



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA



APPLICATION FORM FOR ENVIRONMENTAL AUTHORISATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (MPRDA) (AS AMENDED).

IMPORTANT NOTICE

Kindly note that:

1. As from 8 December 2014, this document serves as the application form, and incorporates the requisite documents that are to be submitted together with the application for the necessary environmental authorisations in terms of the said Acts.
2. This application form is applicable while the Mineral and Petroleum Resources Development Amendment Act of 2008 is in effect, as the form may require amendment should the Act be further amended.
3. Applicants are required to apply for the necessary water use licence and any other authorisations nor licences to the relevant competent authorities as required by the relevant legislation. Upon acceptance of an application for a right or permit in terms of the MPRDA, applicants will be required to provide evidence to the Regional Manager that a water use licence has been applied for.
4. The Regional Manager will respond to the application and provide the reference and correspondence details of the Competent Authority, and in the event that the application for a right or permit is accepted, together with the date by which the relevant environmental reports must be submitted. Notwithstanding anything that may appear to be stated to the contrary in the acceptance letter, the timeframes are in fact aligned and the prescribed timeframes for the submission of documents as regulated by the NEMA regulations must be strictly adhered to.
5. The application must be typed within the spaces provided in the form. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. Spaces are provided in tabular format and will extend automatically when each space is filled with typing.
6. The failure to submit complete information as required in this application form may result in the refusal of the application for an environmental authorisation and consequently of the right or permit applied for.
7. This application must be submitted through the SAMRAD online application system of the Department of Mineral Resources under "Other documents to upload".

8. Unless protected by law, all information filled in on this application form will become public information on receipt by the competent authority. Any interested and affected party should and shall be provided with the information contained in this application on request, during any stage of the application process.
9. Please note that an application fee is payable in terms of the National Environmental Management Act and the National Waste Management Act, which fees must be paid upon lodgement of the application. Should the said application fees not be paid as prescribed the application for a right or permit in terms of the Mineral and Petroleum Resources Development Act cannot be considered to have been made in the prescribed manner and the said application for a right or permit will have to be rejected. In this regard the type of applications must be identified in the table below.

1. CONSULTATION BASIC ASSESSMENT AND/ OR SCOPING REPORT

PLEASE STATE TYPE OF AUTHORISATIONS BEING APPLIED FOR.

APPLICATION TYPE	APPLICABLE FEE	Mark with an X where applicable
NEMA S&EIR application on its own	R10 000.00	<input type="checkbox"/>
NEMA BAR application on its own	R 2 000.00	<input type="checkbox"/>
NEMWA S&EIR application on its own	R10 000.00	<input type="checkbox"/>
NEMWA BAR application on its own	R 2 000.00	<input type="checkbox"/>
NEMA S&EIR application combined with NEMWA S&EIR application	R 15 000.00	<input checked="" type="checkbox"/>
NEMA BAR application combined with NEMWA BAR application	R 3 000.00	<input type="checkbox"/>
NEMA S&EIR application combined with NEMWA BAR application	R 11 000.00	<input type="checkbox"/>

2. DETAILS OF THE APPLICANT

Project applicant:	Thungela Operations Proprietary Limited		
Registration no (if any):			
Trading name (if any):	Thungela Operations Proprietary Limited		
Responsible Person, (e.g. Director, CEO, etc.):	Andre Meyer		
Contact person:	Andre Meyer		
Physical address:	25 Bath Avenue, Rosebank, Johannesburg, 2196		
Postal address:	PO Box 1521, Saxonwold, Johannesburg, 2132		
Postal code:	2132	Cell:	+2782 478 3004
Telephone:	+2711 638 9441	Fax:	
E-mail:	Andre.Meyer1@thungela.com		

3. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) INFORMATION

EAP:	Brian Whitfield		
Professional affiliation/registration:	Professional Natural Scientist with the South African Council for Natural Scientific Professions - SACNASP (400447/13). Registered EAP with the Environmental Assessment Practitioners Association of South Africa - EAPASA (2022/4496).		
Company:	Environmental Impact Management Services (Pty) Ltd		
Physical address:	8 Dalmeny Road, Pine Park, Randburg, 2194		
Postal address:	PO Box 2083, Pinetown, South Africa		
Postal code:	2123		
Telephone:	011 789 7170	Cell:	082 688 9850
E-mail:	brian@eims.co.za	Fax:	086 571 9047

If an EAP has not been appointed please ensure that an independent EAP is appointed as stipulated by the NEMA Regulations, prior to the commencement of the process.

The declaration of independence and the Curriculum Vitae (indicating the experience with environmental impact assessment and relevant application processes) of the EAP must also be attached as **Appendix 1**.

4. PROJECT DESCRIPTION

Farm Name:	The properties comprising the Production Right application area are contained in Appendix 2.
Application area (Ha)	Production Right application area: 134 302, 6699 ha
Magisterial district:	The proposed project falls within the Lephalale Local Municipality, in the Waterberg District Municipality, Limpopo Province.
Distance and direction from nearest town	The Production Right application area is situated ~5km to the north of Lephalale town, directly adjacent to the northern border of Marapong township, ~2.3km south of the Stockpoort Border Crossing, ~35km southwest of Tomburke town and ~54km west of Baltimore town.
21 digit Surveyor General Code for each farm portion	Refer to Appendix 2 which contains the Production Right property list including the 21-digit SG codes.
Locality map	Refer to Appendix 2.
Description of the overall activity. (Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaissance permit, Technical co-operation permit, Additional listed activity)	An application for conversion of Exploration Rights into a Production Right has been submitted by Thungela and the Production Right application forms part of this NEMA EA application. Thungela aims to extract the CBM resource from the PR area in a phased manner. At present a total of 3 production phases are expected to reach the conceptual full field production which spans a total surface area of approximately 134 302, 6699 hectares (ha). The first production phase which is included in this application comprises of approximately 333 production wells which will be connected via a buried gas gathering network of pipelines to a centralised gas processing facility. This phase will include 19 existing exploration phase wells as well as new wells to be constructed across the 20 properties of the EA area, all totalling to approximately 333 wells and covers an area of approximately 20 443 ha. EAs for the subsequent Phase 2 and Phase 3 production activities will be applied for at a later stage however the production right application is for the entire 134 302, 6699 ha.

	To optimally produce CBM, hydraulic stimulation or hydraulic fracturing of the target coal seams is being proposed. Following stimulation, the coal seam is dewatered to reduce the hydrostatic pressure of the water within the coal seam which allows the gas to be released to the wellbore. The gas processing includes a compression and liquefaction facility to produce the final product, Liquefied Natural Gas (LNG), which will be distributed off site via road transport. The production is planned to span a period of 30 years commencing from the date that all relevant approvals and licences have been obtained.
--	--

5. ACTIVITIES TO BE AUTHORISED

(Please provide copies of Environmental Authorisations obtained for the same property as **Appendix 3**).

(For an application for authorisation that involves more than one listed activity that, together, make up one development proposal, all the listed activities pertaining to this application must be listed. Note that any authorisation that may result from this application will only cover activities specifically applied for). (Attach a proposed site plan, drawn to a scale acceptable to the competent Authority, showing the location of all the activities to be applied for, as **Appendix 4**)

NAME OF ACTIVITY (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining, - excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	Aerial extent of the Activity Ha or m ²	LISTED ACTIVITY (Mark with an X where applicable or affected).	APPLICABLE LISTING NOTICE	WASTE MANAGEMENT AUTHORISATION (Indicate whether an authorisation is required in terms of the Waste Management Act). (Mark with an X)
Production Right application (conversion of Exploration Rights into a Production Right)	Properties total extent 134 302, 6699 ha	X	GNR 984 (LN2) Activity 20	
Phase 1 LNG Production utilizing hydraulic fracturing – The production activities will include inter alia, CBM gas wells, gas and water pipelines, LNG Plant, LNG storage tanks, diesel storage, water treatment plant, water storage/evaporation dams, discharge pipeline, Deelkraal road upgrade, powerlines, gas to power generator, and ancillary facilities in support of the gas production operations.	Properties total extent 20 443 ha	X	GNR 984 (LN2) Activity 20 and Activity 20A GN921 Category A1 Category A6 Category A7 Category A12 Category A13 Category A14 Category B1 Category B10 Category B11	X
Exploration/Production well drilling, stimulation and operation	~333 gas wells (~55ha)	X	GNR 984 (LN2) Activity 20 and Activity 20A	X

NAME OF ACTIVITY (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	Aerial extent of the Activity Ha or m ²	LISTED ACTIVITY (Mark with an X where applicable or affected).	APPLICABLE LISTING NOTICE	WASTE MANAGEMENT AUTHORISATION (Indicate whether an authorisation is required in terms of the Waste Management Act). (Mark with an X)
			GN921 Category A1 Category A6 Category A7 Category A12 Category A13 Category A14 Category B1 Category B10 Category B11	
Gas pipeline network	>100km of pipelines	X	GNR 984 (LN2) Activity 20	
Gas processing plant (LNG Plant) and water treatment plant	~40ha	X	GNR 984 (LN2) Activity 20	
Produced water pipeline network to water treatment plant	>100km of pipelines	X	GNR 984 (LN2) Activity 20	
Discharge pipeline from Water Treatment Plant to the Mogol River	~12.2km	X	GNR 984 (LN2) Activity 20	
Deelkraal road upgrade	~11.5km	X	GNR 984 (LN2) Activity 20	

6. PUBLIC PARTICIPATION

(Provide details of the public participation process proposed for the application as required by Regulation.)

6.1. Details of the Public Participation process to be followed.

6.1.1. IDENTIFICATION OF INTERESTED AND AFFECTED PARTIES TO BE CONSULTED

IDENTIFICATION CRITERIA	Mark with an X where applicable	
	<u>YES</u>	<u>NO</u>
Will the landowner be specifically consulted?	X	
Will the lawful occupier on the property other than the Landowner be consulted?	X	
Will a tribal authority or host community that may be affected be consulted?	X	

Will recipients of land claims in respect of the area be consulted?	X	
Will the landowners or lawful occupiers of neighbouring properties been identified?	X	
Will the local municipality be consulted?	X	
Will the Authority responsible for power lines within 100 metres of the area be consulted?	X	
Will Authorities responsible for public roads or railway lines within 100 metres of the area applied for be consulted?	X	
Will authorities responsible for any other infrastructure within 100 metres of the area applied for be consulted? (Specify)	X	
Will the Provincial Department responsible for the environment be consulted?	X	
Will all of the parties identified above be provided with a description of the proposed mining /prospecting operation as referred above?	X	
Will all the parties identified above be requested in writing to provide information as to how their interests (whether it be socio-economic, cultural, heritage or environmental) will be affected by the proposed mining project?	X	
Other, Specify	Non-Governmental Organisations (NGOs) and Non-Profit Organisations (NPOs)	

6.1.2. DETAILS OF THE ENGAGEMENT PROCESS TO BE FOLLOWED

<p>Steps to be taken to notify interested and affected parties(Describe the process to be undertaken to consult interested and affected parties including public meetings and one on one consultations. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings. Photographs of notice boards, and copies of advertisements and notices notifying potentially interested and affected parties of the proposed application must be attached as Appendix 4)</p>	<p>PROVIDE DESCRIPTION HERE</p> <p>A pre-application meeting with the Petroleum Agency of South Africa (PASA) was held on the 23rd of February 2026. The objective of the meeting was to present the project, confirm identified triggered and applicable listed activities and the applicable application process to be followed as well as the identified applicable specialist studies. The pre-application meeting was also used to confirm the current application form and submission methods.</p> <p>The PPP for the proposed project is undertaken in accordance with the requirements of the Mineral and Petroleum Resources Development Act 28 of 2002 (MPRDA) and National Environmental Management Act (NEMA) Environmental Impact Assessment (EIA) Regulations (2014), and in line with the principles of Integrated Environmental Management (IEM). IEM implies an open and transparent participatory process, whereby stakeholders and other I&APs are afforded an opportunity to comment on the project and have their views considered and included as part of project planning.</p> <p>An initial I&AP database has been compiled based on known key I&AP's, Windeed searches, and stakeholders as well as through an existing database which was compiled by the applicant. The I&AP database includes amongst others, landowners, regulatory authorities and other special interest groups. Additional I&APs will be identified during the public review and comment period of the Scoping Report. The I&APs database will continuously be updated throughout the duration of the application process.</p> <p>I&AP's were notified of the proposed application in English, Afrikaans, Sepedi and Setswana through registered letters, emails and facsimiles. A total of sixty-two (62) site notices were placed within and adjacent to the application area at strategic locations where they are visible. Newspaper advertisements were placed in the local newspapers, the Mogol Pos (in English and Afrikaans) on</p>
---	---

	<p>the 20th of March 2026, and the Lekae Newspaper (1 April 2026). Gazette Notice was published in the National Gazette on the (27 March 2026)</p> <p>Landowner focus group meetings were held between 3-5 March 2026. Public meetings will be undertaken for the project at three locations, during Scoping Phase and another three in the EIA Phase. The meetings will be held during the 30-day public review and comment of the Scoping Report and EIA Report respectively. The Public Participation Process will be undertaken in accordance with the National Environmental Management Act (Act No. 107 of 1998 - NEMA) process and the Environmental Impact Assessment (EIA) Regulations, 2014. Registered I&APs will be notified of the decision by the competent authority for the application, a copy of the reasons for decision and National Appeals Regulations will also be provided to the registered I&APs.</p>
Information to be provided to Interested and Affected Parties.	<p>Compulsory</p> <ul style="list-style-type: none"> • The site plan. • List of activities to be authorised • Scale and extent of activities to be authorised • Typical impacts of activities to be authorised (e.g. Surface disturbance, dust, noise, drainage, fly rock etc.) • The duration of the activity. • Sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land)
	<p>Other, specify:</p> <ul style="list-style-type: none"> • The need and motivation of the proposed project; • The gas production infrastructure layout; • Details of the affected properties (including parent farm and portion); • Details of the MPRDA and NEMA Regulations that must be adhered to; • Date by which comment, concerns and objections must be forwarded through to EIMS; • Contact details of the Environmental Assessment Practitioner (EAP).
Information to be required from Interested and Affected Parties.	<p>Compulsory</p> <ul style="list-style-type: none"> • To provide information on how they consider that the proposed activities will impact on them or their socio-economic conditions • To provide written responses stating their suggestions to mitigate the anticipated impacts of each activity • To provide information on current land uses and their location within the area under consideration • To provide information on the location of environmental features on site to make proposals as to how and to what standard the impacts on site can be remedied. • requested to make written proposals • To mitigate the potential impacts on their socio economic conditions to make proposals as to how the potential impacts on their infrastructure can be managed, avoided or remedied).
	<p>Other, Specify</p> <ul style="list-style-type: none"> • Details of landowner and information on lawful occupiers; • Details of any communities existing within the area; • Details of any Tribal Authorities within the area; • Details of any land claims; • Details of any existing rights holders; • Details of any renewable projects within the PR area; • Details of any other I&AP's that need to be notified; • Details on any land developments proposed;

- Details of any perceived impacts to the environment that should be considered in the Scoping and EIA; and
- Any specific comments, concerns or objections to the proposed production activities.

7. Description of the assessment process to be undertaken

ITEM	DESCRIPTION
Environmental attributes. Describe how the Environmental attributes associated with the development footprint will be determined.	The description of the existing status of the current receiving environment will be compiled through the undertaking of a broad range of specialist studies. In addition, all I&AP's both adjacent landowners and Key Stakeholders will be provided with a questionnaire to complete as part of the consultation process in which they are asked to describe the receiving environment in terms of current land uses, vegetation, sensitive features, fauna, flora, infrastructure and features of cultural or heritage significance. As such, the description of the existing status of environment that will be provided in the Scoping and EIA Reports will be compiled in consultation with I&AP's. During the Scoping and EIA process the proposed project activities will be described and the environmental attributes which are likely to be affected by these activities identified.
Identification of impacts and risks. (Describe the process that will be used to identify impacts and risks.	The identification of potential impacts and risks for assessment will be undertaken through I&AP consultation and the development of an in depth understanding of the activities, actions and processes to be undertaken on site based on the EAP's experience with similar projects. As such, the potential impacts and risks on broad environmental aspects, in respect of each of the main project actions, activities and processes will be assessed during the Scoping and EIA Process. The impact assessment methodology to be used is guided by the requirements of the NEMA EIA Regulations. The broad approach to the significance rating methodology is to determine the environmental risk (ER) by considering the consequence (C) of each impact (comprising Nature, Extent, Duration, Magnitude, and Reversibility) and relate this to the probability/likelihood (P) of the impact occurring. This determines the environmental risk. In addition, other factors, including cumulative impacts, public concern, and potential for irreplaceable loss of resources, are used to determine a prioritisation factor (PF) which is applied to the ER to determine the overall significance (S).
Consideration of alternatives. Describe how alternatives, and in particular the alternatives to the proposed site layout and possible alternative methods or technology to be applied will be determined.	The identification and assessment of alternatives is a key component to the success of any Scoping and EIA Process. Essentially, alternatives represent different means of meeting the general purpose and need of the proposed project through the identification of the most appropriate method of development. Location alternatives can apply to the entire project (e.g. the strategic decision to locate the proposed development in the Waterberg District within the Limpopo Province (where Thungela holds an existing exploration right), as well as the spatial alternatives for specific individual components of the proposed developments (e.g. the location of wells, pipelines, booster and compressor stations and the LNG plant including any associated infrastructure within the study area). Thungela holds an Exploration Right for CBM in the application area and surroundings and has undertaken long term feasibility of this project through the initial 5-spot bulk sampling project to confirm a viable gas resource. Therefore no location alternatives for the entire project are relevant. There are however site-specific alternatives for various infrastructure that can be considered to avoid sensitive receptors. Location alternatives will be considered in this assessment in order to ensure that the project infrastructure is located in the least impactful manner as far as possible. Location alternatives specifically apply to the (1) well sites, (2) pipeline and well access road routes, (3) powerlines, and most importantly, (4) the LNG Plant. The proposed Phase 1 LNG Plant comprises the largest physical infrastructure aspect of this project which is to be located near the existing Deelkraal road for ease of access and

	<p>therefore alternative locations for this plant will be considered. The key aspects that have informed the selection of the proposed LNG Plant alternatives are the following:</p> <ul style="list-style-type: none"> • Distance of the plant to the Deelkraal Road; • Pre-existing access route off Deelkraal Road which will facilitate construction access and can be upgraded accordingly; and • Setback distance of ~400m from Deelkraal Road to provide vegetative cover/screening to reduce visual impact. <p>The three alternatives to be considered in the EIA phase are located on the following properties:</p> <ul style="list-style-type: none"> • LNG Plant location Option 1 – PADDAKRAAL 405 Portion 0 • LNG Plant location Option 2 – WITHOUTPAN 404 Portion 0 • LNG Plant location Option 3 – BULKIP 701 Portion 1 <p>Design and layout alternatives ensure the consideration of different design and spatial configurations of the proposed development within a specific location, in order to enhance the positive impacts and to reduce the negative impacts. The sensitivity planning approach as described above for the wells and pipelines will guide the final layout position of the various infrastructure. The layout of surface infrastructure, access roads, and associated surface structures will undergo a micro siting exercise whereby environmental features on site as well as current land uses, and infrastructure are considered towards ensuring that the proposed project activities avoid areas of high environmental sensitivity and minimise infringement on existing infrastructure where possible.</p> <p>The selection of the technology to be adopted for the construction and operation of the gas production infrastructure has considered the requirements for gas wells (i.e. depths, casing, stimulation method, maximising gas collection, etc.); pipeline function and efficiency; as well as LNG processing, storage and distribution. Whilst other methods of well stimulation exist such as cavitation, this will not be considered in this assessment as internationally there is significant concerns about using cavitation as a technology and is therefore not deemed suitable for further interrogation in this EIA process. No further technology alternatives have been identified at this stage and this alternative will be revisited as and when additional technology alternatives are identified during the course of this EIA process.</p>
<p>Process to assess and rank impacts. Describe the process to be undertaken to identify, assess and rank the impacts and risks each individual activity.</p>	<p>Please refer to Appendix 5 for a detailed description of the EIMS Impact Assessment Methodology.</p>
<p>Contribution of specialist reports Describe how specialist reports, if required, will be taken into consideration and inform the impact identification, assessment and remediation process.</p>	<p>Several specialist studies will be undertaken to address the key issues. The specialist studies involve the gathering of data relevant to identifying and assessing environmental impacts that may occur as a result of the proposed project. These impacts were then assessed according to pre-defined rating scales. Specialists also recommend appropriate mitigation / control or optimisation measures to minimise potential negative impacts or enhance potential benefits, respectively. The following specialist studies are being conducted:</p> <ul style="list-style-type: none"> • Air Quality and Climate Change Impact Assessment; • Economic Impact Assessment; • Geohydrological Impact Assessment; • Heritage and Palaeontology Impact Assessments; • Hydrology Impact Assessment; • Noise Impact Assessment; • Social Impact Assessment; • Terrestrial Ecology Assessment; • Landscape and Visual Impact Assessment;

- Aquatics and Wetland Assessment;
- Soil, Agriculture and Hydrogeology Assessment;
- Major Hazardous Installation – Qualitative Risk Assessment;
- Seismic Assessment;
- Traffic Impact Assessment;

The specialist studies will be undertaken to address the key issues associated with the proposed activities. The specialist studies will involve the gathering of data relevant to identifying and assessing environmental impacts that may occur as a result of the proposed project. These impacts will then be assessed according to pre-defined rating scales. Specialists' recommendations for appropriate mitigation / control or optimisation measures to minimise potential negative impacts or enhance potential benefits will also be included in the EMP.

Specialist studies that will comply with the requirements of the EIA Regulations, 2014 as well as the Specialist Protocols published by the DFFE (where applicable). The relevant specialists will conduct site visits to verify sensitive features and assist with the identification of alternatives (where relevant). The specialist reports will be incorporated into the EIAR and will be made available to registered I&APs for review and comment.

All specialists are required to adhere to the EIMS method of assessing impacts (**Appendix 5**). In addition, during the Scoping Phase of the project, Desktop Specialist Studies have been commissioned to add value to the scoping report by determining the existing status quo of the receiving environment, identify potential sensitivities and mitigation measures and also outlining the plan of study for the EIA for the specialist assessments. On completion of the baseline data collection, the specialists will utilise information obtained to determine site specific sensitivities and constraints for the EIA Phase. These sensitivities and constraints will be used by the applicant's design and layout team during the production phase (if approved) to identify further suitable locations and layouts for the proposed production wells and associated infrastructure in an attempt to reduce the footprint and impact of the proposed development.

It is crucial to note that the Sensitivity Mapping is to be used as a first level mechanism to provide guidance (where applicable) with regard to design and layout and identify operational alternatives for further assessment. In addition, the mapping exercise allows the identification of certain spatial characteristics which may not be compatible or desirable for certain infrastructure placements (where relevant) circumnavigating potential fatal flaws. The Sensitivity Mapping exercise is briefly illustrated in Figure 1 below:

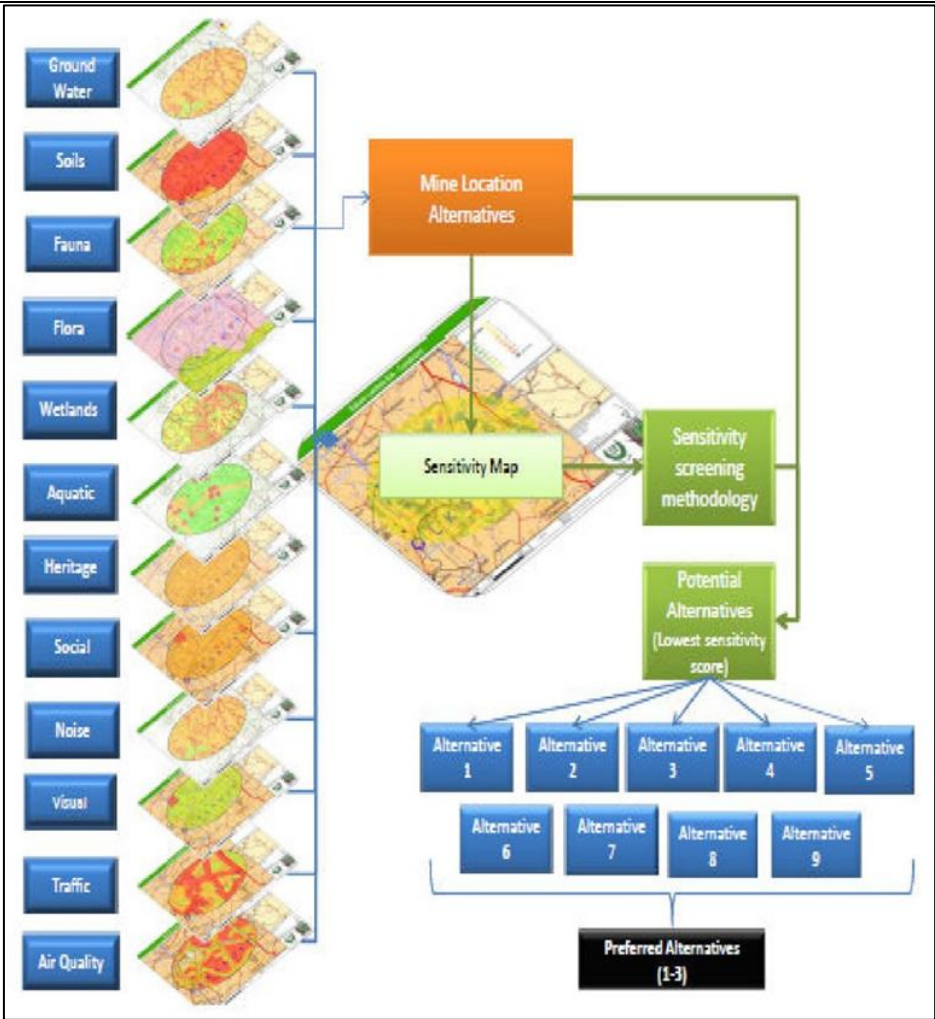


Figure 1: Concept sensitivity mapping (example)

Determination of impact management objectives and outcomes.

Describe how impact management objectives will be determined for each activity to address the potential impact at source, and how the impact management outcomes will be aligned with standards.

The objectives of the impact management measures shall be to firstly anticipate and avoid risks and impacts. This shall be accomplished through the adoption of a risk and impact assessment process which aims to identify all relevant environmental and social risks and receptors that are likely to be affected by such risks and impacts, including the issues identified by I&AP's during the consultation process. The impact and risk identification process shall take into consideration each activity and its associated potential impacts. The impact management objectives will be incorporated into an EMPr. The EMPr developed for the project shall include mechanisms whereby social and environmental risks and impacts shall be avoided and mitigated. The objectives of this environmental management framework shall be:

- To anticipate potential risks and impacts associated with each activity pre-emptively through the implementation of risk assessment techniques and early warning systems such as environmental monitoring and inspections;
- To develop and implement preventative measures to ensure known risks and impacts are addressed at source wherever possible (e.g. spill prevention procedures);
- To implement detailed management measures to ensure that where avoidance of impacts is not possible, mitigation measures are in place to minimize impacts to workers, affected landowners/occupiers/communities, and the environment; and
- To provide a framework for adaptive environmental management within the EMPr whereby impacts from unplanned events or incidents caused by the

	<p>project may be effectively controlled to minimise impacts to workers, affected landowners/occupiers/communities, and the environment.</p> <p>The management and mitigation measures shall be developed in accordance with applicable standards and guidelines, which may include, but is not limited to:</p> <ul style="list-style-type: none"> • Legislated Standards (e.g.: air quality guidelines and standards); • South African National Standards (SANS) (e.g.: SANS water quality standards); • Where Applicable, International Standards and Guidelines; • Applicable National and Regional Frameworks (e.g.: Bioregional Plans; Spatial Development Frameworks, National Protected Area Expansion Strategy Focus Areas, Environmental Management Frameworks, etc.); • Applicable Guidelines developed by authorities (e.g.: DMRE guidelines, NEMA EIA guidelines); and • Other Applicable guidelines (e.g.: Mining and Biodiversity Guidelines). <p>To ensure that the impact management outcomes can be monitored, and performance evaluated, performance targets and indicators shall be developed where appropriate. Compliance and alignment with the prescribed standards shall be measures against the defined Performance Targets and Indicators through the implementation of a system of inspections and compliance monitoring as defined in the EMPr.</p>
--	---

8. OTHER AUTHORISATIONS REQUIRED

LEGISLATION	Mark with an X where applicable			
	AUTHORISATION REQUIRED		APPLICATION SUBMITTED	
	YES	NO	YES	NO
SEMA s				
National Environmental Management: Air Quality Act	TBC ¹			X
National Environmental Management: Biodiversity Act	TBC ²			X
National Environmental Management: Integrated Coastal Management Act		X		X
National Environmental Management: Protected Areas Act		X		X
National Environmental Management: Waste Act	X		X	
National legislation				
Mineral Petroleum Development Resources Act	X		X	
National Water Act	X		X	
National Heritage Resources Act	TBC ³			X
Others: Please specify				

Please provide proof of submission of applications in **Appendix 5**.

In the event that an authorization in terms of the National Environmental Waste Management Act is required for any of the activities applied for please state so clearly in order for such an authorisation to be considered as part of this application.

¹ NEM:AQA listed activities will be confirmed during the course of the EIA process and if required, an AEL application will be submitted following receipt of the EA application.

² NEMBA specific permit requirements will be determined during the course of the EIA process by the terrestrial specialist, and if required, the relevant permits applications will be submitted prior to commencement of the relevant activities.

³ NHRA permit requirements will be identified by the Heritage specialist during the course of the EIA process. At this time, the intention is to avoid heritage features as a first order of the mitigation hierarchy.

9. DRAFT EMPr

For consultation purposes, provide a high level approach to the management of the potential environmental impacts of each of the activities applied for.

ACTIVITIES (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	PHASE (of operation in which activity will take place). State; Planning and design, Pre-Construction' Construction, Operational, Rehabilitation, Closure, Post closure.	SIZE AND SCALE (of Disturbance) (volumes, tonnages and hectares or m ²)	TYPICAL MITIGATION MEASURES (Eg, storm water control, dust control, noise control, access control, rehabilitation etc...., etc....)	COMPLIANCE WITH STANDARDS (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
CBM production well drilling and stimulation	Construction	~333 Wells constructed and spaced out within a ~20 443 ha area	<ul style="list-style-type: none"> • Maintenance and inspection of vehicles and machinery must make use of existing and pre-defined access routes • Storm water management where applicable • Develop a groundwater management plan • Implement seismic monitoring • Adequate dust control and suppression • Alien invasive plant species control • Implement a heritage Chance Find Procedure 	EMPr
CBM production well operation – includes maintenance of well infrastructure	Operation	~333 Wells constructed and spaced out within a ~20 443 ha area	<ul style="list-style-type: none"> • Maintenance and inspection of vehicles and machinery must make use of existing and pre-defined access routes 	EMPr

ACTIVITIES (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining ,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	PHASE (of operation in which activity will take place). State; Planning and design, Pre-Construction Construction, Operational, Rehabilitation, Closure, Post closure.	SIZE AND SCALE (of Disturbance) (volumes, tonnages and hectares or m ²)	TYPICAL MITIGATION MEASURES (Eg, storm water control, dust control, noise control, access control, rehabilitation etc...., etc.....)	COMPLIANCE WITH STANDARDS (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
			<ul style="list-style-type: none"> • Storm water management where applicable • Develop a groundwater management plan • Implement seismic monitoring • Adequate dust control and suppression • Alien invasive plant species control • Management of traffic routes and roads 	
Construction camp and laydown area establishment	Construction	At areas earmarked for well construction and establishment of wellhead infrastructure within the ~20 443 ha area.	<ul style="list-style-type: none"> • Adequate dust control and suppression • Alien invasive plant species control • Spill response and management • Management of noise generated • General waste management • Adequate sanitation and ablution facilities must be provided 	EMPr

ACTIVITIES (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining , - excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	PHASE (of operation in which activity will take place). State; Planning and design, Pre-Construction Construction, Operational, Rehabilitation, Closure, Post closure.	SIZE AND SCALE (of Disturbance) (volumes, tonnages and hectares or m ²)	TYPICAL MITIGATION MEASURES (Eg, storm water control, dust control, noise control, access control, rehabilitation etc...., etc.....)	COMPLIANCE WITH STANDARDS (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
Gas and water pipelines – includes construction of the pipelines as well as gas and water reticulation	Construction and Operation	Various below-ground pipeline infrastructure within the ~20 443 ha area	<ul style="list-style-type: none"> • Natural revegetation of the area following the laying of pipelines. • Adherence to the Stormwater management plan to be developed • Erosion and dust control where necessary • Monitoring for leaks and maintenance of infrastructural integrity • Implement a heritage Chance Find Procedure 	EMPr
Access route and Deelkraal road upgrade	Construction and Operation	Includes the upgrade of the Deelkraal road (~11.5 km) and the clearance of access routes (variable distances) to the proposed well construction areas.	<ul style="list-style-type: none"> • Maintenance and inspection of vehicles and machinery must make use of existing and pre-defined access routes • Document access road conditions prior to construction 	EMPr

ACTIVITIES (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining , - excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	PHASE (of operation in which activity will take place). State; Planning and design, Pre-Construction Construction, Operational, Rehabilitation, Closure, Post closure.	SIZE AND SCALE (of Disturbance) (volumes, tonnages and hectares or m ²)	TYPICAL MITIGATION MEASURES (Eg, storm water control, dust control, noise control, access control, rehabilitation etc...., etc.....)	COMPLIANCE WITH STANDARDS (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
			<ul style="list-style-type: none"> • Monitor the site access road condition and any required maintenance and repair. • Apply dust suppression where necessary 	
LNG Plant – Construction as well as all activities associated with the operation of the plant.	Construction and Operation	~25 ha	<ul style="list-style-type: none"> • Storm water management where applicable • Adequate dust control and suppression • Alien invasive plant species control • Implement a heritage Chance Find Procedure • Adherence to the Stormwater management plan to be developed • Erosion and dust control where necessary • Monitoring for leaks and maintenance of infrastructural integrity 	EMPr

ACTIVITIES (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	PHASE (of operation in which activity will take place). State; Planning and design, Pre-Construction Construction, Operational, Rehabilitation, Closure, Post closure.	SIZE AND SCALE (of Disturbance) (volumes, tonnages and hectares or m ²)	TYPICAL MITIGATION MEASURES (Eg, storm water control, dust control, noise control, access control, rehabilitation etc...., etc....)	COMPLIANCE WITH STANDARDS (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
Water treatment and disposal – involves the treatment of process water through a water treatment plant at the LNG Plant, as well as the discharge and use of the treated water.	Construction and Operation	At LNG Plant area (covering a surface area of ~25 ha), pipeline to the Mogol River)	<ul style="list-style-type: none"> Storm water management where applicable Adherence to the Stormwater management plan to be developed Erosion and dust control where necessary Monitoring for leaks and maintenance of infrastructural integrity 	EMPr
Hazardous waste management (drill cuttings)	Construction	At the ~333 well construction sites within the ~20 443 ha area.	<ul style="list-style-type: none"> Spill response and management Monitoring for leaks and maintenance of infrastructural integrity Erosion and dust control where necessary 	EMPr
Waste management	Operation	At LNG Plant (~25 ha area)	<ul style="list-style-type: none"> Containment and storage of waste in suitably sealed, bunded and protected areas. Separation and recycling of 	EMPr

ACTIVITIES (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	PHASE (of operation in which activity will take place). State; Planning and design, Pre-Construction Construction, Operational, Rehabilitation, Closure, Post closure.	SIZE AND SCALE (of Disturbance) (volumes, tonnages and hectares or m ²)	TYPICAL MITIGATION MEASURES (Eg, storm water control, dust control, noise control, access control, rehabilitation etc...., etc.....)	COMPLIANCE WITH STANDARDS (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
			different waste materials.	

10. CLOSURE PLAN

In the space provided under each heading below, please provide a high level description of the plan for closure and the information that will be provided in the draft EMPr accompanying draft basic assessment report or environmental impact reports going forward.	
Baseline environment Describe how the baseline environment will be determined with the input of interested and affected parties and due cognizance of the current land uses and or existing biophysical environment	<p>The baseline environment will be assessed in two Phases: The EIA process, including the draft of the Scoping Report and EIA Reports, as well as the Public Participation Process.</p> <p>Phase 1: Environmental Impact Assessment Phase and Environmental Management Programme (EMPr):</p> <p>This will require a detailed desktop investigation by the EAP to familiarise themselves with the proposed application area and broadly determine the existing status quo of the receiving environment.</p> <p>During the EIA phase of the project, a more detailed investigation will also be undertaken for the likely impacts. On completion of the assessments, the EAP will begin compilation of the EMPr. The EIA and EMPr will include the following information:</p> <ul style="list-style-type: none"> • A detailed description of the receiving environment; • A description of the Public Participation Process methodology; • A record of the findings of the Public Participation Process; • An Environmental Impact Assessment (EIA) during all project phases; • An Environmental Management Programme (EMPr) during all project phases; • Closure and Rehabilitation Plans; • Calculation of the Financial Provisions; • A detailed description of the need and desirability of the proposed activity including advantages and disadvantages that the activity will have to the environment and community; • A description of the methodology used in determining significance of identified impacts; • A description and comparative assessment of all alternatives identified; • A summary of the findings and recommendations of any Specialist Studies;

	<ul style="list-style-type: none"> • A description of all identified impacts and an assessment of the significance of each impact before and after implementation of proposed mitigation measures; • A description of assumptions, uncertainties and gaps in knowledge; • A recommendation as to whether the activity should be authorised and under what conditions; • An Environmental Impact Statement including key findings; • A draft Environmental Management Programme; and • Copies of any and all specialist studies carried out. <p>Each identified impact will be assessed for significance by investigating and ranking the nature, duration, extent, magnitude and probability of each impact. In addition to this the reversibility and the potential for irreplaceable loss of resources will also be assessed. In accordance with the requirements of the EIA regulations a Draft Environmental Management Programme (EMPr) will also be prepared.</p> <p>Following submission of the Scoping and EIA Report, Specialist Studies and Draft EMPr to the registered I&APs for review and comment, the final submission will be made to the DMRE.</p> <p>Phase 2: Public Participation Process:</p> <p>The Public Participation Process (PPP) will be robust and continue to engage interested and affected parties (IAPs) throughout all phases of the project. As a result of the public notifications, a register will be opened and maintained which will record all contact details of persons whom have submitted written comments or responded to the notification and who have requested that they be registered as IAPs. All registered IAPs will be informed of the required process of involvement as defined by the EIA regulations. All objections and representations received from IAPs will be collected and considered in this application. Responses will be prepared and distributed to those IAPs who submitted comments and/or objections. These comments /objections and responses will be recorded in a Comments and Responses Report (CRR) for inclusion into the Scoping and EIA Reports respectively. In addition, the registered IAPs will be given an opportunity to comment on all reports prepared to be submitted to the DMRE.</p>
<p>Closure objectives</p> <p>Describe the closure objectives and the extent to which they will be aligned to the baseline environment</p>	<p>The EMPr shall include a rehabilitation plan. The plan shall outline the closure objectives which are aimed at re-instating the landform, land use and vegetation units to the same as before production operations took place unless a specific, reasonable alternate land use is requested by the landowner. As such, the intended end use for the disturbed production areas and the closure objectives will be defined in consultation with the relevant landowner. Proof of such consultation will be submitted together with the Application for Closure Certificate. The overall closure objective will be to ensure that the post closure environment aligns with the pre-development as far as reasonably possible. This shall be achieved with a number of specific objectives namely:</p> <ol style="list-style-type: none"> 1. Making the area safe. i.e.: Decommission production activities so as to ensure that the environment is safe for people and animals. This entails refilling excavations, sealing and grouting boreholes etc. 2. Recreating a free draining landform. This entails earthworks infilling, reshaping, levelling, etc. to recreate as close as possible the original topography and to ensure a free draining landscape.

	<p>3. Re-vegetation. This involves either reseeding or allowing natural succession depending on the area, climate etc.</p> <p>4. Storm water management and erosion control. Management of storm water and prevention of erosion during rehabilitation. E.g. cut off drains, berms, etc. and erosion control where required.</p> <p>5. Verification of rehabilitation success. Entails monitoring of rehabilitation. The impacts of closure and post-closure will be further assessed and detailed in the EIA Phase Report.</p>
Rehabilitation Plan Describe the scale and aerial extent of the prospecting or mining listed activities to be authorised, including the anticipated prospecting or mining area at the time of closure, and confirm that a site rehabilitation plan drawn to a suitable scale will be provided in the draft EMPr to be submitted together with the draft EIR or Basic Assessment Report as the case may be.	It is important to note that the application applies to Phase 1 of a three-phase plan to develop the Production Right area toward full-field production. It is anticipated that Phase 1 will consist of ~333 production wells, pipelines, as well as an LNG Plant and associated infrastructure. Should a second Phase to the development of the Production Right follow, closure will only follow that Phase of development or a phased closure of wells and infrastructure will be undertaken. The site rehabilitation plan for Phase 1 (should development of the Production Right end with this phase) will be investigated and presented in the EIA report.
Rehabilitation Cost Describe how the rehabilitation cost will be determined and provide a preliminary estimate thereof	The Regulations Pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations promulgated under section 44(aE), (aF), (aG), (aH) read with sections 24(5)(b)(ix), 24(5)(d), 24N, 24P and 24R of the National Environmental Management Act, 1998 (Act No.107 of 1998) (20 November 2015) will be considered and this will, where relevant, be included in the EIA Report to be compiled during the EIA Phase. A preliminary estimate of the rehabilitation cost has not yet been determined.
Decommissioning Considering that rehabilitation must take place upon cessation of an activity, describe when each of activities applied for will be rehabilitated in terms of either the cessation of the individual activity or the cessation of the overall prospecting or mining activity.	Decommissioning will follow should the planned full-field development of the Production Right area be halted or completed as per the Production Works Programme. Decommissioning will be implemented in accordance with the approved Environmental Management Programme (EMPr), the conditions of the Environmental Authorisation, the Production Right, and all applicable legislation and standards relevant at the time of decommissioning.

Leonore Van Wyk

Signature of the applicant / Signature on behalf of the applicant:

Thungela Operations (Pty) Ltd

Name of company (if applicable):

2026/05/21

Date: