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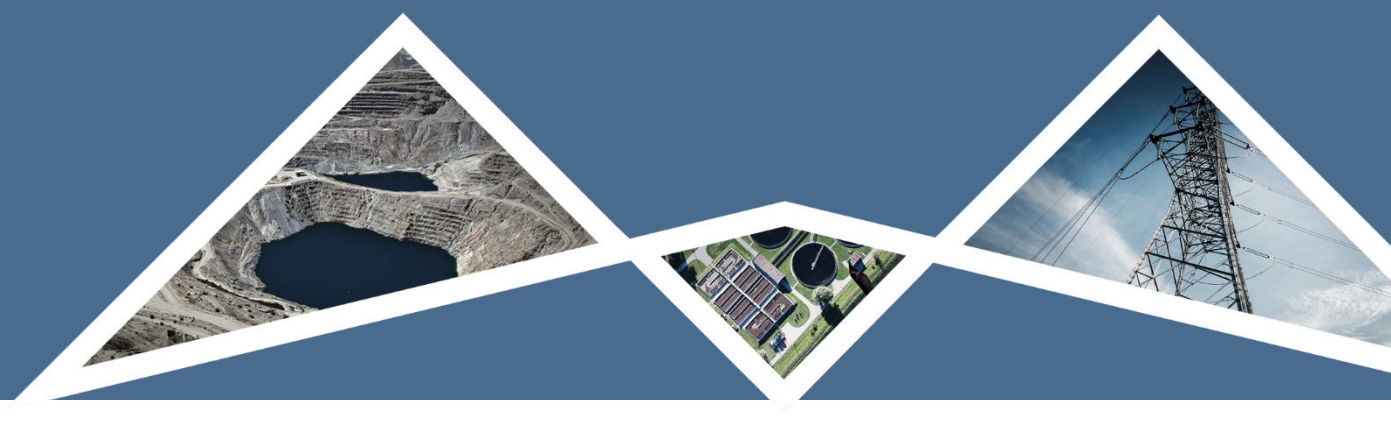
SITE SENSITIVITY AND VERIFICATION REPORT

MOTUOANE PRODUCTION RIGHT APPLICATION PROJECT



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1 SCOPE AND PURPOSE

Regulation 16(1)(b)(v) of the Environmental Impact Assessment Regulations (GNR 982 promulgated under the National Environmental Management Act (Act 107 of 1998-NEMA)), requires that a Screening Report generated by the national web-based environmental screening tool for the specific site and activity must accompany any application for Environmental Authorization.

The Screening Report identifies preliminary development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmentally sensitive features on the site based on the site sensitivity screening. On the basis of the sensitivities identified in the site sensitivity screening, a list of preliminary specialist studies required to be considered in the Impact Assessment process are provided.

Prior to commencing with a specialist assessment identified in the Screening Report, the current use of the land and the environmental sensitivity of the site, must be confirmed by undertaking a site sensitivity verification. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist. The site sensitivity verification must be undertaken through the use of:

a) a desk top analysis, using satellite imagery;

b) a preliminary on-site inspection; and

c) any other available and relevant information.

This Site Sensitivity and Verification Report (SSVR) is a record of the outcome of the site sensitivity verification in compliance with the requirements of the procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Sections 24(5)(a) and (h) and 44 of the NEMA. The SSVR aims to:

a) confirm or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;

b) contain motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and

c) be submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations (EIA Regulations).

2 PROJECT BACKGROUND

Motuoane Energy (Pty) Ltd (hereafter referred to as Motuoane – the applicant) compiled and submitted an application for a Production Right (PR) for the production of natural gas (helium and methane), in terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 – MPRDA, as amended) to the Administrative Authority (AA), the Petroleum Agency South Africa (PASA) in August 2025. The proposed PR is located within an existing Exploration Right area (ER315) over an area of approximately 14 440 hectares (ha), covering various farms approximately 15 km to the southeast of the town of Virginia in the Free State Province of South Africa. The local municipalities in which the proposed production area is located are Matjhabeng and Masilonyana Local Municipalities of the Lejweleputswa District Municipality. Motuoane wishes to convert part of their existing ER315 into a PR area.

The proposed development of the PR area will involve the following activities,

- Pre drilling seismic and/or audio magnetotelluric surveys to optimize gas well locations for maximum deliverability;
- Drilling and completion of gas wells;
- Maintenance workovers of existing wells;
- Construction of gas gathering pipelines;
- Installation of gas compression and processing facilities;
- Construction of a helium recovery facility (gas or liquid helium) and gas (methane) processing plant (CNG or LNG); and
- Construction of associated infrastructure including roads and communications facilities, if necessary.

All proposed well locations, gas gathering pipelines and processing plant infrastructure will be located in consultation with the landowner and any other stakeholders and be located to minimize damage to existing infrastructure, vegetation and land. Facilities and wells will be located close to existing fence lines and tracks where practical and not be located within close proximity to housing and major structures. In total there are 43 proposed well development locations that are located along known faults and close to either existing blowers or exploration wells previously drilled by Motuoane.

2.1 PROJECT ASPECTS

Table 1: Project description

		Location (DD MM SS)	
Project Aspect	**Details**	**Latitude**	**Longitude**
1. Exploration and Production Wells	A maximum of 43 production well locations are proposed. A development spacing of 500 m has been chosen for the wells to be drilled. This spacing has been chosen following a review of geological and reservoir properties including well interference testing. The wells will be drilled to a total depth of approximately 500-600 m.	Up to 43 wells. Exact locations to be determined after seismic surveys within various well transects shown in Figure 2 below.	Up to 43 wells. Exact location to be determined after seismic surveys within various well transects shown in Figure 2 below.
2. Pipelines	The gas gathering network will be a low-pressure underground pipework from the	Within various pipeline corridors to	Within various pipeline corridors

	wellhead to the compressor station or gas processing plant. The pipelines will be constructed from HDPE pipe and be designed to use the natural flow of the land contouring to reduce the need for low point drains. Where drains are required, consideration will be given to installing them in underground pits to reduce visual, environmental and landowner impact. The sizing of the high-density polyethylene pipe (HDPE) flowlines will range from 110 mm to 315 mm for the main gas transmission pipelines. Approximately 28.8 km of pipelines will be constructed for the project.	be determined during the Scoping Phase.	to be determined during the Scoping Phase.
3. Seismic Transects	Pre drilling seismic and/or audio magnetotelluric surveys to optimize well locations.	Various	Various
4. Gas Processing Plant	A single gas processing plant is proposed within the development area to reduce the requirement for nodal compression. This will reduce the environmental footprint and keep noise emitting equipment to fewer locations. The helium recovery and gas processing facilities will have the optionality of producing either gaseous or liquified helium and methane.	28°13'35.10"S	26°56'38.05"E

2.2 SITE LOCALITY AND LAYOUT

The proposed Production Right is located within an existing Exploration Right area (ER315) over an area of approximately 14 440 hectares (ha), covering various farms approximately 15 km to the southeast of the town of Virginia in the Free State Province of South Africa. The local municipalities in which the proposed production area is located are Matjhabeng and Masilonyana Local Municipalities of the Lejweleputswa District Municipality.

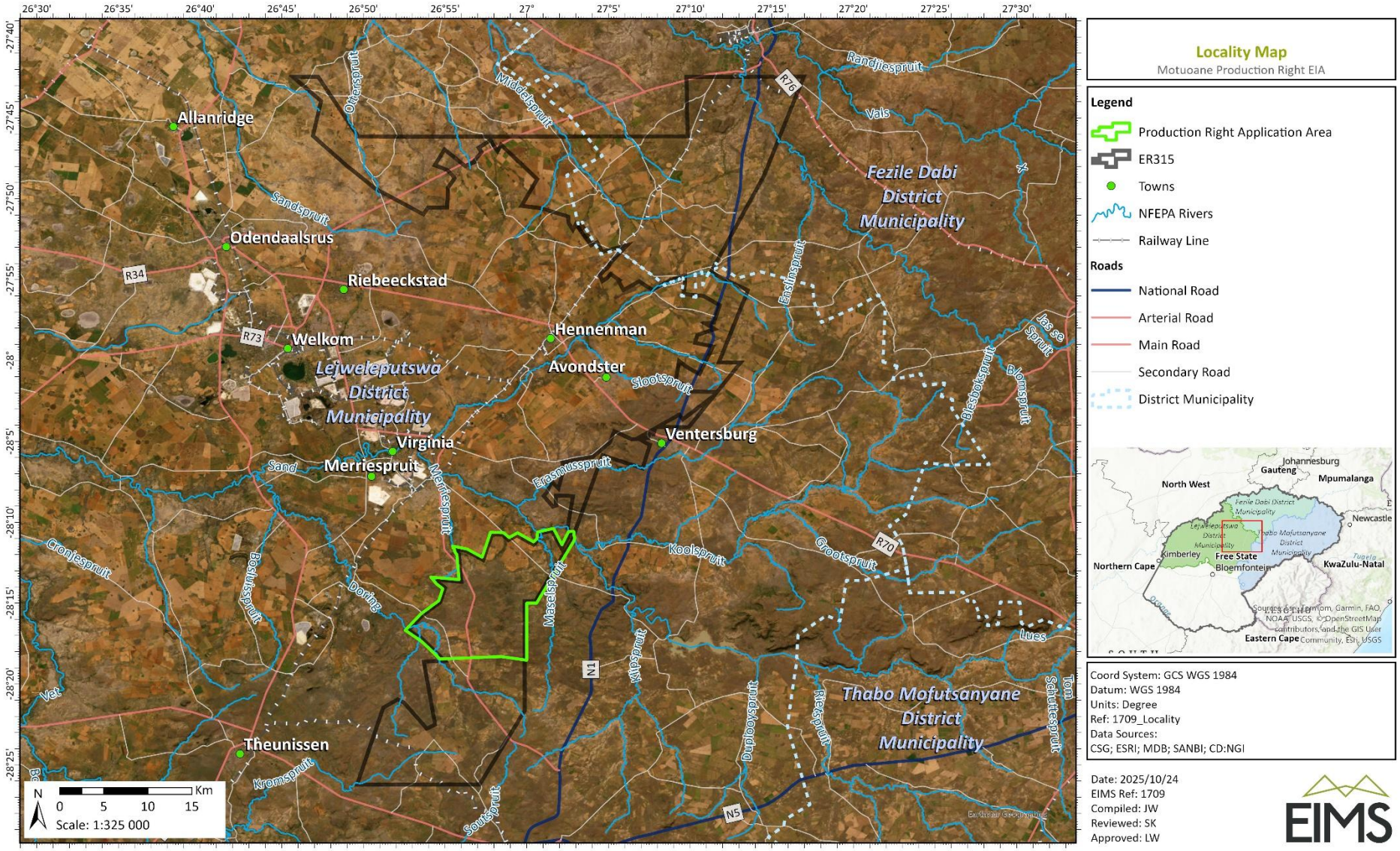


Figure 1: Site locality map in relation to ER315.

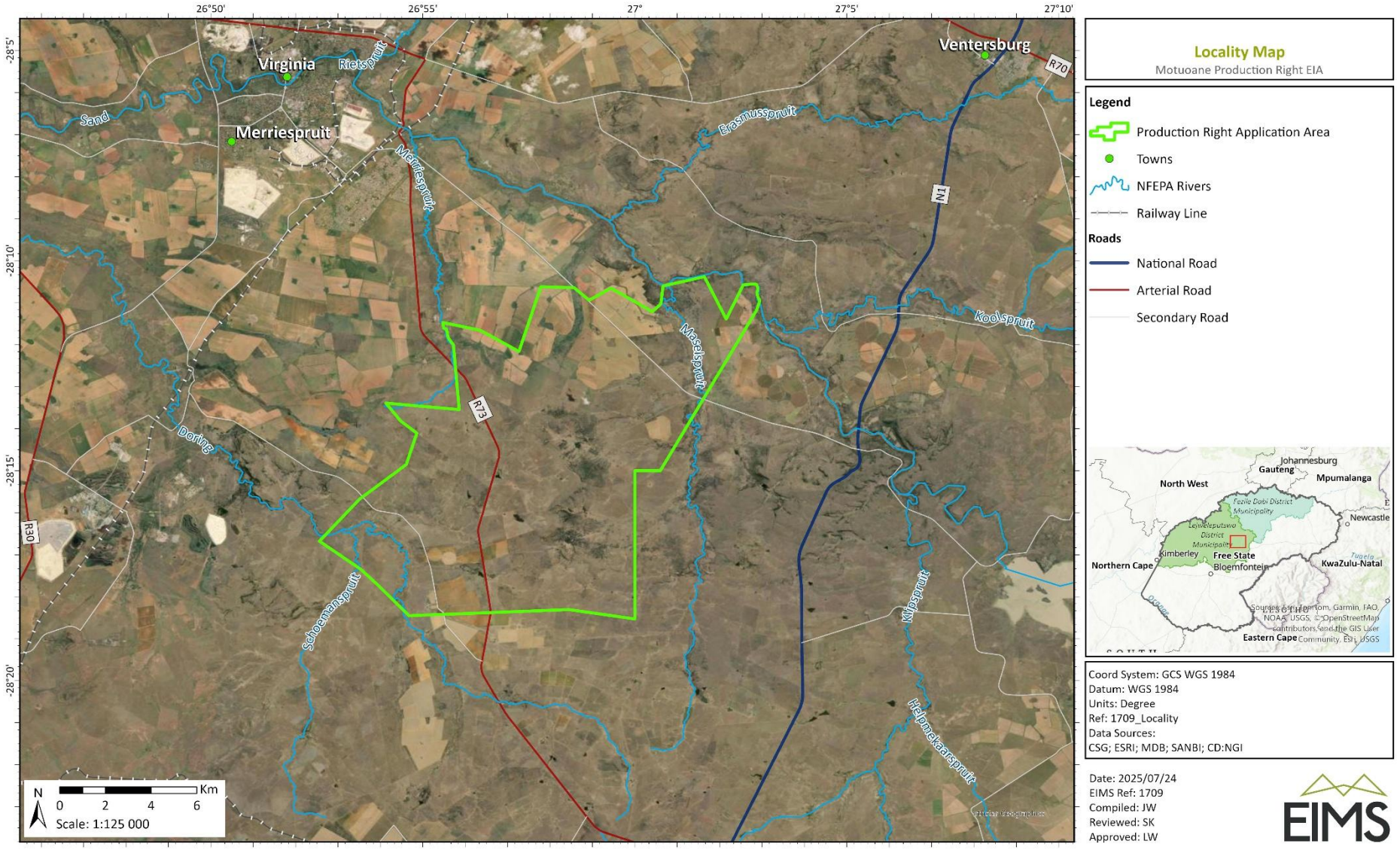


Figure 2: Site locality map.

2.3 DEA SCREENING TOOL ASSESSMENT

Regulation 16(1)(b)(v) of the Environmental Impact Assessment Regulations (GNR 982 promulgated under the National Environmental Management Act (Act 107 of 1998-NEMA)), requires that a Screening Report generated by the national web-based environmental screening tool for the specific site and activity must accompany any application for Environmental Authorization.

The Screening Report identifies preliminary development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmentally sensitive features on the site based on the site sensitivity screening. On the basis of the sensitivities identified in the site sensitivity screening, a list of preliminary specialist studies required to be considered in the Impact Assessment process are provided. Table 2 provides the proposed development area environmental sensitivity as provided by the national web-based environmental screening tool.

Table 2: Screening Tool Report- Proposed development area environmental sensitivity.

Aspect	Very High	High	Medium	Low
Agriculture Theme	☒	☐	☐	☐
Animal species Theme	☐	☐	☒	☐
Aquatic Biodiversity Theme	☒	☐	☐	☐
Archaeological and Cultural Heritage	☐	☐	☐	☒
Civil Aviation Theme	☐	☒	☐	☐
Defence Theme	☐	☐	☐	☒
Palaeontology Theme	☒	☐	☐	☐
Plant Species Theme	☐	☐	☐	☒
Terrestrial Biodiversity Theme	☒	☐	☐	☐

3 SITE ASSESSMENT

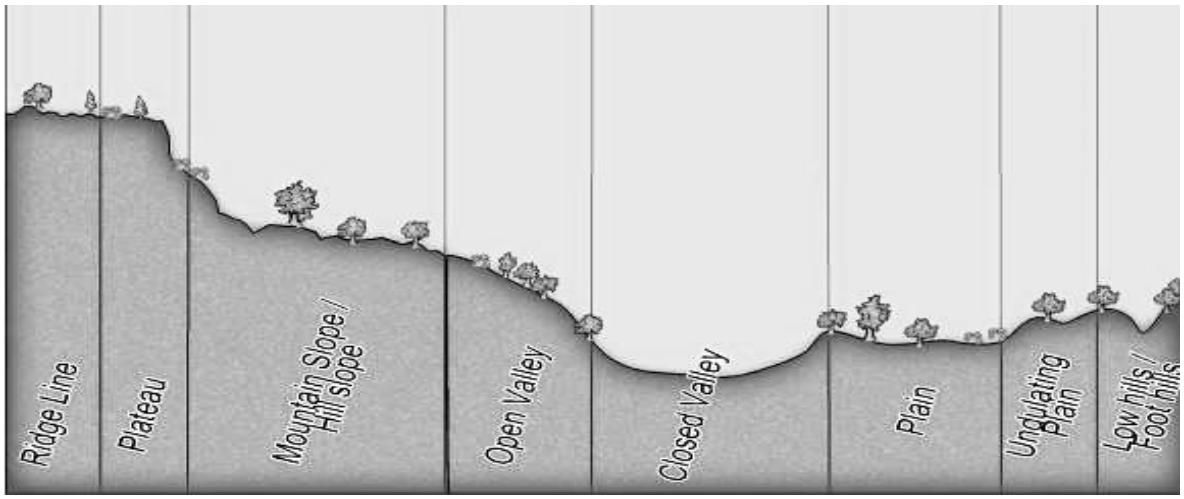
Prior to commencing with a specialist assessment identified in the Screening Report, the current use of the land and the environmental sensitivity of the site, must be confirmed by undertaking a site sensitivity verification. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist. The site sensitivity verification must be undertaken through the use of:

- a desk top analysis, using satellite imagery;
- a preliminary on-site inspection; and
- any other available and relevant information.

The sub-sections below aim to provide context of the existing site conditions to support the site sensitivity and verification.

3.1 GRADIENT

The general gradient characteristics of the site:



☐	☐	☐	☒	☒	☒	☒	☒

3.2 SENSITIVE AREAS

Is the site located in the immediate vicinity of the following:	**Yes**	**No**	**Comment**
Erosion Channels or areas of severe erosion/ destabilized soils	☒	☐	Rill erosion associated with unpaved farm and access roads. Existing agricultural lands occur within the study area. Erosion gullies were also observed within eroded banks of the streams occurring in the proposed PR area.
Wetlands (within 32m)	☒	☐	There are several natural and artificial wetlands within the PR area some of which are within 32m of the proposed project infrastructure. Some tributaries and the Maselspruit River are crossed by pipelines.
Unstable slopes or geological features (rocky outcrops)	☐	☒	There are no unstable slopes or geological features or evidence of rocky outcrops within the PR area. However, rocky bare patches were noted along the R73.
Bare areas	☒	☐	Several bare areas around in and around the PR were noticed along the R73, gravel roads, disturbed areas due to agricultural activities and solar PV development within the PR area. Bare areas in the form of harvested agricultural lands occur within the study area.

Is the site located in the immediate vicinity of the following:	Yes	No	Comment
Other Sensitive or risk areas?	☒	☐	Existing roads, powerlines, farmhouses, and solar development areas occur within the study area.
Are any existing servitudes and structures directly or indirectly affected by the proposed sites and routes (e.g. Eskom, public road servitudes and restrictions-60m from National Road, farmer's water/irrigation supplies, etc.)?	☒	☐	There are Eskom powerlines, a regional road (R73), public and private farm roads within the PR. Agricultural lands and associated infrastructure (irrigation equipment) occur within the study area.

3.3 VEGETATION

Which of the listed descriptions best describes the general groundcover on and around the site?				
☒ Natural veld - good condition	☒ Natural veld with scattered aliens	☒ Natural veld with heavy alien infestation	☐ Veld dominated by alien species	☐ Gardens
☐ Sport field	☒ Cultivated land	☒ Paved surface	☒ Building or other structure	☒ Bare soil
Comments on vegetation composition:	Site is mostly grassland with scattered areas that are disturbed and degraded due to anthropogenic activities, such as clearing of vegetation for agricultural and solar developments. Some parts to the north and south of the PR area are cultivated, there are areas with intact natural vegetation while some areas have evidence of alien species. Various project infrastructure such as pipelines, wells, plant and access roads will impact on different vegetation units.			
Comments on weed species/type	An amount of scattered alien and invasive plant species is present within the PR. The exact type and species will be confirmed during the EIA Phase by the relevant specialist study.			

3.4 LAND COVER/ USE DESCRIPTION

The SSVR aims to:

- confirm or dispute the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.; and
- contain motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity.

The land cover/use of the proposed study area is mostly grassland with scattered areas that are disturbed and degraded due to anthropogenic activities, such as clearing of vegetation for agricultural and solar developments. Some parts to the north and south of the proposed PR area are cultivated, there are areas with intact natural

vegetation while some areas have evidence of alien species. Similar land use was observed in areas directly adjacent to the PR area. Associated photographic evidence is depicted in Table 3 below.

Table 3: Site photographs.

	
View of vegetation in the north eastern portion of the PR	Existing farm road noted in the north eastern portion of the PR

	
Equipment storage container used during the exploration activities in ER315	Northern landscape view within the PR area

	
Rill erosion noted on one of the farm access roads within the PR area	View of the Maselspruit River tributary within the PR area

	
Erosion noted within the Maselspruit River tributary	Existing gas exploration well within the PR boundary

	
View of the R73 within the PR boundary	Eskom transmission line noted crossing the R73 within the PR boundary

	
Farm dam noted along the R73	Bare and rocky patches noted within the PR area

	
Fire breaks and farm roads noted along some fence lines	Some farm dwellings / houses noted within the PR area

	
Roads works (filling of potholes) noted along the R73	Agricultural lands noted in the northern and southern portions of the PR area

	
Solar PV development by Red Rocket noted in the northeastern section of the PR area	Vegetation clearing for Solar PV development noted within the PR area

	
View of an unnamed road along the northeastern area of the PR area	View of the Maselspruit River tributary crossing the unnamed road in the northeastern area of the PR area

4 VERIFICATION FINDINGS AND MOTIVATION

The Screening Report identifies preliminary development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmentally sensitive features on the site based on the site sensitivity screening (Section 1.1). On the basis of the sensitivities identified in the site sensitivity screening, a list of preliminary specialist studies required to be considered in the Impact Assessment process are provided. Table 4 below lists the screening tool identified specialist studies and associated screening tool sensitivity. Based on the findings of the site verification process (Section 3) a verified, or suggested revised sensitivity is provided together with an associated motivation.

Table 4: Assessment for specialist studies and motivation.

Screening Tool Specialist Study Required:	**Level of Sensitivity:**	**Suggested Sensitivity:**	**Required level of Assessment**	**Motivation**
Agriculture Impact Assessment	Very High	Medium	Compliance Statement	There are limited agricultural activities within the application area with some agricultural activities being undertaken especially in the southern and northern sections of the PR. However, the bulk of the proposed PR activities are will not directly impact on these areas. Furthermore, the activities will be limited to a maximum footprint of 50m x 50m for drill pads and 10m wide seismic transects which will have an acceptable overall impact on the soils and agricultural potential. In addition, post construction, the disturbed areas will be rehabilitated and only limited above ground infrastructure will remain (i.e. blower (gas emitting well) footprint of 2m x 2m).
Archaeological and Cultural Heritage Impact Assessment	Low	Medium	Full Study	Although the DFFE level of sensitivity is low a full DFFE protocol compliant specialist Archaeological and Cultural Heritage Impact Assessment will be undertaken.
Palaeontology Impact Assessment	Very High	High	Full Study	A full DFFE protocol compliant specialist Palaeontological Impact Assessment will be undertaken.
Terrestrial Biodiversity Impact Assessment	Very High	High	Full Study	Large sections of intact vegetation and aquatic areas were noted in the PR area. A full DFFE protocol compliant specialist Terrestrial Biodiversity Impact Assessment will be undertaken.
Aquatic Biodiversity Impact Assessment	Very High	High	Full Study	Sections of intact aquatic habitats were noted in the PR area. A full DFFE protocol compliant specialist Aquatic

Screening Tool Specialist Study Required:	Level of Sensitivity:	Suggested Sensitivity:	Required level of Assessment	Motivation
				Biodiversity Impact Assessment will be undertaken.
Geotechnical Assessment	Low	Low	None	The geotechnical theme was rated as low and therefore no geotechnical related studies will be undertaken. The proposed project infrastructure does not include any large buildings or pose any stability risks.
Defence Theme	Low	Low	None	The defence theme was rated as low and therefore no defence related studies will be undertaken.
Civil Aviation Theme	High	Low	None	The proposed project which entails the establishment of up to 43 production gas boreholes and ~28.8km gas gathering pipelines and a gas processing plant which will not reflect light which may have an impact on civil aviation. The proposed activities do not interfere with surface and air transmission and therefore, no anticipated impacts on civil aviation emanating from the project. The proposed development does not entail the establishment of high-rise structures, use of aboveground high frequency electromagnetic radiation nor reflecting infrastructure. In addition, the area has low air traffic. Therefore, the proposed activities are assessed to have a low impact on Civil Aviation, and no study is required.
Plant Species Assessment	Low	High	Full Study	Large sections of intact vegetation were noted in the PR area. A full DFFE protocol compliant specialist Plant Species Impact Assessment will be undertaken.
Animal Species Assessment	Medium	Medium	Full Study	Sections of intact vegetation and aquatic habitats were noted in the PR area. A full DFFE protocol compliant specialist Animal Species Impact Assessment will be undertaken.
Guidance notes:				
• *An applicant intending to undertake an activity identified in the scope of this protocol on a site identified on the screening tool as being of "very high" or "high" sensitivity for agricultural resources must submit an Agricultural Agro-Ecosystem Specialist Assessment unless:*				

Screening Tool Specialist Study Required:	Level of Sensitivity:	Suggested Sensitivity:	Required level of Assessment	Motivation

- *information gathered from the site sensitivity verification differs from the designation of "very high" or "high" agricultural sensitivity, and it is found to be of a "medium" or "low" sensitivity.*

- *An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of "medium sensitivity" for terrestrial animal species must submit either a Terrestrial Animal Species Specialist Assessment Report or a Terrestrial Animal Species Compliance Statement, depending on the outcome of a site inspection undertaken in accordance with paragraph 4.*
- *An applicant intending to undertake an activity identified in the scope of this protocol on a site identified on the screening tool as being of "very high sensitivity" for aquatic biodiversity, must submit an Aquatic Biodiversity Specialist Assessment*
- *The sensitivities identified on the archaeology and cultural heritage theme layer represents a limited number of known heritage resources. Heritage resources are widely dispersed and can occur on any development site in South Africa. Therefore, a Heritage Impact Assessment (HIA) must be undertaken for all developments, irrespective of the sensitivity shown on the archaeological and cultural heritage theme layer.*
- *The sensitivities identified on the Palaeontology theme layer represents a limited number of known palaeontology resources. Palaeontology resources are widely dispersed and can occur on any development site in South Africa. Therefore, a Palaeontological Impact Assessments (PIAs) must be undertaken for all developments as per the PalaeoSensitivity Map provided on SAHRIS, irrespective of the sensitivity shown on the palaeontology theme layer.*
- *An applicant intending to undertake an activity identified in the scope of this protocol, on a site identified by the screening tool as being of "low" sensitivity for terrestrial plant species, must submit a Terrestrial Plant Species Compliance Statement.*
- An applicant intending to undertake an activity identified in the scope of this protocol, on a site identified on the screening tool as being of "very high sensitivity" for terrestrial biodiversity, must submit a Terrestrial Biodiversity Specialist Assessment.
- An applicant intending to undertake an activity identified in the scope of this protocol for which a specialist assessment has been identified on the screening tool on a site identified as being of:
  - "very high" sensitivity for noise, must submit a Noise Specialist Assessment; or
  - "low" sensitivity for noise, must submit a Noise Compliance Statement.