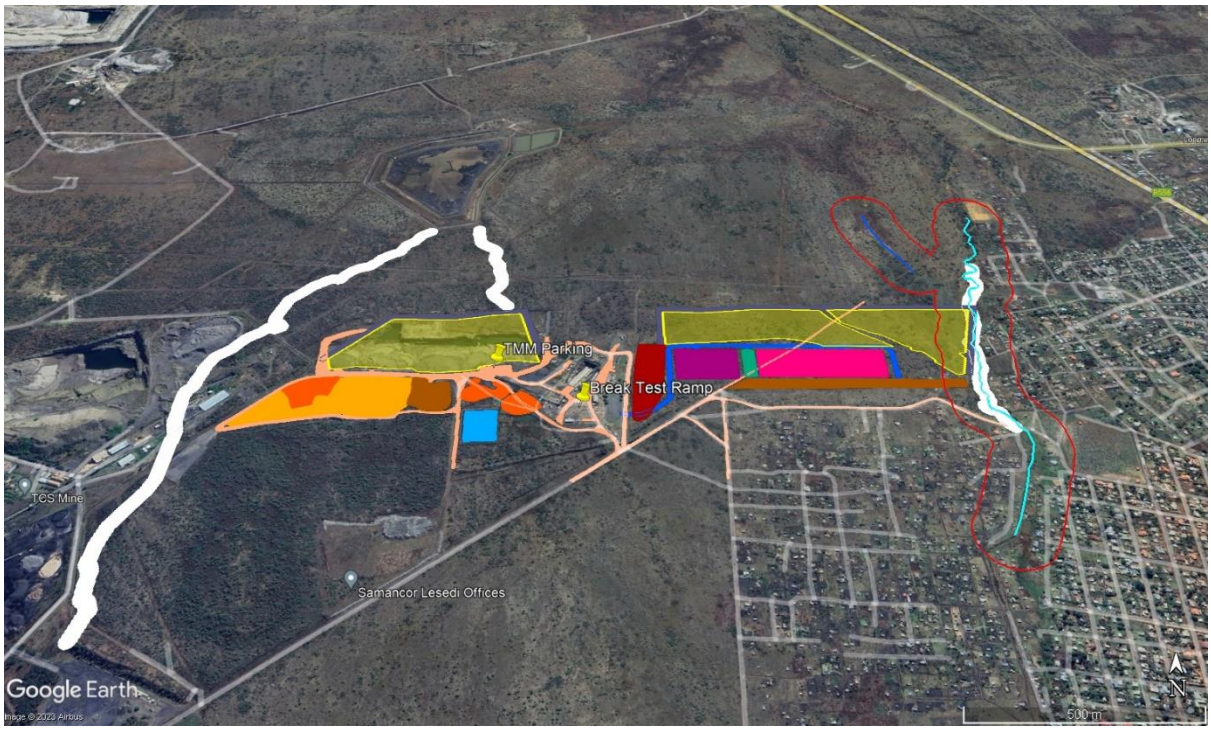

Figure 1: Google Earth map of the proposed Buffelsfontein East Section layout, rivers (white) and buffer (thin red line) property.

Samancor Chrome Ltd proposes the following for Buffelsfontein East:

- Mining of chrome seams that were not approved previously at Pit A, B and C
- Expansion of current approved stockpile areas
- Development of new stockpiles and infrastructure

The expansion of the following infrastructure is proposed:

- Opencast Pit A, B and C
- Waste rock dump (west)
- Topsoil stockpile (west)
- Run of mine stockpiles (west)

The following infrastructure is proposed for Buffelsfontein East:

- Waste rock dump (east)
- Topsoil stockpile (east)

- Crushing and screening stockpile area
- Offices and workshops (east)
- Access and haul roads (east)
- Parking/ test ramp

Buffelsfontein West Section

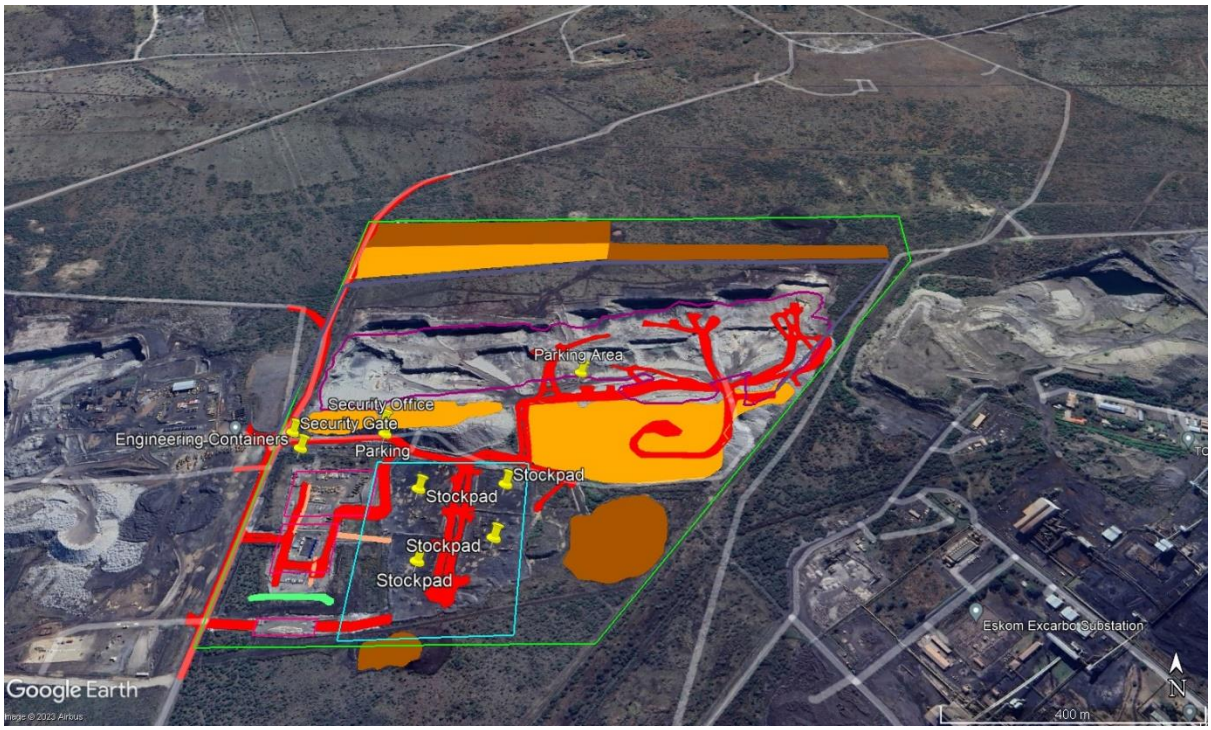

Figure 2: Google Earth map of the Buffelsfontein West section

Background

Elemental Sustainability (Pty) Ltd (ELEMENTAL) was appointed by Samancor Chrome Ltd. Western Chrome Mines (WCM) to undertake the environmental authorisation process in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) (as amended) and the National Environmental Management Waste Act, 2008 (Act 59 of 2008) for the proposed Buffelsfontein West Opencast Section.

The project area is situated in the North West Province under the jurisdiction of the Bojanala Platinum District Municipality and the Madibeng Local Municipality on the farm Buffelsfontein 465JQ, approximately 23 km west of Brits and 65 km east of Rustenburg. It is located within the Western Limb of the Bushveld Igneous Complex which hosts the world's largest reserves of Platinum-Group Metals (PGMs) along with vast quantities of iron, tin, chromium, titanium and vanadium. The proposed opencast activities will be undertaken on portions 139 and the remaining extent of the Farm Buffelsfontein 465 JQ.

Proposed infrastructure for the opencast pits includes stormwater management infrastructure, access and haul roads, stockpiles (topsoil, hards and ROM), office and change house and workshops and associated areas. Existing infrastructure that is

already approved in terms of the EMPR will also be utilised for the opencast activities. Consists of the following: security control room, offices, potable water storage tanks, parking, change houses, salvage yard, workshop, explosives delivery bay and wash bay, shaft and portal. All the ore will be transported to the existing plant for processing or will be transported to clients for processing.

<u>Geology and Palaeontology – both Buffelsfontein East and West sections</u>.

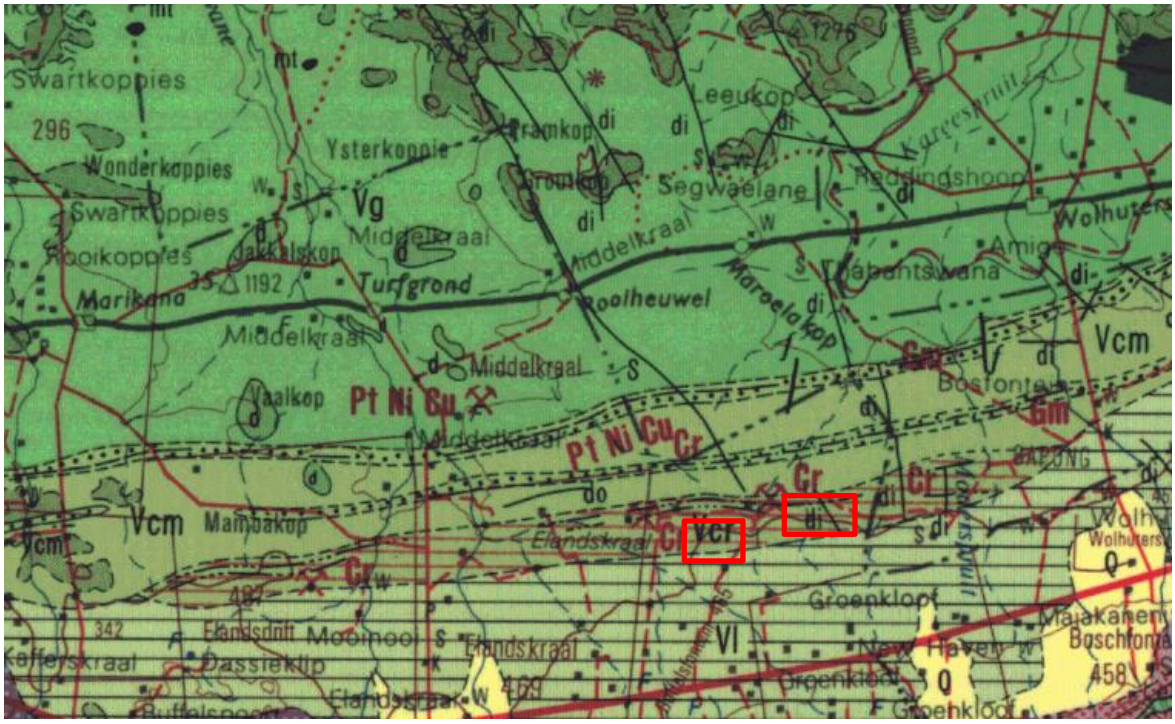

Figure 2: Geological map of the area around the Farm Buffelsfontein 465JQ. The two project areas are indicated within the red rectangles. Abbreviations of the rock types are: Vg = Pyramid Gabbro-norite; Vcm = Mathlagame Norite-anorthosite; Vcr = Ruighoek pyroxenite; Vl = Tweelaagte Bronzite. Map enlarged from the Geological Survey 1: 250 000 map 2526 Rustenburg.

The entire area lies entirely on non-fossiliferous volcanic and metamorphosed rocks of the Rustenburg Layered Suite (Bushveld Igneous Complex), in particular, on the Ruighoek Pyroxenite (Figure 2). Intrusive volcanic rocks do not preserve fossils. In addition, the Bushveld Igneous Complex was emplaced about 2055 million years ago (Cawthorne et al., Zeh et al., 2020) which precedes the evolution of macroscopic life forms.

There is no chance of finding fossils in the project footprint and this is confirmed by the grey colour-coding in the SAHRIS palaeosensitivity map (Figure 4). The DFFE Screening maps (Figures 5-6) indicate that the sites are moderately sensitive (yellow) but this is incorrect because fossils are not preserved in volcanic intrusive rocks.

Based on the geology and the more accurate SAHRIS map, we request, therefore, that no further palaeontological impact assessment be required for these two projects.

Figure 4: SAHRIS palaeosensitivity map for the proposed Buffelsfontein East and West Section amendments shown within the red rectangles. Background colours indicate the following degrees of sensitivity: red = very highly sensitive; orange/yellow = high; green = moderate; blue = low; grey = insignificant/zero.

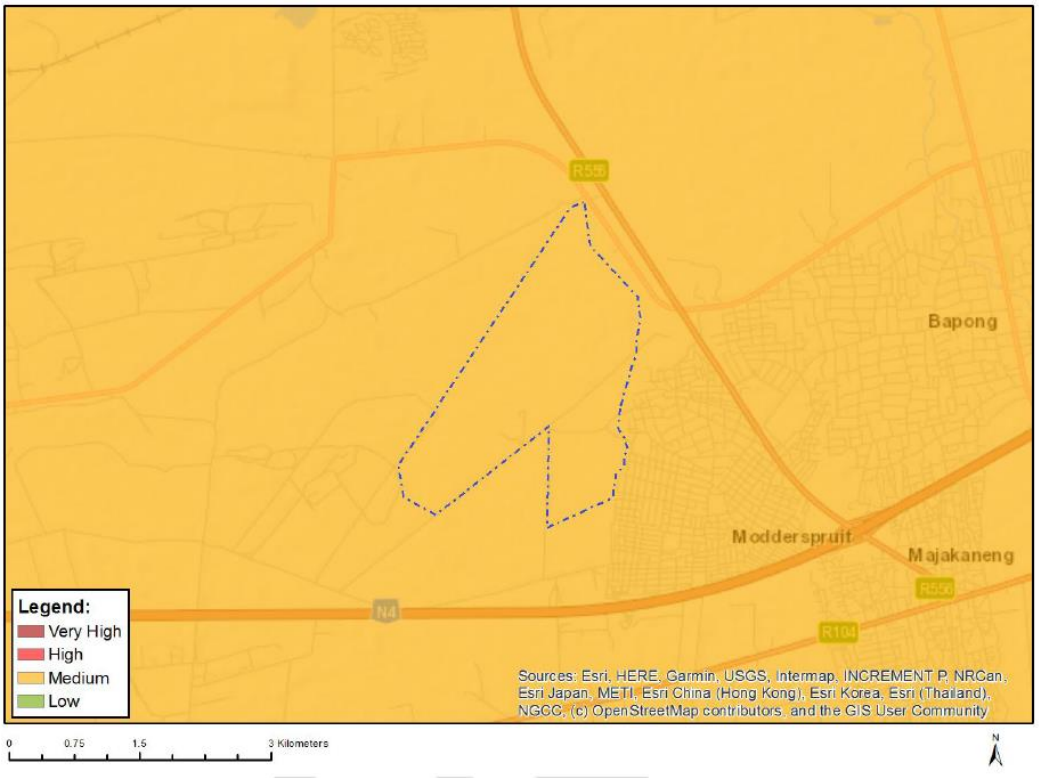

Figure 5: DFFE Screening map for palaeosensitivity for the Buffelsfontein East section.

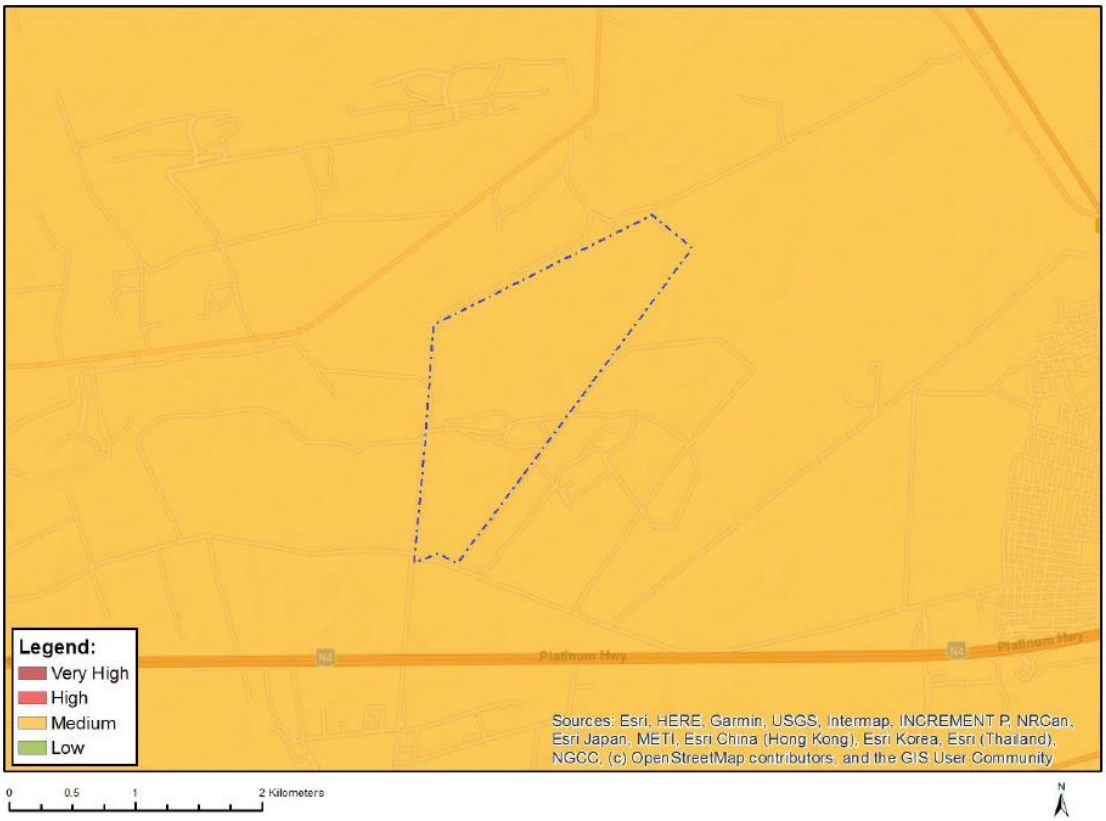

Figure 6: DFFE Screening map for palaeosensitivity for Buffelsfontein West section.

Yours faithfully

Prof Marion Bamford
Palaeobotanist; PhD (Wits 1990)

Reference cited:

Cawthorn, R.G., Eales, H.V., Walraven, F., Uken, R., Watkeys, M.K., 2006. The Bushveld Complex. In: Johnson, M.R., Anhaeusser, C.R. and Thomas, R.J., (Eds). The Geology of South Africa. Geological Society of South Africa, Johannesburg / Council for Geoscience, Pretoria. pp 261-281.

Palaeosensitivity map: https://sahris.sahra.org.za/map/palaeo

Zeh, A., Wilson, A.H., Gerdes, A., 2020. Zircon U-Pb-Hf isotope systematics of Transvaal Supergroup – Constraints for the geodynamic evolution of the Kaapvaal Craton and its hinterland between 2.65 and 2.06 Ga. Precambrian Research 345, 105760. https://doi.org/10.1016/j.precamres.2020.105760

Declaration of Independence

This letter has been compiled by Professor Marion Bamford, of the University of the Witwatersrand, sub-contracted by Elemental Sustainability, South Africa. The views expressed in this report are entirely those of the author and no other interest was displayed during the decision making process for the Project.

Specialist: Prof Marion Bamford

Signature: