

SISHEN IRON ORE COMPANY (PTY) LTD

APPLICATION FOR CLOSURE OF FOUR HISTORIC BORROW PITS LOCATED ON THE FARMS FRITZ 540, GAMAGARA 541 AND WOON 469 NEAR KATHU IN THE NORTHERN CAPE PROVINCE

Final Basic Assessment Report (BAR)

November 2021

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KUMBA IRON ORE LTD

BASIC ASSESSMENT REPORT



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Department:
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

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Date Received:

BASIC ASSESSMENT REPORT

Basic Assessment Report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of 07 April 2017. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of “not applicable” in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

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SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

YES **NO**

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. ACTIVITY DESCRIPTION**a) Describe the project associated with the listed activities applied for**

Sishen Iron Ore Company (Pty) Ltd ("SIOC") is in the process of applying for a Waste Management Licence (WML) for the closure of four (4) historic Borrow Pits which were developed in support of the Sishen Western Expansion Project (SWEP). The borrow pits are located on Portions 1 and 2 of the farm Fritz 540; Portion 1 and Remaining Extent (RE) of the farm Gamagara 541 and the Remaining Extent of the farm Woon 469 in the Gamagara Local Municipality near the town of Kathu.

The SWEP involved the relocation of infrastructure which ran through SIOC mine due to the expansion of the mine pit. The infrastructure for relocation was not only mining-related and included infrastructure owned and operated by Eskom, Transnet Limited, Sedibeng Water Board, SIOC and the Northern Cape Department of Roads and Public Works. The borrow pits were developed to source material for the construction of the infrastructure which had been relocated due to the SWEP. A large portion of the relocated infrastructure was reclaimed for further use while other materials were sold externally as scrap. A portion of the remaining demolished infrastructure which consisted of inert waste and clean building rubble was disposed of into the borrow pits post excavation. The material mostly consisted of Calcrete. All four borrow pit sites have since been decommissioned and disposal activities have ceased.

The borrow pits and their approved permits are detailed below:

- Permit Number: NC/JTG/SISH3/2012 - Portion 1 of the farm Fritz 540 (**Fritz-01**)
- Permit Number: NC/JTG/SISH4/2012 - Portion 2 of the farm Fritz 540 (**Fritz-02**)
- Permit Number: NC/JTG/SISH5/2012 - RE of the farm Woon 469 (**Woon**)
- Permit Number: NC/JTG/SISH6/2012 - RE and Portion 1 of the farm Gamagara 541 (**Gamagara**)

The extraction of material from the borrow pits was authorised in terms of Section 39 of the Mineral and Petroleum Resources Development Act (No. 28 of 2002) (MPRDA).

Four separate Waste Management Licences (WML) were subsequently issued after excavation had stopped for the disposal of inert material. The WMLs were issued by the Northern Cape Department of Environment and Nature Conservation with respect to Activity 9 under Category A of GNR 718 "*The disposal of inert waste to land in excess of 25 tons, but less than 25 000 tons*", in terms of the National Environmental Management Waste Act (No. 59 of 2008) (NEM:WA).

A single WML and Basic Environmental Assessment process is being undertaken for the closure of the borrow pits, as per consultation with the Department of Environment and Nature Conservation (DENC). The primary purpose of the project is to ensure that the borrow pits are adequately rehabilitated to achieve the closure objectives. A closure plan has been developed in support of the closure application (**see attached in Appendix J**) in accordance with Appendix 5 of the EIA Regulations of 2014.

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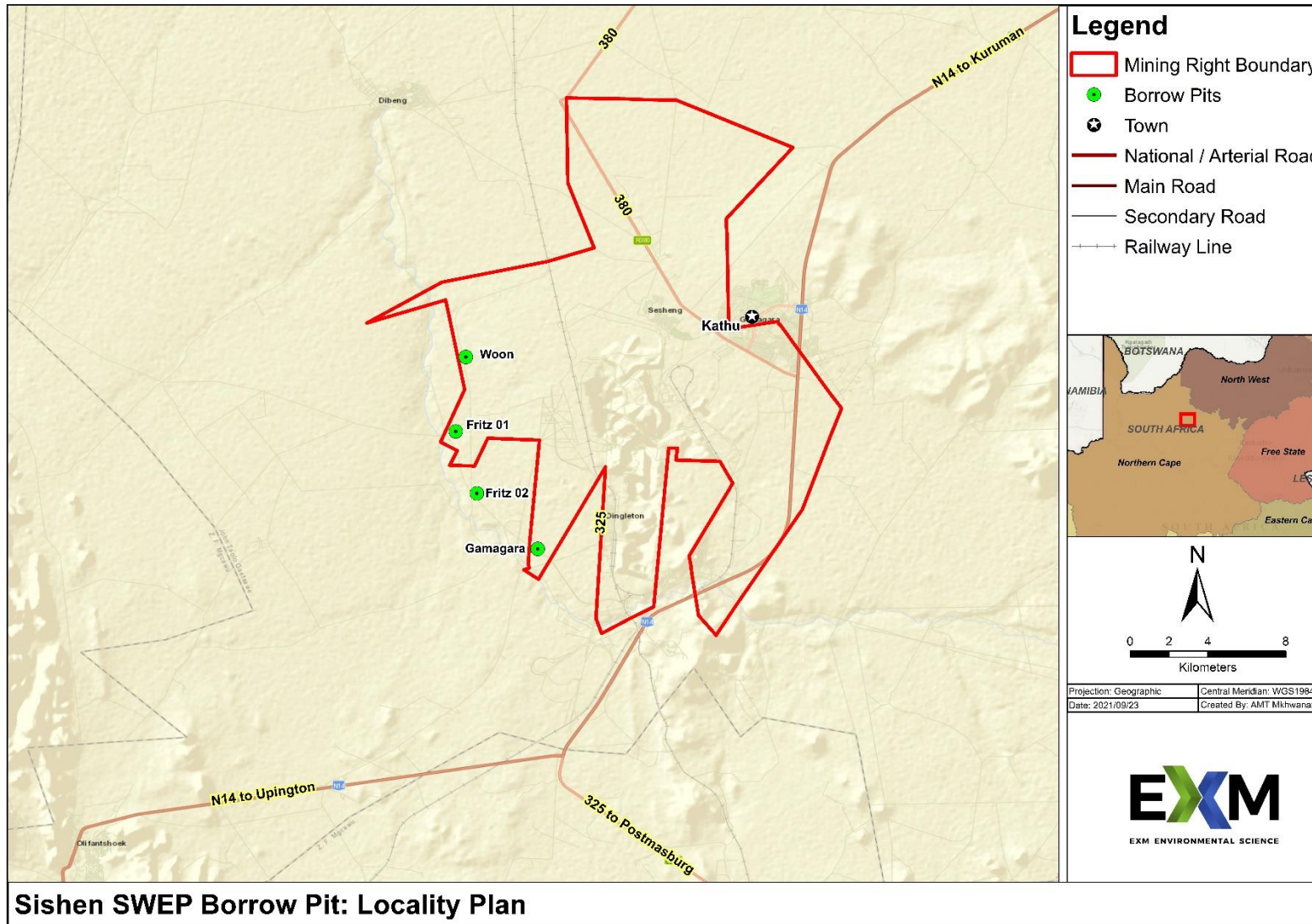


Figure 1: Regional Locality of the Four Borrow Pits

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b) Provide a detailed description of the listed activities associated with the project as applied for

National Environmental Management Waste Act (No. 59 of 2008) (NEM:WA)	Description of project activity
<p>Category A of GNR 921</p> <p>Activity 14:</p> <p>The decommissioning of a facility for a waste management activity listed in Category A or Category B of this schedule.</p>	<p>The decommissioning and closure of the four borrow pits require a Waste Management Licence (WML) in terms of Activity 14.</p>

2. FEASIBLE AND REASONABLE ALTERNATIVES

“alternatives”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Appendix 1 (3)(h), Regulation 2014. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) **Site alternatives (no site alternatives were assessed as the location of the borrow pits is fixed)**

Alternative 1		
Description	Lat (DDMMSS)	Long (DDMMSS)

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No site alternatives could be assessed, as the decommissioning and closure activities are required at existing borrow pits.		
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A	N/A	N/A
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A	N/A	N/A

In the case of linear activities:

Not applicable as no linear listed activities are being applied for.

Alternative:	Latitude (S):	Longitude (E):
Alternative S1 (preferred)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		
Alternative S2 (if any)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		
Alternative S3 (if any)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

b) Closure Lay-out/Type of rehabilitation alternatives

Woon Borrow Pit

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The preferred alternative entails that the calcrete stockpiles will be moved from their existing location within the pit and consolidated with the high walls of the borrow pit. This will be undertaken in order to supplement the slope during rehabilitation and minimise the additional area outside of the borrow pit high wall which will need to be disturbed to create a safe and stable slope angle.	27° 42' 53.73" S	22° 55' 03.27" E
Topsoil will be spread along the borrow pit floor whereafter revegetation will be undertaken.		

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Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
<p>The existing calcrete stockpiles will be evenly spread on the borrow pit floor. The floor will then be topsoiled and revegetated. A far larger volume of topsoil will be required for this alternative, as the calcretes consist of some fairly large rocks so the topsoil will settle between the calcretes. It will require a substantial amount of topsoil to obtain adequate surface area for plant growth.</p> <p>This alternative would also mean that a larger push back area will be disturbed outside of the high wall in order to move material and shape the high wall into a safe and stable slope.</p>	27° 42' 53.73" S	22° 55' 03.27" E
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A	N/A	N/A

Fritz-01 Borrow Pit

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
<p>The calcrete stockpiles within the borrow pit will be moved into the deepest part of the borrow pit. This large void requires a substantial volume of material for backfill. Additional calcretes will be utilised as part of the high walls to minimise the area which will be disturbed outside of the borrow pit to create safe and stable slope angles.</p> <p>A small area of the calcrete stockpiles will not be moved from its position within the borrow pit, as the material has developed/created a niche habitat and micro ecology.</p> <p>Topsoil will be spread along the borrow pit floor whereafter revegetation will be undertaken.</p>	27° 44' 57.36" S	22° 54' 44.55" E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
<p>The calcrete stockpiles will remain in its current positions within the borrow pit floor. A variety of fauna use the calcrete stockpiles as homes and burrows. This alternative will mean that a larger area will need to be disturbed in order to push back / bulldoze</p>	27° 44' 57.36" S	22° 54' 44.55" E

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material from outside of the borrow pit to the high wall to create a safe and stable slope. Topsoil will be spread along the remaining area of the borrow pit floor whereafter revegetation will be undertaken.		
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
Pivot irrigation systems were located on the land at the Fritz-01 borrow pit. These systems can be re-instated, and the area used for small scale agriculture. This alternative will however require further investigation and a detailed feasibility analysis.	27° 44' 57.36" S	22° 54' 44.55" E

Fritz-02 Borrow Pit

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
There are areas at Fritz-02 where the slopes and high walls have revegetated. The preferred alternative is not to further disturb the high wall areas and to only re-shape/stabilise the high wall along the western perimeter. The calcrete material within the Fritz-02 borrow pit will be transported to the Gamagara borrow pit for use as backfill. The floor of the borrow pit where necessary will be topsoiled and revegetated, as required.	27° 46' 39.95" S	22° 55' 22.61" E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
The existing calcrete stockpiles will be evenly spread on the borrow pit floor. The floor will then be topsoiled and revegetated. A larger volume of topsoil will be required for this alternative, as the calcrete material consist of some fairly large rocks and topsoil will settle between the large material. It will require a substantial amount of topsoil to obtain adequate surface area for plant growth. A larger push back area will be disturbed along the western high wall in order to shape the high wall into a safe and stable slope.	27° 46' 39.95" S	22° 55' 22.61" E
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A	N/A	N/A

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Gamagara Borrow Pit

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The void within the Gamagara borrow pit will require a large quantity of material to backfill. The preferred alternative is to continue to backfill into the pit with inert material as has previously been undertaken in order to fill the void with as much material as possible, this will minimise the need for additional soil and backfill material, whereafter topsoiling and revegetation will be undertaken.	27° 48' 12.19" S	22° 57' 04.45" E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Stabilisation of the high wall and slope at the Gamagara borrow pit will be undertaken by backfill through blasting. This will provide material to re-shape and stabilise the high wall without requiring a large push back area and additional disturbance of vegetation in the surrounding area. The void within the borrow pit will still remain and additional safety measures will be required.	27° 48' 12.19" S	22° 57' 04.45" E
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A	N/A	N/A

c) Technology alternatives

REHABILITATION AND REVEGETATION:
Alternative 1 (preferred alternative)
Ripping or loosening of soil at the borrow pit sites will need to be undertaken prior to revegetation and placement of seed mix. Two alternatives were considered, which include hand ripping and mechanical ripping of areas.
A site visit was undertaken where it was evident that hand ripping would not be practical given the size of the borrow pits. This alternative and the potential for hand ripping was not assessed in further detail.
Alternative 2

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)
No other alternatives have been considered for the project as it relates to a closure application.

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Alternative 2

e) No-go alternative

In accordance with the NEMA Regulations, the no-go alternative is required to be investigated and assessed. The no-go option refers to the alternative of the proposed development not going ahead at all. This alternative generally avoids potentially positive and negative impacts on the environment, as the current status quo will remain.

However, for the borrow pits, the no-go alternative would mean that no rehabilitation and closure will be undertaken. The disturbance will remain at each of the four sites and positive impacts relating to the reshaping, placement of topsoil and revegetation of each borrow pit will not be realised. Moreover, SIOC is legally obligated in terms of NEMA and the MPRDA, as well as associated regulations to ensure that the site is adequately rehabilitated to the satisfaction of the DMRE in order to obtain a closure certificate in terms of Section 43 of the MPRDA.

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:Alternative A1¹ (preferred activity alternative)**Size of the activity:**

Woon: 2,3856 ha
Fritz 01: 6,6524 ha
Fritz 02: 2,6828 ha
Gamagara: 0.8542 ha

Alternative A2 (if any)

Alternative A3 (if any)

N/A

N/A

or, for linear activities: **Not Applicable**

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

m

m

m

¹ "Alternative A.." refer to activity, process, technology or other alternatives.

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b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:

- Alternative A1 (preferred activity alternative)
- Alternative A2 (if any)
- Alternative A3 (if any)

Size of the site/servitude:

	N/A
	N/A
	N/A

4. SITE ACCESS

Does ready access to the site exist?

YES ✓ Gravel road access to each of the borrow pits exists	NO
N/A	

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

N/A

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as **Appendix A**. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

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6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as **Appendix A** to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under **Appendix B** to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as **Appendix C** for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

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10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?	YES ✓	NO	Please explain
The activity relates to the decommissioning and closure of existing borrow pits. The borrow pits have an approved EMPr and a WML and are located on properties owned by Sishen Iron Ore Company (SIOC).			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES ✓	NO	Please explain
The Goals and Objectives of the Provincial Spatial Development Framework relating to sustainability and sustainable development are premised on the National Directives put forward in the National Framework on Sustainable Development (DEA, 2008) and the National Strategy for sustainable development and Action Plan 2011-2014 (NSSD) (DEA, 2011). The Northern Cape PSDF functions as an innovative strategy that will apply sustainability principles to all spheres of land use management throughout the Northern Cape and which is to facilitate practical results, as it relates to the eradication of poverty and inequality and the protection of the integrity of the environment. The decommissioning and closure of the borrow pits is aligned with the PSDF regarding sustainability and rehabilitation of disturbed areas.			
(b) Urban edge / Edge of Built environment for the area	YES	NO ✓	Please explain
The borrow pits are not located within the urban edge.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES	NO ✓	Please explain
The IDP and SDF related initiatives are by default required to be integrated into the Local Municipality planning tools and given their national significance are seen to override/ form part of the local planning. The John Taolo Gaetsewe District Spatial Development Framework (SDF) has a mid to higher level strategic spatial framework that provides the municipality sphere with objectives as set out in the national and provincial spheres regarding sustainable development, natural resources management, regional economic investment, job creation and eradication of poverty. The rehabilitation and closure of the borrow pits is aligned with the objectives of sustainable development, as the mine is rehabilitating and re-vegetating the areas where they have disturbed .			
(d) Approved Structure Plan of the Municipality	YES ✓	NO	Please explain
N/A. The borrow pits and the rehabilitation thereof have no impact on and do not require any form of municipal services.			

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<p>(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)</p>	YES	NO ✓	Please explain
<p>The general aim of an Environmental Management Framework is to improve the integration of biodiversity into land use planning and decision making through a combination of activities such as engaging in institutional co-ordination mechanisms, providing accurate, relevant information and reference materials, providing appropriate training and targeted awareness raising; and guiding future land use and development within the municipality.</p> <p>Rehabilitation and closure of the borrow pits will positively impact on the biodiversity of the area, as these disturbed areas will be rehabilitated and returned to as close to their pre-mining state as possible. This is therefore in accordance with the broad environmental management priorities for the area.</p>			
<p>(f) Any other Plans (e.g. Guide Plan)</p>	YES	NO ✓	Please explain
<p>N/A</p>			
<p>3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</p>	YES ✓	NO	Please explain
<p>The project is considered to be consistent with and in support of the broad national policy framework for the development of mining in South Africa, as the borrow pits were required for mining and related activities and rehabilitation and closure is the final phase with regard to minimising the biophysical disturbance. Mining and the employment associated with the mine provides one of the largest economic activities within the local municipality and surrounds.</p> <p>At a regional level, it is deemed consistent with the Northern Cape Provincial SDF and the SDF of the John Taolo Gaetsewe District Municipality. The priorities of the Gamagara Local Municipality's IDP and the John Taolo Gaetsewe District Municipality's SDF focus on the reduction of unemployment and poverty in the area. The mine is the largest provider of employment in the surrounding area, and the borrow pits exist due to expansion of mining operations. The rehabilitation and closure of the borrow pits is the final phase in completion of the life cycle of the borrow pits in accordance with the relevant environmental legislation.</p>			
<p>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</p>	YES ✓	NO	Please explain
<p>The project relates to rehabilitation of the disturbed borrow pits. Rehabilitation is defined as a process of restoration and to bring an area of land back to its natural state after it has been damaged or degraded. Rehabilitation and closure of the borrow pits, while not a societal priority as such, is a priority in terms of environmental legislation and restoration of the area. It will have a positive impact on the surrounding ecology, flora and fauna.</p>			

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<p>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	YES ✓	NO	Please explain
<p>The only infrastructure required are the access roads to the borrow pits which are already in existence. No additional services are required.</p>			
<p>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	YES	NO ✓	Please explain
<p>There will be no implication on the infrastructure planning of the municipality. All funds and operations required will be undertaken and made available by the SIOC.</p>			
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>	YES	NO ✓	Please explain
<p>Although rehabilitation and closure of the borrow pits is not directly a project of national concern or importance, rehabilitation of disturbed land is of critical importance in terms of ecological management and sustainable development of the mine.</p>			
<p>8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)</p>	YES ✓	NO	Please explain
<p>Rehabilitation and closure of the borrow pits must be undertaken in terms of the relevant environmental legislation and overall closure objectives. The motivation for the locality of the borrow pits was initially based on their close proximity to the mine and infrastructure development projects, their location was therefore an important factor at the time of construction. Rehabilitation must be undertaken at the site of disturbance and the inert waste that was backfilled into the borrow pits will provide additional materials which can be used in the rehabilitation process.</p>			
<p>9. Is the development the best practicable environmental option for this land/site?</p>	YES ✓	NO	Please explain
<p>Rehabilitation of a disturbed area is the best practicable environmental option and will have a positive impact on the surrounding ecology, flora and fauna.</p>			
<p>10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?</p>	YES ✓	NO	Please explain
<p>The negative impacts of the project are negligible, and the benefits of rehabilitation and closure of the borrow pits far outweigh any potential negative impacts. The benefits relate primarily to the positive ecological impacts as a result of rehabilitation and revegetation.</p>			

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11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO <input checked="" type="checkbox"/>	Please explain
The borrow pits are located in proximity of and are in existence due to the mine and associated activities. The area is therefore already categorised by mining and mining related activities, the approval of the application will therefore not set a new precedent for similar activities for the Gamagara local municipality.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO <input checked="" type="checkbox"/>	Please explain
No person's rights are expected to be negatively affected by the proposed development.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO <input checked="" type="checkbox"/>	Please explain
The proposed activities will not be located within or in close proximity to the urban edge.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPs)?	YES	NO <input checked="" type="checkbox"/>	Please explain
The proposed activities will not directly contribute to the 17 SIP's, but the borrow pits played a role in assisting with the continuation of mining activities which provide a large number of employment opportunities within the surrounding area. Rehabilitation will have a positive impact on the ecology and flora and fauna within the area.			
15. What will the benefits be to society in general and to the local communities?	Please explain		
Rehabilitation and closure of the borrow pits will have an indirect positive impact on the local community in that ecological processes will be improved. Some temporary employment opportunities will also be created during the rehabilitation phase and personnel from local communities will be employed wherever possible.			
16. Any other need and desirability considerations related to the proposed activity?	Please explain		
The benefits of the proposed development will outweigh the negative impacts. The benefits include rehabilitation of the disturbed borrow pits, improvement in the ecological functioning of the area and temporary employment opportunities during rehabilitation activities.			
17. How does the project fit into the National Development Plan for 2030?	Please explain		
The National Development Plan aims to eliminate poverty and reduce inequality by 2030. The project does not directly fit into the NDP, although the borrow pits exist due to the mine, which is the largest employer in the surrounding areas.			

BASIC ASSESSMENT REPORT

18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.

Section 23 of NEMA determines that the application of appropriate environmental management tools must ensure the integration of environmental management in activities. The principles of environmental management must be integrated into all decisions which may have a significant effect on the environment. Procedures for the investigation, assessment and communication of the potential impact of activities must be effective.

The process of rehabilitation and closure of the borrow pits is in itself an environmental management tool to minimise impacts with the aim to restore the previous environmental impacts caused by the construction of the borrow pits and disposal of inert material.

The Impact Assessment undertaken as part of this Basic Environmental Assessment conforms to the principles of Integrated Environmental Management (IEM). The assessment aims to identify any potential negative impacts associated with the rehabilitation process as well as the positive impacts which will result from the rehabilitation and closure. The process has identified all potential impacts and these were evaluated to determine the actual impact on the environment. A triple bottom approach was taken into account whereby the socio, economic and environmental impacts have been assessed. This has also ensured that Section 2(3) of NEMA was adhered to.

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.

SIOC is mindful of the NEMA principles, broad liability and implications associated with them, and it is furthermore SIOC's intention to align with these principals on projects.

Section 2 (4) of NEMA states the following:

(a) Sustainable development requires the consideration of all relevant factors including the following:

(i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;

(viii) that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied

Rehabilitation of the borrow pits will be undertaken to minimise and remedy the past environmental impacts associated with construction and operation of the borrow pits. The rehabilitation and closure of the borrow pits is therefore directly in accordance with the principles of NEMA Section 2.

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11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
EIA Regulations 2017: Listing Notice 1 (GNR 326 of 2017) (as amended in 2021)	No Listed Activities in terms of NEMA have been identified for the project.	Northern Cape Department of Environment & Nature Conservation (DENC)	2017
National Environmental Management Act (No. 107 of 1998) Financial Provision Regulations GNR 1147 of 20 November 2015	Financial Provision for closure has been included as part of the Closure Plan	Department of Mineral Resources and Energy (DMRE)	2015
National Environmental Management: Waste Act (No. 59 of 2008) (as amended)	The project triggers the following - Activity 14 in Category A of GNR 921 <i>The decommissioning of a facility for a waste management activity listed in Category A or Category B of this schedule.</i>	Northern Cape Department of Environment & Nature Conservation (DENC)	2013
National Heritage Resources Act (No. 25 Of 1999)	The project will not require authorisation from the South African Heritage Resource Agency (SAHRA)	South African Heritage Resource Agency (SAHRA)	1999
National Water Act (No. 36 of 1998) (NWA)	The project will not trigger water uses in terms of the NWA.	Northern Cape Department of Water and Sanitation	1998
National Environmental Management: Biodiversity Act (No. 10 of 2004 (NEMBA)	Section 57 of NEMBA restricts certain activities involving threatened and protected species (as listed in Regulation GN. 151 and 152, February 2007) without a permit. Restricted activities applicable to the project are limited to the potential removal of Threatened or Protected Species (TOPS)	Northern Cape Department of Environment & Nature Conservation	2004

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Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	plants during rehabilitation activities. The relevant permits will be obtained for the removal of such plants.		
Northern Cape Nature Conservation Act (No. 9 of 2009 (NCNCA))	In terms of Section 50 of NCNA a permit is required for the removal of TOPS.	Northern Cape Department of Environment & Nature Conservation	2009
National Forest Act 1998 (NFA)	Tree species listed as Protected in Section 15 (1) of the NFA will require permits prior to disturbance or removal of the trees.	Department of Environment, Forestry and Fisheries	1998
Conservation of Agricultural Resources Act (No. 43 of 1983 (CARA))	Removal of the alien and weed species encountered in the area must be undertaken in accordance with CARA and GNR1048 in GG 9238 of 25 May 1984. Removal of species should take place throughout the rehabilitation phase.	Northern Cape Department of Environment & Nature Conservation	1983

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	NO √
NA	

If YES, what estimated quantity will be produced per month?

How will the construction solid waste be disposed of (describe)?

The project relates to rehabilitation and closure activities and will not involve the generation of solid waste. The only anticipated general waste during the rehabilitation phase relates to very small quantities of food packaging items and cooldrink cans consumed by personnel on site. These will be placed in closed bins and collected for disposal of at the licensed Sishen General landfill site.

Where will the construction solid waste be disposed of (describe)?

N/A

Will the activity produce solid waste during its operational phase?

YES	NO
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BASIC ASSESSMENT REPORT

If YES, what estimated quantity will be produced per month?

	√
NA	

How will the solid waste be disposed of (describe)?

N/A

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

N/A

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?

YES	NO√
-----	-----

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO√
-----	-----

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO√
-----	-----

If YES, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site?

YES	NO√
-----	-----

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?

YES	NO√
-----	-----

If YES, provide the particulars of the facility:

Facility name:	N/A		
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

No wastewater will be produced as a result of the rehabilitation and closure of the borrow pits.
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c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

YES	NO ✓
-----	------

If YES, is it controlled by any legislation of any sphere of government?

YES	NO ✓
-----	------

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

Dust emissions during the rehabilitation phase will primarily be generated from vehicle movement on access roads as well as from rehabilitation activities, including movement of material such as top soil and calcrete.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

YES	NO ✓
-----	------

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?

YES ✓	NO
-------	----

If YES, is it controlled by any legislation of any sphere of government?

YES	NO ✓
-----	------

Describe the noise in terms of type and level:

Noise will be generated from vehicle movement on roads and earth movement equipment. This will however only be generated for the duration of rehabilitation at each of the borrow pit sites.

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal	Water board	Groundwater	River, stream, dam or lake	Other ✓ Water for potable use will be supplied by Sishen Mine	The activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

N/A

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

YES	NO ✓
-----	------

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

N/A

14. ENERGY EFFICIENCY

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

The rehabilitation and closure of the borrow pits will not use energy, except generators.

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Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

N/A

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SECTION B: SITE/AREA/PROPERTY DESCRIPTION**Important notes:**

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A):

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section? YES NO
 If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Northern Cape
District Municipality	John Taolo Gaetsewe District Municipality,
Local Municipality	Gamagara Local Municipality
Ward Number(s)	Ward 7
Farm name and number	Portions 1 and 2 of the farm Fritz 540; Portion 1 and Remaining Extent (RE) of the farm Gamagara 541; and Remaining Extent of the farm Woon 469
Portion number	As above
SG Code	Woon: C04100000000046900000 Fritz-01: C04100000000054000001 Fritz-02: C04100000000054000002 Gamagara: C04100000000054000002

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

Grazing

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?

YES	NO √
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1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat ✓	1:50 → 1:20	1:20 → 1:15	1:15 → 1:10	1:10 → 1:7,5	1:7,5 → 1:5	Steeper than 1:5
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Alternative S2 (if any):

Flat	1:50 → 1:20	1:20 → 1:15	1:15 → 1:10	1:10 → 1:7,5	1:7,5 → 1:5	Steeper than 1:5
------	-------------	-------------	-------------	--------------	-------------	------------------

Alternative S3 (if any):

Flat	1:50 → 1:20	1:20 → 1:15	1:15 → 1:10	1:10 → 1:7,5	1:7,5 → 1:5	Steeper than 1:5
------	-------------	-------------	-------------	--------------	-------------	------------------

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input checked="" type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>
2.10 At sea	<input type="checkbox"/>				

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO ✓	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO ✓	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO ✓	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO ✓	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO ✓	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO ✓	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO ✓	YES	NO	YES	NO
An area sensitive to erosion	YES ✓	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

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4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition ^E	Natural veld with scattered aliens ^E	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an "E" is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	NO ✓	UNSURE
Non-Perennial River	YES	NO ✓	UNSURE
Permanent Wetland	YES	NO ✓	UNSURE
Seasonal Wetland	YES	NO ✓	UNSURE
Artificial Wetland	YES	NO ✓	UNSURE
Estuarine / Lagoonal wetland	YES	NO ✓	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

N/A

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area ✓	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station ^H
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential	Church	Agriculture
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant ^A	Nature conservation area
Medium industrial ^{AN}	Train station or shunting yard ^N	Mountain, Koppie or ridge
Heavy industrial ^{AN}	Railway line ^N ✓	Museum
Power station	Major road (4 lanes or more) ^N	Historical building

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Office/consulting room	Airport ^N	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam ^A	Sport facilities	Archaeological site
Quarry, sand or borrow pit ✓	Golf course	Other land uses (describe)

If any of the boxes marked with an "N" are ticked, how this impact will / be impacted upon by the proposed activity? Specify and explain:

No impacts are anticipated on the railway line as a result of the rehabilitation activities.

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

N/A

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

N/A

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	NO ✓
Core area of a protected area?	YES	NO ✓
Buffer area of a protected area?	YES	NO ✓
Planned expansion area of an existing protected area?	YES	NO ✓
Existing offset area associated with a previous Environmental Authorisation?	YES	NO ✓
Buffer area of the SKA?	YES	NO ✓

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:

YES

NO ✓

Uncertain

N/A

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

N/A

Will any building or structure older than 60 years be affected in any way?

YES

NO ✓

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Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

YES

NO

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

The Northern Cape Province is geographically the largest province in South Africa, covering an area of 372 889 km², which constitutes approximately 30% of the country's total area. Despite having the largest land mass, the province is the least populated of all nine provinces. The province is bordered by Namibia and Botswana in the north; while domestically, it is bordered by the North-West Province in the north-east, the Free State Province in the east, the Eastern Cape Province in the south-east, and the Western Cape Province to the south and south-west. The Northern Cape consists of five districts, namely Frances Baard, Pixley ka Seme, Namakwa, ZF Mgcawu (previously known as Siyanda) and John Taolo Gaetsewe.

The John Taolo Gaetsewe DM (JTGDM), which lies in the north-east of the province, is geographically the second smallest of the five district municipalities in the province, covering a surface area 27 293 km² (6% of the province). It is bordered by the Siyanda District in the east, Botswana in the north, Francis Baard District to the south, and the North-West Province in the west. The JTGDM accounts for about 16% of the provincial population.

The Gamagara LM covers a surface area of 2 619 km², which is approximately 10% of the district's total surface area. It is located in the north-eastern sector of the Northern Cape, bordered by Ga-Segonyana LM in the east, Joe Morolong LM in the north, while Tsantsabane LM forms its south and west borders. Kathu serves as the LM's administrative centre, and it is primarily an iron ore and manganese mining area. The municipality has four major urban settlements - Kathu, Olifantshoek, Dibeng and Mapoteng/Sesheng. Dingleton was previously the fifth major settlement, but with the expansion of Sishen Mine, residents have had to be relocated, a process that began in 2014.

The region is dominated by mining activities to such an extent that the mines themselves - and the giant iron ore trucks at the mines - are considered a tourist attraction and a local landmark. Other major landmarks are the Kalahari Golf Estate close to Kathu, the Kathu Forest (declared a protected Woodland and registered as a national heritage site in 1995); the Gamagara River that runs through the region; the portion of Langeberg running through Olifantshoek; and the dam at the southern entrance of Olifantshoek with the potential of developing into a major tourism attraction.

An estimated, 18.5% of the district's population of 224 797 individuals reside in the Gamagara LM. Of these individuals 72%, or 29 969 people, constitute the Working Age Population (WAP); i.e. people between 15 and 64 years of age. However, only about two thirds (65.8%) of this group of people represent the Economically Active Population (EAP), while the rest are either not economically active (32%) or discouraged job seekers

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(3%). However, the municipality's labour force participation (LFP) or EAP rate is about 10 percentage points higher than that of the country and province, and close to 20 percentage points higher than that of the JTG DM, which has a labour force participation rate of 45.9%. Regarding the settlements within the local municipality, it is interesting to note that towns closer to the mine have a better EAP than those further away. Dibeng and Olifantshoek both record EAP rates of about 55%, while Kathu's and Sishen's EAP rates reach 76% and 67.2%, respectively.

The unemployment rate in the municipality was 17.7% as recorded during 2011 Census. This is significantly lower than the national average of 29.7%, the provincial average of 27.4%, and the district average of 30% recorded for the same year. Among the towns, the lowest unemployment rates were observed in Kathu (unemployment rate of 10.9%) and Gamagara NU (only 8.6%), which is characterised by farming activities and where the majority of residents are employed at farms or at the mine. The highest levels of unemployment were observed in Dibeng and Olifantshoek, where the unemployment rates were 26.4% and 26%, respectively, but these are still lower than the national average. Table 1 provides the labour force composition.

The formal sector provides for the majority of employment opportunities (63.9%) in the municipality, and this is higher than in the province (55.3%) and district (54.5%). However, as suggested by information presented in Figure 8, the informal sector also plays an important role in job creation in the municipality (7.7%), but still to a lesser extent than in the province (10.2%).

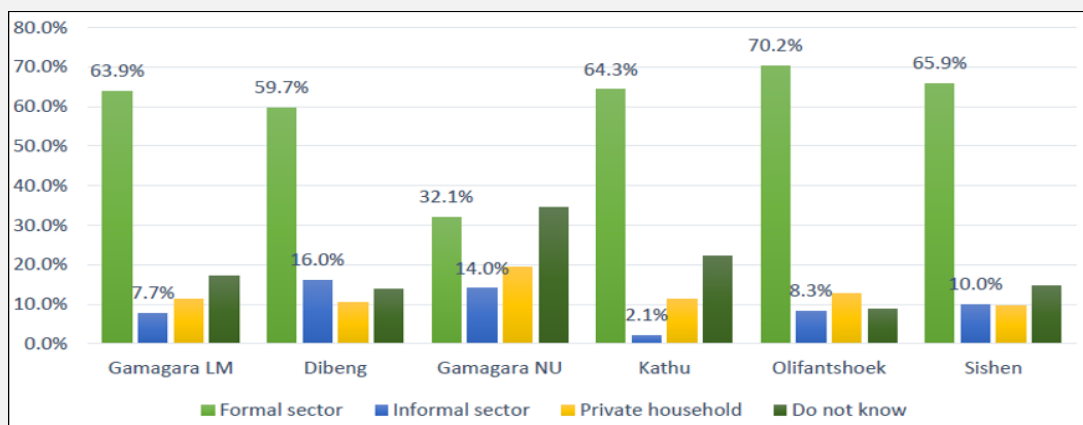


Figure 2 : Employment Status

Private households in the municipality also create a notable number of employment opportunities, although they primarily provide unskilled and semi-skilled jobs and hire people as gardeners, housekeepers or child minders. Within the Gamagara LM, 13.3% of employment opportunities in both the formal and informal sectors stem from the primary sector, with 38% of these opportunities provided by the mining industry. However, 40.3% of all employment opportunities within the LM are as a result of the community and personal services, making the industry the single biggest employment creator within the Gamagara LM, followed by trade (18%) and agriculture (8.3%).

Economic profile of local municipality:

The structure of the economy and the composition of its employment provide valuable insight into the dependency of an area on specific sectors and its sensitivity to fluctuations of global and regional markets. Knowledge of the structure and the size of each sector are also important for the economic impact results'

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interpretation, as it allows for the assessment of the extent to which the proposed activity would change the economy, its structure, and trends of specific sectors.

1) Size and contribution of the local economy

The economy of the JTG District Municipality is based on mining (68% of provincial Gross Value Added (GVA)), followed by community, social and personal services at 12%. Agriculture and manufacturing, which are strong growth sectors and job creators, play a very insignificant role in the local economy of the district, at 1% and 1.4% respectively (JTG District Municipality 2011: 68). The strong reliance on mining makes the district's economy undiversified and vulnerable. The towns of Kathu and Kuruman grew rapidly due to new mining activities, while many of the villages in Joe Morolong have no economic base to build from and also very little expectation of any new developments or investments. Most services and transport are tied to the mining sector.

Retail activities increased significantly as a result of this increase in mining activities in the area in the past three years in Kathu and essentially fed off population size and available disposable income. Retail and financial services will grow further in Kuruman and Kathu as the population and job opportunities grow but will remain locally orientated for a long time to come as Kimberley and Upington are too strong to be challenged in the near future as regional service centres.

The number of households involved in agriculture contracted between 2001 and 2011. A total of 48% of all households in Joe Morolong depend on agriculture – often subsistence farming for an income. The percentages of households involved in agriculture for Ga-Segonyana and Gamagara are 22.3% and 11.11% respectively and tend to include commercial farms.

Cattle and game farming are the mainstay of the agricultural sector. Diversification of the local economy will be focused on agriculture, agro-processing, tourism and manufacturing. Kuruman has a strong base in government services, reflected in the fact that Ga-Segonyana Local Municipality generates 60.6% of JTG District Municipality's GVA for community, social and personal services GVA. In contrast, Kathu's local economy is totally dominated by the mining sector: 71.4% of GVA in the district comes from mines in Gamagara Local Municipality.

In the JTG district area, some ~416 beneficiaries have benefited from land reform schemes covering almost 28,000 ha. In many cases, the economic potential of land is inadequate as a source for economic livelihoods and this will have to be addressed in any future consideration of infrastructure investment and development. As a result, the development priorities should be maximisation of LED opportunities, promoting integration and linkages with the surrounding economy and providing appropriate levels of service.

The mining sector is the largest contributor to the Northern Cape's GDP and accounts for approximately 50% of the GDP of the JTG district area. Sishen Mine is the largest private sector employer in the Northern Cape and around 80% of Sishen mine's permanent employees are local; in other words they are recruited from the host or labour-sending municipalities in the JTG district. Some of these employees are from far-off areas in the rural Joe Morolong Local Municipality and have to relocate to Kathu, Sesheng or Mapoteng when taking up positions at the mine. Local employment from the district does not always mean that employees work close to home.

In addition to direct employment, regional mines offers indirect employment to employees working for suppliers or sub-contractors whose employment is attributable to business generated by mines. Induced employment

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means mining-related salaries (from direct and indirect employees) are being spent in the local economy and that leads to growth of local businesses and the employment of more people. Sishen mine specifically plays an important role in the economy, both in terms of local job creation and in the procurement of goods and services. In addition, Sishen mine regards its sustainable development efforts, with their strong focus on skills upliftment and enterprise development as playing a crucial role in addressing the issues of local unemployment and poverty alleviation.

In 2015, the economy of the Gamagara LM was valued at R4 385 million (current prices) and contributed 33.7% to the District's economy as well as 5.9% to the economy of the Northern Cape. A third of the local economy's GDP is generated by the mining sector, and specifically activities of the Kumba Iron Ore at its Sishen Mine. In 2016, the mine produced 28.4 million tonnes of iron ore; this was a decrease from 31.4 million tonnes in the previous year. Of the iron ore produced, 2.7 million tonnes were supplied to ArcelorMittal SA while the rest was exported. During the same year, South Africa exported approximately 58 million tons of iron-ore, meaning that SIOM alone contributed about 43% towards the volume of exported iron ore. It is estimated that the total iron-ore export value for South Africa amounted to R37.8 billion in the same year, which in turn accounted for about 13% of the total value of exported minerals and 3.6% of the country's total export value. Considering the above, total export revenue from the Sishen in 2016 can thus be estimated at R28 billion, which equates to 2.7% of national exports, and clearly illustrates the macroeconomic significance of the SIOC operations.

High dependence on iron ore mining activities in the municipality targeting international commodity markets resulted in the local economy being highly susceptible to economic dynamics globally. This is largely due to the dependency of the local economy on the global demand for iron ore and to some degree, on the stability of the industry internally (i.e. from a labour issue perspective).

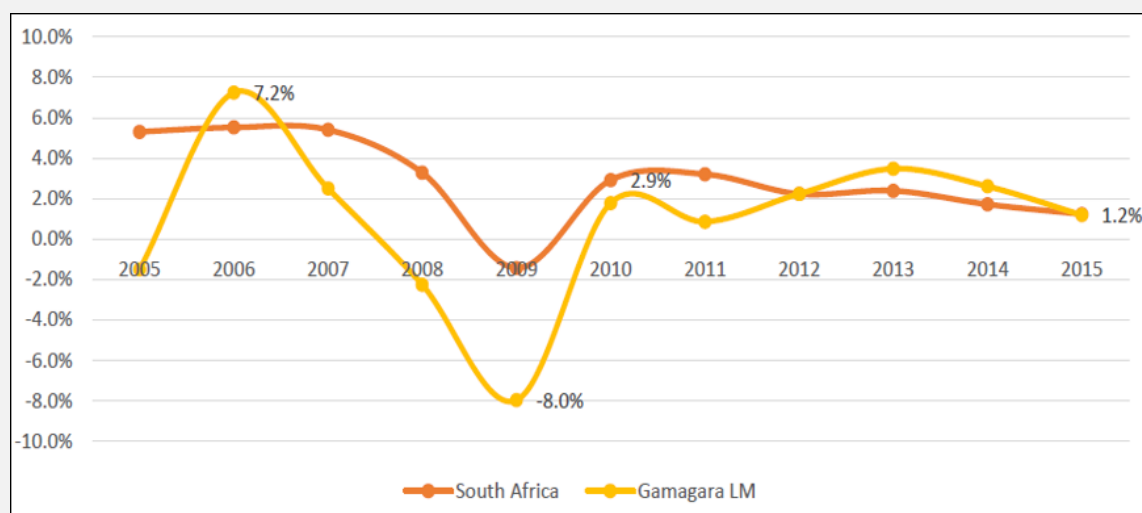


Figure 3: GDP Growth Rates for Gamagara LM and South Africa

The SIOM is clearly the main economic driver of the local municipalities. According to Kumba Iron Ore, SIOM has sufficient reserves to sustain operations until 2040. This means that the mine will continue supporting the local economy for that period; however, considering the sensitivity of the mine's performance towards the indigenous (i.e. labour issues) and exogenous (i.e. global demand for commodities) factors, the future growth

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of the local municipality will most likely be reflective of the historical trends with years characterised by high growth and years characterised by declining production.

2) Structure of the economy and dynamics

As mentioned previously, the local economy is largely dependent on the mining sector, which contributed 32.9% or R1 433 million towards the Gamagara LM economy in 2015. The rest of the municipal economy comprises largely of the tertiary sector, aimed at servicing the local population and businesses, including Sishen Mine. Contributions from the retail trade (17.1%), personal services (13.6%) and transport (11.6%) industries carry the most weight in this sector. Retail activity has increased significantly over the past decade, as it is reliant on the population size and available disposable income. Agriculture's contribution to the local GDP was limited to 2.0% in 2015, and it is expected that it will not change significantly in the future. The regions climate as well water scarcity limits the type of agricultural activities that can be carried out in the area. The municipality's manufacturing sector is very weak (3.1% of the local economy), and while the contribution of the manufacturing sector to the local economy has been declining over the years, that of the construction sector has been growing.

High dependency on mining activities leaves the economy of Gamagara and its communities vulnerable to the volatile factors discussed above. While local government acknowledges the importance of the mining industry in the local economy, it also promotes diversification of local economic activities in order to reduce the risks and reliance and performance of the mining industry.

Level of education:

From the figure below it is clear that there are a large number of people who have secondary school education, followed by those who have matric. The number of those with no schooling has increased from the 2007 survey to 2011. The implication of the level of education indicates the type of job opportunities that can be accessed by the local communities. The figure below shows the various levels of education within the municipality.

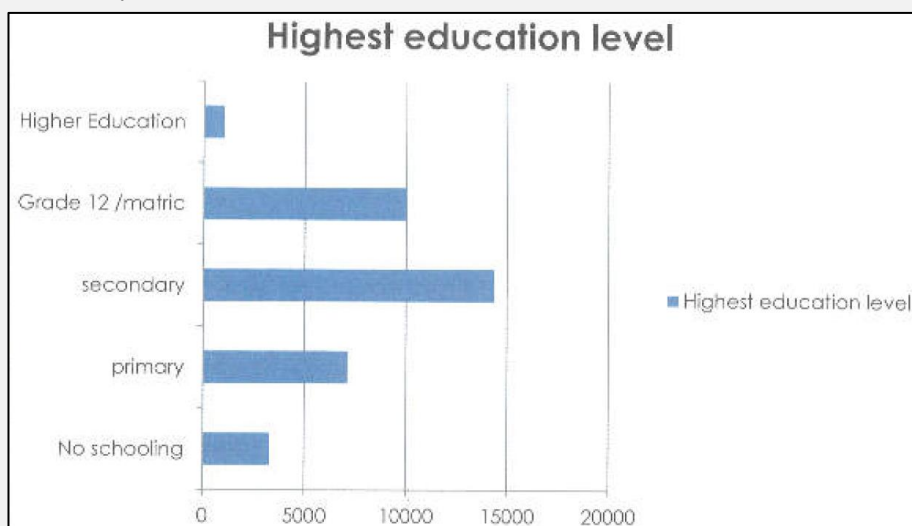


Figure 4: Highest Education Level

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b) Socio-economic value of the activity

The following values are rough estimates based on the current information available and the values will be finalised prior to project implementation

What is the expected capital value of the activity on completion?
 What is the expected yearly income that will be generated by or as a result of the activity?

Will the activity contribute to service infrastructure?

Is the activity a public amenity?

How many new employment opportunities will be created in the development and construction phase of the activity/ies?

What is the expected value of the employment opportunities during the development and construction phase?

What percentage of this will accrue to previously disadvantaged individuals?

How many permanent new employment opportunities will be created during the operational phase of the activity?

What is the expected current value of the employment opportunities during the first 10 years?

What percentage of this will accrue to previously disadvantaged individuals?

~ R7 million	
R 0	
The project relates to rehabilitation and closure.	
YES	NO <input checked="" type="checkbox"/>
YES	NO <input checked="" type="checkbox"/>
There will be approximately 15 people employed temporarily during rehabilitation activities.	
~R2 000 000 in rehabilitation related temporary employment.	
~90%	
0	
N/A	
N/A	

9. BIODIVERSITY

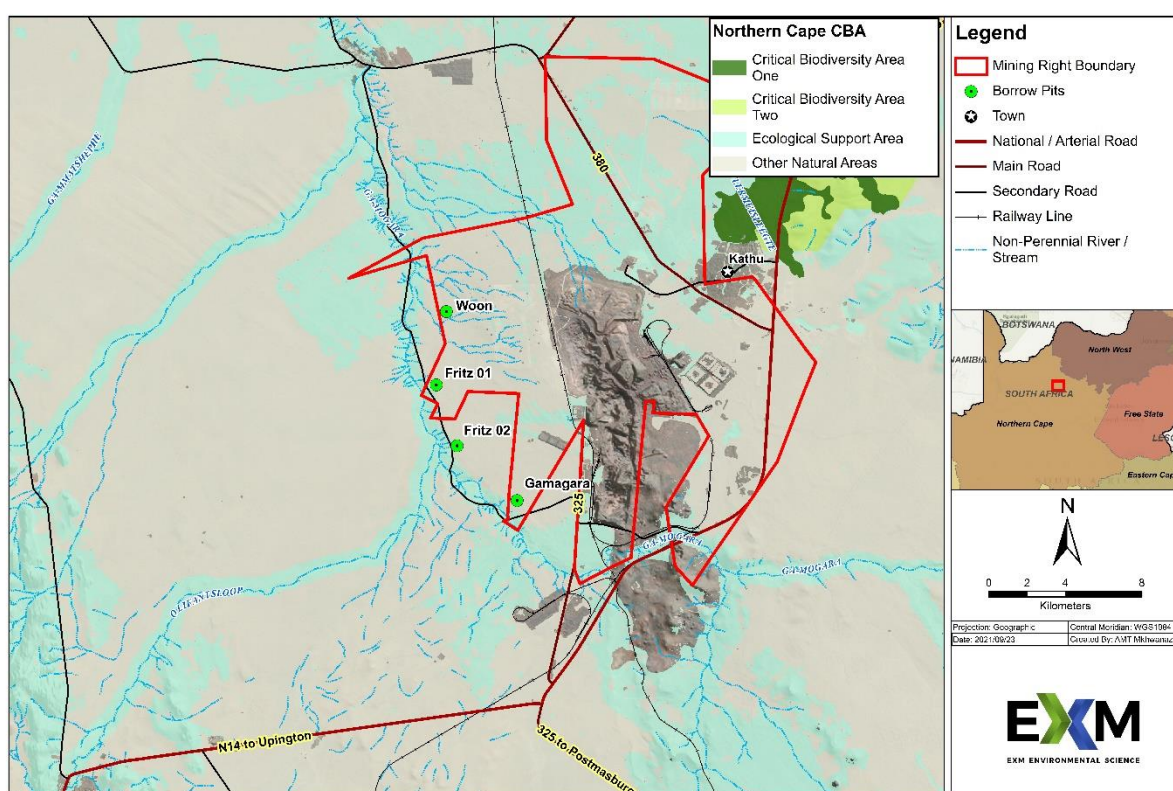
Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D A to this report.

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category	If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
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<p>Critical Biodiversity Area (CBA)</p>	<p>Ecological Support Area (ESA)</p>	<p>Other Natural Area (ONA)</p>	<p>No Natural Area Remaining (NNR)</p>	<p>The borrow pits are not located within or near a Critical Biodiversity Area (CBA) as per information obtained from the Northern Cape Critical Biodiversity Areas (2016) database.</p> <p>Two of the borrow pits, Fritz-02 and Fritz-01 are located adjacent to an Ecological Support Area (ESA). The ESA is due to the locality of the Gamagara River which is located to the west of the borrow pits.</p>
---	--------------------------------------	---------------------------------	--	---



Sishen SWEP Borrow Pit: Critical Biodiversity Area Plan

Figure 5: Important biodiversity features relating to the study area according to the Northern Cape CBA Map (2016).

b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Transformed	100%	The existing habitat at the four borrow pits has been completely transformed from the reference baseline condition, due to the

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		<p>mining at the borrow pits as well as the disposal of inert waste into the borrow pits in accordance with the WMLs.</p> <p>The borrow pits are devoid of vegetation, although there are some faunal species which use the calcrete stockpiles as a refuse, these species include dassies and snakes.</p>
--	--	--

c) Complete the table to indicate:

- (i) the type of vegetation, including its ecosystem status, present on the site; and
(ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems								
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline			
	Endangered									
	Vulnerable									
	Least Threatened	YES	NO	UNSURE	YES	NO	YES	NO		

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- d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

Floral/Vegetation Types

Sishen Mine lies within the Eastern Kalahari Bushveld Bioregion of the Savanna biome which is the largest biome in Southern Africa. The Savanna Biome is characterized by a grassy ground layer and a distinct upper layer of woody plants (trees and shrubs).

There are three distinctive vegetation types, as defined by Mucina and Rutherford (2006), that occur on the land around the Sishen Iron Ore Mine. These include:

- Kuruman Thornveld;
- Kuruman Mountain Bushveld; and
- Kathu Bushveld, which is the predominant vegetation type.

The vegetation prior to construction of the borrow pits, consisted of Kathu Bushveld at all four of the borrow pit sites.

This vegetation type is considered least concern with a target conservation of 16%, with nothing conserved in statutory conservation areas. More than 1% is already transformed, including the iron ore mining locality at Sishen, one of the biggest open-cast mines in the world and erosion is very low (Mucina & Rutherford, 2006).

The Kathu Bushveld vegetation type has a medium-tall tree layer with *Vachellia (Acacia) erioloba* in places, but is mostly open, with *Boscia albitrunca* as the predominant trees. Shrub layer generally most important with species such as *A. millifera*, *Diospyros lycioides* and *Lycium hirsutum*. Grass layer is variable in cover (Mucina & Rutherford, 2006). The following flora is indicators of the Kathu Bushveld vegetation type:

- Tall tree: *Vachellia (Acacia) erioloba* (d)
- Small trees: *Acacia mellifera subsp. detinens* (d), *Boscia albitrunca* (d), *Terminalia sericea*.

Tall shrubs: *Diospyros lycioides subsp. lycioides* (d), *Dichrostachys cinerea*, *Grewia flava*, *Gymnosporia buxifolia*, *Rhigozum brevispinosum*. The existing vegetation and flora at the borrow pits has been transformed and the borrow pits currently consist mostly of bare soil. Revegetation has occurred at some areas within the borrow pits, especially at Fritz-01. During the site visit, it was noted that the areas surrounding the borrow pits have relatively good/dense vegetation cover which is beneficial for the end land use. Some *Vachellia (Acacia) Erioloba* (Camel Thorn) trees are present on the edges of the Fritz-01 and Woon borrow pits as well as within the pits on patches that were created during construction.

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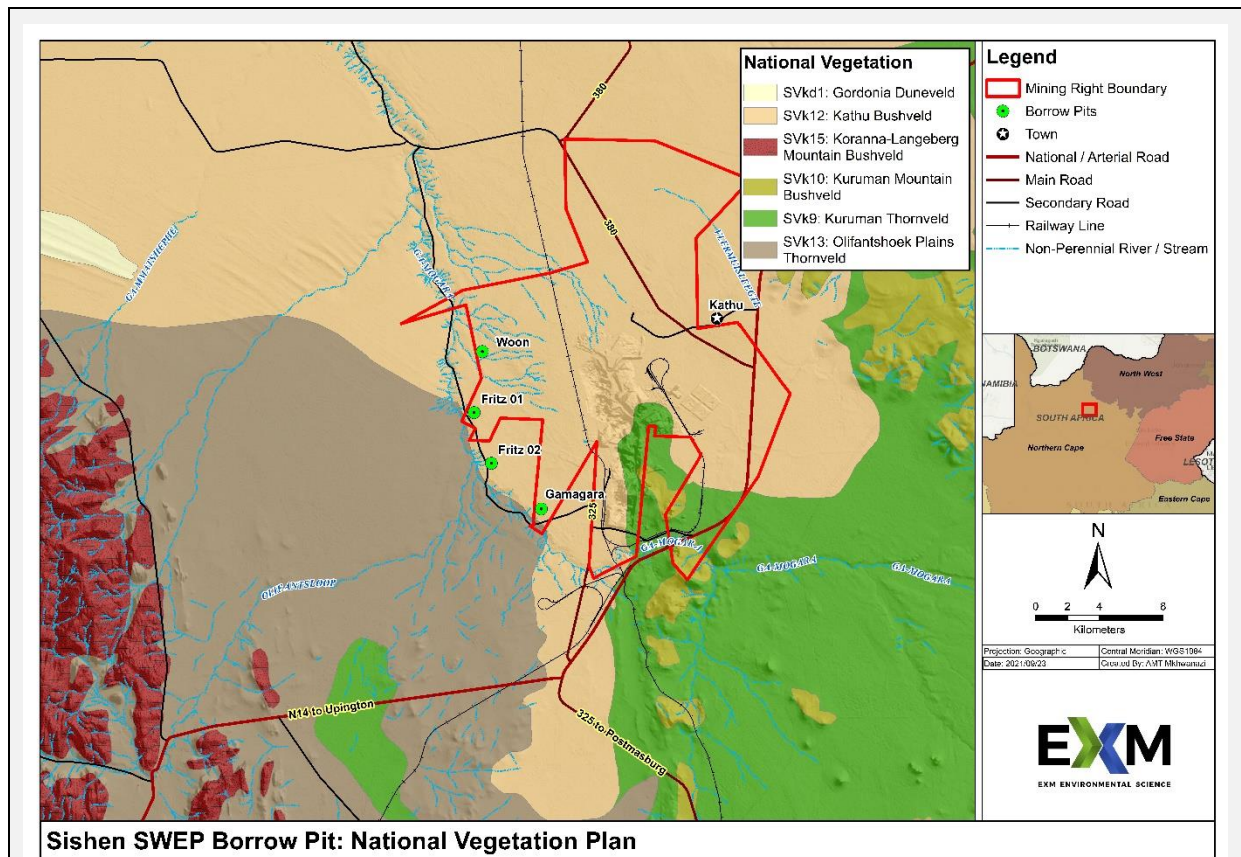


Figure 6: Vegetation of the borrow pits

Aquatic Ecosystems

There are no perennial rivers or wetlands in the area, although the Gamagara River is located to the west of the borrow pits. The river is ephemeral, having no dry-weather flow due to the semi-arid nature of this area. There is no flowing or standing water and the Gamagara River is a highly episodic system, flowing only when sufficient rainfall has been received. The river most recently flowed in January 2021; prior to that, as far as could be ascertained from available literature (Shaw et al, 1992) and anecdotal evidence, it last flowed in February 1988.

The mine and surrounds are located within the Lower Vaal Water Management Area (WMA), in the D41J Quaternary Catchment drained by the Gamagara River. Seasonal fluctuations in rainfall occur. Rain falls mainly during summer and autumn seasons with a maximum of only 60 mm per month.

The total sub-catchment comprises approximately 41 555.91m² and most of this water is clean water and gravitates to the Gamagara River towards the west of the Mine.

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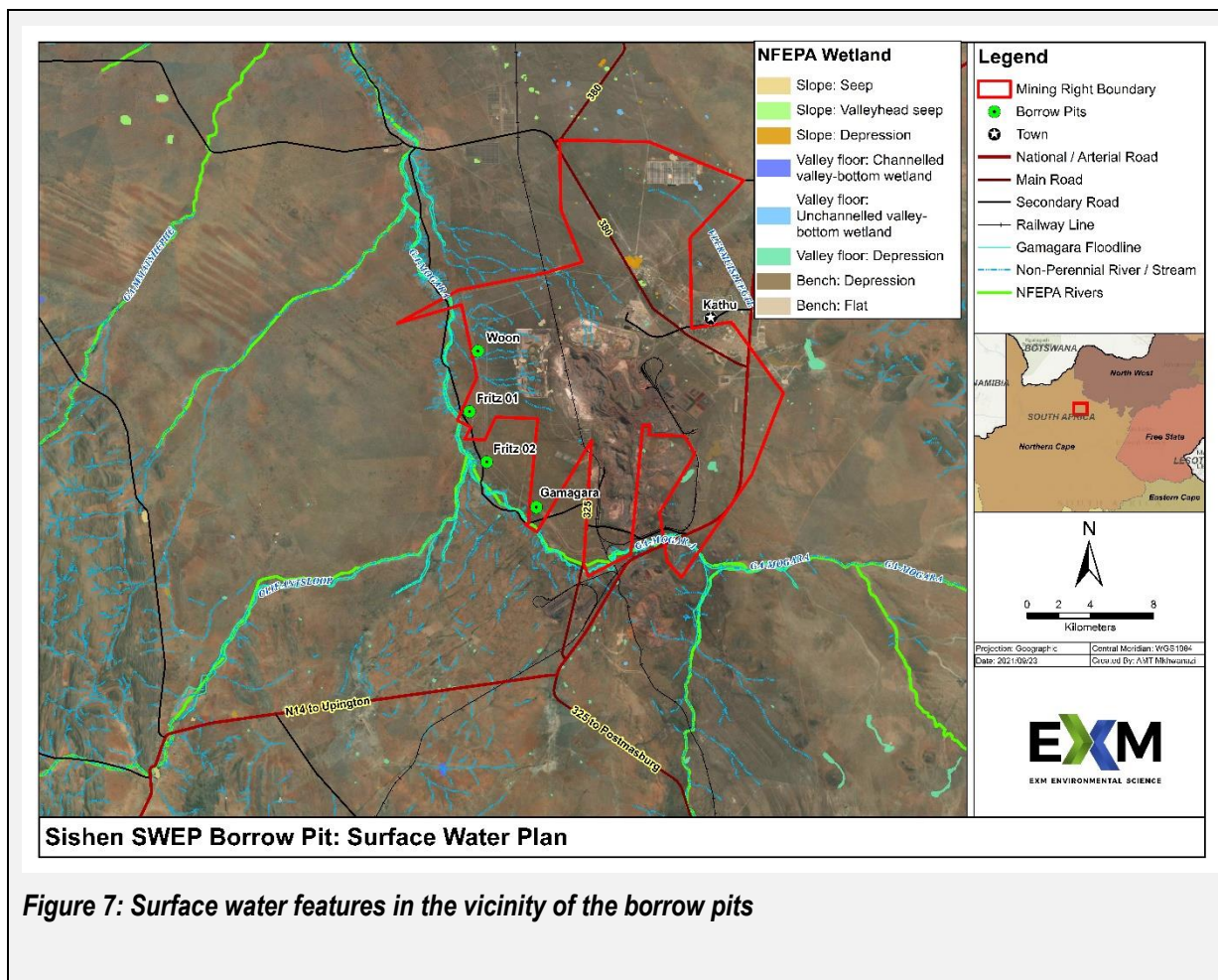


Figure 7: Surface water features in the vicinity of the borrow pits

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Kathu Gazette; Noordkaap Bulletin.	
Date published	Kathu Gazette: 31 July 2021 Noordkaap Bulletin: 29 July 2021	
Site notice position	Latitude	Longitude
Woon	27°43' 24.04"S	22° 55' 06.30"E
Fritz 01	27°45' 06.48"S	22° 54' 36.13"E
Fritz 02	27°46' 51.99"S	22° 55' 42.47"E
Gamagara	27°49' 06.61"S	22° 58' 43.62"E
Date placed	22 July 2021	

Include proof of the placement of the relevant advertisements and notices in **Appendix E1**.

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2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

All borrow pits are located on land owned by SIOC.

AFFECTED PARTIES - surrounding landowners					
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REITZ	CAREL		CAREL REITZ FAMILIE TRUST	tiaanreitz@gmail.com	0793953004
BRIEDENHANN	FRANCOUSA HENDRIKUS		HENQUE 3516 CC -	frans.briedenhann@gmail.com; frans.briedenhann@angloamerican.com	0737458188
MASSINGUE	TIAGA		SOUTH AFRICAN NATIONAL ROADS AGENCY LTD	massinguet@nra.co.za	
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			GOVERNMENT		
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BASIC ASSESSMENT REPORT

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BASIC ASSESSMENT REPORT

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BASIC ASSESSMENT REPORT

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		MAIN STREET 576 (PTY) LTD	BREDENKAMP 576		
		MAIN STREET 576 (PTY) LTD	DEMANENG PTN 0 and 1		
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HOFFMAN	JADIA			hoffmanjadia@gmail.com	076 906 8934
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BASIC ASSESSMENT REPORT

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				mail@thehorns.co.za	
LOCK	JP	EDENVALE		admin@langebergstene.co.za	083 379 6126
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JANSE VAN RENSBURG	DIHAN	DEMANENG		dihanjvrensburg@gmail.com	0826287552
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KOORZEN	MARTIN	FOUROSS		martin.koorzen@vodamail.co.za	082 574 3033
MARITZ	GERHARD	GAPPEPIN; BEAUMONT		waaihoek@vodamail.co.za	082 782 4374
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VAN DER MERWE	HENDRIK	SCHOLTZRUS; LIMEBANK		lanavdm1971@gmail.com	079 890 0715
STEENKAMP	COBUS	SMYTHE		coubies@vodamail.co.za	082 829 9163
WIESE	HENK	HARTLEY		henk.wiese.hw@gmail.com	082 411 9741
HOEBEL	S			svelkahoebel@gmail.com	084 200 2026
TERBLANCHE	MARGARET			moselbos2000@gmail.com	073 626 6134
MCLEAN	JOHN			john.cinthy@gmail.com	083 998 9955

Include proof that the key stakeholder received written notification of the proposed activities as **Appendix E2**. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

BASIC ASSESSMENT REPORT

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Date received	Name of commenting IAP	Summary of main issues raised by I&APs	Summary of response from EAP
17 August 2021	Jaylin Langeveldt Langeveldt Mining and Mechanical Solutions Pty Ltd.	Evening Lynne Viljoen Can you be so kind as to assist with the BID documents that we discussed this morning telephonically? Your soonest response will be highly appreciated. Regards,	Good day Jaylin Please find attached hereto the Background Information Document as requested. Regards
16 August 2021	Lorenz von Czapiewski LSVC TRADING PTY LTD	Can you please send me more information please on this. Public Notice_Sishen Iron Ore Company (Pty) Ltd: Application for Closure of Four Historic Borrow Pits near Kathu. If you wish to register as an Interested and/or Affected Party or wish to obtain a copy of the the BID which contain all the relevant information regarding the Basic Environmental Impact Assessment Process in support of the Waste Management License Closure Application, please contact Lynné Viljoen @ 0815079947 or lynne@exm.co.za.	Good day Lorenzo, I received the below message from my colleague Lynné Viljoen. Herewith please find attached the Background Information Document for information on the project. We will distribute the Basic Impact Assessment during October/November and you will be provided a copy thereof for review and comment. Kind regards Trevor
16 August 2021	Rowan Albertyn Zutari	Lynné, I'm very interested in the process of closing the four borrow pits and especially if there would be any remaining liability for Sishen after closure. Would you kindly let me know how I can access the publically available documentation to look at these closures? Many thanks,	Good day Rowan, I received the below message from my colleague Lynné Viljoen. Herewith please find attached the Background Information Document for information on the project. We will distribute the Basic Impact Assessment during October/November and you will be provided a copy thereof for review and comment.

BASIC ASSESSMENT REPORT

			Kind regards Trevor
23 September 2021	Natasha Higgitt Heritage Officer South African Heritage Resources Agency (SAHRA)	SAHRA requests that an assessment of the impacts to heritage resources that complies with section 38(3) of the NHRA as required by section 38(8) of the NHRA and section 24(4)b(iii) of NEMA be conducted as part of the EA process. The proposed development is located within an area of moderate and high Palaeontological Sensitivity as per the SAHRIS PalaeoSensitivity map. As such, a desktop Palaeontological Impact Assessment (PIA) must be undertaken by a qualified palaeontologist. As the borrow pits have disturbed the area, Letters of Recommendation of Exemption for Further Studies may be submitted by the appointed heritage specialist.	A Heritage Specialist has been appointed to undertake a site visit and assess the need for a Heritage Assessment or a letter of recommendation for exemption. A desktop PIA will also be undertaken.
15 October 2021	Department of Environmental Affairs Rural Development and Land Reform (DEARDLR)	Acknowledgement of draft BAR received.	The EAP acknowledges the notification received from DEARDLR.
06 October 2021	Johannes Nematatani Department of Mineral Resources and Energy (DMRE)	Requested that two of his colleagues be included on the stakeholder database. Please kindly also provide reference numbers of the 4 Borrow Pits (MPRDA Permits).	The stakeholder database has been updated and the reference number of the approved EMPr in terms of the MPRDA, authorised in 2003, was sent to Mr Nematatani.

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as **Appendix E3**.

BASIC ASSESSMENT REPORT

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person Name	Contact person Surname	Tel No	e-mail	Postal address
NORTHERN CAPE: DEPARTMENT OF WATER & SANITATION	ABE	ABRAHAMS	053 836 7600	AbrahamsA@dws.gov.za	PRIVATE BAG X6101, KIMBERLEY, 8301
VAAL RIVER PROTO - CAM	PHILANI	MSIMANGO	053 836 7649	MsimangoP@dws.gov.za	PRIVATE BAG X6101, KIMBERLEY, 8301
NORTHERN CAPE: DEPARTMENT OF AGRICULTURE, FORESTRY & FISHERIES	JACOLINE	MANS	054 338 5909	JacolineMa@daff.gov.za	PRIVATE BAG X5912, UPINGTON, 8800
NORTHERN CAPE: DEPARTMENT OF MINERAL RESOURCES	NTSUNDENI	RHAVUGHONI	053 807 1700	ntsundeni.ravhugoni@dmr.gov.za	PRIVATE BAG X6093, KIMBERLEY, 8300
NORTHERN CAPE: DEPARTMENT OF MINERAL RESOURCES	MALATJIE			livhuwani.malatjie@dmr.gov.za	PRIVATE BAG X6093, KIMBERLEY, 8301
NORTHERN CAPE: DEPARTMENT OF MINERAL RESOURCES	JOHANNES	NEMATATANI		Johannes.Nematatani@dmr.e.gov.za	PRIVATE BAG X6093, KIMBERLEY, 8301
NORTHERN CAPE: DEPARTMENT OF MINERAL RESOURCES	HUMBULANI	MASHAU		humbulani.mashau@dmre.gov.za	PRIVATE BAG X6093, KIMBERLEY, 8301
NORTHERN CAPE: DEPARTMENT OF MINERAL RESOURCES	VINCENT	MUILA		vincent.muila@dmre.gov.za	PRIVATE BAG X6093, KIMBERLEY, 8301
DEPARTMENT OF ENVIRONMENT AND NATURE CONSERVATION	DINEO	MOLEKO	053 807 7300	dmoleko@ncpg.gov.za	
NORTHERN CAPE: DEPARTMENT OF LAND REFORM AND RURAL DEVELOPMENT	W.	MOTHIBI	053 838 9100		
NORTHERN CAPE: DEPARTMENT OF ECONOMIC DEVELOPMENT AND TOURISM	DARIUS	BABUSENG	053 839 4000	dedat@ncpg.gov.za	
DEPARTMENT OF ROADS AND PUBLIC WORKS	KOLEKILE	NOGWILE	053 839 2100	drpw-info@ncpg.gov.za	
DEPARTMENT OF SOCIAL DEVELOPMENT	ELIZABETH	BOTES	053 874 9100		
SOUTH AFRICAN HERITAGE RESOURCES COUNCIL	SAHRIS		021 462 4502	info@sahra.org.za	
SOUTH AFRICAN HERITAGE RESOURCES AGENCY	REDELSTORFF	RAGAN	021 202 8651	rredelstorff@sahra.org.za	PO Box 4637, Cape Town 2000
DEPARTMENT OF DEFENCE	SM	DLAMINI	0123556365	siphiwe.dlamini@dod.mil.za	
LOHATLA	VELNE	LAKAY	053 321 2259	lohatla@sarmyfoundation.co.za	
SANBI	CRAIG	ALLENBY		C.Allenby@sanbi.org.za	

BASIC ASSESSMENT REPORT

Authority/Organ of State	Contact person Name	Contact person Surname	Tel No	e-mail	Postal address
NORTHERN CAPE DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND NATURE CONSERVATION	SYLVIA	LUCAS	053 832 1026	slucas@ncpg.gov.za	
DEPARTMENT OF TOURISM AND ENVIRONMENTAL CONSERVATION	SIBONELO	MBANJWA		smbanjwa@half.ncape.gov.za	
DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT	NJ	TOERINE	054 337 8000	ntoerien1@gmail.com	P O Box 52, Upington, 8800
DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT	CHRISTO	SMIT	054 337 8000	jabu.smit@gmail.com	P O Box 52, Upington, 8800
GAMAGARA LOCAL MUNICIPALITY	PROTEA	LESERWANE	082 940 1876	protea@gamagara.co.za	PO BOX 1001, KATHU, 8446
GAMAGARA LOCAL MUNICIPALITY	EDWIN	HANTISE	0761199642	hantisee@gamagara.co.za	PO BOX 1001, KATHU, 8446
JOHN TAOLO GAETSEWE DISTRICT MUNICIPALITY	CLLR. SOPHIA	MOSIKATSI	082 777 1145	mosikatsis@taologatsewe.gov.za	PO BOX 1480, KURUMAN, 8460
JOHN TAOLO GAETSEWE DISTRICT MUNICIPALITY	DISANG	MOLAOLE		molaoled@taologatsewe.gov.za	PO BOX 1480, KURUMAN, 8460
JOE MOROLONG LOCAL MUNICIPALITY	DINEO	LEUTLWETSE	0796561938	dineoleu1@gmail.com	PRIVATE BAG X117, MOTHIBISTA D, 8474
JOE MOROLONG LOCAL MUNICIPALITY	TEBOGO	THLOAELE	0823313477	mm@joemorolong.gov.za	PRIVATE BAG X117, MOTHIBISTA D, 8474
GA SEGONYANA LOCAL MUNICIPALITY	CLLR. NEO	MASEGALA	0537129300	ngmasegela@icloud.com	PRIVATE BAG X 1522, KURUMAN, 8460
GA SEGONYANA LOCAL MUNICIPALITY	MARTIN	TSATSIMPE	0827273823	mtsatsimpe@gmail.com	PRIVATE BAG X 1522, KURUMAN, 8460
JOHN TAOLO GAETSEWE DISTRICT MUNICIPALITY	BOTTSHOKO	SEGOJE	063 779 9828	segojeb@taologatsewe.gov.za	
GAMAGARA WARD 6	WILLEM	AUCAMP	083 305 8892	willie@aucampstud.com	
GAMAGARA WARD 1	HENRIETTE	DU PLESSIS	0718028415	henrietteDuplessis95@gmail.com	
GAMAGARA WARD 2	ABEL	BOOYSEN	0769431058	aboooyesen45@gmail.com	
GAMAGARA WARD 3	MONICA	OPERN	0783433375	orpenmonica@gmail.com; 2orpen.monica@gmail.com	
GAMAGARA WARD 4	BP	LEKGADI		lekgadibp90@gmail.com	
GAMAGARA WARD 5	N	MAGAGANE	0645450206	magaganen@gamagara.co.za	
GAMAGARA WARD 6	CHARLOTT	JOSEPH	0799447362	cvjoseph312@gmail.com	
GAMAGARA WARD 7	HENNIE	FOURIE	0723807214	hennie@ncts.co.za	
GAMAGARA LOCAL MUNICIPALITY	D	SEETILE		seetiled@gamagara.co.za	

Include proof that the Authorities and Organs of State received written notification of the proposed activities as **Appendix E4**.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

BASIC ASSESSMENT REPORT

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as **Appendix E5**.

Copies of any correspondence and minutes of any meetings held must be included in **Appendix E6**.

BASIC ASSESSMENT REPORT

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report

The project relates to closure and rehabilitation of 4 borrow pits. Assessment of impacts relating to planning, design, construction and operational phases are therefore not relevant.

REHABILITATION AND CLOSURE PHASE

The full impact assessment and methodology is attached as **Appendix F**.

IMPACT CATEGORY	POTENTIAL IMPACT	SIGNIFICANCE WITHOUT MITIGATION	MITIGATION	SIGNIFICANCE WITH MITIGATION
Topography				
Change to existing topography at borrow pits sites	Backfilling of large voids. Shaping of side slopes and high walls to ensure safety and stability. Improve visual appearance in landscape.	Moderate positive	• No mitigation required.	Moderate positive
Soil				
Use of vehicles and machinery during rehabilitation	Oil and hydrocarbon spills from vehicles and machinery during rehabilitation activities. Soil contamination and loss of fertility.	Low	<ul style="list-style-type: none"> • In situ soil remediation should be conducted if hydrocarbon contamination is detected. • Ensure that spill kits are available at borrow pits during rehabilitation activities. • Remove any contaminated soil and dispose of at an appropriately licenced landfill site. • Site inspection prior to commencement and after rehabilitation has been completed. 	Very Low
Re-vegetation of disturbed areas.	Unsuccessful vegetation establishment and growth. Potential for erosion due to lack of vegetative cover. Soil erosion due to heavy winds and/or rain	Low	<ul style="list-style-type: none"> • Ensure that the entire disturbed area is ripped appropriately prior to seed placement. • Conduct follow up inspections to ensure sustained vegetation growth. • Collect photographic evidence before and after rehabilitation. 	Very Low

BASIC ASSESSMENT REPORT

Temporary ablation facilities	Potential for soil and water contamination due to inadequate sewage disposal.	Low	<ul style="list-style-type: none"> • Ablution facilities are to be located within proximity of borrow pit rehabilitation activities and in good working condition. • Ablution facilities are to be cleaned on a daily basis. • Sanitation provision and servicing must be arranged on a weekly basis, preferably on a Friday. 	Very Low
Land Use				
Re-vegetation of disturbed areas. Rehabilitate to grazing.	Unsuccessful vegetation establishment and growth. End land use will not be obtained and rehabilitation objectives will not be met.	Low	<ul style="list-style-type: none"> • Ensure that the entire disturbed area is ripped appropriately prior to seed placement. Add fertiliser if required. • Conduct follow up inspections to ensure sustained vegetation growth. • Collect photographic evidence before and after rehabilitation. 	Very Low
Biodiversity				
Removal of invasive alien plants	Proliferation of invasive alien vegetation after completion of rehabilitation - outcompete indigenous vegetation. Removed alien vegetation not taken from site - spreading of pollen and seeds. Unsuccessful removal of invasive alien vegetation.	Low	<ul style="list-style-type: none"> • Active removal of alien invasive vegetation during and after completion of rehabilitation activities. • Ensure that all parts of the plants are collected and removed. • Removed plants must be taken from site and disposed at a licenced landfill facility. • Follow up site inspections must be undertaken after rehabilitation has been completed to monitor area for any new proliferation and remove any new invasive plants that propagate. 	Very Low
Rehabilitation and closure of borrow pits	Rehabilitation and re-establishment of vegetation, disturbed habitats and ecology within borrow pit areas	Moderate positive	<ul style="list-style-type: none"> • Ensure alien invasive plant species within and surrounding the borrow pits are removed in order for indigenous vegetation to re-establish. • Rehabilitation to be conducted according to the Closure Plan. • Use seeds from plants that are dominant in the area during revegetation. 	Moderate positive
Disturbance and destruction of protected species	Stabilising and sloping high walls will require additional push back and disturbance of vegetation adjacent to borrow pits	Medium	<ul style="list-style-type: none"> • Disturbance must be kept to the minimum necessary to stabilise slopes. • Permits for the disturbance and destruction of protected species must be obtained prior to rehabilitation activities. • SIOC to replace any protected species disturbed or destroyed by planting saplings to offset the loss. The success of the saplings must be closely monitored. 	Low
Surface Water				
Use of vehicles and machinery during rehabilitation	Oil spills from vehicles and machinery used during rehabilitation. Runoff from contaminated areas	Very Low	<ul style="list-style-type: none"> • In situ soil remediation should be conducted if any contamination is detected. • Ensure that spill kits are available at borrow pits during rehabilitation activities. • A visual soil contamination assessment must be undertaken to assess potential hydrocarbon spills post-rehabilitation. 	Very Low

BASIC ASSESSMENT REPORT

Erosion and siltation due to exposed soils.	Unsuccessful vegetation establishment and growth. Potential soil erosion and siltation of drainage lines due to lack of vegetative cover	Low	<ul style="list-style-type: none"> • Ensure that the disturbed area is ripped appropriately prior to seed placement. • Conduct follow up inspections to ensure sustained vegetation growth and to ensure that erosion problems do not occur. • Revegetation should be conducted post rehabilitation, if required. 	Very Low
Groundwater				
Contamination of groundwater	Seepage or spillage of contaminants into groundwater during rehabilitation activities.	Low	<ul style="list-style-type: none"> • No washing or servicing of vehicles and machinery to be undertaken at borrow pit sites during rehabilitation. • Ensure that spill kits are available at borrow pits during rehabilitation activities. • Any fuels and contaminants stored on site during rehabilitation activities must be stored in sealed containers on an impervious surface. • Drip trays to be provided beneath vehicles and machinery susceptible to leakages. 	Very Low
Noise				
Noise due to vehicles and machinery (ripper) during rehabilitation activities	Increased noise levels. Nuisance conditions for any sensitive receptors in proximity to the borrow pits.	Low	<ul style="list-style-type: none"> • Conduct rehabilitation activities during daylight working hours. • Ensure vehicles and machinery are in good working order. • Enforce strict speed limits and ensure implementation. • A complaints register must be kept on site 	Very Low
Air Quality				
Vehicles travelling on unpaved roads Ripping activities and trucks at borrow pits	Dust generation Increased dust fall Nuisance conditions	Low	<ul style="list-style-type: none"> • Visual inspection of the site to assess increased dust levels. Undertake dust suppression as required (if increased dust levels are detected). • Ensure that there is a complaints register for those who feel impacted by dust and/or noise. • Enforce strict speed limits. • Visual inspection of site to ascertain dust levels. Apply additional mitigation if needed. • A complaints register must be kept on site. 	Very Low
Waste Management				
Littering and inadequate waste management practices	Contamination of soil, surface water and surrounding flora if adequate waste management is not implemented at the borrow pits	Low	<ul style="list-style-type: none"> • Ensure a sufficient quantity of refuse bins, with sealable lids, are provided where rehabilitation activities are being undertaken. • Waste should be sorted and recycled whenever possible and different refuse bins should be provided for this function. • Refuse bins should be cleaned and the waste disposed of prior to being at full capacity. • Personnel must be made aware that no littering or inadequate disposal of waste on site will be tolerated. 	Very Low
Social				

BASIC ASSESSMENT REPORT

Job Creation and Skills Development	Short term employment opportunities while rehabilitation activities are being undertaken	Moderate positive	• No mitigation required	Moderate positive
Alternatives				
<p>There are no site or locality alternatives, as the project relates to the rehabilitation and closure of 4 existing borrow pits.</p> <p>Alternatives relating to the rehabilitation and backfill options primarily relate to the manner and locality in which the calcrete stockpiles will be used. Should the calcrete stockpiles not be used as part of the stabilisation of high walls, slopes and voids, this will mean additional material requirements and a larger push back area will be required. This will in turn include a larger area of disturbance to the surrounding natural vegetation.</p> <p>The Assessment of alternative rehabilitation methods therefore primarily seeks to minimise need for additional material and topsoil requirements as well as minimising the disturbance to surrounding natural vegetation.</p>				
No-go Options				
<p>The no-go option refers to the alternative of the proposed development not going ahead at all. This alternative generally avoids potentially positive and negative impacts on the environment, as the current status quo will remain.</p> <p>However, for the borrow pits, the no-go alternative would mean that no rehabilitation and closure will be undertaken. The disturbance will remain at each of the four sites and positive impacts relating to the reshaping, placement of topsoil and revegetation of each borrow pit will not be realised.</p>				

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

Sishen Iron Ore Company (Pty) Ltd ("SIOC") is in the process of applying for Activity 14 of GNR 921 - *decommissioning of a facility for a waste management activity listed in Category A or Category B of this schedule*; in terms of the NEM:WA.

BASIC ASSESSMENT REPORT

The application relates to existing borrow pits which have WMLs for the disposal of inert waste. Disposal into the borrow pits has ceased and rehabilitation activities must be undertaken in terms of the closure plan to ensure that the closure objectives can be achieved.

No site or locality alternatives were assessed as the borrow pits are existing and therefore the alternatives relate to how rehabilitation activities will be undertaken.

The preferred alternative generally relates to use of the calcrete stockpiles within the borrow pits as part of the stabilising and sloping high walls as well as filling deep voids, particularly at the Gamagara borrow pit. Should these calcrete stockpiles not be used for this purpose, a larger quantity of additional material will need to be sourced for backfill and rehabilitation activities.

Potential impacts identified due to the rehabilitation activities include the following:

Positive impacts

The project entails the rehabilitation and closure of the borrow pits. This will entail the rehabilitation of disturbed areas, re-vegetation and the land will be returned to as close to its pre-mining state as possible. This will positively impact on the flora, fauna and ecosystems within and surrounding the borrow areas. Fulfilling the closure vision and associated closure objectives through the implementation of rehabilitation actions will enable the achievement of a safe, stable, non-polluting and sustainable environment. Some limited socio-economic benefits will also be created during the rehabilitation due to the sourcing of a contractor to undertake the activities.

Negative impacts

Negative impacts include potential dust and noise generation during rehabilitation activities. There is also the potential for soil and water contamination due to spills or leaks from vehicles and machinery operating at the borrow pit sites. These impacts were assessed to be of a low to very low significance.

The only potential impact with a medium to low significance is related to the disturbance of surrounding natural vegetation as part of the process to stabilise slopes and high walls. Material from the perimeter of the borrow pits will need to be disturbed and used to stabilise the slopes. This may require the disturbance or removal of protected species. Management measures in the form of protected species permits and offsets (planting of saplings) will be implemented, this impact was assessed to have a low significance post mitigation.

The project will result in an overall positive environmental status quo, due to the implementation of rehabilitation actions and revegetation. There is however the potential for residual impacts should rehabilitation and re-vegetation be unsuccessful, including proliferation of alien invasive plants and erosion due to unsuccessful establishment of vegetation. These impacts were rated as low significance post mitigation due to the low likelihood of the impacts occurring.

Alternative B

The positive impacts remain the same as in Alternative A. The only significant potential change is the amount of material and topsoil that will be required if the calcrete stockpiles are not used in the backfilling of voids and stabilisation of high walls and slopes.

BASIC ASSESSMENT REPORT

Additional topsoil will be required as well as a larger volume of material to push back and stabilise the slopes and high walls from the perimeter of the borrow pits. This will consequently require a larger area of disturbance to the surrounding natural vegetation.

No-go alternative (compulsory)

The no-go option refers to the alternative of the proposed development not going ahead at all. This alternative generally avoids potentially positive and negative impacts on the environment, as the current status quo will remain.

However, for the borrow pits, the no-go alternative would mean that no rehabilitation and closure will be undertaken. The disturbance will remain at each of the four sites and positive impacts relating to the reshaping, placement of topsoil and revegetation of each borrow pit will not be realised.

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES ✓	NO
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If “NO”, indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

N/A

If “YES”, please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

It is the Environmental Assessment Practitioners’ (EAP’s) opinion that the Basic Assessment (BA) process to date has been undertaken correctly and within the bounds of the applicable regulatory environment. It is, therefore, recommended that the BA Report be accepted by the DENC. Furthermore, the EAP recommends that Environmental Authorisation (EA) be granted for the proposed rehabilitation and closure of the borrow pits provided that the proposed mitigation and conditions put forward in this report are adhered to.

The following conditions should be included in the Environmental Authorisation (EA):

- All mitigation measures detailed in this report must be implemented.
- All required protected species permits must be obtained prior to rehabilitation activities commencing.
- Post rehabilitation inspections must be undertaken to confirm whether revegetation has been successful and to remove any additional alien vegetation which has propagated.

Is an EMPr attached?

YES	NO ✓
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The EMPr must be attached as Appendix G.

An EMPr is not required as all measures for rehabilitation and closure are detailed in the Rehabilitation and Closure Plan.

BASIC ASSESSMENT REPORT

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

Trevor Hallatt and Vivienne Vorster

NAME OF EAP



SIGNATURE OF EAP - VIVIENNE VORSTER

04/11/2021



SIGNATURE OF EAP – TREVOR HALLATT

DATE

04/11/2021

BASIC ASSESSMENT REPORT

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

- A1: Regional Location of borrow pits
- A2: Location of the borrow pits
- A3: Sensitivity map
- A4: Critical Biodiversity Map

Appendix B: Photographs

Appendix C: Facility illustration(s) – N/A

Appendix D: Specialist reports – N/A

Appendix E: Public Participation

- E1: Comments and Responses
- E2: Interested and Affected Parties Database
- E3: Proof of Newspaper placements
- E4: Proof of placement of Site Notices
- E5: Background Information Document
- E6: Proof of distribution of BID to all I&APs

Appendix F: Impact Assessment

- Appendix F1: Impact Assessment Methodology
- Appendix F2 Impact Assessment Tables

Appendix G: N/A

Appendix H: Details of EAP and expertise

Appendix I: Specialist declaration - N/A

Appendix J: Rehabilitation and Closure Plan