



BACKGROUND INFORMATION DOCUMENT (BID)

ENVIRONMENTAL AUTHORISATION APPLICATION PROCESS FOR THE PROPOSED MOTUOANE EXPLORATION RIGHT 386 APPLICATION



INTRODUCTION

Motuoane Energy (Pty) Ltd (hereafter referred to as the applicant or Motuoane) compiled and applied for an Exploration Right (ER) to explore hydrocarbons, 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 2024. Motuoane plans to explore all saleable gases including but not limited to Methane, Carbon Dioxide, Helium, and Nitrogen. Exploration Right 386 (ER 386) is a consolidation of Technical Cooperation Permit (TCP) 235 and 240 & Exploration Release Area (ERA) 341 which were tenures in 2024 before ER386 application was submitted to PASA on the 8th of October 2024. TCP235 & TCP240 were granted in October 2023 for a 12 Month Term, an ER application was applied for in October 2024. ERA341 was an application previously submitted to PASA which was held up due to changing legislation and subsequently withdrawn. The areas (ERA341, TCP235 and TCP240) were then consolidated to one ER (ER386). Motuoane's application for the ER for hydrocarbons was accepted on the 22nd of October 2024 in terms of Section 79 of the MPRDA, 2002 as amended.

Motuoane has appointed Environmental Impact Management Services (Pty) Ltd (EIMS) as the Environmental Assessment Practitioner (EAP) to assist with undertaking an Environmental Impact Assessment (EIA) to identify, assess, and report on the potential environmental impacts associated with the planned exploration activities in support of the ER application.

The EIA process must be undertaken in accordance with the requirements of the National Environmental Management Act.

The aim of this BID is to:

- Provide potential Interested and Affected Parties (I&APs) with background information about the proposed project and the EIA process.
- The BID outlines how stakeholders can participate in the EIA process. This is crucial for ensuring that the concerns and inputs of the community and other stakeholders are considered in EIA and ultimately the decision-making process.
- The BID highlights potential environmental, social, and economic impacts of the proposed project.

LOCATION, SCALE, AND EXTENT OF THE PROPOSED SURVEY

WHY

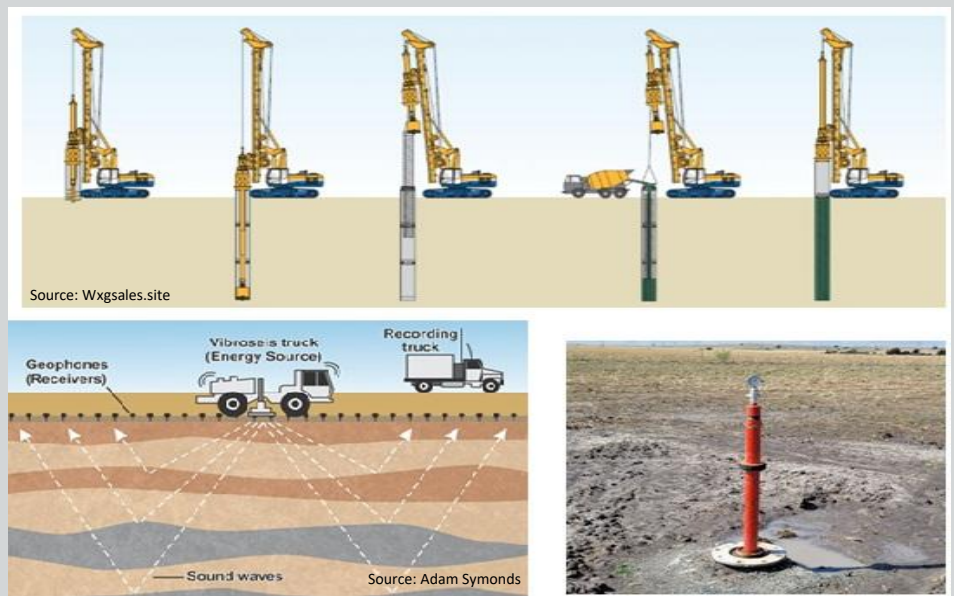


The South African government is, through various policies and plans, promoting the development of South Africa's oil and gas resources. Before any decisions can be taken on the future development of oil and gas resources it is necessary to first find and define such resources. The proposed exploration activities, if approved, will provide geological subsurface data to assist in the determination of whether there is an economically viable resource. Exploration success would result in long-term benefits for South Africa consisting of access to new energy sources, improved security of supply, major in-country investments in a development project and reduced dependence on the importation of hydrocarbons. It is important to note that the exploration right will not provide the required authorisation for production activities to be undertaken. As such, any future intention to undertake production of hydrocarbons within the exploration right area would require a further application, investigation and public consultation process.

WHAT

The main proposed activities are onshore core and/or percussion exploration drilling and seismic survey activities. Seismic surveying along the transects through a Vibroseis technique and/or Accelerated Weight Drop (AWD) will be undertaken by a small team (approximately 15 personnel) by deploying an array of energy sources from a small-sized Seismic Vibrator and an array of sensors or receivers (geophones) on the identified area of interest. A single Seismic Vibrator consisting of a vibrating baseplate that is connected to the ground will be used. The vibrating plate emits a low frequency signal (4-80 Hz) into the ground, called a sweep. The Vibroseis / AWD vehicle moves slowly along the pre-determined lines (transects) using GPS for navigation. It stops, emits a signal 8-20 seconds long, moves approximately 10 meters ahead, stops, emits a signal and so on until all the transects have been traversed. Several small geophones will be used to convert the ground movements or seismic waves from the Seismic Vibrator into voltage, which will be recorded at a nearby recording station. The team will then generate and analyse the 2-D sub-surface geological network and identify areas of interest for further exploration. The outcome of the seismic survey will be used to inform preferable drilling locations.

Using the data gathered during the preceding background review and surveying, up to thirteen (13) exploration boreholes will be sited. The proposed drilling process entails the construction of exploration well using a two-string telescopic casing design. The Spud casing will be set and cemented into case off the unconsolidated material to approximately 6m True Vertical Depth (TVD). Drilling will be continued past the unconsolidated material to approximately 80m TVD, conductor casing will be cemented from shoe to surface. The hole is then percussion or rotary drilled ahead and into the Ventersdorp Lavas below the base of the Karoo at approximately 450m TVD, depending on the location. Intermediate casing will be run and cemented to surface.



Integrity of this section will be tested by running a Cement Bond Log (CBL) and the pressure tested prior to drilling out the casing shoe. A further Formation Integrity Test (FIT) is then performed on drilling out the casing shoe. The next section (open hole section) will be percussion drilled through the primary target, the Ventersdorp Supergroup, to a depth \pm 650 m TVD. This section TVD maybe stopped earlier if significant gas flows are encountered

The project will involve the drilling of up to thirteen (13) wells within the assessed 500m buffer drilling sites. Each exploration well will have an overall depth of approximately 650m and a maximum width of 350mm, commencing with a 6m x 323mm spud hole section, followed by 80m x 254mm conductor hole section, then an intermediate hole section of 450m x 203mm and finally an open hole section of 650m x 144mm. The actual casing sizes and configurations will vary depending on the specific geological characteristics and functional requirements. Each borehole will be steel cased and have cement barriers to prevent leaks as well as plugged at the end of exploration to prevent groundwater seepage. Drilling activities are estimated to be one to two weeks per hole during which time there will be a drill rig, a service truck and an LDV on site. Intermittent use of a TLB will be used during site establishment and demobilisation. In order to establish the gas contents, samples will be taken and analysed in either a laboratory or using a portable chromatograph. The construction of each drill pad will disturb an area of up to 50m x 50m. Within the disturbed area, the drill rig and drilling rods will be located. Impermeable, lined sumps will be used to circulate and store the drill fluid and mud consisting of drilling foams and bentonite. Exploration trays, hazardous and general storage, waste storage, chemical toilets, and any site offices required will also be



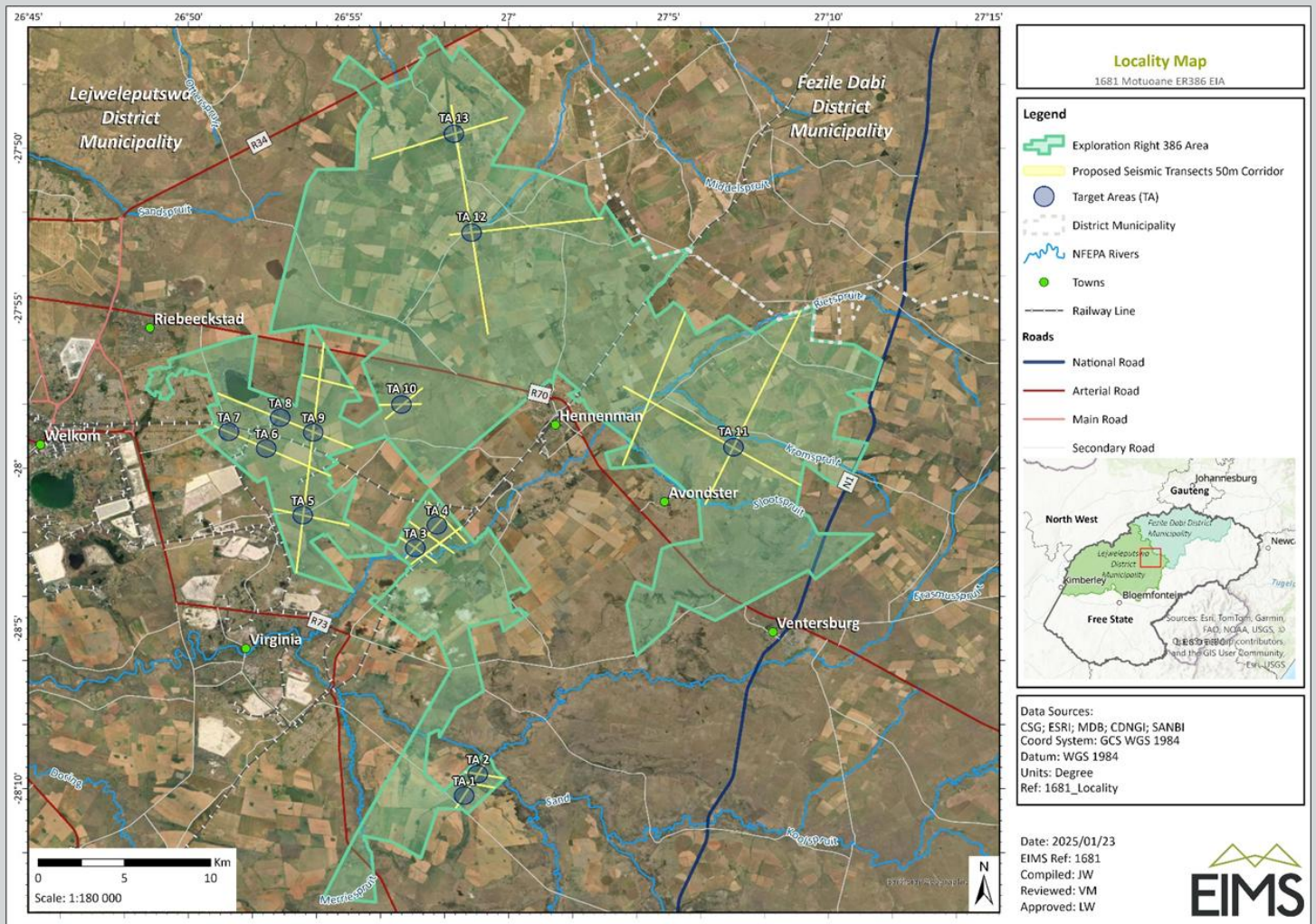
placed inside the drill pad. Each drill site will be suitably rehabilitated before drilling continues at the next drill site. Depending on the results of the sampling, each borehole will either be plugged entirely or left as is for future analysis. Regardless of which of these options is chosen, the borehole will be capped with a steel cap that is engraved with the borehole number according to industry specifications.

WHEN

Actual commencement of exploration activities would ultimately depend on, if and/or when, the relevant permissions and the authorisations are received, as well as the availability of the drilling rig and Vibroseis. It is anticipated that seismic surveys will take approximately two weeks to complete per transect. Motuoane plans to undertake up to 13 exploration boreholes, though the current program focuses on three wells, each well will be approximately 650m deep and a maximum width of 350mm, with steel-casing and cement barrier and plugged for environmental safety and to prevent contamination of groundwater. It is anticipated that on site exploration activities will be completed within two months per drilling site.

WHERE

The accepted application for an Exploration Right (ER386) is located over an area of approximately 60 000 hectares (ha), covering various farms and farm portions near the towns of Welkom, Virginia, Hennenman and Odendaalsrus, in the Free State Province. The project area falls within the Matjhabeng and Moqhaka Local Municipalities, Lejweleputswa and Fezile Dabi District Municipalities. The boundaries of ER386 are 28°13'28.95"S; 26°55'2.76"E in the South, 27°57'37.57"S; 26°48'49.15"E in the West, 27°59'13.57"S; 27°11'13.06"E in the East and 27°46'34.45"S; 26°57'44.05"E in the North, the central coordinates are approximately 27°58'23.27"S; 26°59'38.94"E.



WHY IS AN ENVIRONMENTAL IMPACT ASSESSMENT REQUIRED

The National Environmental Management Act (NEMA) requires that the potential consequences or impacts on the environment of certain listed activities must be considered, investigated, assessed and reported on to the competent authority (in this case the



Department of Mineral Resources). The planned exploration activities will trigger listed activities in terms of the National Environmental Management Act (NEMA) Environmental Impact Assessment (EIA) Regulations, 2014 as amended and as such, requires an Environmental Authorisation (EA) prior to commencing. The following specific listed activities are triggered by the proposed exploration:

- **EIA Regulations, 2014 as amended GNR 983 Activity 21C; and**
 - Any activity including the operation of that activity associated with an onshore seismic survey which requires an exploration right in terms of section 79 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice or in Listing Notice 3 of 2014, required to exercise the exploration right, excluding (a) any desktop study, (b) any aerial survey, and (c) a hydraulic fracturing activity which is included in activity 20A in Listing Notice 2 of 2014, in which case that activity applies.
- **EIA Regulations, 2014 as amended GNR 984 Activity 18;**
 - Any activity including the operation of that activity which requires an exploration right in terms of section 79 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice, in Listing Notice 1 of 2014 or in Listing Notice 3 of 2014 required to exercise the exploration right, excluding (a) any desktop study; (b) any aerial survey; (c) any onshore seismic survey which is included in activity 21C in Listing Notice 1 of 2014, in which case that activity applies; (d) a hydraulic fracturing activity which is included in activity 20A, in which case activity 20A of this Notice applies; and (e) the processing of a petroleum resource, including the beneficiation or refining of gas, oil or petroleum products, in which case activity 5 of this Notice applies.

Other NEMA EIA Regulations, 2014 as amended applicable listed activities are:

- **EIA Regulations, 2014 as amended GNR 983 Activity 27; and**
 - Clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for- (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.
- **EIA Regulations, 2014 as amended GNR 985 Activity 12**
 - The clearance of an area of 300 square meters or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan (b). Free State: i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; ii. Within critical biodiversity areas identified in bioregional plans; iv. Areas within a watercourse or wetland; or within 100 metres from the edge of a watercourse or wetland.

The EIA process will be undertaken in accordance with the EIA Regulations (GNR 982) and will follow a Scoping and EIA process.

IMPACT ASSESSMENT PROCESS

An EIA process is a planning and decision-making tool, to describe and assess the physical, biological, social, and economic impacts which a given development or project may have. To be able to inform the decision-making process, it is important for public issues and concerns to be identified timeously, to enable the EIA team to evaluate them.

The EIA process allows for the environmental consequences of a proposed project to be identified up-front, investigated throughout the impact assessment process, and taken into consideration by the decision-making authorities. The EAP and various specialists also identify potential negative and positive risks and impacts that could arise as a result of the proposed survey and identify applicable mitigation measures required, to avoid or reduce negative impacts and to enhance positive impacts.

The key steps involved in a typical EIA process are described below:

Initial Notification and Call to Register to Interested and & Affected Parties (I&APs) through the following: Advertisements, site notices, posters, letters to landowners, stakeholders and pre-identified I&APs. The aim of this step is to inform people of the proposed activity and to encourage initial comment and feedback.

Scoping Phase: This includes collation of initial comments, concerns, objections and specialist investigations, into a concise report (Scoping Report) which provides feedback on the following:



- Nature of the activity;
- Description of the receiving environment;
- Identification of potential feasible alternatives;
- Identification of potential positive and negative impacts;
- Identifying and highlighting required specialist assessments;
- Outlining the plan of study for the EIA phase.

EIA Phase: The primary aim of this phase is to investigate and comparatively assess the identified alternatives and make a recommendation of the most preferred alternative. In addition, the identified impacts are assessed and relevant management and mitigation measures listed for inclusion in an Environmental Management Programme (EMPr). The EIA culminates in the compilation of an EIA Report.

Decision notification and appeals phase: Once the relevant processes have been completed and the final documentation submitted to the competent authority, the competent authority reviews the application and decides whether to issue an EA. The I&APs will be informed of the decision and their right to appeal in the event that they disagree with the decision.


PRELIMINARY ENVIRONMENTAL IMPACTS


One of the key drivers to a successful EIA is to ensure that potential impacts (both positive and negative) are identified and investigated. A number of potential environmental impacts associated with the proposed project have been identified. Additional impacts may be identified through the EIA and stakeholder engagement process. Preliminary identified potential impacts to be assessed in the EIA process include amongst others:

- Impacts on interference with existing land uses / activities.
- Impacts on existing services / infrastructure.
- Impacts on temporary displacement of landowners and livestock.
- Impacts on air quality / greenhouse gas emissions and climate change.
- Impacts on groundwater.
- Impacts on surface water.
- Impacts on soils and agricultural activities.
- Soil erosion and sedimentation.
- Impacts on vegetation and habitats.
- Impacts on terrestrial species.
- Impacts on microorganisms.
- Impacts on cultural heritage features.
- Impacts on palaeontological heritage features.
- Impacts on traffic and damage to road infrastructure.
- Impacts on health and safety of the community.
- Socio-economic impacts.


The above-mentioned impacts are not the only impacts that will be identified during the course of the assessment. Based on public consultation, specialist input and further detailed assessments, additional impacts will likely be identified and assessed. Specialist studies may be utilised to guide and inform the assessment of the potential impacts. The specialist studies identified to be included in this assessment include:





 Agricultural Potential, Soils & Land Capability.


 Air Quality & Climate Change Assessment.

 Aquatics and Wetland Assessment.

 Cultural and Palaeontological Heritage Assessment.

 Terrestrial Biodiversity Assessment.

 Financial Provisions.

 Geohydrological Assessment.

 Social Assessment.

 Noise Assessment.

All potential impacts will be identified and assessed following an impact assessment methodology guided by the requirements of the NEMA EIA Regulations. The broad approach to the significance rating methodology is to determine the consequence of each impact or risk and relate this to the probability/likelihood of the impact or risk occurring. Other factors including cumulative impacts, and the potential for irreplaceable loss of resources, are also considered in the determination of the significance of the impacts and risks. These aim to guide the decision making by the competent authority.

Where relevant mitigation and management measures are recommended. These are included in an Environmental Management Programme (EMPr) distributed to the relevant parties ensuring that any negative impacts that cannot be avoided are minimised and managed, and positive impacts maximised.

HOW TO GET INVOLVED

The public plays an important role in the Environmental Impact Assessment (EIA) process, which aims to ensure that all relevant environmental and social issues are considered in project planning and decision making.

Your Rights

- **Information Sharing:** You must be provided access to relevant information about the planned project and its possible environmental effects.
- **EIA Process Involvement:** You have the right to be involved in the entire EIA process and give feedback on all the reports. You have the Right for your views (for or against) to be captured and considered.
- **Public Hearings:** You are encouraged to join and share your opinions at public hearings or meetings, which are often part of the EIA process.
- **Appeal Action:** If you think that the EIA process has not been conducted properly, that the decision was not appropriate, or that your views have not been sufficiently addressed, you may appeal or seek legal review.

Your Responsibilities

- **Register:** If you are interested you must register as an I&AP.
- **Involvement:** You should get involved in the process in a positive and constructive way, giving feedback, suggestions, and issues about the planned project.
- **Polite Communication:** When taking part in public hearings or sending comments, it is important to communicate politely and truthfully.
- **Defined communication channels:** You are required to submit comments through the communication channels provided below. Should you be unable to use these the please contact EIMS to arrange for alternatives.
- **Prompt Participation:** There are often cut-off dates for public comments and involvement. It is your duty to follow these deadlines to make sure that your input is considered.



Should you feel that you may be interested in, or affected by this project, it is essential that you register as an Interested and Affected Party (I&AP) in which case you will be kept informed regarding the project and afforded an opportunity to participate in the process¹.

Please note that only registered I&APs will be included in future correspondence regarding the project and associated updates. In order to ensure that you are identified and registered as an Interested and Affected Party (I&AP) and that your comments are captured, please submit your name, contact details, the reason for your interest in writing or telephonically, to EIMS. Please include the project reference number 1681 in all correspondence. Please feel free to contact the undersigned if you have any queries or concerns.

Contact Person: Alex Msipa

EIMS Reference Number: 1681

Postal Address: P.O. Box 2083; Pinegowrie; 2123

Telephone: (011) 789 7170/ Fax: (086) 571 9047

E-mail: motuoane386@eims.co.za

Further information will be available at www.eims.co.za/public-participation/. Please note that in the event that you are unable to access the website due to data constraints please contact EIMS for alternative arrangements.

Environmental Impact Management Services (Pty) Ltd (EIMS) - Public Participation Team

¹ By registering as an interested and affected party you consent to the collection and processing of your personal information for project communication as per the EIMS Privacy Notice available at www.eims.co.za/public-participation. Registered I&AP contact information will be used for inter alia, future project communications, other project related applications (i.e., water use authorisation where relevant), notifications about future applications or activities.