

Environmental Impact Assessment for the proposed New Koffiefontein Slime Dam Development at Koffiefontein Diamond Mine

REF NR: EMS/23(ii), 3, 15/14/11 NEAS Ref: FSP/EIA/0000379/2014,

BACKGROUND INFORMATION DOCUMENT

June 2014

This Background Information Document (BID) provides Interested and/or Affected Parties (I&APs) with information on the Environmental Impact Assessment (EIA) process being done by Zitholele Consulting for the proposed development of a new slime dam for the Koffiefontein Diamond Mine in the Free State Province.

This BID also provides I&APs with the opportunity to:

- Register as stakeholders in the EIA process and to participate in the public participation process; and
- Comment on the proposed project.

The purpose of an EIA is to identify and evaluate potential impacts, to recommend measures to avoid or reduce negative impacts and to enhance positive impacts.

The decision-making authority for the EIA is the Department of Economic Development, Tourism and Environmental Affairs, Free State Province (*the DETEA*).

Should you register as a stakeholder, you will be included in the stakeholder database and receive further documents for review and comment/s. Your comments will ensure that all issues of concern are incorporated. To raise your concerns and to submit comments you may have at this stage, complete the enclosed registration sheet, write a letter, call or email the public participation office (contact details below).

All public documents will be available on the internet at

<http://www.petradiamonds.com> and <http://www.zitholele.co.za/eia-for-koffiefontein-slime-dam>.

Public Participation Office

Nicolene Venter
Zitholele Consulting (Pty) Ltd
P O Box 6002, Halfway House, 1685
Tel: 011 207 2077
Fax: 086-676-9950
Email: publicprocess@zitholele.co.za

Technical enquiries

Bongani Dhlamini
Tel: (011) 088-8460
Fax: 086-676-9950
Email: bonganid@zitholele.co.za

BACKGROUND

The Koffiefontein Diamond Mine is located on the Remaining Extent of the Farm Koffiefontein 733 in the Free State Province, 100 km south from the town Kimberley. The mine is owned by Petra Diamonds and Re-Teng Diamonds (Pty) Ltd. The mining infrastructure, started off (1870) as open pits until 1981, when underground mining was introduced. The underground mining has resulted in the requirement for slimes dams (West Dam, Middle Dam and East Dam) within the mine premises.



Koffiefontein is one of the world's top kimberlite mines by average value per carat. The mine produces high-value diamonds, a regular proportion of which are beautiful white diamonds between 5 and 30 carats in size.

The Life of Mine is expected at 15 years but with on-going re-mining activity, this may be extended.

NEED FOR THE PROPOSED PROJECT

The mine is running out of space for disposal of slimes from the current diamond mining and processing operations. A new slimes dam will be required and will be sized to cater to the extension of the Life of Mine (15 years). The slimes dam will be located on mining property, adjacent to existing slimes dams to ensure that even the proposed slime dam is disposed in an environmental responsible manner.

Petra Diamonds' expansion plan at Koffiefontein Diamond Mine is expected to increase production by the year 2017. Koffiefontein Diamond Mine currently has environmental authorisation for mining. Zitholele Consulting has been appointed by Koffiefontein Diamond Mine to do an Environmental Impact Assessment (EIA) for this proposed additional slime dam and associated infrastructure. The EIA will identify, propose and assess feasible sites for locating the preferred slime dam, different technologies for the managing of

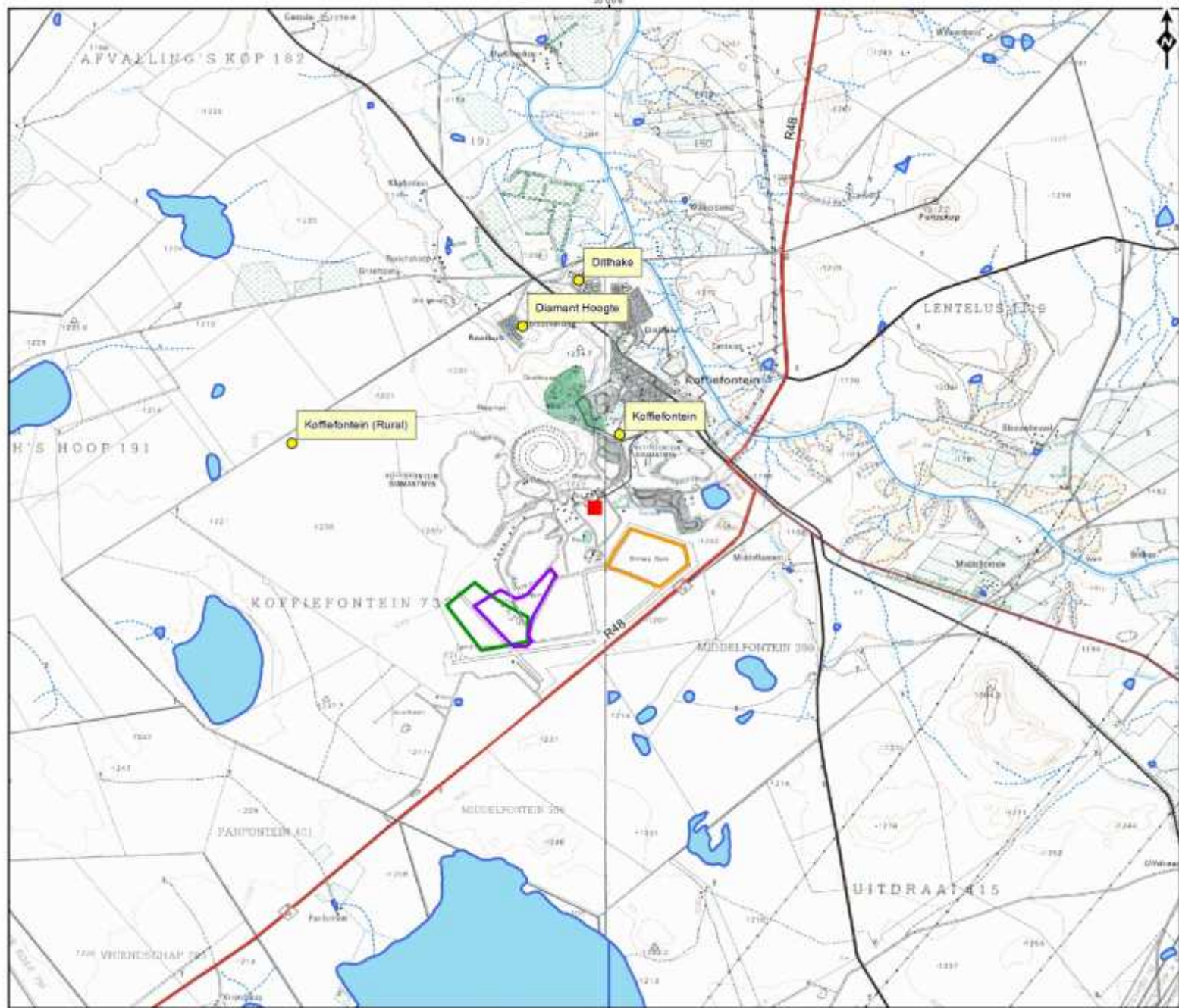
slime and various possible designs for the disposal facility.

Associated infrastructure may include:

- Pipes for or the transportation of slime to the slime disposal site/dam;
- Services including water supply in the form of pipe lines, and associated infrastructure i.e. pumps; and
- Access and maintenance roads to the slime dam.

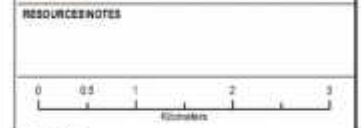
The Koffiefontein Mine has thus far investigated possible options for the disposal of the slime. It was found that the most feasible manner in which to manage the slime was to develop a slime dam facility. Options for the slime disposal facility were investigated within the premises of the mine. Several sites were identified, screened and rated according to technical, environmental and social criteria. Three alternative sites were deemed potentially feasible and will be investigated in more detail in the EIA process. Alternative 1 proved to be a health & environmental hazard to the neighbouring community and therefore only two alternatives were further investigated. These alternative sites are indicated on the map included.

Information contained on this drawing is the copyright of Zhilake Consulting (Pty) Ltd. Unauthorised use or reproduction of this data without written permission will be held against the user. © Zhilake Consulting (Pty) Ltd.



LEGEND

- Place Names
- Koffiefontein Mine
- National Road
- Regional Road
- Main Road
- Secondary Road
- Other Access Road
- Railway
- Non Perennial Rivers
- Perennial Rivers
- Site Alternative 1
- Site Alternative 2
- Site Alternative 3
- Waterbodies



REFERENCE
Coordinate System: GCS WGS 1984

PROJECT
EIA FOR DEVELOPMENT OF SLIMES DAM AT
KOFFIEFONTEIN MINE

TITLE
LOCALITY MAP

PROJECT No. 13034		REV 0
SCALE 1:50 000		A3
GIS	VR	2014/05/05
CHECK	BD	2014/05/05
REVIEW	SM	2014/05/05



LEGAL REQUIREMENTS

The proposed new slime dam is subject to the legal requirements outlined below. The applicable process will be conducted and be complemented by a combined technical process and public participation process.

The competent authority for the environmental authorisation applied for in terms of the National Environmental Management Act (NEMA), No 107 of 1998 and the EIA Regulations, 2010 is the Department of Economic Development, Tourism and Environmental Affairs, Free State Province (*the DETEA*).

NATIONAL ENVIRONMENTAL MANAGEMENT ACT (NEMA)

The proposed development of new slime dam and associated infrastructure requires an Environmental Impact Assessment (EIA) in terms of the National Environmental Management Act (NEMA), No 107 of 1998 and the amended EIA regulations (Government Notice R.543 to 546, published in June 2010).

As per Government Notice R.543 of June 2010, Chapter 2 government organs that administers a law relating to a matter affecting the environment relevant to that application for an environmental authorisation when considering an application must be consulted and comments obtained on the application. Therefore, the Department of Mineral Resources (DMR), the Department of Water Affairs (DWA), Xhariep District Municipality, Letsemeng Local Municipality, SAHRA, etc are a few of the commenting authorities for this process.

This process includes Scoping and Environmental Impact Report (S&EIR) Phases, which are applicable to all projects likely to have significant environmental impacts due to their nature or extent, activities associated with potentially high

levels of environmental degradation, or activities for which the impacts cannot be easily predicted.

In terms of Government Notice R.545 of 2010, the following listed activities require S&EIR be undertaken and are applicable to this proposed project:

- **Activity 3:** The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.
- **Activity 15:** Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, industrial or institutional use where the total area to be transformed is 20 hectares or more.

Therefore, for the proposed new development of a slime dam at the Koffiefontein Diamond Mine, an EIA has to be undertaken.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

An Environmental Impact Assessment (EIA) is a planning and decision-making tool undertaken in terms of the NEMA, Act No 107 of 1998. An EIA is a management tool that helps to identify and mitigate any potential impacts that a new development might have prior to the construction of the development.

TECHNICAL AND PUBLIC PARTICIPATION PROCESSES

An EIA has two parallel and integrated processes namely, a **technical** and a **public participation** process.

The **technical process** investigates "hard" information: facts based on scientific and technical studies, statistics or technical data. It identifies the potential negative and positive consequences of a proposed project or development at an early stage and recommends ways to enhance positive impacts and to avoid, reduce or mitigate negative impacts.

The EIA regulations require that an Environmental Management Programme (EMPr) be developed. The EMPr provides recommendations on how to operate and implement the project. The provisions of the EMPr are legally binding on the developer and its contractors.

Public participation ensures that the EIA process is fair, open and transparent. It also provides stakeholders with sufficient information and gives them opportunity to contribute by reviewing and commenting on the information provided.

The public participation process is designed to provide sufficient and accessible information to I&APs in an objective manner to assist them to:

- Raise issues of concern and make suggestions for alternatives and enhanced benefits;
- Contribute local knowledge;
- Verify that their issues have been captured and considered by the technical investigations;
- Comment on the findings of the EIA.

PHASES IN AN EIA

SCOPING PHASE

The **first phase** of an EIA is the Scoping Phase, which is conducted to gain an understanding of the potential environmental issues that are relevant to the project and to determine where further information is required, in the form of specialist studies/investigations.

The Scoping Report and Plan of Study for the EIA are submitted to the DETEA for review and to approve the proposed approach to the detailed investigation required in the next phase.

Activities involved in the Scoping Phase include:

- Meetings with authorities to agree on process and study requirements;
- Initial public and landowner notification, which includes placing of site notices, the distribution of letters, this BID; contribute to the EIA process to I&APs in the project area and beyond;
- Submission of a Final Scoping Report (FSR), capturing all issues raised during the scoping phase and for detailed assessment during the impact phase assessment, to the DETEA;
- Advertisements in local and regional newspapers to announce opportunities to participate;
- Progress feedback letter i.e. availability of the Draft Scoping Report (DSR) for review and comment;
- Convening a public meeting in the project area to present the content of the DSR and obtain comment on the DSR;
- Submit the Plan of Study for the EIA to the DETEA; and
- Distribution of the FSR for comments.

ENVIRONMENTAL IMPACT REPORT PHASE

The **second phase** is the Environmental Impact Report (EIR) Phase, which entails undertaking various specialist studies and compiling a Draft EIR (DEIR).

As part of the assessment, a Draft EMPr as well as an Operational Plan will be submitted to the DETEA for their approval. By following the EMPr, Koffiefontein Diamond Mine and its contractors will ensure compliance to environmental regulations during the planning, construction, operation and decommissioning (if applicable) phases.

The list of identified specialist studies required for this EIR (as identified at this stage) is listed below (all seasonal dependent studies will be undertaken in the wet season):

- Facility Design, Operational Plan and Topographical Survey;
- 3D modelling of the final site design (optional)
- Heritage Impact Assessment;
- Wetland Assessment and Delineation;
- Ecological Survey;
- GIS for mapping purposes.

Specific activities in this phase will include:

- Specialist studies focused on outcomes of the Scoping Phase and issues raised by stakeholders;
- Progress feedback to stakeholders;
- Compilation of a DEIR and EMPr indicating the potential positive and negative impacts and measures to enhance positive impacts and to reduce or avoid negative impacts;
- Environmental Impact Statement, highlighting the preferred alternative and reasons thereof;
- Advertise the availability of the DEIR and EMPr in local and regional newspapers;
- Distribution of the DEIR and EMPr, including the Comments and Responses Report (CRR), for comment;
- A public meeting to present the findings as per the DEIR; and
- Distribution of the Final EIR and EMPr for comment.

The EIR and EMPr will then be finalised and submitted to the DETEA for decision-making.

DECISION-MAKING (ENVIRONMENTAL AUTHORISATION)

This involves notifying the registered I&APs about the decision from the Competent Authority (DETEA). The DETEA must accept or reject the FEIR within 105 days. Registered I&APs will be informed of the DETEA's decision and of the appeal procedure should they wish to appeal the decision.

Your comments are important.

The purpose of an Environmental Impact Assessment is to provide the decision-making authority with sufficient information on which to base their decision to grant or refuse an Environmental Authorisation and if granted, to define conditions for the development. The contributions made by stakeholders from all sectors of society will ensure informed decision-making.

You are invited to participate freely and to submit any comments or information you feel may be useful to the EIA process. Registered interested and affected parties are entitled to comment, in writing, on all written submissions to the competent authority (the DETEA) and to bring to the attention of the competent authority, any issues which the party believes may be of significance to the consideration of the application.