

Exemption Letter – Basic Assessment Report for the Proposed Prospecting Activities on Various Properties in the Magisterial District of Kuruman, Northern Cape for Salene Manganese (Pty) Ltd

Heidi Fourie – Palaeontological Impact Assessment

Joe Morolong Local Municipality, John Taolo Gaetsewe District Municipality, Northern Cape Province.

NC30/5/1/1/2/13138 PR

SAHRA CaseID: 19886

Farms: – Table 1

Protocol for a Chance Fossil Find is included.

The applicant, Salene Manganese (Pty) Ltd plans to sample for manganese and iron to be exploited in an economical manner. It is planned to conduct desktop studies; geological mapping; compilation of data with interpretation and reporting; resource estimation of tonnage and grade of the ore as part of the non-invasive study. The invasive activities will include sampling.

Applicant: Salene Manganese (Pty) Ltd. P.O. Box 50917, Randburg, 2125. Tel: 011 463 7100.

The project is located south and south-west of the town of Hotazel and 50 km north-west of Kuruman on Farms Olive Pan 282, Gama 283, Telele 12, Dikgathlong 268, Dibiaghomo 226, Boshof 300, Roldraai 333, Drakenstein 263, East 270, Umtu 281, Olivewood 284, Mooidraai 310, Kongoni 311, Smartt 314, Middleplaats 332, Klipling 271, Hotazel 280, Epsom 285, Tigerpan 286, Botha 313, Mukulu 265, Gloria 266, Wessels 227, Adams 328, Belgravia 264, Mamatwan 331, Sinterfontein 748, York 279, Devon 277 And Perth 276. The approximate size of the site is 73 621.8804 hectares.

Table 1: Landowners and Farms, red indicates already allocated mining rights (Prescali).

Name	Contact Person	Farm name
Allan Penny Trust	Allan Penny C. Penny	Riviera 335_0
Amari Manganese Pty Ltd		Kongoni 311_0&1
Ethel Reyneae		Nchwaning 267
Pieter Janse		Gedeelte A279
Andries Mathys van der Berg		Mamatwan 331_0
Anna Sophia Anthonissen		Perth 276_RE
Anna Williamson		Dikgathlong 268_2
Assmang Ltd		Belgravia 264_0&1 Gloria 266 Klipling 271 Mukulu 265 Telele 12
C. J. Delaport		Olive Pan 282 and Gama 283
C. J. Du Plessis		Dibiaghomo 226
Eskom Holdings Ltd	John Geeringh	Wessels 227_1
Gawie Stols		Dikgathlong
Gabriel Johannes Stols		Dikgathlong 268_0
Gideon Poolman Familietrust		Rissik 330
Gert Abraham Coetsee		Roldraai 333_0&1
Gert Threat		Olivewood 284 and Epsom 285
Hotazel Manganese Mines (Pty) Ltd		Adams 328_4

Bouke Wikus Bylsma		Drakenstein 263
Hotazel Manganese Mines Pty Ltd	Goodness Bopape	Dibiaghomo 226_1&2 Dikgathlong 268_1 Goold 329_5&9 Hotazel 280_0 Mamatwan 331_1&2&3 Middelplaats 332_4 Sinterfontein 748_0 Wessels 227_0 York 279_1
Imperial Logistics Advance Pty Ltd		York 279_13
J&B van Wyk Familie Trust		Moodraai 310_0
Jacobus Johannes Francois Theart (3202175004083)		Olivewood 284_0
Jacobus Nicolaas Pretorius		East 270_0&2
Jansen Boerdery Trust		York 279_0
K2017088650 SA Pty Ltd		York 279_8
Kalagadi Manganese Pty Ltd		Gama 283_1 Olive Pan 282_0 Umtu 281_0
Kampfer Familie Trust		Epsom 285_1
Kerkraad van die NG Gemeente Kalarahi te Hotazel	Ds EZ Anthonissen	Hotazel 280_1
Kudumane Manganese Resources Pty Lt		Devon 277_0 Telele 312_1 York 279_2&11
Lourika Delport		Olive pan 282_1
Machiel Andries Kruger		Goold 329_1
Magdalena Alette Van der Walt		Dibiaghomo 226_0 Gama 283_0
Maria Alida Theart		Epsom 285_0
MN48 Propco Pty Ltd		Wessels 227_2 Dibiaghomo 226_3&4
Malcom Curror		Botha 313 Middleplaats 332_1 Moodraai 310 Remeinebytent 8 Heuningdraai 334_1
Mokala Manganese Pty Ltd	Basie van Wyk Basi Manemo	Gloria 266_0
Nicolaas Philippus Fourie Kruger	Not part of application area	Goold 329_2
Saltrim Ranches Pty Ltd		Goold 329_6 Middleplaats 332_0 Adams 3280
Samancor Manganese Pty Ltd	Shane Laubscher	Hotazel 280_3
Sitatunga Properties Pty Ltd		East 270_1
Telkom SA LTd	Ms Ayanda Ceba	Hotazel 280_2
Tigerpan Pty Ltd		Tigerpan 286_0
Transnet Ltd	Steyn Hermanus	Smartt 314_1 Devon 277_1 Rissik 330
Tshipi é Ntle Manganese Mining Pty Ltd		Mamatwan 331_8&16&17&18
Tswalu Game Lodge Pty Ltd	Chris Claassens	Boshoff 300 Portion 4 (T1366/1982) Boshoff 300 Remaining Extent of Portion 3

		(T1497/1997) Boshoff 300 Remaining Extent (T1602/1997)
United Manganese Mines of Kalahari Pty Ltd		Smartt 314_0 Botha 313_0 Rissik 330
Mineral right holders	Contact Person	Farm name
Tshipi é Ntle Manganese Mining Proprietary Ltd - Tshipi Borwa Mine & Mamatwan Mine		Mamatwan 331_8&16&17&18
Kalagadi Manganese Mine		Gama 283_1 Olive Pan 282_0 Umtu 281_0
Assmang: Gloria Mine		Belgravia 264_0&1 Gloria 266 Klipling 271 Mukulu 265 Telele 12
Assmang: Black Rock Mine	Ms. Tshifhiwa Ravele - Environmental Specialist	Belgravia 264_0&1 Gloria 266 Klipling 271 Mukulu 265 Telele 12
ARM	Mr. Pumezo David - Executive Legal	Belgravia 264_0&1 Gloria 266 Klipling 271 Mukulu 265 Telele 12
Assmang: Black Rock Mine	Mr. Kgabo Masikhwa - Manager MRM	Belgravia 264_0&1 Gloria 266 Klipling 271 Mukulu 265 Telele 12
Hotazel Manganese Mines: Wessels Mine		Dibiaghomo 226_1&2 Dikgathlong 268_1 Goold 329_5&9 Hotazel 280_0 Mamatwan 331_1&2&3 Middelplaats 332_4 Sinterfontein 748_0 Wessels 227_0 York 279_1
Kudumane Manganese Resources		Devon 277_0 Telele 12_1 York 279_2&11
Middelplaats mine		Middelplaats 332
Twana Hotazel Mining (Pty) Ltd	Mahlogonolo Kgothadi Tebogo Louw Awie Pretorius	Hotazel 280 and York 279
Tawana Investment Holdings (Pty) Ltd: Sebilo Resources (Pty) Ltd - Sebilo Mine	Mahlogonolo Kgothadi Tebogo Louw Awie Pretorius	Perth 276
Fairie Fuels	S van Rooyen	

Summary

This letter serves as a Letter of Exemption. It is in compliance with The Minimum Standards for Palaeontological Components of Heritage Impact Assessment Reports, SAHRA APMHOB, Guidelines 2012. The development is underlain by rocks older in age, and has a **HIGH** Palaeontological Sensitivity (Groenewald and Groenewald 2014*).

Ten 1 m² grab samples will be taken on existing dumps (overburden / waste rock) in a 500 m radius of 12 points and will have very little disturbance on the environment. The invasive sampling will as far as possible be on areas that are already disturbed and at largely active mining areas or existing residue stockpiles already disturbed by bulk sampling and mining. Manual labour will be used making use of picks and shovels to collect samples.

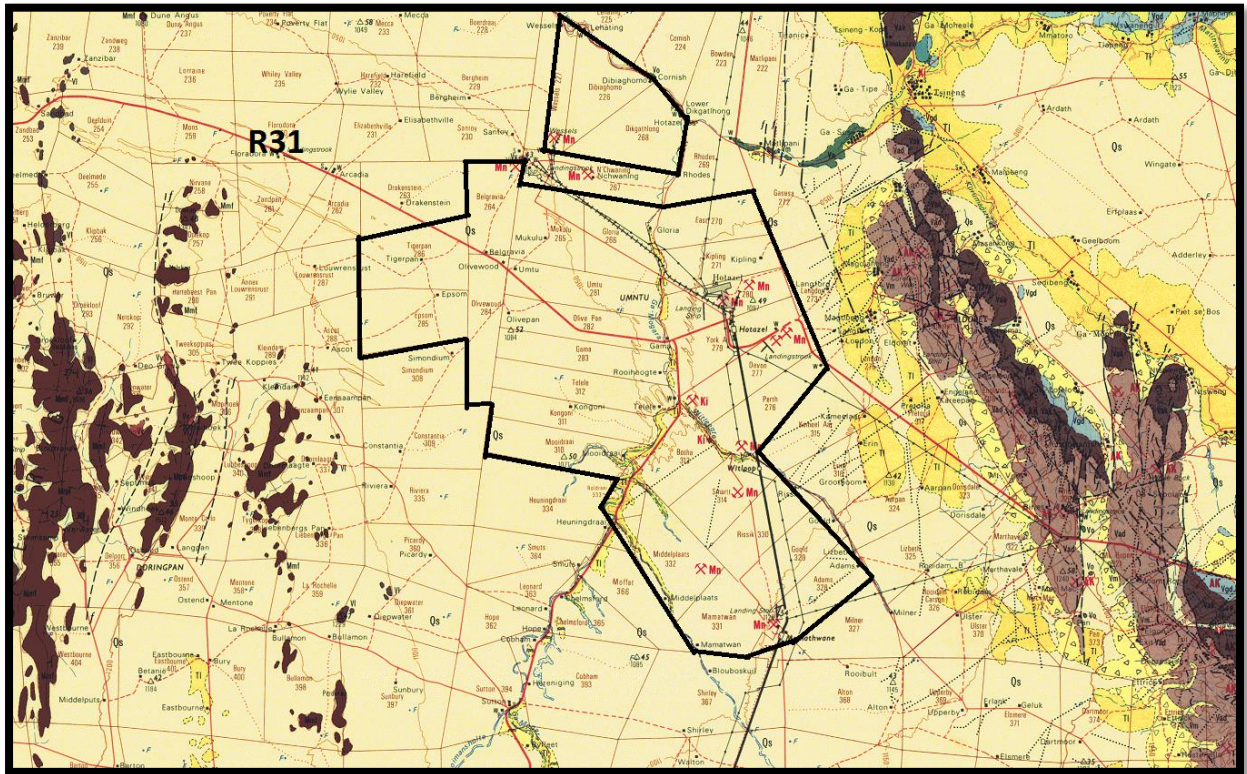


Figure 1: Geology of area (1:250 000 2722 Kuruman, XWalraven, F. 1981); 2426 Thabazimbi, Jansen *et al.* 1964.

Legend to Figure:

Qs – Red to Flesh-coloured wind-blown sand (yellow). Quaternary.

----- - Concealed geological boundary.

---f--- - Fault

⊥ 37° - Strike and dip

□ – Approximate position of sampling.

Mining Activities in area:

Ki – Kieselguhr Mn - Manganese.

Over areas totalling fully 40% of Southern Africa the ‘hard rocks’, from the oldest to the Quaternary, are concealed by normally unconformable deposits – principally sand, gravel, sandstone, and limestone. Inland deposits are much more extensive than marine deposits and are terrestrial and usually unfossiliferous. Some of these deposits date back well into the Tertiary, whereas others are still accumulating. Owing to the all-to-often lack of fossils and of rocks suitable for radiometric or palaeomagnetic dating, no clear-cut dividing line between the Tertiary and Quaternary successions could be established (Kent 1980). The alluvium sands were deposited by a river system and reworked by wind action (Snyman 1996). A thick cover of Kalahari reddish sand blankets most outcrops and is dominated by the typical Kalahari thornveld (Norman and Whitfield 2006).

(Visser 1989). Limestone occurs as lenses in the upper portion of the Ghaap Plateau. Manganised silica breccia (the manganese marker) is at the top of the Ghaap Plateau Formation (Sheet 2722 info). Manganese is also found in the Otazel and Gamagara Formations, it is the world’s largest manganese resource.

The Hotazel Formation in the study area is the host rock to the manganese ore as limestone and dolomitic limestone deposits in the Ghaap Plateau Group. This limestone belt of 150 km's long extends from Griquatown in the south to Kuruman in the north.

Palaeontology

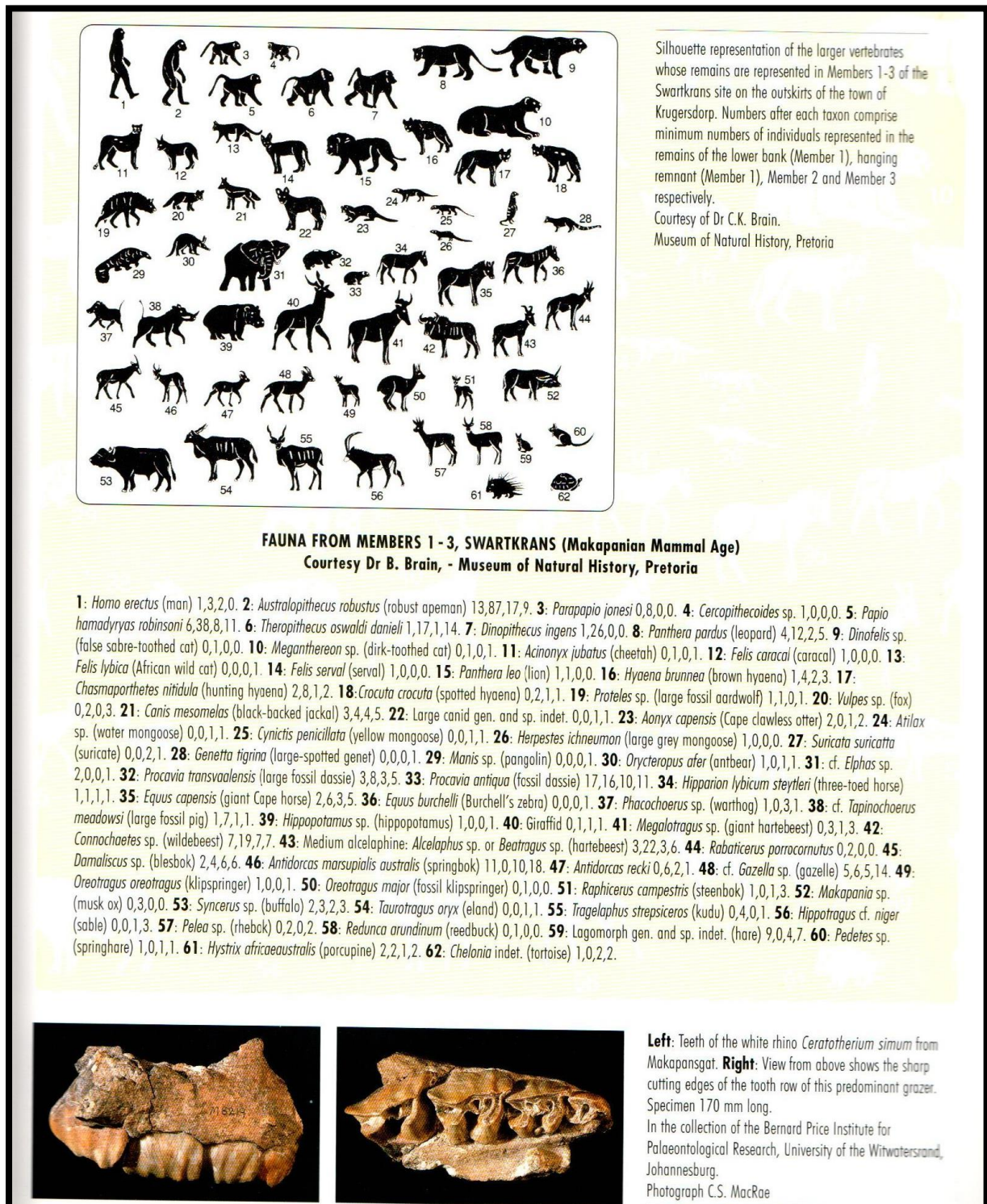


Figure 2: Examples of Quaternary age fossils (MacRae 1999).

MACRAE, C. 1999. *Life Etched in Stone: Fossils of South Africa*. The Geological Society of South Africa, Johannesburg. Pp 305.

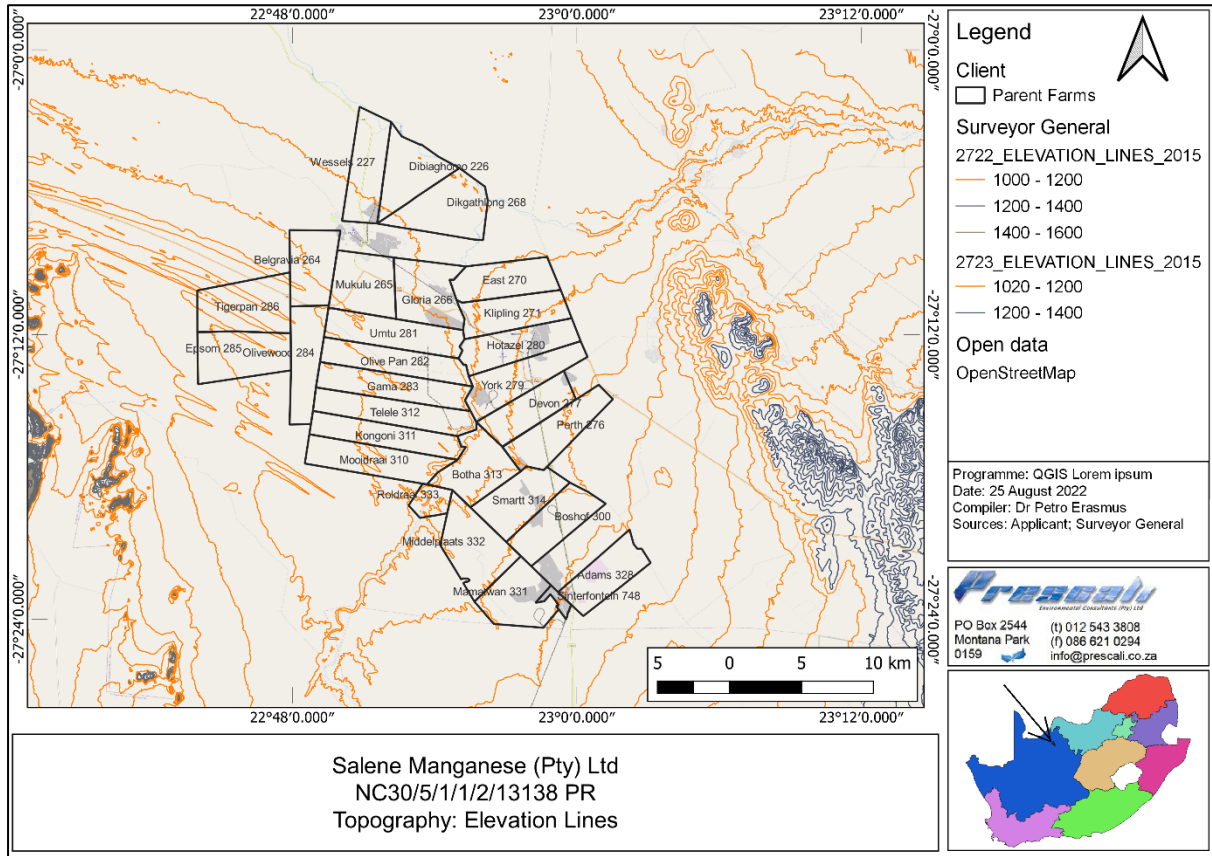


Figure 3: Topography showing location of farms (Prescali).



Figure 4: Google Earth image with development in red (Prescali).

No Rezoning is necessary.

Related infrastructure:

- Grab sampling
- Existing access roads

Palaeontological Sensitivity

15. FLUVIAL, LACUSTRINE & TERRESTRIAL DEPOSITS (most too small to be indicated on small scale geological maps) including eg Kwaggaskop Fm (Q)	Fluvial, pan, lake and terrestrial sediments, including diatomite (diatom deposits), pedocretes, tufa, cave deposits Late Cretaceous to Holocene c. 65 Ma → 0 Ma	Bones and teeth of mammals (eg proboscideans, rhinos, bovids, horses, micromammals), reptiles, fish, freshwater molluscs, petrified wood, trace fossils (eg termitaria), rhizoliths, diatom floras	<ul style="list-style-type: none">• Scattered records, many poorly studied (eg from ancient drainage systems)• Include equivalents of famous Arrisdrift Miocene fauna from S. Namibia• Threatened by alluvial diamond mining (eg Gariep, Vaal river gravels)• Orange River Man (100-50 Ka, <i>H. heidelbergensis</i>)
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*Almond, J. and Pether, J., 2009. SAHRA Palaeotechnical Report: Palaeontological Heritage of the Northern Cape Province (Pp 143), South African Heritage Resources Agency.

Recommendation

- That Exemption from a Desktop Study for the proposed **Salene Gloria Prospecting** be granted to the applicant taking into consideration all the above stated information.
- During sampling an archaeozoologist must be present.

Declaration (disclaimer)

I, Heidi Fourie, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed development project for which I was appointed to do a palaeontological assessment. There are no circumstances that compromise the objectivity of me performing such work.

I accept no liability, and the client, by receiving this document, indemnifies me against all actions, claims, demands, losses, liabilities, costs, damages and expenses arising from or in connection with services rendered, directly or indirectly by the use of the information contained in this document.

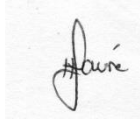
It may be possible that the Exemption Letter may have missed palaeontological resources in the project area as outcrops are not always present or visible on geological maps while others may lie below the overburden of earth and may only be present once development commences.

This report may not be altered in any way and any parts drawn from this report must make reference to this letter.

POPI Act 2013 Statement

It provides that everyone has the right to privacy and includes a right to protection against the unlawful collection, retention dissemination and use of personal information contained in this document and pertains to the phone and contact details, signature and contents.

As per the Declaration Section none of the information may be shared without the permission of the author.



Heidi Fourie
2022/12/19

Protocol for Chance Finds and Management plan

This section covers the recommended protocol for a Phase 2 Mitigation process as well as for reports where the Palaeontological Sensitivity is **LOW**; this process guides the palaeontologist / palaeobotanist / ECO on site and should not be attempted by the layman / developer.

- As part of the Environmental Authorisation conditions, an Environmental Control Officer (ECO) will be appointed to oversee the construction/prospecting/mining activities in line with the legally binding Environmental Management Programme (EMPr) so that when a fossil is unearthed they can notify the relevant department and specialist to further investigate.
- All fossil finds must be placed in a safe place for further investigation.
- The ECO should familiarise him- or herself with the applicable formations and its fossils.
- Most Universities and Museums have good examples of fossils.
- The EMPr already covers the conservation of heritage and palaeontological material that may be exposed during construction/prospecting/mining activities. For a chance fossil find, the protocol is to cease all construction activities, construct a 30 m no-go barrier, and contact SAHRA for further investigation.
- It is recommended that the EMPr be updated to include the involvement of a palaeontologist when necessary, either for pre-construction training of ECO or for pre-determined site visits. The ECO must visit the site after clearing, drilling, excavations and blasting and keep a photographic record.
- The developer may be asked to survey the areas affected by the development and indicate on plan where the construction / development / mining will take place. Trenches may have to be dug to ascertain how deep the sediments are above the bedrock (can be a few hundred metres). This will give an indication of the depth of the topsoil, subsoil, and overburden, if need be trenches should be dug deeper to expose the interburden.

The palaeontological impact assessment process presents an opportunity for identification, access and possibly salvage of fossils and add to the few good localities. Mitigation can provide valuable onsite research that can benefit both the community and the palaeontological fraternity. A Phase 2 study is very often the last opportunity we will ever have to record the fossil heritage within the development area. Fossils excavated will be stored at a National Repository.