

EXECUTIVE SUMMARY

1. INTRODUCTION

This Executive Summary provides a synopsis of the Environmental Impact Assessment Report prepared as part of the Scoping and Environmental Impact Assessment (S&EIA) process that is being undertaken of Rhino Oil and Gas Exploration South Africa (Pty) Limited's (Rhino) proposal to continue exploration within the Exploration Right (ER) area (ER reference: 12/3/318) located within the Free State Province. Rhino have proposed the drilling of several exploration wells to test for the presence, quantity and quality of gas within specific Target Areas within the ER 318 area (see Figure 1).

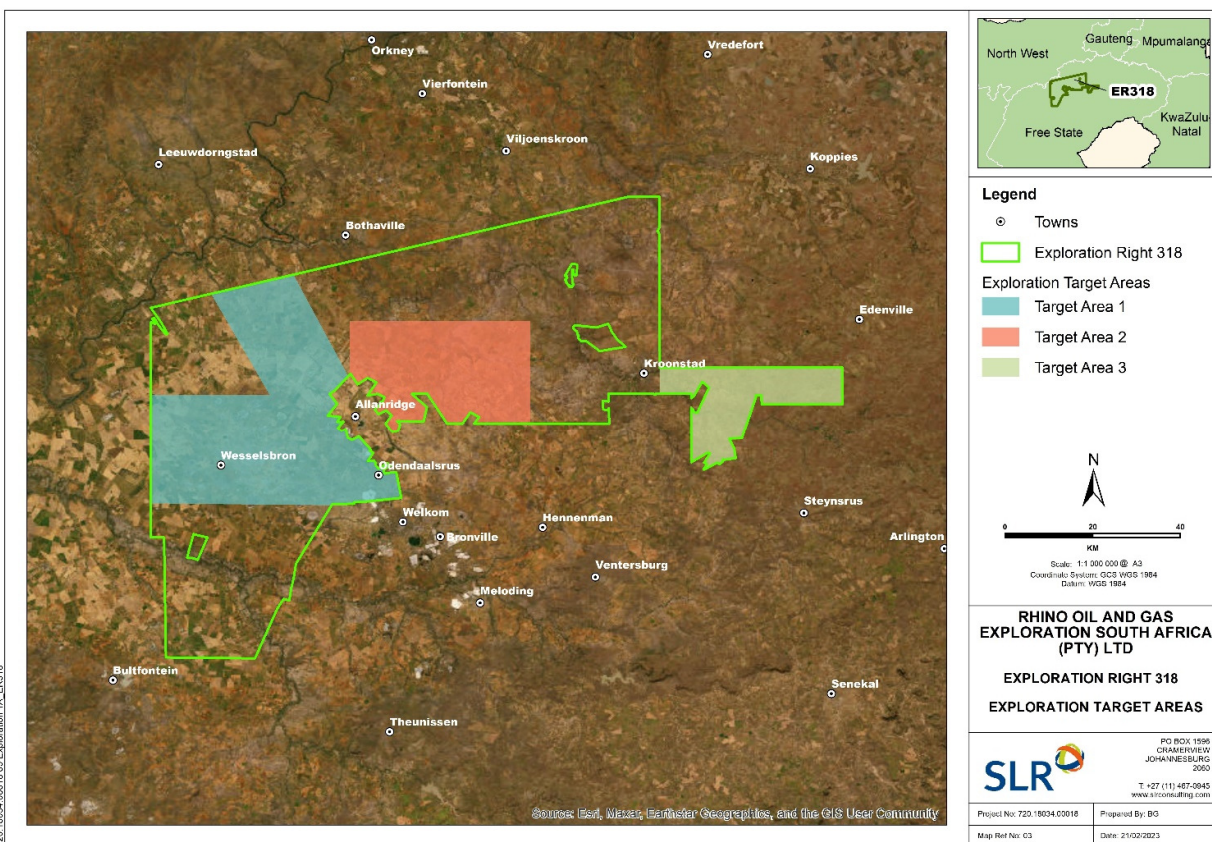


FIGURE 1: Locality of Rhino Oil and Gas's exploration well Target Areas within ER 318

1.1 Opportunity to Comment

This Environmental Impact Assessment (EIA) Report is being distributed for a 30-day comment period from **24 April to 26 May 2023** to provide I&APs with an opportunity to comment on any aspect of the proposed project and the findings of the S&EIA process to date. Copies of the full report are available electronically on the SLR website (at <https://www.slrconsulting.com/en/public-documents/Rhinowell-ER318>) and in hard copy at the following locations:

| Name of Facility | Physical Address and telephone number |
|--|--|
| Kroonstad Public Library | Address: Steyn Street, Kroonstad, 9499 Tel: 056 216 9911 |
| Kroonstad Local Co-operative Senwes | Address: 9 10th Lane, Industria, Kroonstad Tel: 056 216 0700 |
| Steynsrus Public Library | Address: Matlwangtlwang, Steynsrus, 9515 Tel: 056 471 0006 |
| Steynssrus: Moqhaka Local Municipality | Address: Van Riebeeck Street, Steynsrus, 9515 Tel: 056 216 9600 |
| Welkom Public Library | Address: C/O Tulbagh and Reinett Street, Welkom, 9460 Tel: 057 391 3359 |
| Welkom Local Co-operative Senwes | Address: 151 Jan Hofmeyer Road, 9460 Tel: 053 355 1731 |
| Wesselsbron Public Library | Address: Erwee St, Wesselsbron, 9680 Tel: 057 899 1818 |
| Wesselsbron Local Co-operative Senwes | Address: 10 Louis Kotze Street, 9680 Tel: 057 899 1851 |

Any comments should be forwarded to SLR at the address, telephone number or e-mail address shown below by no later than **26 May 2023** for them to be included in the updated EIA Report. All comments received during the review process will be included in the EIA Report which will be submitted to the Department of Mineral Resources and Energy for decision-making.

SLR Consulting (South Africa) (Pty) Ltd
 Attention: Theo Wicks
 PO Box 1596, Cramerview 2060 (if using post please call SLR to notify us of your submission)
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1.2 Project Background

In 2019, Rhino was granted an Environmental Authorisation (EA) and ER, permitting their exploration for natural gas using non-invasive techniques within ER 318. Exploration was to be undertaken in terms of an approved Exploration Work Programme (EWP), over an initial period of three (3) years. The initial EWP entailed: (i) the review of existing literature and datasets from historic drilling campaigns by other exploration companies (Years 1 and 2); (ii) procurement of geological core samples from the Council for Geoscience (Year 3) and (iii) the acquisition of airborne geophysical data. This exploration and analysis has furthered confidence regarding the presence of natural gases within the ER 318 area.

Thus, Rhino have made applications to renew the ER for a further two (2) year duration and update the exploration work programme (EWP) to allow for the drilling of several exploration wells. Although Rhino holds an approved EA for exploration in ER 318, the current EA is limited to the use of non-intrusive techniques.

1.3 Summary of Authorisation Requirements

In order to include well drilling in an updated EWP, it is necessary for Rhino to apply for, and obtain, further EA in terms of Chapter 5 of the National Environmental Management Act, 1998 (No. 107 of 1998) (NEMA). As exploration activities conducted in terms of an ER are listed in EIA/EIA Regulations Listing Notice 2, 2014 (Government Notice No. R984) an application for EA is required to be informed by a S&EIA process.

Rhino's exploration activities are being undertaken in terms of a series of sequential approval and authorisation processes based on the activities included in their EWP:

- Further non-intrusive works (e.g. aerial surveys) will be undertaken in terms of the existing EA and approved Environmental Management Programme report (EMPr) granted in 2019, via the pending ER renewal application made in terms of Section 81 of the Mineral and Petroleum Resources Development Act (MPRDA), 2002 (Act 28 of 2002) in January 2022; and
- Exploration well drilling and testing would be undertaken in terms of an EA and EMPr, which are the subject of the current EA application, made in terms of NEMA and submitted to PASA on 30 September 2022.

2. EIA METHODOLOGY

2.1 Scoping Phase

2.1.1 Land owner identification

The Applicant appointed a land surveyor to identify all properties (including farms and portions) that are included in the proposed Target Areas and search against the Deeds Office records to identify the landowner and contact information (where such information was available in the Deeds Office for the landowner). The landowner database included private persons, trusts, communal property associations, companies, organs of State and various government departments.

The applicant subsequently identified, and continues to do so, the owners of properties where they may potentially drill wells. Through this process further landowner contacts were obtained. SLR was provided with this database and continues to identify contact information for each landowner of properties adjacent to the properties where Rhino may potentially drill wells.

It is pointed out that property information was not available for every land parcel, owner information was not available for every property and contact information was not available for every landowner. It is acknowledged that it has not been possible to source contact information for all landowners and occupiers within the Target Areas, and thus certain landowners and occupiers have not been directly notified. However, the task of identifying and notifying landowners and occupiers will be on-going during the course of the EIA process.

2.1.2 Pre-Application Public Participation Process

Although this step is not a legislated requirement of the EIA Regulations 2014 (as amended), a pre-application public participation process was undertaken. This provided an opportunity to notify identified landowners (see above) and other key stakeholders of the proposed project and for them to raise any initial issues or concerns regarding the proposed project. The pre-application public participation process included the following:

- I&AP notification and distribution of a Background Information Document (BID);
- Advertisements in local newspaper and Government Gazette;
- Site notices were placed at various locations within the identified target areas;
- Two stakeholder meetings were held.

All written comments received during the pre-application public participation process have been collated, and responded to, in a Comments and Responses Report attached to the Draft Scoping Report.

2.1.3 Authority Consultation and Application

An “Application Form for Environmental Authorisation” was submitted to PASA on 30 September 2022.

2.1.4 Compilation and Review of Scoping Report

The draft Scoping Report was prepared in compliance with Appendix 2 of the EIA Regulations 2014 and has been informed by comments received during the pre-application public participation process. The report provided an opportunity for I&APs to comment on the proposed project, findings of the scoping public participation process and the scope of work for the next phase of the EIA.

2.1.5 Completion of the Scoping Phase

After closure of the comment period, the Scoping Report was updated to incorporate the comments received. The updated Scoping Report was submitted to DMRE for acceptance. The Scoping Report was accepted on 16 February 2023.

2.2 EIA Phase

2.2.1 Specialist Studies

Five(5) specialist studies were commissioned to address the key issues that required further investigation and detailed assessment, namely an Aquatic Ecology (including wetlands), Terrestrial Ecology, Geohydrology, Palaeontology and Cultural Heritage. The specialist scopes focussed on proposed well site locations and outputs will be used to inform micro-siting of well sites to avoid environmental sensitivities. The specialist studies have been included as appendix F – J of this EIA report.

2.2.2 Land owner and Stakeholder notification

Rhino and SLR will continue to source contact information for and notify landowners and potential I&APs of the well drilling ER application and the S&EIA process.

2.2.3 Integration and Assessment

The specialist information and other relevant information has been integrated into this EIA Report, which includes an EMPr. The EIA Report has been released for a 30-day comment period from 24 April – 26 May 2023. All registered I&APs on the project database have notified that the EIA Report is available for comment.

2.2.4 Completion of the EIA

After closure of the comment period, all comments received on the draft report will be incorporated and responded to in a Comments and Responses Report. The draft report will then be updated to a final report, which will include the Comments and Responses Report, and will be submitted to DMRE for consideration and decision-making.

3. NEED AND DESIRABILITY

South Africa, like the rest of the world, is vulnerable to climate change. There is thus global concern of the need to reduce carbon emissions and achieve carbon neutrality by 2050. However, the rapid transition to carbon neutrality presents a potential risk to economic growth and sustainable development. As such, South Africa has committed to a "just" transition in achieving net-zero emission and a climate resilient society, whereby the need to reduce emissions is balanced with the need to grow the economy and create jobs. In this regard, South African Government policy currently promotes the use of natural gas as part of the energy mix up to 2030 to serve as a transition to a carbon-neutral goal and provide the flexibility required to complement renewable energy sources. The proposed project will increase South Africa's understanding as to whether there are any potential biogenic gas, helium and geological hydrogen resources that could be exploited in the future to assist in the just transition process.

The proposed project has no direct influence on South Africa's reliance on hydrocarbons and their contribution to the country's energy mix. These aspects are influenced by South Africa's energy and climate change related policy, the financial costs of the various energy sources and consumer choices in this regard. These National strategic policy issues relating to energy and climate change fall beyond the scope of this exploration project EIA.

4. PROJECT DESCRIPTION

4.1 The applicant

| Applicant details | |
|-------------------|--|
| Company name | Rhino Oil and Gas Exploration South Africa (Pty) Ltd |

| Applicant details | |
|-------------------|---|
| Registration no: | 2013/096757/07 |
| Contact person | Travis Smithard |
| Postal address | 3 rd Floor, Icon Building, 24 Hans Strijdom Avenue, Foreshore, Cape Town |
| E-mail | info@rhinoresourcesltd.com |
| Web address | http://www.rhinoresourcesltd.com/ |

4.2 Exploration Right application area

The extent of ER 318 includes approximately 3 000 properties (farms and portions) over an area of approximately 600 000 ha (refer to Figure 1). Rhino has identified three Target Areas within which the updated well drilling EWP intends to focus. The Target Areas include:

- **Target Area 1** is approximately 200 km² in extent and is located approximately 4 km west of Allanridge and 5 km north of Welkom. The Target Area includes ~680 properties;
- **Target Area 2** is approximately 450 km², approximately 4 km northeast of Allanridge and 20 km west of Kroonstad. The Target Area includes ~325 properties;
- **Target Area 3** is approximately 138 km² in extent in the eastern portion of ER 318, with Steynsrus located 38 km south and 2 km east of Kroonstad. Target Areas includes across ~230 properties.

The location of well drilling sites was subject to a process of geological review, landowner consent and environmental and social. Through this process Rhino was able to identify 15 “identified” exploration well sites. The balance of the 40 wells included in the EWP (25 wells in total) remain unseen and are designed for use if Rhino confirms a resource when drilling the 15 ‘identified wells’. Deploying any of the 25 ‘unseen wells’ provides flexibility and efficiency to the exploration programme. If, through the course of drilling the 15 ‘identified wells’, Rhino are able to confirm a gas resource, they would be able to explore in the vicinity of the resource using one (or several) of the remaining ‘unseen wells’. Deployment of any of the ‘unseen wells’ would be subject to compliance with the EMPr which includes, amongst other, adhering to the environmental constraints used to identify the initial 15 ‘identified well’ sites.

4.3 Description of the Exploration Work Programme

The Drilling Program and Time Schedule proposed by Rhino is to start drilling at least five exploration wells within the ER in 2023. If any of the first five exploration wells result in the identification of commercially viable commodities (hydrocarbons, helium, or hydrogen), Rhino’s Drilling Program and Project Schedule would be updated to include the drilling of additional exploration wells at different locations within the Target Areas.

Completed exploration wells will be tested to evaluate their commerciality. At the end of operations, unsuccessful wells will be plugged and abandoned (“decommissioned”). The drilling time to complete one well is estimated to take approximately 3 to 4 weeks. The results of the first few wells drilled within the Target Areas will influence the positioning and pace of the rest of the drilling campaign based on the interpretation of the geological, geophysical, fluid sampling data. The sequencing of the drilling campaign will be dynamic and influenced by the learnings of each new well.

Based on the overall subsurface rock in each area of interest, it is anticipated that exploratory drilling will be conducted using a truck mounted drilling rig with air and mud drilling capabilities. The truck mounted drilling rig has minimal area of disturbance due to its compact footprint and is highly mobile providing operational flexibility by being able to move from location to location without the need of additional truck support.

Project activities associated with drilling include the following phases:

- Mobilisation of the truck mounted rig and supply trucks from drilling contractor base located near Pretoria to the Rhino Target Area in the Free State Province;
- Well drilling;
- Well execution (logging, completion) options;
- Well testing for successful well options;
- Well abandonment for unsuccessful well (Plug and Abandonment “decommissioning”); and
- Demobilisation of the drill rig, supply truck and local logistics base.

4.4 Summary of project alternatives

One of the objectives of an EIA is to investigate alternatives to the project. Despite many advances in geophysical data acquisition and analysis, currently no alternatives exist to definitively establish the presence of hydrocarbon reserves other than through exploration drilling. No activity alternatives have therefore been assessed.

With respect to alternative sites, the selection of each well site location will follow an iterative process based on:

- Lawful entitlement in terms of the MPRDA, namely the full extent of Rhino’s ER;
- Prospective geology identified as part of previous geophysical surveys;
- Desktop GIS environmental sensitivity taking into consideration hydrological, geohydrological, ecological and cultural heritage constraints and opportunities;
- Consultation with landowners to agree access to the proposed sites; and
- Micro siting by petroleum geologist and environmental specialists considering the local situation and landowner preferences.

In terms of technology alternatives for the drilling rig, Rhino’s preference is to use the hybrid air/mud drilling rig provided by the local South Africa experienced drilling contractor.

The No-Go alternative entails no change to the status quo, in other words the proposed exploration drilling activities will not be conducted in ER 318. As such, the No-Go Alternative will leave the areas of the potential drilling sites in their current environmental state, with the biogenic gas, helium and geological hydrogen potential remaining unknown. The EIA Regulations, 2014 (as amended) require that the No-Go alternative is assessed.

4.5 Related Applications

Rhino is also the holder of ER 294, which is located to the east of ER 318. As with ER 318, Rhino has made application for the renewal of ER 294 and is also applying for Environmental Authorisation for well drilling. SLR is undertaking the S&EIA process for ER 318 concurrently with the application in ER 294. The Drilling Program proposed by Rhino would see activities being undertaken in both ERs concurrently.

4.6 Further exploration or future production

If the exploration well drilling activities were to confirm the presence of a potential resource, then Rhino would need to seek further approval from PASA for the additional exploration work required to appraise the resource. Any further approval would be subject to an additional environmental assessment process with further public consultation. Approvals are also likely to be required in terms of other legislation.

Similarly, if the later exploration led to the discovery of a commercial resource suitable for development then Rhino would need to secure a production right from DMRE. An application for a production right has to be subject to an EIA process with further public consultation. Approvals are also likely to be required in terms of other legislation.

5. DESCRIPTION OF THE AFFECTED ENVIRONMENT

General information on relevant environmental (geographical, physical, biological, social, economic, heritage and cultural) aspects associated with the ER and Target Areas have been included in the EIA Report using information sourced from studies that have been conducted by the appointed specialists, various government departments and non-government environmental organisations responsible for the area covered by the Well Drilling ER application.

5.1 Climate

Rainfall across the Target Areas is limited to the summer months and is mostly in the form of thunderstorms. Regional Mean Annual Precipitation can vary between 544 mm to 668 mm per annum. Day temperatures reach a maximum of up to 28°C in the months of January and December (the hottest months of the year), whilst the lowest night temperatures can drop to a minimum of -5°C.

5.2 Geology

The ER area lies in the north east of the Karoo Basin which formed as a result of compression during the assembly of the Gondwana super-continent. The Karoo Basin represents a diverse and complex suite of rock units with an aerial extent of roughly 600 000 square kilometres.

Resource assessments of the Karoo Basin have historically emphasised the world-class coal reserves that have dominated the energy history of South Africa. Some limited onshore exploration for hydrocarbon occurrences was undertaken in the 1960s, but no commercial hydrocarbon occurrences were discovered. However, it is expected that the north-east Karoo Basin has potential for a tremendous diversity of hydrocarbon resources including shale oil and shale gas, coalbed methane, helium and biogenic gas.

In general, the ER area is not located in a region with high levels of seismicity although minor earth tremors have been recorded in the recent past.

5.3 Soils and Land Capability

Soils across the ER area are extremely diverse with soils ranging in structure and composition. The majority of soils within the study area are considered Lithic and Duplex and to lesser degree Oxidic. Lithic soils are young soils with orthic topsoil but weakly developed subsoil. Oxidic and Duplex soils both have orthic topsoils and are soils with a special subsoil relating to their pedogenic accumulation. Other less common or in lesser concentration soils include Cumulic and Gleyic soils. Land capability of the region is largely tied to topography (slope), rainfall and altitude. Regions with steeper gradients and higher altitudes generally have lower agricultural potential.

5.4 Land Cover

The main towns located within the proposed Well Drilling exploration area include Kroonstad, Wesselsbron; and Odendaalsrus. Numerous tarred provincial roads are located within the proposed exploration area. These include the following, the R76 from Kroonstad to Viljoenskroon, the R30 from Bothaville to Odendaalsrus and Welkom and the R719 between Bultfontein and Wesselsbron.

The ER area is home to significant commercial agriculture activities comprising a combination of crop production, animal production, horticulture, dairy farming, game farming, aquaculture, fruit production and agro-processing. Major crops are maize, soybeans, wheat, sorghum, sunflowers, potatoes, groundnuts and wool. The large majority of the land is used for extensive livestock grazing (cattle and sheep).

5.5 Hydrology

The well drilling ER area falls within the Middle Vaal Water Management Area (WMA). The Middle Vaal WMA covers a catchment area of approximately 44 803 km². The Vaal River is located within the ER and is one of South Africa's strongest-flowing rivers, however, the Vaal dam itself falls outside of the ER. Several other small dams and numerous farm dams are located within the proposed Well Drilling ER area, which are largely used for livestock and domestic purposes.

Based on the National Freshwater Ecosystem Priority (NFEPA) wetland database (2011) the Target Areas include a significant number of wetlands ranging in hydrogeomorphic classification, including:

- Channelled valley-bottom wetlands;
- Depressions;
- Flat;
- Floodplain wetlands;
- Seep;
- Unchannelled valley-bottom wetlands; and
- Valleyhead seeps.

Surface water use consists of a combination of domestic, livestock use and irrigation for crop production on farms. Rivers within the Target Areas are tributaries of the Vaal Dam which is utilised for domestic, industrial and recreational purposes such as water sports and fishing. The Vaal Dam is a vital resource for water supply to Gauteng.

5.6 Groundwater

The Target Areas are located within an area classified as a minor aquifer region, which implies a moderately yielding aquifer system of variable water quality in terms of the Aquifer Classification Map of South Africa. Certain parts of the Well Drilling ER area are classified as poor aquifer regions, which implies a low to negligible yielding aquifer system with moderate to poor water quality. Although borehole yields in the deeper aquifer are generally, considered low, structural features such as faults and fractures can produce higher yielding boreholes.

In terms of national mapping, the ER area is deemed to have 'least' and 'moderate' aquifer vulnerability, be a 'low' to 'medium' susceptibility aquifer and have groundwater quality of electrical conductivity concentrations from low (0 – 70 mS/m) to 150 – 370 mS/m where the water will have a noticeable salty taste.

There is significant groundwater use at a local scale with many farmers dependent on the abstraction of groundwater for both potable water as well as for stock watering and in some cases irrigation. More detailed information will be provided in the EIA report, following the Geohydrology Study.

5.7 Air Quality

The majority of the ER area is rural in nature and is comprised mostly of small towns, isolated farmsteads, scattered communities and agricultural activities such as livestock grazing and crop cultivation. It follows that the air quality associated with majority of the area is expected to be good. Existing emission sources include fugitive dust from paved and unpaved roads, wind erosion from open areas, household fuel combustion (fuel and coal), vehicle exhaust emissions and smoke from veld fires in winter and stack emissions from industries.

5.8 Biodiversity

The proposed Target Areas are located within the Grassland Biome and the Savannah Biome. The Grassland Biome comprises the Dry Highveld Grassland Bioregion and Sub-escarpment Savanna including an Inland Azonal Vegetation area.

Numerous faunal species such as birds, amphibians, reptiles, mammals, fish and insects are associated with the various vegetation units located in the ER area. Various species of concern are considered likely to occur within the proposed Target Areas. The Target Areas also overlap with several areas classified by the Free State Biodiversity Sector Plan, 2016 as Critical Biodiversity Areas and Ecological Support Areas, however the majority of the Target Areas are mapped as Degraded or Other. It is noted that the final locations for well sites would be adjusted to avoid locations that host flora and/or fauna of conservation concern.

5.9 Heritage

The Target Areas are likely to include numerous heritage sites that are documented in the national and provincial heritage databases as well as many undiscovered sites. The Target Areas are also located in a region that is generally regarded as having a very high to moderate palaeontological sensitivity. It follows that there is a high likelihood of fossil occurrence within most of the ER application area.

5.10 Socio-Economic Environment

The ER area is largely located within three Local Municipalities in the Free State Province, namely Nala Local Municipality, Moqhaka Local Municipality, and Matjhabeng Local Municipality. The ER area also has a small overlap with the Ngwathe (in the northeast corner) and Tswelopele (in the southwest corner) Local Municipalities. However, due to the limited overlap, these are not discussed in detail.

The population of the Nala Local Municipality has decreased 3.3% from 2011 to 2016. The population of the Moqhaka Local Municipality has decreased by 4.4% from 2001 to 2011. The Matjhabeng Local Municipality experienced a 5.14% growth rate from 2011 to 2016.

With respect to employment, the Nala and Moqhaka Local Municipalities have an unemployment rate of 35.9% and 35.2%, respectively. In the Matjhabeng Local Municipality, the unemployment rate stands at 37%.

In all three municipalities, the average household size varies from 3.1 to 3.7 persons. More than 40% of households in all three municipalities have access to piped water in their dwelling or in the yard and between 1 and 2% of households do not have access to piped water.

6. SUMMARY OF IMPACTS

The S&EIA process identified a total of 29 risks associated with the proposed exploration well drilling programme spread across the three environmental aspects (See **Error! Reference source not found.**).

Table 1: Summary of risks identified and impact significance

| Type of Impact | Impact Description | Pre-Mitigation Significance | Post-Mitigation Significance |
|------------------------------------|---|-----------------------------|------------------------------|
| Impacts on physical aspects | | | |
| Geology | Risk to underground geological formations and mine workings | Insignificant | Insignificant |
| Climate change | Contribution of Project-related GHG Emissions to Climate Change | Very Low | Very Low |
| | Accidental Escape or Release of GHG Emissions | Very Low | Very Low |
| Soils and Land | Risk to soil through increased erosion/compaction | Very Low | Insignificant |

| Type of Impact | Impact Description | Pre-Mitigation Significance | Post-Mitigation Significance |
|---|---|-----------------------------|------------------------------|
| Capability | Risk to soils through contamination | Insignificant | Insignificant |
| Impacts to biological/biodiversity aspects | | | |
| Loss of fauna | Loss of or disturbance to vegetation and faunal habitats | Insignificant | Insignificant |
| Decrease or adverse changes in terrestrial biodiversity | Populations of species of conservation concern, disturbance to and mortality of fauna | Insignificant | Insignificant |
| Decrease in plant diversity | Establishment of alien and invasive species in disturbed areas | Insignificant | Insignificant |
| | Changes in vegetation structure and plant species composition | Insignificant | Insignificant |
| Loss of terrestrial ecosystem function | Overall species and ecosystem diversity | Insignificant | Insignificant |
| | Ecological processes and ecosystem functionality | Insignificant | Insignificant |
| | Ecological connectivity | Insignificant | Insignificant |
| | Targets for threatened ecosystem are compromised | Insignificant | Insignificant |
| Impacts on aquatic ecosystems | Direct physical loss or modification of freshwater habitat | Insignificant | Insignificant |
| | Alteration of hydrological and geomorphological processes | Very Low | Very Low |
| | Impacts to water quality | Insignificant | Insignificant |
| | Ecological connectivity and / or ecological disturbance | Very Low | Very Low |
| Impacts on social and socio-economic aspects | | | |
| Heritage (Cultural Heritage and Palaeontological Impacts) | Destruction or damage to previously unidentified archaeological resources and historical resources. | Low - | Very Low - |
| | Destruction of fossils that might be present in the drill site and laydown area. | Low | Insignificant |
| Social | Risk to land use | Insignificant | Insignificant |
| | Risk to public safety | Insignificant | Insignificant |
| | Landowner security | Insignificant | Insignificant |
| | Risk of veld fires | Insignificant | Insignificant |
| | Impacts on air quality because of dust | Insignificant | Insignificant |
| | Noise impacting residences more than 200 m from drill sites | Insignificant | Insignificant |
| Groundwater | Groundwater contamination | Low | Low |
| | Reduction in groundwater availability | Low | Low |
| Surface water | Surface water contamination (spillages, chemical spills) | Low | Low |
| | Increased sediments loads affecting water quality | Low | Low |

7. FINANCIAL PROVISION FOR CLOSURE

In terms of Section 24P of NEMA and associated regulations pertaining to the financial provision (GN. R1147), an applicant for Environmental Authorisation relating to exploration must, before the Minister of Mineral Resources issues the Environmental Authorisation, comply with the prescribed financial provision for the rehabilitation, closure and ongoing post decommissioning management of negative environmental impacts.

The estimated cost for management and / or rehabilitation of potential negative environmental impacts that might be incurred during the proposed exploration well drilling is R 4 547 535.70 (excl VAT).

8. CONCLUSION AND RECOMMENDATION

The key principles of sustainability, including ecological integrity, economic efficiency, and equity and social justice, are integrated below as part of the supporting rationale for recommending an opinion on whether the proposed project should be approved or not.

Ecological integrity

It is SLR's opinion that the proposed updated EWP which proposes the development and testing of up to 40 exploration wells would have limited (Insignificant to Low) impact on the ecology, biodiversity or conservation status of any habitat or species within the ER application area.

Economic efficiency

It is SLR's opinion that the proposed updated EWP (including the development and testing of up to 40 exploration wells) as proposed would have no direct impact on any aspect of the local economy within the ER application area.

Equity and social justice

It is SLR's opinion that the proposed updated EWP (including the development and testing of up to 40 exploration wells) as proposed would have no direct impact on any social aspect within the ER application area.

It is therefore the opinion of SLR, in terms of the sustainability criteria described above and the nature and extent of the proposed updated EWP, that the generally Low, Very Low and Insignificant assessment of impacts, with the implementation of the proposed mitigation measures, should support a positive decision being made by the Minister of Mineral Resources and Energy (or delegated authority) in this regard. Since the proposed exploration activities are associated with Rhino's updated EWP, the applicant requests that that Environmental Authorisation (should it be granted) be issued and remain valid for a period of 10-years or more which will afford Rhino to undertake the updated EWP during the current ER period as well as any future renewal periods as afforded by MPRDA.