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**FINAL SCOPING REPORT FOR A PROPOSED
EXPLORATION RIGHT APPLICATION FOR
PETROLEUM PRODUCTS ON VARIOUS FARMS IN
THE MAGISTERIAL DISTRICT OF
PIETERMARITZBURG, KWAZULU-NATAL**

25 April 2016

**SUBMITTED FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE
NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998) IN
RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY AN
APPLICATION IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES
DEVELOPMENT ACT (ACT 28 OF 2002) (AS AMENDED)**

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FINAL SCOPING REPORT FOR A PROPOSED EXPLORATION RIGHT APPLICATION FOR PETROLEUM PRODUCTS ON VARIOUS FARMS IN THE MAGISTERIAL DISTRICT OF PIETERMARITZBURG, KWAZULU-NATAL

EXECUTIVE SUMMARY

1) Introduction

Rhino Oil and Gas Exploration South Africa (Pty) Ltd (hereafter referred to as “Rhino Oil and Gas”) has lodged an application for an exploration right (ER) in terms of section 79 of the Minerals and Petroleum Resources Development Act, 2002 (MPRDA) to the Petroleum Agency South Africa (PASA).

In May 2015 PASA accepted the application titled ‘Exploration Right for Petroleum on various Farms in the Magisterial District of Pietermaritzburg, KwaZulu-Natal’ (12/3/291 ER). Minerals included in the ER application are oil, gas, condensate, coal bed methane, helium and biogenic gas.

Rhino Oil and Gas is proposing to undertake a 3-year, early-phase exploration programme for oil and gas resources. The application only includes work aimed at determining the presence of a petroleum resource and approval is not being sought for any work to determine the commercial viability of any such resource. The initial exploration work programme is restricted to various non-invasive and remote techniques, as well as the drilling of a maximum of 10 core boreholes and up to a maximum of 125 km of seismic survey lines.

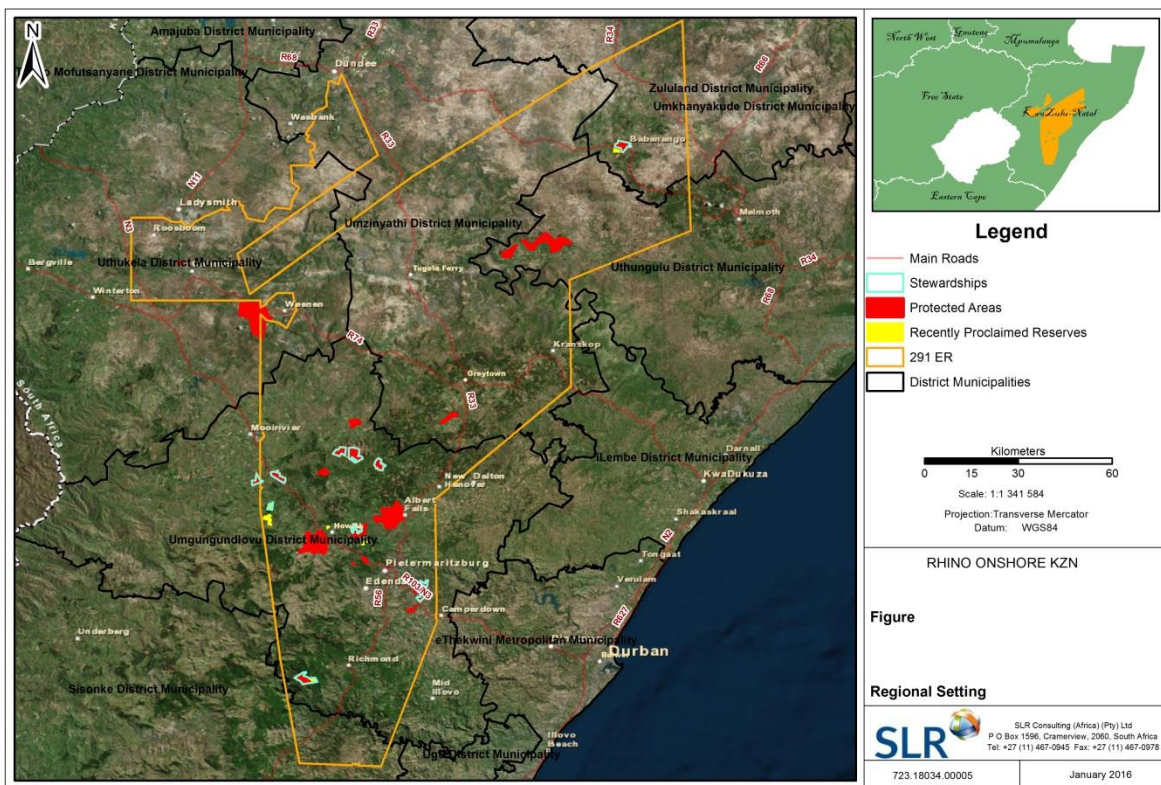
No permeability testing, pressure testing or hydraulic fracturing (commonly referred to as “fracking”) is proposed as part of the current exploration work programme. If a resource were to be identified for more advanced exploration, further approvals would be required in terms of the MPRDA before these activities could be undertaken. Such approval would require environmental authorisation in terms of NEMA which would require a separate EIA process.

Rhino Oil and Gas is a South African registered subsidiary of Rhino Resources Ltd which has a number of exploration right applications under consideration by PASA. Rhino Oil and Gas had previously held a Technical Co-operation Permit (TCP) for the KwaZulu-Natal 291 ER area. Through the current application, Rhino Oil and Gas intends to secure an exploration right. The MPRDA requires that the applicant submit the relevant environmental reports required in terms of Chapter 5 of the National Environmental Management Act, 107 of 1998 (“NEMA”) as amended.

Rhino Oil and Gas appointed SLR Consulting (Pty) Ltd (hereafter referred to as “SLR”) as the independent environmental assessment practitioner (EAP) responsible for undertaking the environmental assessment and conducting the public participation process. An application for environmental authorisation was submitted to PASA on the 12th of November 2015. PASA accepted the application and

confirmed that a Scoping and Environmental Impact Assessment (EIA) process is required in terms of the EIA Regulations 2014.

Within an EIA process, the purpose of the Scoping Report (this document) is to identify the potential environmental issues and impacts associated with the proposed exploration activities and to agree on the level of assessment (plan of study) for the EIA. This Scoping Report has been prepared to record the method and findings of the scoping process undertaken to date. The Scoping Report was distributed for a 30-day review and comment period from 7 March 2016 to 11 April 2016 (including provision for 3 public holidays). I&APS submitted comment on the Scoping Report to SLR. These comments have been used to update the Scoping Report where relevant. The comments and responses thereto are summarised in the Draft Scoping Report Comments Table (Table 5-2) and copies of each comment are included in Appendix 6.2.



Regional setting of the Exploration Right Application Area

2) Project Description

Rhino Oil and Gas proposes to undertake early-phase exploration for oil and gas resources which may be located within suitable geological strata. The exploration right application area includes ~ 10 000 properties over an area of ~ 1 500 000 ha. A map showing the locality and setting of the application area is provided above. In broad terms the exploration area extends from Richmond in the south to Ladysmith and Dundee in the north-west, passing just eastwards of Mooi River and Estcourt. In the north the area

extends eastwards almost to Ulundi and includes the regions around Tugela Ferry and Nkandla. The extent of the area narrows toward the south, including Kranskop, New Hanover and Ashburton but being bounded just west of Camperdown. In terms of Section 48 of the MPRDA, the extent of the exploration right application area excludes all properties with protected area status under the National Environmental Management Protected Areas Act, 2003 as well as properties zoned for urban/residential use in the towns within the exploration right application area.

The proposed early-phase exploration activities do not extend beyond the acquisition of data to determine the existence of a resource that may or may not warrant further exploration. The primary motivation for the current application is to obtain the data required to clearly define geological structures across the exploration right application area. The results of the proposed exploration programme would serve as a basis for planning of further exploration, which would require further approval/environmental authorisation.

The 3-year exploration work programme proposed by Rhino Oil and Gas includes:

YEAR 1:	<ul style="list-style-type: none"> - improved mapping of subsurface structure and stratigraphy - detection of structural features and traps - enhance source rock geochemistry database
YEAR 2:	<ul style="list-style-type: none"> - geochemical database compilation - apatite fission track analysis - define the locations (routes) for the site activities
YEAR 2/3:	<ul style="list-style-type: none"> - aerial full tensor gradiometry gravity survey (maximum total survey size of 4000 square kilometers) - drill test core holes on identified structures
YEAR 3:	<ul style="list-style-type: none"> - purchase existing seismic data - 2D seismic acquisition.

Through an analysis of existing (historical) borehole and seismic data retrieved during the TCP programme, and from studying published field data, in combination with the information derived from Year 1 and 2, Rhino Oil and Gas would identify preliminary locations/routes for the proposed field activities. These include:

- a full tensor gradiometry gravity ("FTG") survey from a light aircraft. The survey measures slight variations in the Earth's gravitational field in order to image subsurface structures;
- a maximum of 10 stratigraphy core holes, proposed across the entire area. In this a rock core would be removed, placed into sample trays and sections of interest are subject to laboratory analysis for petrologic, structural and mineralogical properties. These boreholes, and the equipment used to drill them, are of the same type and scale as used for water boreholes present on most farms and prospecting boreholes used for other minerals; and

- up to 125 km of two-dimensional (2D) survey comprising a number of separate lines to give coverage of the majority of the proposed exploration area. During a seismic survey low frequency, long wavelength acoustic waves are generated through the use of an energy source (Vibroseis truck or explosive shot). The resultant seismic waves, and the reflection of these off different substrates, are recorded at the surface in geophones placed in a linear alignment. Analysis of the return waves provides information about rock types and possible gases or fluids in rock formations.

It is not yet possible to specify the location of or prepare site plans for the proposed field activities as these are dependent on the outcome of the prior phases of exploration, which can only be conducted once the exploration right is approved. It must be noted that the exploration work is phased with results from the early phases informing the need and planning for the later phases. Each later phase would only be undertaken if the early phase results are positive.

3) Hydraulic Fracturing or not?

Rhino Oil and Gas has stated that the ultimate goal for the overall project is to extract hydrocarbons in a commercially viable manner. However, it has indicated that there is currently insufficient information to determine if there is a resource and what techniques might be required for future hydrocarbon extraction. Prior to the early-phase exploration being concluded they are, therefore, not able to provide any information on what the future may hold with regards the extraction of hydrocarbons. In this regard early-phase exploration is a prerequisite to inform further exploration or future production.

What can be stated categorically is that further detailed exploration and future production do not form part of the current ER application. No extraction of hydrocarbons or water, no stimulation of wells or hydraulic fracturing (fracking) is proposed in the 3-year exploration work programme.

If the early-phase exploration were to confirm the presence of a potential resource, then Rhino Oil and Gas 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 Oil and Gas would need to secure a production right from PASA. Hydraulic fracturing could be one of the potential techniques for gas production. 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.

4) Legal Framework

In terms of Section 79 of the MPRDA, an exploration right cannot be granted until an environmental authorisation has been issued in terms of the National Environmental Management Act, 1998. A Scoping and EIA process is required to be submitted to PASA before an informed decision can be made on the environmental authorisation. The EIA Regulations 2014 define the requirements for the submission, processing, consideration and decision of applications for environmental authorisation of listed activities. This Scoping report has been compiled to meet the requirements of the EIA Regulations 2014 and Appendix 2 thereto.

In accordance with the EIA Regulations 2014, all legislation and guidelines that have been considered in the preparation of the Scoping Report are documented. At this stage, review of the proposed exploration work programme in terms of the relevant legislation has not identified other requirements for authorisation.

5) Need and Desirability

Rhino Oil and Gas present its rationale for the proposed exploration in terms of various national plans and policies. They make the case that exploration success would result in long-term benefits for South Africa consisting of access to new energy sources, improved security of supply in the gas-to-liquids industry, major in-country investments in a development project and reduced dependence on the importation of hydrocarbons. Analogues to the benefits derived from the oil and gas industry in the USA are presented.

Further details on the need and desirability of the project, with consideration of relevant National policy documents, will be provided in the EIA report.

6) Alternatives Considered

Exploration for oil and gas has advanced such that high-tech, systematic and scientific methods are now used to identify rock formations likely to contain petroleum resources. This has resulted in a significant increase in the success rate of exploration and much less 'unnecessary' disturbance. Rhino Oil and Gas thus presents that the methods proposed (see table above) for this early-phase exploration are in fact the preferred alternatives. A high-level, comparative assessment of the alternatives is presented in the Scoping Report. This includes consideration of locality, types of activities, the design/layout, technology, operational aspects and the no-go alternative. Two borehole drilling (percussion and core) and two seismic survey (shot-hole and vibroseis truck) methods were investigated. It is concluded that there is little difference, advantage or disadvantage between the alternatives that are available. As a result the early-phase exploration as presented by the applicant is its preferred alternative. It is not possible at this stage to consider locality alternatives for the field activities as the sites cannot be identified until the early phases of exploration are completed. Rhino Oil and Gas is aware that there are many potential restrictions that could prevent them from undertaking certain exploration or production activities at

specific sites. It is the role of the EIA to identify all such constraints and restrict or prohibit exploration activities through documented management commitments.

The primary mitigation applied to the early-phase exploration would be to use non-invasive, remote sensing techniques as much as possible in order to refine the information on where to conduct field exploration. Where physical exploration/field activity is proposed the primary mitigation would be the appropriate siting at a locality of low sensitivity. This would be achieved through a site assessment by a suitably qualified environmental scientist. Mitigation would further be achieved by the use of the most appropriate methods to undertake exploration.

7) Public Participation Methods

Public participation was undertaken to inform landowners and other interested and affected parties (I&APs) of the proposed project, in sufficient detail, in order that may contribute meaningfully to the scoping and EIA. The process commenced consultation with landowners and I&APs. The following has been undertaken to date:

- Authority consultation to discuss the legislative requirements and the approach to the EIA;
- Identification of landowners of surveyed properties, and subsequent search for contact details;
- Social scan to identify relevant stakeholders in the area;
- Notification to landowners and stakeholders of the EIA process by means of a letter and Background Information Document (by email, fax or post), where details were known;
- Notices at multiple sites in each of the main towns within the area. The locations included municipal offices, libraries, shops and agricultural co-operatives.
- Press advertisements (between 13 and 16 October 2015) in the following papers:
 - The Mercury
 - Howick Village
 - Hilton Village
 - Natal Witness
 - Ilanga (Zulu)
 - Ladysmith Gazette
 - Richmond times, and
 - Escort and Midlands News.
- Eleven proposed scoping information meetings. Five of which took place, three of which were postponed due to undersized venues and three of which were cancelled as Traditional Authorities had not condoned them;
- A second round of Press advertisements in January 2016 in the following papers:
 - Natal Witness
 - Hilton Village website
 - Howick Village website
 - Greytown Gazette (English and Zulu)

- Isolezwe (Zulu)
 - Maritzburg Fever (Zulu)
 - The Meander Chronicle (English and Zulu),and
 - Ilanga (Zulu).
- Three further public meetings in Howick, Mooi River and Greytown;
 - A notice in the government gazette (as set out in Section 47D(c) of NEMA);.
 - Significant newspaper, TV and social media coverage;
 - A notice broadcast on local language community radio, with a dedicated call-in number;
 - Meetings with the MANCO and then the Board of the Ngonyama Trust;
 - Maintenance of a database of registered I&APs; and
 - Recording of comments from I&APs.

The issues and concerns raised by I&APs and regulatory authorities during the Scoping phase to date have been compiled into a Comments and Responses table. Copies of all written comments received from I&APs are also included in Appendix 6. Comments arising from review of the Scoping Report are summarised in a Draft Scoping Report Comments Table and copies of each comment are included in Appendix 6.2. Public participation is an ongoing process and will continue throughout the EIA. Comments from I&APs will continue to be received and documented for the duration of the EIA process.

It is acknowledged that it has not been possible to source contact information for all landowners and occupiers, and thus certain landowners and occupiers have not been directly notified. The process to notify landowners and occupiers is on-going and will continue during the course of the Scoping and EIA process.

8) Results of Public Consultation

Landowners and I&APs have raised many issues with regards to the exploration right application. The overriding finding of the public participation has been that the great majority of I&APs are strongly opposed to all forms of oil and gas exploration in the KZN and to this application in particular. It is evident that public opinion on whether the project should be approved is a resounding “no”. The reasons for the public opposition are varied and in some cases are not explicitly stated or articulated in the submissions. The major themes of the public opposition are the following:

- Concern, even fear, of the future risks that might arise from production should a resource be found;
- Concern that given the money involved, if any hydrocarbon resource is found, it will not be possible to stop production regardless of what the future EIA processes may indicate in terms of risk. Thus the only way to avoid such risks is to not open the door to such projects;
- Hydrocarbon based energy is a flawed concept and countries are moving away from new hydrocarbons in favour of a renewable energy system;

- A deep mistrust of government institutions and the true motives and people behind such an application;
- Significant doubt over government's ability to enforce compliance to the legislation;
- South Africa does not understand unconventional hydrocarbon extraction risks and the necessary legislative framework to protect the environment is not in place; and
- Lack of understanding of how an exploration programme is undertaken and what is actually being authorised.

Key issues and potential impacts of the project have been identified by the EIA project team with inputs made by I&APs. These are presented, together with responses by the EIA project team, in three sections, namely:

- A. Issues material to the overall application and the Scoping and EIA process;
- B. Issues related to the proposed work programme and current EIA; and
- C. Issues not related to the proposed work programme and current EIA.

Section A: Five key issues material to the application and the Scoping and EIA process arose during the initial consultation process in the last quarter of 2015. SLR submitted these to PASA for consideration and obtained response from PASA. The EIA is being conducted in terms of the guidance from PASA.

Issue 1: Numerous objections are being submitted, many with reasons relating to production and hydraulic fracturing. PASA Response: *"There is no mechanism under NEMA to address objections, however as part of the EIA process the EAP must consider issues raised and engage with respective parties to resolve or provide clarity on issues raised. Section 10 of the MPRDA provides for the Regional Mining Development and Environmental Committee to consider and advise the Minister on objections received in respect of applications."*

Issue 2: I&APs have demanded that the current EIA process include an assessment of potential production (including fracking) related impacts, even though the application does not cover further exploration or production. PASA Response: *"The current EIA is aligned with the proposed exploration work programme submitted with the application for an exploration right. If the applicant wanted to pursue any activities beyond the scope of the proposed work programme then environmental authorisation for such activities would have to be obtained. This process provides for further engagement with I&APs and in-depth assessment of the associated issues."*

Issue 3: Why is the current Karoo Strategic Environmental Assessment (SEA) on Shale Gas Development not applicable to this project? PASA Response: *"The scope and terms of reference for the SEA are finalised and the assessment has commenced. Queries on the SEA should be directed to the Department of Environmental Affairs as the driver of that process."*

Issue 4: The time available in the current EIA schedule is insufficient to allow for the required public consultation for such a large application area and contentious project. *“The Agency can consider requests received in writing from the EAP or applicant to extend the timeframe provided that the requests comply with the provisions of the EIA Regulations.”*

Issue 5: Why is an EIA being undertaken for exploration rights over areas where further exploration and/or production could not happen due to restrictions imposed by legislation and regulation. PASA Response: *“The EAP has the responsibility to identify environmental attributes; to assess the risks and impacts and provide appropriate mitigation measures. In doing so the EAP has the obligation to consider and apply the provisions of the relevant environmental legislation. PASA, as the regulator, has no authority to direct the EAP or applicant to stop the EIA or to remove incompatible areas. The application will be evaluated in line with the provisions of NEMA and other relevant legislation. The Agency will make recommendations that will be aligned with the relevant provisions to ensure that specified environment receives the necessary protection.”*

Section B: Many hundreds of questions and comments on issues related to the proposed early-phase exploration work programme and current EIA process were submitted by numerous I&APs. The main groupings of these, as documented in the Scoping report, are listed below:

- > Ecology:
 - Loss and or disturbance to vegetation and faunal habitats;
 - Disturbance to and mortality of fauna;
 - Enabling the establishment of alien and invasive species in disturbed areas;
- > Groundwater:
 - Altered hydrogeological regime and groundwater availability;
 - Contamination of groundwater resources;
 - Water consumption;
- > Surface water:
 - Altered surface water hydrological regime;
 - Contamination of surface water resources;
 - Water consumption;
- > Geology:
 - Damage to and destabilisation of certain geologies;
- > Soils:
 - Physical impact on soils (increased erosion / compaction);
 - Contamination of soils;
- > Heritage:
 - Loss and or damage to heritage resources;

- > Socio-economic:
 - Impact on land tenure and access to private property;
 - Impact on current land use;
 - Structural damage to infrastructure, from vibrations and or site activities;
 - Increased noise levels;
 - Reduced air quality due to dust and or gaseous emissions;
 - Public safety;
 - Landowner security;
 - Veld fires;
 - Contribution to the local economy;
 - Compensation to landowners;
- > General:
 - Rehabilitation and liability;
 - Concern with adequacy of the public participation method; and
 - Detailed, site-specific environmental baseline description;

Consultation with the Board of the Ngonyama Trust has not progressed as the Board raised two concerns in March 2016 which, in their opinion, bring the legitimacy of the EIA process into question. These being that the Ngonyama Trust had never received a notice from nor been consulted by the Regional Manager in terms of Section 10 of the MPRDA; and that the applicant had not consulted with the Ngonyama Trust in the manner prescribed by the MPRDA.

The Board of the Ngonyama Trust stated that they were not prepared to engage with the EAP until these governance issues had been addressed. The Board of the Ngonyama Trust further indicated that their advice/instruction to the Traditional Authorities was to not engage with SLR with respect to this application.

Section C: These issues and concerns are documented, but will not be responded to as they are made in regard to further exploration work or future production activities which have not been proposed by Rhino Oil and Gas for this application. Rhino Oil and Gas and the authority (PASA) are advised to give due consideration to these concerns as much of the current public opposition to oil and gas development is based on these.

- > Assessment of Risk from further exploration and / or future production activities; and
- > Objections to this application on the grounds of future risk.

9) Baseline Environment

The status of the baseline environment is described in the Scoping Report. As the application area is vast and specific sites have not yet been identified for field activities, this assessment aimed to identify the

general environmental sensitivities across the exploration area. This has involved a desktop study and draws extensively on information contained in studies that have been conducted by various government departments and non-government environmental organisations responsible for the area covered by the exploration right application. More detailed information will be provided in the EIA report once the specialist reports and other research has been concluded. Key aspects to note are:

- The area is extensively farmed with many highly productive agricultural industries;
- The area includes headwaters, rivers and dams which comprise catchments of key importance for agriculture, industry and human consumption;
- Many agricultural practices (and residents on these farms) rely on groundwater;
- The water resource is fully allocated in many of the catchments;
- The region is highly biodiverse with many areas identified, through different mechanisms, as having conservation value.
- Agriculture and eco-tourism are the drivers of the local economy; and
- A number of NGOs and civil society groups work to protect the various environmental resources.

10) Anticipated Issues and Impacts

A scoping-level identification of environmental impacts (physical, biological, social and economic) associated with the proposed early-phase exploration has been undertaken. A number of negative impacts on the bio-physical environment could potentially result from the proposed exploration activities. Impacts that may result and which will be assessed during the EIA phase are summarised below.

10.1) Physical Impacts

Effect on Geology

There is a remote risk that vibrations generated during core hole drilling or seismic survey could destabilise certain geologies and pose risks to faults, underground caverns or mine workings. The potential impact on the geology and the issue related to faults and seismic sensitivity will be investigated and assessed in the EIA. Complete details of the seismic outputs will be sourced from service providers. The investigation will draw on literature from local and international experience of similar seismic survey methods. If necessary a vibration specialist and or seismologist will be consulted.

Effect on Soil

The physical disturbance of soils may increase the risk of erosion (by wind and water), while vehicles and machinery travelling over such surfaces could compact soils. Seismic vibrations could alter soil structure. These impacts may collectively affect the surface hydrology, damage soil structure, decrease infiltration rates and water retention capacity, and retard the regeneration of vegetation or soil productivity. Leaks and spills of potential pollutants (e.g. fuel and lubricants) may potentially contaminate the soil. The potential impact on soils will be investigated and assessed in the EIA, with input from a specialist (see Section 7.5.4 for the terms of reference). The goal will be to provide an understanding of the regional soil types and their specific properties. The effects of the proposed seismic surveys on soil properties will be

researched from local and international literature on seismic surveys. If necessary a vibration specialist and or seismologist will be consulted.

Effect on Water Resources

Altered hydrogeological regime and groundwater availability

Changes to the quality or quantity of groundwater in near surface aquifers as a result of the proposed exploration activities may affect adjacent users who rely on groundwater for domestic and agricultural use. Shot hole preparation and core hole drilling might result in some interaction with groundwater that could impact groundwater availability and quality. The impact on groundwater will be assessed based on the findings of the specialist groundwater assessment (see Section 7.5.27.5.4 for the terms of reference). The aim will be to identify key features of the groundwater resource and to define which regions may be incompatible with the proposed exploration activities related to the groundwater resources.

Altered surface water hydrological regime

The region comprises the headwaters of a number of very important river systems which supply large quantities of water for human consumption, agricultural and industrial use. Potential changes to the hydrological regime could have secondary impacts on water users and the terrestrial and aquatic environment. The impact on surface water will be investigated by SLR and assessed in the EIA. The aim will be to identify surface water features within the application area and to understand the risks posed by the exploration activities. The outcome will be to define which water resources and uses may be incompatible with the proposed exploration. Sites that are incompatible with the proposed exploration activities will be identified.

Contamination of surface and groundwater resources

Contamination of surface or groundwater could occur as a result of the use of drilling fluid use and accidental spillages of pollutants. Any users of the water could be impacted. The impact will be assessed based on the findings of surface water investigations by SLR and the specialist groundwater assessment (see section 7.5.2 for the terms of reference). The aim will be to identify features of the resource that may be sensitive to contamination and which should be avoided. In addition, the outcome will be to define rules and methods that should be applied during physical exploration.

Water consumption

Water would be required for the core hole drilling operations. This could impact water availability to the environment and other user. In some catchments in the region the water resource is fully allocated. The impact relating to the consumption of water will be assessed based on the findings of the surface water investigations and specialist groundwater assessment (see section 7.5.2 for the terms of reference).

Effect on Infrastructure

Vibrations

Air blasts (airborne shock waves), air overpressure and ground vibration generated by during seismic surveys may cause structural damage to infrastructure (buildings, boreholes) or affect the stability thereof. The potential impacts of the energy generated during a seismic survey will be investigated and assessed in the EIA. The risks from vibrations will be researched from local and international literature and considered with input from a specialist (see Section 7.5.5 for the terms of reference). The outcome will be to define the acceptable stand-off/buffer distances.

Physical damage

Exploration activities could result in damage (accidental or deliberate) to infrastructure such as fences, gates, culverts, pipes and roads. This impact will be investigated and assessed in the EIA. The outcome will be to determine rules and methods that should be applied during physical exploration and to detail how compensation would be managed.

10.2) Biological Impacts

Effects on Vegetation

Vegetation would be cleared or disturbed as a result of the proposed exploration activities, including creation of tracks and establishment of work platforms. Vegetation disturbance could also promote the establishment of alien invasive plant species. The impact on vegetation will be assessed based on the findings of the specialist biodiversity assessment (see Section 7.5.1 for the terms of reference). The aim will be to identify the different vegetation features, particularly those of high sensitivity. The outcome will be to define which vegetation units may be incompatible with the proposed exploration techniques and to determine exclusion criteria.

Effect on Fauna

Loss of or disturbance to faunal habitats

An indirect impact related to the clearance or disturbance of vegetation (above) is the loss or disturbance of habitats of faunal significance. Some natural habitats within the region hosts a wide variety of faunal species including some of conservation importance. The loss of habitat could affect conservation targets as well as fauna. This impact will be assessed based on the findings of the biodiversity assessment (see Section 7.5.1 for the terms of reference). The aim will be to identify habitats within the application area and to understand the extent and status of these. The outcome will be to define which habitats may be incompatible with the proposed exploration techniques and to determine exclusion criteria.

Disturbance to and mortality of fauna

Animals in the vicinity of the proposed exploration activities may be affected by increased human presence/activity, and noise and vibration generated by vehicles, drill rigs and the use of explosives. In addition to the general disturbance of fauna, those species that cannot effectively vacate the area by

themselves may suffer direct mortality due to increased traffic on-site or site clearing. The impact on terrestrial fauna will be assessed based on the findings of the specialist biodiversity assessment (see Section 7.5.1 for the terms of reference). The aim will be to determine which species, particularly those of conservation concern, would be sensitive to the impacts of the exploration activities. The outcome will be to define which species may not tolerate disturbances and to determine the preferred habitats/sites for these species.

10.3) Socio-Economic Impacts

Heritage

The proposed exploration activities could result in the loss of or damage to heritage resources (including archaeological, palaeontology and cultural heritage sites). The impact on heritage resources will be assessed based on the findings of a specialist heritage assessment. The full terms of reference for the heritage assessment are presented in Section 7.5.3.

Effect on existing land uses

Exploration activities would occupy land area, which could have an impact on current land uses by precluding such uses for the duration of each activity. Potential impacts include:

- Prevention or disruption of current land use activities;
- Disturbance to crops, plantations and livestock/game;
- Potential change in land use value and loss of productivity; and
- Related loss of income.

Although the proposed exploration activities, which would be localised and of short duration and they are not expected to have a significant effect on any existing land uses and users. The potential impacts will be investigated and assessed in the next phase of the EIA. The inputs of a specialist on land uses most at risk will be obtained (see Section 7.5.4 for the terms of reference). The outcome will be to identify specific land uses that may not be compatible with exploration. The mechanisms for Access Agreements and management of compensation will be detailed.

Effect on ambient noise levels

Exploration activities could increase noise levels, which may disturb or be a nuisance to landowners or adjacent residents. The region generally has low ambient noise levels and exploration activity could change this, albeit for short durations. This impact will be further investigated and assessed in the EIA. The noise risks to receptors will be considered with input from a specialist (see Section 7.5.5 for the terms of reference).

Effect on air quality

Ambient air quality may be affected by:

- Dust fallout from the movement of vehicles (elevated particulate matter levels);

- Emissions generated by combustion-driven equipment and vehicles; and
- The release of gas from stratigraphic core holes.

This impact will be further investigated and assessed in the next phase of the EIA. The risks to air quality will be considered with input from a specialist (see Section 7.5.6 for the terms of reference). The aim will be to provide an understanding of emissions that could be generated during exploration and to relate these to potential sensitive receptors. This will be undertaken using local and international literature. If the assessment concludes that significant emissions are likely then consideration will be given to investigate air quality related health risks.

Safety, security and fires

Public / landowner safety and security could be compromised or impacted by the following:

- Potentially dangerous activities at exploration sites;
- Increased crime in the vicinity of the proposed exploration activities; and
- Accidental veld fires.

The impacts on safety and security will be further investigated and assessed in the EIA. The aim will be to provide an improved understanding of those activities that could compromise public and landowner safety and security, and to determine management criteria that should be applied during the proposed onsite exploration activities to separate receptors from the risk.

Effect on local economy due to job creation and direct revenues

Contribution to the local economy could occur through the creation of direct employment opportunities (albeit limited) and generation of indirect revenues as a result of support services and supplies. Alternatively, if exploration detracts from or compromises the main attractions of the region then it could result in a reduction in external inputs to the local economy. KZN has many well developed industries (agriculture, eco-tourism, forestry etc) which are reliant on the environmental assets of the region. Any significant impacts on the environmental assets (could have negative impacts on the industries that rely on these). The impact on the local economy will be further investigated and assessed in the EIA. An economic specialist may be consulted for input.

Financial implications to land owners

Exploration activities could impact the use of land or resources and thereby affect farmer's income. Furthermore, they could result in damages that may cause a loss of income or which require rehabilitation in order to prevent long term environmental degradation. The impacts on natural resources (vegetation, groundwater and surface water are discussed in preceding sections). The potential for loss of income by agricultural users will be considered in the EIA. The requirements and methods for compensation for access and loss of income will be further investigated and assessed in the next phase of the EIA. The quantum of the necessary financial provision for rehabilitation, closure and on-going post

decommissioning management of negative environmental impacts will be assessed in terms of the Regulations Pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations, (GN R 1147).

10.4) Local Limitations to Exploration

Regulatory restrictions

There are numerous instances where legislation, regulation, guidelines and best practice prohibit (or recommend against) particular activities from taking place. Such constraints could be widely applicable over much of the region and may be specifically applicable to certain exploration and production activities. The EIA will investigate the relevant constraints which would influence the area where the early-phase exploration could take place. These constraints would be documented and a set of criteria produced to delineate all of the areas where the proposed exploration would not be allowed or not be appropriate.

Lack of available water

Some of the catchments for which exploration is being applied are effectively closed with regard the allocation of water to users. There would thus be no water available for exploration activities that require water in terms of such restrictions. Rhino Oil and Gas would need to be aware of such constraints for their planning as the lack of water could influence where exploration activities are undertaken.

Public opposition

As a result of the strong public opposition in KZN to gas exploration, Rhino Oil and Gas appears unlikely to receive a social 'licence to operate'. Rhino Oil and Gas must be aware that the undertaking of activities for the project could well be hampered by public opposition (e.g. including negative publicity, public protests, refusal to provide services, vandalism and damage to property). Many landowners consulted during the EIA process have indicated that they would deny Rhino Oil and Gas access to their properties. Rhino Oil and Gas must be aware that in spite of holding an exploration right (if granted), without access to the land it may not possible to explore in terms of their right. Significant negotiation and possible legal action in light of the Sections 54 and 55 of the MPRDA may result.

11) Plan of Study for EIA

The EIA process and reporting thereon will comply with Appendices 3 and 4 of the EIA Regulations 2014. A summary of proposed EIA process and public consultation activities that will be undertaken during the EIA is provided below.

Phase	EAP activity	Opportunities for Consultation and Participation		SCHEDULE
		Competent Authorities	I&APs, State Departments and Organs of State	
Scoping	Submit Final Scoping Report to authority by 20 April 2016	Authority to accept scoping report OR Refuse environmental authorisation (43 days of receipt)	I&APs to comment on SR	Nov 2015 to May 2016
Specialist Assessments and Input	EAP to manage specialist activities and receive inputs for EIA.		Ongoing land owner identification. Ongoing consultation, particularly with key stakeholders and Traditional Authorities	April to August 2016
	Assess environmental impacts and identify management measures. Compile draft EIA and EMP report			April to August 2016
EIA Phase	Submit draft EIA report to I&APs authorities.	Review of draft EIA and EMP report (30 days). Comments to EAP	Review of EIA and EMP report (30 days). Comments to EAP	August/ September 2016
	Arrange meetings and consultations	Meetings with authorities during EIA if required.	Public Feedback Meeting/Open days. Focused consultation with I&APs or commenting authorities if required.	September 2016
	Address public comment and finalise EIA and EMP reports			September 2016
	Final EIA report to Authority (106 days from acceptance of scoping report).	Authority Acknowledge Receipt of EIA report (10 days).		September 2016
Authority review and Authorisation Phase		Environmental Authorisation Granted / Refused (107 days).	Notifications to I&APs regarding environmental authorisation (granted or refused).	December 2016
	EAP to provide guidance regarding the appeal process as and when required.	Consultation during processing of appeal if relevant.	Submit appeal in terms of National Appeal Regulations	variable

The project scope to be considered and assessed in the EIA is the 3-year exploration work programme as proposed by the applicant. No further alternatives, other than the no-go, are to be considered.

A key constraint of the impact assessment is that the applicant cannot, at this stage, define the location of the on-the-ground activities (e.g. core holes and seismic surveys) as are dependent on the outcomes of the initial exploration phases. Thus the approach proposed for this impact assessment is to define the risks of the proposed exploration activities and to identify the relevant environmental aspects or features

of the region. The potential impacts of the proposed activities to these key environmental aspects or features would be assessed to determine where exploration would be incompatible due to the likely occurrence of significant impacts. To prevent and or mitigate the potential impacts, the proposed exploration activities would be prohibited from taking place at localities where such environmental aspects or features occurred. To ensure the implementation of this and ground-truthing of the features at the time of planning the field-based exploration activities, an environmental site assessment by a suitably qualified environmental scientist would be required to be undertaken. The final site plan would require to be approved by land owner, environmental scientist and PASA. Such requirements will be specified in the EMPr.

The identification and assessment of environmental impacts is a multi-faceted process, using a combination of quantitative and qualitative descriptions and evaluations. It involves applying scientific measurements and professional judgement to determine the significance of environmental impacts associated with the proposed project. The process involves consideration of, *inter alia*: the purpose and need for the project; views and concerns of interested and affected parties; social and political norms, and general public interest. SLR will identify potential impacts against relevant environmental aspects (i.e. land use, biodiversity, etc.) and describe these in terms of the nature of the impact, compliance with legislation and accepted standards, receptor sensitivity and the significance of the predicted environmental change. SLR uses an assessment methodology which considers: the intensity, extent, duration of impacts, the probability of the impact occurring, the reversibility and the degree to which the impacts can be mitigated. The significance of environmental impacts will be rated before and after the implementation of mitigation measures. These measures may be planned or additional measures that may arise from the impact assessment and specialist input.

Consultation in the EIA

The key activities of the stakeholder engagement process in the EIA phase will include the following:

- On-going identification and notification of landowners and stakeholders;
- Registration of parties as I&APs;
- Notification to I&APs of the authority decision on scoping;
- Consultation with I&APs, key stakeholders and authorities;
- Consultation with mineral rights holders and land claimants;
- Collation of issues and concerns for inclusion in the EIA;
- Circulation of the EIA and EMP report for public review, with summaries in local languages.
- Public meeting/Open days to provide feedback on the findings of the EIA; and
- Notification of I&APs on the PASA decision and appeal process

Specialist Studies

Specialist studies as detailed below are proposed to inform the EIA. Specialist reports will be structured in terms of Appendix 6 of the EIA Regulations 2014. It must be noted that although the work described

will be undertaken by specialists, the extent of the study area means that a desktop approach is the only feasible method. Site specific assessments of relevant features will be undertaken when the locality of survey lines and drill sites are being finalised. Exclusion criteria that should be applied when identifying and assessing sites for physical exploration during the detailed site assessment will be presented in the EMPr.

Biodiversity: A desktop analysis of the receiving environment which may be affected by the proposed exploration activities will be undertaken by an ecologist in order to understand the extent, nature and status of biodiversity features. The desktop study will also include the assessment of sensitive habitat types (such as ridges, wetlands and rivers), threatened ecosystems, protected areas and other sensitive biophysical areas. Biodiversity units (vegetation, habitat), areas of conservation importance (protected areas, Ramsar sites, CBAs) and features of high sensitivity to disturbance (species occurrence etc) will be mapped, at a broad scale, to the greatest degree. The outcome will be to define which biodiversity units and uses may be incompatible with the proposed exploration and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration.

Groundwater: A desktop Groundwater Assessment will be undertaken by a geohydrologist to establish:

- General distribution of groundwater levels in the delineated area,
- Seasonal fluctuation of groundwater levels,
- Classification of groundwater potential for the area, aquifer types and depths,
- Presence of major catchment areas and possible interaction between surface and groundwater
- Current (baseline) regional conditions for groundwater
- Recommendations for later phase groundwater work that should be done if exploration proceeds.

The outcome will be to define the levels of compatibility of the proposed exploration activities with the groundwater resources and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration.

Heritage: A desktop heritage study will be undertaken by a registered archaeologist / heritage consultant. Identified sites will be grouped according to significance. Where exploration activities may affect identified heritage sites of medium and high significance a management plan would be developed. Guidance on how to manage chance finds of heritage resources will also be detailed.

Soils and land cover: A desktop soils and land cover study will be undertaken by a specialist. The aim will be to identify the different land uses and regional soil types within the application area and to understand the extent, nature and status of these. The outcome will be to identify soil types or properties and land uses within the area which may be incompatible with the proposed exploration. Exclusion

criteria that should be applied when identifying and assessing sites for physical exploration will be defined.

Noise and Vibration:

A specialist will undertake a literature review of the noise and vibration that could be expected from the proposed exploration activities. The goal will be provide an understanding of the noise and vibration levels that such activities generate in order to enable the interpretation of risk to receptors and infrastructure. This will include a literature review for impacts of seismic data collection on fauna. A seismologist may also be consulted to provide understanding of the risk of the seismic energy to geological structures. The outcome would be to determine exclusion criteria/buffers that should be applied when identifying and assessing sites for physical exploration during the detailed site assessment.

Air Quality:

A specialist will be appointed to undertake a literature review of the particulate and gaseous emissions that could be expected from the proposed exploration activities. The aim will be to provide an understanding of the volumes and types of emissions that could be generated during exploration and to relate these to potential sensitive receptors. The specialist would also be tasked with identifying receptors that would be sensitive to the gaseous emissions that the proposed exploration activities could generate. The outcome would be to determine practicable mitigation measures to reduce any potential negative impacts.

If the risk requires, the specialist will contribute to determining exclusion criteria/buffers that should be applied when identifying and assessing sites for physical exploration during the detailed site assessment.

Integration of Specialist findings

The specialist findings, recommendations and other relevant information will be integrated into the EIA report by SLR. The full specialist studies will be included as appendices to the EIR. A draft EMPr will be submitted with the EIA Report. The EMPr will be structured in terms of Appendix 5 to the EIA Regulations 2014 and will provide recommendations on how to select, establish, operate, maintain and close the activities and associated infrastructure through all relevant phases of the project life. The aim of the EMPr will be to ensure that the project activities are managed to reduce potential negative environmental impacts and enhance potential positive environmental impacts. The EMPr will detail the impact management objectives, outcomes and actions as required, the responsibility for implementation and the schedule and timeframe. Requirements for monitoring of environmental aspects as well compliance monitoring and reporting will also be proposed. The EMPr will also include the required environmental awareness plan. Once approved by the relevant authorities, the provisions of the EMPr are legally binding on the project applicant and all its contractors and suppliers.

FINAL SCOPING REPORT FOR A PROPOSED EXPLORATION RIGHT APPLICATION FOR PETROLEUM PRODUCTS ON VARIOUS FARMS IN THE MAGISTERIAL DISTRICT OF PIETERMARITZBURG, KWAZULU-NATAL

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ACRONYMS AND ABBREVIATIONS

Acronyms / Abbreviations	Definition
BID	Background information document
CBM	Coal Bed Methane
DAFF	Department of Agriculture, Forestry and Fisheries
dBA	A-weighted decibel
DMR	Department of Mineral Resources
DW&S	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme report
ER	Exploration Right, as contemplated in Section 79 of the MPRDA
GA	General Authorisation
GN	General Notice
Ha	Hectares
I&AP	Interested and/or affected party
IEP	Draft Integrated Energy Plan (2013)
km	Kilometres
m	Meters
mamsl	Metres above mean sea level
mbgl	Metres below ground level
mm	Millimetres
MPRDA	Mineral and Petroleum Resources Development Act, 2002
MSDS	Material Safety Data Sheet
NDP	National Development Plan, 2012
NEMA	National Environmental Management Act, 1998
NEM:AQA	National Environmental Management Air Quality Act, 2004
NEM:PAA	National Environmental Management Protected Areas Act, 2003
NEM:WA	National Environmental Management: Waste Management Act, 2008
NFEPA	National Freshwater Ecosystem Priority Area
NWA	National Water Act, 1998
NGO	Non-governmental organisation
PASA	Petroleum Agency of South Africa
SACNSP	South African Council for Natural Scientific Professionals
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute
SANS	South African National Standards
SLR	SLR Consulting (South Africa) (Pty) Ltd
SMS	Short Message Service
Tcf	Trillion Cubic Feet
TCP	Technical Co-operation Permit, as contemplated in Section 76 of the MPRDA
WULA	Water Use License Application

FINAL SCOPING REPORT FOR A PROPOSED EXPLORATION RIGHT APPLICATION FOR PETROLEUM PRODUCTS ON VARIOUS FARMS IN THE MAGISTERIAL DISTRICT OF PIETERMARITZBURG, KWAZULU-NATAL

1 INTRODUCTION

1.1 INTRODUCTION TO THE PROPOSED PROJECT

Rhino Oil and Gas Exploration South Africa (Pty) Ltd (hereafter referred to as “Rhino Oil and Gas”) lodged an application for an exploration right (“ER”) in terms of Section 79 of the Minerals and Petroleum Resources Development Act, 28 of 2002 (“MPRDA”). The application was made to the Petroleum Agency South Africa (hereafter referred to as “PASA”), the designated agency responsible for the administration of petroleum related minerals.

In May 2015 PASA accepted Rhino Oil and Gas’ application for the area titled ‘Exploration Right for Petroleum on various Farms in the Magisterial District of Pietermaritzburg, KwaZulu-Natal Province’ (Ref: 12/3/291 ER). The exploration right area is ~1 500 000 ha in extent and covers approximately 10 000 properties (farms and portions) (see Figure 1-2 for the regional setting of the project). Minerals included in the ER application are oil, gas, condensate, coal bed methane, helium and biogenic gas.

The primary targets of the exploration are various forms of natural gas found in deep underground rock formations or associated with other hydrocarbon reservoirs in coal beds. The natural gas may be trapped in fine fractures within the rock or found in pockets under geological traps. Natural gas generally consists primarily of methane (CH₄), but commonly includes varying amounts of other higher alkanes and sometimes (usually a lesser percentage of) carbon dioxide, nitrogen, and/or hydrogen sulphide. Once extracted, natural gas is a versatile source of energy and one of the cleanest fossil fuels.

Rhino Oil and Gas is proposing to undertake early-phase exploration for oil and gas resources which may be located underground within suitable geological strata. The current ER application only includes exploration work aimed at determining the presence of a petroleum resource. The approval being sought does not include any work to determine the commercial viability of the resource. The initial 3-year exploration work programme is restricted to various non-invasive and remote techniques as well as the drilling of a maximum of 10 core boreholes and up to a maximum of 125 km of seismic survey lines. No permeability testing, pressure testing or hydraulic fracturing (commonly referred to as “fracking”) is proposed for this exploration programme. If a resource is identified for more advanced exploration, further authorisation / approvals would be required before these activities could be undertaken.

1.2 APPLICANT BACKGROUND

Rhino Oil and Gas Exploration South Africa (Pty) Ltd is a South African registered subsidiary of Rhino Resources Ltd. Rhino Resources is a technology driven, independent oil and gas exploration and development company focused on Africa. Rhino Resources is building a portfolio of both onshore and offshore oil and gas assets with a primary focus on West Africa, East Africa, and Southern Africa. The company's key strategic areas include the East African Continental Rift System, the Central African Rift System, the coastal margins of East Africa, the South Atlantic margin of West Africa and the eastern Karoo formations of South Africa.

Rhino Oil and Gas is currently one of the largest applicants of both onshore and offshore oil and gas rights in South Africa with a number of applications under consideration by PASA. South Africa has the eighth largest shale gas reserves in the world according to a recent US Department of Energy report with estimates ranging from 30 Tcf to 390 Tcf for the Karoo Basin. Rhino Resources' goal is to develop these natural resources with the benefit of enhanced prosperity for African host countries and local communities.

Rhino Oil and Gas had previously held a Technical Co-operation Permit ("TCP") for the KwaZulu-Natal 291 ER application area. The TCP was issued by PASA in terms of Section 77 of the MPRDA. The holder of a TCP has, subject to Section 79 of the MPRDA, the exclusive right to apply for and be granted an exploration right in respect of the area to which the permit relates. Through the current application Rhino Oil and Gas intends to secure an exploration right. Rhino Oil and Gas as the applicant for an Exploration Right will also be the operator for the proposed project.

1.2.1 APPLICANT DETAILS

The directors and owners of Rhino Oil and Gas Exploration South Africa (Pty) Ltd are Mr P Mulligan (a US citizen) and Mr P Steyn (a South African). More information is available on: <http://www.rhinoresourcesltd.com/management>.

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Corner of Long Street & Hans Strijdom Avenue
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E-mail: psteyn@rhinoresourcesltd.com
Website: www.rhinoresource ltd.com

1.3 OVERVIEW ON THE EXPLORATION PROCESS

The purpose of exploration is to identify the existence of any commercially viable reserves of oil and / or gas. The conditions necessary for petroleum reserves to have accumulated are complex and largely dependent on past geological history and present geological formations and structures. For deposits to occur, particular combinations of potential source and reservoir rocks together with migration pathways and trap structures are required. Discovering such reservoirs and estimating the likelihood of them containing oil and / or gas is a technically complex process consisting of a number of different stages requiring the use of a range of techniques. Such techniques may include, inter alia, aero-magnetic/gravity surveys, deep and shallow geophysical (seismic) surveys, shallow drilling and coring, and exploration and appraisal drilling (DTI, 2001). Exploration is an iterative process with data acquired from a prior stage required to improve the knowledge and understanding of the resource, which may then be subject to a later stage of more intensive exploration.

Exploration begins with the identification of target areas. Based on a general geological understanding, often informed by publically available data, broad areas are initially identified as being prospective with the potential to contain reserves of oil and / or gas. These areas are then subjected to early-phase exploration that is focused on large-scale regional analysis. This is done by integrating the regional surface and basin structure data derived from obtainable legacy data. Prospective areas are further defined using a combination of surface/shallow mapping techniques and seismic surveys to aid understanding of deeper, subsurface geology. Aero-magnetic and gravity surveys as well as core drilling are also used to define general structure such as sedimentary basins. The work in this early-phase exploration stage might identify potential areas of interest for follow up study, but do not typically pinpoint areas with oil and gas. At the end of this stage the non-prospective areas would typically be relinquished by the project.

Exploration in prospective areas would then progress to the appraisal stage. Identified areas of potential interest are subjected to further seismic and lithological study, which may involve reinterpreting existing data or conducting new surveys. Such surveys would typically be conducted at higher resolutions or with more accurate techniques to improve the confidence in the information. The purpose of these surveys is to delineate and evaluate the prospects of interest identified in the first phase of exploration. Exploration wells would then be planned to access the target stratigraphy for testing, which may include permeability testing, pressure testing and hydraulic fracturing. It is noted that the only reliable way to determine whether the identified formations contain hydrocarbons is to undertake exploration well drilling (DTI, 2001). This work is aimed at identifying and defining the extent of 'sweet spots' with high potential for reserves of oil and / or gas, as well as whether or not the size of the resource warrants further study and drilling.. At the end of this stage the non-prospective areas would typically be relinquished by the project.

In order to fully define the commercial viability of an oil and / or gas resource a further stage of drilling is generally undertaken. Exploration wells (in one or a variety of forms) would be drilled and subject to an

array of trials and testing (possibly including permeability testing, pressure testing and hydraulic fracturing). The type of wells and tests would depend entirely on the nature of the resource that has been discovered. The purpose is for the prospect to be identified, evaluated and tested. These wells will enable the geoscientists to gain the greatest level of understanding of the reservoir and its viability for production. Only once it is determined that a field is commercially viable would an operator consider moving into the production phase. At the end of this stage the non-prospective areas would typically be relinquished by the project.

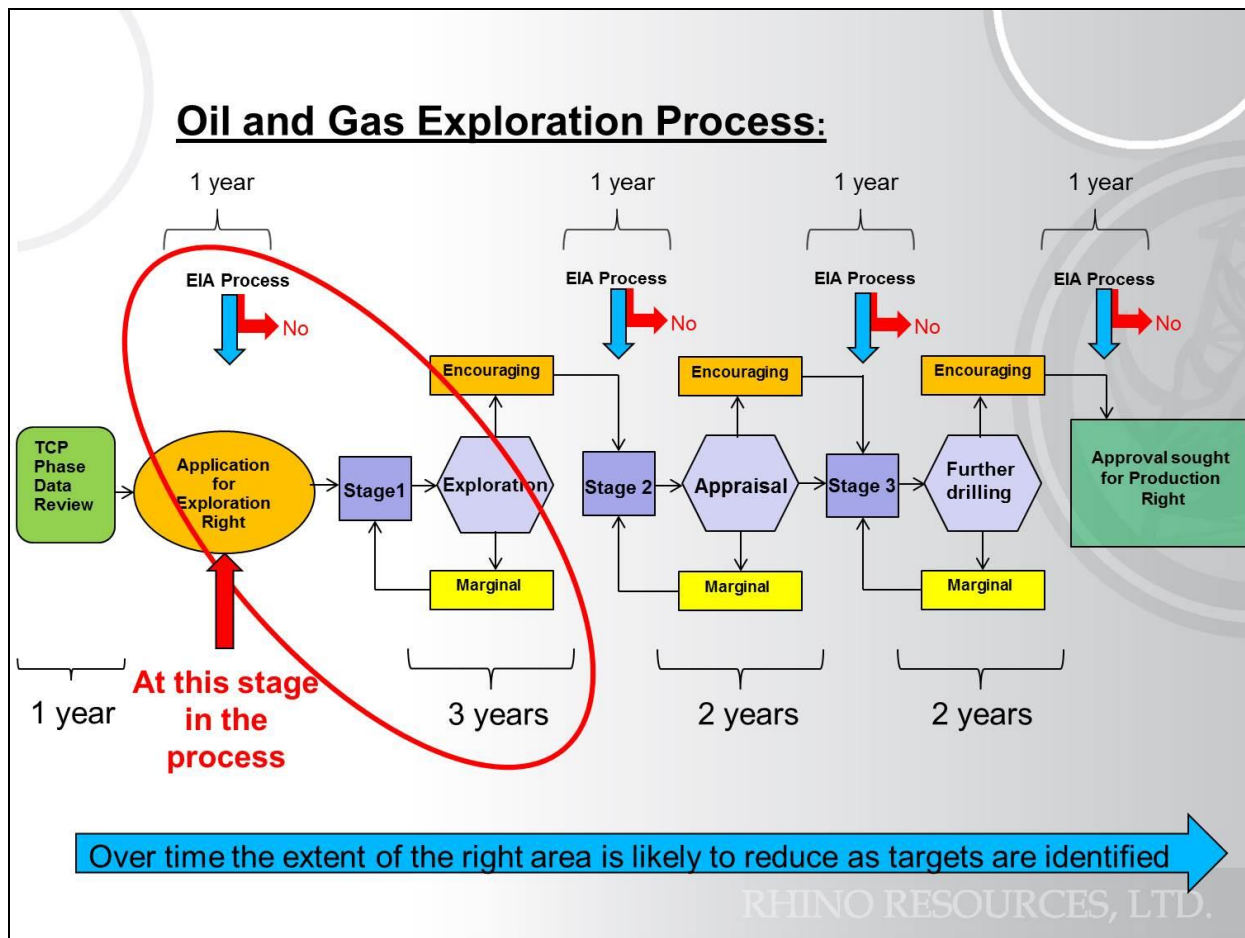


FIGURE 1-1: OVERVIEW OF THE EXPLORATION PROCESS

Rhino Oil and Gas is at the beginning of an oil and gas exploration process and is only seeking authorisation to undertake early-phase exploration activities. The proposed exploration programme is the second step in determining if there is an oil or gas resource in the exploration right area that would warrant further investigation (the first phase having been the Technical study undertaken). The proposed exploration work programme is designed to improve the understanding of the regional geology and inform of the potential for the occurrence of an oil and / or gas resource. It is not known at this stage whether there are any oil and / or gas reserves. It is also not known at this stage what form the oil and / or gas might take. This will only be known after all the data from the initial 3-year exploration work programme

has been analysed. At the end of the current exploration work programme it would still not be possible to define the extent of a resource nor to determine if the resource was commercially viable.

1.4 SUMMARY OF AUTHORISATION REQUIREMENTS

The MPRDA, as amended, makes provision, in Section 79, for persons to apply for an exploration right for petroleum products. The application lodged by Rhino Oil and Gas for an exploration right over the KwaZulu-Natal exploration right area (12/3/291 ER) was accepted by the PASA in May 2015. Acceptance of the application by PASA does not constitute authorisation, but permits the applicant to continue with the necessary process. The acceptance detailed the requirements for the application, which include:

- (a) submitting an application for environmental authorisation in terms of Regulation 16 of the 2014 Environmental Impact Assessment (“EIA”) Regulations on or before 12 November 2015;
- (b) submitting a Scoping Report (this document) as contemplated in Regulation 21(1) of the EIA Regulations 2014 2014 within 44 days from lodgment of the application for Environmental Authorisation; and
- (c) consulting with the landowner, lawful occupier and any interested and affected party (“I&APs”) and include the results of the consultation in the Scoping and EIA Reports.

These requirements are set out in Section 79(4) of the MPRDA which requires that the applicant submit the relevant environmental reports required in terms of Chapter 5 of the National Environmental Management Act, 107 of 1998 (“NEMA”) as amended. The Minister may only grant the exploration right if an environmental authorisation has been issued.

Section 24(1) of NEMA sets out that persons wishing to undertake activities (listed or specified in terms of NEMA) must consider, investigate, assess and report on the potential consequences for or impacts on the environment to the competent authority in order to obtain an environmental authorisation. The Minister published the EIA Regulations 2014 (GNR 982, December 2014) which define the requirements for the submission, processing, consideration and decision of applications for environmental authorisation of listed activities. Any activity that is captured in the listing notices (GN R 983 – 985 of December 2014) requires environmental authorisation from the competent authority.

Section 24C(2A) of the NEMA sets out that the Minister responsible for mineral resources must be identified as the competent authority in terms of subsection (1) where the listed or specified activity is directly related to (a) prospecting or exploration of a mineral or petroleum resource. In terms of Section 70 of the MPRDA the Minister responsible for mineral resources has designated the PASA to perform the functions referred to in Chapter 6 of the MPRDA.

In November 2015, Rhino Oil and Gas submitted an application to PASA for environmental authorisation of exploration activities as described in this report for the exploration activity set out in the Listing Notices

2014 (GN R 984) made in terms of Section 24(5) of NEMA. PASA accepted the application and confirmed that a Scoping and EIA process is required.

1.4.1 LEGAL NATURE AND LIMITATIONS ON AN EXPLORATION RIGHT

Any right granted under the MPRDA is a limited real right in respect of the mineral or petroleum and the land to which such right relates. The holder of a right is entitled to the rights referred to in Section 5 of the MPRDA and such other rights as may be granted to, acquired by or conferred upon such holder under the MPRDA or any other law. Mineral rights are also specific and have limitations.

The ER that has been applied for by Rhino Oil and Gas is specific and limited to:

- The minerals being: oil, gas, condensate, coal bed methane, helium and biogenic gas;
- The properties as listed in Appendix 3;
- The work programme as detailed in Section 0, and
- A 3-year time frame from granting.

Any change to the scope of the ER, further exploration or future production activities would need to be subject to additional authorisation in terms of the MPRDA and thus NEMA. Each of these would require a separate EIA (or environmental authorisation amendment) process, which would include a further public participation process and in-depth assessment (potentially including specialist studies) of all project-related activities / issues.

1.5 TERMS OF REFERENCE

Rhino Oil and Gas has appointed SLR Consulting (Pty) Ltd ("SLR") as the independent environmental assessment practitioner (EAP) responsible for undertaking the required environmental assessment and conducting the public participation process. The application will be subject to a scoping and EIA process as stipulated in the EIA Regulations 2014 (GNR 982, December 2014) made under Section 24(5) of the NEMA. SLR has no vested interest in the proposed project and has declared its independence as required by the EIA Regulations 2014 (see Section 8).

The Scoping and EIA process being undertaken by SLR is aligned to the early-phase exploration work programme as proposed (see Section 2.3). The assessment of possible further exploration or future production is outside of the scope of this Scoping and EIA process. If such work were proposed by Rhino Oil and Gas (or another applicant) then they would need to seek further approval from PASA in terms of the MPRDA. Any further approval would be subject to an additional environmental assessment process with further public consultation as is required by NEMA.

1.5.1 DETAILS OF THE EAP

The details of the EAPs that were involved in the preparation of this scoping report are provided in Table 1-1 below.

TABLE 1-1: DETAILS OF THE EAP

DETAILS	REVIEWER	PROJECT MANAGER	Public Participation
Name of the practitioner	Jonathan Crowther	Matthew Hemming	Stella Moeketse
Responsibility on the project	Reviewer	EAP	Public Participation Manager
Tel No.:	+27 11 467 0945		
Fax No.:	+27 11 467 0978		
Postal address	PO Box 1596, Cramerview 2060		
E-mail address	jcrowther@slrconsulting.com	mhemming@slrconsulting.com	smoeketse@slrconsulting.com

None of the SLR personnel involved in the environmental assessment process have any interest in the project other than fair payment for consulting services rendered as part of the EIA process.

1.5.1.1 Qualifications and experience of the EAP

Matthew Hemming holds a Masters Degree in Conservation Biology, has over 10 years of relevant experience in the assessment of impacts associated with mining and exploration operations. Jonathan Crowther is a director at SLR, has over 26 years of relevant experience and is registered as an environmental assessment practitioner with the interim certification board and is also registered as an Environmental Scientist with the South African Council for Natural Scientific Professions (SACNASP).

Both Jonathan and Matthew have been involved in multiple impact assessment for large scale mining development in Southern Africa as well as onshore and offshore oil and gas exploration and production projects. Proof of registrations of the practitioners is provided in Appendix 1 and relevant curricula vitae are attached in Appendix 2.

1.6 PURPOSE OF THIS REPORT AND OPPORTUNITY TO COMMENT

Within an EIA process, the purpose of the Scoping Report is to identify the potential environmental issues and impacts associated with the exploration project and to agree on the level of assessment (plan of study) for the EIA. This Scoping Report was prepared to document the method and findings of the scoping process undertaken to date.

The draft Scoping Report was distributed for a 30-day comment period from 7 March 2016 to 11 April 2016 (including provision for 3 public holidays), in order to provide I&APs with the opportunity to comment on any aspect of the proposed project and the findings of the scoping process. Copies of the Scoping Report were made available at the following locations:

TABLE 1-2: LOCALITIES WHERE DRAFT SCOPING REPORT WILL BE AVAILABLE

Name and Location	Physical Address
Msunduzi Municipal Library	260 Church Street, Pietermaritzburg
Melmoth Library	20 Reinhold Street, Melmoth
Ashburton Library	C/O Old Main Road and Wally Hawyard Drive, Ashburton
Colenso Library	Sr George Street, Colenso
Camperdown Library	Library Road, Camperdown
Dundee Library	Boundary Street, Dundee
Greytown Library	141 Pine Street, Greytown
Howick Library	Main Street, Howick
Impendle Library	Mafahleni, next to Municipal Offices, Impendle
Ladysmith Library	Corner of Murchison Street and Alexander
Mooi River Library	Claughton Terrace, Mooi River
Msinga Library	Msinga Municipality, Main Road, Msinga
Nkandla Library	Maree Street, Nkandla
Nquthu Library	1139 Mangosuthu Drive, Nquthu
Richmond Library	57 Shepstone Street, Richmond
Weenen Library	Next to Wembezi Police Station
New Hanover	Dale Street, New Hanover

The Scoping Report was also available to download from the SLR ftp site. To do so, please visit:

<ftp.slrconsulting.co.za>

Username: 723.18034.00004

Password: hy578ht4

Please navigate to the Folder called: Draft Scoping Report

An electronic copy of the Scoping Report was emailed or provided on CD to those who requested it. The Executive Summary of the report was also available in English and isiZulu.

Comments on the Scoping Report were submitted to SLR at the details shown in Table 1-1. These comments were used to update the Scoping Report which is being submitted to PASA for acceptance. For comments to be included in the updated Scoping Report these had to reach SLR by **11 April 2016**. A summary of I&AP comments on the Scoping Report, and the response thereto, are provided in Table 5-2 with copies of the comments included in Appendix 6.2. If the Scoping Report is accepted by PASA, the project will proceed onto the EIA phase.

1.7 ASSUMPTIONS AND LIMITATIONS

The assumptions and limitations of this Scoping Report are listed below:

- The assessment assumes that SLR has been provided with all relevant project information and that it was correct and valid at the time it was provided;
- The assessment is based, to a large extent, on a generic description of the proposed exploration activities (specific details cannot be made available at the time of writing this report (e.g. core hole locations, seismic survey routes, etc.).
- There will be no significant changes to the project description or surrounding environment between the completion of the scoping and EIA process and implementation of the proposed project that could substantially influence findings, recommendations with respect to mitigation and management, etc.;
- The large size of the application area, information constraints of the project and the time constraints imposed by the EIA process did not allow for detailed baseline assessments of the whole application area. The report is therefore based on a desktop study of available baseline information and the findings of the public consultation process. Requirements for detailed site assessments during finalising of the core hole sites or seismic survey routes will be included in the EMPr, where necessary;
- As a result of large number of landowners and occupiers in the application area and the limited availability of accurate title deed and landowner contact information, identification of and consultation with every owner of included properties was not achieved. Much effort was made to make potentially affected parties aware through various other means (see Section 5.2); and
- Negotiations with landowners with respect to agreements for access to land to conduct exploration are outside of the scope of this EIA and will be undertaken by the applicant during the proposed exploration programme. The requirements for consultation with each landowner that will be directly affected by the proposed drilling activities or seismic survey will be included in the EIA/EMPr.

1.8 STRUCTURE OF THE REPORT

This Scoping Report has been compiled to contain all of the information as specified in Appendix 2 to the EIA Regulations 2014. The report is divided into various Chapters and Appendices for ease of reference which include:

TABLE 1-3: STRUCTURE OF THE SCOPING REPORT

Section	Content
Chapter 1:	<p>Introduction</p> <p>This Chapter describes the purpose of this report, provides a brief description of the project and the applicant background, summarises the authorisation requirements, presents the terms of reference of the scoping & EIA, outlines the assumptions and</p>

	limitations of the study, the opportunity for comment and describes the structure of the report
Chapter 2:	Description of the Project Activities Provides an overview of the project location, a description of the proposed exploration activities and the listed activities that require authorisation.
Chapter 3:	Policy and Legislative Context In accordance with the EIA Regulations 2014, all legislation and guidelines that have been considered in the preparation of the Scoping Report are documented in this Chapter.
Chapter 4:	Needs and Desirability Describes the need and desirability for the proposed project.
Chapter 5:	Process followed to reach the Preferred Alternative This chapter provides details on the process used to compare and evaluate the project alternatives to inform the selection of the preferred alternatives. Described are the various alternatives; the public participation process that has been followed to date; the issues raised by I&APs and the existing biophysical and social environment that could potentially be affected by the project. A comparative assessment of the advantages and disadvantages of the various alternatives is provided.
Chapter 6:	Anticipated Issues and Impacts The chapter describes key issues associated with the proposed project. It is these issues that will be subject to the impact assessment.
Chapter 7:	Plan of Study for EIA This chapter describes the nature and extent of further investigations to be conducted by SLR and the specialists in the EIA, and sets out the proposed approach to the EIA process.
Chapter 8:	Undertaking by the EAP Provides the required undertaking by the EAP.
Chapter 9	References Provides a list of the references used in compiling this report.
Appendices	Appendix 1: Proof of EAP registration Appendix 2: Curriculum vitae of EAP Appendix 3: List of included Properties Appendix 4: Site Plan Appendix 5: Stakeholder Engagement Documents Appendix 6: I&AP Responses

(Separate electronic file)

FIGURE 1-2: REGIONAL SETTING

2 DESCRIPTION OF THE SCOPE OF THE PROPOSED ACTIVITY

2.1 LOCATION OF THE ACTIVITY

The exploration right application area includes ~ 10 000 properties (farms and portions) over an area of ~ 1 500 000 (see Figure 1-2). The corner co-ordinates of the exploration area boundary are provided in Table 2-1. Given the large number of properties included, it is not feasible to include a cadastral description of every property in this document. However a list of the properties (farm name, number and portion), with the 21 digit Surveyor General code, included in the exploration right application area is provided in Appendix 3.

It should be noted that physical exploration activities would not take place across the entire region. Exploration applications are typically made over large areas as information on the potential locality of a resource is limited at this stage (refer to Section 1.3). It is also necessary to hold an exploration right to gain access to existing data. As early-phase exploration progresses the non-prospective areas will be relinquished (i.e. would be removed from the exploration right area).

TABLE 2-1: DESCRIPTION OF THE PROPERTIES

DESCRIPTOR	DETAIL	
Farm Names	See list in Appendix 3	
Application area (Ha)	~ 1 513 600 ha	
Magisterial Districts	Pietermaritzburg	
Distance and direction from nearest towns	All these towns are within the ER: Richmond, Pietermaritzburg, Howick, Greytown, New Hanover, Kranskop, Nkandla, Babanango, Tugela Ferry, Colenso.	
21 digit Surveyor General Code for each farm portion	Not provided	
Corner point co-ordinates for exploration area (approximate)	Latitude	Longitude
	28° 18' 5.35" S	30° 10' 37.06" E
	28° 19' 31.26" S	30° 9' 40.17" E
	28° 19' 34.74" S	30° 9' 39.80" E
	28° 19' 38.36" S	30° 9' 33.71" E
	28° 19' 37.67" S	30° 9' 24.70" E
	28° 19' 44.66" S	30° 9' 30.51" E
	28° 20' 35.18" S	30° 8' 59.06" E
	28° 20' 44.76" S	30° 9' 34.77" E
	28° 21' 36.04" S	30° 9' 11.03" E
	28° 22' 9.57" S	30° 10' 27.50" E
	28° 22' 16.37" S	30° 10' 27.53" E
	28° 22' 15.91" S	30° 10' 31.32" E
28° 23' 13.95" S	30° 10' 30.07" E	

28° 23' 19.65" S	30° 9' 44.12" E
28° 24' 53.25" S	30° 10' 13.53" E
28° 25' 22.09" S	30° 9' 45.57" E
28° 25' 19.59" S	30° 10' 21.24" E
28° 25' 55.26" S	30° 10' 32.57" E
28° 25' 57.73" S	30° 6' 27.73" E
28° 28' 54.22" S	30° 6' 39.37" E
28° 29' 43.60" S	30° 7' 51.68" E
28° 31' 57.37" S	30° 6' 41.56" E
28° 33' 26.43" S	30° 6' 22.57" E
28° 33' 11.64" S	30° 3' 45.48" E
28° 34' 13.23" S	30° 2' 33.02" E
28° 35' 38.63" S	30° 1' 46.75" E
28° 35' 4.22" S	29° 58' 57.56" E
28° 33' 26.46" S	29° 58' 5.96" E
28° 32' 51.16" S	29° 58' 9.77" E
28° 32' 47.62" S	29° 57' 46.49" E
28° 32' 6.72" S	29° 57' 25.99" E
28° 32' 28.47" S	29° 55' 38.73" E
28° 32' 53.11" S	29° 55' 18.34" E
28° 33' 39.47" S	29° 55' 52.97" E
28° 33' 39.27" S	29° 54' 38.36" E
28° 33' 21.46" S	29° 54' 39.34" E
28° 34' 58.96" S	29° 51' 2.49" E
28° 34' 58.94" S	29° 51' 2.45" E
28° 35' 19.16" S	29° 50' 40.16" E
28° 35' 44.41" S	29° 49' 44.75" E
28° 36' 22.50" S	29° 49' 22.18" E
28° 36' 22.50" S	29° 49' 22.15" E
28° 36' 30.08" S	29° 49' 13.17" E
28° 36' 32.29" S	29° 48' 29.86" E
28° 36' 4.64" S	29° 47' 59.52" E
28° 35' 24.17" S	29° 47' 25.27" E
28° 35' 37.99" S	29° 47' 20.32" E
28° 35' 45.79" S	29° 46' 42.96" E
28° 35' 32.55" S	29° 45' 38.95" E
28° 35' 24.98" S	29° 45' 36.41" E
28° 35' 26.20" S	29° 45' 31.75" E

28° 34' 58.96" S	29° 44' 39.12" E
28° 34' 58.97" S	29° 38' 54.48" E
28° 49' 15.88" S	29° 38' 54.48" E
28° 49' 15.88" S	30° 1' 12.00" E
28° 50' 28.29" S	30° 1' 11.95" E
28° 49' 47.27" S	30° 2' 15.87" E
28° 49' 32.21" S	30° 2' 14.77" E
28° 47' 58.50" S	30° 4' 4.43" E
28° 47' 55.60" S	30° 6' 45.33" E
28° 50' 10.30" S	30° 7' 11.91" E
28° 50' 58.12" S	30° 7' 27.86" E
28° 51' 6.81" S	30° 7' 14.19" E
28° 53' 58.49" S	30° 5' 44.19" E
28° 53' 14.25" S	30° 4' 36.10" E
28° 53' 10.26" S	30° 4' 37.56" E
28° 52' 51.53" S	30° 3' 28.02" E
28° 52' 54.37" S	30° 3' 18.35" E
28° 52' 49.55" S	30° 3' 9.18" E
28° 52' 36.16" S	30° 2' 11.29" E
28° 51' 36.11" S	30° 1' 11.89" E
29° 10' 52.23" S	30° 1' 11.01" E
29° 11' 49.61" S	30° 1' 38.51" E
29° 11' 54.77" S	30° 1' 39.38" E
29° 12' 1.17" S	30° 1' 44.18" E
29° 12' 4.77" S	30° 1' 44.30" E
29° 12' 11.77" S	30° 1' 31.74" E
29° 12' 11.81" S	30° 1' 36.66" E
29° 12' 30.52" S	30° 1' 50.53" E
29° 12' 48.08" S	30° 1' 51.33" E
29° 12' 48.54" S	30° 1' 38.25" E
29° 13' 0.02" S	30° 1' 38.77" E
29° 13' 0.48" S	30° 1' 25.69" E
29° 13' 14.87" S	30° 1' 27.67" E
29° 13' 21.76" S	30° 1' 10.90" E
29° 21' 6.05" S	30° 1' 10.55" E
29° 21' 28.19" S	30° 1' 30.52" E
29° 21' 58.68" S	30° 1' 10.50" E
29° 43' 22.35" S	30° 3' 34.04" E

30° 9' 4.60" S	30° 7' 54.25" E
30° 9' 26.46" S	30° 17' 0.71" E
30° 9' 8.89" S	30° 17' 5.86" E
30° 9' 15.46" S	30° 17' 31.92" E
30° 9' 23.41" S	30° 17' 35.53" E
30° 9' 23.20" S	30° 17' 39.80" E
30° 9' 15.30" S	30° 17' 36.73" E
30° 9' 9.30" S	30° 18' 16.88" E
30° 9' 29.13" S	30° 18' 7.30" E
30° 9' 38.53" S	30° 22' 2.44" E
29° 44' 45.70" S	30° 31' 39.21" E
29° 44' 1.55" S	30° 31' 38.63" E
29° 44' 1.61" S	30° 31' 26.59" E
29° 43' 51.08" S	30° 31' 26.78" E
29° 43' 27.96" S	30° 31' 32.43" E
29° 43' 20.34" S	30° 31' 28.08" E
29° 43' 12.70" S	30° 31' 31.76" E
29° 43' 10.95" S	30° 31' 37.95" E
29° 23' 33.40" S	30° 31' 22.25" E
29° 4' 2.89" S	30° 54' 50.26" E
28° 45' 40.23" S	30° 54' 33.30" E
28° 37' 13.24" S	31° 15' 32.04" E
28° 0' 54.27" S	31° 14' 3.81" E
28° 8' 49.49" S	30° 58' 41.34" E
28° 27' 46.04" S	30° 27' 35.54" E
28° 48' 9.07" S	29° 59' 21.38" E
28° 41' 11.40" S	29° 57' 13.93" E
28° 24' 9.85" S	30° 21' 29.05" E
28° 10' 12.59" S	30° 15' 15.07" E
28° 10' 13.14" S	30° 15' 12.38" E
28° 10' 14.63" S	30° 15' 13.18" E
28° 10' 16.91" S	30° 15' 14.46" E
28° 10' 17.17" S	30° 15' 13.17" E
28° 10' 19.03" S	30° 15' 9.05" E
28° 10' 20.98" S	30° 15' 7.17" E
28° 10' 22.88" S	30° 15' 6.28" E
28° 10' 23.06" S	30° 15' 6.89" E
28° 10' 23.89" S	30° 15' 6.63" E

	28° 10' 24.35" S	30° 15' 6.93" E
	28° 10' 31.84" S	30° 15' 13.03" E
	28° 10' 32.65" S	30° 15' 11.36" E
	28° 10' 31.84" S	30° 15' 6.97" E
	28° 10' 45.01" S	30° 15' 2.47" E
	28° 10' 44.16" S	30° 14' 58.85" E
	28° 10' 45.11" S	30° 14' 58.38" E
	28° 10' 43.76" S	30° 14' 54.66" E
	28° 10' 43.76" S	30° 14' 54.66" E
	28° 11' 57.04" S	30° 14' 40.40" E
	28° 11' 20.71" S	30° 13' 16.17" E
	28° 11' 20.73" S	30° 13' 16.14" E
	28° 11' 32.99" S	30° 12' 57.19" E
	28° 12' 34.93" S	30° 12' 53.07" E
	28° 13' 57.85" S	30° 12' 32.41" E
	28° 15' 40.22" S	30° 12' 40.17" E
	28° 16' 10.92" S	30° 11' 51.54" E
	28° 16' 6.89" S	30° 11' 40.36" E
	28° 16' 25.91" S	30° 10' 57.60" E
	28° 16' 52.38" S	30° 10' 32.28" E
	28° 17' 2.20" S	30° 10' 3.54" E

2.1.1 EXCLUSIONS

Section 48 of the MPRDA sets out the specific cases in which properties are excluded from the extent of an exploration right application area. These include:

- as per section 48 of the Protected Areas Act (57 of 2003), special nature reserves, national parks, nature reserves, protected areas or protected environments (including world heritage sites, marine protected areas, specially protected forest areas, forest nature reserves and forest wilderness areas)
- land comprising a residential area;
- any public road, railway or cemetery;
- any land being used for public or government purposes or reserved in terms of any other law; or
- areas identified by the Minister by notice in the Gazette in terms of section 49.

All of the above are excluded from the exploration right application area for this project. Further exclusions may be identified as the exploration process progresses (e.g. railway line servitudes).

Rhino Oil and Gas has indicated that, for the purposes of this ER, it will not be excluding properties or areas where a constraint may restrict exploration activity (current or future), but does not specifically prohibit the granting of an exploration right. Rhino Oil and Gas would, however, ensure that all of their activities are undertaken in a lawful and environmentally responsible manner. It is the role of the environmental process to identify all such constraints and restrict or prohibit exploration activities through documented management commitments. An example of a constraint which prohibits specific exploration activities in certain areas, but does not prohibit the granting of a right are Sections 122 (2) and (3) of the Regulations on Petroleum Exploration and Production (GN R 466, June 2015). These restrictions prohibit “well sites for Hydraulic Fracturing operations” and “wells” within set distances from specific water resources. The term “well” is defined in the Regulations. The restrictions do not apply to stratigraphic core holes (defined separately) or seismic testing as is proposed by Rhino Oil and Gas in this early-phase exploration project.

SLR will identify and document the relevant constraints in the EIA. Measures to restrict exploration activity in line with the constraints will be defined in the EMP.

2.1.2 REGIONAL SETTING OF EXPLORATION RIGHT AREA

In broad terms the exploration application area extends from Richmond in the south to Ladysmith and Dundee in the north-west, passing just eastwards of Mooi River and Estcourt. In the north the area extends east almost to Ulundi and includes the regions around Tugela Ferry and Nkandla. The extent of the area narrows toward the south, including Kranskop, New Hanover and Asburton but being bounded just west of Camperdown. Mooi River, Estcourt and Weenen in the west and Ladysmith and Dundee in the north are outside of the area. A map showing the locality and setting of the proposed exploration right application area is provided in Figure 1-2 (also see Appendix 3).

At this early stage of exploration Rhino Oil and Gas is not able to specify where on-the-ground exploration activities would happen within this area, as the data from the initial non-invasive stages in years 1 and 2 would have to be used to refine the exploration area and determine the sites for core hole drilling and the alignment of seismic survey lines.

2.2 LISTED AND SPECIFIED ACTIVITIES

The activities and infrastructure associated with the proposed project are listed in Table 2-2 below. In each case the relevant NEMA listed activities which will be triggered by the proposed project for the various activities and infrastructure has been identified and fully described in Table 2-3. This list comprises the NEMA activities for which an application has been made.

TABLE 2-2: ACTIVITIES OF THE PROPOSED PROJECT

ACTIVITY	EXTENT OF THE ACTIVITY (HA)	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
Exploration for oil, gas, condensate, coal bed methane, helium & biogenic gas			
Evaluation of existing geological data	0	18, Any activity including the operation of that activity which requires an exploration right as contemplated in section 79 of the Mineral and Petroleum Resources Development Act , 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks.	NEMA LISTING NOTICE 2: GNR.984
Mapping of sub-surface structural features and stratigraphy	0		
Acquisition of data on source-rock geochemistry (with some acquisition of rock samples)	0		
Development of geological models	0		
Apatite fission track analysis	0		
Full tensor gradiometry gravity (FTG) surveys by fixed wing aircraft	4000 km ² (in the air)		
Core borehole drilling	Maximum of 10 boreholes at sites of max 0.20 ha each		
Two-dimensional (2D) seismic surveys	Maximum of 125 linear kilometres		

TABLE 2-3: LISTED ACTIVITIES APPLIED FOR AS PART OF THE PROPOSED PROJECT

ACTIVITY NUMBER	LISTED ACTIVITY
NEMA LISTING NOTICE 1 GNR.983	
NA	
NEMA LISTING NOTICE 2: GNR.984	
18	Any activity including the operation of that activity which requires an exploration right as contemplated in Section 79 of the Mineral and Petroleum Resources Development Act , 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks.
NEMA LISTING NOTICE 3: GNR. 985	
NA	
NEM:WA LISTED ACTIVITIES GNR 921	
NA	

Rhino Oil and Gas has not made application for any other NEMA listed activities, nor authorisations under other legislation, as it is unlikely that the proposed exploration activities (see next section) will trigger any of the thresholds in the listing notices. Where necessary, the environmental management programme will detail restrictions required to ensure that no unauthorised activities are undertaken during the proposed exploration.

2.3 DESCRIPTION OF THE ACTIVITIES TO BE UNDERTAKEN

This Section provides a scoping level description of the activities that have been proposed by Rhino Oil and Gas as part of the early-phase exploration work programme. Further details on the operations and key parameters of exploration methods will be provided in the EIA report.

2.3.1 INTRODUCTION

The hydrocarbon potential of the Karoo Basin has been known since the early 1900s and various exploration programmes were undertaken in the 1940s and the 1960s. This work included seismic surveys and the drilling of several deep wells which targeted oil. Although some resources were discovered the reserves were not considered viable at the time. With the discovery of offshore reserves, exploration for petroleum in the onshore areas was largely abandoned. Recent developments in the technologies available to exploit unconventional gas resources and volatility in supply and prices of hydrocarbons have made prospecting for natural gas (and other petroleum resources) a more attractive financial proposition (less so with the recent decline in oil prices). Several organisations have commenced exploration efforts in the greater Karoo region, targeting, mostly coal bed methane or shale gas (see the PASA map at <http://www.petroleumagency.co.za/index.php/maps>). See Figure 5-1.

Rhino Oil and Gas proposes to undertake early-phase exploration for oil and gas resources which may be located within suitable subsurface geological strata. The initial, early-phase exploration proposed by Rhino Oil and Gas is only aimed at determining if there is an oil or gas resource in the area that would warrant further exploration. The exploration work would target key geologies of the Karoo Basin.

The primary motivation for the current application is to obtain the data required to clearly define geological structures. The proposed early-phase exploration activities do not, at this stage, extend beyond the acquisition of data. The results of the proposed early-phase exploration programme would serve as a basis for planning for further exploration. It must be noted that the exploration right application area is extensive and it is not considered feasible nor necessary to undertake surveys of every aspect of the area in order to obtain the regional understanding that is required.

The specific 3-year exploration work programme proposed by Rhino Oil and Gas for this exploration right application includes:

YEAR 1:

- **improved mapping of subsurface structure and stratigraphy**
- **detection of structural features and traps**
- **enhance source rock geochemistry database**

YEAR 2:

- **geochemical database compilation**
- **apatite fission track analysis**
- **define the locations (routes) for the site activities**

YEAR 2/3:

- **full tensor gradiometry gravity survey (maximum total survey size of 4000 square kilometers)**
- **drill tests on identified structures (up to a maximum of 10 core holes)**

YEAR 3:

- **purchase existing seismic data**
- **seismic acquisition (2D seismic acquisition of up to 125 line kilometers).**

Through an analysis of existing (historical) seismic and well information data retrieved during the TCP-programme, and from studying published field data in combination with the information derived from Year 1 and 2, Rhino Oil and Gas would identify preliminary locations and/or routes for the field activities. It must be noted that the exploration work is phased with results from the early phases informing the need and planning for the later phases. Each later phase would only be undertaken if the early phase results were positive.

It is not yet possible to specify the location of, or site plans for the proposed activities as these are dependent on the outcome of the prior phases of exploration, which can only be conducted once the ER is approved. For information purposes various diagrams, photos and typical layouts of the type of activities proposed are provided in Appendix 4.

2.3.2 EVALUATION OF GEOLOGICAL DATA

The initial phase of the exploration would be desktop based and aim to identify target sites for core hole drilling and seismic surveys. This work would be undertaken in the initial period, but would continue throughout exploration as new data is acquired or generated:

- Extensive review of available information that exists over the areas of interest will be undertaken. These investigations would include identifying:
 - Sources of published and possibly unpublished data from the Council for Geoscience;

- Private companies that may have information that could be purchased; and
 - Resources such as information from annual reports of companies close to, or adjoining the properties of interest.
- Creation of geological models based on the database collated from these various sources;
 - Detection of structural features and traps;
 - Apatite fission track analysis;
 - Remote sensing, including the analysis of existing geophysical data available from the CGS;
 - Visualisation of various targets (target generation);
 - A “pre-feasibility” analysis of the targets based on all the data gathered and analysed.

2.3.3 Source Rock Geochemistry Database

Rhino would acquire data on source-rock geochemistry. This may include the acquisition of rock samples from surface outcrops for laboratory analysis. A database on geochemistry of the region would be compiled.

2.3.4 Full Tensor Gradiometry Gravity Survey

Rhino would purchase full tensor gradiometry gravity (“FTG”) survey data where available and may commission further surveys to image subsurface geology. FTG is used for hydrocarbon and mineral exploration via an airborne platform. The fundamental component of a gravity gradiometer is the gravity gradient instrument (“GGI”), which consists of a slowly rotating disk on which are mounted four very precise accelerometers (termed a ‘complement’). The arrangement of the accelerometers together with their rotation allows a GGI to measure gravity gradients – a very small signal – despite the presence of noise from the movement of the platform and the electronic systems themselves. A GGI produces two data channels representing the differential curvature of the Earth’s gravity field in the frame of reference of the rotor. FTG surveys measure minute variations in the Earth’s gravitational field to help image subsurface structures. From these surveys, a detailed interpretation of the subsurface geology can focus future exploration objectives.

Such surveys are flown in fixed wing aircraft fitted with the FTG equipment. The survey involves low-level grid-based flight of a light aircraft at slow speeds. FTG surveys provide a less invasive alternative to acquiring land-based data. This is an advantage when surveying environmentally sensitive areas and when trying to acquire onshore data where extensive permitting is required. Airborne acquisition neutralises any access and terrain issues associated with difficult to access areas.

2.3.5 Core Borehole Drilling

Rhino has proposed to drill up to a maximum of 10 stratigraphic core holes as part of the early exploration work programme. These core holes, and the equipment used to drill them, are of the same

type and scale as the water boreholes present on most farms and prospecting boreholes used for other minerals. Tens of thousands of such coreholes have been drilled in the history of mineral prospecting in South Africa. The diameter of the proposed core hole is even too small for the holes to be used for water abstraction.

Drilling requires the use of a truck or trailer mounted, mobile drilling rig at target sites. Drill sites will be accessed using existing roads and farm tracks. The drill rig would be accompanied by supporting equipment such as a water bowser, compressor and vehicles. The drill rig is manned by a staff of approximately five (5) persons. A typical diamond core drill rig and equipment requires an operating area of approximately 1 200 m² (ie. 30 m by 40 m). There may be an on-site caravan for the logging of core data.

Drilling would aim to reach the target seams which are generally located at depths of greater than 200 m below the surface. It is possible that drilling may go as deep as 3 000 m in order to define the bottom of the sedimentary layers. Core drilling uses a diamond bit to cut a core (up to 116 mm diameter) out of the rock. As with most drilling methods some water and drilling fluids are added down the hole to lubricate the drill bit, remove drill cuttings and maintain ideal operating conditions. Some of the drilling fluids are recycled in tanks on surface. Full details of the water volumes, types of drilling fluids and the water management will be provided in the EIA report.

The core is removed from the tube and washed, measured, marked and placed into sample trays. Some sections of the may be subject to laboratory analysis for petrologic, structural and mineralogical studies of the rock.

Drilling and sampling at a site is normally completed within a few weeks. Once drilling is completed the rig, all associated equipment and waste products would be removed from site. The borehole would be capped pending further investigation or sealed with cement if not required further. Rehabilitation would be undertaken to re-establish pre-exploration land use. The process of managing the impacts and rehabilitating the exploration sites would be conducted in terms of an EMP approved by the PASA.

The location of core hole sites is not currently known. Locations would initially be determined from an assessment of geological information derived from the available data and the early phases of exploration. However, the exact location on the ground is flexible and can be adjusted to accommodate local features, landowner' needs and environmental sensitivities. Each proposed borehole site would be assessed against available GIS information to avoid known sensitivities. Access to borehole sites would follow existing access roads and disturbances with due consideration of environmental constraints. Proposed borehole site locations and access routes would also be subject to landowner agreement. Each proposed borehole site would also be assessed by an independent environmental scientist (or team of) to ensure that the location and the access thereto avoids known sensitivities, results in minimal environmental

disturbance and is in compliance with the conditions of the EMPr. Approval of the drilling sites would be sought from PASA prior to establishment.

Some examples of typical core drilling are shown in Figure 2-1. Further detail on the method of core hole drilling will be provided in the EIA report.



FIGURE 2-1: TYPICAL CORE BOREHOLE
(Sources De Beers and Pinnacle Drilling)

2.3.6 Seismic Acquisition and Surveys

Rhino would purchase existing seismic data where available and may commission seismic surveys to image subsurface geology. Seismic data allows for the representation of subsurface geology through the interpretation of seismic waves reflected differently by different geological strata.

Rhino is planning up to 125 km of two-dimensional (2D) survey lines comprising a number of separate lines covering the majority of the proposed exploration area. 2D surveys are typically applied to obtain regional data from widely spaced survey grids (tens of kilometres). A 2D survey provides a vertical slice through the earth's crust along the survey track-line. The vertical scales on displays of such profiles are generally in two-way sonic time, which can be converted to depth displays by using sound velocity data. If required, infill surveys on closer grids (down to a 1 km spacing) are applied to provide more detail over

specific areas of interest such as potentially drillable petroleum prospects. Seismic survey methods are not new in South Africa and have been used in many mineral prospecting operations.

The route of survey lines is initially determined from a desktop assessment of geological information. However, the exact route on the ground is flexible and can be adjusted to accommodate local features, landowner' needs and environmental sensitivities. Each survey line would be assessed against available GIS information to avoid known sensitivities. Survey lines would, where possible, follow existing access roads and disturbances with due consideration of environmental constraints. Survey lines would also be subject to landowner agreement. Each survey line would also be assessed by an independent environmental scientist (or team of) to ensure that the location and the access thereto avoids known sensitivities, results in minimal environmental disturbance and is in compliance with the conditions of the EMPr. Approval for each of the survey routes would be sought from PASA in advance of undertaking the activity.

During a survey low frequency, long wavelength acoustic waves are generated through the use of an energy source (Vibroiseis truck or explosive shot). The resultant seismic waves, and the reflection of these, are recorded at the surface in geophones laid at set spacing in a linear alignment. Analysis of the return waves provides information about rock types and possible gases or fluids in rock formations.

Survey teams (of between 15 and 25 persons) would require short-term access to farms to survey the route, prepare the line, place generating and receiving equipment, undertake the survey and record the data. Substantial vegetation clearance is generally not required unless the survey were to go through dense bush. In most cases the survey route would follow existing roads, tracks and clear areas. The explosive-shot seismic surveys require the drilling of shallow holes (5 to 30 m in depth) at a regular spacing (20 to 200m intervals) for the placement of the acoustic generating shot. The hole is loaded with an explosive charge designed to propagate into the earth, backfilled and the charge is set off with the recording in progress. If a blast crater is made this is backfilled immediately. The vibratory method uses large Vibroseis trucks with plate that is lowered to the ground at a regular intervals to vibrate the ground. Persons standing near a shot hole or Vibroseis truck (within 20 to 50 m) may be able to detect a slight vibration. The low level of the vibration would be such that it would be very unlikely to have any effect on subsurface animals and would be hardly noticeable to humans and animals. Full details of the seismic method and key parameters including peak particle velocity and noise levels will be provided in the EIA report. Appropriate stand-off distances between the seismic source and receptors would need to be determined.

In two-dimensional (2D) reflection seismic surveying both the sound source and the sound detectors (numbering up to a hundred or more per shot) are moved along a straight line. The resultant product can be thought of as a vertical sonic cross-section of the subsurface beneath the survey line. It is constructed by summing many compressional (pressure) wave reflections from the various sound source and sound

detector locations at the halfway sound path points beneath each location (common depth point stacking). Seismic surveys are an important tool for identifying subsurface rocks of different thickness and hardness, as well as places where the geological formations are folded or faulted into possible natural gas traps. Geophysicists can identify the structure, outline, thickness and depth of the formation by interpreting the seismic section.

With cognisance for landowner requirements and the environment, the equipment to be used would be small, portable and unobtrusive. Equipment will entail 4x4 vehicles (bakkies), vehicle-mounted drills (likely small and specifically designed for off-road areas), and small trucks to transport signal source, recording and personnel support equipment. The time taken to complete the surveys varies but under good conditions as much as 10 km can be completed per day. Once surveys are completed all associated equipment would be removed from site. Where surface areas have been disturbed (by shot holes etc) rehabilitation would be undertaken to re-establish pre-exploration land use. The process of managing the impacts and rehabilitating the exploration sites would be conducted in terms of an EMPR approved by the PASA.

A diagrammatic representation of the seismic surveys is shown in Figure 2-2.

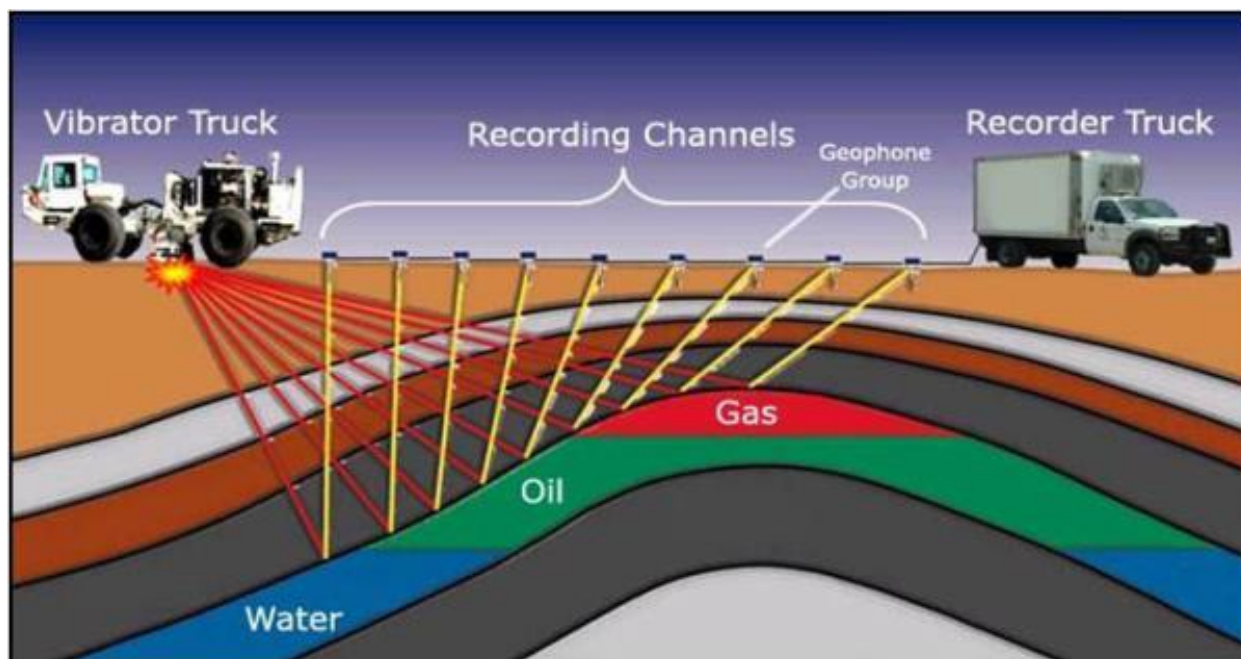


FIGURE 2-2: SCHEMATIC OF TYPICAL SEISMIC SURVEY

(in this case using a Vibrator Truck)

2.3.7 Supporting Infrastructure

None of the proposed exploration activities require the establishment of any permanent infrastructure. Sites would be accessed on existing roads or farm tracks as available. Staff would be accommodated at a location agreed with the landowner or in nearby towns.

2.3.8 Inputs

Equipment for the seismic surveys and drilling would be provided by specialist contractors. The majority of equipment, consumables and even labour for these services is specialised. Contractors and suppliers would be encouraged to source locally as much as is feasible. Electricity, if required, would be provided by on-site generators unless an Eskom supply is available.

Water required for the operation of the drilling rig as well as potable water would be obtained from an available source and in compliance with legislation. The total volume required for drilling depends on the formations encountered, but is estimated to be less than 5 000 L per day of drilling. The total water use per hole is likely to be less than 100 000 L. The water may be bought from a supplier or pumped from a river or stream or sourced from a borehole. The daily water requirements for operations will be restricted to within the water volumes permitted by the General Authorisation (No. 1191 in the Government Gazette No. 26187 published on 26 March 2004) issued by the Department of Water & Sanitation for the taking of water from a resource or a Water Use Licence will be needed.

2.3.9 Outputs

Chemical toilets will be provided for the personnel. The toilets would be supplied and managed by a specialist contractor and the sewage disposed of at the nearest licenced sewage treatment works, or as required by the local authority.

All general and hazardous waste generated at the drilling site would be separated and stored in containers, before being removed from site and disposed at an appropriate waste disposal facility.

The core recovered from the drilling would most likely be stored in a core shed for analysis and record keeping. Mineral residues produced during drilling practices will be managed in terms of the MPRDA and appropriate regulations, most notably Regulation 704 (4 June 1999) under the NWA and Regulation 632 on the Planning and Management of Residue Stockpiles and Residue Deposits (July 2015) under the NEMWA.

2.3.10 FURTHER EXPLORATION OR FUTURE PRODUCTION

Rhino Oil and Gas have stated that the ultimate goal for the long-term project is to extract hydrocarbons in a commercially viable manner. However, it has indicated that there is currently insufficient information to determine if there is a resource and what techniques might be required for future hydrocarbon extraction. Prior to the early-phase exploration (as proposed) being concluded they are therefore not able to provide any information on what the future may bring with regards the extraction of hydrocarbons. In this regard early-phase exploration is the first stage of the exploration process, and a prerequisite to

further exploration or future production. Refer to section 1.3 for details on the process required to develop an oil or gas resource.

What can be stated categorically is that further detailed exploration and future production do not form part of the current exploration right application. No extraction of hydrocarbons or water, no stimulation of wells or hydraulic fracturing (fracking) is proposed in the 3-year exploration work programme for which approval is sought.

If the early-phase exploration were to confirm the presence of a potential resource, then Rhino Oil and Gas 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 Oil and Gas would need to secure a production right from PASA. Hydraulic fracturing could be one of the potential techniques for gas production. Any application for a production right has to be subject to an environmental assessment process with further public consultation. Approvals are also likely to be required in terms of other legislation.

All further exploration work or future production operations that may arise, if resources are discovered, is therefore beyond the scope of the current Scoping and EIA process.

3 POLICY AND LEGISLATIVE CONTEXT

In accordance with the EIA Regulations 2014, all legislation and guidelines that have been considered in the preparation of the Scoping Report must be documented. The table below provides a summary of the applicable legislative context and policy. The requirements of this framework, as relevant to the proposed activities, will be detailed in the EIA.

TABLE 3-1: LEGAL FRAMEWORK

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	RELEVANCE OR REFERENCE
<p>Mineral and Petroleum Resources Development Act (MPRDA) of 2008. Section 79 and associated regulations (GN No. R527)</p>	<p>It is a legal requirement to obtain an exploration right before commencing with any exploration activity.</p> <p>Rhino has applied to PASA for an exploration right.</p> <p>An exploration right cannot be granted without an environmental authorisation as per Section 79(4) of the MPRDA. This Scoping Report is one of the reports required to inform the application for environmental authorisation made under the NEMA.</p>
<p>Regulations on Petroleum Exploration and Production (GN R 466, July 2015)</p>	<p>The Regulations augment the MPRDA Regulations, so as to prescribe standards and practices to ensure the safe exploration and production of petroleum.</p> <p>Where the context requires, this report has addressed the requirements of the Regulations. It must be noted that the applicant only proposes to drill 'stratigraphic wells' as defined in the Regulations.</p>
<p>National Environmental Management Act (NEMA) of 1998. Section 2 and 24(5)</p>	<p>Section 2 of NEMA sets out a range of environmental principles that are to be applied by all organs of state when taking decisions that significantly affect the environment. Included amongst the key principles is that all development must be socially, economically and environmentally sustainable and that environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably. NEMA also provides for the participation of I&APs and stipulates that decisions must take into account the interests, needs and values of all I&APs.</p> <p>NEMA provides for a schedule of listed activities that may not be undertaken without environmental authorisation from a competent authority.</p>
<p>EIA Regulations 2014 (GN R 982 of December 2014)</p>	<p>The EIA Regulations 2014 define the requirements for the submission, processing, consideration and decision of applications for environmental authorisation of listed activities.</p> <p>This report has been compiled to comply with Section 21 and to meet the</p>

	requirements of Appendix 2 of the EIA Regulations 2014.
2014 Listing Notices (GN R 983, 984 and 985 of December 2014)	<p>The listing notices set out the activities which require assessment to inform an environmental authorisation decision from the competent authority.</p> <p>Exploration is an activity listed in Listing Notice 2 and therefore requires a Scoping and EIA process to inform the environmental authorisation.</p> <p>No other activities are being proposed that trigger the need for an environmental authorisation.</p>
Environmental Management Framework Regulations (GNR 547 of 2010).	<p>Provides for the development of Environmental Management Frameworks for specific geographic areas aimed at promoting sustainability; securing environmental protection; and promoting cooperative environmental governance.</p> <p>The provisions of approved Environmental Management Frameworks, if any, will be addressed in the EIA.</p>
National Environmental Management Waste Act (NEMWA) of 2008.	<p>The NEMWA regulates all waste, including that from exploration. Listed waste management activities above certain thresholds are subject to a process of impact assessment and licensing.</p> <p>No activities are being proposed that trigger the need for a Waste Management Licence.</p> <p>Management of wastes arising from exploration must be undertaken in compliance with the NEMWA and the Regulations Regarding the Planning and Management of Residue Stockpiles And Residue Deposits.</p>
National Environmental Management Air Quality Act (NEMAQA) of 2004.	<p>The NEMAQA regulates all aspects of air quality, including prevention of pollution, providing for national norms and standards and including a requirement for an Atmospheric Emissions Licence for listed activities, which result in atmospheric emissions and have or may have a significant detrimental effect on the environment. In terms of Section 22 no person may conduct a listed activity without an Atmospheric Emission Licence.</p> <p>No activities are being proposed that trigger the need for an Atmospheric Emission Licence.</p>
National Water Act (NWA), 1998 Section 21	<p>The NWA regulates all aspects of the water resource, including prevention of pollution, providing for national norms and standards and the requirement for authorisation of uses listed in Section 21. Uses are either Generally Authorised or a Water Use Licence must be obtained.</p> <p>No activities are being proposed that trigger the need for a Water Use Licence, although certain water uses would need to be assessed once the volumes and localities are known.</p>
Regulations on use of water for mining and related activities aimed at the protection of water resources (GN R 704)	<p>These regulations under the NWA were made in respect of the use of water for mining and related activities and are aimed at the protection of water resources. Where the context requires, this report has addressed the</p>

	requirements of these regulations.
National Heritage Resources Act, 1999 (NHRA)	The NHRA provides for the protection of all archaeological and paleontological sites and meteorites. Under the general protection provisions, no person may alter, demolish, destroy or remove any of these resources without a permit issued by the relevant provincial resources authority. In addition, any person who in the course of an activity discovers archaeological, palaeontological, meteorological material or burial grounds or graves, must immediately cease the activity and notify the responsible heritage resources authority. Section 38 of the Act defines the categories of development for which the responsible heritage resources authority must be notified. Amongst others, under Section 38 (c) 'any development or other activity which will change the character of a site-(i) exceeding 5000 m ² ' the responsible heritage authority must be informed of a development larger than 0.5 ha. No activities are being proposed that trigger the need for a heritage permission.
National Environmental Management: Protected Areas Act (No. 57 OF 2003) (NEMPAA)	The NEMPAA provides for protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes. Section 48 of his Act restricts certain activities (incl. exploration) within protected areas.
National Environmental Management Biodiversity Act (NEMBA) 10 of 2004.	The objectives of NEMBA are to provide for the management and conservation of biological diversity within the Republic . The requirements of this legislation, if any, will be addressed in the EIA.
National Forests Act (No 84 of 1998)	Provides for the sustainable management and development of forests for the benefit of all, including to provide special measures for the protection of certain forests and trees. Licensing is required for the destruction of certain indigenous trees. The requirements of this legislation, if any, will be addressed in the EIA.
Mountain Catchment Areas Act (No 63 of 1970)	Provides for the conservation, use, management and control of land situated in mountain catchment areas. The requirements of this legislation, if any, will be addressed in the EIA.
Spatial-Planning and Land Use Management Act (No. 16 of 2013)	Provides a framework for spatial planning and land use management. The requirements of this legislation, if any, will be addressed in the EIA.
KZN Conservation Act and Ordinance	The requirements of this legislation, if any, will be addressed in the EIA.

3.1 GUIDELINES AND POLICIES

3.1.1 NEMA PUBLIC PARTICIPATION GUIDELINE

The Department of Environmental Affairs published a Public Participation in the EIA Process guideline (2010) as part of the Integrated Environmental Management Guideline series. It provides guidance on the procedure and the provisions of the public participation process in terms of NEMA and its EIA Regulations as well as other relevant legislation.

3.1.2 PASA

PASA has Guidelines for Consultation with Interested and Affected Parties (December 2011). PASA developed these guidelines as a tool to assist applicants to undertake a comprehensive consultation process as prescribed by the MPRDA.

3.1.3 MUNICIPAL IDP AND SDF

The Integrated Development Plans (IDPs) and Spatial Development Frameworks (SDFs) of the local and district municipalities will be reviewed and relevant details presented in the EIA report. Consideration will also be given to applicable municipal policies/guidelines (EMF, ESP, C-Plan, IEMP etc), where these exist.

3.1.4 MINING AND BIODIVERSITY GUIDELINES

The South African National Biodiversity Institute (SANBI) and partners have produced a Mining and Biodiversity Guideline (2013) to provide practical guidance to the mining sector on how to address biodiversity issues in the South African context. This guideline provides a tool to facilitate the sustainable development of South Africa's mineral resources in a way that enables regulators, industry and practitioners to minimise the impact of mining on the country's biodiversity and ecosystem services.

The Guideline distinguishes between four categories of biodiversity priority areas in relation to their importance from a biodiversity and ecosystem service point of view as well as the implications for mining in these areas. These include areas designated as 1) Legally protected, 2) Highest biodiversity Importance, 3) High Biodiversity Importance, 4) Moderate Biodiversity Importance. The 'Highest biodiversity Importance' category is based on the mapped extent of critically endangered and endangered ecosystems, Critical biodiversity areas, river and wetland Freshwater Ecosystem Priority Areas (FEPAs) with a 1 km buffer and Ramsar sites.

The Guidelines indicates that if the presence of biodiversity features, leading to the categorisation as a 'Highest biodiversity Importance' area, are confirmed then this could be a fatal flaw or pose significant limitations for new mining projects. An environmental assessment should inform whether or not mining is acceptable, including potentially limiting specific types of prospecting or mining which may be deemed

not acceptable due to the impact on biodiversity and associated ecosystem services found in the priority area. Mining in such areas may be considered out of place and authorisations may well not be granted. If granted, the authorisation may set limits on allowed activities and methods, the extent thereof and impacts.

3.2 DETAILS OF THE SCOPING AND EIA PROCESS

The “One Environmental System” for South Africa commenced on 8 December 2014 removing the environmental regulation of prospecting, mining, exploration and production and related activities from the MPRDA and transferring it to NEMA. Under the “One Environmental System”, the Minister of Mineral Resources (or delegated authority) is the competent authority responsible for issuing Environmental Authorisations in terms of NEMA for mining and petroleum related activities. The Minister of Environmental Affairs, however, remains the appeal authority for these authorisations.

The EIA Regulations 2014 (GNR 982, December 2014) define the requirements for the submission, processing, consideration and decision of applications for environmental authorisation of listed activities. The DMR (with PASA as the designated agency) is the competent authority for decisions on applications for environmental authorisation where these relate to exploration as contemplated in Section 79 of the MPRDA.

Any activity that is captured in the listing notices requires environmental authorisation from the competent authority. Three Listing Notices were published (GN R 983, 984 and 985) to define activities that require either a Basic Assessment (BA) or a Scoping and EIA process in order to inform a decision from the competent authority. Exploration is described in Listing Notice 2 and as such requires a Scoping and EIA process to inform the authorisation decision.

In accordance with Appendix 2 to the EIA Regulations 2014 the objectives of the Scoping process are:

- To identify the relevant policies and legislation relevant to the activity;
- To present the need and desirability of the proposed activity and its preferred location;
- To identify preferred activity, technology and sites related to the project proposal;
- To ensure that all potential key environmental issues and impacts that would result from the proposed project are identified;
- To agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to determine the risks and impacts of the activity; and
- To identify suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of residual risks that require management and monitoring.

The Scoping and EIA process consists of a series of steps to ensure compliance with these. The process involves an open, participatory approach to ensure to ensure that all impacts are identified and that decision-making takes place in an informed, transparent and accountable manner. A flowchart indicating the Scoping and EIA process is presented in **Figure 3-1**.

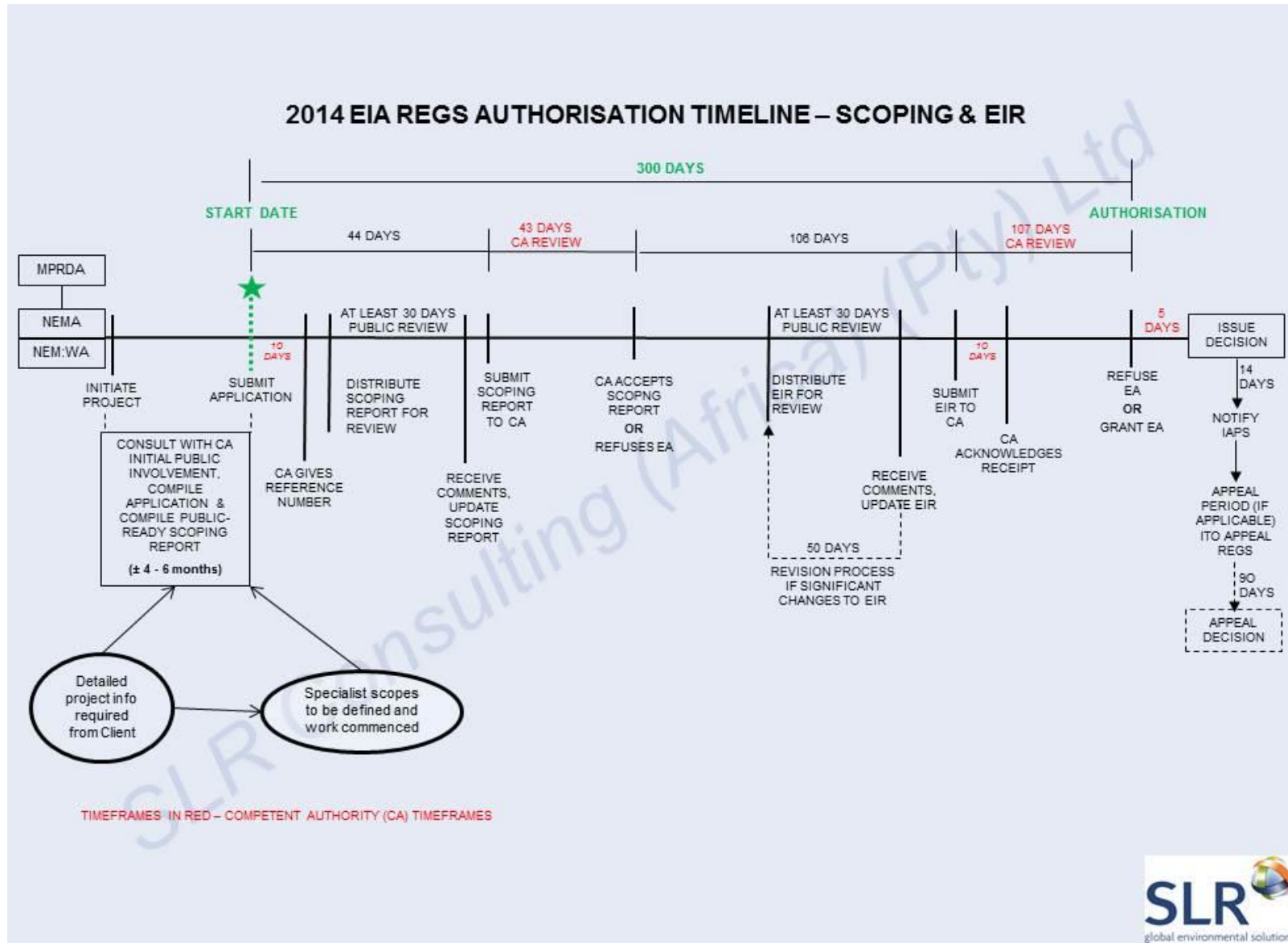


Figure 3-1: Scoping and EIA Process under the EIA Regulations, 2014

4 NEED AND DESIRABILITY OF THE PROPOSED PROJECT

Rhino Oil and Gas present the following rationale for the proposed project: Fossil fuels (including gas) play a central role in the socio-economic development of South Africa, while simultaneously providing the necessary infrastructural economic base for the country to become an attractive host for foreign investments in the energy sector (Ministerial foreword of the White Paper on the Energy Policy 1998). The White Paper on the Energy Policy (1998) is the overarching policy document which guides future policy and planning in the energy sector. It states that the government will, *inter alia*, “promote the development of South Africa’s oil and gas resources...” and “ensure private sector investment and expertise in the exploitation and development of the country’s oil and gas resources”. The successful exploitation of these natural resources would contribute to the growth of the economy and relieve pressure on the balance of payments. The Department of Energy states that “The introduction of natural gas into South Africa’s mainstream energy supply is an important step in the fulfilment of one of the major objectives of the White Paper on Energy Policy”.

The National Development Plan (NDP) (2012) provides the context for all development in South Africa, with the overarching aim of eradicating poverty and inequality between people in South Africa. The NDP identifies the need to diversify the current energy mix and to reduce carbon emissions. There is a clear intention for gas to play a more significant role in the energy mix and the exploration of gas as an alternative to coal for energy production has been recognised as a planning priority.

The position of the NDP is reiterated in the Draft Integrated Energy Plan (IEP) (2013), which seeks to determine how current and future energy needs can be addressed efficiently. Key objectives outlined in the plan include security of supply, increased access to energy, diversity in supply sources and primary sources of energy and minimising emissions. The plan indicates that projected demand for natural gas between 2010 and 2050 would be second only to petroleum products, primarily due to increased growth in the industrial sector. It also identifies significant potential for natural gas in terms of power generation and direct thermal uses.

An increase in domestic natural gas reserves would also contribute to security of supply in the gas-to-liquids industry, which relies on feedstock from coal, oil and gas reserves. The Draft IEP points out the vulnerability of the liquid fuels industry and its economy to fluctuations in the global oil market, given that South Africa is a net importer of oil. Furthermore, existing gas stocks in the domestic offshore are declining, and new sources of feedstock are required to support and increase production in the gas-to-liquids industry (NDP, 2012).

As such, exploration for additional domestic hydrocarbon reserves is considered important and any discoveries would be well received by the local market. The Department of Energy’s Integrated Resource Plan (2010-2030) supports this view, stating that regional and domestic gas options should be pursued.

In essence, the government's official position is that exploration and development of oil and gas fields should be encouraged.

The oil and gas industry in the United States provides \$300bn in additional revenue per year to US economy and supports around 10 million Hydrocarbon related jobs. Benefits of oil and gas exploration in the US include the following:

- Direct employment leads to a 3-fold increase in indirect employment. Direct job creation in the form of oil industry employees - specialist labour (petroleum engineers, drilling teams) and artisans (welders and fitters).
- Support service jobs are the major benefactors of petroleum production. Indirect job creation as the spin offs to hydrocarbon availability which include; Housing, retail, education, healthcare, food services, manufacturing, transportation and construction.
- Lower cost of energy

The real benefits of an oil and gas industry would come over the long term. South Africa's onshore oil and gas market is still in its infancy and by supporting domestic exploration, South Africa may one day realize the benefits of an oil and gas industry as the United States has.

The identification of potential geological structures or "prospects" within the proposed exploration licence area for future exploration and possible well-drilling provides an opportunity to develop a South African oil and gas industry resulting in long-term benefits 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. There is also potential in the long-term for local economic stimulation through direct employment, future business opportunities, royalties and tax revenues.

In summary, 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. Every barrel of oil or cubic foot of gas that is produced domestically instead of being imported will mean more jobs, faster growth and a lower trade deficit.

Further details on the need and desirability of the project, with consideration of relevant National policy documents, will be provided in the EIA report.

5 PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED ALTERNATIVE

Early-phase exploration, for which approval is sought in the case of this exploration right application, is undertaken with the purpose of identifying whether a petroleum resource that could be investigated further does exist. In previous decades exploration techniques generally involved drilling at sites where surface geology or ‘hunches’ lead companies to believe a resource may be present. This resulted in the drilling of many wells, a large number of which were unnecessary. Exploration has advanced to use scientific methods (systematic geological mapping, geochemical analysis and seismic surveys) to identify rock formations likely to contain petroleum resources. This has resulted in a significant increase in the success rate of exploration and much less ‘unnecessary’ disturbance.

Current early-phase exploration methods allow for the identification of locations of potential petroleum resources with the least risk in regards to cost, safety and potential environmental impact. Rhino Oil and Gas is thus of the opinion that the methods proposed for this early-phase exploration are the preferred alternatives to investigate the presence of any petroleum resources.

5.1 DETAILS OF ALL ALTERNATIVES CONSIDERED

5.1.1 PROPERTY OR LOCALITY

Exploration Right Application Area

The purpose of exploration is to acquire and evaluate relevant data to determine where an oil or gas resource may be located. The process is iterative with data gained in early phases being used to improve the level of knowledge and refine the anticipated (or known) extent of the resource. The exploration process begins with the development of a regional perspective of the geology to determine where conditions may exist that are conducive to hydrocarbon formation. Given the low level of accuracy of the publicly available data, it is necessary to hold a right over a large area such that with ongoing data collation and refinement any identified resource is within the boundaries of application area. The expected dispersed nature of petroleum resources is such that a reasonably large area is required initially in order to secure a resource that may be economically viable. The result is that exploration right application areas are typically made over extensive areas.

It is not possible for more than one exploration right to be held over land for the same mineral and thus an application area must be distinct from other exploration rights (and applications). See the PASA map (<http://www.petroleumagencysa.com/index.php/maps>) for details of all existing exploration rights and applications. The extent of the Rhino Oil and Gas’ exploration right application area is such that it does not overlap with other areas. See the latest version of the PASA Hubmap in Figure 5-1.

As mentioned previously, in terms of Section 48 of the MPRDA an exploration right may not be held over land comprising residential areas, any public road, railway or cemetery, any land being used for public or government purposes or reserved in terms of any other law or areas identified in terms of Section 49 of the MPRDA. Section 48 of the NEMPAA further restricts exploration from all protected areas. An exploration right therefore cannot be granted over such properties.

Properties for Exploration Activities

The nature of exploration and the accuracy of the initial data available at the time of application are such that it is not possible at this point in time to define the location for most of the proposed activities. With exploration being very costly and having a low chance of success, Rhino Oil and Gas is motivated to undertake the fewest activities in the most cost effective manner. Thus exploration is undertaken in an iterative manner with the data gained in early phases being used to improve the method and locality of the work planned for the later phases. It is therefore only possible to determine the properties where on-the-ground activities (e.g. core drilling and seismic surveys) may take place once the initial phases have been undertaken. These initial phases can only be undertaken once an exploration right is granted. Private property would only ever be accessed with prior consent of the landowner and then in terms of a written Access Agreement.

Locality of Activities

The specific locality of on-the-ground activities (e.g. core drilling and seismic surveys) can only be identified once the initial exploration phases have been undertaken and the target areas identified. The nature of the proposed exploration activities is such that the target sites are not bound to fixed locations but are somewhat adjustable. This provides Rhino Oil and Gas with flexibility to position the sites for on-the-ground activities that would avoid local sensitivities.

Rhino Oil and Gas is aware that there are many potential restrictions that could prevent them from undertaking certain exploration or production activities at specific sites. These restrictions take many forms and may be legislated, regulated or best practice. It is the role of the environmental process to identify all such constraints and restrict or prohibit exploration activities through documented management commitments. An example of a constraint which prohibits specific exploration activities in certain areas (i.e. no wells within 1 km of a wetland), but does not prohibit the granting of a right is Sections 122 (2) and (3) of the Regulations on Petroleum Exploration and Production (GN R 466, June 2015).

Rhino Oil and Gas will commit to an environmental management programme that specifies the type of sensitivities/constraints that must be avoided (e.g. residences, wetlands, watercourses, etc), with necessary buffers where required. Each locality would be subject to an environmental site assessment and approval from PASA to ensure that the activity is not being placed at a sensitive site. Rhino Oil &

Gas would ensure that all of its activities are undertaken in a lawful and environmentally responsible manner and exploration activities would not be undertaken at a site where it is not lawful to do so.

5.1.2 DESIGN OR LAYOUT

At this stage it is not possible to determine specific details for the various types of exploration activities planned as they can only be established once initial exploration (desktop in this case?) is undertaken.

This includes:

- The possible grid pattern for the FTG survey (maximum of 4000 km²). The flight parameters, survey grid and timing can be adapted to some degree depending on land use, weather and other restrictions.
- The possible sites for the 10 (maximum) core holes. The layout of 10 drill sites is very flexible and can be adapted to meet the requirements of the locality. The site layout is typically an area of 30 m by 40 m, with a 10 m by 10 m area forming the working platform and the balance used for equipment storage, staging and parking. In most cases a non-standard layout would not be necessary as drill sites would only be located at sites that are compatible with drilling.
- The possible routing of the 125 km (maximum) of seismic lines. Substantial flexibility is inherent in seismic surveys and the routes would be shifted to avoid areas deemed unsuitable for the seismic activities. Rhino Oil and Gas would plan the layout with cognizance for: logistical constraints associated with land access; incompatible land use or infrastructure (e.g. existing groundwater boreholes); the locations of ecologically sensitive areas and buffer zones.

Any access and use of the land for exploration activities would be through an Access Agreement negotiated between Rhino Oil and Gas and the landowner (or lawful occupier). Thus each landowner would have input in where exploration activity could take place on their land.

5.1.3 TYPE OF ACTIVITY

Exploration techniques have improved over the past decades such that many of the activities undertaken are now of low intensity and have relatively low risk to the environment. This is particularly true for early-phase exploration where the exploration is not interrogating a resource, but is solely attempting to identify the most prospective areas for further investigation. Being very costly and having a low chance of success, an exploration company is financially motivated to undertake the fewest activities in the most cost effective manner. Thus exploration companies increasingly use remote sensing techniques for the identification of petroleum resources.

The desktop and data processing activities have no environmental impact and are not considered further in this report. It is relevant to note that Rhino Oil and Gas is intending to gather as much information as is possible from desktop and remote sensing methods as opposed to on-the-ground, field methods. A

limited number of the activities proposed in the exploration work programme would actually require physical, on-the-ground activity.

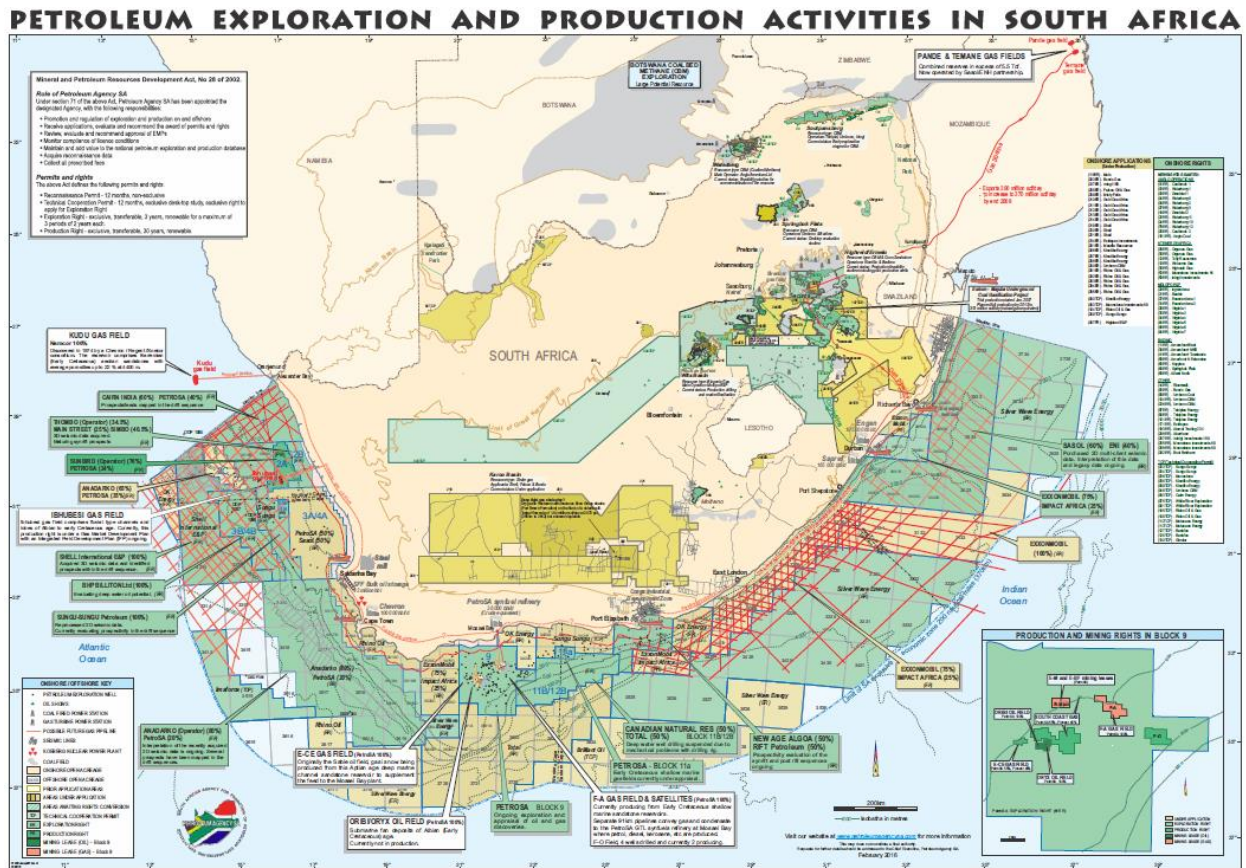


FIGURE 5-1: PASA HUBMAP
 (source PASA website, 2016)

5.1.4 TECHNOLOGY

5.1.4.1 Coreholes

Rhino Oil and Gas is only proposed the drilling of stratigraphic core holes for this early-phase exploration. The stratigraphic core holes are drilled solely for the purpose of obtaining information on the geological, structural and stratigraphic parameters for the purpose of discovering a petroleum resource. These boreholes, and the equipment used to drill them, are of the same type and scale as the water boreholes present on most farms and prospecting boreholes used for other minerals. In fact the diameter of the core borehole is actually too small for the boreholes to be used for water abstraction.

Rhino Oil and Gas has proposed the use of rotary (diamond) core drilling to implement the stratigraphic core holes. The alternative is to use Percussion / Reverse Circulation (RC) Drilling. The two main limitations of Percussion / Reverse Circulation drilling method for petroleum exploration are the fact that the depth of drilling is limited by the air pressure, and that the cuttings are delivered to surface as finely crushed material. The rotary core method delivers a cylindrical core of rock for detailed examination.

Having an in-tact core sample allows for better interpretation of stratigraphy and in-situ parameters. These factors mean that diamond core drilling is best suited for exploration core drilling.

Rotary (diamond) core drilling can be done using truck mounted drill rigs which are relatively small and efficient. Water and drilling fluids are required to be used to maintain cooling and lubrication of the bit and to return the fine drill cuttings to the surface. To limit risks of pollution the drilling will be done with approved drilling fluids only and return water will be managed in above surface sumps. Details of the drilling fluids and return water management will be provided in the EIA.

An alternative that could have been considered is to drill permeability or pressure-testing wells as part of a more advanced appraisal programme. However, it is premature to consider these more expensive and invasive methods without knowing if and where a resource may exist. Rhino Oil and Gas has not included the drilling of any other wells for the sampling or testing (permeability, pressure testing, stimulation, etc) of petroleum resources in its application. Any such future exploration activities would need to be subject to a separate EIA process (or environmental authorisation amendment) process, which would include a further public participation process and in-depth assessment (including specialist studies) of all project-related activities / issues.

5.1.4.2 Seismic surveys

Where existing data is not available or is required to be improved, Rhino Oil and Gas is proposing to undertake seismic surveys. Seismic surveys generate data which allows for the representation of subsurface geology through the interpretation of seismic waves reflected differently by different geological strata. Modern seismic imaging reduces risk by increasing the likelihood that exploratory wells will successfully tap hydrocarbons and decreasing the number of wells that need to be drilled in a given area. Survey activities are temporary and transitory and are thus one of the least intrusive and most cost-effective means to understanding where recoverable petroleum resources likely exist. Seismic survey methods and techniques have been improved over the past decades to result in safer, more environmentally sound practices.

Rhino Oil and Gas propose to use either the explosive-shot seismic survey method or the vibratory source method. The Vibroseis trucks (used in the vibratory method) are generally much larger/heavier and require that vegetation be cleared along the line for access and to enable the vibrating plate to make good contact with the earth. Explosive-shot surveys require the survey line to be accessed by bakkies or light-trucks to drill the shot holes. The drilling would cause some local surface disturbance and the operation requires management to minimise impacts. Vibroseis trucks could be used in areas of low sensitivity or nearer to urban areas. The two methods also generate slightly different peak particle velocity and noise levels.

5.1.4.3 Further detailed Exploration or Future Production Activities

The current early-phase exploration work programme, for which environmental authorisation is being sought, does not include activities other than those proposed to identify whether a petroleum resource exists that could be investigated further. Rhino Oil and Gas has not proposed to undertake any work beyond the early-phase exploration. Thus no detailed exploration nor permeability testing, pressure testing or hydraulic fracturing is included in this application. The need for such activities, if at all, can only be determined once the early phase exploration has provided the necessary information.

The consideration of alternatives to these further exploration or future production activities would need to be considered in the separate EIA (or environmental authorisation amendment) process, which would be required.

5.1.5 OPERATIONAL ASPECTS

Rhino Oil and Gas has indicated its commitment to undertaking exploration in a manner that provides the optimal results while minimising disturbances to landowners and the environment. It is effectively only the proposed seismic surveys and core borehole drilling that have operations which could cause impact and for which alternatives or adaptations should be considered. At a high-level, both of these activities require access to property; have the potential to disrupt land use and disturb ecology and biodiversity; could result in the pollution of soil and water resources.

The primary mitigation to limit environmental impacts and risks is the undertaking of as least work as possible. Rhino Oil and Gas has proposed a very limited work programme for the early-phase exploration which would provide the required regional information to inform a decision on whether (and where) to proceed to an appraisal stage.

The next level of mitigation would be the appropriate siting of any exploration activity at localities of low sensitivity. This would be achieved through desktop GIS-based screening and then a site assessment to confirm the conditions of the final location. Given that the precise location of exploration sites is reasonably flexible, it should always be possible to locate the activity at a site of low sensitivity, thereby mitigating the majority of impacts. Mitigation to reduce environmental impacts and risks of activities can be applied through operational management and the adoption of best practice. The EMP that will be developed and approved through this EIA process would define the operational aspects to ensure appropriate management and mitigation of risks.

5.1.6 THE “NO-GO” ALTERNATIVE

Not undertaking the proposed early-phase exploration would prevent the disturbances and potential impacts to the natural environment and agricultural activities as will described in the course of this assessment.

The implications of not undertaking the proposed early-phase exploration is that no information on the potential for an oil and gas resource in the region would be derived. Exploration is necessary to determine if there is or is not an oil or gas resource worthy of further investigation (but will not determine whether the resource could be abstracted in an economically viable manner). In the absence of the exploration a potential petroleum resource cannot be identified, understood or assessed.

Without this knowledge no oil or gas field development would be able to occur. In the absence of oil and gas production there would obviously not be any of the potential risks of that work. Similarly the potential benefits of oil and gas production would not be derived.

5.2 DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED

This section describes the public participation process (“PPP”) that was undertaken prior to the completion of the Scoping report. It provides specific details of the information provided to landowners, community, organs of state and interested and affected parties (I&APs) and all interaction that took place. The primary intent was to inform landowners and other I&APs of the proposed exploration right application, in sufficient detail, in order that they may contribute meaningfully to the identification of impacts and alternatives during the Scoping phase. The PPP included the following:

5.2.1 Competent Authority Consultation

A pre-application meeting was held with PASA in Cape Town on 31 July 2015. The purpose of the meeting was to discuss the legislative requirements and the approach to the EIA process to ensure agreement and compliance. In particular the challenges of carry out landowner notification across a large application area within the timeframes of the EIA Regulation 2014s were highlighted.

SLR subsequently met with PASA in November 2015 to discuss the EIA process and the key issues raised by I&APs up to that point in time. SLR submitted in writing to PASA details regarding five key issues that were material to the overall application and the Scoping and EIA process. See Section 5.4 for a summary of those issues and PASA’s response. A copy of the SLR letter and PASA’s response is provided in Appendix 5.1.

5.2.2 Landowner identification

The applicant identified all properties (including farms and portions) that are included in exploration right application area (see list in Appendix 3). The properties included in the application were searched against the Deeds Office records by a land surveyor to identify the landowner. This resulted in a database of properties and owners (although such information was not available in the Deeds Office for every property).

SLR was provided with this database which included private persons, trusts, companies and various organs of State as landowners. SLR undertook a search to obtain contact information for the landowners. The search for contact details was undertaken using various resources including Deed Search, the internet, telephone books, municipal rate payer databases, farmers’ union membership databases, verbal communication with other landowners, and referrals, etc. (such information was not obtained for every landowner).

All landowners for whom contact details were obtained were notified of the application and EIA process by means of a letter and Background Information Document. This was sent via email, post or fax. In

some cases landowners have been notified by referral from a person whom SLR had notified. The list of landowners that have been notified of the project is provided in Appendix 5.2.

To date the minimum percentage of landowners who have been sent a notification is 93,7%. The effective percentage may in fact be higher or lower as:

- contact details obtained may not be current with the result that the landowner did not receive notification; and
- many I&APs who have participated are landowners but have not disclosed which properties they own and are thus not reflected as landowners.

It is acknowledged that it has not been possible to source contact information for all landowners and occupiers, and thus certain landowners and occupiers have not been directly notified. The task of identify and notifying landowners and occupiers will be on-going during the course of the EIA process.

5.2.3 I&AP and Stakeholder identification

In addition to landowners, SLR developed an I&AP database comprising of Non-Governmental Organisations (“NGOs”), community-based organisations, state organs and commenting authorities and other key stakeholders with a potential interest in the exploration right application. This database included municipal officials, ward councilors, traditional authorities, farmer’s unions and State Departments with jurisdiction in the area. The list of I&APs that have been notified of the project is provided in Appendix 5.3.

5.2.4 Site Notices and Advertisements

On the 20th and 21st of October 2015, site notices were placed at multiple locations in all of the major and most the smaller town in the exploration right application area. The site notices were in both English and IsiZulu. The locations included municipal offices, libraries, shops and agricultural co-operatives.

Press advertisements to notify the public of the project were placed in:

Newspaper Name	Date of publication	Language
The Mercury	13 October 2015	English
Howick Village Website	13 October 2015	English
Hilton Village Website	13 October 2015	English
Natal Witness	15 October 2015	English
ILanga	15-17 October 2015 Edition	Zulu
Ladysmith Gazette	16 October 2015	English
Richmond times	Mid October 2015 Edition	English
Escort and Midlands News	16 October 2015	English

Umvoti Local Municipality Website	27 January 2016	English and Zulu
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The adverts provided notification of the application, details of EAP to be contacted for further information and details of the public meeting(s) to be hosted. See Appendix 5.4. A 2nd notification of the application and the further public meetings were placed in newspapers in January 2016 (see Section 5.2.6 for further explanation).

Newspaper Name	Date of publication	Language
Natal Witness	19 January 2016	English
Hilton Village website	19 January 2016	English
Howick Village website	19 January 2016	English
Greytown Gazette	20 January 2016	English and Zulu
Isolezwe	20 January 2016	Zulu
Maritzburg Fever	20 January 2016	Zulu
The Meander Chronicle	20 January 2016	English and Zulu
ILanga	21 January 2016	Zulu
Umvoti Local Municipality Website	27 January 2016	English and Zulu

The adverts provided notification of the application, details of EAP to be contacted for further information and details of the additional public meeting(s) to be hosted. See Appendix 5.4.

To further assist with the notification process (as set out in Section 47D(c) of NEMA) notices were placed in the Government Gazette (4th March 2016). Copies of these notices are included in Appendix 5.4.

The application has also received wide press coverage with articles in many of the local and major newspapers in KwaZulu-Natal. See Appendix 5.6. The project has also featured widely on social media with numerous posts and the BID and videos from the public meeting being shared on a number of pages and posts. The applications by Rhino Oil and Gas have also been the subject of a number of TV shows including Carteblanche and eNCA. This coverage has added to the notification aspect of the project.

5.2.5 Background Information Document and distribution

A Background Information Document (BID) was developed (in English and isiZulu) to provide introductory information on the project and to encourage persons to register as I&APs. A copy is included in Appendix 5.5. A notification letter and the BID were distributed (by email, fax or post) to all landowners and I&APs for whom SLR had obtained contact details. Recipients were asked to distribute the BID to anyone who may have been interested or affected by the project. At least one BID was given to each organisation at the premises in which the site notices were placed. The BID has been made available at all of the public meetings and continues to be distributed to any new I&AP. It is also available on the ftp site.

The BID was revised in January 2016 following the receipt and consideration of various key issues that were raised during the initial round of public meetings held in November 2015. A copy is included in Appendix 5.5. The revised BID was distributed at the repeat public meetings and to all new I&APs.

5.2.6 Public scoping meetings

All I&APs and landowners for whom SLR had contacts were invited to the public scoping meetings via the distribution of the BID. The public were notified of the meetings via the advertisements, site notices and BIDs. Multiple public information sharing meetings were planned for the Scoping phase of this project. These included the following venues:

Date	Venue
Monday 2 Nov at 09h30	Ashburton Public Hall
Monday 2 Nov at 14h30	Richmond Agricultural Hall
Tuesday 3 Nov at 09h30	Imvunolu Secondary School
Tuesday 3 Nov at 14h30	Lions River Polo Club
Wednesday 4 Nov at 09h30	Colenso Public Hall
Wednesday 4 Nov at 14h30	Mooi River Country Club
Thursday 5 Nov at 09h30	New Hanover Public Hall
Thursday 5 Nov at 14h30	Greytown Lodge Conference Hall
Friday 6 Nov at 09h30	Tugela Ferry, Mthembu Community Hall
Friday 6 Nov at 14h30	Nqutu, V.A Makhoba Hall
Saturday 7 Nov at 09h30	Nkandla Public Hall

At each meeting SLR made a presentation on the Scoping and EIA process that was being undertaken for the Exploration Right application. The presentation included an introduction to the proposed project; an overview of the legal framework regulating exploration right applications and environmental authorisations and an outline of the environmental impact assessment process being undertaken. Rhino Oil and Gas, represented by Mr P Steyn, provided a presentation on their proposed exploration work programme for the project. The presentation included an overview of Rhino Oil and Gas as a company, the needs and uses of oil and gas and an introduction to the proposed 3-year exploration work programme and related technical information. Copies of the presentations are included in Appendix 5.5. Attendees were provided the opportunity to raise any issues or concerns regarding the proposed project. Questions asked were documented, and where possible were responded to. Being scoping phase meetings, it was not possible to provide answers to many questions and these have been documented and will be answered as the information become available later in the EIA process. Minutes of the meetings were recorded and these are presented in Appendix 5.7. Attendance registers for each meeting are also included in Appendix 5.7.

It should be noted that a number of the proposed meetings did not take place. At Lions River, Mooi River and Greytown the arranged venues were too small to accommodate the large number of attendees that arrived. The official meetings were therefore called off and SLR agreed to reschedule these (although some questions were taken at the Lions River and Mooi River meetings and minutes were made). At Tugela Ferry, Nqutu and Nkandla the meetings did not take place. Those who did attend indicated that there was unhappiness with the protocol that had been followed in that the meetings were arranged through the municipal structures and not through the Traditional Authorities. In these areas the public will not know about or attend meetings unless the meetings have been condoned by the Traditional Authorities.

The Ingonyama Trust, as the owner of much of the land where rural communities reside, requested to be consulted before the Traditional Authorities were formally engaged. SLR has commenced consultation with the Ingonyama Trust. It is understood that the advice/instruction to the Traditional Authorities from the Board of the Ngonyama Trust has been to not engage with SLR with respect to this application (see Section 5.2.7).

A number of the public meetings that did not take place previously were repeated, this time in larger venues. The meeting details are as follows:

Date	Venue
Tuesday 2 February 2016 at 14h30	Howick West Community Hall
Wednesday 3 February 2016 at 14h30	Mooi River Town Hall, 10 Claughton Terrace
Thursday 4 February 2016 at 14h30	Greytown Community Hall, 61 Cathcart Street

As for the previous meetings, Rhino Oil and Gas provides an overview of the project proposal and SLR the Scoping and EIA process (as best as possible in the light of audience interference). Copies of the presentations are included in Appendix 5. Attendees were provided the opportunity to raise any issues or concerns regarding the proposed project. Copies of the updated BID were provided to each attendee for their information and they were encouraged to distribute this to other interested parties. Minutes of the meetings were recorded and these are presented in Appendix 5. Attendance registers for each meeting are also included in Appendix 5.

The meetings in the rural areas of KwaZulu-Natal were not rescheduled as the Ingonyama Trust requested to be consulted prior any further meetings being arranged. See following Section.

5.2.7 KEY STAKEHOLDER MEETINGS

Preliminary or introductory meetings have been held with Kwanalu and the MANCO of the Ingonyama Trust. The MANCO did not offer any information on the Ingonyama Trust's position with respect to the project nor guidance on measures to consult with Traditional Authorities. A subsequent meeting was

convened with the Board of the Ngonyama Trust on 18 March with the purpose of continuing consultations and seeking input from the Ngonyama Trust on appropriate means of consulting with Traditional Authorities and rural communities. Refer to Sections 5.4.26 and 5.4.27,

Additional meetings will be arranged with key stakeholders as part of the ongoing consultation process.

Meetings with officials and ward councilors at each of the District Municipalities were proposed with each municipality. To date only four of the six District Municipalities have been available. These meetings were held in the week of 22 March. In general the meetings were poorly attended with very few officials and councillors. See Appendix 5.7 for the minutes and attendance registers

SLR has proposed to hold meetings with the Traditional Authorities representing the rural people in the exploration right application area. Arrangements for these meetings are pending input from the Ingonyama Trust.

5.2.8 RADIO NOTICE

As a large portion of the exploration right application area is comprised of rural areas and formal meetings with the Traditional Authorities have not yet taken place, a project notification will be aired on community radio. The notice, in isiZulu, will run on Radio Khwezi and Nongoma FM with multiple airings at different time slots over three days in the week of 7 March 2016. The notice provides introductory information on the application and EIA process; gives details of how to contact SLR for further information and informs I&APs of the scoping report availability. A cell phone number was provided so that I&APs could call, sms, WhatsApp or send a 'please call me'.

The project notification was aired 28-times a day on Nongoma FM from Tuesday 8 March to Thursday 10 March, directly after news bulletins, current affairs and sports reports. It is noted that the project notification did **not** air on Radio Khwezi as, after producing the sound-byte and accepting payment, management of Radio Khwezi refused to run the notice. Radio Khwezi gave their reasons as *"Being a community station, Radio Khwezi finds itself in the position that the community we serve regards any adverts we play, as endorsed and supported by the station. The fracking subject has caused a lot of controversy in the community, and when reviewing our position we realise that playing an advert of this nature will be adversely impact the relationship that we have with the community leaders, and the community we serve. As a community station we cannot afford to alienate our community, as it is they that give us the mandate to broadcast. Please understand our position in this matter, and the unique position our community has taken on the issue"*.

The only alternative radio station that SLR could identify as broadcasting in the project area to the rural, zulu-speaking target audience was the SABC station Khozi FM. However the advertising costs of this station were prohibitively expensive making it unfeasible to use them for an effective notice.

To date only 10 I&APs had made contact through this medium, with 80% enquiring about the Northern KZN (108 TCP) project.

5.2.9 REGISTERED I&AP DATABASE

All landowners for whom we have contact details are considered as registered I&APs. All identified stakeholders as well as those whom attended the public meeting, registered with the project or returned the response sheet are registered as I&APs. All registered I&APs will receive all further information regarding the project and the EIA process. The database of registered I&APs will continue to be updated during the course of the Scoping and EIA. The database of registered I&APs is provided in Appendix 5.3.

In January 2016 SLR issued a project update letter to all I&APs in order to them keep informed of the progress and developments with the EIA process. A copy of this letter is included in Appendix 5.5.

5.2.10 EXTENSION OF SCOPING TIME

During the initial consultation period in the last quarter of 2015, many I&APs had argued that the time available in the EIA schedule was insufficient to allow for the required public consultation, particularly for an application area of such large extent. In order to incorporate further public interaction and investigation to augment the Scoping process, SLR applied to PASA for an extension of time. In December 2015 PASA granted an extension for the scoping process, with the requirement that the final scoping report should be submitted to PASA by the 20th of April 2016. The relevant correspondence with PASA is included in Appendix 5.1

5.2.11 Review of the Scoping Report

The Scoping Report has been made available for review to all I&APs for a 30-day period. See Section 1.6 for details on the review period as well as where and how to access the report and submit comments. All registered I&APs were notified by email, fax, SMS, or post of the report's availability (See Appendix 5.5).

Comments received from I&APs on the report review have been used to update the Scoping Report where relevant. The comments and responses thereto are summarised in Table 5-2 and copies of each comment are included in Appendix 6.2.

5.3 SUMMARY OF ISSUES RAISED BY I&APs

The issues and concerns raised by I&APs and regulatory authorities during the Scoping phase to date have been compiled into a Comments and Responses table (see Table 5-1). The table provides a summary of the issues and concerns raised by I&APs during the scoping meetings, through completed

response forms and direct submission. Also included in the Table are responses to the question or issue. Where necessary the issue or concern was carried through into the Scoping report and will be carried through into the EIA reports to be addressed.

Copies of all written comments received from I&APs are also included in Appendix 6. It is noted that comments continue to be received from I&APs and those received after the report was drafted are not included in this report. These will be included in the following report.

TABLE 5-1: SUMMARY OF COMMENTS AND RESPONSES FROM I&APS

(As received up to 15 April 2016)

No.	Comments received		Names, mode of communication and date	Response provided (as adapted for the purpose of the scoping report)
1.	Categories	Procedural Related Issues: Process		
1.1	Regulatory Authorities Comments	<p>I refer to the Notice of Application for Environmental Authorisation advertised in the Mercury on 13th October 2015 in support of an application for Exploration Right for petroleum on various farms in Registration Divisions ET, FT, GS, GT, GU and GV in the Magisterial District of Pietermaritzburg, KwaZulu-Natal on behalf of Rhino Oil and Gas Exploration South Africa (Pty) Ltd.</p> <p>As the appointed Environmental Management Officer I hereby register the uMngeni Local Municipality as an interested and affected Party and will be most grateful if you can please provide me with additional information and mapping that I will need to provide SLR Consulting (Africa) Pty Ltd with comments on behalf of the Municipality.</p> <p>Can you please provide me with the property descriptions of properties within the uMngeni Municipality that have been identified.</p>	<p>Marc Hattingh, uMngeni Local Municipality, Email, 19 October 2015</p>	<p>The uMngeni Local Municipality is registered on the project database (see Appendix 5.3). Information relating to the affected properties is presented in Appendix 3 to the Scoping Report.</p>
1.2		<p>Please note that Amafa will have to comment on the project. Please refer to the KZN Heritage Act (2008) and Section 38 of the National Heritage Resources Act (199).</p>	<p>A van de Venter-Radford (Amafa), Email, 21 October 2015</p>	<p>This comment is noted.</p>
1.3		<p>The Department of Agriculture, Forestry and Fisheries (KZN Forestry Management) would like to register an as Interested and Affected Party for the above-mentioned project. All documents and correspondence with regards to the proposed activity should be forwarded to our Department for review and comment.</p>	<p>Karen Moodley, DAFF, Email, 05 November 2015</p>	<p>The Department of Agriculture, Forestry and Fisheries (KZN Forestry Management) is registered on the project database (see Appendix 5.3).</p>
1.4		<p>Kindly be advised that objections were lodged against your application by Loxley House-Luxury Guest House and Conference Venue and Cathy Rayner. The basis for the objections are set out on the attached document. You are therefore, required to consult with the said objections in order to address its concerns and to submit the results of the consultation to the Agency on or before the 8th January 2016.</p> <p>"We, the undersigned, object in the strongest possible terms to the application for fracking in the Natal Midlands. We would like to be registered as interested and affected parties in the Rhino Gas Application", Jan and Angie Korruble.</p> <p>"I hereby formally object to the exploration of the Rhino Oil and Gas company and their</p>	<p>Tebogo Motloutung, PASA, Email, 13 November 2015</p>	<p>All of the objections have been recorded.</p> <p>These objections, are with many others received, are against fracking or against this project on the basis that it could potentially lead to fracking at some point in the future. Hydraulic fracturing is not part of this application. The scope of the EIA is aligned to the exploration work programme. Objections to possible future work cannot be addressed in this EIA, but would need to be addressed through the future environmental assessment process that would be required to inform applications in that regard.</p>

		proposal to frack KZN. My business is on the tourist route Midlands meandering thousands of people to the area and feel this would cause mass unemployment not only on farms but to the tourist industry of South Africa, let alone all the other side effects of fracking", Cathy Rayner.		
1.5		<p>The Department of Agriculture, Forestry and Fisheries (DAFF) appreciated the opportunity given to review and comment on the BID for the abovementioned project. DAFF through the sub-directorate Forestry Regulation and Support is the authority mandated to implement the National Forest Act, (Act No. 84 of 198) by regulating the use of natural forests and protected tree species in terms of the said Act.</p> <p>With regards to the document received on the 19th of November 2015, the potential environmental impacts include the possibility to disturb and/ or destroy vegetation, habitat units and related ecosystem functionality, as well as the disturbance of protected species. Therefore, The Department requests that Vegetation Assessment is conducted for the proposed sites by a qualified personnel and the report should be included in the Environmental Impact Assessment Report. This study will assist in determining the impact that the project may have on the indigenous trees in natural forest and/ or protected tree species in terms of NFA.</p> <p>Further comments will be provided upon receipt and review of the scoping report.</p>	Ms N Sontangane on behalf of Dept. of Agriculture, Forestry and Fisheries, Email, 30 November 2015	Detail on the study that is proposed in relation to biodiversity is set out in Section 7.5.1 of the Scoping Report. This will include consideration of vegetation types. As detailed, the outcome will be to define which biodiversity units and uses are incompatible with the proposed exploration and to determine exclusion criteria that should be applied when identifying and assessing sites for field-based exploration. The commitment to these will be detailed in the EMPr.
1.7		<p>Resolution of the Council meeting held on the 26 November 2015, at the Mkhambathini Municipal Offices- Council Chamber. Resolved LC9.12/26.11.2015 That:</p> <p>1. Excludes those areas of riparian rights, wetlands and other water resources from the application area as exploration within these areas would be prohibited, and to re-apply with a more focussed area;</p>	Cllr E. Ngconco and TC Ndela, Mkhambathini Municipality, Letter received 04 December 2015	A number of I&APs raised concern that many sites within the exploration right application area are either protected outright or incompatible with exploration and that legislation prevents such work from taking place in these areas. Refer to Section 2.1.1 of the Scoping Report for details on areas excluded from the application area. Also see Section 5.4.5 for a discussion on this matter
1.8	<p>2. Follow a more comprehensive public participation process where these proposals, calling for submissions are advertised in papers circulated in the affected areas, in both English and Zulu, and where there is consultation with the Ingonyama Trust Board, Traditional Authorities, farmers association, ratepayers associations and the local municipality</p>	<p>Many I&APs have argued that the time available in the current EIA schedule was insufficient to allow for adequate public consultation for such a large application area. Requests were made that the public participation period be extended to allow for a more meaningful process. There is also a related argument that the method of consultation has not been adequate given the demographic and cultural diversity of potentially interested and/or affected parties that are resident in the large application areas. There were also requests for additional public meetings.</p> <p>Please see Section 5.2 of the Scoping Report for information on the public participation process. Also see Section 5.4.4 for information on the extension of time in Scoping.</p>		
1.9		<p>3. Submit specialist report detailing cumulative impacts of both the explorative process as well as those which would be associated with a viable find.</p>		Specialist studies will be undertaken during the next phase of the EIA. These are detailed in Section 7.5 of the Scoping Report.

1.10		<p>4. Address the issue around benefits to the local community, ownership of the project, compensation payable, remedial guarantees, etc.</p> <p>5. Address the issue around benefit to the local community, ownership of the project, compensation payable, remedial guarantees, etc.</p>		<p>Issues relating to the contribution to local economy (Section 5.4.19), compensation (Section 5.4.20) and rehabilitation (Section 5.4.21) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Sections 6 and 7 of the Scoping Report).</p>
1.11		<p>6. Council cannot consider this application until the requested information is forthcoming and a comprehensive public participation process is undertaken</p>		<p>This comment is noted. Refer to Responses 1.7 to 1.10.</p>
1.12		<p>The meeting regarding Rhino Oil & Gas Exploration Right Application held at uMgungundlovu District Office on Monday, 22nd February 2015 refers.</p> <p>The following issues are submitted for your noting and action:</p> <p>1. A Water Use License Authorisation (WULA) will be required for this application and it is the responsibility of the applicant to liaise with the Department of Water and Sanitation (DWS) in determining their requirements.</p> <p>a) A written response from the DWS must be sent to this unit which stipulates all of their requirements for the WULA.</p> <p>2. This unit must be notified regarding each site that is proposed for exploration, whether privately or municipally owned.</p> <p>a) This unit will provide information using the approved Msunduzi Environmental Management Framework (EMF) and Conservation Plan (C-Plan) which will determine a way forward regarding specific sites.</p> <p>Please do not hesitate to contact this department should you have any further queries.</p>	<p>Cherise Harris on behalf of Msunduzi: Economic Development Services and Environmental Management Unit, Email, 29 February 2016</p>	<p>Refer to Section 3 and Table 3-1 of the Scoping Report. As indicated " No activities are being proposed that trigger the need for a Water Use Licence, although certain water uses would need to be assessed once the volumes and localities are known."</p> <p>The EIA will include a further review in this regard and the requirement for authorisation, such as a WUL, confirmed.</p> <p>Landowners and appropriate government and municipal departments will be notified and consulted once potential sites for field exploration are identified. Commitments in this regard will be specified in the EMP.</p> <p>We will be happy to receive relevant information to inform the assessment of potential sites for field exploration.</p>
1.13		<p>Thank you for the opportunity to comment on the background information document (BID), which has reference.</p> <p>Particulars of the proposed development</p> <p>It is understood that Rhino Oil and Gas Exploration South Africa (Pty) Ltd has lodged an application for an exploration right with the Petroleum Agency South Africa (PASA) in terms of Section 79 of the Minerals and Petroleum Resources Development Act, Act 28 of 2002 (MPRDA). Minerals included in the application are oil, gas, condensate, coal bed, methane, helium and biogenic gas. The exploration area is broad and encompasses large parts of central KwaZulu-Natal. Rhino Oil and Gas intends to undertake early-phase petroleum exploration, focussing on identifying oil and gas resources which may be located within suitable geological strata. The purpose is to determine the presence of a petroleum resource which could be investigated further. The initial 3-year exploration work programme will be restricted to non-invasive techniques, seismic surveys and the drilling of less than 10 core boreholes. No hydraulic fracturing or fracking is proposed for this exploration.</p> <p>Background to the iSimangaliso Wetland Park and the iSimangaliso Wetland Park Authority</p> <p>The iSimangaliso Wetland Park and Park Authority were established in terms of the World</p>	<p>Mr A Zalousmis on behalf of iSimangaliso Wetland Park Authority, Email, 03 March 2016</p>	

		<p>Heritage Convention Act, 1999 (Act, 49 of 1999) and Regulations published there under and, as such, the iSimangaliso is the legal management authority for the park. Furthermore, iSimangaliso is governed by the National Environmental Management: Protected Areas Act, 2003 (Act 57 of 2003) and Regulations published there under and, as such, the iSimangaliso is the designated Protected Area Manager for the iSimangaliso Wetland Park.</p> <p>The iSimangaliso supports responsible and sustainable development that promotes economic upliftment of the people in the region. As the authority mandated to protect and develop the iSimangaliso Wetland Park, a proclaimed World Heritage site, the iSimangaliso is required by law to ensure that development and activities happening within and adjacent to the Park do not negatively affect the Park's World Heritage Sites.</p> <p>To this end, the operational guidelines of UNESCO's World Heritage Convention received into South Africa by the provisions of the World Heritage Convention Act, 1999 (Act, 49 of 1999), require the iSimangaliso to delineate a Zone of influence on its boundaries, to provide an additional layer of protection to the Park. In addition, being a proclaimed protected area, the iSimangaliso is guided by the Biodiversity Policy and Strategy for South Africa: Strategy on Buffer Zones for National Parks, which is also applicable to World Heritage Sites.</p> <p>The Zone of influence around the iSimangaliso Wetland Park was delineated following a technical study, taking into consideration watersheds, view sheds, influential catchments and the littoral zone, and is described further in iSimangaliso's Integrated Management Plan (2011- 2016) as approved by the Minister of Water and Environmental Affairs. Furthermore, a 10km buffer zone around the Park is provided for in terms of the Environmental Impact Assessment (EIA) Regulations, published under the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) whereby undertaking certain activities within this zone requires prior environmental authorisation.</p> <p>Location of the proposed borrow pit in relation to iSimangaliso's boundary and Zone of influence</p> <p>While approximately 90km distant west of iSimangaliso's boundary, the north eastern section of the proposed exploration zone as illustrated in the BID, affects part of the Umfolozi catchment, which in turn has links with the iSimangaliso. The exploration area, thus, falls within the Zone of influence's Sub-zone 3, which relates to rivers (including their catchments) that enter the iSimangaliso.</p> <p>Critical issues for consideration</p> <p>The proposed activities during the initial 3 year phase unlikely to affect iSimangaliso. However, iSimangaliso believes that the decoupling of proposed exploration with potential future prospecting and mining processes is an artificial separation, and were fatal flaws to potential mining exist, the approval of exploration and prospecting can only result in fruitless expenditure and/ or escalated conflict between sectors.</p> <p>In light of this, it is requested that the Scoping Report provides sufficient and clear information to IAPs regarding potential impacts of further prospecting/ mining activities</p>		<p>We will be grateful to receive relevant information on the delineated Zones of influence for the iSimangaliso Wetland Park in order to inform the impact assessment. The planned outcome for the use of such information will be to define which biodiversity units/catchments are incompatible with the proposed exploration and to determine exclusion criteria that should be applied when identifying and assessing sites for field-based exploration. The commitment to these will be detailed in the EMP.</p> <p>The separation of rights for exploration and production (and the related EIA processes) is prescribed by the MPRDA and NEMA. Amongst many others, the reason being that the applicant does not have sufficient information to inform a proposal for production until such stage as the exploration has been completed. Without information on the specifics of the proposed activities it is not feasible to assess the potential impacts thereof.</p> <p>Any further exploration or future production will require authorisation in terms of the MPRDA</p>
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		that would take place, should initial findings indicate the presence of petroleum resources worth pursuing. From iSimangaliso's perspective, this would specifically relate to an indication of how these activities may affect water and groundwater resources in terms of quality and quantity. The iSimangaliso reserves its right to submit further comment once it has received the scoping report.		and NEMA. Future applications for authorisation will require related EIA processes and this will include public consultation. See Section 5.4.2 of the scoping report.
1.14	At public meetings	Thank you for taking my call and making yourself available to us at such short notice. The details of the meeting are Monday 26th October 2015, 9.00am to 11.00am at the Durban Chamber of Commerce and Industry Offices (Address on my signature). This will be in our Environmental Affairs Forum, and is meant to give Chamber stakeholder a good understanding of the project at a very early stage, and enable them to engage with you when they have full information on the operations of your project. Thank you again for your willingness to engage with us.	Justice Matarutse, Email, 19 October 2015	This comment is noted.
1.15		My community has requested that the time be changed to an evening as a Monday morning is a very difficult time for landowners to attend.	Pandora Long and Nicole May, Email, 19 October 2015	The meeting time was not changed. No specific meeting time will suit all I&APs. All of the meetings held were very well attended. See attendance registers in Appendix 5.7
1.16		Please could I be placed on the IAP email list. Unfortunately by having a meeting for IAP during a work day, it is unlikely I will be able to attend any meeting due to work commitments.	Nigel Berjak, Email, 15 October 2015	Mr Berjak is registered on the project database (see Appendix 5.3).
1.17		Unfortunately I will be out of SA (16 October- 6 November) during your scoping meetings and would like to know when your next round of meetings would be or if you would be able to set up a meeting with a group of people unable to attend during this week period.		Refer to Response 1.8.
1.18		Your failure to plan a public meeting in PMB throws into serious question your commitment to seek this feedback.	Paul & Kirsten de Jager, Email, 22 October 2015	Refer to Response 1.8.
1.19		Likewise the lack of meetings in any but small urban settlements and excluding any neighbouring larger urban areas - notably Durban, Ladysmith etc. implies that fracking is likely to have such small scale effects that it can only be of interest to and affect people in a localised area. While this is understandable as a rhetorical ploy it is disingenuous.		A large number of I&APs objected to the exploration right application because the proposed exploration activities may lead to a gas discovery, which may in turn lead to an application for a production right, which may include the possibility of hydraulic fracturing ("fracking") as a production method. In light of this, I&APs have stated that exploration should only be considered for approval if it can be demonstrated that all future activities arising from the exploration would not lead to unacceptable risks. The interest in and concerns around fracking are recognised and acknowledged. However, no fracking is proposed as part of the current work programme and the ER, if granted, would only allow the proposed work programme as described in Section 2.3. The current EIA is aligned to the early-phase exploration work programme. The potential impacts of further detailed exploration and future production activities will not be assessed in the EIA process. Please refer to Sections 1.4.1, 2.3.10 and 5.4.2 for further discussion in this regard.

1.20		If you wish to be seen to have really canvassed the opinion of all people who will be affected you need to address this issue by organising meetings in these urban centres.	Paul & Kirsten de Jager, Email, 22 October 2015	Refer to Response 1.8.
1.21		The project team must be aware that a spatial development plan is going to be published soon for the Msunduzi Municipality and this may have an impact on areas that need to be excluded.	Ward Councillor, Ashburton Scoping Meeting, 02 November 2015	This comment is noted. Refer to Response 1.7.
1.22		Is this discussion voice recorded? Recording written minutes is not good enough. We want to make sure that all the concerns and objections that are raised here are properly depicted.	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Proceedings at the original series of meetings in November were not recorded. Minutes were produced from notes taken in the meeting. Also Refer to Response 1.8.
1.23		It is evident that the room is too small and that the meeting is not well represented demographically. This meeting must therefore be cancelled and rescheduled.		Refer to Response 1.8.
1.24		How is it that a newly formed and inexperienced company such as Rhino has managed to secure so much land for applying for exploration? This has been poorly prepared. The venue is inadequate. There is no PA system. We want another meeting at the convenience of the local people.	Unidentified IAPs, Lions River Club, 03 November 2015	Refer to Response 1.8.
1.25		I strongly suggest that the local schools are used for such meetings as they have a larger space to accommodate all these attendees.		Refer to Response 1.8.
1.26		Are there any programmes planned with the local schools? It is important that the schools are involved as the project will have adverse impacts that will affect the future generations		Refer to Response 1.8.
1.27		This is the most dysfunctional meeting I have ever attended. Mr Steyn (Rhino) must do the honourable thing and extend the process to allow for meaning stakeholder engagement.		Refer to Response 1.8.
1.28		This discussion should not be constituted to be an official meeting. Even though the attendance register has been filled, half the attendees were not part of this discussion and some of them have even left.		Refer to Response 1.8.
1.29		We suggest that Michaelhouse is used as a future venue for public meetings in this area.		Refer to Response 1.8.
1.30		This meeting cannot be classified as public participation. Where are relevant the government departments? Where are the reports on fracking? Where is the scientific community to give credible research on fracking?		Refer to Response 1.8.
1.31		The timeframes are certainly unrealistic and they are the main cause of the disorder in this meeting (discussion). It is not everyone who is against fracking but the current process is rushed. I suggest that Rhino engage in a calm dialogue with affected persons. I appreciate the fact that Rhino is not arrogant like oil companies such as Shell but there is no need to rush the process. If the resource is there, it will go anywhere.		Refer to Response 1.8.

1.32		You have stated that ward councillors were notified of this meeting but a councillor has confirmed that they only knew about this meeting yesterday	Mike Mckezie, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.8.
1.33		I am not happy that SLR is answering questions on behalf of Rhino. It creates an impression that they are protecting their client instead of remaining objective as independent.	Dalindyebo, New Hanover Scoping Meeting, 05 November 2015	SLR has been appointed as the independent EAP responsible for undertaking the required environmental assessment and conducting the public participation process. SLR has no vested interest in the proposed project and has declared its independence as required by the EIA Regulations 2014. None of the SLR personnel involved in the environmental assessment process have any interest in the project other than fair payment for consulting services rendered as part of the EIA process. It is the EAP's role to ensure the process to be followed is understood by IAPs.
1.34		The African people are not represented in this meeting. Can you really say that this meeting has been successful if only one part of the community is represented? I strongly suggest that a separate meeting is arranged for the African community so that they can get an opportunity to participate as well.	Blessing Sincuba, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.8.
1.35		SLR must come back to conduct further meetings especially to cater for the Zulu speakers. The stipulated timeframes are very tight and do not allow for meaningful participation by affected parties.	Patrick Ben, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.8.
1.36		We must also be responsible citizens and take some of the BIDs to distribute it to our staff at home. We must all play a part in the public participation and this project will have an impact on all of us.	Lisa Robertson, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.8.
1.37		We would like to be informed of the time and place of the information meeting which was promised at the Lions River Club meeting as this was a total waste of time since most of us couldn't take part or hear.	Patrick Marion Long, via email, 03 November 2015	Refer to Response 1.8.
1.38		I strongly propose that this meeting is rescheduled. It is evident that the venue is not appropriate and the presenters are not audible at all.	Unidentified IAPs, Lions River Club, 03 November 2015	Refer to Response 1.8.
1.39		I make reference to the workshop / meeting held at the Lions River Polo Club yesterday 3 November 2015. Unfortunately I was not able to get into the venue due to the large number of folk wishing to participate and hence heard absolutely nothing in terms of presentations made by SLR Consulting – I am sure the other 50% of the participants were in the same situation. As a result I found my attendance and participation pointless and left. In terms of public participation process, I would like to recommend that a further meeting be scheduled for the area and at a larger venue – possibly the Howick West Hall, and an appropriate public address system be used. I look forward to hearing from you further.	Bobby Hoole, Email, 04 November 2015	Refer to Response 1.8.

1.40		<p>1. When and where will the follow up meeting for this district be taking place - You undertook to arrange such - please advise.</p> <p>2. Your facilitator indicated that there was strong likelihood that you would follow through with the request of the school girl from St Annes that you engage with the schools as she made the valid point that they are the next generation who will bear the brunt of any future activities. Where and when will such meetings be taking place. I am sure you are aware that many high schools have taken strong and principled positions on the issue. Failure to follow through with any of the commitments made in terms of this paragraph and point 1 above would, in my view, render the so called consultative process you embarked upon more of a failure than some would already argue that it has been. Quite frankly there is not only the credibility of our legislation and the applicant at stake but your consultancy as well.</p>	Robin Barnsley, Email, 09 November 2015	Refer to Response 1.8.
1.41		<p>You were recently in Greytown for the first public participation meeting which had to be cancelled due to the venue being too small and it was agreed that you would need to find an alternative date and venue and re advertise the community engagement session. Please let me know urgently what dates you propose so that I can facilitate and arrange a suitable venue.</p>	Theresa Edwards, Email, 10 November 2015	Refer to Response 1.8.
1.42		<p>I demand that it be noted that the team of Rhino Oil and Gas and SLR Consulting was unprepared and ill-informed, and at times evasive in answering questions that were put to them in these public meetings.</p>	Francois du Toit on behalf of African Conservation Trust (ACT), Email, 12 November 2015	This is noted in the records.
1.43		<p>Dear Matthew , thank you for your email received 13/11/2015, regrettably we did not receive the minutes of the proceedings neither did we receive documented proof of questions posed by various members of our community which I presume would be included in the minutes as a true reflection of what occurred . Please send to the given email mayfield@telkomsa.net .</p>	Sue Firth, Email, 15 November 2015	<p>Notes taken and attendance registers at all meetings are presented in Appendix 5.7 of the Scoping Report.</p> <p>Questions posed by I&APs are documented in the Comments & Response table. See Table 5-1 in the scoping report.</p>
1.44		<p>1) supply minutes of the meeting held at Lion's River</p> <p>2) Inform me of the date of the meeting which you undertook to hold in place of the unsuccessful and inadequate meeting mentioned above.</p> <p>3) Please note the following: "Please may the record state that we reserve our rights, as individual members of the organisations herein, as organisations and as a community, to participate in this EIA process without compromising our right to contend that the EIA process is illegitimate, in other words that exploring in areas where it is against the law to extract resources because of legal restrictions imposed by the MPRDA and the Fracking regulations, NEMA or any other relevant South African legislation would be deemed illegal. We also reserve the right to add to what we have stated herein and raise further questions in this regard throughout the process."</p>	Paul Fleischack, Email, 15 November 2015	Refer to Responses 1.8 and 1.43.

1.45		<p>Unfortunately, I couldn't attend the public participation meeting at Lion's River, because of a prior commitment. Therefore my information on what transpired is second hand. However, I understand from some of the MCF members who were present that the meeting had to be abandoned, but that SLR undertook to re-schedule the meeting at some unspecified venue, date and time?</p> <p>Please can you confirm whether this is indeed the case, and advise me of the new date/time/venue so that I can inform MCF members?</p> <p>Many of them travelled some distance to attend that meeting. Some seem to be feeling that they neither had the opportunity to hear what you had to say, nor to exercise their right to participate in the process.</p>	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 19 November 2015	Refer to Response 1.8.
1.46		<p>As a registered IAP member, I have a few comments and questions regarding Rhino Oil and Gas Exploration South Africa's application for exploration rights. I ask that you kindly take note of this email, and look forward to your reply.</p> <p>Please also note, that I write this as a post-graduate conservation scientist and as a land-owner who is directly affected, as the proposed exploration area includes my farm.</p> <p>1. Would it be possible to provide a more transparent background information document? I ask this, as I find it slightly misleading that the word 'fracking' or 'hydraulic fracturing' does not appear in the document, and this is clearly what the proposed exploration is about.</p>	Barbara Seele, Email, 20 November 2015	Refer to Response 1.19. A project description is presented in Section 2.3 of the Scoping Report.
1.47		<p>2. I personally could not attend any public meetings as I am currently based in the Cape, but have heard from various people that the representative from Rhino was not very knowledgeable about the fracking process, and failed to answer many questions. This I find unacceptable, as the public, especially IAPs have a right to comment and ask questions to a representative who is knowledgeable, and has the capacity to answer questions.</p>		Refer to Response 1.8.
1.48		<p>3. Also, in terms of these public meetings: does Rhino have a representative that can be speak Zulu fluently? I sincerely hope that rural communities have been invited to these meetings, and that facilities and transport have been put in place to allow these communities to comment and ask questions.</p>		Refer to Response 1.8.
1.49		<p>The revised BID document needs to be translated into isiZulu and adequate notice of meetings provided in terms of the EIA Regulations. The meetings have not given sufficient time to make comments and ensure that this process forms part of the DEA commissioned SEA.</p>	Bryan Ashe from South African Water Caucus, via email, 17 November	Refer to Response 1.8.
1.50		<p>We therefore feel that the information provided in terms of the BID document has insufficient information to make informed comments. We therefore do not regard this BID document to be legal and demand that it is appropriately amended and supplemented to comply with the relevant environmental laws and the principles of administrative justice enshrined in the Constitution. We reserve our right to submit further comments once a complete BID document is submitted for</p>		Refer to Response 1.8.

1.51		With reference to our comments at both the public meeting at Ashburton and submissions, please could you give an update on the following: 1. EIA Process at this point 2. The outcome of your meeting with the regulator PASA regarding excluded areas per regulations in KZN 3. Minutes and attendance register of Ashburton meeting for confirmation to Ashburton IAP's present 4. Convening of further Ashburton meeting 5. Convening of further other public meetings 6. Availability of minutes and attendance registered of other meetings 7. Any other matters pertaining to this Rhino Oil and Gas application.	Pandora Long, Email, 25 November 2015	The information to these queries is provided in the Scoping report. Refer to Response 1.43.
1.52		Those who would like the meeting to continue and would like to be consulted should raise their hands, and those who disagree should lower their hands.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.8.
1.53		Who elected you chairperson? You are a facilitator and not the chairperson.	Eddie Lion-Gachet, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.8.
1.54		The questions from the previous meeting were passed on and not answered.	Eddie Lion-Gachet, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.8.
1.55		You promised us that you would give us minutes of the previous meeting. You would let us look at those minutes to make sure they are objective. We have not received anything.	Pandora Long from PMMBT-DUCT, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.43.
1.56		We asked for the attendance register of the previous meeting. We have not received anything.		Refer to Response 1.43.
1.57		A lot of issues were raised at the previous meetings and no official responses were received as requested and expected.	Bobby Peek of Groundwork, Howick Public Scoping Meeting, 02 February 2016	All meeting notes and written correspondence are presented in Appendix 5.7 and 6, respectively. All issues have been assimilated and responded to in this comments and responses table.
1.58		Item 2 of the agenda should be responses to all issues raised at previous meetings.		
1.59		The minutes and attendance register of the previous meetings should also be discussed under item 2 of the agenda.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.43.
1.60		Rhino and SLR are again unprepared and are not consulting with the community. Minutes of the previous meeting were requested and not provided after nearly 3 months. That	Francois du Toit of The African	Refer to Response 1.8.

		does not promote transparency. The only agenda is profit for Rhino Oil and Gas. This process is a rubberstamp process as there has been a unanimous no from every single community meeting we have been to.	Conservation Trust, Howick Public Scoping Meeting, 02 February 2016	
1.61		Will the recordings of the meeting be available for everyone who signed the attendance register?	Unidentified IAP, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.43.
1.62		You have not responded to all the issues from the previous meetings. Some of the issues have been conveniently left out.	Graham Armstrong, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.63
1.63		All the issues raised regarding water have been conveniently left out.		The potential impact on water resources has been identified as a key issue that requires further investigation. Refer to Sections 5.4.8 (Groundwater) and 5.4.9 (Surface water) in the Scoping Report for a description of identified issues and responses thereto. The terms of reference to assess these water related issues are set out in section 7.5.2 of the scoping report.
1.64		There were a lot of issues raised at the previous meetings including water contamination, water use, et that have not been answered at all. These issues were not part of the presentation and they were left out intentionally. Not all questions that were asked at the meeting were answered either.	James Keanes of Irrigation board	Refer to Response 1.63.
1.65		It was previously confirmed that the end goal of this process is extraction particularly through fracking. It is very tactful of you to not include fracking in your motivation for this proposal. There is no point in asking any questions.	James Keanes of Irrigation board	Refer to Response 1.19.
1.66		This is the third meeting I have been to and the facilitator has said she wants respect and understanding but for three meetings people have been asking questions but have not been answered. How are people to understand if they ask a serious question but they don't get an answer?	Mthokozisi Mbangeni Concerned Young People of South Africa (CYPSA), Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.63.
1.67		Rhino Oil and Gas are not participating with the community they are dictating to the community.	Pandora Long from PMMBT-DUCT, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.8.
1.68		The presenters are going to give us a lovely fairy story and tell us how they are not going to do anything like fracking and everyone who believes the story should believe every fairy story they have ever heard.	J Coleby, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.19.

1.69		The agenda needs to be opened to the meeting so that attendees can give input to the agenda and agree to the agenda. It was disrespectful not to open the agenda.	Bobby Peek of Groundwork, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.8.
1.70		It is rude when the facilitator does not allow the translator to translate a question after it has been asked. What I'm saying is I don't like the fact that the speaker keeps forgetting that what she says needs to be translated. This is because she speaks in English. The papers are written in English and people don't understand. The next thing you know there will be tractors coming onto our land and people will not know what is happening.	Noluthando Nzimande, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.8.
1.71		Item 3 of the agenda should be removed and replaced by: Where are the Rhino representatives from?		Refer to Response 1.8.
1.72		Are you an independent facilitator?	Unidentified IAP, Mooi River Public Scoping Meeting, 03 February 2016	NMA is an independent consultancy that specialises in social processes and community participation.
1.73		How can you be an independent facilitator if you are being paid by SLR?		Refer to Responses 1.33 and 1.72.
1.74		If you don't get paid will you carry on with what you are doing? We are not getting paid to be here and it is costing us a lot to give our time.	Shaun Venter, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Responses 1.33 and 1.72.
1.75		You are only documenting what you want to. There were more issues that were raised during the previous meetings and we were ignored.	Graham Armstrong, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.63.
1.76		The facilitator of this meeting was forced upon us. We did not have the opportunity to appoint a neutral facilitator. The facilitator is employed by the environmental assessment practitioner and is therefore biased.		Refer to Responses 1.33 and 1.72.
1.77		The title of the project proposal states Pietermaritzburg municipal area when it should be uMgungundlovu municipal area.		This comment is noted.
1.78		I see you have heavy security present at the meeting I assume you will have the same when you come on our farms to drill.	James Keanes of Irrigation board, Mooi river Public Scoping Meeting, 03 February 2016	Issues relating to farm safety and public safety (Section 5.4.18), have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6).

1.79		We would be very happy if you cut out the presentations by SLR and Rhino and go straight to the question and answer session.	Jane Kristin, Greytown Public Scoping Meetings, 04 February 2016	This comment was noted.
1.80		We usually start meetings with prayer and seeing that this meeting is about the environment and God's property we want His blessing on this meeting otherwise we will follow our own decisions.	Gid Schoeman Cedar College of Education, Greytown Public Scoping Meetings, 04 February 2016	Refer to Response 1.8.
1.81		We have heard this before. We don't want to be dictated to and be told what's going to happen and how it is going to happen. I am amazed to see that there is a black person on the project team who wants to destroy his own people and the environment.	Hlengiwe Bonga, Greytown Public Scoping Meetings, 04 February 2016	Refer to Response 1.8.
1.82		Why is this guy using fancy bombastic words that even the translator can't interpret? Even the English people cannot understand them.	Mthokozisi Mbangeni Concerned Young People of South Africa (CYPSA), Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.8.
1.83		Thank you for giving me the opportunity to speak. Firstly there is very little time that we have and we heard you say we can stay here until 6 o'clock. We can't stay until 6 PM. We have other business and engagements we need to tend to. You don't have any restriction of questions and you are still busy with the first round of questions. We also have questions to ask. This gentleman that goes around holding the microphone - it doesn't show respect when you come around and hold the microphone for someone to speak in. Give the microphone to the person and if they don't know how to use it then teach them.	Unidentified IAP, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.8.
1.84		You came to us with the exploration proposal but I think you can hear that the people don't want this project. We have been heard. We are wasting time sitting here and we should go home.		<p>A large number of I&APs objected to the exploration right application or indicated that they would be lodging an objection, as the proposed exploration activities may lead to a gas discovery, which may in turn lead to an application for a production right, which may include the possibility of fracking.</p> <p>NEMA and the EIA process does not provide for any mechanism to address objections. However, it requires the EAP to consider and address all issues raised by I&APs. NEMA does, however, provide an opportunity for I&APs to appeal the decision in terms of the National Appeal Regulations (GN No. R993).</p> <p>Section 10 of the MPRDA makes provision for the Regional Mining Development and Environmental Committee (REMDEC) to consider and advise the Minister of Mineral Resources on objections received in respect of applications for permits or rights. Thus PASA will send all objections received in respect of the current application to the relevant REMDEC</p>

				for consideration before a decision to grant or refuse the exploration right is made by the Minister.
1.85		Many people at the meeting left just to show that they don't want the project. Some of the words used by the project team are too big for people that do not have an education to understand. They say one radio listener accounts for 1000 people in the community. There were 600 or 700 people at the meeting that means there are 600,000 or 700,000 people in the area that are opposed to the project.	Unidentified IAP, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.84.
1.86		I am speaking to the geologist of Rhino. Earlier in the meeting we agreed to a constructive and consultative dialogue. For me, from a science perspective, if a member of the meeting brings a science contribution an appropriate response would be to engage with that person in a constructive consultative manner. I noticed that you got agitated earlier. People will get agitated when they think the other person is not coming from a reasonable perspective. People at the meeting have come from a reasonable perspective.	Bruce from Zulu trail Project, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.8.
1.87	From I&APs	Has contact been made with traditional/tribal authorities over the proposed exploration? If so, which tribal/traditional authorities have been contacted?	Matthew Savides, Email, 14 October 2015	Refer to Response 1.8.
1.88		How did you make sure that everyone in the area to be explored knows about this application? Is the Ingonyama Trust (a key stakeholder) aware and informed about the process?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	Refer to Response 1.8.
1.89		Please register me as an interested and affected party in this application. Please also provide me with further information including: <ul style="list-style-type: none"> • A map of the affected farms and • The possibility of having public "scoping" meetings in Gauteng and other major centres where many potential I&APS reside. 	Paul Claassen, Email, 14 October 2015	Mr Claassen is registered on the project database (see Appendix 5.3).
1.90		Please also provide me with further information including: the possibility of having public "scoping" meetings in Gauteng and other major centres where many potential I&APs reside.	Paul Claassen, Email, 14 October 2015	Refer to Response 1.8.
1.91		Kwanalu will be attending to this matter and look forward to receiving inputs from members on this matter. Kwanalu is already in discussion with numerous relevant persons, institutions, and legal practitioners in order to attend to this matter. At this time 2 specific documents which we highlight and are available which were drafted by our legal advisors when we started dealing with the matter of mining and exploration. On the Kwanalu website under the members area, mining you will also find numerous other documents relating to mining and exploration activities for your use. A reminder should anyone wish to access your property the On Farm Protocol must be applied. This protocol can also be found on our website. Please feel free to provide us with any information, recommendations or inputs by email:	Sandy La Marque, Email, 16 October 2015	This comment is noted.

		info@kwanalu.co.za. Be assured of Kwanalu's commitment to its members on this matter.		
1.92		I am not a fan of fracking. However, it is important to listen to all the facts about fracking. This will allow us to make informed decisions as IAPs.	Unidentified IAPs, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.19.
1.93		St Johns Diocesan School for Girls would like to officially object to the project. The students have drafted a petition which they would like to read at this meeting. The petition will be read by Kelly Pearson.	Brenda Willard, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.84.
1.94		As I was walking into the meeting, there was a large group of people walking out of the meeting. These included highly respected people in the community including attorneys. What cause such a large walk out of people from the meeting?	Bruce, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.8.
1.95		Do you honestly expect us to believe that there will not any fracking in the future? How can you plan 11 scoping meetings for an application that covers so much area? It technically works out to one meeting for 140 000ha of the area. The public consultation process must be meaningful and it must not be rushed. In addition, due to the poor notification of the planned meetings, we the public ended up bearing costs to spread the message about the planned meetings.	Dean Marsky, Ashburton Scoping Meeting, 02 November 2015	Refer to Responses 1.8 and 1.19.
1.96		Have people been notified of other meetings taking place? How was advertising for the meetings done? I suggest that media such as radio, television and free newspapers be used as part of advertising. Advertising should also be done in other relevant languages.	Alice Thompson, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.8.
1.97		Will you come back for another consultation meeting? The technical answers provided at this meeting were not adequate. What is the way forward especially with the possibility of the large area of the project being excluded? The timeframes are certainly being rushed and we therefore request an extension.	Desmond Desai, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.8.
1.98		The Chiefs, rate payers associations and farmers associations must be informed of this process.	Alice Thompson, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.8.
1.99		Meetings are set at SLR's convenience and that is not meaningful public participation. This therefore does not allow full understanding of the impacts anticipated.	Francois Du Toit	Refer to Response 1.8.
1.100		SLR is not engaging in this process genuinely. Our major concern is that this meeting is a tick box exercise to the detriment of over 10 million people in this province. This meeting should not be counted as official. Meetings need to be held again and they must be held at a suitable time for the majority of the public.	Francois Du Toit, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.8.

1.101		It is important that all IAPs are represented in these consultation meetings. Chiefs must also be represented.	Jack, Richmond Scoping Meeting, 02 November 2015	Refer to Response 1.8.
1.102		We appreciate that the reporting has been done in both English and Zulu. We demand that a feedback meeting is planned where all IAPs will be represented.	Charlene Chaff, Richmond Scoping Meeting, 02 November 2015	Refer to Response 1.8.
1.103		We want additional meetings. We also want information on areas where fracking has been successful before the scoping report is submitted.	Desmond Desai, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.8.
1.104		This public participation process is being rushed and has not made it easy to identify protected areas that must be excluded.	Wallie Keiser, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.8.
1.105		How do you discuss such a highly technical project with poor communities who have poor literacy and education and poor understanding of the potential impacts. How do you empower them to make informed decisions?	Charlene Chaff, Richmond Scoping Meeting, 02 November 2015	Refer to Response 1.8.
1.106		What is the point of the attendance register if no meeting was held? It serves no use. How can we formally object?	Unidentified IAPs, Lions River Club, 03 November 2015	Refer to Responses 1.8 and 1.83.
1.107		The notification methods must be improved in order to reach more people including the African communities. I am disappointed that SLR as an environmental consulting company is not "toyi-toying" to support the local communities and uphold the credibility of the environmental profession.		Refer to Response 1.8.
1.108		The notification and communication process should be improved especially in villages where there are high levels of illiteracy and poor education. The communication process must be designed and packaged in a way that it will allow them to understand the process and make informed contributions to the process.		Refer to Response 1.8.
1.109		Project information needs to be shared in other languages and community structures must be involved in setting up public participation meetings. The affected local Chiefs must also be involved in the process. If needs be, local radio stations must be used to improve the notification and reach as many stakeholders as possible.		Refer to Response 1.8.
1.110		Where is Ingonyama Trust?		The Ingonyama Trust is registered on the project database (see Appendix 5.2 of the Scoping Report) and as such were formally notified of the project and invited to attend the engagement sessions. Also Refer to Response 1.8.
1.111		Is there Ingonyama owned land part of the application area?	Ralph Strachan, Richmond Scoping	

			Meeting, 02 November 2015	SLR has commenced direct consultation with the Ingonyama Trust. See section 5.2.7 of the Scoping report.
1.112		Have you had any representation from Ingonyama Trust as part of the public consultation process? They are the biggest landowner in the application area.	Kholosa Magodu, Taylors Halt, Scoping Meeting, 03 November 2015	
1.113		The Chief knew nothing about this project and no one is aware of what is going on.	Opperman, Colenso Scoping Meeting, 04 November 2015	
1.114		Is there Ingonyama owned land part of the application area?	Ralph Strachan, Richmond Scoping Meeting, 02 November 2015	
1.115		Some questions have not been answered in this meeting. Where are the Chiefs of this area? Where is Ingonyama Trust? Where are the local municipalities? We would like to know the position of all of these stakeholders. The purpose of the public consultation process is to gauge the feelings of the public and the feelings here have been made clear. This process must therefore end.	Hawu Mbatha, Ashburton Scoping Meeting, 02 November 2015	
1.116		Where rural communities notified of these meetings?	Ken Atkinson, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.8.
1.117		What method was used for contacting local chiefs and councillors? The municipality is unaware of these meetings. The notification process certainly needs to improve.	Sarel Le Roux, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.8.
1.118		The Chief knew nothing about this project and no one is aware of what is going on.	Opperman, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.8.
1.119		Rhino has a moral obligation to ensure that the rural communities are empowered and informed about this project. It is simply not enough to just do the bare minimum and comply with the law. The meetings planned in Matatiele serve as good example of how inadequate consultation can result in.	Francois Du Toit, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.8.
1.120		It is pointless to engage with communities if the engagement process does not provide information that will help communities to understand if fracking is bad or not. I am still clueless after this meeting as to the impacts of fracking.	Lynn, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.8.
1.121		When will follow up meetings be held? I see that your last meeting is scheduled for Saturday 06 November. I believe that additional consultation meetings are definitely	Dalibonga, New Hanover Scoping	Refer to Response 1.8.

		required.	Meeting, 05 November 2015	
1.122		It is crucial that that the Ingonyama Trust is engaged throughout this process as a major landowner in the area.	Liza Shaw, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.110.
1.123		How did you make sure that everyone was notified of this meeting? Is the Ingonyama Trust involved in the planning of the meetings?	Sabelo Mbokazi, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.8.
1.124		Where is UMngeni Water? Where is the Department of Water and Sanitation? They need to be part of this engagement session and they must answer our questions.	Unidentified IAPs, Lions River Club, 03 November 2015	Refer to Response 1.8.
1.125		PASA must be present in this meeting in order to hear our concerns directly. It is your responsibility as SLR to ensure that government and relevant regulatory authorities are represented in these types of meetings.		Refer to Response 1.8.
1.126		Where are the government departments? They should be present in this meeting so that we can engage with them directly. This meeting should not just a rubber stamp or tick box exercise.		Refer to Response 1.8.
1.127		It is my understanding that government departments should attend public meetings. Is it also a requirement for PASA?	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Response 1.8.
1.128		We need all the information to assist us on how we can get involved. Please assist us with relevant websites and information portals that can benefit us. We want to use all mechanisms to get the moratorium		Refer to Response 1.8.
1.129		We had invited the SABC for this meeting but they could not make it due to the short notice of the meeting. Next time you must give us sufficient time so that we can invite 50/50 and Carte Blanch.		Refer to Response 1.8.
1.130		We would like to propose that the School of Weston Agricultural College is used as a meeting venue for all future meetings.		Refer to Response 1.8.
1.131		You have a symbiotic relationship with the government. How do you arrange a meeting of such importance in such short notice?		Refer to Response 1.8.
1.132		How was the meeting organised and advertised? Why is the African community not present at this meeting?		Refer to Response 1.8.
1.133		We request from SLR the contact details of all relevant ministers, Rhino management, SLR's project team, members of parliament, ward councillors and other relevant and key		Refer to Response 1.8.

		stakeholders. We would like to bombard all the key stakeholders with communication for a moratorium.		
1.134		I have attended one of the fracking meetings at the Polo Club outside Howick. The meeting requested that you re organise another meeting, so that you can accommodate hundreds of people that came. Do you think this will happen soon?. I know that PASA will have a say on this because they are also having a deadline to handover the project to DMR. Please send me contact details of the PASA guys who were part of the meeting, so that I can ask directly from them.	Musa Chamane, GroundWork, Email, 05 November 2015	Please refer to Section 5.2.10 and 5.2.6 of the Scoping Report for details in this regard.
1.135		DEA and DWS need to make comments on the project. It is premature to state that a WULA will not be required. You cannot just write off the possibility that you may drill within 500 metres to a water resource.	Liza Shaw, New Hanover Scoping Meeting, 05 November 2015	The water may be bought from a supplier or pumped from a river or stream or sourced from a borehole. The daily water requirements for operations would be restricted to within the water volumes permitted by the General Authorisation (No. 1191 in the Government Gazette No. 26187 published on 26 March 2004) issued by the Department of Water & Sanitation for the taking of water from a resource or a Water Use Licence will be needed. Refer to Section 5.4.8.3 of the Scoping Report for further details.
1.136		I am not happy with the explanation given to how notification for this process was undertaken. This process is opening a door that we may not be able to shut later. This is not just a survey. Rhino knows that there is a resource in the area and SLR is just using the meeting as a legal tick box. The process is hurried. The Zulu people are not included as part of this process. People in our communities are hungry and will accept anything to feed themselves without fully understanding the associated impacts and consequence. It is not good enough to just say that people were notified.	Jenny Christmas, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.8.
1.137		80% of the population in this area is Zulu but they are nowhere to be found in this process and meeting. Many other people are not aware of this process. I only learnt about the meeting just yesterday. People must not be left out until it is too late to manage any of the associated impacts on their.	Bongani Kings Cliff, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.8.
1.138		It is unreasonable to expect everyone to attend the meetings. What is important is that appropriate notification is done. It is tough in South Africa because the minerals do not belong to the landowners which mean that such projects cannot benefit them directly. Gas is a reliable energy source. Renewable energy projects are projects for the future, at this stage gas is reliable and useful. Running a generator during load shedding can cost up to R100 000 per day. Gas can ease the reliance on coal for energy. I think gas is wonderful. It is an instant source of power and it is affordable. The effects of fracking are exaggerated and sensationalised. We need to be objective when we discuss this matter.	Mr Savage, New Hanover Scoping Meeting, 05 November 2015	Refer to Responses 1.8 and 1.19.
1.139		Have you made a proper effort to make known the public meetings amongst all stakeholders – including those without access to newspapers, radio, sms, email? How have you gone about identifying stakeholders? Please provide a detailed methodology that you used in all the affected areas.	Luci Coelho, Email, 09 November 2015	Refer to Response 1.8.

1.190		Given the technical complexity of this issue regarding exploration and consequent fracking, we demand a greater degree of public information and more time for people to come to grips with the implications. Therefore the comment period must be extended.		Refer to Responses 1.8 and 1.19.
1.191		What assurances can you provide that there have been absolutely no devious, corrupt, unethical persuasion, pressure, or bribes paid to any government employee at any level of government or private landowner or other individuals in relation to the preparation of the exploration bid, approval of the exploration activities, holding of meetings and any other activities related to fossil fuel exploration in KZN in particular and in other parts of South Africa that your company may be associated with?		Refer to Responses 1.8 and 1.33.
1.192		<p>Please note we will be sending you a list of all NGO's that we believe you should have been aware of. We are compiling a list.</p> <p>In the interim can I ask you to send scanned copies of all attendance registers for the meetings that occurred or didn't, as the case may be, in KZN last week and Matatiele on Monday 9th November. Alternatively, please send an excel spread sheet of the attendees with contact details.</p> <p>We would also like to register as an IAP or all Rhino TCP's or any actions you are undertaking on behalf of Rhino Oil and Gas, including Free State, Mpumalanga and E Cape.</p> <p>Please inform me also of any public meetings that are occurring for any processes involving Rhino.</p>	Francois du Toit, Email, 10 November 2015	<p>Mr du Toit is registered on the project database (see Appendix 5.3).</p> <p>Notes taken at all meetings are presented in Appendix 5.7 of the Scoping Report.</p> <p>Also Refer to Response 1.8.</p>
1.193		<p>Further to my emails submitting the forms requesting you to note both me and the Natal Fly Fishers Club as Interested and Affected Parties with respect to the Rhino Oil & Gas proposed exploration in the KZN Midlands and surrounding areas (PASA Reference Number 291 ER), please could you please provide me with the following:</p> <ol style="list-style-type: none"> Answers to the questions raised on the 2 Forms previously submitted; A list of the 10,000 Farms affected by the above mentioned proposal; <p>I am truly shocked to learn of the vandalism you experienced last week. Whoever slashed your tyre, Matthew, is nothing short of an idiot! Please understand that that behaviour, and the behaviour of certain other people at the meeting, is not representative of the people in the KZN Midlands!</p>	Dave Prentice, Email, 11 November 2015	All written correspondence and meeting notes are presented in Appendix 6 and 5.7, respectively. All issues have been assimilated and responded to in this comments and responses table
1.194		<p>I have listed a number of comments/concerns as well as some questions on the form and on an additional 2nd page in the attached.</p> <p>I am a PhD student in Environmental Science, and have a relatively good understanding of the potential socio-economic and ecological impacts of oil and gas exploration and potential extraction. I am concerned about whether the average resident of central KZN is aware of the potential threat of such activities to their current livelihoods and lifestyles. I plead with you to run a public participation process which accounts for the diverse educational backgrounds, languages and access to information of the residents in the area.</p> <p>My family and many close friends live and work in the proposed exploration area. I grew</p>	Jessica Cockburn, Email, 11 November 2015	<p>All written correspondence and meeting notes are presented in Appendix 6 and 5.7, respectively. All issues have been assimilated and responded to in this comments and responses table.</p> <p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Section 6 of the Scoping report for a description of these issues and impacts that will be assessed.</p> <p>Also refer to Responses 1.8 and 1.19.</p>

		up in the Greytown area and feel very attached to the landscape and its people. I am concerned about a number of matters and would like you to please confirm that you have noted my concerns (see attached). I also have a number of questions about the public participation and decision-making process for this exploration and the potential extraction or fracking which might take place as a result thereof. These are all included in the attached document. Please could you respond to my questions.		
1.195		I am concerned that the information about the impacts of these activities might be withheld from local people. I am concerned, particularly that the uneducated, marginalised communities (falling under the area of the Ingonyama Trust Board) will not be fully informed about the process and that decisions will potentially be made by the tribal leaders without full and proper consultation of the people. How will the EAPs at SLR ensure that illiterate and poorly educated communities (not just community leaders) are fully informed about the exploration and potential extraction process?	Jessica Cockburn, via email, 11 November 2015	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Section 6 of the Scoping report for a description of these issues and impacts that will be assessed. Also Refer to Response 1.8.
1.196		Please also provide urgently any other TCP's that have been granted to Rhino, and include us as an IAP in all matters relating to Oil and Gas that SLR are currently or may conduct in future.	Francois du Toit, Email, 12 November 2015	Mr du Toit is registered on the project database (see Appendix 5.3). The African Conservation Trust is include as an I&AP on all of the current EIAs for the onshore applications by Rhino Oil and Gas.
1.197		Specifically, we'd like further clarity on: 1. How were proper minutes taken given the lack of recording equipment and a dedicated scribe? a. The lists of questions and answers to those were to be circulated to those present, and we demand a firm date for that feedback process, and not as part of the draft scoping report.	Francois du Toit, Email, 12 November 2015	Notes taken at all meetings are presented in Appendix 5.7 of the Scoping Report. The second round of meetings were recorded. Also Refer to Response 1.8.
1.198		The organisers further assured all those present that the meeting would be re-scheduled, for a more suitable venue, with adequate notice provided and advertised. This is as required, in terms of the Public Participation Process. Without it, the Public Scoping aspect cannot be considered legitimate. Since the period for comment by IAP's is shortly to close and you have been unable to provide a new date for the meeting, nor shown any intention to do so, we, as IAP members of community reject the whole process as both dismissive and disrespectful of our Constitutional Rights, as citizens of the Republic of South Africa and in our opinion is illegal. Please acknowledge receipt of this message and record the comment contained therein.	Joy Alcock, Email, 13 November 2015	Refer to Response 1.8.
1.199		Reminder: Still waiting for you to send me a copy of all the lists filled in by protestors at your meetings as well as your presentation – at the Mooiriver meeting you told us that this would not be a problem. Please can I also register as an interested and affected party. You have ensured with your late meetings [poorly organised / not all necessary parties present] that people have insufficient time to appeal in a written manner to all “share-holders” /concerned.	Margaret Meaker, Email, 13 November 2015	Ms Meaker is registered on the project database (see Appendix 5.3). Refer to Response 1.8.

		As per sms sent to my cell phone – can I please receive all background information documents for proposed exploration on various farms in KZN [contact Stella], but I am sure you have same info available We all know that the end result Re oil exploration will be fracking.		
1.150		Hope you are well! During the meeting, we were told that if our questions could not be answered during the meeting we would receive an answer after. I asked what Rhino's policies were about clean up after accidental contamination. I was told Rhino had none. I am hoping there is a different answer now... As I already undertook to become informed about fracking before the meeting - both the pro's and con's - understanding Rhino's policies, track record and level of expertise is actually what will inform my decision around this matter: do I lobby for Rhino to be denied completely because I do not think Rhino worthy of the trust or do I lobby for strict enforcement of policies and proper monitoring if/once mining commences? Are any information packs available around these issues? I would like to be assured that I will not be participating in creating another Bhopal for my children - which is always a concern when dealing with First World companies coming to do dangerous stuff in Third World countries. Lack of corporate accountability should be every one's concern. A resource of my own: http://www.bhopal.net/	Gaetane le Grange, Email, 15 November 2015	Refer to Responses 1.19 and 1.63.
1.151		Thank you for your feedback. I was unable to participate in the meeting at the Lions river Club as the venue was too small to accommodate all of us. If I am not mistaken, you personally responded to a request by me (and I was the fourth/fifth person to reiterate that request during that meeting (whilst hanging through the window), to have another meeting in a bigger venue to facilitate a truly democratic participatory process. You ensured those (would could hear) that you will have another meeting. So when and where will this be? I don't believe that it is appropriate for you to discuss 'the way forward' with 'the Regulator' (who is that?) before actually hosting that meeting which you and your team committed to. In other words I don't believe you may 'tick that box' yet. The same applies to the Greytown meeting which my husband attended. Can you also explain to me how you can take the public's response into account if the proceeds of the meeting is not recorded or minuted for future reference? Similar meetings I have attended in Zululand, the facilitators requested of the person commenting to first identify themselves and every word spoken was transcribed and made available in the official minutes of the meeting accessible to all IAP's. Why is that not happening? If an official record of resistance, concerns or grievances is conveniently not available then can it be assumed, by those not directly involved in the process (e.g. the Rhino Oil & Gas Board of Directors, and officials from the Dept's of Energy and Mineral Resources) that it's not real and that the public consents? You can't possibly remember everything that was said or who it was said by. Is this not important? I may be naive, but I thought that is the point of a public participation process. Please let us know when and where these meetings will take place.	Louine Boothway, Email, 15 November 2015	Refer to Response 1.8.

1.152		I believe that comments should have been in on this initial pre-application phase based on the public meetings held. As the Nkandla meeting did not take place and is to be rescheduled, we would like to reserve our rights with regard to final comments, as we are still very interested to hear the presentation and what the implications will be for Nkandla and for uThungulu district.	Wendy Forse on behalf of Mtunzini Conservancy , Email, 16 November 2016	Refer to Response 1.8.
1.153		1. It states that "Rhino Oil and Gas (ROG) will make an application to PASA for environmental authorisation" in terms of NEMA. I have not participated in any EIA processes before which have involved PASA so am unsure who takes the final decision on environmental authorisation? It is worded as if it is PASA who make the decision? Am assuming this is in terms of the changed regs which have gone back to keeping any mining related EIA processes entirely within the DMR with only appeals being heard by Environment Affairs? Please can you clarify this process regarding PASA's role and responsibilities and who in this Agency takes the decision?		Refer to Sections 1.4 and 3.2 of the Scoping Report for description of the EIA process (including details of the competent authority).
1.154		2. There are some activities which are difficult to understand – such as apatite fission track analysis – but presume these will be explained in the public meeting.		Refer to Section 2.3 in the Scoping Report for the project description. Further information, in increasing detail is provided through the course of the EIA process.
1.155		3. The list of potential environmental impacts sets out clearly the very real potential of substantial negative impacts on a whole range of natural resources, particularly water resources. We will await the scoping report to determine whether the list will adequately cover all that we believe should be investigated during the EIA.		Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Section 6 for a description of these issues and impacts that will be assessed.
1.156		4. It is noted that already there appears to be some prevarication around the socio-economic issue: it is stated earlier on in the BID that this exploration phase will create relatively few job opportunities, yet under the socio-economic section (list of environmental impacts) it states that positive impacts include job creation and stimulation of the local and regional economy. Which is it? It has been our experience as a Conservancy in being involved in commenting on mining projects, that the socio-economic specialist reports focus on what the mining (in this case exploration) can do for the local economy and merely skim the surface on the "no project" option (what the existing local economic activities provide in terms of jobs and income) or on what alternative futures may provide if existing activities are invested in and supported in the way that mining is.		Contribution to local economy (incl. job creation) is dealt with in Sections 5.4.19 and 6.3.1.6 of the Scoping Report. In summary, contribution to the local economy could occur through the creation of direct employment opportunities and generation of direct revenues as a result of using local businesses for support services and supplies.
1.157		5. What measure will be used in terms of the economy? If it is GDP then that gives a very skewed impression as it takes no account of the real costs of exploration / mining to the environment and to surrounding communities. Therefore, any socio-economic studies must include the costs to communities, to the environment, municipalities and other government authorities of service delivery, particularly water, if local water supplies become polluted. These issues must form part of the equation when accounting for economic benefits or otherwise of the project.		Refer to Response 1.155.
1.158		6. There needs to be a lot more information on the possible effects that the surveys (noise and vibration) will have on the environment, including soil and micro-organisms.		Issues relating to noise (Section 5.4.16), vibrations (Section 5.4.15), soils (Section 5.4.11), water (Section 5.4.8) and ecology (Section 5.4.7) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in

				the EIA (see Section 6).
1.159		7. Need to be very specific about what 'cumulative and future impacts' may be. "Future large-scale projects" needs to be honestly and thoroughly explained. If fracking, and it seems fairly certain that the 'future projects' will include this, then this is of the greatest concern. There is no point in allowing exploration to go ahead when in fact, any extraction of fossil fuels has huge impact on the environment, in particular, on climate change. This flies in the face of all that will / should be discussed at the Paris Climate Change Conference and the trend internationally, which is banning fracking and moving away from fossil fuels. We need to know now what range these 'future projects' may cover in terms of extraction methodologies.		Cumulative impacts will be considered in the next phase of the EIA. Refer to Response 1.19 for a response on possible future exploration and production activities.
1.160		8. I have seen a Scoping Report for the Matatiele and Mt Fletcher (E.Cape) area. I just want to find out how many of these Scoping Reports will there be and exactly which areas will each cover – and when will they be available? In particular, that for the Nkandla – Babanango - Vryheid (northern Zululand) area.		Rhino has submitted five applications for Exploration Rights for five separate onshore areas. See the PASA hubmap in Figure 5-1 or the PASA website.
1.161		9. From the quick glance at the above Scoping Report, I note the map showing the water resources. It is understood that this map is just for this particular segment of the exploration area. However, it is critical that in each of these Scoping Reports a wider sub-regional map is shown, indicating how these localised water resources connect up to the wider catchments down to the coast. For instance, for the Nkandla-Babanango-Vryheid section of the exploration area, some of these streams and tributaries feed into the uMhlathuze River which directly affects us in Mtunzini, given that the uMhlathuze is a critical to our regional water supply. We would therefore like to see not just the localised map, but the larger sub- regional water supply map to understand at least the surface water connections. Am assuming that the EIA report will have groundwater mapping?		Refer to Response 1.63.
1.162		Once again, we reserve our rights to comment due to the public meeting not having taken place yet in our district.		This comment is noted. Also Refer to Response 1.8.
1.163		Please register us as an IAP and provide all and any information regarding this application to date. I am curious to note that they refer to the Amersfoort gas "discovery", can you explain this. Has there been any drilling already, either exploratory or other? If so, where and when? When did the process start, where was it advertised, who many people attended public meetings, how far along the process is this application? Did you engage with local farmers and farmers associations, and if not why not? How many civil society organisations are registered as IAP's?	Francois du Toit, Email, 16 November 2015	Mr du Toit is registered on the project database (see Appendix 5.3). The Amersfoort project has a long history with the initial Exploration Right application process commencing in 2006. The Exploration Right application was made by Badimo Gas (a South African company). An EIA was undertaken in terms of the legislated requirements. Some exploration for Coal Bed Methane has been undertaken in the Amersfoort area. Refer to Response 1.8 for further information on the public participation process.
1.164		As discussed telephonically on 27 January 2016, you are hereby invited to do a presentation at a special MANCO meeting which will take place at: Ingonyama Trust Board, 08 February 2016, 09h15. Please be advised that you will be given a maximum of 30 minutes for presentation and 15 minutes for questions. You are kindly requested to bring along a duly completed ITB 1	K D L Pakkies, Acting Real Estate Manager, Ingonyama Trust Board, Email, 26 January 2016	Refer to Response 1.8. See also Section 5.2.7 of the Scoping Report.

		and ITB2 form to the presentation. Kind submit your presentation to Ms Rabia Walljee by no later than 03 February 2016.		Traditional Authorities are included in the Stakeholder Database and were sent notifications with details of the EI A process and meetings.
1.165		You have not invited any of the traditional leaders to any of the meetings.	Eddie Lion-Gachet, Howick Public Scoping Meeting, 02 February 2016	
1.166		What worries me the most is that I, as an elderly person, can hear these people talking in front of us but we don't understand what is being said. Please can we get detailed translations so we will know each and every word that is being said not just the summary. We too have the right to know what is being said. We respect you when you say we have to respect one another at this meeting which is why we ask for a detailed translation and not just the gist of what is said. One more important thing, as we are under the authority of traditional leaders, who we respect very much, I would like to know where are they? Do they know about these meetings because we only found out about the meetings through word of mouth. Please can we get an explanation regarding this matter?	Stella Hlongwane Concerned Young People of South Africa (CYPSA), Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.8.
1.167		The chiefs of the surrounding areas must also be informed of the project.		Refer to Response 1.8.
1.168		This process is hijacking our democracy. In the Background Information Document it clearly states that the environmental assessment will allow for informed, accountable and transparent decision-making. Are any of the relevant authorities from local provincial and national government present at the meeting? How can there be an informed and transparent decision-making process if none of the authorities are present?	Bobby Peek of Groundwork, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.8.
1.169		There are less than 10 young people in the room. It is young people that will be affected by the exploration. Never again will you have a public meeting with less than 30% of attendees being young people.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.8.
1.170		The meeting time is inappropriate for schoolchildren. You need to consult with young people as well.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.8.
1.171		Where do I sign to stop this? I don't want this project and I don't want to come to another meeting.	Jane, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.84.
1.172		I have never been to such a distracting and frustrating meeting. It's an absolute waste of time. You need to put the presentation on video electronically in all the required languages and distribute it to all the ward councillors, conservancies, chambers of commerce and all interested and affected parties. Then all can come to the meeting and ask questions and the emotional aspect can be taken out of it.	Charlie MacGillivray, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.8.

1.173		You have defended the project by saying it will create a lot of jobs but why is there no consultation with the Zulu people? In your previous round of meetings the meetings with the traditional authorities did not happen because you failed to follow the meeting protocol of the traditional leadership. You have not rescheduled your meetings with the traditional authorities. Why have these meetings been excluded from your second round of meetings? The Zulus are about 80% of the population here and they will not benefit from the project, they don't drive cars and they don't have electricity.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Responses 1.8 and 1.155.
1.174		Can you explain your relationship with Daniel Mantsha. He is the lawyer that established the Rhino company in South Africa. Is also the current chairman of Denel and legal adviser to the Department of Communication.	Jonathan Erasmus from The Witness Newspaper, Howick Public Scoping Meeting, 02 February 2016	When establishing Rhino (the company) in South Africa, a shelf company was purchased as is common practice. Rhino has no knowledge of who established the shelf company and the former directors of the shelf company have no involvement with Rhino. (Rhino)
1.175		The meeting time is inappropriate because people are working at this time. Why don't you have the meeting in the townships over a weekend and do the presentation in Zulu?	Mholi Mngoma of KwaSizabantu, Howick Public Scoping Meeting, 03 February 2015	Refer to Response 1.8.
1.176		The presentation has strong words that cannot be translated into Zulu.	Unidentified IAP, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.8.
1.177		I am concerned that all the presentations have been cut short and that half the meeting has left. A lot of people who had questions have left the meeting without asking their questions.	Unidentified IAP, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.8.
1.178		We feed more than 1000 people where we come from. Some people live on the streets. People survive from the land. The land is our life so you are basically killing us and the whole KZN. I challenge you gentlemen to go to the King of the Zulus, King Zwelithini, with your proposal and get his approval. That is for Tugela Ferry, Ngutu and Nkandla. I promise you will not get approval to do what you are proposing.	Kwazokuhle Mgobozi	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 in the Scoping report for a description of these issues and impacts that will be assessed. Also refer to Response 1.110.
1.179		I am very disappointed in the way this meeting has been conducted. How many people from Middle Rest have been invited and how many have been at this meeting? It is the biggest settlement in the Mpofana area. We complained at the last meeting about the representation from Middle Rest and they are still not being represented. To have a meeting at 14:30 in Mooi River is not adequate. The people from Middle Rest do not have transport to get here at 14:30 or to go home at 19:30. Was Nkosi Mchunu invited? He is the main person in the area and his area does not fall under the Ingonyama Trust. The people from Middle rest do not have email, telephones or newspapers. How are they	Richard Adamson, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.8.

		supposed to know about the meeting?		
1.180		A lot of people do not have access to electronic media. If I did not learn of the meeting from Facebook I would not have known about it. When will the rest of the community be informed of the project?	Unidentified IAP, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.8.
1.181		Is the background information document available in Zulu?	Rene Ruus, Greytown Public Scoping Meeting, 04 February 2016	The BID was also available in Zulu. Also Refer to Response 1.8.
1.182		The Background Information Document produced by SLR does acknowledge that there are risks to this project.	Greg Hull, Greytown Public Scoping Meeting, 04 February 2016	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 in the Scoping report for a description of these issues and impacts that will be assessed.
1.183		There is a big part of the public, especially the previously disadvantaged, that will fall through the cracks during this consultation and their voices will not be heard because of this inability to address them in a simple manner that they can understand. And they will not be able to get their point across.	Jenny Cowie, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.8.
1.184		The people who left the meeting early in protest of the project must be taken seriously. Most of the people that left were African. 86.8% of the population of KZN are black. Is the timing for this project not bad considering that we are in a drought? The government are assisting many farmers in the area. Is it not better to wait until the situation is better?	Unidentified IAP, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.8.
1.185		As part of the previous meetings, meetings were arranged with Tugela Ferry, Nkandla and Nqutu. Ingonyama Trust specifically sent a representative to ask that you stop this process. Is the Ingonyama Trust aware that you are doing these meetings such as the ones in Greytown and Mooi River? These areas are part of the Ingonyama Trust and there are places that are under the Amakhosis.	Unidentified IAP, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.8.
1.186		I understand that you are having a meeting with the Ingonyama Trust next week. I want to know at this point who have you spoken with and made the appointment with at the Ingonyama Trust and where is the appointment? I would like to be there when you meet with them.	Jenny, Greytown Public Scoping Meeting, 04 February 2016	A meeting was held with Ingonyama Trust on 8 February. SLR awaits the opportunity to meet with the Board of the Ingonyama Trust. See Section 5.2.7.
1.187		Speaking from a personal point of view as part of the previously disadvantaged people, we have had 20 years of democracy but it is heart breaking to see that you young men are still continuing with the same things that we thought we had thrown off. In all your talks you have not once respected the previously disadvantaged. You say it is up to us to know what you are talking about and to get where you want us to be. Not once have you shown any respect. So in this democracy that we say we have you are		Refer to Responses 1.8, 1.19 and 1.110.

		<p>still coming and robbing us. Because you are robbing us when you are doing this. We don't understand. All we know is that you are coming and you know there's something down there that's worth a lot of money. You can't tell us how we are going to benefit out of this money. You are not even interested in making sure that we are comfortable with it or with your process. You don't care. I want all our leaders to know that and that is why I want to come with to the Ingonyama Trust meeting.</p> <p>On Sunday we will have a function with the president and I will be sure to ask him about all this fracking. Obviously you are chatting with him. But we, the people who are living down there, have to struggle. I know because I live down there and there is no water. The Tugela is dried up. We have to put whitewash in the water so it can filter so we can cook. You are going to need water. You don't care for us. How long are we going to be exploited? You've got so much money to do all of this. I have heard that there are some things being hidden under the table and they keep slipping out. Why don't you do something more constructive?</p>		
1.188		If you did care about us why haven't you tried to help us in other ways? How can you take offence when we say we don't want this? You have the finances to beat us. You have the money and the knowledge and you are just pouncing on us. We have said no.		Refer to Response 1.84.
1.189		Information is required as to which ministry authorised this proposed exploration?	Patrick Marion Long, via email, 03 November 2015	No exploration Rights have been awarded to Rhino. Refer to Sections 1.4 and 3.2 of the Scoping Report for description of the EIA process (including details of the competent authority).
1.190	Who will make the ultimate decision on whether the project is approved or not?	Patrick Ben, New Hanover Scoping Meeting, 05 November 2015		
1.191	Who is "the Regulator"? What exactly is the "EIA process" that you will advise us of the future of?	Stephanie Ando, Email, 14 November 2015		
1.192		Who else will be at the meeting with "the Regulator"?		Refer to Response 1.8.
1.193		Has Rhino already made the application to PASA or will the application be done after this meeting?	Unidentified IAPs, Ashburton Scoping Meeting, 02 November 2015	Refer to Section 1.4 of the Scoping Report for information regarding the applications for an Exploration Right and Environmental Authorisation.
1.194		You have not submitted your application. You have done your homework. You have missed certain areas such as wells, wetlands, water courses and riparian zones and only focused on residential and protected areas. You must complete this exercise properly before you can proceed.	Norah Shebab, Richmond Scoping Meeting, 02 November 2015	Refer to Response 1.4.
1.195		Scrap the application and restart the process. If fracking is going to take place, the process must be stopped. We are dealing with people's lives.	Francois Du Toit, Richmond Scoping	Refer to Response 1.19.

			Meeting, 02 November 2015	
1.196		We would like to know what detail is included in the application. Before this meeting can take place, the details of the application must be presented to the IAPs. We want to know everything that is covered in the application.	Unidentified IAPs, Ashburton Scoping Meeting, 02 November 2015	Refer to project description in Section 2.3 of the Scoping Report.
1.197		I am concerned that this application will be submitted to PASA whose aim is to explore for oil. To me this is a situation of the player also serving as a referee. What role will other government department play?	Alice Thompson, Ashburton Scoping Meeting, 02 November 2015	This comment is noted. Refer to Sections 1.4 and 3.2 of the Scoping Report for description of the EIA process (including details of the competent authority). Also refer to Response 1.185.
1.198		Does Rhino already have the authority to undertake the exploration? I do not trust PASA and I do not trust the government?	Ruth, Ashburton Scoping Meeting, 02 November 2015	Rhino has not been granted any authorisation to conduct any exploration. Refer to Sections 1.4 and 3.2 of the Scoping Report for description of the EIA process (including details of the competent authority).
1.199		How far is the scoping process and what has been done so far? From my experience, the scoping process of smaller projects takes about six months. How does SLR plan to conduct a credible scoping process that covers more than 1.8 million hectares in 30 days? We would like to see the final scoping report of this process.	Dean Marsky, Ashburton Scoping Meeting, 02 November 2015	
1.200		The purpose of a scoping process is to get project input from us as IAPs. There are currently no sites available for any drilling in the Kwazulu-Natal Province. What is the purpose of subjecting this entire process through an environmental process if it has been shown that there are no sites to drill?	Jeremy Widdle, Ashburton Scoping Meeting, 02 November 2015	The objectives of Scoping are presented in Appendix 2 of the EIA Regulations 2014. These are summarised in Section 3.2 of the Scoping Report.
1.201		There is legislation that came into effect on the 03rd of June which has declared the Natal Midlands area as unsuitable for mining due to the proximity to wetlands and sensitive areas. This meeting is therefore illegal.	Unidentified IAPs, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.4.
1.202		Does Rhino acknowledge the legislation that came into effect on the 03rd of June prohibiting all mining and exploration related activities in this area? If so, then this meeting is technically illegal and should not take place.		Refer to Response 1.4.
1.203		I do not think it is a good idea to leave the meeting. If we are to challenge this process and oppose the project, we must do it based on issues and these issues will be outlined in the presentation. SLR is an independent facilitator and consultant and it is their duty to remain objective and listen to IAPs.		Refer to Response 1.8.
1.204		The scoping process should be informed by desktop information. What did Rhino use to come up with this conclusion? What is the end goal? Can we have access to the application submitted to the department?	Antoinette White, Richmond Scoping Meeting, 02 November 2015	Refer to Response 1.19.
1.205		Who will check that the EIA/EMP report has been completed objectively and professionally since it is difficult to trust SLR because their work is paid for by Rhino.	Ralph Strachan, Richmond Scoping	Refer to Response 1.33. All the environmental reports produced by SLR are distributed for public / IAPs review before

			Meeting, 02 November 2015	they are submitted to the competent authority.
1.206		We have a major concern about the future long term impacts of this project. What do we need to do in order to stop this process as early as now during the scoping phase? We do not want it to continue any further.	Lisa Robertson, New Hanover Scoping Meeting, 05 November 2015	Refer to Responses 1.19 and 1.84.
1.207		Why did SLR accept a job with a flawed process? Are you just conducting this meeting as a legal tick box exercise?	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Response 1.8.
1.208		SLR must stay away from consulting on fracking projects.	Carol, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.19.
1.209		If the environmental assessment study concludes that fracking will have adverse impacts on the environment, can the government override the study and still authorise the process to go ahead?	Lynn, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.19.
1.210		Has the process been rubber stamped by PASA? Is this just a mere meeting for formality?	Unidentified IAPs, Lions River Club, 03 November 2015	Refer to Sections 1.4 and 3.2 of the Scoping Report for description of the EIA process (including details of the competent authority). It should be noted that Rhino has made the application to PASA and they have accepted the application and requested that an EIA process is undertaken before a final decision can be made. There have not been any decisions made with regards to the project.
1.211		The affected areas must be refined first in order to make this process meaningful.		Refer to Response 1.84.
1.212		Fracking is a national prerogative. Parliament needs to engage directly with us a affected communities. This process that is taking place here is a farce and by allowing the meeting to take place, we will be endorsing that farce of a public participation process.		Refer to Response 1.19.
1.213		I understand that there are a number of Technical Cooperation Permits (TCPs) that have been granted. Is Rhino part of it?	Kholosa Magodu, Taylors Halt, Scoping Meeting, 03 November 2015	Rhino has a TCP for the proposed exploration right application area.
1.214		When the surveys are completed, will the data and results be made public? At what stage will the public know what type of resource has been found?	Anne McDonell, Ashburton Scoping Meeting, 02 November 2015	Survey data is proprietary, but it will be made available to PASA.
1.215		You have indicated that residential areas are excluded for exploration activities. Will you also exclude areas that are planned and approved for residential development?	David Hutton, Ashburton Scoping Meeting, 02 November	Refer to Response 1.4. proprietary

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1.216		If the entire Kwazulu-Natal province refuses to grant Rhino the social license to operate, will Rhino withdraw their application and leave South Africa?	Moira Peadon, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.84.
1.217		The pre-cautionary principle states that, if one does not understand the impacts fully, they should not go ahead with the project. The polluter pays principle states that, the one who causes pollution is responsible to mitigating it. Both these principles apply in this process.	Khumbulani Nkomo, Ashburton Scoping Meeting, 02 November 2015	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed. PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence. A statutory appeal period in terms of the National Appeal Regulations (GN No. R993) will follow the issuing of the decision.
1.218		I do not see you as enemies and I am aware that you are undertaking this process within a legal framework. My concern is that the issues that are being raised are being rushed. The timeframes are too stringent and unfair to everyone. It will be extremely difficult to record the issues that are raised today. I would prefer that each issue raised is read out aloud and verified.	Bruce, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.8.
1.219		What do we have to do to stop the process? We have said that we do not want this project and all you do is note it. We do not want you to go ahead with the process. Will a petition help stop the process?	Anne, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.84.
1.220		Who pays for the appeal? How do you expect poor communities to afford to pay for such processes? Money can buy everything. It is money that creates inequalities.	Mark Caster, Ashburton Scoping Meeting, 02 November 2015	A statutory appeal period in terms of the National Appeal Regulations will follow the issuing of the decision. Refer to GN No. R993 for these regulations.
1.221		From our experience with previous projects, DMR has not been useful in addressing the concerns of the public. This is a major concern for us.	Wade Hollard, Ashburton Scoping Meeting, 02 November 2015	This comment is noted. PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence. A statutory appeal period in terms of the National Appeal Regulations (GN No. R993) will follow the issuing of the decision.
1.222		The discussion has been stimulating. To me I see it as democracy in action. I still do not agree that this meeting is legal especially with the large number of people that walked out at the start of the meeting. I believe that the meeting did not meet all the requirements. PASA needs to be made aware that the project timeframes are unrealistic.	Bruce, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.8.
1.223		The process must only focus on areas that are included and the areas that are excluded must be removed from the project. Otherwise, this process becomes a waste of time for the public.	Francois Du Toit, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.4.
1.224		How would you define the term disturbance? I have never come across the term in	Judy Bell, Richmond Scoping Meeting, 02	Disturbance refers to an area that has been changed or altered from its original state usually

		environmental management.	November 2015	due to some activities.
1.225		The EIA process must document a detailed baseline of the current state of environment in the area. Landowners can use this as a reference to evaluate the extent of the impacts especially after the project has been completed.		Many I&APs requested that the Scoping Report provide a detailed baseline description of the current state of the environment in the area. The status of the baseline environment is described in the Scoping Report (see Section 5.5). However, as the application area is vast and specific sites for seismic lines and borehole sites have not yet been identified, it is not possible to provide detailed site specific descriptions in the EIA. Please refer to Section 2.3.5 of the Scoping Report for a detailed response in this regard.
1.226		Is it not illegal to sink boreholes in this application area as per Section 102?	Francois Du Toit, Richmond Scoping Meeting, 02 November 2015	Refer to Response 1.4. Since the exact location of an exploration site is flexible and can be adjusted to accommodate environmental sensitivities, impacts on ecological resources (including vegetation, faunal habitat, etc.) can generally be avoided or reduced with the placement of activities on sites that are not sensitive and do not have sensitive natural vegetation. It may also be appropriate to include a buffer around each protected area within which no exploration activities can take place. This issue will be further investigated in the next phase of the EIA where an appropriate buffer will be determined.
1.227		Most of us will be launching an objection to the project, what is the process of officially launching the objection? Can we launch an informed objection without certain project information?	Antoinette White, Richmond Scoping Meeting, 02 November 2015	Refer to Response 1.84.
1.228		Please investigate the cumulative and future impacts that may arise as a result of the project.	Anna Fraser, Richmond Scoping Meeting, 02 November 2015	Cumulative impacts will be considered in the next phase of the EIA. Refer to Response 1.19 for a response on possible future exploration and production activities.
1.229		What is the definition of rehabilitation? Is it just a legal definition or a broad definition that include cumulative impacts and other future impacts? I am concerned about a superficial definition of rehabilitation vs a detailed one.	Campbell, Richmond Scoping Meeting, 02 November 2015	Rehabilitation is defined as the process the process of returning the land in a given area to some degree of its former state, after some process has resulted in its damage. This is a holistic process that considers cumulative and other future impacts that may arise as a result of the process. It is in the interest of Rhino to adopt an all-encompassing definition of rehabilitation.
1.230		It is nonsense to say that it is difficult to assess future impacts of the project. These have been well documented and readily available. How can we then trust that you have the best interests of our communities? Why must we even trust an oil and gas company? They cannot be trusted. Rhino must never ever underestimate the power of a South African farmer.	Francois Du Toit, Richmond Scoping Meeting, 02 November 2015	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
1.231		What will happen to the water courses or areas outside the application area?	Ralph Strachan, Richmond Scoping Meeting, 02 November 2015	Refer to Response 1.63.

1.232		Can SLR advise Rhino to withdraw their application, leave Kwazulu-Natal and leave South Africa?	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Response 1.33. In terms of the EIA Regulations 2014 SLR is required to provide a reasoned opinion as to whether the proposed activity should or should not be authorised.
1.233		Can Rhino assure us that they will withdraw their application? I guess the answer is no because there is too much money involved.		Rhino do not intend to withdraw their application at this stage.
1.234		This is an environmental assessment process. Who is conducting a social assessment process? This process is not socially accepted.		Issues relating to socio-economic environment (Section 5.4.12 onwards) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6).
1.235		How strong is the voice of the public when it comes to such a process? Will our concerns be heard and accurately recorded to express our strong sentiment and objection to this process? How strong is our no? We do not even want an initial investigation. This process will kill our children and future generations.		PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence. A statutory appeal period in terms of the National Appeal Regulations (GN No. R993) will follow the issuing of the decision. Also refer to Response 1.84.
1.236		Can we have the copies of all the issues recorded today together with the copies of the presentation that was supposed to be presented today? Can we commit to a follow up meeting before the EIA/EMP phase commences.		Refer to Response 1.8.
1.237		This process is not a process against Rhino but against all exploration and extraction companies. We are concerned that SLR is just doing it as a tick box exercise. Can we request the Project Manager from SLR avail himself for engagement with the public on the assessment process? The intention of the engagement should not be misinterpreted as support for the project. The purpose is to lead towards a moratorium for this area.		Refer to Responses 1.8 and 1.84.
1.238		How can we have a guarantee that the three themes as outlined by the facilitator will be implemented? It is obvious that Rhino has commercial interests in this entire process.	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Rhino gives its commitment to the implementation of the outlined themes. Refer to Response 1.8.
1.239		When will we get feedback from PASA about the possible extension and how will we be notified?		Refer to Response 1.8.
1.240		Some of our African neighbours heard about this project and they see it as a potential for jobs. They are not aware of the associated environmental consequences.	Opperman, Colenso Scoping Meeting, 04 November 2015	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
1.241		I understand that you have highlighted that the environmental assessment process is there to ensure that identified impacts are mitigated and managed. There has been an instance where an environmental assessment process was conducted for the construction of a pipeline. They still destroyed the environment. An assessment process is therefore not a guarantee that the environment will be protected.		Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed. PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence.
1.242		Is it true that you already have permission to drill in the UMngeni area near the Mandela Capture Site?	Guy Solomons, New Hanover Scoping Meeting, 05 November	This is no correct. Rhino is applying to rights within the proposed exploration right area. Also refer to Response 1.4.

			2015	
1.243		<p>Excluding all other factors such as environmental and those as listed in Rhino's BID it is totally incomprehensible that for the above reasons alone that exploration scoping permits have been granted at all.</p> <p>The assumption must be made that the permits were granted with little thought on the practical implications of the effects of the extraction of gas in the "bread basket" of South Africa; or heaven forbid that it is not for political or personal gain.</p> <p>In order to ally suspicions please be good enough to make public the directorship of Rhino Oil and Gas Exploration (Pty) Ltd and all holding companies.</p>	Iain Sinclair, Email, 23 October 2015	No exploration Rights have been awarded to Rhino. Refer to Sections 1.4 and 3.2 of the Scoping Report for description of the EIA process (including the competent authority).
1.244		I am an environmental consultant interested in the fracking process and what is planned for the future of KZN. I would like to see the real environmental risks highlighted in the Scoping Report and hear case studies of where the mitigation measures have or have not worked.	Stephanie Williams, Email, 27 October 2015	Refer to Response 1.19.
1.245		<p>With reference to the above mentioned EIA process please could you include the following aspects into your scoping report to enable your plan of study to be inclusive of these potential impacts/issues. Social licence in the negative balance.</p> <p>It would be apparent from the issues brought forward at the Ashburton public meeting and as reported on at the other public meetings that there is a negative balance with respect to the social licence for Rhino Oil & Gas to start exploration activities over the area identified. The people of KZN, and it would appear, Matatiele, have stated publically in various forms, that they withhold the social licence for Rhino Oil & Gas (Pty) LTD to operate. Please can you scope the potential conflict of interests that underlies this strong opposition and outline how these can potentially be mitigated, if at all.</p>	Pandora Long, Mkhambathini PEACE project, via email, 13 November 2015	Refer to Response 1.84.
1.246		Please put forward a worst case scenario from which issues that need to be scoped can be identified and adequately addressed in your report. If public opposition spreads, and protests become widespread and ongoing, please scope the implications to this province within the framework of environmental authorisation.		Refer to Response 1.84.
1.247		<p>We reserve our rights to make further comment</p> <p>Please may the record state that we reserve our rights, as individual members of the organisations herein, as organisations and as a community, to participate in this EIA process without compromising our right to contend that the EIA process is illegitimate, in other words that exploring in areas where it is against the law to extract resources because of legal restrictions imposed by the MPRDA and the Fracking regulations, NEMA or any other relevant South African legislation would be deemed illegal. We also reserve the right to add to what we have stated herein and raise further questions in this regard throughout the process.</p> <p>Thank you very much for your attention to these issues.</p>		This comment in noted.
1.248		I have been reading some of the mail about this from my godchild Margaret Meaker who is based in the Natal Midlands. I honestly feel the best way forward now is not to do	Frank Meaker, Email,	Content of email is noted.

		<p>petitions etc (sure drum up support - may need cash), but simply follow the Promotion of Administrative Justice Act (PAJA) seeking adequate reasons for actions etc that will put a hold on things for starters. There I would recommend using two young JHB counsel Advocates Budlender and Friedman who assisted me pro bono in a matter in the JHB High court, won there and then used the same principles in the Constitutional court relating to the right to electricity. It comes to much the same type of issue, you have to provide adequate reasons for what you do when you are an administrator, which is of course what the government is in this matter.</p> <p>They know exactly the approach that should be adopted. I sat with them in the constitutional court in the matter of Joseph and others v. City of JHB.(2009) Could field any question thrown at them by the 12 judges without looking at a note. The opposing counsel had no answer. Here there appears to have already been a number of arbitrary decisions, which are contrary to the Constitution. (see SARFU V. MANDELA) such decisions will be set aside on the turn, but the correct procedure must be adopted. Regrettably whilst I am prepared to assist, I ceased legal practice way back in 1998 (started law in Durban in 1962) , take appointments now by order of court to administer sectional schemes in distress. I can of course refer you to any number of attorneys here sympathetic to your cause. I will see if informally I can sound out the two comparatively young men on their attitude to what is happening. I will also sound out again someone quite young Ms Chantelle Gladwin of Schindlers attorneys to see her reaction to this. She is an absolute expert on property law. Again someone who will take on a case if not pro bono at least at a reduced fee. Regards Frank Meaker Consultant in Administrative , Constitutional and Labour law. 011- 614 4508. Ps started out life as a Geologist, seen just how much damage can be caused by open caste mining.</p>	15 November 2015	
1.249		Can you help with information here, please – I am hearing talk of an Afro Energy project in the Memel/Wakkerstroom area and I believe that it, too, is a SLR project. Do you have the background information?	Carolyn Schwegman on behalf of Coastwatch, Email, 17 November 2015	See response to
1.250		<p>The South African Water Caucus is a civil society network working on water issues in eight of the nine provinces with provincial water caucus in all provinces with the exception of the Northern Cape. The KZN Water Caucus is making these comments on behalf of the SA Water Caucus.</p> <p>We hereby register as interested and affected parties in both the environmental authorisation application process as well as the exploration right application process. We further request to be directly notified of any application process. We further request to be directly notified of any application by the Rhino Oil and Gas for a water use licence in respect of its proposed exploration process in terms of the National Water Act 36 of 1998 as well as any application process in terms of the KwaZulu- Natal Planning and Development Act No. 6 of 2008, the Local Government: Municipal Systems Act 32 of 2000 and/or the Spatial Planning and Land Use Management Act 16 of 2013.</p>	Bryan Ashe from South African Water Caucus, via email, 17 November	Refer to Response 1.63 and 1.133.

1.251		I see that you are re-convening meetings in Howick West, Mooi River and Greytown, presumably to complete the process you began in November last year. I hope this does not mean that you (or your client) is departing from the assurance recorded in your email below, that you will first establish where the 'unrestricted' areas are, and then proceed with the EIA in those areas only. Please confirm that this is so.	Jeremy Ridl, Email, 19 January 2016	<p>Response via email: Yes we are continuing with the consultation process. An update letter will be distributed shortly to all parties with whom we have engaged to date. See attached for your info.</p> <p>As I had indicated we did advise the applicant to consider revising the application area in light of various possible 'restrictions'. Rhino Oil & Gas discussed the matter with their advisors and PASA.</p> <p>In this regard Rhino Oil & Gas then informed us that they are revising the application area (currently under revision by their surveyors) to exclude all properties where the granting of an exploration right is prohibited by Section 48 of the MPRDA. This is unlikely to result in a significant change to the total extent of the application area. Rhino Oil & Gas also advised SLR that they will not be excluding properties or areas where a constraint may restrict an exploration activity (current or future), but does not specifically prohibit the granting of an exploration right. The application area will therefore remain unchanged with regards properties where it is lawful to hold an exploration right.</p> <p>I believe that Rhino Oil & Gas will try and explain the rationale behind this approach in the public meeting. My current understanding is that Rhino Oil & Gas want to hold the exploration right over these areas (even where they accept that they could not do production) as such right would entitle Rhino Oil & Gas to access or acquire data over these areas. They explained to me that in the exploration process, having data over these areas may be necessary to understand the potential for a petroleum resource in an adjacent area, where it may be possible to undertake production.</p>
1.252		<p>Re our telecon today where you confirmed that you would request attendance of Tebogo Motluang from PASA and that whoever you were appointed by at Rhino Oil would be in attendance at the Feb 2 meeting at the Howick West Community Hall to answer a number of questions that are relevant to the process being undertaken.</p> <p>No information has been made available to the community regarding the post submission of your firm's assessment report to PASA and the various government departments.</p> <p>Many thanks, we look forward to your confirmation of the attendance and that process questions are tabled for answers at the meeting on Feb 2.</p>	Jeane Gere, Email, 21 January 2016	<p>Response via email: I have advised PASA of your request for Mr Motluang to attend. SLR are can't make any promises in this regard.</p> <p>Representatives from Rhino Oil & Gas will be in attendance at all the meetings.</p> <p>We have not yet submitted any report to PASA. As is explained in the update letter that was distributed (and see the attached BID for further detail), the environmental work SLR is doing is still in the Scoping Phase. "The primary objective of the scoping process is to identify the key issues that need to be addressed in the assessment phase that will follow. It is not the purpose of the scoping phase to provide answers to the issues that arise, but rather to document these and ensure that the level of assessment required will be undertaken in the EIA. The results of the current process, including details of the issues and objections will be documented in a scoping report. Once completed, a draft scoping report will be made available to interested and affected parties for a 30 day review period.</p> <p>The 1st report (a draft Scoping report) will be made available to the public for review in due course.</p>
1.253		This proposal must be authorised by means of a referendum relating to all residents. Kindly communicate. I gather you have not been very good at this.	Aws Semmeton, Email, 03 February 2016	A Scoping and EIA process, not a referendum is required to inform an application for environmental authorisation.

1.254		As a Midlands resident, my aim is to help ensure full environmental accountability in authority decision-making. I expect that all authorities involved in this proposal will be able to demonstrate full compliance with NEMA's Section 2 principles. and assume that the EAP will give detailed attention to each principle in the documents that must support decision-making.	Marita Thornhill, Email, 02 February 2016	The Scoping and EIA process is being undertaken to comply with the EIA Regulations 2014, to the extent this is possible.
1.255		As part of the EIA I believe you should provide the community the information to whom appeals and objections can be raised directly. We appreciate that your report will have all the recommendations in including the strong objection but Rhino may not allow that report to be submitted in that form if it is strongly unfavourable.	Dela Maiwald, Email, 04 February 2016	The details of PASA are provided in the Scoping Report. Or see www.petroleumagencysa.com .
1.256		Which ministerial department can one appeal to besides PASA (whose objective is to find fuel and are therefore already biased towards Rhino). What is the sequential up escalation of this objection if it fails at the grassroots first contact.		The DMR is the authority responsible for decisions under the MPRDA. An appeal on an environmental authorisation with regards a decision by the DMR would be heard by the DEA.
1.247		How does SLR decide which EIAs to take? Why do they not withdraw from an EIA when the proposal is rejected meeting after meeting? The EIA needs to recognise that there is an entire community that does not want the project.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Responses 1.33 and 1.84. In terms of the EIA Regulations 2014 SLR is required to provide a reasoned opinion as to whether the proposed activity should or should not be authorised. PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence.
1.258		I work in the environmental field and I comment on a lot of EIA processes. I have found that we have no enforcement of our laws and you can pretty much do what you want. We cannot rely on the law.	Penny Rees, Howick Public Scoping Meeting, 02 February 2016	Ms Rees's opinion is noted.
1.259		You are possibly going to find other minerals than oil and gas during your exploration. Will you stick to your EIA or purchase another shelf company to extract that mineral?	Ronnie Ritchie, Howick Public Scoping Meeting, 02 February 2016	Minerals included in the Exploration Right application are oil, gas, condensate, coal bed methane, helium and biogenic gas. Any change to the scope of the Exploration Right (e.g. additional minerals, further exploration or future production activities) would need to be subject to additional authorisation in terms of the MPRDA and thus the NEMA. Each of these would require a separate EIA (or environmental authorisation amendment) process, which would include a further public participation process and in-depth assessment (potentially including specialist studies) of all project-related activities / issues. Refer to Response 1.19 for a more detail discussion on issues related to possible future exploration and production activities.
1.260		If you give your presentation to the local authorities and they reject the project will it you stop? Is there anything that can stop the project?	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence.
1.261		Can you state your data protection policy? You have our images, addresses and telephone numbers and you can put the two together.	Unidentified IAP, Mooi River Public Scoping Meeting, 03 February 2016	The data gathered is part of the EIA process undertaken in terms of the requirements of the EIA Regulations 2014. The contact details are purely for use in the EIA process.
1.262		The data is stored on your company server which is connected to the Internet so what is		The SLR server is protected.

		your data protection policy?		
1.263		If you're not looking at the future impacts of production during this EIA then you are sneaking the project in bit by bit.		Refer to Response 1.19.
1.264		What is the defined right that is being applied for in KZN?	James Keanes of Irrigation board, Mooi river Public Scoping Meeting, 03 February 2016	Rhino is applying for an Exploration Right in terms of Section 79 of the MPRDA.
1.265		Most of us have property rights but we understand that here in KZN we cannot apply for mineral rights. A lot of the problem areas in the US with fracking occur where landowners do have mineral rights and they sell them to the mining companies. Who gives Rhino the right to look for minerals in KZN?		Minerals in South Africa are vested with the State. The Act states that any person or company can apply for any mineral right on any piece of land. The issue relating to land tenure and land use are dealt with in Sections 5.4.13 and 5.4.14, respectively. In summary, there would not be any change in land tenure, despite the possible issuance of an exploration right. The placement of the target sites/routes would be undertaken in consultation with the landowner/occupier to ensure that conflicting land uses are avoided where possible and disturbance to current land use activities are kept to a minimum. The use of any land for exploration activities would have to be through an Access Agreement negotiated between the exploration right holder and the landowner/occupier. Also refer to Response 1.19 for a response on fracking.
1.266		If Rhino needs to apply to government for a mineral right do they have to pay government for that right?	Sue Walker, Mooi River Public Meeting, 03 February 2016	There is a R 100 registration fee for an exploration right. If the right is granted there is a land rental fee based on the size of the area and that is paid to government.
1.267		I don't like the fact that your EIA processes have been split between exploration and the actual fracking.	Lara Jordan of RNR Conservancy, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.19.
1.268		The response to a lot of issues and objections raised today was that there is no need to worry and that the project is safe. Who do the issues and objections raised during the EIA process go to?	Sue Murrell, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.84. PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence.
1.269		SLR represents Rhino but who represents the environment?		Refer to Response 1.33.
1.270		Thank you SLR for negotiating for the time extension for the process.	Bruce of Zulu Trail Project, Greytown Public Scoping Meeting, 04 February 2016	This comment is noted. Refer to Response 1.8.
1.271		Thank you for recording the meeting. It's more efficient for capturing the minutes than working off notes only.		This comment is noted.
1.272		Thank you for approaching the Ingonyama Trust and respecting the traditional leadership process.		This comment is noted.

1.273		Is the process running now about fracking and about extraction?	Rene Ruus, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.19.
1.274		According to the EIA process is presumptuous to say that you will do something. According to the EIA processes set out in the National Environmental Management Act you have to do public participation, take cognizance of it and also add a weight to it. Who weighs up the importance and value of the public participation as it affects the decisions made? At this point the public participation clearly indicates that the public do not want this project in their area.	Kevin Coburn, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.8 and 1.84. PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence.
1.275		Previously it has come up that ultimately it's not going to be your decision whether or not you are going to be granted this oil and gas right and the legislation that exists absolves you from any personal responsibility as to whether this goes ahead or not. Ultimately the government takes responsibility for our concerns. It is obvious to us that in the past, legislation have shown that it is not infallible when it comes to people's best interest and wishes. There are many examples of that. We are not prepared to leave our future, our children's future and our grandchildren's futures in the hands of a piece of legislation, legal technicality or act. That leads me to my question. You are a human being and a South African at that. I would appreciate if you answer this question to all of us South African human beings that are still gathered here. If you are legally granted a permit to continue to pursue your interests, would you stand on your legal rights in the face of all our unanimous disagreement and continue with your process or would you treat us like fellow human beings, wave your legal right and not proceed?	Unidentified IAP, Greytown Public Scoping Meeting, 04 February 2016	Rhino is applying for an exploration right to undertake a 3-year, early-phase exploration programme for oil and gas resources. The application only includes work aimed at determining the presence of a petroleum resource and approval is not being sought for any work to determine the commercial viability of the resource. The initial exploration work programme is restricted to various non-invasive and remote techniques, as well as up to a maximum of 125 km of seismic survey lines and the drilling of a maximum of 10 core boreholes. Rhino do not intend to withdraw their application at this stage. Refer to Response 1.84 for general objections to the proposed project. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed. PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence.
1.276		You have a Technical Cooperation Permit which provides certain rights. You are about to embark on a journey which may have consequences. Will you enforce that right?	Francois du Toit of African Conservation Trust, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.265.
1.277		In terms of your process, if you are granted a right will you enforce that right?		Refer to Response 1.265.
1.278		Why has Durban not hosted any meetings?	Dr Sean O'Donoghue, Email, 05 February 2016	Durban is well outside of the proposed exploration right application area.
1.279		Farm owners listed above can be contacted directly as their contact details are available. Meetings need to be held in the local community in Lidgettan West.	Nicole Schafer, Email, 29 February 2016	Meetings were held in nearby Lions River, and repeated in Howick.
1.280		Why have the cities of Pietermaritzburg and Durban not been included in the public participation process? They may fall into areas that are not part of the proposed exploration area geographically	Dela Maiwald, Email, 04 February 2016	Durban is well outside of the proposed exploration right application area.

		<p>or by law and therefore do not need to be consulted.</p> <p>However these cities contain 70% of the population of KZN and are totally reliant on water from the berg and the midlands that fill the dams that are their only supply of water. These dams are Midmar, Albert Falls and Nagle dam that are situated in the midlands within the exploration area. Please note that these dams sequentially fill each other in this order as they are in the greater Umgeni catchment area.</p> <p>A negative effect high upstream will affect the entire populations around the length of the N3.</p>		<p>Exploration is not proposed within the residential limits of Pietermaritzburg. Meeting were held in nearby Ashburton and Howick.</p>
1.281		<p>I also asked about the areas that are excluded from the exploration right by law as listed in your letter. As these areas are known I think it would be entirely reasonable to have a preliminary map sent out of the exploration area indicating absolute no go zones and the buffer zones and the areas where a right is held but exploration may not take place due to the known restrictions.</p> <p>This may allay many fears in the communities involved. It is a desk top exercise and what it will help with is to narrow down the areas that may be affected and thus help you to concentrate your efforts to those areas.</p>		<p>Amongst other functions, it is the role of the Scoping and EIA process to identify environmental sensitivities and make recommendations on measures to prevent harm to these. A considered approach is being followed through the course of the Scoping and EIA process to ensure an appropriate outcome with regards the identification, protection and /or exclusion of environmentally sensitive areas. The full outcome of this process and the mitigation will be presented in the EIA report.</p>
1.282		<p>Do you have offices on KZN? I am trying to establish where everyone is based and from the SLR website it is unclear as the location map shows nothing in KZN...unless I missed it?</p>	<p>Sally Jackson, Email, 05 February 2016</p>	<p>Response via email:</p> <p>I work from an office in Hilton.</p> <p>There are many NGOs that have been involved in the EIA process to date. There is no accurate way for me to extract all of these from our register.</p> <p>The majority of the NGOs have been co-ordinating their efforts through the "Frac Free KZN" banner. In this regard may I suggest that you contact Mr Francois du Toit of the African Conservation Trust. He is better placed than I to advise on the participating members. ceo@projectafrica.com</p> <p>All registered Interested and Affected Parties will be provided with access to the draft scoping report once it is made available.</p> <p>We are still in the process of consulting with Traditional Leaders in the various project areas. In terms of the EIA process for exploration right applications, consent of land owners is not required. I refer you to Regulation 39 (2) of the 2014 EIA Regulations (GN R 982).</p>
1.283		<p>Please can you send me a list of database you obtained throughout the various meetings? And are you able to confirm which NGO'S are involved with the application? And who/which NGO has requested copies of the draft scoping report to comment on?</p>		
1.284		<p>Matthew, do SLR genuinely act independently of Rhino Oil & Gas even though they pay you/the company?</p>		
1.285		<p>Another question I would like to ask is, how many traditional councils have they consulted and how many have given consent for the undertaking of the assessment process?</p>		
1.286		<p>With reference to the above and your letter to IAP's dated week 18 January 2016, I would like clarity on your statement in the paragraph headed "Application Area" in which you state that an example of a constraint that prohibits exploration rights but does not prohibit the granting of a right is Section 122 (2) and (3). Section 122 (2) clearly states 'A well site where hydraulic fracturing operations are proposed or planned, must not be located ' and then lists the restrictions in clauses a,b, and c.</p> <p>I would like to know</p> <p>1. how you propose to be granted a "right" for an area when exploration is prohibited, when the whole purpose of exploring is to establish whether a "right" should be granted, and</p>		

		<p>2. how do you differentiate between exploration and actual commercial hydraulic fracturing and/drilling, when exploration is part of the whole process, relative to the said "right".</p>		<p>to interpret where future investigation should be focussed. They present that the right is required over the full application area in order to achieve this.</p>
<p>1.287</p>		<p>At the 1st meeting in Ashburton the question was raised re the area's that can be legally explored, taking into account the restrictions imposed by section 122 and you undertook to investigate and revert back to IAP's. By now you should have produced a document showing all the restricted area's created by applying the required buffering, eg 500m around every borehole, 1 km around every wetland etc. Please supply a copy of this document as it is crucial to establishing a way forward. As it stands your only response to that request is contained in the paragraph headed "application area", hence my request for clarity.</p>		<p>By law, exploration cannot be conducted without a right. Thus an applicant must first hold the right before doing any work. Applicants are not even entitled to access certain forms of electronic data until such point as they hold a right. The work then done during the course of holding an exploration right, would inform whether they make application for further exploration or a production right.</p> <p>It is the legislation that provides for the distinction between an exploration right and a future production right. In law a mineral right is specific and limited. The current EIA process is aligned to what has been applied for in this exploration right (being early phase exploration only for a period of 3 years. Any work beyond the specific scope of the application (i.e. further exploration or future production) would require additional authorisation in terms of both the MPRDA and the NEMA. This would require further EIA processes that would assess the risks of that future work.</p> <p>The EIA process that we are in takes time, for good reason as there is a lot of information to be considered and understood. In the current Scoping phase the objective is to understand all of the issues which require investigation. While we are working toward providing answers to the numerous questions raised, the majority of the answers will only be provided in the EIA phase. With regard the restrictions it is noteworthy that there are also any other restrictions (from legislation, regulation, guidelines and best practice), beyond the Petroleum Regulations, that may or may not be applicable. Part of our work is to identify and apply this accurately</p>
<p>1.288</p>		<p>That clears some of it up. However, in your BID document you are applying for the right to conduct both seismic surveys and drilling exploration (in year 3), both of which are invasive techniques, and therefore the restrictions in section 122 will apply. Obviously you will only need to carry out these invasive techniques should your desktop and aerial surveys indicate further exploration and only if it falls outside of a restricted area. Which is why clarity is required re how much and where of your application area is in fact unrestricted. (the last question of my letter of 16th February 2016) which remains unanswered.</p>		<p>The restrictions provided for in Section 122 (2) of the Petroleum Regulations are specific to "wells for Hydraulic Fracturing" and "wells". The term "well" is defined in the Regulations. The restrictions do not apply to stratigraphic core holes (defined separately) or seismic testing as is proposed by Rhino Oil and Gas.</p> <p>There are however potentially numerous other restrictions and constraints arising out of other legislation, regulations, guidelines and best practice which could have effect on where the proposed methods can be undertaken. It is all of these that will be identified during the scoping process and then detailed in the EIA document. The restrictions will apply differently to the different methods proposed.</p>

1.289	Strategic Environmental Assessment	I understand that a Strategic Environmental Assessment (SEA) is being conducted in the Karoo to address the issue of fracking. Why does SLR not advertise Rhino to do the same in the KZN Midlands?	Francois Du Toit, Ashburton Scoping Meeting, 02 November 2015	Many I&APs asked why the current SEA for Shale Gas Development in the Karoo is not applicable to all areas of South Africa where gas might occur, particularly where the resource could be shale gas. I&APs demanded that the Karoo SEA be expanded to include other areas of the country so that there is a consistent framework for oil and gas applications. Moreover, they demanded that all exploration right applications and related EIA processes be stopped until the SEA is complete. While the outcomes of the Karoo SEA may be applicable to all shale gas development in South Africa, the defined scope of the study area is limited. There is strong argument that the study area of the Shale Gas SEA should be aligned with the full geological extent of areas with shale gas potential and not limited to a specific geographical area. The public are advised to motivate to the Department of Environmental Affairs for the study area to be expanded. Please refer to Section 5.4.3 of the Scoping Report for a detailed response in this regard.
1.290		We demand that the entire application and process be stopped immediately. We demand that a Strategic Environmental Assessment (SEA) is conducted in this area in order to result in a moratorium against any oil and gas exploration work in this area.	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Response 1.289.
1.291		We demand that a Strategic Environmental Assessment (SEA) is conducted in this area in order to result in a moratorium against any oil and gas exploration work in this area. As IAPs we also want to be involved in the assessment process.		Refer to Response 1.289.
1.292		Where an SEA route to be followed, who would pay for it?		Refer to Response 1.289.
1.293		We want a moratorium. We are waiting for SEA to conclude in the Karoo so that we can analyse the findings and use them as starting point for Kwazulu-Natal.		Refer to Response 1.289.
1.294		How does this exploration permit fit into the National Strategy for Sustainable Development? What about the Strategic Environmental Management Plan that was created for uMgungundlovu a few years ago? In my mind this application seems completely contrary to these, but I would be interested in your thoughts.	Nikki Brighton, Email, 12 November 2015	Refer to Response 1.289.
1.295		We'd like further clarity on an immediate Moratorium and Strategic Environmental Assessment (scope of current Karoo SEA be expanded) be demanded from PASA and Cabinet before any further work is undertaken.	Francois du Toit, Email, 12 November 2015	Refer to Response 1.289.
1.296		We strongly support the need for a strategic environmental assessment of any proposed fracking-even before exploration can be undertaken-to determine if fracking can be done sustainable or whether it will have a significant and irreversible impact on water resources and the relevant household, food security and local economy requirements of these areas.	Sharon van der Merwe, via email, 12 November 2015	Refer to Response 1.289.
1.297		8. Environmental Best practice Please indicate in your scoping report the implications should exploration go ahead in the absence of any strategic environmental assessment, adherence to municipal strategic	Pandora Long, Mkhambathini PEACE project, via email, 13	Refer to Response 1.289.

		environmental management plans and land use management systems. As a responsible environmental consultant please indicate whether you recommend, in the interests of long term conservation strategies for KZN (land, rivers and water), that an SEA be conducted, as is being done for the Karoo area, prior to embarking on gas exploration	November 2015	
1.298		We are concerned that this process is pre-empting a Strategic Environmental Assessment (SEA) for part of the Karoo Basin that should guide a project of this nature. The SEA is being overseen by the National Department of Environmental Affairs. We will be requesting that the SEA incorporates Kwa Zulu Natal as this forms part of the Karoo Basin, including the demarcated area in the map of this application (BID Document) and that a moratorium be placed on all processes until such time as the SEA is complete.	Bryan Ashe from South African Water Caucus, via email, 17 November	Refer to Response 1.289.
1.299		This is a rubberstamp process. We have all objected to the project but these guys will go to the next meeting tomorrow in Mooi River and do the same thing.	Jane, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.84.
1.300		The Karoo series geologically extends into KZN. Therefore it should be included in the Karoo Strategic Environmental Assessment.	Unidentified IAP, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.289.
1.301		The title of the project proposal states Pietermaritzburg municipal area when it should be uMgungundlovu municipal area.	Graham Armstrong, Mooi River Public Scoping Meeting, 03 February 2016	This comment is noted.
1.302		The standards that are being looked at for the Karoo Strategic Environmental Assessment. Will you comply with them even if you don't have to?	Lara Jordan of RNR Conservancy, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.289.
1.303		If you put in writing that it is your company policy to follow best practice you will get a warmer reception at the meetings.		This comment is noted.
1.304		Can you please explain a bit more about what the Strategic Environmental Assessment in the Karoo is? Who is involved and what is it trying to achieve?	Bruce of Zulu Trail Project, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.289.
1.305		You said there is a geographical area defined in a government notice for the Strategic Environmental Assessment in the Karoo. This area is not the same as the area defined by universities as the Karoo basin which extends all the way to Newcastle. Can you please clarify?		Refer to Response 1.289.
1.306	Specialist studies	Will the EIA process include a detailed account of health impacts and environmental degradation?	Francois Du Toit, Richmond Scoping Meeting, 02 November	Issues relating to both the biophysical and socio-economic environment (including health and safety) have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.

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1.307		What specialist studies will be done as part of the project?	Ben de Bruin, Ashburton Scoping Meeting, 02 November 2015, Liza Shaw, New Hanover Scoping Meeting, 05 November 2015	Refer to Section 7.5 of the Scoping Report for the specialist studies that will be undertaken during the next phase of the EIA.
1.308		Which experts will advise the Department of Mineral Resources and DEA on the decision around the application and how will these experts be selected? The experts need to represent the diverse interest of people and ecosystem in central KZN.	Jessica Cockburn, via email, 11 November 2015	
1.309		We'd like further clarity on baseline studies to be undertaken given the clear and certain risks associated with the option of fracking or coal seam gasification, coal bed methane, gas extraction or any other possible actions.	Francois du Toit, Email, 12 November 2015	Refer to Responses 1.19 and 1.217. Also refer to Section 7.5 of the Scoping Report for the specialist studies that will be undertaken during the next phase of the EIA.
1.310		With reference to the above mentioned EIA process please could you include the following aspects into your scoping report to enable your plan of study to be inclusive of these potential impacts/issues. 3. Base-line studies Please outline what base-line studies will be done prior to embarking on gas exploration. Please indicate whether these base-line studies will be accompanied by comparative studies to measure whether negative impacts have occurred during or post exploration. Please indicate who will be responsible for monitoring exploration impacts on land that constitute open space, be these road verges, riparian areas, municipal or public lands. Please indicate who will fund the base-line studies, in particular those that will be required to establish a base-line integrity of riverine health and water quality in bore-holes on private land prior to exploration, in particular seismic testing which is proposed over extensive areas. Please clarify the process regarding authorisation for drilling one of the ten proposed exploration wells and what base-line studies will be conducted in this regard.	Pandora Long, Mkhambathini PEACE project, via email, 13 November 2015	Refer to Section 7.5 of the Scoping Report for the specialist studies that will be undertaken during the next phase of the EIA. These studies will be paid for by SLR, who in turn is paid by Rhino. PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence.
1.311		Do you have a microbiologist or any other scientists besides geologists?	Nerisa Chetty, Greytown Public Scoping Meeting, 04 February 2016	Refer to Section 7.5 of the Scoping Report for the specialist studies that will be undertaken during the next phase of the EIA.
1.312		I trust there would be an economic assessment that will compare such gas and the added processes compared to the oil price and the excess of oil in the world?	Dr Roy Mottram, Email, 19 January 2016	
1.313	Additional Comments	I saw your public notice this morning (Mercury page 3) on Rhino's notice of application for environmental authorisation for a large chunk of KZN (10 000 odd farms or 1.8 million ha.	Tony Carnie, Email, 13 October 2015	Mr Carnie is registered on the project database (see Appendix 5.3). Information requested was provided to Mr Carnie.

		<p>1. Could you kindly send me a Background Information Document on this proposal as soon as possible, including a map of the proposed exploration area.</p> <p>2. Can you kindly register me as an IAP for this project using the details in my signature block below.</p>		
1.314		<p>Kindly register me as an IAP for the Application for EA for Exploration Right on farm in Registration Divisions ET, FT, GT, GU and GV in the Magisterial district of Pietermaritzburg, KZN.</p> <p>Please would you email me the relevant map and the list of affected properties pertaining to this application?</p>	<p>Cllr. Moira Grueneberg, Email, 13 October 2015</p>	<p>Cllr. Grueneberg is registered on the project database (see Appendix 5.3). Information requested was provided on 14 October 2014.</p>
1.315		<p>With regards to Application for Exploration Rights for Petroleum on farms in Divisions ET FT GS GT GU and GV in the magisterial district of PMB, as a possible farm owner in this area could I please request a map to see.</p>	<p>Carey Kleyn, Email, 13 October 2015</p>	<p>Information requested was provided on 19 October 2014.</p>
1.316		<p>I am not sure if you have circulated any documents relating to this project to our department for comment?</p> <p>I would like to request that you please circulate all documentation relating to this EIA to us as a Commenting Authority:</p> <p>Department of Agriculture & Rural Development Macro-Planning Land Use Regulatory Unit please post it to: Department of Agriculture and Environmental Affairs Private Bag X 9059 Pietermaritzburg 3200</p> <p>or alternatively and preferably hand deliver to: Department of Agriculture and Environmental Affairs Cedara College, Cedara Pietermaritzburg Office no. 32/34/24 Engineering Building All documents to be addressed for Hlamalani Mongwe/Barbara Wiseman's attention.</p>	<p>Barbara Wiseman, Email, 14 October 2015</p>	<p>This comment is noted. The BID was sent to Department of Agriculture & Rural Development.</p>
1.317		<p>I was informed yesterday that our property may be affected by fracking in the KZN Midlands. Our property is FARM HOUSE WATERFORD FARM, ROSETTA RURAL and is between Rosetta. I would appreciate hearing more from you on this if at all possible.</p>	<p>Tony Birkholtz, Email, 14 October 2015</p>	<p>Refer to Response 1.19.</p>
1.318		<p>My name is Matthew, I'm a senior reporter at the Sunday Times newspaper. I am doing a story on the application by Rhino Oil and Gas to look for oil and gas in KwaZulu-Natal, as per an advert placed yesterday.</p> <p>Please can you answer the questions below:</p> <p>1. Please can you provide me with any documents relevant to the application. Please can you provide me with a map showing the exploration area.</p>	<p>Matthew Savides, Email, 14 October 2015</p>	<p>Information requested was provided to Mr Savides.</p>

1.319		There has been some concern raise by environmental groups over the proposed exploration and potential future mining. What is your response to these concerns? That covers it from my side. If you would like to add anything, or if there are any documents you would like to send through to me, please feel free. If I could get a response by this afternoon, that would be great.		Issues relating to both the biophysical and socio-economic environment (including health and safety) have been identified for further investigation in the next phase of the EIA. Refer to Sections XXX and XXX for a description of these issues and impacts that will be assessed. Refer to Response 1.19 for a report to possible future exploration and production activities.
1.320		The time for the meeting on 02/11/2015 (09:30) is very inconvenient to most people because of work commitments. This meeting should take place early in the evening. There is a perception this time slot has been planned precisely because Rhino do not want many people there. We have joined up with other IAPs and will present a broad front. We will also gather expert testimony about the devastating effects of fracking which we believe will be proposed by Rhino.	Keith Brown, Email, 21 October 2015	Refer to Responses 1.8, 1.19 and 1.84.
1.321		Please see attached. If any further correspondence is sent please send a CD via ordinary mail or courier to SANRAL, 58 Van Eck Place, Mkondeni, Pietermaritzburg.	Casper Landman, Email, 19 October 2015	This comment is noted.
1.322		This office write this letter to acknowledge the receipts of your document ,but this office would like to request your office to provide hard or digital copies of all documents .	Thandekile Nxumalo (KZNDARD), Email, 21 October 2015	This comment is noted.
1.323		In our response to receipt of your document as aforesaid, please accept this communication as our request to note Illovo Sugar (South Africa) Limited and Ill prop Property Limited as interested and affected parties to your project and accordingly schedule us to receive all further communications, scoping reports, specialist reports, impact assessments and all other notices and advices regarding progress and development in and to the environmental assessment for your project; and to otherwise note our participation in such processes. We trust that this communication shall be received as a request only for participation in your process as abovementioned, and that it not be construed in any way as our formal response, whether in approval of or as an objection to your client's proposed actions, and that we accordingly reserve the right to supplement this communication with our formal advices and views to the proposed process and application, as permitted to us in terms of the applicable legislation. We trust this is in order, and that you shall continue to keep us informed of all further developments in this matter.	Candice Woollaston, Email, 22 October 2015	Illovo Sugar (South Africa) Limited and Ill prop Property Limited are registered on the project database (see Appendix 5.3) and as such will be kept informed throughout the EIA process.
1.324		As an agronomist and professional scientist dealing with both surface and groundwater use, I am interested in your project. The data to date is vague and I await more detail. Comments will be forthcoming when more relevant detail is supplied by the companies concerned.	Dr. Roy Mottray, via email, 31 October 2015	Refer to Response 1.63.

1.325		I believe that there is a future of fracking in South Africa. The heavy handed approach is the cause of the public black lash in South Africa. I am open-minded about this. It is my view that the industry must not just focus on regulation. Rhino must rule out all areas that must be excluded and focus its consultation on the relevant areas only.	Bruce, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.19.
1.326		I would like to see a documented account of how land has been restored and rehabilitated	Judy Bell, Richmond Scoping Meeting, 02 November 2015	Refer to Section 5.4.21 of the Scoping Report for information on rehabilitation. Further information on the requirements for rehabilitation will be detailed in the EIA
1.327		This is a political project which was endorsed by the state President Jacob Zuma in June and Umhlanga as part of Operation Phakisa.	Unidentified IAPs, Lions River Club, 03 November 2015	Refer to Response 1.260.
1.328		Can we request that all documentation be emailed to us?	Wendy, Taylors Halt, Scoping Meeting, 03 November 2015	Ms Taylors is registered on the project database (see Appendix 5.3) and as such will be kept informed throughout the EIA process and sent all relevant information.
1.329		The renewable energy discussion is not relevant for this process. This meeting is about oil and gas exploration. El Nino has predicted that there will be an increase in rainfall in the near future. The government is probably supporting oil and gas exploration projects because they are banking on the fact that water will not be an issue in the future. It is disappointing that a reputable and global company like SLR can plan a public participation of such poor standard. We expect better notification and planning and thorough preparedness for meetings. For example, you should have educated the public on the impacts or positives of fracking through existing case studies from previous projects. Rhino must also be cooperative and not withhold any information from us.	Vivian, New Hanover Scoping Meeting, 05 November 2015	Refer to Responses 1.8 and 1.19.
1.330		Do you know about the Bible? Do you know the verse that says for the love of money is the root of every evil?	Nkululeko Mbambo, Mooi River Public Scoping Meeting, 03 February 2016	This comment is noted.
1.331		The love of money is the root of all kinds of evil. Where are the government officials? Instead of officials we see more security. Are you scared?	Mthokozisi Mbangeni Concerned Young People of South Africa (CYPSA), Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.8.
1.332		I apologise if I previously called you a fraudster. I only said I know a fraudster when I see one. The meeting is one hour late. These people are wasting money coming to you when they are gaining money. When a fraudster does fraud first he must make a proposal. After he has made the proposal people must agree to the proposal. When people do not agree to the proposal and ask questions you don't answer the questions. You are doing the		This comment is noted.

		same thing that fraudsters do.		
2.	Categories	Process Related Issues: Objections to the project		
2.1		This type of development is wholly inappropriate for the majority of the proposed area and exploration should not even proceed because it raises both expectations and ire.	Dr Richard Lechmere-Oertel, Email, 19 October 2015	Refer to Response 1.84.
2.2		Please note we are vehemently opposed to the proposed activities, principally on account of the probable detrimental impact on water resources (if not in the initial stage, then certainly. As it is the catchments in question are extremely stressed, with DWS indicating that they have or will be shortly closing the catchments to new water users.	Steve Butt, Email, 20 October 2015	Refer to Response 1.84.
2.3		It is rather ironic that an Environmental Company, will in essence be the driving force in assisting the destruction of the KZN Midlands. My comments to this matter are rather simple. Ground and surface water pollution, that will result as a direct impact from exploration cannot be allowed. The fact that there is a possibility of any pollution of water taking place, should automatically result in this process not being given the go ahead. The KZN Midlands feeds water to all the urban areas in KZN. Proceeding with these operations will not only affect the rural farming communities through direct consequence such as air pollution, surface water pollution, long term soil capability, reduction in valuable productive farm land etc., but also urban dwellers, who, in the current long term drought, are already under severe water restrictions. This should further be indicative of the fact, that allowing any consumption and possible pollution of groundwater, is unacceptable, especially if energy is the main motivator. Solar and wind energy is more efficient and even more environmentally friendly. I sincerely hope that ultimately there will be no exploration taking place.	Deon Meyer, Email, 20 October 2015	Refer to Responses 1.63 and 1.84.
2.4		<p>I, Charles Robert MacGivillivray, representing the Gartmore Trust (6435/94) and Gartmore Farm CC (2006/ 191545/23) hereby raise my vehement objection to any concept of, exploration of, any other action in pursuance of the application by Rhino Oil and Gas Exploration South Africa (Pty) Ltd on the properties referred to as Subs 6 & 9 of Wegevonden 969- situated in the Karkloof valley in KZN Midlands (my property). The Subs referred to above are farmed in the flood plain of the Karkloof Valley with Karkloof and Yarrow Rivers bounding the property. The two rivers converge on my property.</p> <p>I have a Biodiversity Agreement signed in August 2013 with Ezemvelo as part of the Stewardship Programme. This agreement formally binds me to Management and Land Use practices which conform to the accepted norms of conservation, and aims at preventing and building on the biodiversity which defines the area.</p> <p>As one of the most sensitive and important "water sources/ wetland systems" in the uMngeni catchment, the Midlands in general, and the Karkloof in particular, provides the main supply of water, from the various sources, to the rapidly sprawling Durban and surrounds. Those needs are already seriously undersupplied. In protecting the</p>	Charles Robert MacGivillivray, Email, 01 November 2015	Refer to Responses 1.4, 1.63 and 1.84.

		existence of Red Listed species (viz the "Wattled Crane") amongst others in the Midlands, habitat integrity, and the preservation of the entire "hydro-ecology" of the Area is paramount, and consequently any threat, irrespective of how remote, is absolutely unthinkable. These objections are merely some of the plethora of reasons why it is critical that this exploration does not take place in the Midlands and sincerely trust that "earth sense" rather than "man greed" will drive the decision which could be irreversible.		
2.5		Objection against the proposal. Don't need it in our area. As water supply is very limited	TJ O Neil, via email, 30 October 2015	Refer to Responses 1.63 and 1.84.
2.6		Opposed to all forms of fracking/exploration in the Midlands-pristine grassland and wetland areas, endangered species of birds, grasses and mammals will be negatively affected by this. Opposed to any form of groundwater disturbance	Barry Cole, via email, 31 October 2015	Refer to Response 1.19. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
2.7		Strongly object to any exploration of the above	Michelle Bodley, via email, 1 November 2015	Refer to Response 1.84.
2.8		I reside on a well preserved 200 hectares of pristine moist midlands grassland which is to be protected at all costs		Refer to Response 1.84.
2.9		Opposed to any exploration by Rhino Oil. We strongly object to any disturbance of the sensitive grassland that we reside on	Glynn Bodley, via email, 1 November 2015	Refer to Response 1.84.
2.10		Most people in my area are aware. I have a strong objection to the project. It will destroy what little grazing we have; it will poison our water supply and ruin our roads. The fact that they can invade property is beyond comprehension	Dr. Dunning, Email, 28 October 2015	Refer to Response 1.84. Issues relating to land use (Section 5.4.14), water (Section 5.4.8) and infrastructure (Section 5.4.15) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
2.11		I would like to find out if your bid document has been sent to, and whether the following have been specifically invited to attend the proposed information session at Nkandla Hall on Saturday 7 November?- Nkandla Municipality: Municipal Manager, Director Technical Services, Planning Officials (IDP manager, special planner), Director Community Services, Planning Officials (IDP manager, spatial planner), Director Community Services, Mayor and Executive Committee and all the councillors - uThukela District Municipality: Municipal Manger, Director Technical Services, Planning officials (IDP manager, spatial manager) Director Community S Services, Mayor and Executive Committee and all the councillors - Umlalazi Municipality Municipal Manger, Director Technical Services, Planning officials (IDP manager, spatial manager) Director Community S Services, Mayor and Executive Committee and all the councillors - EKZNW: Officers in charge of Nkandla and Qudeni Forest Protected areas	Wendy Forse, via email, 1 November	Refer to Response 1.8.

		Please provide directions to Nkandla Public Hall. There are a number of possible venues that could fit this description so would like to know exactly where it is.		
2.12		We have quiet holiday resort on the Craigieburn Dam, We have water activities as well as good fishing. We rely on underground water for domestic use. We have a rare prolific bird life. The locals utilise the dam for drinking as there is no Municipal supply to the whole area. The locals are initiating Micro farming utilising the dam water. It would be a shame to lose all these benefits for someone's commercial gain. I am most definitely against any activity that would jeopardise the environment and local community.	Brian Morris, via email, 1 November 2015	Refer to Response 1.63.
2.13		No interest at all. Rhino Oil and Gas Exploration to stay away from our property. Stay away from KZN. We don't need to compound our problems.	D.J. Ortmann, Email on 26 October 2015	Refer to Response 1.84.
2.14		Totally against the project.	Mike J Guy, Email, 22 October 2015	Refer to Response 1.84.
2.15		We object the proposed project.	Vince Knott, Email, 26 October 2015	Refer to Response 1.84.
2.16		This type of developments wholly inappropriate for the majority of the proposed area and exploration should not proceed.	Deren Coetzer, Email, 26 October 2015	Refer to Response 1.84.
2.17		Leave us alone – we have had enough of this! Leave the Karoo alone. Got renewable sources of energy available. Stop ruining this earth – it is the only one we have.	Dr. M.H. Lowry, Fax, 27 October 2015	Refer to Response 1.84.
2.18		I am against any exploration.	Genn Brockbank and Gwen Ellis, Email, 27 October 2015	Refer to Response 1.84.
2.19		Not happy.	Bernard H Bester, Email, 30 October 2015	Refer to Response 1.84.
2.20		Not happy.	Sean Hodgson, Email, 30 October 2015	Refer to Response 1.84.
2.21		I sign on behalf of the employee of Rosebank farm, an objection by all of us against the project	ML Dlamini, via email, 30 October 2015	Refer to Response 1.84.
2.22		My whole farm is within your boundaries. Totally against and will oppose the title deeds below: Shooter Hill 908, Zeekoe Hoek 968, Bosch Hoek 973	Mel Watson, 30 October 2015	Refer to Response 1.84.
2.23		This is not what the people of this province need.	Sandra Land, Email, 02 November 2015	Refer to Response 1.84.
2.24		St Johns Diocesan School for Girls would like to officially object to the project. The students have drafted a petition which they would like to read at this meeting. The petition	Brenda Willard, Ashburton Scoping Meeting, 02 November	Refer to Response 1.84.

		will be read by Kelly Pearson.	2015	
2.25		There is a 100% objection to the process. Why carry on with the process then? Stop the meeting, leave and stop wasting people's time. It is pathetic.	Nigel, Richmond Scoping Meeting, 02 November 2015	Refer to Response 1.84.
2.26		As Birdlife Africa, we object to the meeting being held so early in the morning. This meeting must be rescheduled and planned for a Saturday or during the evening.	Unidentified IAPs, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.84.
2.27		<p>This letter is directed to you on behalf of the Save Our Planet Network, an alliance formed to monitor and investigate solutions to the multitude of anthropogenic damage which is threatening the existence of all forms of life on our fragile planet Earth</p> <p>1.1. The Save Our Planet Network is a voluntary worldwide non-profit alliance of people from all ethnic and cultural groups who are concerned about the damage being inflicted on the Earth's biosphere through the negligent, deliberate and uncaring actions of human beings and the corporations, large and small, which are conducting activities which cause irreversible and long term environmental damage and which consumes more natural resources than can be replenished by the natural planetary systems.</p> <p>2. As you are no doubt aware, shale gas and oil extraction involves a variety of activities, including deep drilling, horizontal drilling and hydraulic fracturing, known as fracking. Also as you must appreciate by now, shale gas extraction is highly controversial and the risks associated with it are the topic of much debate throughout the world and in scientific circles.</p> <p>3. The Save Our Planet Network takes the view that in circumstances where sufficient local scientific research concerning the environmental risks associated with shale gas exploration is not yet available; the South African Government is obliged to proceed with caution when it considers authorising the activities associated with shale gas exploration and mining. This approach would be in line with the well-known precautionary principles.</p> <p>4. This means that, despite the publication in Government Gazette no 38855 and the coming into effect on 3 June 2015 of the final Regulation for the Petroleum Exploration and Production (the regulation) and shale gas exploration and mining ought not to be proceeded with until the outcome of certain local scientific research has come to hand.</p>	Neville Durow, 2 November 2015	Refer to Responses 1.19 and 1.84.
2.28		<p>5. The Save Our Planet Network notes that, in the absence of any legislation, court order, moratorium or other prohibition barring the receipt of applications for licences or right for the exploration and or production of natural gas or petroleum, consideration of applications for licences or rights for the exploration and production of natural gas and or petroleum, there is nothing to prevent the making and granting of applications under the regulations. This is highly undesirable:</p> <p>5.1 In or about October 2014 the Department of Science and Technology commissioned the prestigious Academy of South Africa (ASSAF) to undertake a study to establish the technical readiness of South Africa to support the shale gas industry and produce a report</p>		Refer to Response 1.84 and 1.289.

	<p>thereon. The report ('the ASSAF report') is not yet to hand.</p> <p>5.2 In May 2015 the Minister of Environmental Affairs commissioned the Council for Scientific and Industrial Research (CSIR) to undertake a Strategic Environmental Assessment (SEA) which is scheduled to take no less than two years.</p> <p>5.3 The outcome of these investigations and researchers must inform the South African government's approach to shale gas exploration and mining generally, and fracking in particular.</p> <p>6. The main purpose of this letter is to demand specific undertakings from the DMR to ensure that all decisions taken with regards to shale gas mining in South Africa are individually and collectively in line with the precautionary principle; and to provide a stern warning to government, more specifically the DMR to refrain from taking any actions pertaining to shale gas mining in South Africa, that are undesirable, unreasonable, unlawful or irrational.</p>		
<p>2.29</p>	<p>Summary of concerns: The considerations of applications and or/issuing of exploration licences or right by the DMR prior to the finalisation and release of the SEA and the ASSAF report, or would be, premature and irrational.</p> <p>7. The SEA</p> <p>7.1 The EIA essentially reacts to proposed developments and their environmental impacts, The SEA process for its part facilitates the earlier consideration of environmental impacts, the examinations of a wider range of potential alternatives, the generation of standard mitigation measures and opportunities to address a wider range of impacts.</p> <p>7.2 The National Environmental Management Act, 107 of 1998 (NEMA) specifically endorses the notion of SEA in section 24 (5) (b) A (ii).</p> <p>7.3 The CSIR website "Strategic Environmental Assessment for Shale Gas Development" states among other things: "The SEA will be conducted as a science-based assessment to improve understandings of the risks and opportunities of shale gas development and assist government in creating a framework and guiding principles that will inform responsible decision-making.</p> <p>7.4 In light of these observations, and in the application of the precautionary principle, it would have been appropriate for the SEA to have informed the content of the regulation</p> <p>7.5 Not only that but the SEA will also investigate some of the primary drivers for shale gas mining, namely the creation of jobs, the production of an additional purported cleaner source of energy at an affordable cost and the generation of considerable new amounts of revenue. The SEA, should therefore provide information to the applicants, government and interested and affected parties that could shape the respective courses of action they choose with regards to shale gas mining.</p> <p>7.5.1 If the SEA indicates that neither exploration nor production is desirable, then the applicants need not appropriate any further resources thereto</p> <p>7.5.2 If the SEA indicates that it is desirable, but that there are a variety of additional considerations that need to receive attention, all applicants can make informed decisions whether they wish to continue on that basis or amend their applications or courses of</p>		<p>Refer to Response 1.289.</p>

		action in any aspects.		
2.30		<p>8. ASSAF report</p> <p>8.1 The purpose of the ASSAF report is to determine whether South Africa is technically ready to undertake shale gas extraction in South Africa. It is our understanding that the report will indicate whether South Africa is technically prepared to undertake shale gas mining. The contents of this report will therefore also play an important role in informing the course of action of all the parties.</p> <p>8.2. If the ASSAF report indicates that South Africa is not technically ready to undertake shale gas extraction then the applicants need not appropriate any further resources thereto for the time being.</p> <p>The failure of the DMR to adequately involve the public in the legislative process before passing the regulations.</p> <p>9. The constitution imposes an obligation on the legislature to facilitate public involvement in the legislative process. This obligation is also imposed on the Minister during the legislative process for the passing of regulations.</p> <p>10. Despite various written attempts to encourage the DMR and other parties to involve the public in the legislative process, the only public involvement was the call for oral or written submission on the regulations. No public hearings have been facilitated as yet, and the current efforts are not sufficient to meet the required standard. The regulations could therefore be unconstitutional as a result of the lack of public involvement in the legislative process.</p> <p>Certain provisions in the regulations are vague, lacking in substance and likely to be very difficult to enforce.</p>		Refer to Response 1.19.
2.31		<p>11. In the absence of reasonably certainty about the “who, what, how, where and when”, those upon whom the obligations have been imposed might not know the reasonable certainty what is required of them and neither will those who must monitor their activities and enforce legislation.</p> <p>12. The proper determination of baseline data is in any event a matter that still requires attention, and which has not appropriately been dealt with. The proposed application by Rhino Gas and Oil Exploration South Africa for exploration right covering 10 000 farms and 1500 000 hectares in KwaZulu Natal (PASA reference number 12/3/291 ER)</p> <p>13. Rhino Oil and Gas Exploration South Africa (Pty) Ltd has lodged an application for an exploration right with the Petroleum Agency South Africa (PASA) in terms of section 79 of</p>		Refer to Responses and 1.19 and 1.217.

		<p>the Mineral and Petroleum Resources Development Act, 28 of 2002 (MPRDA). Minerals included in the application are oil, gas, condensate, coal bed methane, helium and biogenic gas. The exploration area is broad and encompasses large parts of the interior of KwaZulu Natal.</p> <p>14. Rhino Oil and Gas intends to undertake early phase petroleum exploration, focussing on identifying oil and gas resources which may be located within suitable geological strata. The purpose is to determine the presence of petroleum resources which could be investigated further and exploited.</p> <p>15. According to the Rhino Gas and Oil Exploration "Background Information" document the initial 3-year exploration work programme will be restricted to "non-invasive techniques, seismic surveys and the drilling of less than 10 core boreholes". "No hydraulic fracturing or fracking of proposed for this exploration".</p> <p>16. According to the information document circulated by the consultants SLR Consulting, "The 3 year exploration work programmed proposed by Rhino Oil and Gas is aimed at determining if there is an oil or gas resource in the area that would warrant further exploration"</p>		
<p>2.32</p>		<p>17. The time frame during which this proposed exploration will take place is as follows: Year 1: The evaluation of geological data through a comprehensively desk-top study. Much if this data is only available to parties whom hold exploration rights. Sub-surface structural features and stratigraphy will be mapped. Data on source rock geochemistry will be acquired. Geological models may be developed. Year 2: Further geochemical data analysis as well as the possible use of apatite fission track analysis and full tensor gradiometry gravity FTG Surveys Year 3: Purchase and or undertaking seismic surveys. The final exploration activity would be the drilling of core boreholes at target sites identified from the earlier work.</p> <p>18. The whole exploration programmes planned by Rhino Gas and Oil Exploration will create few, if any, work opportunities for local people due to the fact that the work is of a specialised nature and the contractors carrying out the work will bring in their own staff.</p> <p>19. Although the background information document circulated by the consultants, SLR Consultants states that exploration work will only have minimal environmental impacts, research into similar exploration work which was carried out in several overseas countries indicates that the seismic and drilling phases do in fact result in serious environmental damage to the soil and surface biodiversity. For example, during the seismic phase, depending on the method employed-according to the SLR Consulting document, "Survey teams generate controlled acoustic energy (using explosives, air gun or seismic vibrator) and record the return waves in geophones laid at set spacing in a linear alignment". The use of explosives and air guns will destroy virtually all soil dwelling macro- and microorganisms, including earthworms, arthropods, etc. which are vital for the maintenance and formation of fertile topsoil. Furthermore, these seismic activities will destroy the soil structure and make the sites unproductive for agriculture and for the natural biosphere.</p>		<p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.</p>

<p>2.33</p>		<p>20. The proposed exploration work will have environmental impacts, some of them serious and of a lasting nature: 20.1 Farm Safety: Access by unknown persons to farm has the potential to influence security on farms. Operating heavy vehicles and equipment may pose safety risks. Run-away fires may present a potential safety risks for both people and livestock. 20.2 Soil and land capability- activities at the seismic and drill sites may affect soils and land capability of poorly regulated and not rehabilitated. 20.3 Biodiversity- activities at the seismic and drill sites had potential to disturb and or destroy vegetation, habitat unites and related ecosystem functionality, including the disturbance if protected species. 20.4 Surface water- The proposed activities at the seismic and drill sites has the potential to pollute surface water resources consumptive use and the discharge of contaminants. Here I might add that a large area of the proposed exploration are receives very little rainfall and that there are few surface streams or natural water sources 20.5 Groundwater- the proposed drilling has the potential to consume and contaminate groundwater resources which could impact availability to other groundwater users and the ecosystem. As a result of Soekor's exploration drilling of boreholes contaminated the undergroun aquifers to the extent that the toxic chemicals polluted water from boreholes up to 30km from the drill site. Also, gas is still leaking from some of the boreholes more than 40 years after the holes were drilled. 20.6 Air- The proposed project has the potential to contribute to air pollution, particularly through dust emissions from vehicles on gravel roads, dust generated by the drilling operations itself, and the release of gas and volatile toxic chemicals from boreholes 20.7 Noise and vibrations- The proposed project has the potential to structures and disturb livestock and wildlife.</p>		<p>Issues relating to farm safety (Section 5.4.18), land use (Section 5.4.14), soils (5.4.11 4), water (Section 5.4.8), air quality (Section 5.4.17), noise (Section 5.4.16), vibrations (Section 5.4.9) and ecology (Section 5.4.7) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).</p>
<p>2.34</p>		<p>20.8 Visual- The placement of seismic and drilling equipment has the potential to create short term visual impacts. Scars will occur where vegetation has been cleared for drilling sites which will be visible for many years after the sites have been abandoned. This will be serious on farms which are used for eco-tourism. 20.9 Land Use- the seismic and drill sites may conflict with land use for the duration of the exploration operations and affect the farmers' income. 20.10 Socio-economic- the project has very limited potential to contribute towards socio-economic impacts. There will be little if any job creation and stimulation of the local and regional economy. Potential negative socio-economic impacts include potential for increased crime, spread of disease and pressure on support services provision. 20.11 Cumulative and future impacts- although the current work may have limited impacts, a concern is that approval of this work would open the way for future, larger-scale project in the area. These may have much greater impacts and be difficult to stop if investments have been made. 2.1 Section 122 of the regulations states: 122. Protection of water resources</p>		<p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed. Also refer to Responses 1.19 and 1.63.</p>

		<p>1) A holder must, prior to and during all the phases of drilling and hydraulic fracturing operations, ensure that the operations does not pollute a water resource or reduce such a resource and where such an incident occurs, a holder must implement the necessary remedial measures:fc</p> <p>A) the operation does not cause adverse impacts to water quality in the catchment area; and</p> <p>b) the right of existing water users are protected/</p> <p>2) A well site whereby hydraulic fracturing operations are proposed for planned, must not be located.</p> <p>A) within 5km, measured horizontally, from the surface location of an existing municipal water well field and identified future well fields and sources and directional drilling may not be within 2.5 kms of municipal well field;</p> <p>b) within 500 metres, measured horizontally, from the surface location of an existing water borehole and directional drilling may not be within 500 metres of the borehole</p> <p>c) and within 500 metres, measured horizontally, from the edge of a riparian area or within 1:100 year flood line of a watercourse.</p> <p>3) A well may not be drilled within 1 kilometre of a wetland</p> <p>22. If all water wells, boreholes, wetlands, watercourses and riparian zones are plotted on a map of the proposed exploration area, and all of the exclusions area inserted around these areas, then there will be almost no areas left where exploration drilling can take place within the exploration area.</p> <p>23. In view of all the above mentioned facts, we therefore have no option but to oppose any applications by Rhino Oil and Gas South Africa (Pty) Ltd or any other gas or oil explorations company to explore or drill for gas or oil in the area</p> <p>24. We therefore request that the Minister, PASA, the DEA and all other relevant bodies refuse to sanction the application of Rhino Gas and Exploration South Africa (Pty) Ltd to prospect for gas and oil in the shale beds of KwaZulu Natal.</p>		
2.35		Against project or even exploration in all areas. The already scarcity of water in our country will be adversely affected by this and the risk of polluting our water as well		Refer to Response 1.84.
2.36		Against project. KZN scares water supply which will be at risk. In the USA there is already bad news regarding pollution of water	F Klingenberg, via email, 2 November	Refer to Responses 1.19 and 1.63.
2.37		The stance of the company is that we oppose all applications for prospecting. Our operations in Mpumalanga are also under threat by coal prospecting. This will have a possible negative influence for our forestry operations that can influence downstream businesses that are more than 100 years old.	C. Geldenhuis, Lion Match Forestry (Pty Ltd), via email, 2 November 2015	Refer to Response 1.84.
2.38		The relevant Minister should be made aware of our objection.	Unidentified IAPs, Lions River Club, 03 November 2015	Refer to Response 1.84.
2.39		Go home! We do not want you in our area. We refuse to endorse this meeting. Do you want to call us with this project? Go home!		Refer to Response 1.84.

2.40		Fracking is a swear word. This process must stop now! Go home! We know what fracking does. It kills! It destroys! Go home and leave us alone!		Refer to Responses 1.19 and 1.84.
2.41		This meeting has been the best turn out of the scheduled meetings thus far. We strongly object to this process. This must not just be a tick box exercise. We do not want exploration.		Refer to Response 1.84.
2.42		We will employ the use of social media to mobilise all communities against this project especially for the land owners to deny access to Rhino. There is power in social media.		Refer to Response 1.84.
2.43		I am attending this meeting under protest. This meeting is flawed in both process and substance. I do not support the process and I object to the entire process.	Francois Du Toit, Colenso Scoping Meeting, 04 November 2015	Refer to Responses 1.8 and 1.84.
2.44		This process is a further waste of time because of the over 10 000 farms of which 95% is likely to be eliminated and excluded from the process.		Refer to Response 1.4.
2.45		Section 102 has indicates that no boreholes can be drilled in this area and I do not see the point of going continuing with the process in light of that legislation.		Refer to Response 1.4.
2.46		South Africa is a mineral hungry country and legislation does not consider the environmental impacts. If fracking goes ahead how will it comply with Section 102?		Refer to Response 1.19.
2.47		I don't understand why as South Africans we can advocate for such a disastrous future.		Refer to Response 1.84.
2.48		It is very clear that there is a strong rejection to the entire process.		Refer to Response 1.84.
2.49		We demand that a Strategic Environmental Assessment (SEA) is conducted in this area in order to result in a moratorium against any oil and gas exploration work in this area.		Refer to Response 1.289.
2.50		This area is highly sensitive and experiences water shortages which may lead to food insecurity. We oppose the project 100%.		Refer to Response 1.63.
2.51		Please note I am opposed to any exploration in KZN.	Theresa Garroch, WP van Heerden, Revd. Jaques Pretorius, FELICITY VON OETTINGEN, Eva Banach, Garth Lee, Alex Jenkins, Debbie Upfold, Email, 04 November 2015	Refer to Response 1.84.
2.52		Please note I am opposed to any exploration in KZN. At a time when water is scarcer than ever, it would be a travesty to even consider polluting the little we have. NO to any exploration in the KZN Midlands.	Lian Wimmer, Email, 04 November 2015	Refer to Responses 1.63 and 1.84.

2.53		Please note I am opposed to any exploration in KZN. For the sake of everyone living in KZN we cannot put a single drop of our water resources at risk. The costs involved of disrupting and polluting our water from both the human and financial are unimaginable. It is unbelievable that anyone in this country could even think of taking such a risk that could affect the lives and livelihoods thousands and thousands of people. No, no and no again.	Hillary Vickers, Email, 04 November 2015	Refer to Responses 1.63 and 1.84.
2.54		<p>I am opposed to any exploration in KZN. Fracking for gas impacts on our water resources, and pollutes the environment. It is a fossil fuel. South Africa is a signatory to international protocols calling for a reduction in our reliance on fossil fuels. What are we doing even thinking about fracking in our drought-stricken country particularly in an area that supplies precious water to this province. We can live without gas but we cannot live without water. We cannot take the risk of damaging additional water sources in this country though mining fossil fuels.</p> <p>The Precautionary Principle needs to be applied now. SLR should call a halt to this farce of going through a costly EIA process supposedly only to say no at the end of it. This is the role SLR tried to present at the meeting in the Dargle, viz. we are a responsible independent environmental consultancy so trust us to make the right decision at the end of the process. No way!!</p> <p>In terms of SLR's role as a so-called independent environmental consultant and supposedly a responsible consulting firm, SLR should be taking a firm stand on the issue of exploring and exploiting fossil fuels. SLR should also have excluded all the land that legally falls inside the area protected by the law. It should also not have undertaken to do this scoping given the tight time frames. Too late now to say you will ask for an extension. Continuing with this application is tantamount to breaking the law. If SLR is serious about its standing as an independent responsible consulting firm, it should insist on Rhino Oil and Gas withdrawing its application and submitting a new application that includes only the area that can be legally explored.</p> <p>As far as public participation is concerned, it is obvious that no real attempt has been made to inform or engage with the majority language group that will be affected by this project, namely Zulu. Where are your Zulu handouts and presentation? Everything is in English, including the adverts notifying the public of the scoping meetings. This is not acceptable in KwaZulu-Natal.</p> <p>Personally, I find it utterly distasteful to the point of being despicable that a company hell-bent on destroying the environment should use the name Rhino as a way of capitalising on the attention currently focussed on these poor animals that are being poached to extinction. May this be the fate of Rhino Oil and Gas!</p>	Sheila Berry, Email, 04 November 2015	Refer to Responses 1.8, 1.19, 1.33 and 1.84.
2.55		<p>I am informed that you will be carrying out an environmental impact assessment for Rhino Oil and Gas in respect of plans to drill holes on thousands of farms in KZN, and I understand that the public consultation process has commenced.</p> <p>Media reports refer to drilling on farms, but the area mentioned is huge – 1,5 hectares of land – including in the Nkandla area. I work with a number of traditional communities who</p>	Dr Mary de Haas, Email, 04 November 2015	Refer to Responses 1.8 and 1.19.

		<p>are most concerned about the prospect of fracking in the future, and want to know which specific areas will be included. For example, does the figure of 10 000 farms include areas of traditional land?</p> <p>As an environmental consultant you will be aware that full public participation and consultation is essential so it is crucial that we be informed about the specific areas which will be targeted. It is the right of all those affected to receive full information about what will be happening.</p> <p>I therefore request that you provide me with the following information as soon as possible :</p> <p>1.Where can concerned parties access information about all the specific areas which will be targeted?</p> <p>2.With whom should people register as interested parties?</p> <p>I look forward to your early response.</p>		
2.56		<p>Please note I am opposed to any exploration in KZN. Please can we stop raping and destroying our beautiful land for money and economic reasons. When we have no water and our children are sick, will you pay for our water and health bills?</p>	Peta Dukes, Email, 04 November 2015	<p>Refer to Response 1.84.</p> <p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.</p>
2.57		<p>We object strongly to any such exploration taking place. This could ultimately lead to the destruction of our water supplies in various ways and as you must be fully aware, the lack of water has already reached a crisis without the long term results of such exploration. And to the productivity of all our farm land which is also vital to the survival of people and animals</p> <p>There are many other factors against as well!</p>	W R & C Larkan, Email, 04 November 2015	<p>Refer to Responses 1.63 and 1.84.</p> <p>Issues relating to water (Section 5.4.8), land use (Section 5.4.14) and ecology (Section 5.4.7) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).</p>
2.58		<p>Please note that I am opposed to any exploration in KZN. I hope that you will realise the harmful impact that fracking has on our precious water and land, poisoning our livelihood.</p> <p>Please consider your responsibility not to destroy the lives of your fellow humans.</p>	Heather Smith, Email, 04 November 2015	Refer to Responses 1.19, 1.63 and 1.84.
2.59		<p>I am sorry that someone slashed your tyres yesterday, that was uncalled for. Unfortunately the topic of mining and specifically fracking affects us all directly and very deeply.</p> <p>Exploring, mining and fracking impacts our businesses, threatens our livelihoods, our children's future, it contributes to climate change, destroys valuable microorganisms and other living things, it destroys habitats, disturbs and breaks the earth, poisons our water, polarizes communities and threatens our environmental safety and causes untold environmental and ecological damage never mind the noise pollution and destruction of our beautiful area.</p> <p>AND you are proposing to explore a HUGE area on top of this. An area that catches water and supports KZN with lots of water!</p> <p>WHAT PART OF THIS MAKE ANY SENSE, AT ALL?! This goes against nature.</p> <p>Of course you are not going to be welcomed when you threaten our lives. You are also</p>	Jessica Dreamtime, Email, 04 November 2015	Refer to Responses 1.19 and 1.84.

		<p>rushing us into a process - where we cannot hear or even have the chance to say anything! This is not fair and totally unconstitutional. I personally feel bullied. I wonder if you will even read this through.</p> <p>What about the thousands of people who don't know about fracking, the people who cannot attend meetings, speak English etc.</p> <p>Are you going to make LIFE CHANGING decisions for them? Decisions that affect their lives forever? What gives you guys that right?</p> <p>We don't want any exploration to happen and absolutely no fracking.</p> <p>All this destruction that affects thousands of people – just to profit a few. Including yourselves.</p> <p>If you had any integrity, you would as a professional consultant/consulting group NOT let this go ahead. Call on our RHINO OIL and our government to stop this exercise.</p> <p>Please could you send me PHILIP STEYNS and PAT MULLIGANs contact details.</p>		
2.60		<p>I am totally opposed to the project.</p> <p>The potential environmental impacts say it all!</p> <ul style="list-style-type: none"> • Farm Safety? • Farm infrastructure? • Threatened Soil and Land capability? • Biodiversity? • Surface Water Pollution? • Groundwater already under threat! • Noise and vibration! • Visual! • Land Use! 	Melanie Townsend, response sheet, 6th November 2015	<p>Refer to Response 1.84.</p> <p>Issues relating to farm safety (Section 5.4.18), existing infrastructure (Section 5.4.15), land use (Section 5.4.14), soils (Section 5.4.11), water (Section 5.4.8), air quality (Section 5.4.17), noise (Section 5.4.16) and vibrations (Section 5.4.9) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).</p>
2.61		<p>I think it is important to note that I was very unhappy with the unprofessional way the last meeting was run at the Lions River Polo Club – and I would like to know when the new meeting will take place and where this will be held. This was promised to us – and I need to know the date; venue and time. Please ensure your team comes better equipped – and much better prepared.</p> <p>I would also like to know why you need to involve all Farms on the list – and waste a lot of extra time for people that are not necessarily going to be affected ? We all have a lot to carry on with and don't need these disruptions.</p> <p>Can you give me a breakdown detailing what areas/farms will possibly be side lined for Exploration ? You must have an idea based on water sources ?</p> <p>What rights do I have in terms of not granting access to my land ?</p> <p>If my neighbours land is taken for exploration and / or development at a later stage – what rights do I have ?</p> <p>Will I be compensated for the destruction of the land around me - as my property value will decrease significantly?</p> <p>I would like these questions – as well as numerous other ones I have – to be answered.</p> <p>I strongly suggest that you re-schedule the meeting as agreed – and let me have the</p>	Tim Baynes, Email, 09 November 2015	Refer to Responses 1.8, 1.63, 1.84 and 1.250.

		<p>details.</p> <p>I am totally opposed to any exploration in KZN. Why don't Rhino Oil and Gas find another Country to destroy – outside of Africa?</p>		
2.62		<p>I strenuously object to the proposed early phase petroleum exploration of the central KwaZulu Natal region by Rhino Oil and Gas Exploration (Pty) Ltd believing that this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata.</p> <p>I proposed at the meeting that Rhino look to the suspension of the process to allow for a far better process of consultation to be arranged - I did not get an answer at the meeting and we are looking for a definitive response from the applicant.</p> <p>I understand that there will be serious environmental costs to our province as a result and enquire what provision the applicant has made/ has available to fund any so called "externalised" costs. I would appreciate a forward looking statement from the applicant addressing this aspect in full including how such costs have been calculated and a concrete demonstration of the reserves the company has available to fund such costs. It would appear that the legislation that you are bound by for the process you have embarked upon is not suited to the purpose for which it is now being used. How then can you and the applicant, in good conscience continue with the process?</p>	Robin Barnsley, Email, 09 November 2015	<p>Refer to Responses 1.8, 1.19 and 1.84.</p> <p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed</p>
2.63		<p>I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result. We believe the risk to soil and water health from gas exploration can have serious repercussions and open the door to fracking. This is a strong objection to this application.</p>	Rosemarie Nevin, Email, 09 November 2015	<p>Refer to Responses 1.19, 1.63, and 1.84.</p> <p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed</p>
2.64		<p>Note that I am vehemently opposed to any exploration in KZN, or indeed, anywhere in South Africa.</p> <p>I would also like to be kept informed of the date, time and venue of the second meeting for the Howick/Dargle community which was promised during the aborted first meeting at the Lions River Polo Club.</p>	Konni Hoferichter, Email, 09 November 2015	Refer to Responses 1.8 and 1.84.
2.65		<p>I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result. We believe the risk to soil and water health from gas exploration can have serious repercussions and open the door to fracking. This is a strong objection to this application.</p>	Rowan Robinson, Email, 09 November 2015	<p>Refer to Responses 1.19 and 1.84.</p> <p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed</p>
2.66		<p>Please note I am opposed to any exploration in KZN. My name is Raylene Hoy. I have lived in this area for close to 20 years and would like to preserve our environment as is for as long as possible.</p>	Ray Lenehoy, Email, 09 November 2015	Refer to Response 1.84.

2.67	I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result. We believe the risk to soil and water health from gas exploration can have serious repercussions and open the door to fracking. This is a strong objection to this application.	Luci Coelho, Jean Ladbroke, James Herrington, Robert Hicken, Email, 09 November 2015	Refer to Responses 1.19 and 1.84. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
2.68	Further to my email applying to register as an Interested and Affected Party this morning, we object to the proposed early-phase petroleum exploration of the central KwaZulu Natal region by Rhino Oil and Gas Exploration South Africa (Pty) Ltd. We believe this will be a precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. We understand that there will be serious environmental costs to our province as a result. We believe the risk to soil and water health from gas exploration can have serious repercussions and open the door to fracking. We have not seen any adequate response to questions posed and would like the opportunity to attend another meeting at the Lions River venue to have responses to questions properly addressed.	Jane Weston & Richard Drummond, Email, 09 November 2015	Refer to Responses 1.19 and 1.84. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
2.69	<p>Questions which I have are as follows as we believe they create a huge question mark behind any proposal to go ahead with any kind of exploration.</p> <ol style="list-style-type: none"> 1. What is the relationship between oil prices and shale production – surely oil prices have to remain high to ensure the viability of shale drilling? It is an expensive method with small profits and big costs surely? 2. It sounds like fracking is neither proven to be a good method nor commercially viable with a high chance of failure if your drilling is inaccurate so there is a lot more uncertainty about shale plays than we are being told ie read “a lot of destruction for little benefit”? 3. Who exactly will benefit apart from a few individuals in key positions of power in your company and the government department selling onto a global oil market? 4. Given that blasting is an indiscriminate process covering huge areas to find a small core area or sweet spot how on earth can you assure us water supply is not going to be poisoned let alone all the other damage to land? We suggest you cannot offer such assurances. 5. How long does it take for the toxic chemicals used in the process (ie methanol, benzene, naphthalene, trimethylbenzene, ‘slick water’) to be neutralised, degraded once they are in the earth? 6. How much water do we have to spare for this process – have you determined how much humans are using currently, how much is available, how much your process will require which can never be re-used? 7. Have you even thought about the drought we are in that looks likely to continue for some years? 8. What kind of insurance will you be buying to pay for accidents whether in homes, environment, roads, wildlife, farmland or accidental releases of oil, waste water and other fluids on surface or in rivers – what are you prepared to guarantee and how much money 		Refer to Responses 1.19 and 1.63. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.

		<p>would you be prepared to put in place for any problems that arise or to buy out properties at going commercial rates if required? What insurance companies have you approached in this regard or who is willing to cover claims?</p> <p>9. We are already on the road to catastrophic climate change and you want to contribute to that ? How do you justify this in terms of benefits versus loss to anyone other than ROGESA (Pty) Ltd. etc?</p> <p>10. Will you be subject to whatever environmental and safety rules apply to water quality?</p> <p>11. Who/what organisations would you allow to independently oversee your activities and ensure you keep to safety standards without pressure or interference from your shareholders or company employees or directors?</p>		
2.70		<p>I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result. We believe the risk to soil and water health from gas exploration can have serious repercussions and open the door to fracking. This is a strong objection to this application.</p> <p>We request a better organised and planned meeting than the one held at the Lion's River Club.</p> <p>Some Questions and comment:</p> <p>WATER – we want a complete map of all current and future water sources. Once done this will most likely leave less than 10% of the current permit area with the possibility of exploration.</p> <p>LANDOWNER RIGHTS – what if a landowner refuses access, what will they do? Are there any buffer zones? Do neighbours have any rights?</p> <p>COMPENSATION – will there be a fund for any future environmental/human damages? Should these plans go ahead what plans will to put into the Contracts to rehabilitate the entire area affected?</p> <p>We request an extension to the deadline to enable us to submit more questions and provide comments.</p>	Denise Paton, Tersia Mathews, Ashley Crookes, Email, 09 November 2015	<p>Refer to Responses 1.19 and 1.84.</p> <p>Issues relating to rehabilitation (Section 5.4.21), land use (Section 5.4.14), land tenure (Section 5.4.13), soil (Section 5.4.11), water (Section 5.4.8) and compensation (Section 5.4.20) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).</p>
2.71		<p>Please note I am opposed to any exploration in KZN. As a landowner, if I refuse access what will they do? Are there any buffer zones? Do neighbours have any rights?</p>	Jacqui Jordan, Email, 09 & 11 November 2015	<p>Refer to Response 1.84.</p> <p>The issue relating to land tenure and land use are dealt with in Sections 5.4.13 and 5.4.14, respectively. In summary, there would not be any change in land tenure, despite the possible issuance of an exploration right. The placement of the target sites/routes would be undertaken in consultation with the landowner/occupier to ensure that conflicting land uses are avoided where possible and disturbance to current land use activities are kept to a minimum. The use of any land for exploration activities would have to be through an Access Agreement negotiated between the exploration right holder and the landowner/occupier.</p> <p>Since the exact location of an exploration site is flexible and can be adjusted to accommodate environmental sensitivities, impacts on ecological resources (including</p>

				vegetation, faunal habitat, etc.) can generally be avoided or reduced with the placement of activities on sites that are not sensitive and do not have sensitive natural vegetation. It may also be appropriate to include a buffer around each protected area within which no exploration activities can take place. This issue will be further investigated in the next phase of the EIA where an appropriate buffer will be determined. Refer to Response 1.4 for a discussion on areas excluded from the application.
2.72		<p>Please note I am opposed to any exploration in KZN at this stage. I am concerned about the long term environmental impact of the exploration activity let alone the actual mining. Therefore we need a long term plan through an Environmental Impact Analysis.</p> <p>I am unconvinced that to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd will not have environmental consequences and that that these have not been spelt out. The situation is even worse should oil and gas reserves be found within suitable geological strata.</p> <p>It has to be demonstrated that there are not serious environmental costs to our province as a result of later mining.</p> <p>This is a strong objection to this application until better data is provided for us to study and assess. I am not opposed to fracking per se but rather to the paucity of credible and independent data to support the safety of the exploration and later mining. This application is thus seriously premature.</p>	Dr Peter Warren, Email, 09 November 2015	<p>Refer to Response 1.84.</p> <p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.</p>
2.73		<p>Please note I am opposed to any exploration in KZN as I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result.</p> <p>We believe the risk to soil and water health from gas exploration can have serious repercussions and open the door to hydro-logical fracturing (fracking).</p> <p>This is a strong objection to this application. It threatens the future heritage of our children.</p> <p>WATER – we would like a complete map of all current and future water sources. Once this is done, this will most likely leave less than 10% (of the current permit area) with the possibility of exploration.</p> <p>LANDOWNER RIGHTS – what if a landowner refuses access, what will Rhino do? Are there any buffer zones? Do neighbours have any rights?</p> <p>COMPENSATION – will there be a fund for future environmental/human damages?</p> <p>May I please have details of the extra, better organized meeting which SLR promised us at the Lions River Club gathering. I'd like an extension on this deadline for submission of comments.</p>	Email, 09 November 2015	<p>Refer to Responses 1.8, 1.19 and 1.84.</p> <p>Issues relating to land use (Section 5.4.14), land tenure (Section 5.4.13), water (Section 5.4.8), existing infrastructure (Section 5.4.15) and compensation (Section 5.4.20) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).</p>
2.74		This, on any issue, is non-negotiable. This must have a moratorium imposed on proposition.	Mrs Faith Stanistreet, via email, 8 November 2015	Refer to Response 1.84.

2.75		Highly against the project and I feel the environmental implications will be severe and unavoidable. I do not approve any exploration in the KZN midlands area	Rosewood farm cc, via email, 10 November 2015	Refer to Response 1.84.
2.76		Oppose the exploration. It will disturb my land. It is the catchment for Mhakuze. We are restricted as farmers because of this with our activities and cannot access more water licenses as a result therefore how can a new activity that will use water and potentially affect the quality of it going forward be allowed?	Vlakpoort Estates, via email, 11 November 2015	Refer to Responses 1.63 and 1.84.
2.77		Strongly object to the project. It will destroy what little grazing we have, poison our water supply and ruin our roads. The fact that they can invade property at will is beyond comprehension.	Dr R Dunning, Email, 28 October 2015	Refer to Responses 1.63 and 1.84. Issues relating to land use (Section 5.4.14), water (Section 5.4.8), existing infrastructure (Section 5.4.15) and compensation (Section 5.4.20) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
2.78		Please note we are opposed to any exploration in KZN. We require a complete map of all current and future sources in KZN. What are the rights of landowners should they refuse access ? Are there any buffer zones ? Will there be a compensation fund for future environmental/human damages ? When is there going to be a better organised meeting than the one held at the Lions River Club last week? We believe this proposed exploration to be the precursor to fracking in KZN should oil and gas reserves be found and we believe the risk to soil and water health resulting from this operation will have a serious impact on our future and that of our grandchildren, and we are seriously opposed to any such exploration.	Clive & Norma Griffin, Email, 10 November 2015	Refer to Responses 1.8 and 1.84. Issues relating to land use and access (Section 5.4.14) and compensation (Section 5.4.20) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report). Since the exact location of an exploration site is flexible and can be adjusted to accommodate environmental sensitivities, impacts on ecological resources (including vegetation, faunal habitat, etc.) can generally be avoided or reduced with the placement of activities on sites that are not sensitive and do not have sensitive natural vegetation. It may also be appropriate to include a buffer around each protected area within which no exploration activities can take place. This issue will be further investigated in the next phase of the EIA where an appropriate buffer will be determined.
2.79		I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result of the fact that there is no guarantee that fracking will leave the earth uncontaminated by poisons. We believe the risk to soil and water health from gas exploration can have serious repercussions to the livelihood of all living organisms. This is a strong objection to this application.	Glenn Read, Paul Hildyard, Email, 10 November 2015	Refer to Responses 1.19 and 1.84.
2.80		Please note I am opposed to any exploration in KZN QUESTIONS : WATER – we want a complete map of all current and future water sources. WATER LICENCES – Who is granting Rhino access to Water Licences in KZN. Name of Official.	J K Gere, Email, 10 November 2015	Refer to Responses 1.8, 1.63, 1.84 and 1.128. Issues relating to water (Section 5.4.8), land tenure (Section 5.4.13), land use (Section 5.4.14) and compensation (Section 5.4.20) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6

		<p>As once done this will most likely leave less than 10% of the current permit area with the possibility of exploration and would like the Government Official in question to explain in detail WHY a limited valuable resource can be allocated and licenced to a commercial operation.</p> <p>LANDOWNER RIGHTS – what if a landowner refuses access, what will they do? Are there any buffer zones? Do neighbours have any rights?</p> <p>COMPENSATION – will there be a fund for any future environmental/human damages?</p> <p>BALANCE SHEET – request for Financial details of Rhino, the Projections for Income and who and where will Profits be distributed to.</p> <p>NAME OF GOVERNMENT OFFICIAL – Who has Rhino Exploration approached in Government and who are they negotiating with.</p> <p>MEETING NOTIFICATION : REQUEST FOR BETTER ORGANISED MEETING OF LANDOWNERS AT EACH SPECIFIC MEETING.</p>		<p>of the Scoping Report).</p> <p>Refer to Section 1.4 and 3.2 of the Scoping Report for description of the EIA process (including the details of the competent authority).</p>
<p>2.81</p>		<p>Please note that I am vehemently opposed to any Exploration in the Natal Midlands area, I am both a resident and land owner within this area and am very concerned about the potential effect on both the environment and the residents within the area.</p> <p>Specifically I wish to note the following points and request responses to the points listed hereunder</p> <ol style="list-style-type: none"> 1. Can you confirm that Rhino Oil & Gas is a subsidiary of Rhino Resources Ltd? Who are their other partners? 2. What track record does Rhino have and where are these sites? 3. Would you agree that if there is shale gas, drilling and fracking would have to be used to extract it? Fracking is thus the end goal. 4. Do you know of any incidents involving Rhino and fracking in other places? 5. Do you deny that there are documented incidents in the United States where shale gas drilling has polluted water underground? 6. Will you research and produce proper maps demarcating all the water resources including wetlands, streams, boreholes, aquifers in the Rhino permit area? 7. How did you make sure that everyone in the area to be explored knows about this application? Is the Ingonyama Trust (a key stakeholder) aware and informed about the process? 8. If a user/owner of land doesn't want you to drill/explore on their land under any circumstances, what will you do? 9. We have heard that there was recently an approach to the local municipality to drill a test well on the Mandela Capture Site property. Can you confirm this? 10. It is common knowledge that FRACKING is banned, or under some form of restriction or moratorium in more than 140 places in the USA and Europe, including France, Germany, Bulgaria, New York State, parts of Canada and the Netherlands. What do you have to say about why these places have banned fracking? 11. Is it correct that seismic exploration is followed at a later stage by drilling to explore and that you will have to frack at some stage during exploration to measure the gas flow? 12. Much of the area to be explored is part of the MPAH biodiversity hotspot – one of 35 	<p>Nancy Rouillard, Email, 10 November 2015</p>	<p>Refer to Responses 1.4, 1.8, 1.19, 1.63 and 1.84.</p> <p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.</p>

		regions in the world of exceptionally high biodiversity and importance. Are you certain that seismic testing will have no effect on biodiversity and eco-system health?		
2.82		<p>13. Our government regulates that no well may be drilled within 500 metres from the edge of a riparian area or within 1:100 year flood - line of a watercourse or within 1 kilometre of a wetland. As the KZN Midlands is one enormous catchment, with wetlands and networks of streams and rivers, do you think this will be possible?</p> <p>14. Do you know about the incident of drilling pollution with Soekor near Jansenville in the 1960's which remains polluted to this day? Do you believe that that incident shows how water can move underground?</p> <p>15. For what period of time after an exploration well has been abandoned is Rhino prepared to be liable for pollution of farm or community water and air from that exploration or operations?</p> <p>16. Will well casings be monitored for pressure, leaks and integrity after closure? If so, for how long and what happens if a problem is detected?</p> <p>17. We have heard that there are up to 632 chemicals identified from drilling operations throughout the U.S. Research found that 75% of the chemicals could affect the skin, eyes, and other sensory organs, and the respiratory and gastrointestinal systems. Approximately 40–50% could affect the brain/nervous system, immune and cardiovascular systems, and the kidneys; 37% could affect the endocrine system; and 25% could cause cancer and mutations. Exposure to toxic chemicals even at low levels can cause tremendous harm to humans. Do you believe that all the chemicals that will be used during the exploration phase are safe and will not harm the health of people and the environment?</p> <p>18. Will you provide the Safety Data Sheets for each of the chemicals involved in exploration and subsequent operations as required in terms of the Occupational Health and Safety Act's regulations prior to their use?</p> <p>19. If the chemicals are so hazardous, will you be undertaking health surveillance of those people and communities who may be affected by exposure to contaminated air and/or water?</p> <p>20. Why did Rhino and SLR not give better information on the properties in their application – surely one would expect at least the local municipality in which they are located and their GPS co-ords? Does this not make participation difficult for those who may be affected, even if they are neighbours? Farm names groups under their municipalities would be very useful. With SPLUMA (Spatial Planning & Land Use Management Act), these municipalities will definitely need to be involved.</p>		<p>Refer to Responses 1.4, 1.19 and 1.63.</p> <p>Since the exact location of an exploration site is flexible and can be adjusted to accommodate environmental sensitivities, impacts on ecological resources (including vegetation, faunal habitat, etc.) can generally be avoided or reduced with the placement of activities on sites that are not sensitive and do not have sensitive natural vegetation. It may also be appropriate to include a buffer around each protected area within which no exploration activities can take place. This issue will be further investigated in the next phase of the EIA where an appropriate buffer will be determined.</p> <p>One of the limitations of the Scoping Study related to the identification of landowners (see Section 1.7 of the Scoping Report). As a result of large number of landowners and occupiers in the application area and the limited availability of accurate title deed and landowner contact information, identification of and consultation with every affected landowner was not achieved, although much effort was made to make potentially affected parties aware through various other means (see Section 5.2). Requirements for consultation with each landowner that will be directly affected by the proposed seismic survey or drilling activities will be included in EMPr.</p>
2.83		I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result. We believe the risk to soil and water health from gas exploration can	Graeme Taute, Email, 10 November 2015	Refer to Responses 1.19 and 1.84.

		have serious repercussions and open the door to fracking. This is a strong objection to this application.		
2.84		<p>I would like to place on record my objection to the proposed Rhino Oil and Gas applications.</p> <p>Not only in KZN, but in ANY region in our beautiful country.</p> <p>I have worked in several settings, where I have served to advocate on behalf of my fellow man, be it in Paediatric Intensive Care, Paediatric Pain Management, HIV and Aids work. I am passionate about the health and wellbeing of my fellow man. Many of whom cannot speak for themselves, or do not speak up for themselves because they are disempowered. Health, poverty, disease, social decay... these are all linked to our environment. please be careful.</p> <p>PLEASE. Hear the voices of (your) children asking "why?"</p>	Shelly Edkins, Email, 10 November 2015	Refer to Response 1.84.
2.85		<p>I found your address on a video made of the meeting with Rhino oil and gas in the Dargle. It was stated there that we were welcome give our opinion on this forum.</p> <p>I would like to state that this business of searching further for gas in the midlands is a ludicrous suggestion. At one point when Shell was looking in the Karoo, one of the reasons given was that it was a desert area and had little use. This is a dubious statement. For Rhino Gas to receive a permit to search an area of our country which is so intensively cultivated and which is the watershed and provides most of our water is incomprehensible.</p> <p>We have been seriously let down by our government, yet again. This action states clearly that they only have dollars in their eyes.</p> <p>We feel this as a blow to our own selves, this land is deep within our beings, we cannot even tolerate the testing to our earth, our flesh which is being proposed. It is an act of violence and insanity with no regard to the future generations of South Africa, of all races.</p>	Elizabeth Balcomb, Email, 11 November 2015	Refer to Responses 1.19, 1.63 and 1.84.

2.86		<p>Please note that I am opposed to any exploration in KZN. Below are some questions that I would like answered: Water Map – can I have a complete map of all current and future water sources. Landowner Rights – if a landowner refuses access what can Rhino do? Are there any buffer zones? Do neighbours have any rights? Compensation – will there be a fund for any future environmental/human damages? New meeting - when will the next/new meeting be held as promised at the Lions River Club? Submission of comments - due to the last unsuccessful meeting will the deadline for the submission of comments be extended? Please note that I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result. We believe the risk to soil and water health from gas exploration can have serious repercussions opening the door to hydro-logical fracturing. It threatens the future heritage of our children.</p>	Sergio Guerrero, Email, 11 November 2015	<p>Refer to Responses 1.8, 1.19 and 1.84. Issues relating to water (Section 5.4.8), land tenure (Section 5.4.13), land use (Section 5.4.14) and soil (Section 5.4.11) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report). Appropriate buffers from sensitive areas, infrastructure, etc. will be determined in the next phase of the EIA (refer to Section 6 of the Scoping Report).</p>
2.87		<p>Please will you note that my husband and I, both landowners and residents, in the KZN Midlands, are absolutely opposed to the exploration for oil and gas in our region, and in the country. Exploration will lead to mining. And mining is destructive in so many ways. The amount of water used is just unacceptable, especially in a region that desperately needs the water for human consumption and farming. The chemicals used in the mining process leech into the soil, the water, and the air, leaving them all toxic and unable to sustain life. Fracking is also linked to increased earthquake activity. We have unlimited sunshine and wind available for alternative energy. Why continue on this short-sighted path of destruction, searching for limited fossil fuel resources? No thank you! Environmentally, and aesthetically, it makes zero sense to mine at all. No matter what yarn their PR company spins, we know that fracking is poisonous and destructive and it is not welcome here</p>	Katherine & John Morrow, Email, 11 November 2015	<p>Refer to Responses 1.19, 1.63 and 1.84. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed</p>

<p>2.88</p>		<p>Objection to the application for an exploration right with PASA by Rhino Oil and Gas Exploration South Africa (Pty) Ltd in KwaZulu Natal. Earthlife Africa Durban strongly objects to the application on the following grounds:</p> <p>1. Lack of meaningful public participation</p> <p>As part of the draft scoping phase of the application, SLR conducted a series of public participation meetings in the exploration area. However all of these meetings (except for 1) were held during business hours when working people were unable to attend. During the meeting I attended in Ashburton I raised this concern and asked people to indicate by a show of hands whether they agreed that the public participation process should start from scratch and that a meeting should be organised in the evening or on a Saturday morning when most people can attend. The majority voted in favour of this. The chairman acknowledged that the majority were calling for another meeting. He said that the meeting would be declared null and void as a public participation meeting. However later he back-tracked and said that the meeting would count as according to PASA regulations, the scoping phase would need to be completed by mid-November and that if it did not count then people's comments could not be included. We believe that SLR should apply to PASA for an extension to allow for meaningful public participation. There were very few black people in the meeting (only 2). When the consultants were asked where the meeting had been advertised, they said it was advertised in the Natal Witness and the Mercury newspapers and other local papers. However these papers have a predominantly white readership. It was pointed out that the consultants need to advertise on the Zulu radio stations to reach a wider audience. The public participation process should start from scratch and another series of meetings should be held. These need to be advertised on Zulu radio and in Zulu newspapers, and they should be held at a time when most people can attend - preferably on a Saturday morning. The meeting needs to be more representative of the demographics of the South African population. The present process is rushed. People need to be informed and included in a process that will have such drastic consequences for their lives. Comments from all the meetings need to be included in the Draft Scoping Report.</p>	<p>Alice Thomson on behalf of Earthlife Africa Durban (EAD), Email, 12 November 2015</p>	<p>Your objection is recorded.</p> <p>Refer to Section 5.2 of the Scoping Report for details of the public participation method. The public meetings were generally well attended, often beyond the capacity of the venues.</p> <p>Refer to Section 5.2.10 for details on the extension of time.</p>
<p>2.89</p>		<p>2. Concern that exploration will lead to fracking</p> <p>The consultants were asked whether exploration would lead to fracking and whether fracking is the end goal if gas is found. The CEO of Rhino oil and Gas said "I don't know". He acknowledged that fracking could be a possible end goal. The technical team from Rhino Oil and Gas have done gas extraction in the past. ELA Durban believe it is disingenuous to separate the permitting and EIA process for exploration from the permitting and EIA process for fracking as exploration is a first step in the process towards commercial exploitation of the gas in the form of fracking.</p>		<p>Please refer to section 2.2.10 of the Scoping Report</p>
<p>2.90</p>		<p>3. Water use from fracking</p> <p>If fracking is the end goal then there is great concern over KZN's water resources. It is known that fracking uses huge quantities of water – up to 20 million litres of water per frack. I asked where all this water will come from given that KZN is now experiencing the</p>		<p>The extraction of hydrocarbons, though hydraulic fracturing or any other method, are not proposed in this application.</p>

		driest year in over a century and that this could get worse with climate change. My question was not answered. I would still like to know what water resources will be used, given that fracking is a possible end goal.		
2.91		4. Pollution from fracking There is great concern over the use of hazardous and carcinogenic chemicals which could end up contaminating underground water, should fracking be pursued. Most of the exploration area includes water catchment areas and should be protected by water regulations. PASA should not gamble the future of our water resources away by allowing the exploration to continue, given the importance of the area as a water resource.		The extraction of hydrocarbons, though hydraulic fracturing or any other method, are not proposed in this application.
2.92		<p>There are many hazardous chemicals used in fracking. In a study done by the U.S. House of Representatives of 14 fracking companies over a 5 year period it was shown that there are 29 chemicals used in 650 fracking products that are either:</p> <ol style="list-style-type: none"> 1. Known/ possible human carcinogens, 2. Regulated under the U.S. Safe Drinking Water Act for their risks to human health or 3. Listed as hazardous air pollutants under the U.S. Clean Air Act. <p>The BTEX compounds (benzene, toluene, xylene, ethylbenzene) appeared in 60 of the products used in the study. Benzene is a known human carcinogen. Each BTEX compound is a regulated contaminant under the Safe Drinking Water Act and a hazardous pollutant under the Clean Air Act. Chronic exposure to toluene, ethylbenzene or xylene can damage the central nervous system, liver and kidneys. The use of diesel fuel in fracking poses the greatest threat to underground sources of drinking water. Diesel fuel contains toxic constituents including BTEX compounds. 30 million gallons of diesel fuel was used in the 5 year period of the study.</p> <p>4. Job losses Employment generation from fracking is overstated and generally it has been found that the initial economic booms from fracking transform into long-term economic declines. If fracking goes ahead there will be job losses in the leisure and tourism industries. Property prices will also be negatively affected.</p> <p>5. Other concerns If fracking is allowed to go ahead then communities will be subject to noise (from compressors, generators, drilling and heavy trucks), light pollution, bad odours and heavy traffic. Fracking operations generally disrupt and divide the social fabric of local communities and affect wildlife and biodiversity.</p> <p>Conclusion Earthlife Africa Durban therefore insists that the public participation process must start from scratch to allow more people to attend. There are many concerns that the exploration for oil and gas will lead to fracking and people need to be informed and included in the process. ELA Durban rejects the proposed exploration activity given the unacceptable consequences that exploration and resultant fracking activities would have on water, tourism, the environment and consequently people in the area.</p>	Alice Thomson on behalf of Earthlife Africa Durban (EAD), Email, 12 November 2015	The extraction of hydrocarbons, though hydraulic fracturing or any other method, are not proposed in this application.

2.93		<p>I strongly object to the Rhino Oil & Gas Exploration bid in KZN. At every meeting you have held, there has been a resounding NO to your proposal from all sectors of society</p> <p>The reasons for this rejection is that oil and gas exploration (and possible subsequent mining operations) threaten the natural environment, specifically biodiversity and water resources. This will mean long term damage to the lives and livelihoods of residents of the area, for the short term gain of the mining company. The exploration and extraction process will lead to the enrichment of a few at the expense of the majority of people and our life-support systems.</p> <p>We need to urgently pursue alternatives to the use of fossil fuels to minimize the impacts of climate change, which are affecting society throughout the world.</p>	Moraig Peden, Email, 12 November 2015	<p>Refer to Response 1.84.</p> <p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.</p>
2.94		<p>Please note I am opposed to any exploration in KZN and the Midlands.</p> <p>Please could you extend this deadline for submission of comments.</p> <p>I believe that there will be serious environmental costs to our province as a result of tracking.</p> <p>Where is all the water coming from to be used for Fracking? There is already a serious drought and already not enough water for all to use.</p> <p>We need a full breakdown of what our water quality will be in the future if the tracking did occur.</p> <p>What environmental and human compensation plan and how much funding is there available?</p> <p>What plans are in place to trans locate the endangered fauna and flora species found in KwaZulu Natal?</p> <p>How do you propose to compensate society for lost fauna and flora which may be lost forever - EXTINCTION DOES NOT HAVE A PRICE.</p> <p>Where is your proposal for solar powered vehicles?</p>	Caroline Leslie, Email, 11 November 2015	<p>Refer to Responses 1.19, 1.63 and 1.84.</p> <p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed</p>
2.95		<p>I object to any exploration of the KZN Midlands & the Karoo based on what has happened in the United States of America & Australia. Fracking is banned in Germany & France to name just 2 countries.</p> <p>We have already seen what has happened to the water supply in Gauteng as a result of mining. "Johannesburg has always been a dry place with relatively low rainfall and cyclical droughts. However, in the 19th century before mining started it had an abundance of groundwater as is witnessed by names such as Randfontein, Stilfontein, Turfontein and Springs. Some calculate that Johannesburg has as much water as is contained in Lake Kariba underneath it in the form of dolomitic aquifers. This the mining industry has systematically destroyed in more than a hundred years of mining. The water is still there but it has been poisoned by the mines. Now it contains uranium, cadmium, arsenic, cyanide, copper and elevated levels of sulfur. The gold is gone lying in vaults in the USA, London and elsewhere. Water that should have been the resource of future generations destroyed.</p> <p>It is also against our constitutional rights which our government and PASA have an obligation to uphold – we cannot drink gas and desperately need the water.</p>	Sherebanu Kajee, Email, 11 November 2015	<p>Refer to Responses 1.19, 1.63 and 1.84.</p> <p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.</p>

	<p>Chapter 11 - Environmental Law The Constitution The Constitution contains a number of sections that are relevant to the environment. The environmental right - Section 24 Everyone has the right to: an environment which is not harmful to their health or well-being have the environment protected for the benefit of present and future generations through reasonable legislative and other measures that: prevent pollution and ecological degradation promote conservation secure ecologically sustainable development and use of natural resources, while promoting justifiable economic and social development. Section 24 therefore places a duty on all spheres of government to take reasonable steps, including to make laws, prevent pollution, promote conservation and ensure sustainable development. What do the words 'health and well-being' mean? The meaning of these words is not entirely clear so it will be up to the courts to decide on their exact meaning in the future. It seems that "health and well-being" include the following: Protection from pollution in the air, water, food or soil. This includes protection from dangers in the workplace, and from less obvious dangers to health such as excessive noise. Protection of our well-being covers both physical and mental well-being. This would include protection from nuisances and invasions of privacy and dignity. The European Court of Human Rights recently ruled that a bad smell from a tannery that offended neighbouring residents was a violation of their right to privacy. In our law this would probably qualify as a violation of the right to well-being. The Eastern Cape High Court was required to consider a case in which the applicant argued that the production of hydrogen sulphide (which smells like rotten eggs) by a tannery, was causing pollution in the neighbouring area. The Court held that to be forced to work in an 'environment of stench' was contrary to one's well-being. Therefore, we can say that something affects our well-being if it affects our ability to enjoy our life. See Section 8: Application of the Bill of Rights. Other rights relevant to the environment The Constitution recognises the general need to improve the quality of life of all persons. Certain constitutional rights can be used to support reasonable environmental demands. However, it should also be noted that there may be tension between the environmental right and other rights in the Bill of Rights. These include: The right to life (Section 11) The right to human dignity (Section 10) The right to privacy (Section 14) Certain socio-economic rights</p>		
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		the right of access to sufficient food and water (Section 27)		
2.96		Following the unsatisfactory meeting in Mooi River we wish to affirm that we are unreservedly opposed to the granting of this application. We wish to receive the list of names and contacts of those who attended the meeting and the recording of proceedings as promised. We also wish to be informed of the date, time and venue of the new arrangement for a meeting.	Penny Letley on behalf of RNC, Email, 11 November 2015	Refer to Responses 1.8 and 1.84.
2.97		I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result. We believe the risk to soil and water health from gas exploration can have serious repercussions and open the door to fracking. This is a strong objection to this application.	Derrick Leslie, Email, 11 November 2015	Refer to Responses 1.19 and 1.84. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
2.98		I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental and socio-economic costs to our province as a result. I believe the risk to soil and water health from gas exploration can have serious repercussions and open the door to fracking. Kindly take this email as strongest possible objection to this application. No matter how you try to sugar coat things, the issues raised in your own BID as possible problems of exploration (not to mention actual fracking) all go against many provisions of the NEMA, not the least of which being the precautionary principle. Apart from being contrary to legislation, the sheer crass, stupidity of a dodgy shyster of a company even thinking about messing with the "water factory", and hence the livelihoods of most of the population of KZN is beyond belief. Kindly advise when the properly organised Lions River meeting is scheduled to be held. I would also like a copy of the minutes of the shambles that was the first meeting.	Barry Downard, Amanda Burger, Email, 11 November 2015	Refer to Responses 1.19, 1.63 and 1.84. Issues relating to water (Section 5.4.8) and soil (Section 5.4.11) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
2.99		Please note I am opposed to any exploration in KZN . I am the owner and resident of portion 12011 New Boschfontein [Balgowan/Caversham]. One of the thousands of properties included in your client's 1.8million hectares exploration application. I am also a member of the Balgowan Conservancy, the first conservancy established in South Africa [1978] Given that in the SLR Consulting [Africa] [Pty] Ltd document under heading of POTENTIAL ENVIRONMENT IMPACTS page 5 YOU rightfully identify 13 very serious concerns for landowners and the community I cannot understand why your client wants to proceed any further with their application .	David Crowe, Email, 11 November 2015	Refer to Responses 1.8, 1.63 and 1.84. Issues relating to water (Section 5.4.8), vegetation (Section 5.4.7) and land use (including tourism) (Section 5.4.14) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).

		<p>I attended the aborted meeting at Lions River Club [Dargle] and am informed about proceedings at Mooi River and Greytown.</p> <p>It is abundantly clear that there is unanimous opposition to Rhino's application.</p> <p>It is incomprehensible that the application is being made in a major [uMngeni] water catchment area where there are wetlands, dams and rivers of such importance.</p> <p>In addition there are threatened mist belt grasslands and indigenous forests.</p> <p>57% of South Africa's conservancies are in Kwa Zulu Natal.</p> <p>Any fracking, especially in Central KZN would have devastating consequences for tourism [Midlands Meander] businesses .</p>		
2.100		<p>I previously requested an IAP form from you but have had no response. Perhaps you have been distracted by the local response to fracking J!</p> <p>I think I have found the correct form elsewhere; please find same attached. I also enclose a brief objection to granting Rhino exploration rights. In support of my objection I enclose three papers:</p> <ol style="list-style-type: none"> 1."Modern natural gas development and harm to health" is a general review of health-related concerns. This covers some of the issues I have raised and many other topics I have not discussed. 2."Predictors of Indoor Radon Concentrations in Pennsylvania, 1989–2013" shows a clear association between fracking and elevated levels of radon gas. 3. "Occupational and environmental causes of lung cancer" shows that radon is a major cause of lung cancer. <p>I have further papers on these topics, which I am happy to share.</p>	Digby Ormond-Brown, Email, 11 November 2015	Refer to Responses 1.19 and 1.84.
2.101		<p>It is my belief that the proposed project stands to cause great harm to the natural, healthy functioning of any ecosystem in which it takes place and as a scientist and environmentalist I want to oppose great harm coming to natural systems where possible.</p> <p>-what are the potential environmental risks associated with installation, operation, decommissioning and post-decommissioning processes for any kind of extraction technique (wells, hydraulic fracturing etc) that could be put in place in the proposed exploration area, in light of the fact that exploration for oil and gas extraction would almost certainly result in the extraction of said substances if they are present in significant quantities?</p> <p>Considering the most likely worst case scenario, what would be the severity of any adverse environmental effect resulting from any activities associated with the proposed exploration and subsequent potential extraction of oil and gas?</p> <p>How many people could be directly affected by the most likely worst case scenario and what would be the short-term (within 2 years) impact on their health and livelihoods?</p> <p>What would the detrimental effects be from any and all of the abovementioned negative effects on the future economic prosperity of the area, province and country?</p>	Tobias Johannes Wiese, 11 November 2015	Refer to Responses 1.19 and 1.84. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
2.102		<p>Please note my objection to the Exploration Application being granted.to the body of the email.</p> <p>If you want to follow the progress of this fight please like the Frack Free South Africa</p>	Barry, Email, 12 November 2015	Refer to Responses 1.19 and 1.84.

		group on Facebook.		
2.103		I am strongly opposed to any exploration for oil, gas or coal in the entire region and am certain that once this scoping process is complete you will be able to advise your client that his scheme is ill-advised and suggest he invest in renewables instead.	Nikki Brighton, Email, 12 November 2015	Refer to Response 1.84.
2.104		<p>I attended the meetings under Protest and demand that it be noted that all meetings were deemed under protest and conducted as such unanimously by those attending.</p> <ul style="list-style-type: none"> • I contend that this process is procedurally and substantively flawed. • I do not condone any defects in this process, nor its future potential impacts and outcomes of studies and authorisations. • I attended simply to ensure that questions were asked and answered • The Purpose of a Public Scoping Process is to gauge Public Opinion. To date I believe you have heard an unequivocal objection and rejection of your proposed approach and outcomes. In short a resounding NO. • Fracking (Hydraulic Fracturing) was acknowledged as an optional ultimate outcome of the process, and with it comes risks that are real and documented internationally. • Risks are not vague risks. • Laws are not made for speculative nonsense. They are made to manage specific and defined risks. • Risks that will impact on human health and wellbeing. • I demand that it be noted that the team of Rhino Oil and Gas and SLR Consulting was unprepared and ill-informed, and at times evasive in answering questions that were put to them in these public meetings. • I also note that the risks were deliberately downplayed, not only of the possible end goal of Fracking and/or Coal Seam, Coal Bed extraction and/or gasification, but of the process of seismic testing and core hole drilling... • How can you continue on this path when those risks are being ignored ? 	Francois du Toit, Email, 12 November 2015	Refer to Responses 1.8, 1.19 and 1.84.
2.105		<p>I attended the meetings under Protest and demand that it be noted that all meetings were deemed under protest and conducted as such unanimously by those attending.</p> <ul style="list-style-type: none"> • I contend that this process is procedurally and substantively flawed. • I do not condone any defects in this process, nor its future potential impacts and outcomes of studies and authorisations. • I attended simply to ensure that questions were asked and answered • The Purpose of a Public Scoping Process is to gauge Public Opinion. To date I believe you have heard an unequivocal objection and rejection of your proposed approach and outcomes. In short a resounding NO. • Fracking (Hydraulic Fracturing) was acknowledged as an optional ultimate outcome of the process, and with it comes risks that are real and documented internationally. • Risks are not vague risks. • Laws are not made for speculative nonsense. They are made to manage specific and defined risks. 	Francois du Toit on behalf of African Conservation Trust (ACT), Email, 12 November 2015	<p>Your objection is recorded.</p> <p>The results of the public participation are presented in the Scoping Report.</p> <p>The extraction of hydrocarbons, though hydraulic fracturing or any other method, are not proposed in this application.</p>

		<ul style="list-style-type: none"> • Risks that will impact on human health and wellbeing. • I demand that it be noted that the team of Rhino Oil and Gas and SLR Consulting was unprepared and ill-informed, and at times evasive in answering questions that were put to them in these public meetings. <p>I also note that the risks were deliberately downplayed, not only of the possible end goal of Fracking and/or Coal Seam, Coal Bed extraction and/or gasification, but of the process of seismic testing and core hole drilling...</p> <p>How can you continue on this path when those risks are being ignored ?</p>		
2.106		<p>1. Can you confirm that Rhino Oil & Gas is a subsidiary of USA based Rhino Resources Ltd? Who are their other partners?</p> <p>a. We would like clarity on the setup of the company in South Africa, its founding directors, and its current status.</p> <p>b. We would like the name of the future BEE partner that was mentioned in the meetings, if Exploration Rights are ultimately issued.</p> <p>2. What track record does Rhino have in respect of this type of activity and where are these sites? Phillip Steyn indicated that 300 wells had been sunk, but in following meetings he acknowledged that Rhino itself had not actually done the work.</p> <p>a. Where are these wells?</p> <p>b. What technology was used?</p> <p>c. Which company did the work for Rhino Resources?</p> <p>d. Are there any reported incidents?</p> <p>3. Would you confirm, as you did in the meetings, that if there is shale gas, or coal bed methane, that drilling /or fracking would have to be used to extract it?</p> <p>a. Fracking is thus the end goal?</p> <p>b. If not, what other technologies will be used?</p> <p>4. Do you know of any incidents involving Rhino and fracking in the United States?</p> <p>a. Does Rhino in fact have any experience in actual extraction or are they focussed simply on obtaining exploration rights?</p> <p>5. Do you deny that there are documented incidents in the United States where shale gas drilling has polluted water underground?</p> <p>6. Do you deny that the impacts of a fracking incident are irredeemable?</p> <p>a. Please furnish proof of rehabilitation anywhere in world that have been done to the satisfaction of authorities and the landowners.</p> <p>7. Why have you not researched and prepared proper maps demarcating all the water resources including wetlands, streams, boreholes, aquifers in the Rhino permit area?</p> <p>a. This indicates a lack of preparation, and disrespect for communities time.</p>	<p>Francois du Toit on behalf of African Conservation Trust (ACT), Email, 12 November 2015</p>	<p>1.The directors and owners of Rhino Oil and Gas Exploration South Africa (Pty) LTD are Mr P Mulligan and Mr P Steyn.</p> <p>More information is available on http://www.rhinosourcesltd.com/management.</p> <p>The BEE partner identified to participate should a right be granted is Glen Blue Oil and Gas.</p> <p>3. Please refer to section 2.3.10 of the Scoping Report</p> <p>5. No</p> <p>7. Amongst other functions, it is the role of the Scoping and EIA process to identify environmental sensitivities and make recommendations on measures to prevent harm to these. A considered approach is being followed through the course of the Scoping and EIA process to ensure an appropriate outcome with regards the identification, protection and /or exclusion of environmentally sensitive areas. The full outcome of this process and the mitigation will be presented in the EIA report.</p>
2.107		<p>8. How did you make sure that everyone in the area to be explored knows about this application?</p> <p>a. What real efforts did you make to ensure a broad level of participation apart from the basic legal requirements?</p>		<p>8. Refer to Section 5.2 of the Scoping Report for details of the public participation method.</p> <p>Yes, refer to section 5.2.7.</p>

	<p>b. Is the Ingonyama Trust (a key stakeholder) aware and informed about the process? Specifically, who have you met there?</p> <p>9. If a user/owner of land doesn't want you to drill/explore on their land under any circumstances, what will you do? Will you enforce your rights, despite the wishes of the landowner/landuser?</p> <p>a. Confirm that your answer at the meetings was that you or the company to whom you sold the rights, would be entitled to do so, or that government would enforce those rights, if negotiations failed.</p> <p>10. We have heard that there was recently an approach to the local Umgeni municipality to drill a test well on the Mandela Capture Site property. Can you confirm or deny this?</p> <p>11. It is common knowledge that FRACKING is banned, or under some form of restriction or moratorium in more than 140 places in the USA and Europe, including France, Germany, Bulgaria, New York State, parts of Canada and the Netherlands.</p> <p>a. What do you have to say about why these places have banned fracking?</p> <p>b. Is it not true that public outcry, as a result of irredeemable environmental and human impact has resulted in this banning or restriction?</p> <p>12. Is it correct that seismic exploration is followed at a later stage by drilling to explore and that you will have to frack at some stage during exploration to measure the gas flow?</p> <p>13. Much of the area to be explored is part of the MPAH biodiversity hotspot – one of 35 regions in the world of exceptionally high biodiversity and importance.</p> <p>a. Are you certain that seismic testing will have no effect on biodiversity and eco-system health?</p> <p>b. What studies have or will be done to confirm that seismic testing will not damage microbiology or result in additional fissures or earthquakes?</p> <p>c. Please show international research and local research that shows no damage.</p> <p>14. Our government regulates (s122 of the MPRDA) that no well may be drilled within 500 metres from the edge of a riparian area or within 1:100 year flood - line of a watercourse or within 1 kilometre of a wetland. As the KZN Midlands is one enormous catchment, with wetlands and networks of streams and rivers, how are you going to comply with the regulations?</p> <p>a. Why were these areas not excluded prior to the public meetings?</p> <p>15. Do you know about the incident of drilling pollution with Soekor near Jansenville in the 1960's which remains polluted to this day?</p> <p>a. Do you believe that that incident shows how water can move underground?</p> <p>16. For what period of time after an exploration well has been abandoned is Rhino prepared to be liable for pollution of farm or community water and air from that exploration or operations?</p> <p>a. What physical guarantees will be placed?</p> <p>b. Will COO Phillip Steyn or directors of Rhino, including Mr Mulligan, personally stand surety for any future losses or damage to health and well being?</p> <p>17. Will well casings be monitored for pressure, leaks and integrity after closure?</p> <p>a. If so, for how long and what happens if a problem is detected?</p> <p>18. We have heard that there are up to 632 chemicals identified from drilling operations</p>		<p>9.</p> <p>12. No form of stimulation or fracking is included in the exploration work programme for which approval is sought.</p> <p>13. This is noted. The assessment of impacts will be undertaken in the EIA.</p> <p>Please refer to Section 7.5.5 for details of the noise and vibration study that will be undertaken. This will include a literature review for impacts of seismic data collection on wildlife.</p> <p>14. The presence of wetlands and watercourse is acknowledged. The assessment of potential impacts during the EIA phase will give due consideration to this. As detailed the outcome will be to define which biodiversity units and uses are incompatible with the proposed exploration and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration. The commitment to these will be detailed in the EMPr.</p> <p>Regulation 122 is not directly applicable to stratigraphic wells as proposed.</p>
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2.108		<p>I am concerned that if exploration is allowed, then the next step of actual petroleum extraction will be easier. That is why I am against the exploration, even though its impacts may not be that large.</p>	<p>Jessica Cockburn, via email, 11 November 2015</p>	<p>Refer to Responses 1.19 and 1.84.</p>
2.109		<p>Please not that I am completely against it and will never support such a move. My main concern does not revolve around the landowners, but rather Mother Nature. We have a wonderful environment in KZN (whole of Africa for that matter) and I would hate to see money hungry international companies come here to rape and pillage and run away. I would like to know if any environmental impact assessments have been done in areas where fracking has been used in America or any other country for that matter and what the long term effect it has on Nature? What is the financial gain from this for the company who wants to do it?</p> <p>Why is this company so disrespectful that they name themselves Rhino?</p> <p>What is the international community's evaluation of this company?</p> <p>What international law will they be held to that there may be prosecution for their inhumane treatment of Nature?</p> <p>I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (Pty) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result. We believe the risk to soil and water health from gas exploration can have serious repercussions and open the door to fracking. This is a strong objection to this application</p>	<p>Wesley Dragt, Email, 12 November 2015</p>	<p>Refer to Responses 1.19 and 1.84.</p>

2.110		<p>Coastwatch records its objection to the proposed activities.</p> <p>As we review numerous sets of documentation for the EIA processes in which we are involved it becomes onerous to download large volumes of information. I therefore request, please, that the future reports are made available on a cd and sent to the undersigned, please. Details are: P O Box 343, Pennington, 4184 or courier to # 4 Beefwood Rd, Pennington, 4184. It will be appreciated.</p>	<p>Carolyn Schwegman on behalf of Coastwatch, Email, 12 November 2015</p>	<p>Refer to Response 1.84.</p>
2.111		<p>Please note that we are opposed to any exploration in KZN.</p> <p>We object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal and Matatiele region by Rhino Oil and Gas Exploration South Africa (Pty) Ltd. We believe this will be the precursor to fracking in the future should oil and gas reserves be found within workable geological strata. We believe that gas exploration can have serious negative effects on soil and water health, as well as opening the door to fracking. We believe that any fracking will result in serious environmental and ultimately social costs. Please respond to the following:</p> <p>WATER: At a time when the constraints on KwaZulu-Natal's water resources are so severe that doctors in some of the province's hospitals have stopped performing operations (as one symptomatic indication of the seriousness of water scarcity in the province), it is surprising to us that any person or party attempt justification of pursuing fracking exploration in this province, given that 1 fracking well is known to use in the region of 20 million litres of water, and that fracking threatens contamination of linked aquifers. Please provide a map of all current and future water sources, noting that if these areas are excluded, less than 10% of the current permit area may be left open to the possibility of exploration; please comment. What assurances can you provide that the exploration process and the potential post-exploration activities will not harm, or diminish water resources in an area already severely threatened by water scarcity?</p> <p>LANDOWNER RIGHTS: What do you anticipate will be the consequence if a landowner or farmer refuses access? Are there any buffer zones? Do neighbours have any rights?</p> <p>COMPENSATION: Will there be an adequate fund for any future environmental/human damages, should this process be bulldozed through despite the obvious opposition?</p> <p>PUBLIC CONSULTATION: Have you made a proper effort to make known the public meetings amongst all stakeholders – including those without access to newspapers, radio, sms, email? How have you gone about identifying stakeholders? Please provide a detailed methodology that you used in all the affected areas.</p> <p>EXTENSION OF COMMENT PERIOD: Given the technical complexity of this issue regarding exploration and consequent fracking, we request an extension of the comment period to allow for a greater degree of public information and for more time for people to come to grips with the potential implications of the proposed gas exploration.</p> <p>CORRUPTION: What assurances can you provide that there has been no corruption, unethical persuasion, pressure, or bribes paid to any government employee at any level of government or to a private landowner or other individuals in relation to the preparation of the Rhino Gas Exploration permit application?</p>	<p>Nick and Michele Swan, Email, 12 November 2015</p>	<p>Refer to Responses 1.8, 1.19 and 1.84.</p> <p>Issues relating to water (Section 5.4.8), soil (Section 5.4.11), land tenure (Section 5.4.13), land use (Section 5.4.14) and compensation (Section 5.4.20) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).</p>

2.112		<p>Further to the chaotic meeting I attended at Lion's River on 3 November 2015, I would like to place on record my deep concern about the application for exploration over a vast tract of KwaZulu-Natal by Rhino Oil and Gas currently on the table.</p> <p>Procedurally, the meeting was poorly organised with no PA system and insufficient space to accommodate everyone who wished to attend. Nothing has yet been heard regarding a second meeting in a bigger venue with PA system.</p> <p>Technically, my concerns are as follows:</p> <ol style="list-style-type: none"> 1. The intent of the exploration is to extract any oil and/or gas found, however this has not been acknowledged. 2. The exploration techniques have not been clearly described. FTG is not described nor the impacts and the nuisance of having aircraft overhead and the possible disruption to farming activities and livestock. 3. The possibility of core sampling disrupting underground water pathways needs to be discussed. I am reliant on springs for my water supply for domestic, crops and livestock purposes and any change of rock strata could re-direct ground water away from my springs rendering my property useless. <p>I am fiercely opposed to any exploration for oil and gas near my property nor anywhere in the KZN Midlands.</p> <p>I reserve the right to comment further on receipt of the draft scoping report.</p>	Sarah Allan, Curry's Post Conservancy, Email, 12 November 2015	Refer to Responses 1.8 and 1.63. Project description is presented in Section 2.3 of the Scoping Report.
2.113		<p>My age prevents me from driving to any meetings (although I can still do my weekly shopping in town without problems). The present drought conditions are more than enough of a disaster without any messing about with the substrata which would cause more trouble. These people are only out for monetary gain and could not care less about any damage that might cause. I would still like to hear from any people in America who may have been affected by Fracking (or not) in their vicinities. Any possible threat to our water supplies is to be opposed as vigorously as possible.</p>	Barry Fiddes, Email, 12 November 2015	Refer to Responses 1.19 and 1.63.
2.114		<p>All the people who live in the areas around where you plan to do this terrible deed, even if they do not own their land, as once the water, soil and air is polluted this will affect them all as well! My interest is to ensure that this RAPE of our land, rights and livelihood does not happen!</p> <p>This is an invasion of my constitutional rights to a clean healthy lifestyle, and I do not accept that you have the right to enforce this upon us.</p>	Michelle Crausaz, Email, 12 November 2015	Refer to Response 1.84. Issues relating to water (Section 5.4.8), soil (Section 5.4.11) and air quality (Section 5.4.17) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
2.115		<p>As a registered Interested and Affected Party I object to the exploration licence being approved.</p> <p>I am an Occupational Therapist and Disability Researcher with a Doctorate in Community Health. I am a member of Rural Doctors of South Africa (RUDASA) and Rural Rehab South Africa (RURESA). My objection is related to the potential health risks and impacts with resultant disablement in the rural areas of KwaZulu Natal where resources for early detection and intervention are minimal. The potential impact on water quality and the effect of this on food security is a major concern in a province where children under the</p>	Dr Pam Maclaren-Haynes, Email, 12 November 2015	Refer to Responses 1.63 and 1.84.

		age of three years are already significantly affected by stunting.		
2.116		<p>As a registered Interested and affected party in the Rhino Oil and Gas application 291ER in KZN, I hereby lodge my strongest possible objection to the Rhino Oil and Gas application for an early-phase exploration permit in KwaZulu-Natal.</p> <p>I strongly endorse the attached submissions made by the Duzi-Umgeni Conservation Trust and Coastwatch objecting to the application and to the issuing of a permit, along with the very strong public sentiment evident and expressed against the application in the public meetings in and around the Natal Midlands.</p> <p>It is quite evident to me that with the mounting evidence of irreversible damage being caused by shale gas mining around the world, and the banning of the practice by certain countries and states, the stance that in the absence of irrefutable proof of causal linkages the practice should be allowed to continue, is irresponsible in the extreme and verging on a socially criminal action. Our country's leaders should rather, on the balance of evidence thus far, be taking a conservative stance and adopting the opposite approach of avoiding the practice of shale mining until irrefutable evidence is available that it is not harmful to the water supplies, not to the environment.</p> <p>I look forward to receiving my copy of your final submission.</p>	Ross Haynes, Email, 12 November 2015	Refer to Responses 1.19 and 1.84.
2.117		<p>The Dargle Conservancy wishes to express its strong dissent to the above application. The basis of our rejection is the inevitable mining, including hydraulic mining (fracking) to which we object in the strongest terms. We are concerned about the potential devastating destruction that such exploration (and mining) is likely to have on our environment, biodiversity and water resources. We are also concerned about the consequential detrimental effect this will have on the health of our communities and the pollution of our precious water resources.</p>	Brenda Grant, Email, 12 November 2015	<p>Refer to Responses 1.19, 1.63 and 1.84.</p> <p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.</p>
2.118		<p>I object to the proposed early-phase petroleum exploration of the central Kwazulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result. We believe the risk to soil and water health from gas exploration can have serious repercussions and will open the door to hydrological fracturing.</p> <p>Just watch the movie Gaslands for all the other reasons why I don't want Fracking anywhere in the world. I will not waste more of my time telling you how horrible it is for water, soil, animals, humans, air, etc.</p> <p>The only think Rhino Oil and Gas should be doing is exploring and converting itself to providing renewable energy (sun, wind, geothermal, biogas). How about approaching the South African government with a biogas digester proposal to turn all the septic tanks into gas-producing systems. We turn our waste into gas!</p> <p>Gas is extinct and so are Rhinosaurs! Get with the renewable energy programme and stop trying to kill us with your toxic technology!</p>	Samantha Rose, Email, 12 November 2015	<p>Refer to Responses 1.19, 1.63 and 1.84.</p> <p>Issues relating to water (Section 5.4.8), soil (Section 5.4.11) and ecology (Section 5.4.7) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).</p>

2.119		<p>We are landowners and live on our farm and rely on a natural spring for water. We are opposed to any mining in this areas is it will adversely affect the environment. The serious and negative effects of fracking are well documented. We attended the meeting which was a complete disaster ad had nothing to do with public consultation or participation. We left completely uninformed with no useful information</p>	<p>Richard van Ingrid Shute, via email, 12 November 2015</p>	<p>Refer to Responses 1.8, 1.19, 1.63 and 1.84.</p>
2.120		<p>Your letter dated the week of 18 January 2016 refers.</p> <p>Thank you for the notification of an extension to the scoping process allowing a further round of public consultation with the respect to the proposal by Rhino Oil and Gas to undertake exploration activities. Coastwatch takes the opportunity to reiterate its objection to the proposed oil and gas exploration as stated in our submission dated 12 November 2015. Considering our complex geology, the threat to the province's water resources is high with a risk of groundwater contamination, and the exposure to toxic chemicals. South Africa is a water scarce country with the effects currently very evident, and we are already dealing with the legacy of poor environmental management in the mining sector.</p> <p>We again state our stance that government must place a moratorium on exploration activities until a Strategic Environmental Assessment for the area has been undertaken. We again draw attention to the regulations for Petroleum Exploration and Production (GNR. 466, 6 June 2015) which makes provision for the protection of water resources-Regulation 122. The province's water resources must be shown on a map with clear indication on the same map where the exploration activities will occur (Your letter advises that Rhino Oil and Gas are revising the application area and revision will exclude all properties where the granting of an exploration right is prohibited by Section 48 of the MPRDA inter alia protected areas, residential areas, public road, railway or cemetery).</p> <p>We note with concern that the value of our water resources has been overlooked and in this regard draw your attention to the Department of Water and Sanitation's completion of the Water Resource Classification System and Determination of the Resource Quality Objections for Significant Water Resources in the Mvoti to Mzimkulu Water Management Area which is soon to be gazetted. The proposed exploration (and potential extraction activities) will need to consider that any developments/ activities that will impact the class will be subject to a legal requirement to mitigate the impacts. PASA would need to align itself with these provisions and recommendations when considering an application for authorisation.</p>	<p>Carolyn Schwegman on Behalf of Coastwatch, Email, 12 November 2015</p>	<p>The objection is recorded.</p> <p>The request by I&APs for a Strategic Environmental Assessment has been noted and reported on in Section 5.4.3 of the Scoping Report.</p> <p>SLR is aware of the water resource value of the KZN Midlands with initial information in this regard presented in the baseline section and relevant Figures in the Scoping Report. It is not necessarily a given that the proposed exploration activities would compromise water resources assets in the region. The potential risks will be assessed in the EIA. Detail on the studies that are proposed in relation to geohydrology and biodiversity is set out in Section 7.5.1 and 7.5.2 of the Scoping Report. As detailed, the outcome will be to define which water resources and uses are incompatible with the proposed exploration and to determine exclusion criteria that should be applied when identifying and assessing sites for field-based exploration. The commitment to these will be detailed in the EMPr.</p> <p>We note the reference to the DWS system soon to be gazetted.</p>
2.121		<p>This is an objection to fracking in KZN. We believe this proposal to be short sighted, ill-conceived and totally inconsiderate of what it would do to our rapidly diminishing water supplies and to human health and wellbeing.</p>	<p>Tim Snow, Email, 13 November 2015</p>	<p>Refer to Responses 1.19, 1.63 and 1.84.</p>

2.122		<p>Please let me know the date and venue of the meeting which was supposed to have been held at Lion's River, and which you undertook to re-convene. Also, I wish to lodge the concern below for your EIA process</p> <p>Further to the poorly organised and chaotically managed public participation process in KZN (East Griqualand), in which all sectors of society throughout the province gave a resounding NO to the application by Rhino to explore for oil and gas we would like to reiterate the reasons given for the response. Exploration carries serious risk to environment, biodiversity and water resources. It will lead to mining, including hydraulic fracturing 'fracking' and other techniques to extract any resources found. This will detrimentally affect lives and livelihoods, impact on the health of people and the environment and in particular, lead to pollution of our scarce and precious water resources. The exploration and extraction process will lead to the enrichment of a few at the expense of the majority and our life-support systems. We rather need to urgently pursue alternatives to the destructive extraction and use of fossil fuels to minimise the impacts of Climate Change, which are now affecting the sustainability of society throughout KZN, South Africa and the rest of the world."</p>	<p>Paul Fleischack, Margaret Meaker, Email, 13 November 2015</p>	<p>Refer to Responses 1.8, 1.19, 1.63 and 1.84.</p> <p>Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed</p>
2.123		<p>11. We reserve our rights to contend that the EIA process is illegitimate and to make further comment</p> <p>Please may the record state that we reserve our rights, as individual members of the organisations herein, as organisations and as a community, to participate in this EIA process without compromising our right to contend that the EIA process is illegitimate, in other words that exploring in areas where it is against the law to extract resources because of legal restrictions imposed by the MPRDA and the Fracking regulations, NEMA or any other relevant South African legislation would be deemed illegal. We also reserve the right to add to what we have stated herein and raise further questions in this regard throughout the process.</p>	<p>Pandora Long on behalf of PMMBT Msunduzi Mkhambathini P.E.A.C.E. Project, Stefanie Schütte on behalf of Upper Mpushini Conservancy, Email, 13 November 2015</p>	<p>This comment is noted. Refer to Response 1.19.</p>
2.124		<p>Please may I have minutes of the meeting at Ashburton Hall where Kelly Pearson and I submitted a petition from St John's DSG?</p> <p>Please may the record state that we reserve our rights, as individual members of the organisations herein, as organisations and as a community, to participate in this EIA process without compromising our right to contend that the EIA process is illegitimate, in other words that exploring in areas where it is against the law to extract resources because of legal restrictions imposed by the MPRDA and the Fracking regulations, NEMA or any other relevant South African legislation would be deemed illegal. We also reserve the right to add to what we have stated herein and raise further questions in this regard throughout the process.</p>	<p>Brenda Willows, Email, 14 November 2015</p>	<p>This comment is noted. Refer to Response 1.19.</p>
2.125		<p>Please note I am opposed to any exploration in KZN.</p> <p>I will be the next generation to live in the Dargle and I don't want out beautiful environment to be tragically destroyed.</p>	<p>Emily Bate, Email, 14 November 2015</p>	<p>Refer to Response 1.84.</p>

2.126		Further to my previous correspondence, please may the record state that we reserve our rights, as individual members of the organisations that have submitted commentary and objections, as organisations and as a community, to participate in this EIA process without compromising our right to contend that the EIA process is illegitimate. In other words, that exploring in areas where it is against the law to extract resources because of legal restrictions imposed by the MPRDA, NEMA or any other relevant South African legislation, would be deemed illegal. We also reserve the right to add to what we have stated herein and raise further questions in this regard throughout the process.	Francois du Toit, Email, 16 November 2015	This comment is noted. Refer to Response 1.19.
2.127		Please may the record state that we reserve our rights, as individual members of the organisation herein, as an organisation and as a community, to participate in this EIA process without compromising our right to contend that the EIA process is illegitimate, in other words that exploring in areas where it is against the law to extract resources because of legal restrictions imposed by the MPRDA and the Fracking regulations, NEMA or any other relevant South African legislation would be deemed illegal. We also reserve the right to add to what we have stated herein and raise further questions in this regard throughout the process. Further to the poorly organised and chaotically managed public participation process in KZN and East Griqualand, in which all sectors of society throughout the province gave a resounding NO to the application by Rhino to explore for oil and gas we would like to reiterate the reasons given for the response. Exploration will lead to mining and fracking to extract any resources found, which will detrimentally affect lives and livelihoods, impact on the health of people and the environment and in particular, lead to pollution of our scarce and precious water resources. The process will lead to the enrichment of a few at the expense of the majority and our life-support systems. We rather need to urgently pursue alternatives to the destructive extraction and use of fossil fuels to minimise the impacts of Climate Change, which are now affecting the sustainability of society throughout KZN, South Africa and the rest of the world.	Judy Bell on behalf of Winterskloof Conservancy, 16 November 2015	This comment is noted. Refer to Responses 1.8 and 1.19.
2.119		As Trustees of property within your application area we strongly oppose and will not condone your actions to proceed with your investigation KZN (12/3/291 ER). We will enforce our Trust's protocol in which people found on any of our properties will be removed and charged. Please define petroleum ? Using abbreviations is unacceptable KZN , ET , FT , GS , GT , GU , GV , SLR , EIA Who is the Regulator ? Mining never compensates the loss of environment irrespective of the measures put in place by the regulator.	Eric Bentley, Email, 19 November 2015	Refer to Response 1.84. The MPRDA defines "petroleum" as "any liquid, solid hydrocarbon or combustible gas existing in a natural condition in the earth's crust and includes any such liquid or solid hydrocarbon or combustible gas, which gas has in any manner been returned to such natural condition, but does not include coal, bituminous shale or other stratified deposits from which oil can be obtained by destructive distillation or gas arising from a marsh or other surface deposit". All acronyms used in the Scoping Report are defined in the Scoping Report. Refer to Section 3.2 of the Scoping Report for description of the EIA process (including the competent authority).
2.120		It has been brought to our attention through the notice of application that Rhino Oil and Gas Exploration South Africa (Pty) Ltd has lodged an application for an exploration right to the Petroleum Agency South Africa (PASA) in terms of section 79 of the Minerals and	Sandy La Marque (Kwanulu), via email, 13 November 2015	This comment is noted.

		<p>Petroleum Resources Development Act, 2002. Rhino Oil and Gas will make an application to PASA for environmental authorisation of exploration activities as set out in the Listing Notices made in terms of Section 24(5) of the National Environmental Management Act (No. 107 of 1998) (NEMA).</p> <p>Kwanalu has a history which back dates to 1860 when it was more commonly known as the NAU; in 1997 a merger between the NAU, South Coast Indian Farmers and the National Farmers Union brought together all farmers under one umbrella group – Kwanalu. Kwanalu celebrated its 10th anniversary in 2007, and in the short span of the merger has served as the official mouthpiece for inclusive organized agriculture in the province. The organization focuses on addressing key matters of a general nature, amongst other; agricultural conditions, disaster management, infrastructure, land affairs, development of women and youth, education etc. Kwanalu has proudly taken the lead in KwaZulu-Natal in dealing with numerous issues and proactively participating and engaging in agricultural issues. Kwanalu is a fully integrated non-racial, gender sensitive organization for commercial and small-scale farmers, and remains a key stakeholder and credible organization in KwaZulu- Natal dealing with relevant issues on behalf of its members.</p> <p>We are unique in South Africa with regard to the level of involvement of particularly women subsistence farmers in our activities and elected leadership.</p>		
2.121		<p>We have a strong commodity and business affiliation which contributes to our institutional success and capacity. This results in Kwanalu being recognized as one of the most integrated and representative farmer organizations with a collective membership in excess of 47000. Kwanalu is also indirectly serving approximately 300 000 subsistence farmers. The 35-member board, served by important commercial and smallholder stakeholders, commodity and agribusiness affiliates, reflects our membership, with a number of women serving on the board. The board is guided by President Andy Buchan who is assisted by two Vice-Presidents, Phenias Gumede and Michael Black. In addition Honorary Life President Robin Barnsley remains actively involved and plays a specific role with a particular interest in the application for exploration at hand.</p> <p>Kwanalu members (who reside in rural areas) only became aware of the application after being alerted by ourselves after it was seen in an urban placed newspaper</p>		This comment is noted. Refer to Responses 1.8 and 1.84.

2.122		<p>The time given during the first phase of direct consultation has been very poorly communicated. Given the extent of the proposed application, the consultation meetings were inconsiderately scheduled and sited with totally inadequate facilities to provide reasonable engagement with interested and affected parties.</p> <p>The opportunity for interested and affected parties has not been meaningful and in our view prejudicial and not in compliance with the provisions set out in the Mineral and Petroleum Resources and Development Act no28 of 2002. As such we place our concern in writing that the rights of our members and those of interested and affected parties have been entirely undermined and call for this to be rectified.</p> <p>We further place on record our objection and opposition to the application as referred to above for the granting of the application for Exploration Right for Petroleum on various farms in Registration Divisions ET, FT, GS, GT, GU & GV in the Magisterial district of Pietermaritzburg, Kwazulu-Natal. Whilst we represent the agricultural sector of Kwazulu-Natal our involvement in this matter does not in any way negate the responsibility of yourselves to engage with each interested and affected party.</p> <p>We confirm that the rights of Kwanalu and its member's rights remain reserved.</p>		This comment is noted. Refer to Responses 1.8 and 1.84.
2.123		<p>Once again, just to register my objection to the way that this request by Rhino Oil and Gas Exploration for permission to explore the area in KZN was put forward and the short period of time in which we the residents and owners of the designated properties were given in which to object.</p>	Vonnie Munk, Email, 13 November 2015	Refer to Responses 1.8 and 1.84.
2.124		<p>Please advise on what grounds you intend to waste our time further by applying for rights where there are clear and obvious constraints.</p> <p>Please note that I strongly object and reserve all rights, with regards your ongoing, deliberately misleading public consultation process, where a simple desktop exercise would have resulted in a more targeted consultation process.</p> <p>Your recent update refers.</p> <p><i>Rhino Oil & Gas has also advised SLR that they will not be excluding properties or areas where a constraint may restrict exploration activity (current or future), but does not specifically prohibit the granting of an exploration right. Rhino Oil & Gas will, however, ensure that all of their activities are undertaken in a lawful and environmentally responsible manner. It is the role of the environmental process to identify all such constraints and restrict or prohibit exploration activities through documented management commitments. An example of a constraint which prohibits specific exploration activities in certain areas, but does not prohibit the granting of a right is Sections 122 (2) and (3) of the Regulations on Petroleum Exploration and Production (GN R 466, June 2015). SLR will identify and document these constraints in the EIA.</i></p>	Francois du Toit on behalf of African Conservation Trust (ACT), Email, 01 February 2016	<p>Response via email: Rhino have made an application for an exploration right over areas where they believe it is lawful to do so. They are following the application process as is provided for in terms of South African legislation.</p> <p>I expect that Rhino Oil & Gas will try and explain the rationale behind this approach in the public meeting. My current understanding is that Rhino Oil & Gas want to hold the exploration right over these areas (even where they accept that they could not do production) as such right would entitle Rhino Oil & Gas to access or acquire data over these areas. They explained to me that in the exploration process, having data over these areas may be necessary to understand the potential for a petroleum resource in an adjacent area, where it may be possible to undertake production.</p>
2.125		<p>How seriously are you taking our objections? If this was truly a democratic procedure there would be no need for a vote because it is clear that no one wants this project and your next step should be to go to your superiors and tell them there is no need for</p>	Benjamin Goodwin, Howick Public Scoping Meeting, 02 February	Refer to Response 1.84.

		exploration as the community do not want this project.	2016	
2.126		At the previous meeting we raised Regulation 122 which states that you are not allowed to explore or do fracking near a ravine or municipal well or even near potential future municipal wells. Pandora Long from PMMBT-DUCT		Refer to Response 1.19.
2.127		I present to you a petition from the schools in UMDM with 650 signatures. They are smart young people who have noted their strongest objection to the project.	Pandora Long from PMMBT-DUCT, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.84.
2.128		How can you just stand there so calm when there is so much pain in front of you and everyone in front of you is asking you to stop this? Which one of you actually has the power to say this is not going to happen? The only reason anyone is here is simply to say go away and don't let this happen. There is no need for a presentation.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.84.
2.129		This is the third meeting I have attended. I have been to meetings at Lions River, Mooi River and Greytown and at all the meetings there was a total rejection of Rhino's proposal. Even at this meeting today there is a total rejection of the proposal. Rhino have been asked at previous meetings and this one to declare their shareholders and they have not done so. Why don't you stop the project that has been rejected so many times? You are planning to sell all the information from exploring to foreign companies and our politicians who will come and do the fracking and the people will suffer. When the damage is done you will take your things and walk away.		Refer to Responses 1.19 and 1.84.
2.130		The country plans to reduce their CO ₂ emissions by 30% by 2050. Do you think changing from one fossil fuel to another will do the trick? The natural gas they are looking for is called methane, it is a greenhouse gas and it is 25 times more toxic than carbon dioxide. If 1.2% of the methane at a well escapes, the carbon dioxide emissions saving is totally neutralised. We don't care whether you find oil or gas. We don't want you to know what is down there in the first place. It takes 25 million tonnes of water and a dangerous cocktail of 600 different chemicals gets mixed with the water used for fracking. Wastewater treatment plants will not be able to treat water used in fracking. Water used in fracking contains radon gas that is radioactive and the half-life for the radioisotopes is 1009 years. Let's rather look at renewable sources of energy.	Margaret Meaker, Howick Public Scoping Meeting, 02 February 2016	Refer to Responses 1.19 and 1.84. Issues relating to air quality (Section 5.4.17) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
2.131		You have fancy presentations that show the need for this project. You are creating and need to create a supply. What is the point of these meetings and consultations if you are going ahead despite all the objections? I will live here for the rest of my life and my children will be here and their children will be here. You want to plunder and steal from us as you have done for thousands of years. You are not even acknowledging the people from this area. How many Zulus have you consulted and yet there are millions that will be affected in this province. How many townships have you been to? You are only thinking of	Mholi Mngoma of KwaSizabantu, Howick Public Scoping Meeting, 02 February 2016	Refer to Responses 1.8 and 1.84.

		your own interests.		
2.132		At the beginning of the meeting it was stated that a majority of the people objected to the project. It was not a majority of people that objected. The objection was unanimous.	Graham Armstrong, Mooi river Public Scoping Meeting, 03 February 2016	Refer to Response 1.84.
2.133		We unanimously object to this and any future exploration for petroleum resources applications.		Refer to Response 1.84.
2.134		In solidarity with those who have left we would like to register our universal opposition to this process.	Evan, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.84.
2.135		There is something that confounded a lot of people and it comes up all the time. With such a unanimous no, why are you continuing with your process? Let's put risks and benefits to the economy aside. The bottom line is all of us in KZN have said we don't want this. We don't want you to explore.	Unidentified IAP, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.84.
2.137		What can we do to get Rhino Oil and Gas to withdraw their application? We do not want any exploration activities of any kind in the Natal Midlands or anywhere else in SA. As a South African Mr Steyn should be ashamed of himself wanting to bring devastation to our beautiful country. Is he not aware that there is a drought, that food prices are going to increase? The activity he proposes would only make things worse especially for the rural folk who know nothing about this and so do not have a say.	Lynne Garbutt, Email, 20 January 2016	
2.138		As a layman, and farmer, I have absolutely NO idea of the areas that are under threat of exploration. What us simple folk need is a detailed map of where these areas are – on whose farms, government land, reserves, near rivers, water sources, etc. These should be very detailed and one should be told of the quantity of carbon and other emissions that will be emitted during the exploration, setting up of the project and mining the resources. This may be in the EIA but as far as I can see you tell us to go to ftp.slrconsulting and then to put in the user name supplied and the password to see a map of where this is all to happen. However, it asks for my email and then password (supplied by you) which it then refuses. I will try putting in your user number (but IT SAYS EMAIL) I might add, there is something very wonkie about any business wanting to explore for oil or think of fracking when oil is predicted to drop to \$10 a barrel and oil and fracking companies are folding around the world. This may be a sinister way of taking over private/government land for other purposes. I would be very, very careful until each and every little plant and animal and human around is not going to be affected by a company that wants to do something that most companies are suffering from.	Timothy Hancock, Email, 20 January 2016	Response via email: Good Day Please find attached a Background Information Document (BID) which includes a map that shows the extent of the application area. Also include is a list of all the farms (arranged by registration division). As is highlighted in the BID, physical, on-the-ground exploration activities will only be undertaken at a limited number of sites, and thus most properties will not be affected in any way. I hope that this provides you with a better understanding. I'd like to point out that the environmental work SLR is doing is still in the Scoping Phase. The primary objective of the scoping process is to identify the key issues that need to be addressed in the assessment phase that will follow. It is not the purpose of the scoping phase to provide answers to the issues that arise, but rather to document these and ensure that the level of assessment required will be undertaken in the EIA. The results of the current process, including details of the issues and objections will be documented in a scoping report.

		<p>If the government reduced the speed limit to 100 mph the saving on fuel will be astronomical. When it was reduced to 90kph our 10 ½ hour journey to Limpopo was a NO stop journey as opposed to a midway stop at 120.</p> <p>Don't give them a license and get the gov to drop the speed limit – saves lives, huge expenses, imports and pollution.</p>		<p>Once completed, a draft scoping report will be made available to interested and affected parties for a 30 day review period.</p> <p>The FTP site works with the supplied username and password. No email is required.</p> <p>Kind regards</p>
2.139		<p>Any further consideration of mining in KwaZulu is ludicrous. The age of mining for non renewable sources of energy is OVER.</p> <p>Catch a wakeup and invest in renewable energy programmes.</p> <p>Our environment and water sources are too precious to threaten with any kind of exploration.</p>	Margie Pretorius, Email, 20 January 2016	Your objection is recorded.
2.140		<p>As an effected party to your proposed exploration in the KZN midlands I would like it to be known that I strongly object to the proposal.</p>	Erica Croxford, Email, 02 February 2016	Your objection is recorded.
2.141		<p>I am very opposed to the scoping process and any actual mining activity in the area whatsoever.</p>	David Schaefer, Email, 08 February 2016	Your objection is recorded.
2.142		<ul style="list-style-type: none"> • As landowners of Woodcroft (Buffelsbosch (portion 9) a sub of 2 of No. 944) and active member of the Midlands community, we object to Rhino's application to explore Kwa-Zulu Natal for petroleum resources and will not permit Rhino access to ur properties under any circumstances. • Although our property is, Woodcroft, is a small subdivision of the greater Buffelsbosch farm, the majority of this original farm is stated along the Lion River and is surrounded by Springs. It would not be possible to drill or frack most parts of the Lidgetton Valley based on the regulations set out in Section 122 of the Mineral and Petroleum Resources Development Act. • While South Africa legislation documents do not prohibit exploring an area where production may be restricted due to a "constraint" , such as a water source- it is illogical and would be a waste of everyone's time and Rhino's money. • Rhino's application area falls over three major water catchments areas- the Tugela, Umzimvib and Umngeni. These catchments supply 40% of South Africa's water. • South Africa is a water scarce country and Kwa-Zulu Natal's water supply is already hugely strained by severe drought. • We can't afford to put our precious water resources at risk- be it in the exploration or production phase. • Rhino and SLR have indicated that groundwater and surface water could be contaminated during drilling operations. As such, Rhino should be required to 	Nicole Schafer, Email, 24 February 2016	Your objection is recorded.

		<p>conduct baseline studies on all water sources before embarking on any exploration. One of the major causes of water contamination is as a result of leaking wells and that includes test wells.</p> <ul style="list-style-type: none"> • In addition to the above objections, we feel Rhino has not provided sufficient information as far as the proposed exploration area is concerned. Their proposal to explore 1,5 million hectares over 10 ,000 farms is too vague and generalized. We need to know exactly where they will be conducting fieldwork, drilling core holes and conducting seismic surveys before we can expect to comment accurately. • Rhino Resources Ltd is a relatively new US based company with hardly any track record. How can we be assured they have sufficient finance or experience to conduct this 3-year operation? • It would appear that Phillip Steyn, the COO of Rhino Oil and Gas, the South African subsidiary, has no tertiary qualifications and hardly any experience of th eil and gas industry. As such, we do not trust this company or believe they have ability to carry out this proposed exploration with integrity. • Economic development is vital and necessary but it should not come at the expense of people, the environmental and our precious water sources. • We trust you will take our objections into consideration in evaluating the merits of processing with the Environmental Impact Assessment or granting an exploration permit to Rhino Oil and Gas. 		
2.143		<p>Please can more detail be given regarding the FTG technology.</p> <p>I remain concerned regarding invasion of privacy and nuisance to landowners and disturbance of livestock and wildlife with an airplane flying slowly and at low altitude (I would guess) overhead.</p> <p>Please also give more information regarding the boreholes: what size hole would be drilled, how much pipe would be required, how equipment and materials would be transported, how big an area is required.</p> <p>When will the draft scoping report be made available? I would suggest lodge copies at the farmers' halls/associations.</p> <p>I remain fundamentally opposed to exploration in KZN Midlands and reserve my rights to participate further.</p> <p>Please also give more information regarding the boreholes: what size hole would be drilled, how much pipe would be required, how equipment and materials would be transported, how big an area is required.</p>	Sarah Allan, Email, 03 March 2016	<p>Response via email:</p> <p>The majority of that is addressed in the Scoping Report. This will be available from Monday the 7th.</p> <p>We did consider Farmer's union Halls, but my understanding is that most of them are not open venues/are only opened for functions etc.</p> <p>But can reconsider if you have different information.</p>
2.144		The application by Rhino Oil and Gas Exploration South Africa (Pty) Ltd for an exploration	Carolyn Schwegman	Your objection is recorded.

		<p>right in terms of section 79 of the Minerals and Petroleum Resources Development Act, 28 of 2002 (MPRDA) refers. Thank you for the background information document.</p> <p>This application will be made over the area where Rhino Oil & Gas currently holds a Technical Co-operation Permit (108 TCP). The exploration area is broad and encompasses large parts of northern KwaZulu-Natal. Minerals included in the application are oil, gas, condensate, coal bed methane, helium and biogenic gas.</p> <p>While the application covers only early-phase exploration for oil and gas which might be located within suitable geological strata, the purpose of the work being solely to determine the presence of any possible petroleum resource for potential further investigation Coastwatch restates its position on the application.</p> <p>Coastwatch objects to any extractive industries of the nature intended should petroleum resources be present. Exploration activities cannot be separated from the extractive activities and are, therefore, not supported.</p> <ul style="list-style-type: none"> • The exploration area supports significant freshwater systems. Comprehensive baseline studies would be required for these systems prior to any mining related activities. The systems are a vital supply of freshwater to the coastal environment – human and natural, including the water supply to South Africa’s first World Heritage Site, the iSimangaliso Wetland Park. • It is incumbent on government to place a moratorium on exploration activities until a Strategic Environmental Assessment for the area has been undertaken; • South Africa is sitting on a knife-edge regarding the provision of a safe and sustainable supply of water. The current drought is testament to the challenges faced by government in this respect. Considering our complex geology the threat to the province’s water resources is high with a risk of groundwater contamination and the exposure to toxic chemicals; • Waste water treatment and disposal is a serious concern. South Africa is still dealing with the legacy of poor environmental management in the mining sector; • South Africa lacks infrastructure for the distribution and use of natural gases; • There is no local market for natural gas and government needs to commit to renewable energy options which are advanced and available to meet the objective to secure the country’s power needs. We believe that it is urgent to pursue these solutions which are an alternative to the destructive extraction and use of fossil fuels thus minimising the impacts of Climate Change which are now affecting the sustainability of society in KZN, South Africa and the rest of the world. Investment into renewable energy sources would also align with government’s job creation policy (number of jobs created per MW energy generated: solar – 11; wind – 9; 	<p>on behalf of Coastwatch KZN, Email, 11 April 2016</p>	<p>The majority of your comment, as relevant to exploration is given consideration in the Scoping Report</p>
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		<p>natural gas – 3; coal – 1.8); Should Rhino Oil & Gas pursue an application for exploration activities -</p> <ul style="list-style-type: none"> All techniques - the “non-invasive techniques”, seismic surveys and drilling operations need to be explained in terms of all surface and below surface impacts; The regulations for Petroleum Exploration and Production (GNR. 466 3 June 2015) which make provision for the protection of water resources (Regulation 122). The water resources must be shown on a map with clear indication on the same map where the exploration activities will occur. Coastwatch, while acknowledging that legislation currently allows the separation of exploration from the mining/extractive activities, believes that this undermines the environmental impact assessment process, gives rise to potentially unnecessary negative human emotions and is a waste of resources, all of which could be avoided if a holistic approach is followed which would identify potential fatal flaws at the outset. In the case of the proposed activities we believe that the unacceptable impacts of South Africa’s scarce water resources must be seen as a fatal flaw. <p>We request that we are advised of the availability of the draft scoping report and that the information is sent (a cd) to the undersigned.</p> <p>Coastwatch supports the FrackFree alliance.</p>		
3.	Categories	Technical Related Issues		
3.1	Commercial Related Issues	Who is paying SLR, the environmental consultant? It surely cannot be independent and objective?	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Response 1.33.
3.2		Is there any financial gain for SLR if the project is approved?		Refer to Response 1.33.
3.3		SLR is the independent consultant but it is still paid by the client (Rhino). How can SLR remain objective in the process?	James Ralph, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.33.
3.4		Who are you exactly and what exactly is SLR Consulting's role in this?	Stephanie Ando, Email, 14 November 2015	Refer to Response 1.33.
3.5		Has SLR Consulting been hired by Rhino Oil and Gas or are you acting on behalf of the affected parties?		Refer to Response 1.33.
3.6		What is the relationship between SLR and Rhino? Is SLR not playing a role of being a player and a referee at the same time?	Dalibonga, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.33.

3.7		What are the marketing intentions of Rhino with regards to this project?	Colloid, Ashburton Scoping Meeting, 02 November 2015	Rhino has stated that the ultimate goal for the project is to extract hydrocarbons in a commercially viable manner. However, it has indicated that there is currently insufficient information to determine if there is a resource and what techniques might be required for future hydrocarbon extraction. Prior to the early-phase exploration being concluded, they are therefore not able to provide any information on what the future may bring with regards the extraction of hydrocarbons. In this regard early-phase exploration is the first stage of the exploration process, and a prerequisite to further exploration or future production. Refer to Section 1.3 for details on the process required to develop an oil or gas resource. Also refer to response 1.19 for further discussion in this regard.
3.8		What is a Texan company doing here in South Africa where there no resources?		Rhino Oil and Gas Exploration South Africa (Pty) Ltd is a South African registered subsidiary of Rhino Resources Ltd.
3.9		I understand that government is to take a 20% stake in all oil and gas projects, has negotiations with government commenced for Rhino?		The Oil and Gas industry were given a 12 month exemption for finalising anything around BBEE. We are in the process of getting a BBEE partner which will be required as a participant once a right is granted. This is Glen Blue Oil and Gas. (Rhino)
3.10		Who will fund the exploration project?	Ben de Bruin, Ashburton Scoping Meeting, 02 November 2015	Rhino is privately financed.
3.11		Where is the financing coming from?	Michael Wolters, Email, 02 October 2015	Refer to Response 3.10.
3.12		Rhino must declare their funding source for the in the report?	Mike Walters, Richmond Scoping Meeting, 02 November 2015	Refer to Response 3.10.
3.13		How long has Mr Steyn been shareholder of Rhino Resources? What is his experience in the oil and gas field? Is he not a professional hunter?	Francois Du Toit, Richmond Scoping Meeting, 02 November 2015	Mr Steyn is one of the founding shareholders of Rhino (South Africa) and has experience in negotiations and business development strategies.
3.14		Mr Steyn has not gotten his hands dirty and actually has no experience on oil and gas issues on the ground including contamination and other types of pollution?	Tiana Malherbe, Richmond Scoping Meeting, 02 November 2015	Mr Steyn is the COO
3.15		Can you confirm that Rhino Oil & Gas is a subsidiary of Rhino Resources Ltd? Who are their other partners?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November	Refer to Section 1.2 in the Scoping Report.

			2015	
3.16		Who are we dealing with for this project? Who is Rhino? Is the company listed here or in the US? Who are the directors? Who are the shareholders?	Carl Zille, Richmond Scoping Meeting, 02 November 2015, Unidentified IAPs, Lions River Club, 03 November 2015	Rhino Oil and Gas Exploration South Africa (Pty) Ltd is a South African registered subsidiary of Rhino Resources Ltd. Refer to http://www.rhinoresourcesltd.com/management for further details of the management structure within Rhino. The owners of Rhino Oil and Gas are Mr Patrick Mulligan (President and CEO) and Mr Phillip Steyn (Vice President & COO).
3.17		What is the difference between the Rhino company in Texas and the Rhino company in South Africa? Who are the shareholders?	Ant Kipps, Richmond Scoping Meeting, 02 November 2015	Refer to Response 3.16.
3.18	Who are the directors?	Refer to Response 3.16.		
3.19	How many politicians are involved in the company? The final report must declare there is no political interference and/or any involvement.	Refer to Response 3.16.		
3.20		Please provide a detailed Company Structure for Rhino Oil & Gas i.e. Shareholders of Rhino Resources BVI, Shareholders of Rhino Resources Ltd in the USA & Shareholders of Rhino Oil & Gas Exploration (Pty) Ltd. I would also like to know the reason for Mr. Daniel Manisha's resignation as a director of Rhino Oil & Gas Exploration (Pty) Ltd. I am lead to believe he was a director for 1 day! I also do not believe that he was simply the pre-existing director of the Shelf Company purchased, as stated by Mr. Steyn at the Lions River meeting.	Dave Prentice, Email, 11 November 2015	Refer to Response 3.16.
3.21		We'd like further clarity on the name of the future BEE partner indicated in the meetings held at Lions River and Mooi River, I believe it was Blue Crude Oil or some similar name.	Francois du Toit, Email, 12 November 2015	Refer to Response 3.9
3.22		Who is Rhino's Black Economic Empowerment (BEE) partner?	Sarel Le Roux, Colenso Scoping Meeting, 04 November 2015	Refer to Response 3.21.
3.23		Is Rhino an independent company or is it a partnership with government or officials?	Luvuyo Mchunu, Colenso Scoping Meeting, 04 November 2015, James Dane, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 3.16.
3.24		It seems like Rhino is a one man band company with no staff in South Africa. Where is the CEO?	Sarel Le Roux, Colenso Scoping Meeting, 04 November	Refer to Response 3.16.

			2015	
3.25		The website does not state who owns the company in South Africa? Who are the shareholders of the South African company?	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Response 3.16.
3.26	I am concerned that Rhino is associated with the US. This project is purely for American benefit and gain. Rhino is a sell-out. This is about money. We are aware of corruption in this country and we do not trust Rhino.	Refer to Response 3.16.		
3.27	Who are the ultimate beneficiaries of this project? We need the names of all the BEE partners in order to do a CIPRO check. We also want the Identity Number of Mr Steyn so that we can do our own background checks.	Refer to Response 3.16.		
3.28		Please kindly confirm the ultimate beneficial owners of Rhino (including any current or potential future BEE partners).	Steve Butt, Email, 05 November 2015	The directors and owners of Rhino Oil and Gas Exploration South Africa (Pty) LTD are Mr P Mulligan and Mr P Steyn. More information is available on http://www.rhinosourcesltd.com/management .
3.29		All this company wants to do is to get the rights and then sell them off. You do not care about the health of anyone you just want to make money and move on. You haven't even mentioned transformation or a BEE partner once today.	Richard Adamson	Refer to Response 3.21.
3.30		Rhino is representing an American company. You have a moral obligation to protect South Africa. Rhino must withdraw its application. Having known the impacts, will you stop this process or continue anyway?		Refer to Response 3.16.
3.31		Is it possible to provide contact details for Rhino Oil & Gas South Africa, as the telephone number on their website does not work and I have not been able to find an email address for them?	Barbara Seele, Email, 20 November 2015	Refer to Section 1.2.1 of the Scoping Report for the
3.32		Who are the shareholders of Rhino and where are they based?	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 3.16.
3.33		We have been listening to you telling us what to do and now we have had enough. These people should tell us now who is Rhino and where are they from and stop wasting our time because it's late now. We have had enough of being told this, that and the other by you.		Refer to Response 3.16.
		Please explain your corporate structure as you have a company based in the British Virgin Islands and Nevada. Both have pretty relaxed tax regulations. Would you make your financial reports from those structures available? The concern is that you could be doing transfer funding which means your profits made in South Africa could be shipped off in order to avoid paying tax in South Africa.	Jonathan Erasmus from The Witness Newspaper, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 3.16.
3.34		Can you explain your relationship with Daniel Mantsha. He is the lawyer that established the Rhino company in South Africa. Is also the current chairman of Denel and legal adviser to the Department of Communication.		Refer to Response 3.16.

3.35		The Rhino company website lists you (Phillip Steyn), Patrick and Bruce as managers of the company and not directors. Do you know what the breakeven point is for producing oil or gas per barrel should you discover oil or gas? Some years ago it was \$85 per barrel. Currently the price of oil is at \$30 per barrel. Who is funding your company?	Ronnie Ritchie, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 3.16. Drilling unconventional wells are very expensive and breakeven points are between \$60 and \$80 per barrel. In other countries where there is abundant oil that can easily be extracted the breakeven point is around \$20 per barrel. The price of oil is cyclical in determining the viability of the project (Rhino).
3.36		Do you know what the breakeven point is for producing oil or gas per barrel should you discover oil or gas? Some years ago it was \$85 per barrel. Currently the price of oil is at \$30 per barrel.		Refer to Response 3.35.
3.37		The next question is about beneficiaries as this is South African soil. From who do you get your finance? Who benefits? Where is the company based?	Rene Ruus, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 3.16. Rhino is privately financed.
3.38		If your head office is in Dallas then you are no better than Saudi Arabia and Nigeria, where we are currently importing oil from. Does the project really benefit South Africa if the head office is in Dallas? Will the US benefit from this project?	Greg Hull, Greytown Public Scoping Meeting, 04 February 2016	Rhino is a South African registered company. Rhino would be required to pay royalties to the government. In addition, Rhino would also be required to pay land rentals to the government. Rhino would also have community development and training obligations. Also refer to Response 3.16.
3.39		What do you mean by establishing a domestic oil and gas industry? Rhino are a foreign company. Are they going to sell their rights to a South African owned business? You say we use 160 million barrels of oil and out of that 120 million barrels are imported. We are in a very tight space as an economy. We want to be convinced that the benefits of this project will outweigh the negative impacts. Maybe it's better for South Africa to import oil and have other unfortunate people deal with the negative impacts. You need to open a constructive dialogue regarding the health risks.	Bruce from Zulu trail Project, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 3.38.
3.40		Mr Steyn has no experience. He does know anything about the project and its associated impacts. He is avoiding answering the questions we have posed to him. This meeting is a waste of time. He is young and the company is young in South Africa. It does not show any confidence in this project.	James, Colenso Scoping Meeting, 04 November 2015	Rhino was granted the opportunity to apply for the proposed Exploration Right based on experience. In terms of the MPRDA, an exploration right can only be granted if, <i>inter alia</i> , the applicant has access to financial resources and has the technical ability to conduct the proposed exploration operation optimally in accordance with the exploration work programme.
3.41		Please kindly confirm the credentials of Mr Phillip Steyn, including his qualifications and track record on managing projects of this nature and success in mitigating risks and offsetting negative impacts.	Steve Butt, Email, 05 November 2015	The directors and owners of Rhino Oil and Gas Exploration South Africa (Pty) LTD are Mr P Mulligan and Mr P Steyn. More information is available on http://www.rhinosourcesltd.com/management .
3.42		If you fail in this project, will you have a job Mr Steyn? If your answer is no, how can we trust you because your job security is dependent on this entire process. It is therefore in your best interest to ensure that this project is successful at all costs.	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Mr Steyn is COO of Rhino Oil and Gas.
3.43		What did Rhino expect from today's meeting? It seems like Mr Steyn was forced to attend because he has no clue on fracking issues and he is not providing us with any answers.		Refer to Response 1.19.

3.44		What is your qualification, Mr Steyn? You are a light weight, unprepared and wasting our time?		Mr Steyn is one of the founding shareholders of Rhino (South Africa) and has experience in negotiations and business development strategies.
3.45		Who is the exploration rights going to be sold to?	Dela Maiwald, Email, 23 October 2015	Rhino would explore all options at that time. There has been some interest on possible partnerships with other organisations. Rhino has indicated that they would ideally like to remain the operator (Rhino).
3.46		What is the final intention of the project? Is it to sell the oil wells or will you frack?	Mike Walters, Richmond Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 3.44.
3.47		If Rhino sells its right to a third party, will the identified environmental impacts be transferred to the new owner?	Miles, New Hanover Scoping Meeting, 05 November 2015	The Exploration Right and Environmental Authorisation would need to be transferred to the new operator. Also refer to Response 3.44.
3.48		Will Rhino use the exploration right (if granted) for themselves or will they sell the right to a third party?	Mr Firth, Richmond Scoping Meeting, 02 November 2015	Refer to Response 3.44.
3.49		Rhino is only interested in determining the financial viability of exploration. Once that has been determined, they will sell their rights. The new company will have no choice but to enforce their rights. It will not be Rhino's problem anymore.	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Response 3.44.
3.50		Will the exploration be outsourced to a third party?	Unidentified IAPs, Mooi River Country Club, 04 November 2015	It is possible that the exploration would be outsourced to a third party. It is a common industry practise for oil and gas companies to use specialist contractors to conduct their activities.
3.51		Will the enforcement of exploration rights be handed over to another company so that they can do it on behalf of Rhino?	Francois Du Toit, Colenso Scoping Meeting, 04 November 2015	Refer to Responses 3.44 and 3.49.
3.52		Can you sell any information you find during exploration on other minerals?	Ronnie Ritchie	Rhino can only explore for the minerals (namely oil, gas, condensate, coal bed methane, helium and biogenic gas) included on their exploration right application. They cannot sell information on other minerals.
3.53	Other issues	Is Rhino the only company that has applied in this area?	Antoinette White, Richmond Scoping Meeting, 02 November 2015	In terms of the MPRDA, PASA cannot accept an application if another person holds a TCP, Exploration Right or Production Right for petroleum over the same land and area applied for. Since Rhino's application was accepted by PASA, it is assumed that they are the only applicant for the requested minerals (namely oil, gas, condensate, coal bed methane, helium and biogenic gas) in the proposed Exploration Right area.

3.54		Why is geological data propriety?		This is data that Rhino would use to determine both the financial and technical feasibility of the resource. If shared publicly, it can disadvantage the competitive advantage of Rhino.
3.55		If the application gets the go-ahead, when do you expect the exploration to start?	Matthew Savides, Email, 14 October 2015	Assuming that Rhino receive Environmental Authorisation and an Exploration Right, the earliest that exploration would commence would be in 2017.
3.56		While it is acknowledged that the exploration phase has minor impact, it is the following phases that are of concern to landowners. Even though the EIA process currently focuses on the exploration phase, we request that Rhino Oil provides a detailed explanation on what project activities would occur should petroleum resources be found on a privately owned farm.	Ashleigh McKenzie, Email, 21 October 2015	Refer to Response 1.19.
3.57		The BID refers to other resources that are being explored for such as condensate, coal bed methane, helium and biogenic gas but the meeting is only focusing on oil and gas?	Sarel Le Roux, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.244. All the minerals included on the Exploration Right application (namely oil, gas, condensate, coal bed methane, helium and biogenic gas) are types of oils and gasses (hydrocarbons).
3.58		What other mining areas does Rhino have across SA (please include all of them), and how do these compare in size to the 1.8ha exploration area?	Matthew Savides, Email, 14 October 2015	Rhino has submitted five applications for Exploration Rights for five separate onshore areas. See the PASA hubmap in Figure 5-1 or the PASA website.
3.59		If this project fails here in the Midlands? Will you go and explore somewhere else?	Unidentified IAPs, Mooi River Country Club, 04 November 2015	
3.60		What is the point of having energy but not have water?	Unidentified IAP, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.63.
3.61		You say we use oil on a daily basis but we also drink water on a daily basis.	Unidentified IAP, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.63.
3.62		I have attended almost all of these public participation meetings. I have noted the disdain in the Rhino team as they have responded to the questions. I'm not going to apologise for being emotive about this process. I want to Rhino to acknowledge that outcome of this process is oil and gas extraction and fracking.	Francois du Toit of African Conservation Trust, Mooi River Public Scoping Meeting, 03 February	Refer to Response 1.19.
3.63		Is Rhino Oil and Gas in business for profit?		As with any business, Rhino would like to make a profit. (Rhino)

3.64		Gas may exist in the 1.8 million ha area that you are seeking to explore. Yes or no?	2016, Greg Hull, Greytown Public Scoping Meeting, 04 February 2016	Rhino's application only includes work aimed at determining the presence of a petroleum resource.
3.65		There are real risks that have been identified and documented for the exploration as well as the production phase. Yes or no?		Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed. Also refer to Response 1.19.
3.66		You are a shareholder of Rhino Oil and Gas who has another shareholder who is an offshore international interest situated in a tax haven. Given the overwhelming resistance and rejection of your proposal and the possible end result, are you prepared for your own personal profit to expose these communities to those risks? Yes or no?		Refer to Responses 1.19 and 1.84. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed. PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence. A statutory appeal period in terms of the National Appeal Regulations (GN No. R993) will follow the issuing of the decision.
3.67		So Rhino is an American company. This process should be a process by South Africans for South Africans.	Rene Ruus, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 3.16.
3.68		Please don't try to portray yourselves as establishing an oil and gas industry in South Africa. South Africa has oil and gas industry through Sasol and Mossgas. The Minister has acknowledged that part of government initiative is potentially looking at shale gas as contributor to the oil and gas industry.	Hans Beckedahl UKZN Environmental Scientist, Greytown Public Scoping Meeting, 04 February 2016	This comment is noted.
3.69		Please stop leading us down a golden path by referring to the petroleum industry in the US. That industry was not built on shale gas or fracking. It comprises a small percentage of fracking. You have also left out the environmental costs of the damage that was caused through incorrect fracking.		Refer to Response 1.19.
3.70		Despite the resistance and rejection to the proposed activities and knowing the risks as set out in the Background Information Document are you prepared to enforce your rights for personal profit at the detriment of these communities?	Greg Hull, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 3.65.
3.71		I would say there's a 50% chance of your potential risks happening.		Refer to Response 3.65.
372		Does Rhino believe in their hearts that what they propose to do is right?	Brett Austin, Ashburton Scoping Meeting, 02 November	Refer to Response 3.65.

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3.73		Has exploration been conducted in this area before?	Unidentified IAPs, Ashburton Scoping Meeting, 02 November 2015	Rhino has not undertaken any exploration activities in the proposed Exploration Right area. There has not been exploration for petroleum in the area (other than what Soeker may have done).
3.74	Rhino's experience	Can we have your experience of exploration in the US especially when it comes to successful rehabilitation? Is Rhino aware of Agenda 21 and Sustainability 2030? How will Rhino apply those principles to their projects?	Mike Walters, Richmond Scoping Meeting, 02 November 2015	Refer to Response 3.40. IAPs have raised a number of concerns relating to rehabilitation of land and property after any exploration activity. Refer to Section 5.4.21 of the Scoping Report for information on rehabilitation.
3.75		What other areas in the country has Rhino undertaken this kind of projects. What is your track record and who are the environmental consultants that are involved in those projects?	Joan Shiver, Colenso Scoping Meeting, 04 November 2015	Rhino has submitted five applications for Exploration Rights for five separate onshore areas. See the PASA hubmap in Figure 5-1 or the PASA website. SLR is the EAP managing the EIA process for all of these applications.
3.76		Please give a list of other areas where Rhino have done exploration so we can contact them and look up all documentation to see what damage was caused?	Mr R and Mrs S Nel, via email, 4 November 2015	Refer to Response 3.74.
3.77		In any human endeavour, failure is inevitable. What is Rhino's track and ability to deal with a project of such nature?	Wolfgang, Richmond Scoping Meeting, 02 November 2015	Refer to Response 3.40.
3.78		How many oil spills have occurred under Rhino in the US?	Sarel Le Roux, Colenso Scoping Meeting, 04 November 2015	Rhino does not have any operations in the USA.
3.79		What track record does Rhino have and where are these sites?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	Refer to Response 3.40.
3.80		Do you know of any incidents involving Rhino and fracking in other places?		Refer to Responses 1.19 and 3.40.
3.81		It is clear that Rhino has no experience in extracting gas including using fracking as a method. Can you give this statement to us in writing?	Francois Du Toit, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 3.40.

3.82		Rhino does not have an idea how much water will be used for production. This is a farce. Rhino did not do its homework. They cannot even tell us how much water is required even in the US where they claim to have experience.	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Response 1.63.
3.83		I understand your business practices but you need to provide better assurance than your reputation because reputation does not mean a lot in this country. Also we can't just go on South African legislation. We need a bit more transparency about fracking. A presentation on improved technology would be a lot more constructive. Operationally we know accidents happen no matter how good the technology is.	Lara Jordan of RNR Conservancy, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.19.
3.84	Research	What makes you think these areas have the resources you claim to be looking for?	Michael Wohlters, Email, 02 October 2015	<p>The purpose of the exploration phase is to identify the existence of any commercially viable reserves of oil and / or gas. Discovering such reservoirs and estimating the likelihood of them containing oil and / or gas is a technically complex process consisting of a number of different stages requiring the use of a range of techniques. The iterative nature of the exploration process allows data gained from a stage to be used to improve the level of knowledge and understanding of the resource, which is then use to refine the anticipated (or known) extent of the resource for future stages. Based on a general geological understanding, broad areas are initially identified as being prospective with the potential to contain reserves of oil and / or gas. These prospective areas are then typically further defined during the different exploration stages.</p> <p>Rhino's proposed application for an Exploration Right is based on an analysis of existing information / data gathered during under the TCP. The proposed exploration area shows potential for oil and gas. Rhino is applying for an Exploration Right aimed at determining the presence of a petroleum resource. If a resource is identified more advanced exploration would be required to determine the commercial viability of the resource, which would require further authorisation / approvals before these activities could be undertaken.</p>
3.85		What has led the company to believe that there is gas and oil in the exploration area?	Matthew Savides, Email, 14 October 2015	Refer to Response 3.83.
3.86		Why has this particular area been targeted for this project? We see this place as being excellent for farming, not fracking.	Mike Walters, Richmond Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 3.83.
3.87		Why and how have you chosen this area? Do any of the Rhino oil and gas people live in this area?	Unidentified IAP, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 3.83.
3.88		Soeker has abandoned its onshore exploration in the area which means that it was not financially feasible. Shell and Chevron are also abandoning their projects due financial unfeasibility. Why is Rhino so interested in this project?	Mike Walters, Richmond Scoping Meeting, 02 November	Refer to Response 3.83.

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3.89		Is Rhino and SLR aware of the Soeker Jansenville pollution that occurred in the 1960s and migrated to distances as far as 30km?	Justin, Ashburton Scoping Meeting, 02 November 2015	This comment is noted. Also refer to Response 1.63.
3.90		Do you know about the incident of drilling pollution with Soekor near Jansenville in the 1960's which remains polluted to this day? Do you believe that that incident shows how water can move underground?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	This comment is noted. Also refer to Response 1.63.
3.91	Project technologies/ methods to be employed	In anticipation of the likelihood that the Rhino BID will state that the exploration phase will involve "NO fracking", can you or Rhino give any assurance that there will be no fracking whatsoever if commercially viable gas reserves are found? If so, on what basis can you give a guarantee that there will be no fracking?	Tony Carnie, Email, 13 October 2015	Refer to Response 1.19.
3.92		I take your point that the wording in my story has been abbreviated from the BID document and could possibly be misleading, though I feel this may be a case of splitting hairs. While seismic surveys and 10 core sample boreholes in an area covering 1.8 million ha may be construed as invasive, I understood your reference to "non-invasive" techniques to refer mainly to exploration methods that do not involve the artificial stimulation of underground gas or petroleum resources with fracking fluids.	Tony Carnie, Email, 14 October 2015	The initial 3-year exploration work programme is largely restricted to: <ul style="list-style-type: none"> • various non-invasive and remote techniques; • seismic survey lines; and • core boreholes. Refer to Section 2.3 of the Scoping Report for a description of the proposed exploration activities.
3.93		In simple-to-understand detail, what methods will be used to look for the gas and oil? And how are these classified "non-invasive"?	Matthew Savides, Email, 14 October 2015	Refer to Response 3.91.
3.94		We have heard that there are up to 632 chemicals identified from drilling operations throughout the U.S. Research found that 75% of the chemicals could affect the skin, eyes, and other sensory organs, and the respiratory and gastrointestinal systems. Approximately 40–50% could affect the brain/nervous system, immune and cardiovascular systems, and the kidneys; 37% could affect the endocrine system; and 25% could cause cancer and mutations. Exposure to toxic chemicals even at low levels can cause tremendous harm to humans. Do you believe that all the chemicals that will be used during the exploration phase are safe and will not harm the health of people and the environment?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	As with most drilling methods some water and drilling fluids would be added down the hole to lubricate the drill bit, remove drill cuttings and maintain ideal operating conditions. Some of the drilling fluids are recycled in tanks on surface. Full details of the water volumes, types of drilling fluids and the water management will be provided in the EIA report. Also refer to Response 1.63.
3.95		Please confirm the list of chemicals to be used in the exploration process?	Steve Butt, Email, 05 November 2015	Details, including safety datasheets, of the potential lubricants to be used during core hole drilling will be supplied in the EIA.

3.96		Will you provide the Safety Data Sheets for each of the chemicals involved in exploration and subsequent operations as required in terms of the Occupational Health and Safety Act's regulations prior to their use?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	Refer to Response 3.93.
3.97		If the chemicals are so hazardous, will you be undertaking health surveillance of those people and communities who may be affected by exposure to contaminated air and/or water?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	Refer to Response 3.93. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
3.98		In the background information document (BID), it is said that there will not be any testing and stimulation but still talks of two-dimensional (2D) surveys.	Mark Caster, Ashburton Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 3.91.
3.99		How do the proposed exploration activities differ from fracking?	Wendy, Taylors Halt Scoping Meeting, 03 November 2015	Refer to Responses 1.19 and 3.91.
3.100		Are there any other technologies to extract gas other than hydraulic fracturing (fracking)?	Francois Du Toit, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.19.
3.101		How is the gas going to be removed to user site, i.e. pipelines to be built?	Dela Maiwald, Email, 23 October 2015	Refer to Response 1.19.
3.102		If a gas resource is found, how will the gas be transported?	Sarel Le Roux, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.19.
3.103		What is your envisaged mining technique should the exploration be successful?	Gail & Michael Bradford, Email, 02 November 2015	Refer to Response 1.19.
3.104		So, does Rhino not have a plan of how gas will be extracted in the future if exploration is successful? How many other methods are there?	Lynn, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.19.
3.105		It seems like Rhino is uncertain about the future. Industry statistics indicated that 6 out of 600 wells leak in the first day of fracking.	Lynn, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.19.

3.106		What is the proposed volume of water to be used? Where will this be sourced and under what legal framework?	Steve Butt, Email, 05 November 2015	Please refer to Section 2.3.8 of the Scoping Report
3.107		With the restrictions stated in Regulation 122 only 1% of the application area will be available for exploration in fragmented areas so how can the project continue?	Mike Schubert, Howick Public Scoping Meeting, 02 February 2016	Refer to Responses 1.4 and 3.83.
3.108		Previously there was a request to diminish the application area according to the restricted areas stated in Regulation 122. If only 1% of the original application area will be viable for exploration they need to reapply for the correct area.	Dela Maiwald, Howick Public Meeting, 02 February 2016	Refer to Responses 1.4 and 3.83.
3.109		Has the application area been reduced according to the restrictions in Regulation 122?	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Responses 1.4 and 3.83.
3.110		When you do your exploration phase how will you know what is down there?	Pandora Long of PMMBT - DUCT, Howick Public Scoping Meeting, 02 February 201	Refer to Response 3.83.
3.111		How will you know if there's gas down there when you drill?	Pandora Long of PMMBT - DUCT, Howick Public Scoping Meeting, 02 February 201	Refer to Response 3.83.
3.112		Does conventional extraction use less water than unconventional extraction?	Nerisa Chetty, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.19.
3.113	Future/ long term plans for the project	If the exploration process is positive for shale gas, will fracking result as the end goal?	Francois Du Toit, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.19.
3.114		Is there a possibility that if there is shale gas, fracking is a possible end goal of this project?		Refer to Response 1.19.
3.115		Would you agree that if there is shale gas, drilling and fracking would have to be used to extract it? Fracking is thus the end goal?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November	Refer to Response 1.19.

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3.116		Should oil and gas be found, what mining methods could we see for the exploration area?	Matthew Savides, Email, 14 October 2015	Refer to Response 1.19.
3.117		While Rhino says that there is no fracking at this stage, is there a chance of fracking in the future?	Matthew Savides, Email, 14 October 2015	Refer to Response 1.19.
3.118		Is fracking going to take place eventually?	Bongiwe, Taylors Halt Scoping Meeting, 03 November 2015	Refer to Response 1.19.
3.119		The nature and a extent of possible future extraction activities if the exploration should yield positive results (potential future cumulative impacts of the proposed activity being applied for)	Paul Claassen, Email, 14 October 2015	Refer to Response 1.19.
3.120		Whilst I understand that the initial exploration would not necessarily require the use of hydraulic fracturing techniques, does this statement include the possible production phase? What methods would likely be used for commercial extraction if viable reserves were discovered?	Craig Stone, Email, 15 October 2015	Refer to Response 1.19.
3.121		With the rapid swing towards alternative renewable energy sources, electric cars, etc., there is certainly no need to explore for gas, with the aim of extraction by fracking, with all its potential environmental negative impacts, in the shales of the KZN Midlands. There are plenty of other sources of fossil fuels, for use while alternative energy sources are being implemented, without disrupting the Midlands, or any other parts of South Africa by fracking. This would be a backward step.	Dr M.J. Morris, Email, 20 October 2015	Refer to Response 1.19.
3.122		Is Rhino a private company registered in the US? It must be clear that this exploration could lead to fracking and SLR must be open to that highly likely possibility.	Paul Zille, Richmond Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 3.16.
3.123		With reference to the above mentioned EIA process please could you include the following aspects into your scoping report to enable your plan of study to be inclusive of these potential impacts/issues. 5. Long term responsibility on the part of Rhino Oil & Gas As part of your scoping please outline some of the potential long term issues that can arise from exploration activities and those that follow should reserves be found and extraction take place. Outline for what duration Rhino Oil & Gas will be responsible for any impacts such as SLR outlined in the scoping report and what the structure of this responsibility will be. Please state specific examples such as the loss of species due to loss of habitat or the contamination of water resources in a particular area, a potential	Pandora Long, Mkhambathini PEACE project, via email, 13 November 2015	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed. Also refer to Response 1.19. As part of the EIA process it is necessary to determine the quantum of a financial provision that is required for rehabilitation, closure and on-going post decommissioning management of negative environmental impacts (refer to Section 7.9.1 of the Scoping Report).

		phenomenon that can occur over time and only become evident within a long term period, say five or ten years, as the case may be. State whether there is legislation in place that provides for a rehabilitation or compensation fund in perpetuity for impacts arising from exploration and future extraction and who, if anyone, will be responsible for the administration of such fund.		
3.124		So the project will take three years to explore shale gas. Should that process be successful, is fracking a guarantee that it will take place?	Stoffen Bedaar, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.19.
3.125		If fracking is not the end goal then what is? Will you sell your rights to someone else to extract the oil or gas? The end result is the destruction of the environment and our scarce water.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Responses 1.19, 1.63 and 3.44.
3.126		You are so sure that this extraction is going to be 100% safe. How come there is no evidence proving that it is safe? How can you guarantee that it will be 100% safe? Is it not supposed to be your first priority to tell us that what you are proposing is safe?	Kwazokuhle Mgobozi, Mooi River Public Scoping Meeting, 03 February 2016	No extraction of hydrocarbons or water, no stimulation of wells or hydraulic fracturing (fracking) is proposed in the 3-year exploration work programme. Refer to Responses 1.19 and 3.7.
3.127		You wouldn't be exploring if you didn't plan to do extraction. When you do extraction it leads to contamination of water. You will also take out unknown bacteria from underground.	Nerisa Chetty, Greytown Public Scoping Meeting, 04 February 2016	Refer to Responses 1.19 and 3.83.
3.128		He said fracking is not your only option so please provide three other alternative ways of extracting.	Nerisa Chetty, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.19.
3.129		I have asked this question a lot and I have not been able to get an answer. I want to be able for my children and myself to have clean water, clean air and clean soil. That is enshrined in the Constitution in Section 24. You talked about a clock ticking in terms of your legal timeframes but this is a time bomb ticking.	Francois du Toit of African Conservation Trust, Greytown Public Scoping Meeting, 04 February 2016,	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed. PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence.
3.130		Are you aware that there are more towns, counties, states and countries putting fracking and oil and gas exploration under some kind of moratorium or banning it outright? Yes or no?		Refer to Response 1.19.
3.131		There are real, documented, factual risks involved in fracking that have now come to light after decades of fracking. Do you expect us to believe that your company is going to do this safely? Yes or no?		Refer to Response 1.19.

3.132		Despite the potential risks that are documented you are going to sink an exploration well and extract gas safely for the first time in history?		No extraction of hydrocarbons or water, no stimulation of wells or hydraulic fracturing (fracking) is proposed in the 3-year exploration work programme. Refer to Responses 1.19 and 3.7.
3.133		Are there risks involved in gas extraction?		No extraction of hydrocarbons or water, no stimulation of wells or hydraulic fracturing (fracking) is proposed in the 3-year exploration work programme. Refer to Responses 1.19 and 3.7.
3.134		You were asked a simple question as a shareholder and director of Rhino Oil and Gas South Africa. Will you, in the face of opposition, drop your legal right or will you enforce your legal right despite the best wishes of these people?		Refer to Response 3.65.
3.135	Project alternatives	Exploration alternatives that are being considered (specification of the proposed activities).	Paul Claassen, Email, 14 October 2015	Refer to Section 5.1 of the Scoping Report for the details of all alternatives considered.
3.136		With the move to alternate energy this would also negate such exploration and extraction. Also, I trust the findings and decisions made at the last international conference and promulgation of energy, emissions etc are being taken into account?	Dr Roy Mottram, Email, 19 January 2016	
3.137		Why is this gentleman's company not called 'Rhino innovations'? Why does he not tell us the truth of the matter is that we don't need hydrocarbons to drive cars? Why is your effort not focused on alternative means of energy? No one here is interested in your proposal. Do you know that you can grow oil? You are not here to make people rich or propose alternative energy, you are here to do business as usual. You are part of the problem. Stand here and actually be someone that is from this planet and don't hide behind your job. The time of hydrocarbons is over, it is killing all of us.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.84.
3.138		In the face of the Paris agreement, the strong opposition to what is proposed here and also the international trend to move away from fossil fuels is it wise and responsible to replace one fossil fuel with another? The country has committed to move in this direction and to invest in the development of alternative sources.	Bertus Louw of 50/50, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.84.
3.139		Everyone knows the world is spending millions on moving away from fossil fuels to more sustainable renewable sources. You should think about the future. If you don't have water and you can't produce crops. In the future food and water will be far more important than fuel. Why are you using fossil fuels?	Sue Murrell, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.84.
3.140		We all have a choice of what type of fuel we use and we are all aware of the serious risks involved with fracking. The process you explained can take seven years before you even start fracking. This means you will be on someone's land for seven years without even producing anything.		Refer to Responses 1.19 and 1.84.
3.141		Will the process lead to fracking or extraction?	Rene Ruus, Greytown Public Scoping Meeting, 04 February	No extraction of hydrocarbons or water, no stimulation of wells or hydraulic fracturing (fracking) is proposed in the 3-year exploration work programme. Refer to Responses 1.19 and 3.7.

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3.142	Sustainability issues	The use of fossil fuels is unsustainable and threatens the environment. Investment should rather be made into sustainable energy sources.	Deren Coetzer, Email, 26 October 2015	The need and desirability of the proposed project is presented in Section 4 of the Scoping Report. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed. PASA's decision will be informed by the findings of the EIA process and associated I&AP correspondence.
3.143		We cannot afford to destroy our natural environment and also put ourselves and our children at risk by allowing any person to earn profits at the expense of the entire communities.	Rachie Reddy, Email, 27 October 2015	Refer to Response 3.138.
3.144		The use of fossil fuels is unsustainable and very damaging to the environment. So investment should rather be made into sustainable energy sources.	Dr Richard Lechmere-Oertel, Email, 19 October 2015	Refer to Response 3.138.
3.145		How can environmentally dangerous mining be conned in a country with adequate sunshine, wind and hydro-power to meet the country's energy needs?	Gail & Michael Bradford, Email, 02 November 2015	Refer to Response 3.138.
3.146		Why does Rhino not consider bio-fuels and other alternative energy rather than focusing on finite resources such as oil and gas?	Jessica, Richmond Scoping Meeting, 02 November 2015	Refer to Response 3.138.
3.147		If there is the slightest risk that the exploration will result in risks of contamination of air, groundwater and soil, it will be unforgivable and definitely unsustainable.	Francois Du Toit, Ashburton Scoping Meeting, 02 November 2015	Issues relating to air quality (Section 5.4.17), soils (Section 5.4.11) and water (Section 5.4.8) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6).
3.148		We are looking for energy from the ground. Why must we rely on such older methods when there are modern ways of producing energy such as wind, solar and the use of bio fuels?	Jeff, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 3.138.
3.149	Rhino's policies	Rhino is here because they believe there is a possibility to find something. What is Rhino's policies in dealing with contamination should it occur and what are your policies for dealing with emergencies?	Gaton Le Grange, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.63. Contamination of soil and water resources is an issues identified for further reinvestigation. Refer to Section 5.4.11 and 5.4.8 of the Scoping Report, respectively. As part of the EIA process it is necessary to determine the quantum of a financial provision that is required for rehabilitation, closure and on-going post decommissioning management of negative environmental impacts (refer to Section 6 of the Scoping Report).

3.150		It is worrying that Rhino has no existing production or operation policies.		No extraction of hydrocarbons or water, no stimulation of wells or hydraulic fracturing (fracking) is proposed in the 3-year exploration work programme. Refer to Responses 1.19 and 3.7.
3.151		Companies are not prepared to cover "emergency" incidents such as oil spills through insurance. What is Rhino's position on this issue and what guarantee can Rhino provide for this specific project?	Michelle Crowser, Richmond Scoping Meeting, 02 November 2015	As part of the EIA process it is necessary to determine the quantum of a financial provision that is required for rehabilitation, closure and on-going post decommissioning management of negative environmental impacts (refer to Section 6 of the Scoping Report).
3.152		We read in the Background Information Document (BID) that the proposed activities can pollute the surface water and that it can impact on groundwater users and the ecosystem. You also say that there will be a release of gas from the boreholes and that the seismic surveys could cause damage to structures and the environment. Unless there is a 100% guarantee that all this will not happen we cannot allow this process to take place.	Rene Ruus, Greytown Public Scoping Meeting, 04 February 2016	Issues relating to ecosystem (Section 5.4.7) and water (Section 5.4.8) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6).
3.153		I would like to remind you and strongly second the concerns raised by the crane foundation regarding the differences in the company proposed and end executed safety standards (by sub contractors).	Dela Maiwald, Email, 04 February 2016	Any commitments made in the EMPr would be applicable to all parties involved.
3.154	Rehabilitation and Monitoring activities	How will the natural environment be rehabilitated after mining companies have torn it apart and taken from it?	Bruce Houghting, Email, 22 October 2015	IAPs have raised a number of concerns relating to rehabilitation of land and property after any exploration activity. Refer to Section 5.4.21 of the Scoping Report for information on rehabilitation.
3.155		How are you planning to rehabilitate the land?	Dela Maiwald, Email, 23 October 2015	Refer to Response 3.149.
3.156		I am extremely perturbed that Rhino cannot provide us guarantees to ensure that they will rehabilitate any damage that may be caused to the environment.	Desmond Desai, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 3.149.
3.157		How much will rehabilitation cost? Where is the money for rehabilitation invested?	Judy Bell, Richmond Scoping Meeting, 02 November 2015	Refer to Response 3.149.
3.158		Is Mr Steyn prepared to stand as surety for the rehabilitation of this project? Many companies commit themselves to rehabilitation but when the time comes for rehabilitation to take place, the companies conveniently get liquidated.	Francois Du Toit, Richmond Scoping Meeting, 02 November 2015	Refer to Response 3.149.
3.159		Will Rhino be given a timeframe to undertake rehabilitation?	Bongiwe, Taylors Halt Scoping Meeting, 03 November 2015	Refer to Response 3.149.

3.160		Please could we see a copy of your environmental management plan (EMP). Specifically, we would like to know how each site will be rehabilitated after drilling?	Gail & Michael Bradford, Email, 02 November 2015	Refer to Response 3.149.
3.161		For what period of time after an exploration well has been abandoned is Rhino prepared to be liable for pollution of farm or community water and air from that exploration or operations?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	In terms of the MPRDA, the holder of an Exploration Right remains responsible for any environmental liability, pollution, ecological degradation, the pumping and treatment of extraneous water, compliance to the conditions of the environmental authorisation and the management and sustainable closure thereof, until the Minister has issued a closure certificate to the holder or owner concerned. Thus Rhino would be liable until a closure certificate has been issued by PASA. Also refer to Responses 3.147 and 3.149. An EMPr will be compiled and included as part of the EIR. The EMPr will detail the impact management objectives, outcomes and actions as required, the responsibility for implementation and the schedule and timeframe. Requirements for monitoring of environmental aspects as well compliance monitoring and reporting will also be proposed.
3.162		Does Rhino have a post-exploration monitoring programme in place to ensure that their exploration does not have harmful effects (e.g. methane leaks after wells have been dug/closed)? If so, is there anywhere where the public can view these?	Barbara Seele, Email, 20 November 2015	Refer to Response 3.156.
3.163		In science we always factor in human error when we consider risks. There can be risks to this project and who will pay the bills if they happen? What will you choose between economic growth and health?	Nerisa Chetty, Greytown Public Scoping Meeting, 04 February 2016	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed. Also refer to Response 3.156.
3.164		No matter how you look at this the rich are getting richer and the poor are getting poorer. Currently we have serious water restrictions in our area so how can you come into our area and take water away from us?		Refer to Response 1.63.
3.165	Cumulative Impacts	What are the cumulative effects?	Sonja Britz- Municipal manager, Email, 26 October 2015	Refer to Response 1.152.
3.166		What will be cumulative impacts associated with the proposed project?	Municipal Manager (Mkhambathini Municipality), Email, 26 October 2015	Refer to Response 1.152.
3.167		How many other areas are you planning to explore? How much more land is going to be affected?	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Rhino has submitted five applications for Exploration Rights for five separate onshore areas. Also refer to Responses 1.4 and 3.83.

3.168	Drilling activities	When will we know the locations of the 10 proposed boreholes so that we can provide our input? 30 days is certainly not sufficient for the comment period due to the size of the project.	Judy Bell, Richmond Scoping Meeting, 02 November 2015	Through an analysis of existing (historical) seismic and borehole data retrieved during the TCP programme, and from studying published field data, in combination with the information derived from Year 1 and 2 exploration, Rhino Oil and Gas will identify preliminary locations/routes for the field activities. It must be noted that the exploration work is phased with results from the early phases informing the need and planning for the later phases. Each later phase would only be undertaken if the early phase results are positive. Thus it is not yet possible to specify the location of or prepare site plans for the proposed activities as these are dependent on the outcome of the prior phases of exploration, which can only be conducted once the exploration right is approved. Also refer to Responses 2.71 and 3.83
3.169		Are the planned boreholes exploratory wells or just core drill boreholes?	Bruce, Ashburton Scoping Meeting, 02 November 2015	The planned boreholes are core drill boreholes (refer to Section 2.3.5 of the Scoping Report).
3.170		What is your definition of the difference between a core hole, a borehole and a well?	Francois du Toit, Email, 12 November 2015	Refer to Section 2.3.5 of the Scoping Report for a description of core boreholes.
3.171		We would like some more detail on the size of the boreholes to be drilled and the total area of disturbance?	Moira Peadon, Ashburton Scoping Meeting, 02 November 2015	A project description is presented in Section 2.3 of the Scoping Report.
3.172		Your presentation states that 10 boreholes are prepared. There is no way 10 boreholes will provide sufficient information (data) for 1.8 million hectares of land. An environmental report that covers that size an area will amount to more than 1000 pages.	Chris, Richmond Scoping Meeting, 02 November 2015	At this stage only 10 core boreholes are proposed. Also refer to Responses 1.19 and 3.163.
3.173		10 boreholes cannot surely give useful information to Rhino mainly due to the overall size of the application area.	Jack, Richmond Scoping Meeting, 02 November 2015	Refer to Response 3.167.
3.174		You have stated that you have drilled more than 300 wells in Texas, US. Have any of the wells ever leaked? Research suggests that there is a chance that wells will leak. There is documented proof that fracking is irreversible and unconscionable.	Francois Du Toit, Richmond Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 1.63.
3.175		In addition to the indicated 10 boreholes, are you aware of the number of other boreholes that will be drilled in the area by other companies?	Kholosa Magodu, Taylors Halt Scoping Meeting, 03 November 2015	Rhino is not aware of any boreholes to be drilled in the area by other companies.
3.176		Will this proposed activities especially the drilling of boreholes also be conducted in coastal areas?	Wendy, Taylors Halt Scoping Meeting, 03	The proposed Exploration Right is only focused on onshore exploration.

3.177		How much water is used for drilling an average borehole?	November 2015	Refer to Section 2.3.8 of the Scoping Report for the estimated water usage.
3.178		What are the anticipated impacts from the core drilling activities?	Bongiwe, Taylors Halt Scoping Meeting, 03 November 2015	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
3.179		How big are the core drill holes that are planned in terms of depth and exposure?	Edmonds, New Hanover Scoping Meeting, 05 November 2015	A project description is presented in Section 2.3 of the Scoping Report.
3.180		Please could we see a copy of your environmental management plan (EMP). Specifically, we would like to have answers to the following: 1. The distance boreholes will be away from waterways? 2. How the drilling will be undertaken? 3. Where will the water come from that will be needed to drill? 4. Will you be using biodegradable chemicals? 5. Will you line the sumps and how?	Gail & Michael Bradford, Email, 02 November 2015	An EMPr will be compiled and included as part of the EIR. The EMPr will detail the impact management objectives, outcomes and actions as required, the responsibility for implementation and the schedule and timeframe. Requirements for monitoring of environmental aspects as well compliance monitoring and reporting will also be proposed. Refer to Response 1.218 for a response to buffers. A project description is presented in Section 2.3 of the Scoping Report. Also refer to Responses 3.93.
3.181		There is serious concern about the effect of exploration drilling and/or seismic surveying in the vital catchment areas of uMngeni on our own water supply as well as the supply to Pietermaritzburg, Durban and surrounds.	Patrick Marion Long, via email, 03 November 2015	Refer to Responses 1.63.
3.182		With reference to the above mentioned EIA process please could you include the following aspects into your scoping report to enable your plan of study to be inclusive of these potential impacts/issues. 1. Impacts of gas exploration including seismic testing and exploratory well drilling process and production tests. Please can you elaborate on the process and the potential impacts of gas exploration as briefly outlined in the background information document.	Pandora Long, Mkhambathini PEACE project, via email, 13 November 2015	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
3.183		Please give specific examples of impacts that have been recorded, how these were remediated, or not, what possible correlation there is with the proposed exploration process, outline possible mitigation measures and score the potential for mitigation.		Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
3.184		Should exploration result in the drilling of a well and the identification of extractable resources by whatever technology in a particular area, and in turn lead to further establishment of well pads with multiple wells, the economic implications for loss of ecosystems goods and services need to form a solid part of the scoping exercise and studies need to be conducted that can ensure that exploration activities will not undermine the potential thereof.		No extraction of hydrocarbons or water, no stimulation of wells or hydraulic fracturing (fracking) is proposed in the 3-year exploration work programme. Refer to Responses 1.19 and 3.7.

3.185		Do you case the hole when you are drilling a core hole?	Nadine Griffin, Howick Public Scoping Meeting, 02 February 2016	A project description is presented in Section 2.3 of the Scoping Report.
3.186		Do you use steel and cement casing?	Bruce from Zulu trail Project.	A project description is presented in Section 2.3 of the Scoping Report.
3.187		How will you know if there's gas down there when you drill?	Pandora Long of PMMBT - DUCT, Howick Public Scoping Meeting, 02 February 201	Cores would be subject to laboratory analysis for petrologic, structural and mineralogical studies of the rock (refer to Section 2.3.5 of the Scoping Report for further details).
3.188		How long will the concrete casing last?		Rhino indicated that the
3.189		Drilling will take all the water away.	F.W Backeberg, Response Sheet, 20th November 2015	Refer to Response 1.63.
3.190		Will the core drilling go beyond aquifers and affect groundwater?	Zakhele, Taylors Halt Scoping Meeting, 03 November 2015	Refer to Response 1.63.
3.191		When you drill, are they done in one day and are they filled up on the same day?	Unidentified IAP, Mooi River Public Scoping Meeting, 03 February 2016	Drilling and sampling at a site is normally completed within a few weeks. A project description is presented in Section 2.3 of the Scoping Report.
3.192		When the core holes are drilled what happens to them in the weeks when they are drilled? Will the hole be covered up when it rains to prevent rainwater from entering?		A project description is presented in Section 2.3 of the Scoping Report. Also refer to Response 1.63.
3.193		Will well casings be monitored for pressure, leaks and integrity after closure? If so, for how long and what happens if a problem is detected?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	Once drilling is completed the rig, all associated equipment and waste products would be removed from site. The borehole would be capped pending further investigation or sealed with cement if not required further. Rehabilitation would be undertaken to re-establish pre-exploration land use. The process of managing the impacts and rehabilitating the exploration sites would be conducted in terms of an EMP approved by the PASA. Refer to Response 3.156.
3.194		Can you confirm if the borehole next to the Mandela Capture Site forms part of this project?	Francois Du Toit, Ashburton Scoping Meeting, 02 November 2015	Rhino has not drilled any boreholes in the proposed Exploration Right area.

3.195		Protected indigenous trees cannot be removed or damaged. How do Rhino propose avoiding damage to protected trees should drilling need to take place close to them?	Patrick Marion Long, via email, 03 November 2015	Issues relating to ecology and vegetation (Section 5.4.7) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
3.196		We have heard that there was recently an approach to the local municipality to drill a test well on the Mandela Capture Site property. Can you confirm this?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	Refer to Response 3.163.
3.197		If you are not allowed to drill in protected areas but you drill close to protected areas and the environment is destroyed because of fracking what will you do? Will you just leave us with the mess?	Keegan Terregrosa of Concerned Young People of South Africa (CYPISA), Mooi River Public Scoping Meeting, 03 February 2016	Refer to Responses 1. 4 and 1.19.
3.198		Please come clean with your agenda. In the Background Information Document you have stated through your environmental assessment practitioner that you will undertake a maximum of 10 boreholes to verify your findings over an area of over 1.8 million ha. That is scientific nonsense. In no way is it feasible to say that you will undertake no more than 10 boreholes at this stage of the process unless you have a separate agenda. The normal process would be to do your desktop study to determine specific areas that you want to investigate further and then apply for an EIA for those specific areas.	Hans Beckedahl UKZN Environmental Scientist, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 3.167.
3.199		You cannot get a regional understanding of the area by only drilling 10 core holes.		Refer to Response 3.167.
3.200		In the Lionsriver meeting Mr Smithard the geologist admitted that an exploration hole that hit gas would be capped and the released gas would burn as a constant gas flare. It is not clear how long that would burn.	Dela Maiwald, Email, 04 February 2016	Rhino: this scenario is applicable to possible later phase exploration wells, but not to core holes as proposed for this application.
4.	Categories	Biodiversity Related Issues		
4.1	Biodiversity process	Why is SLR conducting an environmental assessment process in areas that have been declared protected? This process is flawed and illegal?	Unidentified IAPs, Ashburton Scoping Meeting, 02 November 2015	Refer to Responses 1.4 and 3.163.
4.2		Will the spirit of conservancies be respected and appreciated? We cannot hide behind legislation when it comes to dealing with conservancies.	Wallie Keiser, Ashburton Scoping Meeting, 02 November 2015	Refer to Responses 1.4 and 3.163.

4.3		Are all the protected areas and nature reserves etc known to you, and shown on your map? How did you determine these?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	Refer to Responses 1.4 and 3.163.
4.4		The map which you have presented for this bid does not show the positions of protected areas within the intended area for exploration. The Michaelhouse Nature Reserve is a proclaimed Protected Area, which appears not to have received your attention. Please confirm that you have identified these and indicate them on a map. Also, please indicate the steps which you will be taking to ensure that these areas are not affected IN ANY WAY by the exploration process or the extraction which may follow.	Paul Fleischack, Email, 13 November 2015	Refer to Responses 1.4 and 3.163.
4.5		Have any conservancies been approached by SLR as part of this process? Will the conservancies be excluded from the project as protected areas.	Wallie Keiser, Ashburton Scoping Meeting, 02 November 2015	Refer to Responses 1.4 and 3.163.
4.6	Conservancies and protected area	Please note, several of the properties listed, including but not limited to, Middledraai, Dartmoor, Melmoth, Spitzkop, and Welgevonden, form part of the Karkloof Nature Reserve, declared as a Nature Reserve in terms of the Protected Areas Act, no 57 of 2003. A copy of the relevant gazette is attached. I refer you to section 48 (1) of the Act which prohibits prospecting or mining activities in a declared Nature Reserve. There are no exceptions unless such prohibited activities were taking place prior to 2003. Please ensure that all of the aforementioned properties are immediately removed from the scope of the proposed project and notify us accordingly.	Thomas Hancock, Email, 30 October 2015	Refer to Responses 1.4 and 3.163.
4.7		The Mpushini Protected Environment (MPE) was declared in February 2011 (No. 552, Vol 5) as per the South African Protected Areas Act (No 57 of 2003) This brings 665 hectares under formal conservation as a Biodiversity Stewardship Nature Reserve, a first for KZN, with a vision to link these properties and incorporate a further 18 000 hectares to create a bio-corridor in the Eastern Gateway of Pietermaritzburg. Please find attached a list of the properties which fall under MPELA. I can get hold of the shape file if needed...please let me know. Kindly note that despite your email to Nick May stating that Protected Areas are excluded from the application, we remain IAP's as we fall within the scope of the EIA and therefore would be affected by this application.	Nicole May, Email, 19 October 2015	Refer to Responses 1.4 and 3.163.
4.8		We are a proclaimed National Private Game Reserve – as per the attachment. I understand no exploration can take place in this land, but other farms listed by you are on our boundaries.	Glenda Boothe, Email, 19 October 2015	Refer to Responses 1.4 and 3.163.

4.9		I have an interest in Trewirgie Farm in the Baynesfield valley as this is my home farm where I grew up and my family still lives and farms on that property. Trewirgie Farm has been declared a natural heritage site due the large area of mist belt forest present on the property as well as a large area of natural grassland. Therefore any exploration on the property would be of great concern to us. I also own a farm in the Dargle valley; Portion 10 of the remaining portion of the farm Maritzdaal. According to my understanding this area is also included in the exploration application. The farm also contains a large area of natural grassland which is protected.	Dr Monika Seele, Email, 05 November 2015	Refer to Responses 1.4 and 3.163.
4.10		Please see attached map kindly provided by WESSA, which shows the proposed Greater uMngeni Biosphere Reserve relative to the Rhino Oil & Gas exploration application.	Christopher Galliers, Email, 11 November 2015	Refer to Responses 1.4 and 3.163.
4.11		Our land is part of the recognised Minerva Private Nature Reserve above the Byrne Valley (Richmond are). The flora, fauna, water sources, mist belt forests and biodiversity is highly sensitive. This should be regarded as a protected area and excluded from this application.	Malcolm Millar and Judith Sandison, Email, 29 October 2015	Refer to Responses 1.4 and 3.163.
4.12		We have a nature reserve in Ashburton which has been declared a site of conservation significance by the premier. We will not tolerate any activities which jeopardise the flora and fauna we are protecting.	Anne Tait, Email, 02 November 2015	Refer to Responses 1.4 and 3.163.
4.13		The LMWC and the Protected Environment make up about 2000ha of private land. This is a strategic conservation area.	Keith Brown, Email, 21 October 2015	Refer to Responses 1.4 and 3.163.
4.14		The property falls within the Balgowan Conservancy. Any vehicles, drills, operational staff that work on the land will damage protected indigenous tress and disturb wildlife.	Mr R and Mrs S Nel, via email, 4 November 2015	Refer to Responses 1.4 and 3.163.
4.15		Refine the exploration are by excluding no go sites according to legislative requirements, such as wetlands, water courses, protected areas, etc.	Sharon van der Merwe, via email, 12 November 2015	Refer to Responses 1.4 and 3.163.
4.16	FEPA and Hotspots	The farm Middelbosch 897 comprises 80% indigenous ancient mist belt forest- an irreplaceable heritage.	Ulricke & Staurt Gibbs, Email, 21 October 2015	Issues relating to heritage (Section 5.4.12) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
4.17		We are of course worried about the consequences to our environment and fresh water	Guy Solomon, Email, 02 November 2015	SLR is aware of the biodiversity value of the KZN Midlands with initial information in this regard presented in the baseline section and relevant Figures in the Scoping Report. It is not necessarily a given that the proposed exploration activities would compromise environmental assets in the region. The potential risks will be assessed in the EIA. Detail on the study that is proposed in relation to biodiversity is set out in Section 7.5.1 of the Scoping Report. As detailed, the outcome will be to define which biodiversity units and uses are incompatible with the proposed exploration and to determine exclusion criteria that should be applied when

				identifying and assessing sites for field-based exploration. The commitment to these will be detailed in the EMPr.
4.18		Please note that biosecurity on many farms in the Natal Midlands is a serious concern. How do you intend managing this risk? Will you be installing spray bays, constructing fences etc. to prevent the spread of disease?		It is likely that access to farms with bio-security requirements would not be proposed.
4.19		Of major concern is the fact that this region is a National Fresh Water Priority area and the water producer for the economic hub of KZN. Even if lots of water is not needed in the process, whatever is required will be too much. On top of that, the risk of even one leaky well containing chemicals that could contaminate our stressed water system further, is unacceptable. Can you ensure that a complete map of all current and future sources of water for the area be compiled and distributed so that we can assess the risks from a more informed position?	Nikki Brighton, Email, 12 November 2015	Refer to Responses 1.4, 1.63 and 3.163.
4.20		In this area we have put a lot of effort into restoring and bolstering eco-systems. We are part of the MPAH biodiversity hotspot with many endangered plant and animal species. I have major concerns about the fact that seismic testing will impact on micro-organisms and soil life. Not only will this undermine vulnerable land based eco-systems, but impact on riparian species and farming activities too. Can you tell me exactly what sort of threat this poses?		Issues relating to ecology (Section 5.4.7), soil (Section 5.4.11) and water (Section 5.4.8) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
4.21		Much of the area to be explored is part of the MPAH biodiversity hotspot – one of 35 regions in the world of exceptionally high biodiversity and importance. Are you certain that seismic testing will have no effect on biodiversity and eco-system health?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	
4.22		Our government regulates that no well may be drilled within 500 metres from the edge of a riparian area or within 1:100 year flood - line of a watercourse or within 1 kilometre of a wetland. As the KZN Midlands is one enormous catchment, with wetlands and networks of streams and rivers, do you think this will be possible?		Refer to Responses 1.4, 1.63 and 3.163.
4.23	Sensitive environments, use of species and sense of place	We would be very concerned if this project disturbed any of the established breeding habitats of these birds.	Sej Dunning, Email, 14 October 2015	Issues relating to fauna (Section 5.4.7) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
4.24		From an ecological perspective the disruption of the water table could irrevocably change the existing ecosystem. Rivers, streams and dams could potentially dry up. There are many eco-friendly alternatives that could be utilised without damaging the environment. As it is an American company that wants to do the exploration work, does this mean the final product would leave South Africa, or what we as South Africans would be paying America for our South	Christeen Grant, Email, 20 October 2015	Refer to Response 1.63.

		African resource. Once depleted the company moves on leaving South Africa poorer.		
4.25		I grew up on a farm in the Midlands where the rare and endangered Hilton Daisy grows and where the extremely endangered Blue Swallow nests, and there is no way that I will support any type of petroleum exploration. It is a short-sighted, money and greed driven project that will only endanger our land, biodiversity and ecosystem services.	Barbra Seele, Email, 26 October 2015	Issues relating to ecology (Section 5.4.7) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
4.26		Please also note that the Blue Swallow nests on Trewirgie Farm, and Hilton Daisies grow there. Both of these are very sensitive species and would be negatively affected by the exploration.	Barbara Seele, Email, 27 October 2015	
4.27		Minervo Private nature reserve is established to protect the vulnerable fauna and flora in the area, the endemic "Hilton Daisy" occurs only here and in Hilton. The mist belt forest in the area has many endangered and protected tree species in it.	Sonja and Brendon Ferrar, Email, 27 October 2015	Refer to Responses 1.4 and 3.163.
4.28		I am part of the Mondi Ecological Network Programme (MENP) that has done extensive research on the biodiversity associated with these grasslands, which contains astounding amounts of diversity – both plants and animals. Much of the area that you are working in is Afromontane grasslands Many of these species also holds medicinal and cultural value to the rural human community, with large portions already severely threatened by transformation for agricultural and forestry purposes. The biodiversity in these grasslands is incredibly high, and many species that occur here, occur nowhere else in the world.	Dr Lize Joubert-van der Merwe, Email, 28 October 2015	Issues relating to ecology (Section 5.4.7) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
4.29		Many of these species also holds medicinal and cultural value to the rural human community.		Issues relating to ecology (Section 5.4.7) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
4.30		I am concerned that the process that drive species patterns in the landscape will be disrupted by your future operations. Ecosystems processes under concern include: water quality and subsurface water flow, the role of fire in the landscape, and the provision of high quality grazing for domestic cattle belonging to local human communities.		Issues relating to ecology (Section 5.4.7), land use (Section 5.4.14) and water (Section 5.4.8) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
4.31		I am concerned about the impacts of these activities on biodiversity and ecosystem services in central KZN.	Jessica Cockburn, via email, 11 November 2015	Issues relating to ecology (Section 5.4.7) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
4.32		Habitat destruction and ecological interference	M Evans, via email, 12 November 2015	Issues relating to ecology (Section 5.4.7) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
4.33		With reference to the above mentioned EIA process please could you include the following aspects into your scoping report to enable your plan of study to be inclusive of these potential impacts/issues. 2. Implications for people, biodiversity and eco-systems in KZN	Pandora Long, Mkhambathini PEACE project, via email, 13	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.

		As part of your scoping exercise can you explain what the implications of the above impacts are for the people, biodiversity & eco-systems in the exploration areas of KZN both broadly speaking and using specific examples. Can you extrapolate using examples from other countries that have already experienced fracking to help scope the implications for activities such as dairy farming, beef farming, croplands, fly-fishing, hiking, small business (tourism), hospitality etc.	November 2015	
4.34		Please can you make specific reference to the implications for biodiversity habitat, food webs and water resources for species known to occur in the proposed exploration area, including invertebrates and soil microbes		Issues relating to ecology (Section 5.4.7) and water (Section 5.4.8) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
4.35		6. Incongruent environmental and Social mapping Please scope the potential negative impact that incongruence with respect to the overlay of environmental and social mapping will have on this application, particularly with respect to riparian zones, drainage lines, wetlands, water well fields, potential future water well fields, bore holes, protected environments, protected areas. Outline how this will affect the potential viability of the project both pragmatically and economically.		Refer to Responses 1.4 and 3.163. Appropriate buffers from sensitive areas, infrastructure, etc. will be determined in the next phase of the EIA (refer to Section 6 of the Scoping Report).
4.36		Given a high level of environmental and social incongruence is found within this proposal to explore for gas in KZN, please make the recommendations in this regard explicit within the scoping report so that best practice and reputability of environmental practice in KZN is upheld.		This comment is noted. An EMPr will be compiled and included as part of the EIR. The EMPr will detail the impact management objectives, outcomes and actions as required, the responsibility for implementation and the schedule and timeframe. Requirements for monitoring of environmental aspects as well compliance monitoring and reporting will also be proposed.
4.37		9. Withdrawal of current map and delineation of wetlands, riparian zones, drainage lines, boreholes, PE & PA's etc Given that SLR has listed farms that are formally Protected Environments as per the South African Protected Areas Act (No 57 of 2003) and areas such as riparian zones, drainage lines, wetlands, groundwater, boreholes, water wells and future water wells that are protected by law as subject to this EIA authorisation process, please can you provide a map that specifically excludes these areas as part of your scoping exercise so that it is clear to what remaining portions the plan of scoping applies.		Refer to Responses 1.4 and 3.163.
4.38		Please also note within your scoping report the recent best practice recommendations with regards to delineating riparian areas, wetlands etc. i.e. that a fixed 32m buffer is no longer the norm and the recommendation is that the area be ground truthed to ensure that it is adequately protected using ground features rather than desktop assessments.		Refer to Responses 1.4 and 3.163.
4.39		Please indicate within your scoping report what delineations will take place for wetlands, floodlines, riparian zones, drainage lines and how these will be conducted.		
4.40		You have not excluded sensitive areas from your application.	Eddie Lion-Gachet, Howick Public Scoping Meeting, 02 February 2016	Refer to Responses 1.4 and 3.163.

4.41		I looked at the buffer zone and it's only 64m. We live in a beautiful area that is home to the Wattled Crane and where people make their living off the land. You know if you will be polluting the water, break up the geology and pollute the environment. If you destroy or impair the environment you will destroy people's lifestyles and that of their grandchildren. Is this the type of legacy you want to leave behind?	Sue Murrell, Mooi River Public Scoping Meeting, 2016	Refer to Response 4.33.
4.42		I am currently studying my PhD on Wattled Cranes and this development will seriously affect the entire population.	Lara Jordan, Email, 03 February 2016	
5.	Categories	Seismic Related Issues		
5.1	General impacts	The sound and frequency of the seismic survey is destructive.	Unidentified IAPs, Mooi River Club, 04 November 2015	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
5.2		What effect will the seismic activity have on earth tremors in the KZN Midlands?	Rona van Niekerk, Email, 10 November 2015	Issues relating to vibrations and damage to existing infrastructure (Section 5.4.15) (have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6).
5.3		What effect will earth tremors (and other seismic activity) have on dam walls? (If Midmar bursts, the potential consequences are horrendous).		
5.4		The Durban-Joburg oil pipeline runs through the midlands as well. What effect will seismic activity have on this pipeline?		
5.5		Who will be liable for the repair costs of public or private infrastructure?		
5.6		Is it correct that seismic exploration is followed at a later stage by drilling to explore and that you will have to frack at some stage during exploration to measure the gas flow?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	Refer to Response 1.19.
5.7		What is the impact of the seismic survey on biodiversity?	Moira Peadon, Ashburton Scoping Meeting, 02 November 2015	Issues relating to the biophysical environment have been identified for further investigation in the next phase of the EIA. Refer to Section 6 for a description of these issues and impacts that will be assessed.
5.8		Please outline the implications for eco-systems adjacent to exploration activities (seismic testing/exploration wells) and including upstream and downstream impacts.	Pandora Long, Mkhambathini PEACE project, via email, 13 November 2015	
5.9		Please indicate in the plan of study the timeframes that will be taken for ensuring that the area applied for is properly delineated prior to any exploration processes such as seismic testing takes place.		Refer to Response 1.4.
5.10		Please also scope the impact of seismic testing from 500m of riparian areas, clarifying the force thereof, the known impacts, examples of these from other exploratory exercises		Refer to Response 1.63.

		elsewhere.		
5.11		What are the impacts of seismic testing?	Nadine Griffin, Howick Public Scoping Meeting, 02 February 2016	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
5.12		The Background Information Document says seismic surveys may destroy natural habitats and may disrupt ecosystem functionality. It may also damage structures.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	
5.13	Methodology/ approach	How does the colour change work as the various sediments are identified on the seismic survey map?	Livhuwani Ndlovu, Taylors Halt Scoping Meeting, 03 November 2015	The colour changes as different sediments and depths are identified.
5.14		What are the anticipated impacts related to seismic surveys? What pre-cautionary steps need to be taken to minimise those impacts?		Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
5.15		Your BID also shows that the seismic survey will create a feeling of six mini earthquakes over 125km of land. That appears like a quick job with quick pictures from google earth. People have been farming in this land for over 100 years and it is about people's livelihood. This project is wrong.	Francois Du Toit, Richmond Scoping Meeting, 02 November 2015	Issues relating to vibrations and damage to existing infrastructure (Section 5.4.15) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6).
5.16		Dynamite used in the exploration phase anywhere near where the Wattled Cranes are would surely have a bad impact on them. We have one of the biggest concentrations of Wattled Cranes. There are only 311 of them left in the area. What will the risk be to the cranes?	Lara Jordan of RNR Conservancy, Mooi River Public Scoping Meeting, 03 February 2016	Issues relating to fauna (Section 5.4.7) and vibrations (Section 5.4.15) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6).
5.17		If you detonate dynamite used in the seismic survey 64m from any Wattled Cranes they will die.	Sue Murrell, Mooi River Public Scoping Meeting, 03 February 2016	
6.	Categories	Drilling Related Issues		
6.1	Drilling activities issues	What is the effect of the vibrations on existing boreholes and groundwater?	Livhuwani Ndlovu, Taylors Halt Scoping Meeting, 03 November 2015, Ben de Bruin, Ashburton Scoping Meeting, 02 November	Issues relating to vibrations and damage to existing infrastructure (Section 5.4.15) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6).

			2015	
6.2		What will happen if the seismic survey indicates that drilling cannot be done?	Bongiwe, Taylors Halt Scoping Meeting, 03 November 2015	Drilling would be undertaken before seismic surveying. Refer to Section 2.3 of the Scoping Report for a description of the proposed project.
6.3		There is serious concern about the effect of exploration seismic surveying in the vital catchment areas of uMngeni on our own water supply as well as the supply to Pietermaritzburg, Durban and surrounds.	Patrick Marion Long, via email, 03 November 2015	Refer to Response 1.63.
7.	Categories	Water Related Issues		
7.1	Water use by human and animal consumption	To this end I would appreciate getting more information about the application on; - - Potential of pollution of groundwater and river water - Any other perspectives	Justice Matarutse, 14 October 2015	Refer to Response 1.63.
7.2		It is also a catchment area for water and feeds local towns.	Ulricke & Staurt Gibbs, Email, 21 October 2015	Refer to Response 1.63.
7.3		I own property described above which falls within your catchment area as indicated in Rhino Offshore KZN.	Dr Pete J.K. Zacharias, Email, 21 October 2015	This comment is noted. Dr Zacharias is registered on the project database (see Appendix 5.3).
7.4		Our concerns are for our groundwater. We and the farmers rely on our boreholes and springs for water. If the water is contaminated, there will be no water to drink and crops will be killed.	Houghen Milkaly, via email 20 October 2015	Refer to Response 1.63.
7.5		Not only is the area important from the perspective of producing food but because of the reliance of the population of the urbanised, metropolis of Pietermaritzburg/ Durban, it would be disastrous to contaminate or subject the limited water resources of the already threatened uMngeni catchment to any stress at all.	Iain Sinclair, Email, 23 October 2015	Refer to Response 1.63.
7.6		The Midlands area that is being targeted is virtually the entire water catchment area for KwaZulu Natal and any damage to our water resources especially in this area will have dire consequences, and must not be allowed to commence now or in the future.	Dennis & Vivian Robinson, Email, 25 October 2015	Refer to Response 1.63.
7.7		We are in a catchment (the one from the valley below). Our water supply is dependent on boreholes. We have limited land. Any activity would impact directly and not be out of view. With the drought there is already pressure on grazing so we can't afford anything that will force cattle to be taken off land	Jacqui and Alan Swart, via email, 9 November 2015	Refer to Response 1.63.

7.8		WWF's interest is mainly around the potential ground and surface water impacts, as our work in the Mondi Wetlands Programme is mainly focussed on the conservation of freshwater resources. We are also actively working in some sub-catchments with landowners who are listed among the farms that could potentially be affected and therefore have their interests at heart as well.	Susan Viljoen, Email, 26 October 2015	Refer to Response 1.63.
7.9		Impact on water stability in the area: limited rainfall is already taking its toll.	Caroline Canderle, Email, 26 October 2015	Refer to Response 1.63.
7.10		The risks involved with petroleum exploration in the Midlands far outweigh the possible benefits. Methane leaks, cracked concrete (well walls) and polluting the little water that we rely on are just some of the risks involved.	Barbra Seele, Email, 26 October 2015	Refer to Response 1.63.
7.11		Will affect water	Qwen Watson, via email, 1 November 2015	Refer to Response 1.63.
7.12		I am a student at Stellenbosch University in my final year of studying Geography and Environmental Studies, and I am currently living in Richmond on a farm. I am extremely interested in the topic of hydraulic fracturing where we have done large amounts of research addressing the impacts of potential fracking in the Karoo. I feel that if fracking in KZN is given the go ahead, there will be huge consequences for our water resources.	Kerryn Coulthard, email, 27 October 2015	Refer to Responses 1.19 and 1.63.
7.13		I rely on boreholes for irrigation and my aquaponics enterprises and have no desire for these sources of water to be jeopardised .	Guy Miles, Email, 28 October 2015	Refer to Response 1.63. Issues relating to vibrations and damage to existing infrastructure (Section 5.4.15) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6).
7.14		It will poison our water supply.	Dr R. Dunning, Email, 28 October 2015	Refer to Response 1.63.
7.15		As a stock farmer, I use a lot of underground borehole water and also for our labour.	Peter Smith, Email, 31 October 2015	Refer to Response 1.63.
7.16		Please may I register as an interested and affected party for the Rhino Oil and Gas exploration right in KZN. Tony Gill Dunnis Trustees of the Dunnis Calvin family trust who own sub 4 of the farm Thomville. It is very short sighted to have a closing date even if the other side are forcing as they are not allowing enough time for people to become aware of what is proposed and in such an important step in the lives of so many people in the future and many generations to come. We are not giving them our water, our poor water is for ourselves and our community	Tony and Gill Dunnis, via email, 12 November 2015	Tony and Gill Dunnis are registered on the project database (see Appendix 5.3). Refer to Response 1.63.
7.17		We are of course worried about the consequences to our environment and fresh water and farm businesses and the life we have lived here.		Refer to Response 1.63.

7.18		Nkandla is in the upper catchment of the UMhlatuze which is a critical point of our regional water supply. Mtunzini gets its water supply from the uMhlatuze Catchment.	Wendy Forse, via email, 16 November 2016	Refer to Response 1.63.
7.19	Contamination and dewatering issues	I form part of a committee with the Department of Water and Sanitation. Water is a big concern in this province and there are great challenges in finding sustainable sources. The aquifer in this area appears like a sponge. If exploration is undertaken, the "sponge" will absorb all the chemicals and have an impact on the entire area. It goes beyond entering into an agreement with the landowner. The impact stretches to the entire province and the provincial government is highly concerned about this.	Wade Hollard, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.63.
7.20		We use our boreholes extensively for our farming and domestic use. We are in a notoriously bad water restricted area and are concerned that the proposed exploration could damage or contaminate our water supply?	GF Peters, via email, 1 November 2015	Refer to Response 1.63.
7.21		Concerned over future water quantity and quality. Water is very much a limiting factor in our area and for farming on my farm.	RA Oldfields, via email, 1 November 2015	Refer to Response 1.63.
7.22		I am concerned about the damage done to the environment and water beds	J Robertson, response sheet, 1 November	Refer to Response 1.63. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
7.23		I am concerned about the damage done to the environment and water beds	J.L Robertson, via email, 3 November 2015	
7.24		Are people aware that only 30 to 40% of the plume is recovered and that the rest remains underground?	Wallie Keiser, Ashburton Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 1.63.
7.25		The Kwazulu-Natal province is experiencing some serious water shortages and drought is certain parts. How are we supposed to handle all these impacts in addition to our current water challenges?	Judy Bell, Richmond Scoping Meeting, 02 November 2015	Refer to Response 1.63.
7.26		The Minister of Water and Sanitation ha stated that will we need to dig more wells in order to deal the crisis of water shortages in our country.		Refer to Response 1.63.
7.27		The only source of drinking water is from a borehole that has been sunk at a depth of 110 metres. Should fracking be the end goal, the trustees are more concerned about the damage caused by the injection of hazardous chemicals into the ground as part of the fracking process. These chemicals would cause severe damage to the scarce water resource	Mr R and Mrs S Nel, via email, 4 November 2015	Refer to Responses 1.19 and 1.63.
7.28		Too much evidence of pollution of ground water	ADW Braithwaite, via email 5 November 2015	Refer to Response 1.63.

7.29		Water Pollution	M Evans, via email, 12 November 2015	Refer to Response 1.63.
7.30		We are currently experiencing water shortages and other environmental issues in this area. How will these issues be prevented as they are a major concern for us?	Khethiwe, Taylors Halt Scoping Meeting, 02 November 2015	Refer to Response 1.63.
7.31		There are documented records in the US where drilling has contaminated groundwater which is irreversible and there is no price for that. There is a documented case in South Africa of a contaminated well in Jansenville in the 1960s which is a few kilometres away from the proposed project area.	Francois Du Toit, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.63.
7.32		Our area historically have always had water supply issues and we rely heavily on underground water. Any form of mining will affect the water table and we will lose our water resource. The uMngeni system is already has an over subscription of water users, thus switching from groundwater to surface water resources is not an option. Further, the area around Albert Falls is heavily faulted and we cannot see that any form of mining or extraction can be done in the area that will be economically viable.	Gert Rautenbach, Email, 21 October 2015	Refer to Response 1.63.
7.33		Where is uMngeni Water?	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Response 1.8.
7.34		R3 million has been spent on a hydrology study for the catchment and the results show that we are stressed. The uMngeni River takes water from the Mpofana River. Rivers are generally dry. Farmers are currently not irrigating. There is a serious shortage of water. The only way Rhino can expect to get water for fracking is by stealing the water. The Northern Kwazulu-Natal region is already experiencing water shedding.		Refer to Response 1.63.
7.35		Water is life. South Africa will run out of water by 2025. How can you want to go ahead with fracking having that knowledge?		Refer to Responses 1.19 and 1.63.
7.36		Is SLR not aware of the water crisis that the country is currently facing? It is disappointing that for an environmental company to be linked in any way to such a project.		Refer to Response 1.63.
7.37		In the Far West Rand in Gauteng where they are experiencing issues of acid mine drainage, the pH of the water is worse than battery acid. If this process is not stopped fracking will take place. 20 years from now our farmers will irrigate with water with a pH less than 2. In Gauteng land is also lost due to high radiation levels. I am very concerned about the state of the environment after all the profits have been made.		Refer to Response 1.63.
7.38		You say maybe the water will not be contaminated. We cannot drink gas and oil so please leave.	Thandokuhle, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.63.

7.39		Water is scarcer than oil so if you pollute the water it is not worth it.	Unidentified IAP, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.63.
7.40		This project will take our already scarce water away and the villages will be greatly affected.	Sabelo Mbokazi, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.63.
7.41		Water is a real constraint in the area and it can only come from re-allocation of existing users.	Linda Shaw, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.63.
7.42		<p>I understand that the chemicals likely to contaminate our water supplies have never been included in potable water tests done to date, partly because they have never been present up till fracking, and partly because the tests required are very costly. In fact, I understand that the equipment necessary to test for these contaminants is not available in Pietermaritzburg (or wasn't a year ago).</p> <p>I also understand that experience in the Pearston area of the Karoo suggests that contamination may only be picked up years after the holes have been drilled.</p> <p>1.1 How will you monitor contamination?</p> <p>1.2 Is there a plan to develop a benchmark of the pre-fracking water quality, ie before any exploration holes are drilled? (This would mean testing all the rivers, dams, springs and boreholes in the proposed area BEFORE any exploration holes are drilled, and then repeating this over a period of time, AFTER the holes have been drilled, over a period of time.</p> <p>1.3 Is there a mitigation plan if this boreholes are contaminated, and how long will this mitigation be in place?</p> <p>1.4 What sort of compensation would be available to people who no longer have access to potable water?</p>	Rona van Niekerk, Email, 10 November 2015	Refer to Responses 1.19, 1.63, 3.93 and 3.156. Compensation is addressed in Section 5.4.20 of the Scoping Report.
7.43		At this time of intense drought, which affects the lives of every single person in this country, we need to preserve every drop of water. The exploration and potential fracking is totally unjustified at this time when cattle and crops are dying and our health and well-being are threatened, most particularly the poor.	Liam Wimmer, Email, 10 November 2015	Refer to Responses 1.19 and 1.63.
7.44		Are you not aware of the water crisis we are having in this country? Your money will not buy you clean water when all the rivers run dry. Have we not, as a race, destroyed enough of our planet already?	Shiloh Vermaak, Email, 11 November 2015	Refer to Response 1.63.
7.45		I think it is highly irresponsible to damage the KZN water factory and also damage the many springs, boreholes and wetlands in the area. This will also adversely affect the Midlands Meander of which I am a member.	Laura Joffe, Email, 12 November 2015	Refer to Response 1.63.

7.46		I wish to make it known that Rhino Oil and Gas Exploration South Africa (Pty) Ltd. are threatening our precious water resources and our livelihood. Water is very scarce in this country and at this time of a very serious drought, Rhino Oil and Gas can GO AWAY and never even think of coming back here again.	Vonnie Munk, Email, 13 November 2015	Refer to Response 1.63.
7.47		We acknowledge receipt of your notice concerning the proposed exploratory activities on the aforementioned land. Mondi Limited is the owner/lessee in respect of the said land and currently uses the surface of the land for forestry purposes. Further to this, we as a forestry industry are dependent on water resources for our tree farming activities. We are also aware that almost all (if not all) of the water available in the various catchments impacted by this proposed exploration is fully allocated to key domestic, food security and other economic activities like forestry. Any impacts on these water resources will have significant impacts on food security, household water quality, and the local and provincial economy.	Sharon van der Merwe, via email, 12 November 2015	Refer to Response 1.63.
7.48		Our primary concern relates to the possible compromising pollution and destruction of surface and groundwater fissures; this is in a land where the resource is already under serious threat.	T D Strachan on behalf of Royal Agricultural Society of Natal, Email, 11 January 2016	Refer to Response 1.63.
7.49		In fact, we are already a water-stressed environment – in 2005 already 90% of the available fresh water resources had been allocated – forecast we are going to run out of water in 2015!!!! – So WHERE are all these millions of gallons of water required going to come from????? [CRITICAL QUESTION that MUST get answered]. As per constitution: – everyone in South Africa is entitled to access to safe clean water!!!! There are many other points of discussion I could bring up but these will do for now.	Margaret Meaker, Email, 13 November 2015	Refer to Responses 1.19 and 1.63.
7.50	Research related issues	The recent and ongoing drought has demonstrated the vulnerability of all residents to water shortages. Many would not have survived without the access to groundwater supplies. Has a full map of aquifers been undertaken and made available for public scrutiny?	Mhlopeni Ranch Ltd, Email, 21 October 2015	Refer to Response 1.63.
7.51		Do you deny that there are documented incidents in the United States where shale gas drilling has polluted water underground?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	Refer to Responses 1.19 and 1.63.
7.52		Will you research and produce proper maps demarcating all the water resources including wetlands, streams, boreholes, aquifers in the Rhino permit area?		Refer to Responses 1.4 and 1.63.
7.53		Before any drilling can commence, can we not check and ensure that we have sufficient water. If a good resource is found during exploration, government will bulldoze everyone without checking and ensuring that there is sufficient water for the next step of the	Carl Shulles, New Hanover Scoping Meeting, 05 November	Refer to Response 1.63.

		process.	2015	
7.54		Proper research is required on water resources and an appropriate map needs to be produced as a result. This province is highly dependent on water and if this exploration projects results in fracking, we cannot risk contaminating both our ground and surface water.	Stefano Norman, New Hanover Scoping Meeting, 05 November 2015	Refer to Responses 1.4 and 1.63. Specialist studies (including groundwater) will be undertaken during the next phase of the EIA are summarised in Section 7.5 of the Scoping Report.
7.55		Please provide a complete map of all current and future water sources. I am aware that once done this will most likely leave less than 10% of the current permit area with the possibility of exploration – please comment. What assurances can you provide that the exploration process and the potential post-exploration activities will not harm, or diminish water resources in an area already threatened by water scarcity?	Luci Coelho, Email, 09 November 2015	Refer to Responses 1.4 and 1.63. Specialist studies (including groundwater) will be undertaken during the next phase of the EIA are summarised in Section 7.5 of the Scoping Report.
7.56		WATER – is a complete map of all current and future water sources available?	Rowan Robinson, Email, 09 November 2015	Refer to Response 1.63. Specialist studies (including groundwater) will be undertaken during the next phase of the EIA are summarised in Section 7.5 of the Scoping Report.
7.57	Source of water for the project	Where will you source the water for fracking when that time comes?	Lynn, Colenso Scoping Meeting, 04 November 2015	Refer to Responses 1.4.
7.58		Where is the water for the project going to come from? The province is already experiencing serious drought and the future is not looking any better. We must not entertain this project and I encourage the farmers not to grant Rhino any access.	Alice Thompson, Ashburton Scoping Meeting, 02 November 2015	Refer to Section 2.3.8 of the Scoping Report for the source and estimated volume of water usage. Also refer to Responses 1.63 and 1.128.
7.59		How much water will be lost from one well drilled for exploration and for production?	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Section 2.3.8 of the Scoping Report for the source and estimated volume of water usage. Also refer to Responses 1.63 and 1.128.
7.60	Water use license	Water uses have changed in this area. Any new water uses must be permitted by the water board. Rhino must be aware of this.		This comment is noted. Refer to Response 1.128.
7.61		How will you get around the amount of water required for this process? Will you require a water use licence application (WULA)	Stoffen Bedaar, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.128.
7.62		Do you have a water licence for the water required for drilling?	Gail & Michael Bradford, Email, 02 November 2015	Refer to Response 1.128.

7.63		Please could you confirm whether the applicant will be applying for an integrated water use licence? If not, then can I take it that no activity will take place within 500m of any wetland. If this is indeed to be the case, then I would request that all wetlands in the exploration area be properly delineated.	Steve Butt, Email, 05 November 2015	As per Table 3-1, the current interpretation is that no activities are being proposed that trigger the need for a Water Use Licence, although certain water uses would need to be assessed once the volumes and localities are known. This position will be re-assessed in the EIA.
7.64	Compensation and rehabilitation	How will Rhino rehabilitate the damaged water resources from their exploration activities?	Dalindyebo, New Hanover Scoping Meeting, 05 November 2015	Refer to Responses 1.63, 3.149 and 3.156.
7.65		I have received a photograph of an abandoned town due to adverse groundwater and soil contamination. How will rehabilitation be done to restore groundwater and soil contamination?	Carol, New Hanover Scoping Meeting, 05 November 2015	Refer to Responses 1.63, 3.149 and 3.156.
7.66		If there is damage, what is the guarantee that Rhino will fix the damage?	Carol, New Hanover Scoping Meeting, 05 November 2015	Refer to Responses 1.63, 3.149 and 3.156.
7.67		How will you rectify contamination of ground and surface water as a result of fracking?	Sarel Le Roux, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.19.
7.68		The impact on water resources will affect the entire province. I do not believe that partnership with government will yield any benefits.	Desmond Desai, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.63.
7.69		The story you guys are telling us sounds nice but I don't think it is. What I want to know is how will you prevent our rivers from contamination and when you are finished with exploration how will you rehabilitate the environment?	Unidentified IAP, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Responses 1.63, 3.149 and 3.156.
7.70		What compensation for damage to ground water resources will be provided?	Rudi Dorfling, Email, 19 January 2016	Refer to Responses 1.63, 3.149 and 3.156.
8.	Categories	Soil Related Issues		
8.1		Soil pollution	M Evans, via email, 12 November 2015	Issues relating to soils (Section 5.4.11) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
8.2		What is the impact on the soil life around the hole when the hole is being drilled?	Nadine Griffin, Howick Public Scoping	

			Meeting, 02 February 2016	
9.	Categories	Air Quality Related Issues		
9.1	Dust and PMS	How will air quality be safeguarded?	Bruce Houghting, Email, 22 October 2015	Issues relating to air quality (Section 5.4.17) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
9.2		We want an air quality impact assessment.	Unidentified IAPs, Mooi River Club, 04 November 2015	
9.3	Carbon footprint	An increased carbon footprint is undesirable. We can't safely breathe polluted air, it's bad enough already.	Bruce Houghting, Email, 22 October 2015	
9.4		Clean gas?? – has been proved that some oil points lose in excess of 6% gas per day... this is in fact worse than that of pollution caused by coal. Breaking point is a loss of around 3%. Who is going to guarantee losses less of 2% – Penalties should apply if greater than that amount.	Margaret Meaker, Email, 13 November 2015	The need and desirability of the proposed project is presented in Section 4 of the Scoping Report. The NDP identifies the need to diversify the current energy mix and to reduce carbon emissions. There is a clear intention for gas to play a more significant role in the energy mix and the exploration of gas as an alternative to coal for energy production has been recognised as a planning priority. No extraction of hydrocarbons or water, no stimulation of wells or hydraulic fracturing (fracking) is proposed in the 3-year exploration work programme. Refer to Responses 1.19 and 3.7.
10.	Categories	Socio-economic related Issues: roads, transport and safety		
10.1	Access roads	How will the drilling sites be accessed?	Kholosa Magodu, Taylors Halt Scoping Meeting, 03 November 2015	Refer to Responses 3.83 and 3.163.
10.2		There are portions of the area of investigation that falls in close proximity to the national route N3 and the N11. N3 is being managed by N3TC. SANRAL does not own many parcels of land except the road reserve so our main concern will be access to the exploration sites and the impact on our roads.	SANRAL, Email, 19 October 2015	Refer to Response 1.4.
10.3	Road surfaces	It will destroy/ ruin our roads.	Dr R. Dunning, Email, 28 October 2015	Issues relating to vibrations and damage to existing infrastructure (Section 5.4.15) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6).
10.4		Roads that are already in a serious state of disrepair will become worse.	Bruce Houghting, Email, 22 October 2015	

10.5		Infrastructure. Congestion of our roads – will not be able to sustain the THOUSANDS of trucks needed to transport water/chemical [in and out] – where is this “processed” water going to be purified?? .. Present plants can’t even purify what is needed at the moment. How will you get rid of the radio nucleotides???	Margaret Meaker, Email, 13 November 2015	
11.	Categories	Heritage and Paleontological Related Issues		
11.1	Heritage sites	How will heritage sites and protected areas be safeguarded against damage and destruction?	Bruce Houghting, Email, 22 October 2015	Issues relating to heritage (Section 5.4.12) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report). Specialist studies (including heritage) will be undertaken during the next phase of the EIA are summarised in Section 7.5 of the Scoping Report.
11.2		Rock art sites which are ranked near the top of the pile in Global importance will be jeopardised.		Refer to Response 11.1.
11.3		Because of the close proximity of this area to the Berg, this entire area should be excluded from the application as it is a world heritage site.	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Responses 1.4 and 11.1.
11.4		This process is an insult to the spiritual importance of the local African community. It is clear that they have been disregarded in this process. Can this issue be recorded and shared with the African communities. We would like to unite with them in this fight against fracking.		Refer to Responses 1.19 and 11.1.
11.8		With reference to the above mentioned EIA process please could you include the following aspects into your scoping report to enable your plan of study to be inclusive of these potential impacts/issues. 10. Mapping extrinsic and Intrinsic cultural heritage. Please scope the loss of extrinsic and cultural heritage as it applies to the various people within the proposed area of exploration, taking cognisance of connection or ‘sense of place’ , spiritual connection, religious and cultural practice, heritage (all forms) as an individual right, community right, constitutional right and as a legacy for generations to come.	Pandora Long, Mkhambathini PEACE project, via email, 13 November 2015	Refer to Response 11.1.
12.	Categories	Health and Related Issues		
12.1		Is there any guarantee that the health of the population won’t be affected?	Bruce Houghting, Email, 22 October 2015	Issues relating to health and safety have been identified for further investigation, including: <ul style="list-style-type: none"> • Structural damage to infrastructure (refer to Section 5.4.10 in the Scoping Report) • Noise (refer to Section 5.4.11 in the Scoping Report); • Air quality (refer to Section 5.4.12 in the Scoping Report);

				<ul style="list-style-type: none"> Safety and security (refer to Section 5.4.13 in the Scoping Report); Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
12.2		There is likely to be an increase in the occurrence of cancer. Respiratory problems will be more prevalent.		Refer to Response 12.1.
12.3		There is a lot of documented evidence on the impacts of fracking. Houses near fracking activities have been found to have radon gas which is one of the biggest causes of lung cancer. Smokers will be put at an even higher risk with the presence of radon gas. Fracking also releases fumes that are carcinogenic. Shale gas holds radon and this is released during fracking.	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Responses 1.19 and 12.1.
12.4		We want a detailed health impact assessment.		Refer to Response 12.1.
12.5		As a neurosurgeon, I know that chemicals used in fracking also cause brain damage in addition to lung cancer.		Refer to Responses 1.19 and 12.1.
12.6		With reference to the above mentioned EIA process please could you include the following aspects into your scoping report to enable your plan of study to be inclusive of these potential impacts/issues. 10. Mapping extrinsic and Intrinsic cultural heritage. Please scope the psychological impacts on people as individuals and as communities arising from scenarios/issues raised as part of the scoping.	Pandora Long, Mkhambathini PEACE project, via email, 13 November 2015	Refer to Response 12.1.
12.7		I have a medical background but I do not represent the Department of Health. I would like to introduce you to the research of Theo Colburn - she has a website. She did a lot of research on the endocrine disruptive exchange. It refers to how minimal exposure to certain substances in the environment that can disrupt your health. She specifically looked at the endocrine system and the reproductive system. These chemical substances can possibly affect you in minute quantities, often less than the accepted standards. There are two sorts of exposure: one through drilling and one through fracking. I know we are not talking about fracking right now but the drilling itself can do just as much damage when it causes gas to leak into the atmosphere. Then there's exposure through the production side like diesel fumes, dust et. There are 700 chemicals being used in drilling and fracking and not all the medical effects of these chemicals are known. It is not necessary for the company to disclose what chemicals they are going to use her as it forms part of the trade secrets. There are 350 chemicals of which we have some inclination of the medical effects they have. These include xenon and benzene which are known to cause child leukaemia; arsenic which is highly poisonous and radon which can cause lung cancer in non-smokers. The effects are	Dela Maiwald	Refer to Responses 1.19 and 12.1.

		<p>numerous.</p> <p>They can cause pain in your limbs, cancer and infertility. It also causes birth defects including spinal defects, heart defects, growth retardation and premature births. These effects are more prevalent in low-income population. In KZN 80% of the population are rural and poor. I would like to remind you of a similar disaster that occurred in a small town near Cape Town, at mine, where asbestos were released into the air. The people are still carrying the consequences of what happened there today.</p> <p>Is Rhino going to pay for the health effects on the local community? I am asking this because our budget has been cut from the Department of Health. Have you contacted the Department of Health, Medical Research Council and the Occupational Health Society? We already can't cope with the impacts of HIV and AIDS and now you will add new environmental problems. Please contact the Department of Health so they can plan in advance. The wheels of the government turn slowly so they need to plan in advance. If we don't do this people will die without even receiving treatment.</p>		
12.8		<p>I have come across work done by dr Theo Colburn (USA) whose field is endocrine disruptor medicine. Many of the chemicals used during the drilling, maintenance of drill holes and gas pads together with the volatile organic compounds leaking into the atmosphere together with the pollution from industry ie dust and fumes may lead to a severely unhealthy environment causing all sorts of medical conditions. These are listed in the attached document found on her research website. The production phase is still about 5 to 10 years away, but as this is a very nebulous field and info difficult to get it is better to be forwarded that the DOH can have direct input from the beginning in health and safety standards as the populations that will suffer from the ill effects will certainly be the poorer rural populations that make use of public health facilities. As our budget has been cut severely and service delivery is already strained to maximum, I struggle to see how the DOH will cope with this additionally.</p> <p>It also begs the question as in the case of the asbestos mining and resultant medical conditions what compensations and insurances need to be in place for how long as some effects in this case will be immediate and some only very long term.</p>	Dela Maiwald, Email, 04 February 2016	Hydraulic fracturing is not part of this application, nor is it assessed as part of the current EIA
12.9		What is clear to me as a landowner that if it is on my property my quality of life is immediately reduced and my health under threat		
13.	Categories	Socio-Economic Related Issues: economy, tourism and related activities		
13.1		The since of space will be destroyed. Tourists can't drink polluted water. Tourists will stop taking road trips. How will tourism be affected?	Bruce Houghting, Email, 22 October 2015	Issues relating to water (Section 5.4.8) and land use (including tourism) (Section 5.4.14) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
13.2		The KZN Midlands and other areas of KZN are busy tourism nodes – when tourism declines who will employ the folk who will become jobless?		Also refer to Response 1.19.

13.3		Great concern of impact – Midlands tourism and beauty is the main income for us locals. We didn't buy here for mining or fracking to take place.	Caroline Canderle, Email, 26 October 2015	
13.4		This is a tourist destination and this heinous operation will destroy the whole environment.	Laura Joffe, Email, 12 November 2015	
13.5		Tourist assets tampered/interference	M Evans, via email, 12 November 2015	
13.6		We did not even discuss the potential loss per year [ongoing] brought to our midlands due to it being a tourist attraction – this beautiful landscape will be transformed into a “desert” going on for miles – just look at cases in USA. – who is going to reimburse us that?.. we all know these “mines” have a 3 to 5 year span... compare that to the 1000 of years that our country has been beautiful!! – and we want that to continue!!	Margaret Meaker, Email, 13 November 2015	
13.7		Also to note that water contamination will affect and potentially close two of our most renowned and proud sporting events namely the open water Midmar mile that is currently sponsored by Aquelle bottled water that takes its water from springs around Greytown. (Proud local job creator and will close down if water contaminated). And the Duzi canoe marathon(as it is the contaminated water from human waste causes duzi guts ie. Gastroenteritis). Another water sport tradition reliant on safe water is the mudman series of triathlons held at various dams.	Dela Maiwald, Email, 04 February 2016	
14.	Categories	Socio-economic Related Issues: land use, properties and daily activities/ livelihood		
14.1	Servitudes related issues	Transnet owns rail lines and pipelines (servitudes) which we need to safeguard.	Johan van Heerden, Transnet, Email, 19 October 2015	Refer to Response 1.4.
14.2		Hilton College Estate is included in the list of properties mentioned. Also currently acquiring a portion of Driefontein.	I.D. McMillan, Hilton Society, Email, 20 October 2015	This comment is noted.
14.3	Agricultural related issues	What will the long term effects on agriculture be? Farmers can't irrigate crops with polluted water. Farmers can't allow stock to drink polluted water.	Bruce Houghting, Email, 22 October 2015	Issues relating to water (Section 5.4.8), damage to existing infrastructure (Section 5.4.15) and land use (including agriculture, existing business, etc.) (Section 5.4.14) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report). Also refer to Responses 1.19 and 1.63.

14.4		Rather don't explore in areas where so many people have chosen to live from a lifestyle perspective. So many people and whole agricultural industries rely on the ground water in this area	Dr Richard Lechmere-Oertel, Email, 19 October 2015	Refer to Response 14.3.
14.5		I am concerned about disturbance of property and business disruptions.	Sandra Clark, Email, 27 October 2015	Refer to Response 14.3.
14.6		It will destroy what little grazing we have. The fact that they can invade property at will is beyond comprehension.	Dr R. Dunning, Email, 28 October 2015	Refer to Response 14.3.
14.7		We farm in the area of the proposed petroleum exploration and are concerned of the environmental, social and economic impacts.	Phillip Schroder, Martin Schroder, Kevin Schroder, Email, 28 October 2015	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
14.8		Will affect agriculture	Qwen Watson, via email, 1 November 2015	Refer to Response 14.3.
14.9		We use our boreholes extensively for our farming and domestic use. We are in a notoriously bad water restricted area and are concerned that the proposed exploration could damage our lively hood.	GF Peters, via email, 1 November 2015	Refer to Response 14.3.
14.10		This project would put me of my business. It would affect my staff. I won 400ha of natural forest which would be affected Bruce Lesure, via email, 5 November 2015	Bruce Lesure, via email, 5 November 2015	Refer to Response 14.3.
14.11		My family live and farm in the Greytown Area. I have also worked closely with large and small-scale sugar cane farmers in the Wartburg area. Farming is an important livelihood potentially threatened by fracking. 1. I am concerned that exploration and potential extraction of oil and gas/petroleum products in central KZN may pose a significant threat to the farming community and farming economy: to the socio-economic wellbeing of local people.	Jessica Cockburn, via email, 11 November 2015	Refer to Response 14.3.
14.12		You have confirmed that you are possibly going to do fracking in the future. The farmers in the area are trying to get sustainable agriculture going. If you are going to do fracking you're going to put dangerous chemicals in the water underground and that will be the final nail in the coffin of agriculture in this area.	James Keanes of Irrigation board	Refer to Responses 1.19 and 14.3.
14.13		With potable water, land rights, food security and future welfare of our previously disadvantaged communities as paramount in our eyes, please will you define the process you employ to explain to someone who is an uneducated 60-year-old rural person what you are proposing now as well as the end goal of the process because you seem to have difficulty in explaining the technicalities to people who are educated and have access to the Internet.	Jenny Cowie, Greytown Public Scoping Meeting, 04 February 2016	Issues relating to water (Section 5.4.8), land tenure (Section 5.4.13), land use (Section 5.4.14) and damage to existing infrastructure (Section 5.4.15) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report). Also refer to Response 12.1.

14.14		You are threatening the livelihood of every person here.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 14.3.
14.15		What is the impact of the proposed project on the environment? How is it going to affect our backyard? There is very little water in this area. This project will leave people without water and without land.	Noluthando Nzimande, Howick Public Scoping Meeting, 02 February 2016	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed. Also refer to Response 1.63.
14.16		The proposed prospecting activities will therefore directly affect our ability to optimally utilise the land. As a result, we are concerned about the proposed fracking activities, and lodge our objection to the proposed exploration application until we have more specific information as follows: -We need to know if our land will be impacted at all or not -We need to know what the exploration activities could entail so as to determine if there will be direct or indirect impacts on our plantations and on environmental values or our landholdings.		Refer to Response 14.3.
14.17		What recourse do the private farmers have?	Jasper Smith, Ashburton Scoping Meeting, 02 November 2015, Nikki Brighton, Email, 12 November 2015	Compensation is addressed in Section 5.4.20 of the Scoping Report.
14.18		Concerned about invasion and exploitation of farms. Absolutely has to be prevented.	ADW Braithwaite, via email 5 November 2015	Refer to Responses 12.1 and 14.3.
14.19		What will assure me as a neighbouring landowner that I will not be affected by a neighbour who has allowed drilling to take place right next to my property?	Jasper Smith, Ashburton Scoping Meeting, 02 November 2015	Refer to Responses 1.250, 3.163 and 14.3.
14.20	Land value	How will land values be affected? Land values will be adversely affected if water is polluted. Land value will be adversely affected by additional traffic.	Bruce Houghting, Email, 22 October 2015	Refer to Responses 1.250, 3.163 and 14.3.
14.21		KwaZulu Natal has the highest human population density in the country, with many people residing in rural communities. These people may not even know that they rely upon natural resources for subsistence. It would be foolish to not consider how your current operations could pave the way for future operations that will impact upon their daily livelihoods.	Dr Lize Joubert-van der Merwe, Email, 28 October 2015	Refer to Response 1.19.

14.22		my life investment and pension is reduced to 0 as nobody will be interested in that property. If all 10 exploration wells hit gas you are guaranteeing 10 people an immediate loss of property value as described, especially so if there is no production right granted or pursued by the company as they may feel that it is not feasible or profitable to produce there How is anyone to be compensated for this?	Dela Maiwald, Email, 04 February 2016	Hydraulic fracturing is not part of this application, nor is it assessed as part of the current EIA
14.23	Conflict of land uses	When this entire area is destroyed where do you expect us to go? Do you expect us to just give up our farms and livelihoods? It is easy for you because you live in Cape Town. We have nowhere else to go.	Unidentified IAPs, Mooi River Club, 04 November 2015	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
14.24		The farmers will be affected and they provide employment to the village communities.	Sabelo Mbokazi, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 14.3.
14.25		We are a leading bottled water company in South Africa bottling what is probably the biggest brand and are aware that the your proposed activities would put our existence at risk resulting in substantial economic and social impact in our community	Ruth, Ekhamanzi Springs, 13 November 2015	Refer to Responses 1.63 and 14.3.
14.26		Most of us rely on borehole water for domestic/farming purposes. The municipality supplies industry and urban regions– we all know there is a RISK of aquaplanes getting contaminated with the 160 plus toxic chemicals used in the process. Who is going to supply us with the water we need to keep on going?	Margaret Meaker, Email, 13 November 2015	Refer to Responses 1.63 and 14.3.
14.27		I would like to enquire whether Rhino oil or the gas exploration companies would be purchasing any properties for exploration?	Mandy Wicks, Email, 26 January 2016	No they will not be
15.	Categories	Socio-Economic Related Issues: Access to land		
15.1	Access to land process	I own Winterhoek 1108 (thornview) and cannot be in meeting @Greytown today. Please send me results of meeting. I would consider allowing you access rights to explore.	Mhlopheni Ranch Ltd, Email, 21 October 2015	Notes taken and attendance registers at all meetings are presented in Appendix 5.7 of the Scoping Report.
15.2		There are many farms in the project area that the government owns through the Ithala Trust where support through money and equipment is supplied to nominated persons. What stops Rhino from having links with the government where these farms are concerned?	Jasper Smith, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.250.
15.3		If Rhino sells their exploration right to a third party, the new company will likely enforce their rights on landowners unwilling to provide access to their land.	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Responses 1.250 and 3.44.

15.4		If a landowner refuses access to their land for exploration activities even when Rhino has been granted authorisation, will Rhino enforce their rights on the landowner?	Francois Du Toit, Ashburton Scoping Meeting & Richmond Scoping Meeting, 02 November 2015, Unidentified IAPs, Mooi River Country Club, 04 November 2015, Stoffen Bedaar, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.250.
15.5		What will happen to the neighbouring farms? Rhino can be granted access to the state owned farms but private farmers such as us may end up being affected indirectly.	Jasper Smith, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.250.
15.6		It is important that Rhino clarifies their position if landowners refuse to grant them access.	Linda Shaw, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.250.
15.7		If we all said NO to this project and all deny you access after your attempt to negotiate, what will you do?	Francois Du Toit, Richmond Scoping Meeting, 02 November 2015	Refer to Response 1.250.
15.8		If a user/owner of land doesn't want you to drill/explore on their land under any circumstances, what will you do?	Rona V van Niekerk on behalf of Midlands Conservancies Forum, Email, 10 November 2015	Refer to Response 1.250.
15.9		What if a landowner refuses access, what will be the consequence of this for the farmer?	Luci Coelho, Email, 09 November 2015	Refer to Response 1.250.
15.10		May a landowner refuse access to the property and if so, what could happen to them?	Rowan Robinson, Email, 09 November 2015	Refer to Response 1.250.
15.11		If the exploration permit is approved and any exploration activities are proposed on our land, then no access will be given to our land until such time that agreed conditions of access, activities and rehabilitation are agreed between Mondi Limited and the proponent. Your right of access and utilization in respect of the land will be limited as follows:	Sharon van der Merwe, via email, 12 November 2015	Refer to Responses 1.19, 1.250 and 3.163.

	<p>1. Exploratory and Proposed Fracking activities Your activities should strictly be in accordance with the terms and conditions as set out in your permit. We request a copy of such permit as and when it is issued to you. The extent of the footprint area should be agreed with us in order to out measures in place to regulate the various activities on the land. Your activities should not prohibit us in any way from performing our usual daily activities</p> <p>2. Rights of access reserved The right to access the said land is reserved and strict control measures will apply especially during the fore season in particular the months June to September. You shall not undertake controlled burning or the making of open fires for cooking/heating purposes within or near the areas required unless agreed upon in writing by both parties. Prior to entering the land, you will be required to obtain an access permit, sign the appropriate indemnity form and provide such other document as may be required by Mondi.</p>		
<p>15.12</p>	<p>3. Liability and insurance You are required to take out and maintain public liability insurance, without limitation providing cover against fire damage, with a minimum cover of at least R10 million. You indemnify us against any loss, damage or injury we may suffer through your activities in an on the land during the currency of your permit or thereafter. Where any timber plantation or standing timber has to be removed or where standing timber, roads or other infrastructure is damaged or destroyed by or as a result of your prospecting activities, compensation shall be payable at the full market or replacement value.</p> <p>4. Plant, machinery, equipment or infrastructure You undertake to remove from the land, any plant, machinery, equipment or infrastructure brought onto or constructed on the land for purpose of your activities, as soon as your permit or your responsibility in relation to the land comes to an end, whichever takes place last.</p> <p>5. Environmental responsibility We confirm that our plantation operations carry an environmental certification. Any activities should therefore be conducted in terms of the applicable environmental management laws and the required environmental plans should recognise our requirements in this regard. You are advised to conduct your activities in such a manner so as not to jeopardize our environmental certification. Rehabilitation work must commence as soon as your permit expires and should be completed within a reasonable time. In this regard you specifically undertake to rehabilitate camp sites and drilling areas, and to seal or make safe boreholes and other impacts of your activities. You undertake to make adequate financial provision for remediation of environmental damage and to regularly assess the adequacy thereof. Should you fail to take the necessary rehabilitation measures or take an unreasonably long times to conclude rehabilitation, we reserve the right to take the appropriate steps and to recover the cost from you.</p>		<p>Issues relating to fire (Section 5.4.18), land tenure (Section 5.4.13), land use (Section 5.4.14), compensation (Section 5.4.20) and rehabilitation (Section 5.4.21) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).</p>

15.13		6. Communication We require of you to inform us timeously of any matter in relation to your permit, your exploratory activities or any other matter in relation to the land which may affect us or our usage of the land. You can contact our Environmental Manager Brent Corcoran on 033 329 5392 or alternatively contact our Land Risk Analyst Sharon van der Merwe on 033 329 5357 at our Hilton offices. Please note we reserve the right to submit further comments and inputs.		This comment is noted. Refer to Response 1.250.
15.14		If someone has a mineral right on your property do you have the right to deny them access to their right?	Sue Walker, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.250.
15.15		If negotiations with the landowner fail will Rhino enforce their right?	Francois du Toit of African Conservation Trust, Mooi River Public Meeting, 03 February 2016	Refer to Response 1.250.
15.16		Can we refuse access to our farms Time spent on a farm? Do we have a say when you can spend the time?	Rudi Dorfling, Email, 19 January 2016	Yes access can be denied. However take note of section 54 and 55 of the MPRDA. Landowners have a definitive say as the conditions of access would be determined in a negotiated access agreement.
15.17	Land expropriation	Is Rhino then saying that government can expropriate land regardless of whether the landowners refuse to grant access?	Francois Du Toit, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.250.
15.18		You have stated that the guarantees will go to PASA which means that the landowner will be the one responsible to fight PASA if they are dissatisfied with Rhino's implementation of rehabilitation.		Refer to Response 3.149 and 3.156.
15.19	Neighbouring properties	Are there any buffer zones?	Luci Coelho, Rowan Robinson, Email, 09 November 2015	Refer to Response 1.218.
15.20		Do neighbours have any rights?		Refer to Response 1.250.
15.21		Destruction of property	M Evans, via email, 12 November 2015	Issues relating to destruction of existing infrastructure (Section 5.4.15), compensation (Section 5.4.20) and rehabilitation (Section 5.4.21) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).

15.17	Categories	Socio-economic related Issues: crime, safety and security		
15.18	Crime	In addition, how will you deal with potential crime that will come with the project?	Charlene Chaff, Richmond Scoping Meeting, 02 November 2015	Refer to Response 12.1.
15.19		Safety and security in this remote area will be negatively affected.	Mr R and Mrs S Nel, via email, 4 November 2015	
15.20		What will be done to protect the safety and security of residents while surveys and or drilling is done?		
17.	Categories	Socio-Economic Related Issues: Benefits and compensation/ set offs		
17.1	Compensation	Who is to compensate the affected parties should they lose their lives or livelihood as a consequence of this exploration activity?	Mhlopheni Ranch Ltd, Email, 21 October 2015	Compensation is addressed in Section 5.4.20 of the Scoping Report.
17.2		If a landowner enters into an agreement with Rhino and it is found that the neighbour of the landowner is impacted by the exploration activities, how will they be compensated?	Ben de Bruin, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 17.1.
17.3		What is the compensation to the landowner if drilling occurs in their property?	Guy Solomons, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 17.1.
17.4		What guarantees or compensation or up front deposits will be made available to landowners? From previous experience, companies such as Rhino make promises to landowners but when the time comes for them to deliver, they don't. We need an upfront guarantee as landowners. Is Rhino happy to put down a deposit?	Rob Seani, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 17.1.
17.5		Who will repair the roads, fences and other aspects of the built environment that have been damaged?	Bruce Houghting, Email, 22 October 2015	Refer to Response 17.1. Issues relating to destruction of existing infrastructure (Section 5.4.15), compensation (Section 5.4.20) and rehabilitation (Section 5.4.21) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).

17.6		With reference to the above mentioned EIA process please could you include the following aspects into your scoping report to enable your plan of study to be inclusive of these potential impacts/issues. 4. Contractual agreements with landowners/farmers/ economic considerations – payment for eco-systems goods and services. Please outline the financial implications of the exploration process, both short-term and long term and the implications on the affected areas.	Pandora Long, Mkhambathini PEACE project, via email, 13 November 2015	Refer to Responses 1.250, 3.147 and 17.1.
17.7		Will Rhino Oil & Gas sign a contractual agreement with the land custodian that ensures adequate mitigation against these impacts and provides for remediation in the face of them?		Refer to Responses 1.250, 3.149, 3.156 and 17.1.
17.8		Can you include an example of this agreement within the scoping report so that issues arising there from can be identified and addressed. It is recognised that eco-systems have a financial value attached to them, therefore the proposed exploration activities have the potential to destabilise payment for eco-systems goods and services, a principle which is currently being pursued for various water catchment areas in KZN.		Refer to Response 17.1. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
17.9		Please scope 'loss' as a factor, be it species loss, landscape integrity, water quality, human or animal health, ambiance, etc. Please provide an indication of mitigation and compensation against real and perceived loss.		Issues relating to ecology (Section 5.4.7), water (Section 5.4.8) and health and safety (Section 5.4.18) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).
17.10		Farmlands will be destroyed – jobs lost – people losing their livelihoods – WHO is going to reimburse those affected?? e.g. relocation costs/new farms to same standard purchased for them..	Margaret Meaker, Email, 13 November 2015	Refer to Response 14.3.
17.11		Do the government pay out landowners affected by the drilling on their property?	Sue Walker	Refer to Response 17.1.
17.12		If the exploration is successful and the government approves extraction, will there be compensation to affected landowners for loss of income and rehabilitation costs?	Sarel Le Roux, Colenso Scoping Meeting, 04 November 2015	Refer to Response 17.1.
17.13		Do you compensate for any damages, loss of income, inconvenience caused, and how will this be determined?	Rudi Dorfling, Email, 19 January 2016	Yes compensation for loss of income would be paid. This would be based on agreed rates.
17.14	Other	It is clear that a large section of residents around here are opposed to granting any exploration permits. Can you tell me what sort of compensation there will be for those impacted by health or environmental problems – immediately following exploration and in the future?	Nikki Brighton, Email, 12 November 2015	Refer to Responses 1.84 and 17.1.

17.15		What compensation be offered if you drill on my drilling?		Refer to Response 17.1.
17.16		At the Moorriver meeting a lady called Sue Walker asked about the compensations due to land owners. I feel that in the report or separately as a information provision gesture from Rhino, this should be made clear.	Dela Maiwald, Email, 04 February 2016	compensation for loss of income would be paid.
17.17		How will Rhino Oil and Gas consider the trade-off of jobs created vs potential loss of socio-economic value of farming operations which may be negatively affected by exploration and fracking?	Jessica Cockburn, via email, 11 November 2015	Refer to Responses 1.19 and 14.3.
17.18		Can Rhino provide some guarantee in the form of an Agricultural Trust that will be used to support affected farmers and landowners?	James Dane, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 17.1.
17.19		Will there be a fund for any future environmental/human damages?	Rowan Robinson, Email, 09 November 2015	Refer to Response 17.1.
17.20		Will there be an adequate fund for any future environmental/human damages, should this process be bulldozed through despite the obvious opposition?	Luci Coelho, Email, 09 November 2015	Refer to Response 17.1.
17.21		Does Rhino have existing cases of people that have been compensated before as part of this process?	Michelle Crowser, Richmond Scoping Meeting, 02 November 2015	Refer to Response 17.1.
17.22	Benefits	Why should we support the project as IAPs? Of what benefit will the project be except more problems?	Jessica, Richmond Scoping Meeting, 02 November 2015	The identification of potential geological structures or "prospects" within the proposed exploration licence area for future exploration and possible well-drilling provides an opportunity to develop a South African oil and gas industry resulting in long-term benefits 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. There is also potential in the long-term for local economic stimulation through direct employment, future business opportunities, royalties and tax revenues.
17.23		I feel that the response given on the benefits of the project is uncertain and it is essentially a gamble.		Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
17.24		I feel that it is insensitive for the company to be called Rhino especially with the current problems of rhino poaching that we are facing in this country.		This opinion is noted.

17.25		What will Rhino do to give back to the community in this project?	Khethiwe, Taylors Halt Scoping Meeting, 03 November 2015	Refer to Response 1.199.
17.26		Information is required as to who will benefit from the project	Patrick Marion Long, via email, 03 November 2015	Refer to Response 1.199.
17.27		The Freedom Charter states that the minerals belong to the people and that means that all benefits should go to the people first. It looks like for this project, all the benefits will go to America.	Dalibonga, New Hanover Scoping Meeting, 05 November 2015	Minerals in South Africa are vested with the State. The Act states that any person or company can apply for any mineral right on any piece of land. Refer to Response 1.199.
17.28		The project sounds exciting in terms of business but detrimental to the environment. This area is already experiencing a shortage of water which affects our livestock and crops. The financial benefit will not even be of benefit to the economy of South Africa as Rhino is essentially an American company.	Sandile Mkhwanazi, New Hanover Scoping Meeting, 05 November 2015	Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed. Also refer to Response 1.63 and 1.199.
17.29	Rejection by the landowners	The farmers are not interested in negotiating with Rhino. We reject the entire project and would like to stop the process.	Dalindyebo, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.84.
18.	Categories	Socio-Economic Related Issues: Employment and Procurement Opportunities		
18.1	Job opportunities	To this end I would appreciate getting more information about the application on; - Job creation in KZN - Any other perspectives	Justice Matarutse, Email, 14 October 2015	Refer to Response 1.199.
18.2		The BID indicates that the project will also contribute to job creation but during the presentation you state that jobs will be very limited and require specialised skills. That is contradictory and may create a wrong impression about the real jobs that will be created.	Charlene Chaff, Richmond Scoping Meeting, 02 November 2015	Refer to Response 1.199.
18.3		If local labour is to be sourced, what will the remuneration rates be?	Gail & Michael Bradford, Email, 02 November 2015	Refer to Response 1.199. It is a common industry practise for oil and gas companies to use specialist contractors to conduct their activities. The remuneration rates have not yet been determined.
18.4		How many guaranteed jobs will result from this exploration project?	Sarel Le Roux, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.199.
18.5		What is the potential economic value of the exploration in terms of permanent investment	Steve Butt, Email, 02	This is very limited. Details in this regard will be provided in the EIA.

		and job creation?	November 2015	
18.6		Jobs – I only see loss of jobs in area [commercial farming/ subsistence farmers] through loss of farms/contaminated water– since skilled workers are required for fracking and SA do have these set of skills. So this is a “false” promise to the uneducated population.	Margaret Meaker, Email, 13 November 2015	Refer to Responses 1.19, 1.199 and 14.3.
18.7		I'm tired of hearing that this project will create jobs because when I read the history books people who come from overseas only take advantage of the people who are not working. I know a fraudster when I see one.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.199.
18.8		If you subcontract companies from first world countries will there be any jobs locally?	Unidentified IAP, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.199.
18.9		You will bring all the specialists from outside who have no interest in us, our scarce water or the environment.		Refer to Response 1.199. It is a common industry practise for oil and gas companies to use specialist contractors to conduct their activities.
18.10		Rhino came here knowing exactly what they want to do is dangerous. The love of money can make you do things like kill people, even your own children. We live off the environment and they came here knowing very well that they are going to destroy the environment but they came here with smiles on their faces promising us jobs. How are we going to do those jobs when we are already dead? All I ask is that we make it clear that we will not agree to this and we do not want anything to happen to our land.	Musawenkosi Zikhali, Greytown Public Scoping Meeting, 04 February 2016	Refer to Response 1.199. Issues relating to both the biophysical and socio-economic environment have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4 and 6 for a description of these issues and impacts that will be assessed.
18.11		This pattern of job creation has gotten out of hand because it is part of the ruling party's mandate and it's a highly emotive topic that the government, as the president states, cannot hope to achieve. On the surface it appears that you are going to have the silver bullet solution to rectify these unfulfilled promises and thus have some insidious way to just bulldoze through any environmental process.	Jenny Cowie, Greytown Public Scoping Meeting, 04 February 2016	Refer to Responses 1.33 1.199.
18.12		My name is Nelson Myaka from Greytown, one of the founders of DCG Partnership an Entertainment Company that supplies : Professional Sound System for any events, Recording equipments & Artists Management. We saw an advert on one of our local newspapers ” Greytown Gazette ” about the meetings you will be hosting in Howick, Mooi River and Greytown. DCG Partnership would like to offer our services ofcourse at a very reasonable cost. We believe that every public meeting should have atleast a sound system. Please contact Nelson for Quotations on : 0742199036 / 0761149863. Email : dcgbusiness@yahoo.com	Nelson Myaka, Email, 20 January 2016	Noted

18.13	Accommodation for contractors	What outside labour will be brought into the farm and where they will be living?	Gail & Michael Bradford, Email, 02 November 2015	Staff would be accommodated at a location agreed with the landowner or in nearby towns.
18.14	Declared potential service providers	As discussed earlier, I represent an aerial survey company and we recently became aware of the Rhino Gas and Oil Exploration Project in KZN. Our company, WGS, has been in operation for 7 years and is ISO 9001:2008 certified and SA Civil Aviation Authority approved. We have our own aircraft, LiDAR and cameras and all mapping and production is conducted in-house. We also supply comprehensive GIS services to a variety of industries. The company's head office is in Durban, KwaZulu-Natal, but we have the capabilities to take on projects throughout Southern Africa. I have attached our Company Profile for your reference, and please feel free to browse our website (www.wgsair.com). If you have any queries let me know, or you can contact our director, Hal Wooding, directly on 031 - 765 1424 or hal@wgsair.com .	Natasha Joubert, Email, 03 November 2015	This comment is noted.
18.15		SIVEST SA (Pty) Ltd offer the following Specialist Environmental Consulting Services, should you need to outsource these assessments for any of your current or future projects based in Kwazulu-Natal: 1. Wetland Delineation, Functional Assessments and Rehabilitation Plans 2. Floodline Assessments 3. Diatom Sampling/Biomonitoring Assessments 4. Vegetation Assessments, Rehabilitation Plans and BOQ 5. Conservation Management Plans 6. Faunal and Avi-Faunal Assessments 7. Rangeland Assessments 8. Health and Safety Assessments and Monitoring 9. Agricultural Impact Assessments We would really appreciate the opportunity to quote on either of the above services should you require them on any of your future projects. Any proposal requests may be directed to myself on telephone (033) 347 1600 or Jackie.J@sivest.co.za to allocate and co-ordinate with our respective staff members.	Jackie Jackson, Email, 16 November 2015	This comment is noted.
18.16		I attended the meeting at Ashburton Hall on Monday 2nd November. It was interesting and quite "volatile" with many opinions as to what should or should not happen. My understanding is that unless the proposed plan is put to the test we will never know what is there down under. I am a registered Estate Agent and Appraiser and specialise in farm sales and valuations from Mooi River and Greytown in the north to Ixopo and Creighton in the south and everything in between. I'm offering my services should you need an investigation done on a property within these areas. I will gladly submit my credentials and samples of some valuations should you require	Peter Catterall, Email, 07 November 2015	This comment is noted.

		them.		
19.	Categories	Fracking Related Issues		
19.1		Fracking is not economically viable so what makes this viable?	Michael Wohlters, Email, 02 October 2015	Refer to Response 1.19.
19.2		Water is going to be an even more limiting resource in South Africa than energy. We, therefore, need to protect this resource very rigorously. If fracking has even the slightest chance of affecting underground water at all, it definitely should not be considered.	Dr M.J. Morris, Email, 20 October 2015	Refer to Responses 1.19 and 1.63.
19.3		Nicholas May from The Lower Mpushini Valley (Mineralogist) . I am registering an objection to any sort of Hydraulic Fracturing activity within the KwaZulu Natal boundaries and specifically anywhere in the regions of "Protected Areas" inside of KZN.	Nicholas May, Email, 18 October 2015	Refer to Responses 1.19 and 1.84.
19.4		We are part of MPELA, (Mpushini Protected Land Owners Association) and there are not any members that will allow any sort of activity, as we will not allow any drilling within 5km of our existing Protected Area(covering the majority of areas between Camperdown and Pietermaritzburg). Water resources in this region are precarious and we already have a fragile water table system. There are not areas suitable for hydraulic fracturing and the quantities of water. Or areas to dispose of such waste in our region. I am fully aware of the "Fracking" process as a mineralogist.		Refer to Responses 1.4, 1.19 and 1.63.
19.5		If any such negotiations are to take place in this region, we will insist on a fully fledged Environmental study to be taken out on the complete area beforehand, with a plan of all water resources, boreholes and a plan of the whole geological structure of all land within 5km of any proposed drilling point, with precise details of exactly the effect that such activities could possibly involve, along with all available geological data on existing fracking activities taken up by the company/companies involved.		Refer to Responses 1.4, 1.19 1.33 and 1.63
19.6		Fracking has massive impacts on groundwater.	Dr Richard Lechmere-Oertel, Email, 19 October 2015	Refer to Response 1.19.
19.7		For the above reasons, I would oppose the proposed survey, as there is no purpose in conducting the survey if fracking is not an option.	Dr M.J. Morris, Email, 20 October 2015	Refer to Response 1.19.

19.8		We request registration as an interested and affected party for the Rhino Oil and Gas Exploration project. The people in our area are already informed via local conservancy newsletters. We are opposed to fracking and the negative impact it will have on this area. This particular farm comprises 80% indigenous ancient mist belt forests-an irreplaceable heritage. It is also a catchment area for water that feeds local towns, as are the neighbouring farms. Please keep us up to date on the process and its environmental impacts.	Ulricke and Stuart Gibbs, Email, 21 October 2015	Mr and Mrs Gibbs are registered on the project database (see Appendix 5.3). Refer to Response 1.19.
19.9		We wish to strongly oppose the exploration on our properties.	Keith Brown, Email, 21 October 2015	Refer to Response 1.19.
19.10		Opposed to fracking and negative impacts it will have in this area.	Ulricke & Staurt Gibbs, Email, 21 October 2015	Refer to Response 1.19.
19.11		We say an emphatic NO TO FRACKING IN KZN AND SOUTH AFRICA	Paul & Kirsten de Jager, Email, 22 October 2015	Refer to Response 1.19.
19.12		<p>Furthermore I wish to take issue with your claim that natural gas " is a relatively clean , environmentally friendly form of energy"</p> <p>"Natural gas is mostly methane, a highly potent greenhouse gas that traps 86 times as much heat as carbon dioxide. And because methane leaks during the fracking process, fracking may be worse than burning coal, mooting the claim that natural gas burns more cleanly than coal." (see webpage - Reynard Loki - 8 dangerous effects of fracking the industry doesn't want you to know about.)</p> <p>Global warming is a direct consequence of the increased levels of greenhouse gases in the atmosphere caused by human activity. "A recent international satellite study on North American fracking production led by the Institute of Environmental Physics at the University of Bremen in Germany found that "fugitive methane emissions" caused by the fracking process "may counter the benefit over coal with respect to climate change" and that "net climate benefit...is unlikely.</p> <p>Furthermore," In shifting away from coal and toward natural gas, we're trying for cleaner air, but we're producing massive amounts of toxic wastewater with salts and naturally occurring radioactive materials, and it's not clear we have a plan for properly handling this waste." John H. Quigley former secretary of Pennsylvania's dept. of conservation and natural resources.(see internet webpage : Reynard Loki - 8 dangerous side effects of fracking the industry doesn't want you to know about.)</p>	Paul & Kirsten de Jager, Email, 22 October 2015	Refer to Response 1.19.

19.13		Even a cursory examination of reports on the effects of actual fracking activities elsewhere, makes it clear that fracking has widespread and pervasive negative effects and will adversely affect the quality of life of people within the whole of KZN and beyond. Fracking consumes huge amounts of water (a chronically scarce resource in KZN and S A) and large quantities of silica sand (the sourcing of which is likely to severely affect the coastal zone of KZN) and also involves the injection of toxic and carcinogenic chemicals underground.	Paul & Kirsten de Jager, Email, 22 October 2015	Refer to Response 1.19.
19.14		Whether these inputs are left underground or are recovered for possible above ground disposal, the contamination of ground water and air is inevitable. The Midlands are the catchment from which most of KZN (including Durban)'s water supply is drawn. Any diminution and/or contamination of this supply will seriously and negatively impact the whole of KZN, including Durban.		Refer to Response 1.63.
19.15		A major issue pertaining to fracking which is of local (KZN /S. A.)relevance is that of water use. " Hydraulic fracturing uses between 1.2 and 3.5 million US gallons (4,500 and 13,200 m3) of water per well, with large projects using up to 5 million US gallons (19,000 m3). Additional water is used when wells are refractured. An average well requires 3 to 8 million US gallons (11,000 to 30,000 m3) of water over its lifetime." (see internet webpage -Environmental impact of hydraulic fracturing in the United States - Wikipedia		Refer to Responses 1.19 and 1.63.
19.16		"More than 90 percent of the water used in fracking well never return to the surface. Since that water is permanently removed from the natural water cycle, this is bad news for drought-afflicted or water-stressed states ." "We don't want to look up 20 years from now and say, Oops, we used up all our water," said Jason Banes of the Boulder, Colorado-based Western Resource Advocates. ."(see webpage : Reyarmd Loki - 8 dangerous effects of fracking the industry doesn't want you to know about "		Refer to Responses 1.19 and 1.63.
19.17		This is likely to have a massive effect on the availability of water for other uses namely agricultural, domestic and industrial. As well as having a profound effect on the price of water to consumers - already a contentious issue. "There is a new player for water, which is oil and gas," said Kent Peppler, president of the Rocky Mountain Farmers Union. "And certainly they are in a position to pay a whole lot more than we are."(see webpage : Reyarmd Loki - 8 dangerous effects of fracking the industry doesn't want you to know about "		Refer to Responses 1.19 and 1.63.

19.18		It is worth looking at the record of fracking in terms of its damage to the environment and people's health: "Out of 2,500 hydraulic fracturing products, more than 650 contained known or possible human carcinogens regulated under the Safe Drinking Water Act or listed as hazardous air pollutants". (see webpage Environmental impact of hydraulically fracturing in the United states -Wikipedia)		Refer to Response 1.19.
19.19		There have been over 1,000 documented cases of water contamination near fracking areas as well as cases of sensory, respiratory and neurological damage due to ingested contaminated water. A 2014 study conducted by the Colorado Department of Environmental and Occupational Health found that mothers who live near fracking sites are 30 percent more likely to have babies with congenital heart defects (see webpage Reynard Loki -8 dangerous effects of fracking the industry doesn't want you to hear about.)		Refer to Responses 1.19 and 1.63.
19.20		"A 2011 article in the journal, Human and Ecological Risk Assessment, examined the potential health impacts of oil and gas drilling in relation to the chemicals used during drilling, fracking, processing, and delivery of natural gas. The paper compiled a list of 632 chemicals (an incomplete list due to trade secrecy exemptions) identified from drilling operations throughout the U.S. Their research found that 75% of the chemicals could affect the skin, eyes, and other sensory organs, and the respiratory and gastrointestinal systems. Approximately 40–50% could affect the brain/nervous system, immune and cardiovascular systems, and the kidneys; 37% could affect the endocrine system; and 25% could cause cancer and mutations.(see webpage Joe Hoffman -Potential Health and Environmental effects of hydro fracking in the Williston Basin, Montana)		Refer to Response 1.19.
19.21		On witnessing the damage caused by the exploration for shale gas and the subsequent devastation caused by fracking on the pristine plains of the Midwest of the USA, it is certainly a sad day and a very short sighted policy to have the same process imposed on a limited, densely populated, portion of the RSA which falls within a 30% area of the country that receives in excess of 600mm of rainfall a year, and consequentially thereby is also one of the country's highest food producing regions.	Iain Sinclair, Email, 23 October 2015	Refer to Response 1.19.
19.22		I object to fracking because of the contamination of groundwater on which we and our labour and livestock are reliant. Ours is a water scarce region and this exercise place not only our livelihood but those of our workers and enterprise at risk.	E.H. Gevers, Email, 26 October 2015	Refer to Response 1.19.
19.23		As a post-graduate Conservation Ecology Scientist, I am totally against fracking and totally against the proposed petroleum exploration. We are living in a time where it has become clear that fossil fuels and the use thereof has severe negative environmental impacts. The fact that fracking is illegal in many parts of Europe pays homage to this fact.	Barbra Seele, Email, 26 October 2015	Refer to Response 1.19.

19.24		We love the Midlands as it is – no fracking here please!	Caroline Canderle, Email, 26 October 2015	Refer to Response 1.19.
19.25		I object to fracking because of the contamination of groundwater on which we and our labour and livestock are reliant. Ours is a water scarce region and this exercise place not only our livelihood but those of our workers and enterprise at risk.	E.H. Gevers, Email, 26 October 2015	Refer to Responses 1.19 and 1.63.
19.26		Many people and agricultural industries rely on ground water in this area and fracking has a massive negative impact on this already scarce resource.	Deren Coetzer, Email, 26 October 2015	Refer to Responses 1.19 and 1.63.
19.27		Dead against fracking!	D L Fox, Email, 27 October 2015	Refer to Responses 1.19 and 1.84.
19.28		I wish to register our strong objection (opposition) to the proposed fracking in KZN	Eileen Rose Westhorpe, Arthur Michael Courtney Westhorpe-Pottow, Jade Tess Miller, Christopher Frederick Brigga, Susan Eileen Westhorpe,Michelle Buys, Paul de Wet, Carthy Martens, Roz and Trev Wood, Wedderburn,Victoria Griffin, Phillipa Gordon, A.Lettenga, Dean and Belinda Lentz, Wendy de Waal, W Graeme Maxwell, Blaine & Glynis Osler,D M Robinson, Richard Blyth, Hugh Goble, Mel watson, Zara Bisschoff, Ray Doherty, Lisa Johnson, Anne Marx, Keith and Linda Barlow, Beverley Arnold, Dael Lithgow,	Refer to Responses 1.19 and 1.84.

			Lindsay Scott, Grant Auld, Maureen Hansen, Lorraine Van Meygaarden, Jeffrey Lawrence, Magda, Ashley Bloxham, Barry and Jenny Hodgkinson, Iona Bate, Colleen van Heerden, May K A Armstrong Email, 30 October 2015-	
19.29		Oppose fracking.	Michael Dukes, Email, 30 October 2015	Refer to Responses 1.19 and 1.84.
19.30		Oppose fracking.	Gordon Mallen, Email, 30 October 2015	Refer to Responses 1.19 and 1.84.
19.31		Against fracking going ahead in this area.	Keith Mitchell Bales, Email, 30 October 2015	Refer to Responses 1.19 and 1.84.
19.32		I wish to register our objections to the proposed fracking in KZN.	Christopher Frederick Brigga, Email, 30 October 2015	Refer to Responses 1.19 and 1.84.
19.33		Objection against the proposed project	Sunrose Trust, 30 October 2015	Refer to Responses 1.19 and 1.84.
19.34		Fracking is harmful to humans and the environment. It must be stopped.	Charlene Chaff, Richmond Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 1.84.
19.35		Are there examples of case studies of areas that have been fracked and successfully rehabilitated	Sue Firth, Richmond Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 1.84.

19.36		If Fracking is one of the future operations, I see doom and disaster.	Jack, Richmond Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 1.84.
19.37		Anti-fracking	John and Karen Withers, Email, 02 November 2015	Refer to Responses 1.19 and 1.84.
19.38		Please note my entire objection against this destruction of one of SA's major water sources, the water supplier for more than a quarter of SA's population, and one of SA's most fertile areas. We would be crazy to allow something like this to happen, when many countries ban fracking due to its unknown dangers.	Johann Kassier, Email, 02 November 2015	Refer to Responses 1.19 and 1.84.
19.39		Are you aware that fracking is banned in most parts of the world?	Francois Du Toit, Ashburton Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 1.84.
19.40		If this exploration leads to fracking, Phil must relocate to this area with his family in order to experience the impacts like us.	Charlene Chaff, Richmond Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 1.84.
19.41		Fracking has been banned in most countries due to its adverse environmental impacts especially on water resources. What does Rhino say to this?		Refer to Responses 1.19 and 1.84.
19.42		We understand the environmental authorisation process of scoping and EIA/EMP. Our biggest concern is that fracking is the biggest environmental threat to South Africa and we cannot support it.	Francois van Zyl, Richmond Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 1.84.
19.43		When you come again to discuss successful case studies on fracking, other Rhino managers must be present. Mr Steyn should not be alone.		Refer to Response 1.19.
19.44		Rhino has not presented any cases where fracking has worked in the US. I see that as double standards. They have run away from the US and come here to South Africa due to the huge outcry on fracking in the US. We need the fracking case studies to be presented to us so that we can also be informed. It is reported that fracking will contaminate water and destroy livestock. We want a presentation on those case studies. Let us mobilise each other, join the Karoo and stand together against this project.	Desmond Desai, Ashburton Scoping Meeting, 02 November 2015	Refer to Response 1.19.
19.45		Where will water for the fracking come from?	Ben de Bruin, Ashburton Scoping Meeting, 02 November 2015	Refer to Responses 1.19 and 1.63.

19.46		How can Rhino apply or something that they do not know about. They need to understand the process which may result as a result of their application. The impacts of fracking are obvious and SLR should have made their clients aware of the potential impacts and environmental consequences especially the water crisis.	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Response 1.19.
19.47		Rhino is just like the government. Thank you for coming but we do not want fracking here. Please leave.	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Responses 1.19 and 1.84.
19.48		It must be noted that the community of Mooi River is willing to go as far as embarking on a violent protest if exploration goes ahead.		Refer to Responses 1.19 and 1.84.
19.49		What will the presentations cover that we do not already know? We do not want fracking in this area.		Refer to Response 1.19.
19.50		This process is rushed and the project team is unprepared. It shows a lack understanding on anticipated risks. We are asking questions and we are not getting the answers from Rhino. This is in direct conflict of Section 24. Fracking is the greatest environmental risk in the world. Rhino has the power to withdraw this application. We demand that they do the honourable thing and withdraw this application.		Refer to Responses 1.8 and 1.19.

19.51		I am doctor by profession and have worked in Canada. I have witnessed towns that do not have water anymore due to fracking. I have seen and experienced the effects of fracking. Rhino, as a South African company has some cheek to come here and tell us that they want to explore our land. That is rubbish and unacceptable. Has any of you been or lived in a community where there is fracking? This is government rubbish and I am sure Rhino will just pass it on to someone else when they have realised their profits. In other countries, landowners also own minerals and benefit immensely when their land and minerals are required. In this country minerals are owned by the government and landowners and farmers benefit nothing from such a project. This is a dry country and fracking is just not an option. What will happen to the poor people whose lives depend heavily on water resources? Poor people do not have a voice. A company can frack in the Karoo and the impacts can be experienced as far as the Drakensberg. Is Rhino aware of the impacts on water as a result of fracking? We cannot dry up a country that is already dry. Go and live in a community where there is fracking for six months to experience the real effects of fracking. The Rhino management that the community of Mooi River is prepared to defend their land from fracking even if it means resorting to violence. You are really forcing the community into a corner. Where do you expect us to go? We will defend our rights no matter what. There is a lot of documented literature on the impacts of fracking and I speak from experience. If Rhino sets its foot on our land for exploration, we will be forced to respond with violence.		Refer to Responses 1.19 and 1.84.
19.52		Fracking is bad. I support all the sentiments expressed in this discussion. We need to move to a more sustainable energy.		Refer to Response 1.19.
19.53		The government is short sighted. Where do they expect to get water for fracking and still have for food supply? We are the 30th driest country in the world. Where will the water honestly come from for fracking? What will happen to our existing boreholes? You are betraying South Africa! Shame on you!		Refer to Responses 1.19 and 1.63.
19.54		The seven application areas as indicated on the website can be reduced by a click of a button. Why does Rhino not reduce the application areas and stop wasting people's time. No is a no!		Refer to Response 1.84.
19.55		Rhino is removing themselves from the problem. Do you understand the associated impacts? Health impacts and water shortages? Are you aware of the impacts? Rhino is not facing up to reality. You have received a 100% negative response to this project today. Why would you want to go ahead? We are going to unite with our African brothers in the villages to bring this project down.		Refer to Responses 1.19 and 1.84.
19.56		We are concerned about the wrong impression that any development is better than the <i>status quo</i> . Young girls go as far as making themselves available for prostitution for a better life. Mining operations do not last forever and their impacts are very high. This process must not even begin. It is misleading especially to the poor communities. Fracking is already happening off our coasts, it is only a matter of time before it comes		Refer to Responses 1.19 and 1.84.

		onshore unless we do something about it. It does not have any benefits at all. You must leave!		
19.57		I'm totally against fracking in the Midlands	David Methven, Response form, 02 November 2015	Refer to Responses 1.19 and 1.84.
19.58		If fracking were to ahead there would be widespread loss of livelihood in the farming and rural communities.	Patrick Marion Long, via email, 03 November 2015	Refer to Response 1.19.
19.59		Please give me a breakdown of the chemicals that will be injected into the ground should fracking go ahead?	Mr R and Mrs S Nel, via email, 4 November 2015	Refer to Response 1.19.
19.60		Fracking comes with risks and negative effects on human health and wellbeing.	Francois Du Toit, Colenso Scoping Meeting, 04 November 2015	Refer to Response 1.19.
19.61		The Bill of Rights is very clear on the right of every South African to an environment that is not harmful and going ahead with fracking is going against that human right. It is unconstitutional.		Refer to Response 1.19.
19.62		The process presented here is speculative and lacks facts. Exploration will lead to extraction and that will lead to fracking.		
19.63		There is a reason why fracking has been banned in over 140 countries.		
19.64		Fracking is simply bad. It focuses a lot on business and less on environmental consequences. The impacts of fracking are well documented and they include cancer. The notification of this meeting has been very poor. The local Chiefs have no idea of the project. I believe that the BEE partners were used and paid money just to secure Rhino's seven application processes (five onshore and two offshore). The process cannot carry on because we do not agree with it. We are having this meeting under protest. Our next step is to send an email to demand a SEA for a moratorium on gas and oil projects in this area.		

19.65		I reject the whole project whether it is exploration or extraction. A professor from the University of the Free State has recently published the effects of the Jansenville incident which has effects as far as Mpumalanga. Rhino is here to rape us and make money off us then leave. Fracking has been fought in the Karoo and now you are coming here to take your chances. Look at what coal mining has done in the Mpumalanga areas but the government still approved the mining projects anyway.	Leweld Bamaard, Colenso Scoping Meeting, 04 November 2015	Refer to Responses 1.19 and 1.84.
19.66		I am totally against the exploration for, and process of, fracking.	Lynn du Plessis, Email, 04 November 2015	Refer to Responses 1.19 and 1.84.
19.67		Rhino's business model is to develop, get the rights and then sell them to a third party. They do not have any experience in fracking at all.	Unidentified IAPs, Mooi River Country Club, 04 November 2015	Refer to Responses 1.19 and 1.84.
19.68		Can Rhino explain what goes into the water that is required as part of the fracking process? Is it true that more than half of the process water is lost during fracking?		Refer to Response 1.19.
19.69		I am opposed to fracking here in the Midlands and anywhere else in the world for that matter. "Leave the oil in the soil, the coal in the hole, the tar in the Sands and the gas in the shale". No to fossil-fuels. Fossil fuels must fall! Yes to Renewable Energy. We have plenty of sun to harvest! You can't eat gas and you can't drink water contaminated by the fracking process!	Marilyn Aitken, Email, 04 November 2015	Refer to Responses 1.19 and 1.84.
19.70		Fracking is banned in many countries, why does Rhino want to do it?	Sabelo Mbokazi, New Hanover Scoping Meeting, 05 November 2015	Refer to Responses 1.19 and 1.84.
19.71		I attended the SLR meeting at The Loins River Club on the 3rd November and look forward to the next one when I can again vote against fracking in KZN. I suggest you could do any exploration in all the cities of South Africa as they are already polluted with undrinkable water, foul air and also noise pollution. City dwellers won't be aware of the change after you have possibly polluted their home areas. I have seen the American farmers on the internet who have lost their homes and livelihood due to terrible fracking practices. These horrific results are NEVER rectified. The areas around the wells are not fit for human or animal habitation Please remember there is a drought on at present the farmers are not going to be able to produce enough food for the masses and even you will not be able to run a mining business if you cannot feed your workers. Don't kill the golden goose (our environment) Go to the cities and see what reaction you	Jill Hunter, Email, 05 November 2015	Refer to Responses 1.19 and 1.84.

		<p>get there and leave our precious farming land in the hands of its custodians the FARMERS. City dwellers are greedier than rural people and they can be bought. Our farms are our homes and our livelihoods.</p> <p>When you next come to the Midlands there is no need to bring bottled water we still have clean unpolluted spring water here and will gladly share it with you.</p>		
19.72		<p>I am totally opposed to exploration anywhere in Natal for the purposes of fracking. From all I can find out about the process it appears to be highly destructive for people and for wild life and the landscape will be left ugly and desolate with the soil poisoned. Fracking uses vast amounts of water and we currently are suffering already from drought to the extent of being declared a disaster area. To even contemplate fracking is sheer lunacy.</p>	Eileen Murray, Email, 05 November 2015	Refer to Responses 1.19 and 1.84.
19.73		<p>I represent Earth Watch (Pty) Ltd, a public interest NGO.</p> <p>I attended the public meeting at Ashburton on Monday 2nd November 2015 with a co-director, Nora Choveaux. I did not sign the register and I have not registered as an interested and affected party as I will not be part of an illegitimate process.</p> <p>I raised the point that in terms of the 'fracking' regulations' the areas in which wells would be able to be sunk, by virtue of regulation 122(2) and (3) of the regulations were extremely limited. I objected to the conducting of an EIA in these restricted areas. I pointed out that it was unreasonable to expect communities to participate in a pointless process. I suggested that you should first identify all of the 'excluded areas' and if there were any parts of KwaZulu-Natal that were available for fracking, the EIA should proceed in those areas only. I then left the meeting.</p> <p>I understand that at a later meeting, you made some reference to section 48(1) of the MPRDA, said that you had excluded residential and protected areas from the study area and then stated that regulation 122 of the fracking regulations did not apply to an application for exploration. Clearly you missed the point I made at the meeting.</p> <p>My question was quite simple – why undertake an EIA to obtain exploration rights in areas where any gas, if it were to be found, would not be able to be extracted because of the restrictions imposed by regulation 122 (2) relating to the location of wells?</p> <p>I was informed that at the meeting in Mooi River, you agreed that you would identify the restricted areas and that thereafter, the EIA would proceed only in the unrestricted areas. Please confirm this is correct.</p> <p>Earth Watch was in the process of instructing its attorneys Majola & Co, to commence legal proceedings for an interdict restraining you and your clients from proceeding any further with the process, and for a declaratory order prohibiting the conducting of the EIA process in the restricted areas. Unless you confirm that the EIA will indeed be limited to the unrestricted areas, legal action will follow.</p>	Jeremy Ridl, Email, 05 November 2015	Refer to Responses 1.4, 1.19 and 1.84.
19.74		<p>Please note that we, as landowners in the KZN Midlands, are opposed to any exploration applications being granted from any companies, not just Rhino Oil & Gas.</p> <p>No South African company should even be agreeing to do the Environmental Impact studies that are required - for moral reasons alone.</p> <p>SLR (& any other company who are agreeing to do these studies) are betraying South</p>	J & B Vermaak, Email, 05 November 2015	Refer to Responses 1.19 and 1.84.

		Africa & its citizens. Shame on you all. We don't want Exploration at all We don't want Fracking		
19.75		I have heard a lot of negative reports about fracking from the US. What are negative impacts associated with fracking and especially on farming?	Eddie Meyer, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.19.
19.76		Rhino is going to destroy a large quantity of water through the fracking process. How much of the profits that they will make will remain here in South Africa since they are an American company?	Miles, New Hanover Scoping Meeting, 05 November 2015	Refer to Response 1.19.
19.77		<p>I wish to register my objection to granting Rhino Oil & Gas Exploration South Africa (Pty) Ltd ("Rhino") exploration rights anywhere within the borders of South Africa. There are a myriad of reasons as to why it would be irresponsible to confer exploration rights, as you are no doubt aware. I wish to add the following considerations that have bearing on the health of the communities that would be affected by fracking and that fall within my area of expertise. I will be brief and to the point. A few scientific papers in support of the views I express here accompany this letter. Should you wish for more information, please let me know.</p> <p>Radon & Lung Cancer Fracking releases radon into the air. Radon is formed by the decay of uranium and is radioactive. It occurs naturally everywhere but normally in very low concentrations. When fracking takes place, radon accumulates in the homes of those living in the vicinity. After smoking, radon is the second major cause of lung cancer and therefore represents a major health hazard.</p> <p>Since fracking is a relatively recent phenomenon, long-term studies that investigate the epidemiology of lung cancer in relation to fracking sites have yet to be mounted. A priori, the available evidence implies that fracking would cause an increase in the incidence of lung cancer. In my opinion, this represents an unacceptable risk to public health. I would suggest that any financial advantages to fracking would be offset by the cost to the national health care system. In the light of this information, granting exploration rights that could eventually lead to the implementation of wide-scale fracking would be morally repugnant.</p> <p>Fracking and Neurotoxins Information regarding the various chemicals that are added to the water in fracking wells is of deep concern. Many of the chemicals listed are known neurotoxins, meaning that exposure beyond threshold limit values is associated with damage to brain tissue. The potential neurological manifestations depend on the specific neurotoxin and the particular areas of the brain that are damaged. Some neurotoxins cause death, but for most neurotoxins the damage is far more insidious, taking years before the impact is appreciated. By that stage removal of the patient from exposure is usually too late and the</p>	Digby Ormond Brown, via email, 6 November 2015	Refer to Responses 1.19 and 1.84.

		<p>neurological damage has already been done.</p> <p>As is the case with the potential effects of radon on lung cancer, there is insufficient information at this stage to make definitive statements that conclusively demonstrate that fracking leads to neurotoxic damage in the brains of people living in the vicinity. There is no question that some of the chemicals that are used are neurotoxic. The only issue that requires clarification relates to their neurotoxicity within the context of fracking. Logic dictates that if exposure to a neurotoxin is hazardous in some other environment, such as in a refinery or factory, then exposure to the same neurotoxin in the context of fracking would also be hazardous. Clearly, there may be differences in concentration levels, for example exposure in an open fracking well compared to exposure in an enclosed refinery. That would mean that it might take longer for threshold limit values to be exceeded at a fracking site, but the long term the health effects of the neurotoxin are eventually the same, whatever the context in which exposure occurs.</p> <p>Conclusion: Fracking is potentially associated with major health-related problems. I have only touched on two issues of concern but there are many others, for example, the effects of methane. I respectfully submit that these issues are too risky to safely and responsibly grant exploration rights to Rhino.</p>		
19.78		<p>As permanent residents at MBONA private nature reserve, which is itself custodian of endangered mist belt grasslands and ancient indigenous yellow wood we are vehemently opposed to Fracking in the Midlands. This is a get rich quick scheme for someone, and we request that they leave our beautiful Midlands resources alone.</p>	Peter and Ronnie Ritchie, Email, 08 November 2015	Refer to Responses 1.19 and 1.84.
19.79		<p>As a member of a conservation Association and various conservancies I the whole fracking issue is totally unacceptable. Do you guys really care about anything else apart from your own back pockets? What about the feeding of the nation? You want to destroy the best farm lands in the country for your own financial gain, how selfish? What about the effects on the environment and the wildlife and particularly endangered species such as the Karkloof blue butterfly which only occurs in the Dargle area, the Oribi of which there are only about 1200 left in KZN, the grass owls which are critically endangered? Don't you care about anything else apart from you own thick wallets? This begs the next question, how much of a backhand is "our democratic government" receiving? Who is in whose pocket here? This is totally unacceptable.</p>	Neville van Lelyveld, Email, 09 November 2015	Refer to Responses 1.19 and 1.84.
19.80		<p>As you will be aware, Dargle Conservancy is contributing to the coalition of NGOs and passionate individuals campaigning for a Frack Free South Africa.</p> <p>We would appreciate your help in preventing exploration for gas, coal and oil in KZN (and indeed South Africa). If you haven't already, please register as an Interested and Affected Party and to send your questions and comments to SLR Consulting before the deadline 12 November 2015. Simply send this sentence: Please may I register as an I&AP in the Rhino Exploration Permit Application. Please note I am opposed to any exploration in KZN - to Matthew Hemming: mhemming@slrconsulting.com</p> <p>We suggest the questions be focussed on these issues:</p>	Dargle Conservancy, Email, 09 November 2015	<p>Refer to Responses 1.19 and 1.84.</p> <p>The Dargle Conservancy is registered as an IAP on the project database (see Appendix 5.3 in the Scoping Report).</p> <p>Issues relating to land use (Section 5.4.14), land tenure (Section 5.4.13) and water (Section 5.4.8) have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6 of the Scoping Report).</p>

		<p>WATER – we want a complete map of all current and future water sources. Once done this will most likely leave less than 10% of the current permit area with the possibility of exploration.</p> <p>LANDOWNER RIGHTS – what if a landowner refuses access, what will they do? Are there any buffer zones? Do neighbours have any rights?</p> <p>COMPENSATION – will there be a fund for any future environmental/human damages? The full list of possible questions was sent to you on 2 November.</p> <p>Ask for details of the extra, better organised meeting they promised at the Lion's River Club gathering. Ask for an extension on this deadline for submission of comments.</p> <p>You could include any part of this paragraph that suits your purpose:</p> <p>I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result. We believe the risk to soil and water health from gas exploration can have serious repercussions and open the door to fracking. This is a strong objection to this application.</p>		
19.81		<p>This is a strong objection to the fracking exploration application.</p> <p>I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. There will be serious environmental costs to the KZN Midlands. I am involved in invasive species research and management and I believe that fracking will far surpass the environmental degradation of invasive species and in addition promote more invasive species due to disturbance of the environment. The exploration can tip the balance for invasions of more species.</p>	Ingrid Nanni, Email, 09 November 2015	Refer to Responses 1.19 and 1.84.
19.82		<p>I object to the proposed early-phase petroleum exploration of the central KwaZulu-Natal region by Rhino Oil and Gas Exploration South Africa (PTY) Ltd. I believe this will be the precursor to fracking in the future should oil and gas reserves be found within suitable geological strata. I understand that there will be serious environmental costs to our province as a result. We believe the risk to soil and water health from gas exploration can have serious repercussions and open the door to fracking. This is a strong objection to this application.</p> <p>You are wasting many people's time by not having done a complete water course study to see where you can and can't explore. Many of our properties have water courses running through them or are within the distance where interference is not permitted. I want you to re-map the water sources within the applied exploration area!!!! (using an older existing map will not do).</p>	Wesley Smit, Email, 09 November 2015	Refer to Responses 1.19 and 1.84.
19.83		<p>I, Simone Henselmans and my husband Theo Henselmans would like to register as an I&AP in the Permit applications.</p> <p>We feel strongly about fracking and its implication and would like to take this opportunity to let you know that we both are OPPOSED to any exploration in KZN.</p> <p>We survived a drought of 6 years 1980-86 and have been since then active in trying to</p>	Theo and Simone Henselmans, Email, 09 November 2015	Refer to Responses 1.19 and 1.84. Mr and Mrs Henselmans are registered on the project database (See Appendix 5.3 of the Scoping Report).

		<p>protect our scarce water resources.</p> <p>Too many questions are still to be raised - we therefore request that you extend the deadline for submissions of comments. There still is far too little information out in the open and there cannot be any rush.</p> <p>You as an unknown player ,and somehow connected to the government, cannot expect any trust from anybody.</p> <p>The faster you want to go, the more we shall apply the brakes.</p>		
19.84		<p>The KZN Midlands is the source of the water supply for the Pietermaritzburg, Pinetown, Durban economic corridor, which is home to >44% of the KZN population. In order to supply industry and people in this area, there is a considerable network of dams and water pipelines. Fracking was stopped in the Blackpool area in the UK because it triggered earth tremors. An independent expert investigation commissioned by the company involved showed that the earth tremors were indeed the result of fracking activities.</p>	Rona van Niekerk, Email, 10 November 2015	Refer to Response 1.19.
19.85		<p>I understand that the presence of dolerite in the KZN Midlands makes fracking very unpredictable. I understand this is a very hard rock, which makes drilling difficult, and then the pumping of the fracking mix unpredictable in its outcome.</p> <p>What steps are being taken to mitigate any unforeseen effects emanating from encounters with dolerite?</p>	Rona van Niekerk, Email, 10 November 2015	Refer to Response 1.19.
19.86		<p>It is common knowledge that FRACKING is banned, or under some form of restriction or moratorium in more than 140 places in the USA and Europe, including France, Germany, Bulgaria, New York State, parts of Canada and the Netherlands. What do you have to say about why these places have banned fracking?</p>		Refer to Response 1.19.
19.87		<p>The rep is not bringing proper information to the meeting, which makes it a waste of everyone's time. I am concerned for the long term damage that is likely to happen to the country/planet. I want to be presented with the real/true pro's and cons of fracking.</p>	Lynn Tungay, Response Sheet, 09 November 2015	Refer to Response 1.19.
19.88		<p>I understand that you have been employed by Rhino Resources but have to get all the affected parties input.</p> <p>Firstly I can't get my head around Phillip Steyn as a South African wanting to be a part of something like this.</p> <p>The only possible reason that I can think of is financial gain.</p> <p>We recently moved down to the Midlands from Johannesburg to get away from the dog eats dog society.</p> <p>The people who live in our area are all very conscious of the environment and conserving water.</p> <p>Everyone recycles their waste, it is quite amazing. Many people only eat "happy beef, chicken" etc.</p> <p>They live in this area because they care about Mother Earth.</p> <p>Springvale Dam has just been built to supply water to Midmar, they are busy laying the pipeline now.</p>	Lynne Garbutt, Email, 11 November 2015	Refer to Responses 1.19 and 1.84.

		<p>The Midlands is the water factory of KZN. We are in the midst of a terrible drought where animals are dying from lack of water. In some areas farmers are trucking in water. It is beyond my comprehension that fracking of any kind could even be considered. I have done some research and I cannot find any positive information regarding fracking. I would like to put it on record that I am 100% against fracking not only in KZN but anywhere in SA. If you are working for both sides, Rhino Resources and everyone else who is against this, can you give us guidelines on how to put a stop to this before it goes any further.</p>		
19.89		I am also concerned that the potential exploration and fracking will have negative impacts on water quality and quantity in KZN	Jessica Cockburn, via email, 11 November 2015	Refer to Response 1.19.
19.90		<p>I am a property owner in the KZN Midlands and would like to state my determined and resolved opinion regarding fracking in KZN Midlands. This is a NO GO ZONE for FRACKING!!!!</p> <p>I stand with my neighbours, arm in arm, determined to do whatever it takes to stop FOREVER any talk of fracking, and even the investigation regarding fracking. We demand a moratorium be placed on the question of investigation, mining, drilling, research, whatever subject arises to do with fracking. Let it forever be buried. We consider ourselves to be environmental stewards and we will join arms and walk the highways if it is necessary.</p> <p>The reasons are numerous, all of which have already been discussed in detail at the Lion's River and Mooi River meetings. For the benefit of this e-mail making a positive contribution, I will list my opinions as to why this MAY NOT happen.</p> <ol style="list-style-type: none"> 1. The negative impact fracking will have will affect how hundreds of people make their living. I can't imagine why tourists would want to visit here... my guest house, my source of income would have to close its doors. 2. Fracking is not about the people, it's about a callous attitude Rhino and other exploration companies have to creating crony capitalism and monopolies. 3. Endocrine disruptors used in the fracking process will cause increased risk of still births and miscarriages and fertility issues in men. 4. Fracking results in an unprecedented amounts of earthquakes - EPA seismologists acknowledge a very clear correlation between fracking and earthquakes. 5. Fracking results in extreme water contamination - 150000 litres of 600 different kinds of chemicals used in each fracking well, including formaldehyde, mercury, uranium, and hydrochloric acid create significant runoff into our groundwater systems, left in the ground, not biodegradable. Pennsylvania, a major fracking state, has admitted that fracking has contaminated local water supplies 243 times in 22 counties. In California, where a historic drought has already started water rationing in major population centres, 3 billion gallons of fracking waste leaked into aquifers containing precious drinking water reserves for residents. Drinking the water can cause respiratory, sensory, and 	Jennifer Ormond-Brown, Email, 11 November 2015	Refer to Responses 1.19 and 1.84.

		<p>neurological issues.</p> <p>6. Fracking is responsible for drought - Each fracking project requires as much as 50 million litres of water to complete. We are already experiencing less and less rainfall, water is at an all-time low, steal our water and food prices will rise as more crops and livestock die off and in turn people will move away to find food and water.</p> <p>7. Fracking exacerbates climate change -It doesn't take a genius to figure out that depleted water supplies means that there is less ground water to continue the natural cycle of water. An interrupted water cycle means less water in the air, which means fewer rain clouds, fewer crops, more deserts and an entire population without a critical resource which will lead to widespread social instability. Greenhouse gases increase. Trucks carrying water and supplies to and from the drill site are dumping CO2 into the atmosphere. Methane gas leaking from drilling sites traps more sunlight in the atmosphere and contributes even more to climate change.</p> <p>8. Fracking displaces poor communities - companies come in to drill new wells, displacing entire communities who are left homeless and are forced to uproot themselves.</p> <p>9. Fracking will exacerbate economic inequality.</p> <p>10. Fracking will deplete the value of our homes- I can't imagine anyone buying a house near a fracking site.</p> <p>We are passionate about the environment, community health, housing and the sustainable economics of the Midlands, so FRACKING IS NOT AN OPTION.</p>		
19.91		<p>It is not only business that needs to lodge concerns and register as interested and affected parties in the Rhino Gas application. Fracking has devastating effects that will affect myself, my children, your children....all of us who live here. It quite simply cannot be allowed!</p> <p>Please can you provide a list of dates and venues whereby we can be kept abreast with developments in their application</p>	Tracey Wood, Email, 13 November 2015	Refer to Responses 1.19 and 1.84.
19.92		<p>I'd like to state my objection to the Fracking in the midlands. The midlands is a special, recreational place for KZN residents and it's too close to local residents in the Hilton/Howick area.</p>	Caroline Soar, Email 14 November 2015	Refer to Responses 1.19 and 1.84.
19.93		<p>Please could you register the Mt Currie Farmers Association as an IAP with regards to the Proposed Petroleum Exploration on Various Farms in the Eastern Cape (295 ER). Although we are across the Provincial Boundary in KZN, we are all East Griqualanders, and our water is also affected by any and all changes in the Drakensberg and Maluti Mountain chains.</p> <p>I would ask that you provide a more detailed survey of the water tables and associated Riparian areas within the region and that you take into account the topography of the area.</p> <p>Large parts of the area being considered are mountainous and will not be accessible by vehicle. As was raised at the meeting on 9 November 2015, the water for large sections of the district originate in the area being considered and this is all part of the catchment</p>	Margi Fleming on behalf of Mt Currie Farmers Association, 19 November 2015	Refer to Responses 1.4, 1.8, 1.19, 1.63 and 1.84. Mt Currie Farmers Association is registered on the project database (see Appendix 5.3 of the Scoping Report).

		<p>area of the Umzimvubu river which flows through the former homeland area of the Transkei providing desperately needed water to many along the banks of the river and has its mouth at Port St Johns. Have these communities been consulted regarding possible disruption of their water supply?</p> <p>Please also consider the Highlands Water Scheme & the Orange River whose watershed is on the other side of the mountains; these water systems could also be severely impacted by exploration and future drilling.</p> <p>It is all very well to advise us that the purpose of the exploration is the only thing under consideration but that is like telling the community about a roof which you wish to build and refusing to discuss the walls or structure which will support said roof.</p> <p>The community in East Griqualand are strongly opposed to any exploration or possible fracking in our area.</p>		
19.94		<p>As a citizen of the republic of south africa i am totally opposed to any fracking of any gas in south africa.</p> <p>I have read considerably about the consequences of fracking.</p> <p>And therefore will object to any moves to extract gas from kzn midlands.</p> <p>We are a country which is considered a dry region and to think that there is even a possibility of thinking about this is pure madness.</p> <p>Do we want to go on a path of destruction for the majority of local people for the sake of greedy industrialists?</p>	L.A. Phillips, Email, 12 November 2015	Refer to Responses 1.19 and 1.84.
19.95		<p>These concerns are based upon my comments dated 2013/11/4 to the Department of Mineral Resources (DMR) regarding the "Proposed technical regulations for petroleum exploration and exploitation, Notice 1032 of 2013". For ease of reference, this formal response to DMR is attached herewith, whilst the relevant extract applicable for Rhino Oil & Gas Exploration Right in KZN is quoted hereunder.</p> <ol style="list-style-type: none"> 1. Due process: Local stakeholders must be fully appraised and consulted at all times, including the operational phase of the project, and, all fracking plans, approvals, business cases, etc. be made public documents. 2. Governance: The State must not be allowed to own any shares in any fracking business in order to remain impartial as the government regulator. 3. Viability: Any proposed fracking project must prove its viability on the basis of an Energy Return On Energy Invested (EROEI) study, also known as, Net Energy Return (NER), against alternative energy projects with the same investment criteria wherein total costs are translated into energy unit equivalents as a means of comparison. Total costs includes all costs, such as, the cost to the environment for waste disposal, rehabilitation, road infrastructure, water extraction, pollution, etc. <p>Given the above comments, my concerns are that Rhino Oil & Gas is not transparent in disclosing its business case and proving its viability against the NER criteria. In particular, the NER for gas from fracking will need to clearly demonstrate its viability against other energy sources. For ease of reference, some explanatory slides supporting the above comments and the NER concept are attached. Herein, it can be shown that gas from</p>	Ezio Gori, Email, 12 November 2015	Refer to Responses 1.8, 1.19 and 1.84.

		<p>fracking is not even considered against the basket of other energy sources due to its prohibitive environmental costs.</p> <p>As for State ownership, Rhino Oil & Gas, must disclose the State's equity stake in this Exploration Right, and furthermore, if the State is an equity stakeholder, then it must be able to explain the State's conflict of interest as the industry regulator.</p>		
19.96		<p>The Karkloof Conservancy would like to register as an Interested and Affected Party for the Rhino Oil and Gas exploration rights in KwaZulu-Natal.</p> <p>The Karkloof Conservancy covers approximately 40 000 ha of land in the Karkloof, and has been in existence for nearly 20 years. Our membership consists of farmers, foresters, and landowners who are actively involved in conservation efforts to ensure the protection of all fauna and flora, as well as the habitat in which they exist. This includes the second largest indigenous mist belt forest in South Africa, the threatened mist belt grasslands and most importantly our natural water purifiers, the wetlands. We are the water catchment of 4 main river systems of which a large portion of KZN relies on for clean and healthy drinking water.</p> <p>We understand that the exploration of oil and gas, if successful, will lead to extraction, and the method most likely to be used is hydraulic fracturing or fracking. We are aware of the risks involved with hydraulic fracturing for shale gas, as well as the ecological impact this technique may have on our sensitive environment. We, the Karkloof Conservancy, therefore oppose any exploration for oil and gas within the exploration sites listed, which includes the Karkloof and surrounding areas of the KwaZulu-Natal Midlands, on ecological, health, social, and economic grounds.</p> <p>Please note, several of the properties listed are declared Nature Reserves in terms of the Protected Areas Act, no 57 of 2003. We refer you to section 48 (1) of the Act which prohibits prospecting or mining activities in a declared Nature Reserve. There are no exceptions unless such prohibited activities were taking place prior to 2003. It is unacceptable that this was not addressed before the application was made and is an indication that this was a rushed attempt with little thought given to the area in which Rhino Oil and Gas would like to operate.</p>	Twane Clarke, 12 November 2015	<p>Refer to Responses 1.4, 1.19 and 1.84.</p> <p>The Karkloof Conservancy is registered on the project database (see Appendix 5.3 of the Scoping Report).</p>
19.97		<p>We would like to bring to your attention the fact that 25 700 ha of the Karkloof Conservancy is formally recognised by BirdLife South Africa and BirdLife International as an Important Bird and Biodiversity Area (IBA). We are home to all three of South Africa's crane species, namely the Blue Crane, the Grey Crowned Crane, and the critically endangered Wattled Crane. There are only 311 Wattled Cranes left in the whole of South Africa, and Karkloof is host to 10% of the breeding population. The Karkloof is renowned for the high biodiversity of both fauna and flora that co-exists with first world agriculture. The Karkloof Conservancy would also like to point out that one of the six remaining small colony sites of the critically endangered Karkloof Blue Butterfly is set within the land that you have earmarked for exploration.</p>		<p>This comment is noted.</p>

19.98		<p>I wish to oppose all attempts to recover shale gas by the Hydraulic Fracturing process and to the Rhino Oil & Gas application in particular. The reasons for my opposition are as follows:</p> <ol style="list-style-type: none"> 1. Oil and gas exploration and extraction are inherently risky to the environment 2. The Hydraulic Fracturing technique poses special risks and threats to the environment, particularly to water resources. 3. No national economic return can outweigh the potential catastrophic damage and loss that a disaster arising out of fracking in KZN and the Eastern Cape would entail. 4. Despite control measures in place in other parts of the world, environmental disasters occur with regularity. 5. No standards and controls can eliminate the risk entirely, and even a very small risk is simply unacceptable given the potential consequences of water pollution in the region. 6. The current drought highlights the fact that South Africa is a water-stressed country. The consequences of water contamination are simply unimaginable and unacceptable. 7. Rhino Oil and Gas does not appear to have any resources which would allow for the recovery of damages should water pollution occur. <p>Please note that I am prepared to contribute to any fund established to challenge the constitutionality</p>	PM van Uytrecht, via email, 12 November 2015	Refer to Responses 1.19 and 1.84.
19.99		<p>Due process: Local stakeholders must be fully apprised and consulted at all times, including the operational phase of the project, and, all fracking plans, approvals, business cases, etc. be made public documents.</p> <p>Governance: The State must not be allowed to own any shares in any fracking business in order to remain impartial as the government regulator.</p> <p>Viability: Any proposed fracking project must prove its viability on the basis of an Energy Return On Energy Invested (EROEI) study, also known as, Net Energy Return (NER), against alternative energy projects with the same investment criteria wherein total costs are translated into energy unit equivalents as a means of comparison. Total costs includes all costs, such as, the cost to the environment for waste disposal, rehabilitation, road infrastructure, water extraction, pollution, etc. For the past three years, the expenditures to look for oil have been greater than the dollar returns</p> <p>Implications for economy and sustainability:</p> <p>More and more energy will be needed to deliver the energy society and the economy needs. This will kill discretionary income and the ability to generate the new capital needed to replace declining high EROI fuels.</p> <p>Conclusion:</p> <p>Our future is likely to be dominated by the effects of peak and declining EROI. Low EROI fuels, whether fossil or otherwise are going to need a great deal more investments. This will be during a time when people will be wanting to maintain their consumption. Two aspects of shale production make it radically different from conventional production.</p>	Ezio Gori, via email, 12 November 2015	Refer to Responses 1.8, 1.19 and 1.84.

<p>19.100</p>		<p>First, it takes a lot more energy (including many miles of steel tubing per well, for example) to extract energy out of these wells. Traditional wells have a ratio of energy returned on energy invested (EROEI) of 10- or 20-to-one, or an energy cost factor of 5 to 10%. The EROEI with fracking is in the range of 5- or 10-to-one, or a cost factor of 10 to 20%. Professor Charles Hall of the State University of New York, a recognized expert in the field, claims that modern civilization will have trouble functioning with an average EROEI under 10-15, so shale oil and gas alone could not support our civilization at its current standard-of-living. EROEI roughly correlates with financial cost, and a typical fracking oil well in Texas now costs over \$10 million to drill, compared to less than \$1 million for a conventional well.</p> <p>The other thing about extraction from shale is that it ends quickly. A conventional well's production declines at about 5-8% per year, and it can remain productive for decades. By contrast, the first-year decline in shale wells is over 60%, and about 90% of a well's production occurs in the first five years. That creates a "drilling treadmill," as new wells are needed simply to replace production from wells drilled a few years before.</p>		<p>Refer to Response 1.19.</p>
<p>19.101</p>		<p>Here are a few legitimate concerns that have been raised about fracking's environmental effects:</p> <ol style="list-style-type: none"> 1. Fracking uses millions of gallons of water per well, most of which is unusable thereafter. There is competition for water rights between oil companies on one hand and farmers and ranchers on the other. Last summer Pennsylvania suspended fracking for a while, to low stream flows. 2. The mix of chemicals used in fracking is treated as proprietary, is not subject to much regulation, and therefore is not tested for environmental safety before use. Not surprisingly, when leakages and spills have occurred, they have harmed people and farm animals. 3. Possible pollution of drinking water is a matter of considerable debate. Although fracking is normally done well below the water table, there are natural fissures in the rock that can allow chemicals to migrate. The disposal of used fracking water is another major source of concern, although some operators are experimenting with ways to recycle and reuse the fracking water. 4. Earthquakes in areas that don't commonly have them, including Ohio and Oklahoma, have been linked to fracking activities nearby. 5. The shale production process requires thousands of wells, and each well requires dozens of heavy truck trips to carry the drilling equipment, pipe, and water and chemicals to the well site, often over rural roads not built for such intense traffic. In many cases it is not clear whose responsibility it is to pay for the road damage. 		<p>Refer to Response 1.19.</p>
<p>19.102</p>		<ol style="list-style-type: none"> 6. The impact on a community of a blizzard of drilling activity is very disruptive, and recovery when the oil folks leave town in a year or three may be quite difficult. When it requires \$15 per hour to get people to work in a fast food restaurant, as Mauldin describes in his story, people living on fixed incomes or not participating in the drilling boom will be adversely affected. 		<p>Refer to Response 1.19.</p>

		<p>7. In contrast to long-lived conventional wells, as I noted above, shale wells will likely have a short productive life. Who will be responsible for the long-term monitoring of the spent wells? The record of other extractive industries does not give cause for much optimism</p> <p>General Comments to the Fracking Regulations</p> <p>1. That any proposed Fracking Project proves its viability on an EROEI methodology and comparisons made against alternative energy projects with same investment criteria.</p> <p>2. That all costs are equated to energy units for comparison of EROEI methodology and not simply financial units.</p>		
19.103		<p>Such activities could lead to fracking and other operations which are highly likely to pollute the environment, particularly groundwater (including the prolific use and waste thereof) thus potentially violating my constitutional rights pertaining to the environment, as specified in the Bill of Rights Section 24, which states:</p> <p>Everyone has the right-</p> <p>a) to an environment that is not harmful to their health or well-being; and</p> <p>b) to have the environment protected , for the benefit of present and future generations, through reasonable legislative and other measures that-</p> <p>i) prevent pollution and ecological degradation;</p> <p>(ii) promote conservation; and</p> <p>(iii) secure ecologically sustainable development and use of natural resources</p>	Leigh Collingwood, via email, 12 November 2015	Refer to Responses 1.19 and 1.84.
19.104		<p>2. The current exploration right should, I contend, have never been granted in the first place given the current crisis situation in KZN with respect to water supply and availability due to the drought. This may well be not a passing climatic anomaly, but rather indicative of a long-term trend development in line with global climate change, whereby whole regions may become "permanently" drier, and some wetter. The fact that a government agency has granted this right is, for me, irregular as the government has already indicated that it intends taking 20% free stakes in all oil and gas projects in this country, with the option to raise that stake at market-related rates, to possibly even majority levels. The government is therefore not a disinterested party, as it should be, where its role should be to represent the interests of the electorate, in line with the constitution as specified above with respect to constitutional rights. In short, the government cannot morally be both player and referee.</p>		Refer to Response 1.63.
19.105		<p>3. The so-called "independent" environmental consultants (SLR) cannot possibly be truly independent if they are paid by Rhino, which I believe they are. Being paid by Rhino not only predisposes them to an outcome in Rhino's favour, but also gives them a direct incentive to execute the current scoping process, and later the EIA process, as this is their "bread and butter" business. By all appearances with respect to the public reaction, Rhino should pack up their bags and go home NOW, and this is what SLR should be advising them to do. But, having an interest in the execution of the process, they are highly unlikely to do this, thus potentially even leading Rhino on, even though the COO, Mr Steyn, may want to find himself another job, as I believe he would be well advised to do, for at least the good of his own conscience.</p>		Refer to Response 1.33.

19.106		<p>4. To sum up, as a citizen and natural person wanting to enjoy a natural life in an environment free of the threat of massive environmental degradation and water wastage and pollution, I feel extremely insecure with effectively no recourse, given the abovementioned government involvement as “player”; and with “independent” consultants certainly not truly independent. Ann Bruzas, at the Ashburton meeting, asked what she could do, as a citizen, to stop this process. This is a good question as all forces seemed ranged in favour of Rhino and continued environmental destruction, currently getting totally out of control in this country as the government rolls over in favour of transnational mining and petroleum extraction companies, motivated solely by profit. It seems to me that the only recourse will be the Constitutional Court, and I will certainly take this that far if it is within my power to do so</p>		Refer to Responses 1.19, 1.33 and 1.84.
19.107		<p>Your BID: early-phase petroleum exploration refers. We have reviewed your BID and offer herewith our comments on issues of concern to DUCT. We request that these comments be added as an appendix to your final Report to be handed in, and request that you supply us with a copy of the final Comment/Response report. Our interest is in the potential impacts on water resources, and cognizance of this threat should be taken at all times. Thus, in reviewing your document, the following concerns have influenced DUCT comment: -Effects / impacts on local Hydrology o Impacts on water of rivers, streams and watercourses (run off, absorption) o Impacts on riparian zones o Impacts on river health and water quality o Impacts on aquifers, boreholes and springs -Possible lowering of catchment absorption function -Climate Change impacts of predicted increased rain and increasing storm intensity on well sites, slurry dams, and other infrastructure such as storm water drainage from roads</p>	Mrs P S Rees, via email, 12 November 2015	Refer to Response 1.63.
19.108		<p>Impact on potable water supplies such as water shortages and waste disposal -- Cumulative effect in the catchment and inter basin transfer areas a) There are documented cases worldwide that indicate water contamination of aquifers and surface water occurs during extraction. Globally, insufficient research has been conducted to prove that some types of extraction such as hydraulic fracturing (fracking) that will follow the exploration will not impact water supplies. b) Our waste water treatment works are not equipped to dispose of the waste water produced during the extraction process. Due to these two reasons alone, until further research has been conducted on impacts to water resources, we are opposed to the early-phase petroleum exploration, as extraction will be the next step. c) Baseline studies are needed across the area to be explored. These studies to include water quality AND river health bench mark tests as well as aquifer quality tests and soil tests (to monitor seismic testing) d) We find that the BID is far too vague, specifically the map.</p>		Refer to Responses 1.63 and 1.217.

19.109		<p>In terms of regulations, certain areas have to be buffered from exploration and extraction and this information should be indicated on the map in the BID as follows:</p> <ul style="list-style-type: none"> -protected areas -water courses (buffer 500m / 1:100 year flood) -wetlands (buffer 1km) -boreholes (buffer 500m) -municipal wells (5km buffer) <p>Additional map overlays need to be added as follows:</p> <ul style="list-style-type: none"> -Detailed geological map showing shale deposits Detailed aquifer maps -Detailed water resource maps -Detailed maps of all protected areas -Detailed maps of all boreholes & municipal wells 		See Sections 2.1.1 and the Figures in Section 5 of the Scoping Report.
19.110		<p>The exclusion of all of the above means that much of the exploration area is null and void. The inclusion of the above will produce a map which will more accurately indicate potential exploration sites as opposed to the currently indicated 1.8 million hectares. Once the above mentioned overlays have been included, the target area will be reduced, which will then enable a more thorough and informed public participation process.</p> <p>e) The following have not been explained:</p> <ul style="list-style-type: none"> -Where will the water to be used in the drilling of the 10 test sites be obtained - How much water will be needed per test site. - How and where will the water and any slurry produced be disposed of? -How will test sites be rehabilitated -No financial projections are indicated -Being an exploration company, it is implied that Rhino's end goal is extraction. Confirmation is needed as to whether Rhino will conduct the exploration themselves or sell it to the highest bidder. -Should the sought after resources be found, is fracking one option of extraction? What are other options? <p>f) FTG surveys may not take place over protected areas which have a flight ceiling</p> <p>g) We are opposed to the use of seismic testing.</p> <ul style="list-style-type: none"> -The target area is situated on at least two geological faults that we are aware of. -Research has proven that seismic testing has a negative impact on the surrounding environment 		<p>See Section 2.1.1 for a discussion on the exclusions.</p> <p>Section 2.3 for details of the exploration work programme.</p> <p>Impacts to the various environmental aspects will be assessed in the EIA (see Section 6).</p>
19.111		<p>h) Although it is stated that the initial 3-year exploration work programme will be restricted to non-invasive techniques, such exploration is being done with the end aim of extraction, which is an invasive process. Thus details are lacking as to precisely how oil, gas, condensate, coal bed methane, helium and biogenic gas will be extracted. Interested and affected parties have the right to be informed of these details. It seems that fracking may only be the tip of an unwanted iceberg.</p> <p>i) We call for a moratorium on exploration until a Strategic Environmental Assessment has</p>		See Sections 2.3.10, 5.4.2 and 5.4.3 for discussions on these matters.

		<p>been completed for the entire area under application. Additionally, the Strategic Environmental Assessment & Management Plan for the uMgungundlovu District Municipality must be adhered to.</p> <p>j) An additional concern is the fact that according to the release of the eighth annual National Environmental Compliance and Enforcement Report (NECER) by the Department of Environmental Affairs (DEA) on 2 November 2015, there has been a decrease of more than 50% in reactive inspections (inspections undertaken in response to an incident or complaint).</p>		
19.112		<p>Thus the combination of an activity that has the potential to contaminate our water resources PLUS authorities that are unable to monitor and enforce the countries laws is not an acceptable position and under the circumstances it will be foolhardy to continue with this application process.</p> <p>k) Eleven public meetings in an area of 1.8 million hectares that were not advertised in all local languages cannot comprise representative public participation; additionally, public meetings were held on weekdays during working hours, preventing many people from attending.</p> <p>l) We support the comments as well as questions submitted per email today by Mr F du Toit of the African Conservation Trust, and request that the questions he submitted are all answered.</p> <p>m) We support the comments submitted by Coastwatch</p>		<p>Please see Section 5.2 of the Scoping Report for information on the public participation process.</p> <p>All of the submissions made by I&APs are documented in this Comments and Responses table.</p>
19.113		<p>Should your application be approved, DUCT requests that the applicant be ordered to pay a pre-determined amount of money into a fund that will ensure that locally impacted communities have the means to:</p> <ol style="list-style-type: none"> 1. monitor events 2. appoint their own legal advisors 3. appoint their own specialists to conduct impartial research and monitoring of the entire process 4. Conduct pre exploration baseline studies across the area to be explored. These studies to include water quality AND river health bench mark tests as well as aquifer water quality tests <p>Due to the threat to our water resources, DUCT is opposed to fracking in KZN, and we are thus opposed to the granting of a licence for early-phase petroleum exploration. Thank you for the opportunity to comment and we look forward to receiving further information.</p> <p>Please address any correspondence to the Howick address above</p>		<p>The requirements for financial provision are set out in the EIA Regulations as explained in Section 7.9.1 of the Scoping Report.</p>
19.114		<p>Coastwatch is a voluntary association of concerned individuals with a high level of expertise in a variety of aspects of coastal and estuarine management. While our focus is specifically the coastal zone we are acutely aware of the importance of the condition of catchment water resources as a major influence on the coastal environment.</p> <p>Coastwatch comments from the perspective of activities with the potential to severely</p>		<p>The MPRDA provides for the separation of the exploration phase from any production phase. See section 1.3 of the scoping report for an explanation of the exploration process.</p>

		<p>impact water resources.</p> <p>The application for authorisation artificially separates the exploration stage from the life cycle of an oil/gas extraction project. Impacts from the extraction activities may render the project fatally flawed and cognisance of this from the outset would avoid unnecessary costs, and social turmoil with a waste of resources.</p> <p>Coastwatch has considered its position. With the clear understanding given in the background information document (BID) that future mining ("larger scale projects") is a strong possibility Coastwatch has no option but to lodge its objection to the proposed Rhino Oil and Gas exploration activities in KZN. (BID Potential Environmental Impacts: Cumulative and future impacts – although the current work may have limited impacts, a concern is that approval of this work could open the way for future, larger-scale projects in the area. These may have much greater impact and be difficult to stop if investment has been made.)</p>		
19.115		<p>Notwithstanding its objection to the proposed exploration activities (with a potential to lead to extractive operations) Coastwatch comments on the BID as follows:</p> <p>1. The applicant: Rhino Oil and Gas Exploration South Africa (Pty) Ltd. Please provide information on the credentials of the applicant and a history of operations in the field of oil/gas exploration and extraction.</p> <p>2. Please discuss in detail the motivation behind the project. The applicant will have considered the project further than the exploration stage. What is the plan with the information which will be gathered during the aerial and 2D surveys? The statement - "The purpose is to determine the presence of a petroleum resource which could be investigated further" (BID Introduction) - needs to be fully understood.</p> <p>3. The EIA Process: In terms of the EIA Regulations 2014 – the exploration right falls within activity 18 in Listing Notice 2 (GN R984). Please give a detailed description of the activities and associated infrastructure in relation to the listed activity.</p>		<p>Section 4 of the scoping report presents the needs and desirability.</p> <p>Section 1.3 of the scoping report provides an explanation of the exploration process.</p> <p>Full details of the proposed exploration work programme are provided in Section 2.3 of the scoping report.</p>
19.116		<p>4. The regulations for Petroleum Exploration and Production (GNR. 466 3 June 2015) make provision for the protection of water resources – Regulation 122. The province's water resources must show on a map with clear indication on the same map where the exploration activities will occur.</p> <p>5. Information is generic – a list of affected properties is given and the project site covers 1,5 million hectares. The studies need to deal with the specifics throughout the area with these presented to all registered parties. Discussion on specific issues should not be on a one-to-one basis with landowners affected during the exploration activities.</p> <p>6. The proposed activities must be discussed in context of the relevant scientific information which is available, and include limitations and gaps in knowledge.</p> <p>Coastwatch places on record its concern with a lack of information, such as a Strategic Environmental Assessment, for the project area and no-go areas must be identified.</p> <p>Coastwatch is concerned that there are just too many unknowns to give confidence in responsible and defensible decision making.</p>		<p>Refer to response 1.63.</p> <p>The key water resources are indicated on Figure 5-5.</p> <p>The impacts of the exploration work programme (See Section 2.3 of the report) will be assessed by the methods detailed in the plan of study (see Section 7). The results of the impact assessment will be provided in the EIA.</p>

<p>19.117</p>		<p>7. Please include details on all the studies which will be undertaken, including the terms of reference for each study. There needs to be interactive (between specialists) interpretation of results.</p> <p>8. Additional Authorisation Processes</p> <p>With a One Environmental System approach in place all information relevant to all applications must be presented, for example, all information necessary for a water use licence should it be required.</p> <p>Conclusion:</p> <p>South Africa is a water-constrained country. There is a vital need to conserve, manage, and expand its limited water resources as efficiently as possible.</p> <p>The exploration area is broad and encompasses large parts of KwaZulu-Natal. The potential therefore exists to impact on the water resources for the entire province. KwaZulu-Natal is in a situation where existing resources are fully, even over-, subscribed even in a year with good rainfall. The use of hydraulic exploration and later extraction, while technically feasible, is unsustainable.</p> <p>Coastwatch joins the coalition of community organisations supporting a Frack Free zone in KZN.</p>		<p>Section 7 of the Scoping report presents the plan of study for EIA.</p> <p>Section 3 of the Scoping report details the legislation that is relevant to the proposed exploration work programme.</p> <p>Also refer to response 1.63 (impact on water resources)</p>
<p>19.118</p>		<p>WWF-SA is opposed to fracking as we believe South Africa must reduce its dependency on fossil fuels. We are concerned that the exploitation of unconventional fossil fuels is being rushed without the proper safeguards and proper regulatory capacity being put in place to manage what is an expansive and intrusive form of resource exploitation. We are also of the view that the current processes of stakeholder engagement is flawed as it takes place in an area that is not subject to a Strategic Environmental Assessment process as is currently underway for the Karoo. We find the disconnect between what is presented in the Midlands and what is being proposed for the Karoo disturbing.</p> <p>While the KZN 291 ER application by Rhino Oil and Gas covers a number of conventional and unconventional fossil fuel sources, WWF is concerned this will be the precursor to hydraulic fracturing in the future should sufficient shale oil or gas reserves be found. Furthermore, regardless of the type of fossil fuel, we believe that both exploration, and later extraction activities pose a significant risk to the environment, especially the integrity of the region's water resources and soil health. More specifically, the water demand, wastewater management and chemicals handling associated especially with extraction of unconventional sources are of major concern. These potential impacts should be avoided at all costs.</p>	<p>Susan Viljoen (WWF), via email, 13 November 2015</p>	<p>Many I&APs asked why the current SEA for Shale Gas Development in the Karoo is not applicable to all areas of South Africa where gas might occur, particularly where the resource could be shale gas. I&APs demanded that the Karoo SEA be expanded to include other areas of the country so that there is a consistent framework for oil and gas applications. Moreover, they demanded that all exploration right applications and related EIA processes be stopped until the SEA is complete.</p> <p>While the outcomes of the Karoo SEA may be applicable to all shale gas development in South Africa, the defined scope of the study area is limited. There is strong argument that the study area of the Shale Gas SEA should be aligned with the full geological extent of areas with shale gas potential and not limited to a specific geographical area. The public are advised to motivate to the Department of Environmental Affairs for the study area to be expanded.</p> <p>Please refer to Section 5.4.3 of the Scoping Report for a detailed response in this regard.</p> <p>Also refer to response 1.63 (impact on water resources)</p>
<p>19.119</p>		<p>Other more specific comments and questions that WWF wishes to raise are as follows:</p> <p>-The referenced exploration area (291ER) in the Background Information doc does not correspond with the PASA map on Petroleum exploration and production activities in SA. On the PASA map (see http://www.petroleumagencyrsa.com/images/pdfs/Hubmap1015b.pdf), the area presented in the background information is actually referred to as application area 294ER; so this is generates confusion as to which application area is under discussion here? Please clarify.</p>		<p>See Figure 1-2 and Appendix 3 in the scoping report for the extent of the exploration right application area.</p> <p>Minerals included in the ER application are oil, gas, condensate, coal bed</p> <p>All properties given status in terms of the National Environment: Protected Areas Act are excluded from the exploration right application area. Newly proclaimed properties will be removed as the information becomes available.</p>

		<p>-From the background information provided it is also not clear what kind of gas the applicant is hoping to find as the exploration application covers oil, gas, coal-based methane and a number of other substances. In terms of impacts, it is very significant whether the applicant is hoping to find conventional or unconventional oil & gas. More clarity is requested in the Scoping report.</p> <p>-WWF agrees with the request raised at many of the public meetings that the applicant needs to revise their exploration map before continuing with stakeholder interaction. Please also confirm if privately owned Protected Environments and Nature Reserves declared in terms of the National Environment: Protected Areas Act through the Biodiversity Stewardship Programme process have been included in the category of protected areas that will be excluded from exploration marked on the map provided in the BID, or whether only state-owned protected areas have been included? Please take note that another 14 privately owned reserves have recently been proclaimed as per Govt Gazette No. 1522 (Proclamation 7 of 2015). GIS shapefiles of all privately owned protected areas proclaimed to date can be provided.</p>		See Section 5.4.5. for a discussion on the revision of the exploration right application area.
19.120		<p>We feel that this EIA process is premature in that this study is being undertaken without the guidelines regulating Hydraulic Fracturing for Shale gas extraction from the National Department of Water and Sanitation (DWS) having been published or even placed in the public domain. It is essential that this EIA process is regulated by these proposed guidelines and the DEA Guidelines. The reason for this is the demarcated area of this EIA encompasses the main water sources many for KwaZulu Natal's key rivers systems which have sustained the people of KwaZulu Natal and provided water for our economic growth. Our main water supply dams are situated in the Water Management areas.</p>	Bryan Ashe from South African Water Caucus, via email, 17 November 2015	<p>The potential impact on water resources has been identified as a key issue that requires further investigation. Refer to Sections 5.4.8 (Groundwater) and 5.4.9 (Surface water) in the Scoping Report for a description of identified issues and responses thereto. The terms of reference to assess these water related issues are set out in section 7.5.2 of the scoping report.</p> <p>See Table 3-1 of the scoping report for details of the legislation applicable to the exploration work programme.</p>
19.121		<p>The BID document does not make it clear which technology and techniques are going to be used in Hydraulic Fracturing for Shale gas, coal bed methane, helium and biogenic gas as each process has its own impacts and effects on water and the environment and where is the proposed area that each technology will be used. It is very unclear from reports from colleagues who attended the meeting if this information was even made available at the public meetings. This current document lacks this detail other than the area and names of the farms. The revised BID document then needs to go through a new public participation process.</p>	Bryan Ashe from South African Water Caucus, via email, 17 November 2015	<p>Full details of the proposed exploration work programme are set out in Section 2.3 of the scoping report.</p> <p>Also refer to Response 1.19.</p>
19.122		No fracking.	Unidentified IAPs, Howick Public Scoping Meeting, 02 February 2016	Refer to Response 1.19.
19.123		We don't want fracking. If fracking is going to take place it should take place in another province.	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	<p>Full details of the proposed exploration work programme are set out in Section 2.3 of the scoping report.</p> <p>Also refer to Response 1.19.</p>

19.124		How are you going to stop water from being contaminated during fracking?	Unidentified IAP, Howick Public Scoping Meeting, 02 February 2016	The potential impact on water resources has been identified as a key issue that requires further investigation. Refer to Sections 5.4.8 (Groundwater) and 5.4.9 (Surface water) in the Scoping Report for a description of identifies issues and responses thereto. The terms of reference to assess these water related issues are set out in section 7.5.2 of the scoping report. Also refer to Response 1.19.
19.125		Rhino is only interested in economic growth. What will they do with the contaminated water? Do they know the impact of fracking on the water?		The potential impact on water resources has been identified as a key issue that requires further investigation. Refer to Sections 5.4.8 (Groundwater) and 5.4.9 (Surface water) in the Scoping Report for a description of identifies issues and responses thereto. The terms of reference to assess these water related issues are set out in section 7.5.2 of the scoping report. Also refer to Response 1.19.
19.126		Do you know what social impacts this fracking of yours will have? How will you rehabilitate the areas where you did fracking? This fracking is based on murdering and stealing. We will continue to fight this. Why don't you do this in the Free state?		Refer to Response 1.19.
19.127		I have walked quite a number of rivers in this area from source to finish. We have all seen the poor state of our rivers. We are in a drought. I do not believe that you can give 110% assurance that you will not contaminate our water. It has happened in the US and it will happen in the UK. I was raised to not act if in doubt. Do you even know the names of any of the rivers in this area? Do you know where they start and finish? Do you know what they do for us? Do you know that there are 5 million people dependent on the Umgeni River? If you do fracking in this area where will we get our water from? What will you do with the slurry afterwards? Will you send it to the treatment works that already contaminate our rivers every day? You cannot guarantee what you will do with your waste and our waste water treatment works cannot deal with the chemicals you will put in the water if you continue with fracking. Rather spend your money on renewable energy. You should come along the next time we have a river walk and you will see for yourself that you are endangering our lives and taking our water if you decide to do fracking.	Penny Rees, Howick Public Scoping Meeting, 02 February 2016	The potential impact on water resources has been identified as a key issue that requires further investigation. Refer to Sections 5.4.8 (Groundwater) and 5.4.9 (Surface water) in the Scoping Report for a description of identifies issues and responses thereto. The terms of reference to assess these water related issues are set out in section 7.5.2 of the scoping report. Also refer to Response 1.19.
19.128		In France, New York and Germany where fracking is done there are cases where methane gas escaped into the atmosphere. How do Rhino plan to prevent this from happening here?	Mbuso Mabone, Howick Public Scoping Meeting, 02 February 2016	The potential impact of gas escape on air quality has been identified as an issue that requires further investigation. Refer to Section 5.4.17 (Air quality) in the Scoping Report for a description of identifies issues and responses thereto. The terms of reference to assess the air quality related issues are set out in section 7.5.6 of the scoping report.
19.129		10 million litres of water was taken from the Midlands to the drought stricken parts of the country. You have not consulted the people of Pietermaritzburg and Durban who all get water from the Midlands. The people will not allow you to take water for fracking. Each frack uses 2 million litres of water. You say you are providing jobs but what about the companies that use water and provide jobs in the cities of Pietermaritzburg and Durban?	Dela Maiwald, Howick Public Scoping Meeting, 02 February 2016	The potential impact on water resources has been identified as a key issue that requires further investigation. Refer to Sections 5.4.8 (Groundwater) and 5.4.9 (Surface water) in the Scoping Report for a description of identifies issues and responses thereto. The terms of reference to assess these water related issues are set out in section 7.5.2 of the scoping report. Also refer to Response 1.19.

19.130		You are not listening to us because we tell you 'no' and you still continue with your nonsense. The constitution says the people decide. There are four new countries where fracking has been banned, the latest being Scotland. Why has fracking been banned?	Ricardo Larsen of Concerned Young People of South Africa (CYPSA), Mooi River Public Scoping Meeting, 03 February 2016	I'm not a politician so I can't say why it was banned but I can say that in the UK the Royal Society of Engineers and geologists from Cambridge found that fracking can be done safely in the UK, based on data from well completion reports. So in the UK the ban on fracking was overturned. (Rhino)
19.131		You are talking about fracking being done safely in first world countries but this is a Third World country, what makes you think we can do it safely here?		Refer to Response 1.19.
19.132		Just tell us what you are going to do with your fracking.	Unidentified IAP	This is not an application for fracking as it is not feasible to apply for fracking at this stage. We can't just walk in an area and drill a well into thin air. We need to go through a process of exploration to determine what is viable. (Rhino) Also refer to Response 1.19.
19.133		How can you not know why fracking is banned in Scotland? Do you know why it is banned in Germany and France and most states in America? Have you even done that research? Do you even care?	Colleen Lucy teacher at the Weston Agricultural College, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.19.
19.134		You should do your research on fracking because it is harmful to animals and humans and nature in general. Rather look at alternative means of energy.		Alternative energy is not one of Rhino's area of interest or expertise.
19.135		You are supposed to be a geologist how can you not know why fracking is banned in other countries? It's because all the other countries are being destroyed by this.	Patrick from Weston Agriculture College, Mooi river Public Scoping Meeting, 03 February 2016	Refer to Response 1.19.
19.136		You say fracking can be done safely but there are many concerns about the safety the case and point being fracking in the US as this is where it has been done the longest. Wattled cranes rely heavily on pristine wetlands and water grasslands. Are you aware of this? Any contamination in such areas will spread.	Lara Jordan of RNR Conservancy, Mooi River Public Scoping Meeting, 03 February 2016	Issues relating to biodiversity have been identified for further investigation in the next phase of the EIA. Refer to Sections 5.4.7 and 6 for a description of these issues and impacts that will be assessed.
19.317		Operationally there is a big difference between safety standards and materials in a Third World country and a first world country. Which standards and legislation will be followed? I cannot see how technology has improved. In the US where fracking has been done the longest the environment has been destroyed and I can't see any assurances of how technology has improved and how the damage can be controlled.	Lara Jordan of RNR Conservancy, Mooi River Public Scoping Meeting, 03 February 2016	Refer to Response 1.19.
19.138		The president of France said they will maintain a ban on fracking and exploration drilling until there is proof that shale gas can be extracted without harming the environment or the versatile landscape. Germany said they will not accept fracking and exploration drilling	Ricardo Larsen of Concerned Young People of South Africa	Refer to Response 1.19.

		until it is scientifically proven that it is 100% safe. You have said that the UK overturned their ban on fracking saying that it is safe but why do France and Germany maintain their ban saying it is not proven safe?	(CYPISA), Greytown Public Scoping Meeting, 04 February 2016	
19.139		You have previously said that technology has improved a lot and fracking can now be done safely. In my experience modern cars and cell phones do not last as well as their older versions. Twelve states in the US have banned fracking and you still want to use the US as an example. The US has been turned upside down and now you want to turn this country upside down.		Oil and gas technology has advanced so much in the last 50 years and comparing technology that we had in the past to what we have now, when done properly, oil and gas exploration can be done safely. That is why the US is one of the powerhouses of the world. They've got domestic oil and gas productions that can self-sustain the whole country. If we can emulate that locally it would really contribute to South Africa's economy. (Rhino)
19.140		As a timber farmer we need to get a planting permit and as part of that you need to apply for a water use permit. At every meeting we go to in this regard we get told that all the water in the area has been oversubscribed and we can't get a water use permit. What you are proposing uses a lot of water so how can you get a water use permit if you do fracking?	Andrew Mason of U.A.S., Greytown Public Scoping Meeting, 04 February 2016	See Section 3 of the Scoping Report for details on the legislation relevant to the proposed exploration activities. Also see Section 2.3.5 for information on the use of water during the proposed core hole drilling. Issues relating to the use of water and water contamination have been identified for further investigation. Impacts to the various environmental aspects will be assessed in the EIA (see Section 6).
19.141		Whether or not you are going to do fracking you're still going to infringe on my water use.		Refer to Response 1.19.
19.142		A lot of us here are businessmen and we understand the concept of risk. South Africa is the third driest country in the SADEC region. Water is crucial for our survival. There are countries that have been alluded to such as France, Germany as well as states within the US that have banned fracking. Your exploration could potentially lead to fracking and the associated risks. There is a reason why those countries banned fracking and the reason is that we don't fully understand fracking yet. The potential risks that you are outlining to us who have problems with water are too grave and we are not prepared to entertain those risks.	Unidentified IAP, Greytown Public Scoping Meeting, 04 February 2016	The potential impact on water resources has been identified as a key issue that requires further investigation. Refer to Sections 5.4.8 (Groundwater) and 5.4.9 (Surface water) in the Scoping Report for a description of identifies issues and responses thereto. The terms of reference to assess these water related issues are set out in section 7.5.2 of the scoping report. A large number of I&APs objected to the exploration right application because the proposed exploration activities may lead to a gas discovery, which may in turn lead to an application for a production right, which may include the possibility of hydraulic fracturing ("fracking") as a production method. In light of this, I&APs have stated that exploration should only be considered for approval if it can be demonstrated that all future activities arising from the exploration would not lead to unacceptable risks. The interest in and concerns around fracking are recognised and acknowledged. However, no fracking is proposed as part of the current work programme and the ER, if granted, would only allow the proposed work programme as described in Section 2.3. The current EIA is aligned to the early-phase exploration work programme. The potential impacts of further detailed exploration and future production activities will not be assessed in the EIA process. Please refer to Sections 1.4.1, 2.3.10 and 5.4.2 for further discussion in this regard.
19.143		In the US Dick Cheney, under the Bush Administration, changed the legislation of the US and slipped in a clause that exempted oil and gas extraction from the clean air and water act. There is a context, of these supposedly most democratic countries in the world, where this industry has over ridden that democracy. This industry is also not open about	Bruce from Zulu trail Project, Greytown Public Scoping Meeting, 04 February	Full details of the proposed exploration work programme are set out in Section 2.3 of the scoping report. A large number of I&APs objected to the exploration right application because the proposed exploration activities may lead to a gas discovery, which may in turn lead to

		associated health risks. We have great legislation in this country and it's a big bonus, but people don't have confidence in the implementation capacity of that legislation. I know a lady who informed a lot of people about this meeting otherwise I don't know how many people would have been here so it seems that some things slipped through. This is the start of public dialogue about fracking in South Africa and I don't think it is mature to exclude people that want to talk about fracking.	2016	<p>an application for a production right, which may include the possibility of hydraulic fracturing ("fracking") as a production method. In light of this, I&APs have stated that exploration should only be considered for approval if it can be demonstrated that all future activities arising from the exploration would not lead to unacceptable risks.</p> <p>The interest in and concerns around fracking are recognised and acknowledged. However, no fracking is proposed as part of the current work programme and the ER, if granted, would only allow the proposed work programme as described in Section 2.3. The current EIA is aligned to the early-phase exploration work programme. The potential impacts of further detailed exploration and future production activities will not be assessed in the EIA process.</p> <p>Please refer to Sections 1.4.1, 2.3.10 and 5.4.2 for further discussion in this regard.</p>
19.144		<p>I am most definitely against land exploration for gas and possible extraction of shale gas, simply because I am a Mineralogist myself and know the exact process, repercussions and results.</p> <p>As we have stated in the Ashburton meeting held in 2015, any EIA process taken up in most areas of KZN will be met with immediate legal action due to the South African law stating the distance that any drilling and seismic activity can take place from boreholes/rivers, Municipal water systems, water courses, marshlands, Protected Areas, Nature Reserves etc. We have done the mapping, topographical exercise ourselves of seeing which areas would be left over after these legal distances have been met, and it is an extremely small percentage of land in KZN. The chances that the areas that you would want to "explore" would correspond with these only legal areas to apply for the EIA, would be very small indeed, therefore any application for exploration rights on any other area besides this tiny percent of "out of legal boundaries" land would be illegal and will be met with many objections and legal action from different parties effected.</p> <p>I am quite sure that you are aware, that any action, EIA application or drilling taking place on any area within legal distance limits, would be illegal according to South African Law as it stands.</p> <p>I am sure you may have heard the quote before; "How much more valuable would a tree be if made from gold?"</p>	Nicholas May, Email, 26 January 2016	<p>Your objection is recorded.</p> <p>Amongst other functions, it is the role of the Scoping and EIA process to identify environmental sensitivities and make recommendations on measures to prevent harm to these. A considered approach is being followed through the course of the Scoping and EIA process to ensure an appropriate outcome with regards the identification, protection and /or exclusion of environmentally sensitive areas. The full outcome of this process and the mitigation will be presented in the EIA report.</p>
19.145		<p>I heard about the past and up-coming information meetings thru Hilton rate-payers assoc. I appreciate being informed about the meetings and efforts to thwart fracking in the midlands. I'm semi-retired, but still working Monday-Friday at the ICFR, on UKZN campus. Any info on the fracking plans of the greedy few in KZN, and even RSA as a whole, would be greatly appreciated. I feel its my, and all environmentally aware RSA citizens, duty to get involved in any public attempts aimed at preventing the go-ahead of fracking and associated exploration studies in our country. Not just for the sake of us current citizens, but also for our children's children's children. The word needs to be spread. We need to breathe the spirit of demonstration into citizens of all races in this country. Not only rely on students to catch the eye of the public!</p>	Dr Robin A W Gardner, Email, 30 January 2016	Your objection is recorded.

		cheers and regards.		
19.146		I am a registered I&AP in this matter. Unfortunately cannot make the Howick West meeting today and would like to tender my apologies to be noted. I also confirm my 100% opposition to this application, and to the concept of fracking, and fossil fuel extraction generally.	Barry Downard, Email, 02 February 2016	Your objection is recorded.
19.147		<p>I was at your initial Mooi River meeting and again at the Howick meeting today. Both times I eventually walked out because, in my eyes, it was not going anywhere.</p> <p>I am a firm believer that due process is needed. However sometimes common sense should prevail and that the majority of people are already very aware of the detrimental affects that fracking causes and do not need to be given a junior school lecture about the use of present fossil fuels.</p> <p>One of the many questions posed revolves around feasibility.</p> <p>Forget, for now, about the known fact that fracking is EXTREMELY detrimental to the environment from a poisoning point of view, what about the unsustainable and impossible amount of water that it will require. Surely just this fact, as we are going through one of our worst droughts should be a stopping point. This was already pointed out in the Mooi River meeting.</p> <p>My question is why does Rhino continue to waste their time and money, and ours, proceeding any further knowing this is an impossible task considering only this most simple but important fact – forget, for the moment, also, that the majority are against the idea.</p> <p>The disgraceful emphasis by the Rhino representative today that a particular paragraph highlighting the employment opportunities be translated into Zulu beggars belief and only further shows their true colours.</p> <p>Never before have I seen an impossible project continue to be considered feasible.</p> <p>Knowing you will be inundated with similar responses I hope you can respond to my email and my main question above.</p>	Clint Marx, Email, 02 February 2016	<p>Your objection is recorded.</p> <p>Response via email: I guess that the simple answer is that Rhino continue to believe that some form of oil or gas extraction may be feasible in some of the areas. Rhino also maintain that methods other than hydraulic fracturing could potentially be used for future extraction. They do not have enough information to inform many of the questions that both they or the public have. Hence the current application for an exploration right to undertake the work that would inform such questions.</p> <p>The draft scoping report, currently out for public review, attempts to provide some explanation in this regard. The report also documents the significant public opposition to the project.</p>
19.148		<p>Fracking must be stopped at all costs.</p> <p>No amount of profit justifies the cost of human health and environmental damage.</p> <p>Within a few years the whole of America will be contaminated with 500+ lethal chemicals.</p> <p>Does big business care, NO they only want huge profit.</p> <p>Is Durban included in your itinerary?</p>	Haroon Bhabha, Email, 23 February 2016	Your objection is recorded.

5.3.1 SUMMARY OF COMMENTS FROM REVIEW OF SCOPING REPORT

The comments from I&APs and regulatory authorities on the review of the Scoping Report report have been summarised in a Scoping Report Comments Table (Table 5 2). Also included in the Table are responses to the question or issue. Where necessary the issue or concern will be carried through into the EIA report to be addressed. Copies of all written comments received from I&APs from the review of the Scoping Report are also included in Appendix 6.2.

TABLE 5-2: SUMMARY OF COMMENTS FROM REVIEW OF SCOPING REPORT

No.	Comments received	Names, mode of communication and date	Response provided (as adapted for the purpose of the scoping report)
1.	Categories		
1.1	Regulatory Authorities Comments The draft Scoping Report received by this office on 08 March 2016 are hereby acknowledged. Kindly be advised that the aforementioned applications are receiving our attention and you will be notified of the outcome in due course.	Tebogo Motloung, PASA, Email, 09 March 2016	Noted. No comments were received from PASA by the end of the commenting period.
1.2	Commenting Authority Comments This serves as a notice of receipt and confirms that your application has been captured in our electronic Land Use Database Details of your application as captured Type: Development Your reference number: Property description: Rhino Oil and Gas Exploration Please quote this reference number in all queries: Land Use reference number: 2016/01/4412	Ms N.P Myeni on behalf of KZN Department of Agriculture and Rural Development, Email, 14 March 2016	Noted. No comments were received from KZN Department of Agriculture and Rural Development by the end of the commenting period.
1.3	With reference to the Scoping Report received on the 8th of March 2016 the following comments are submitted for your information and consideration: 1. A Water Use License Authorisation (WULA) may be required for this application and it is the responsibility of the applicant to liaise with the Department of Water and Sanitation (DWS) in determining their requirements. a) A written response from the DWS must be sent to this unit which stipulates all of their requirements for the WULA. 2. Please register the Msunduzi Environmental Management Unit (Enquiries: Miss Cherise Harris) as an I&AP. 3. Page v of the Scoping Report (File 1) states that "...no additional authorisation requirements have been identified for the proposed exploration work programme." Has the applicant applied for a Water use license? Please note that this is an essential requirement as core boreholes will be drilled directly through aquifers and the water for the drilling process could likely come from surface water or ground water. 4. The report uses examples based on the context of the USA and does not identify challenges and risks associated with South Africa's specific geology and background.	Cherise Harris on behalf of Msunduzi: Economic Development Services and Environmental Management Unit, Email, 17 March 2016	Refer to Section 3 and Table 3-1 of the Scoping Report. The Msunduzi Environmental Management Unit is registered as an I&AP Refer to Section 3 and Table 3-1 of the Scoping Report. As indicated " No activities are being proposed that trigger the need for a Water Use Licence, although certain water uses would need to be assessed once the volumes and localities are known." The EIA will include a further review in this regard and the requirement for authorisation, such as a WUL, confirmed. The assessment of impacts will be undertaken in the EIA phase. Where local, relevant information is available this will be utilised.

		<p>5. When sites for drilling-whether municipally or privately owned- are decided upon, this department must be consulted in terms of the approved Environmental Management Framework (EMF) and other municipal policies:</p> <p>In terms of regulation 5, sub-regulation (2) of the Environmental Management Framework Regulations, 2010:</p> <p><i>' If the Minister or MEC adopts with or without amendments an environmental management framework initiated in terms of regulation 3 the environmental management framework must be taken into account in the consideration of applications for environmental authorisation in or affecting the geographical area to which the framework applies.'</i></p>		<p>The requirement for consultation and negotiation with land owners will be prescribed in the EMPr.</p> <p>A requirement for consultation with municipalities in terms of the approved Environmental Management Framework (EMF) and other municipal policies will be specified.</p>
		<p>6. Will the entire EIA process be conducted on this vast an area? This seems nearly impossible.</p>		<p>Please refer to Sections 2.3 and 7.5 of the Scoping Report for details and explanation in this regard.</p>
		<p>7. Chemical Toilets:</p> <p>a) Waste from chemical toilets must be disposed of regularly by a suitably qualified specialist, to a registered waste treatment works and waybills must be provided. Care must be taken to avoid contamination of soils and / or water, pollution and nuisance to adjoining areas / sites.</p>		<p>Such requirements will be specified in the EMPr.</p>
		<p>8. Hazardous waste:</p> <p>a) Hazardous waste is to be disposed at a Permitted Hazardous Waste Landfill Site. The contractor must provide proof of disposal.</p>		<p>Such requirements will be specified in the EMPr.</p>
		<p>9. Legal Framework:</p> <p>a) Please add the National Environmental Management: Biodiversity Act (10 of 2004) as well as the Environmental Management Framework Regulations (GNR 547).</p>		<p>Table 3-1 in the Scoping Report has been updated and this legislation will be considered in the EIA phase.</p>
		<p>10. Page 3-30, Clause 3.1.3:</p> <p>a) All applicable municipal policies/guidelines must be taken into consideration e.g. EMF, Ecosystem Services Plan (ESP), Conservation Plan (C-Plan), Climate Change Policy, Integrated Environmental Management Policy (IEMP).</p>		<p>Section 3.1.13 of the Scoping Report has been updated to reflect these.</p>
		<p>11. Rehab should be undertaken on disturbed sites to return the site to its natural state.</p>		<p>Such requirements will be specified in the EMPr.</p>
		<p>12. EMPr must include the following:</p> <p>a) Identification of all potential impacts, control measures, performance criteria, mitigation strategies and monitoring and reporting procedures;</p> <p>b) How negative impacts will be managed, rehabilitated and monitored. A Plant Rescue Programme, Rehabilitation/Re-Vegetation Plan as well as an Alien Plant Eradication Plan must be included in the EMPr as annexures ;</p> <p>c) Incident investigation and management measures; and</p> <p>d) Mechanisms and penalties to enforce compliance.</p>		<p>Such requirements will be specified in the EMPr.</p>

		<p>13. Page 5-211 states that mitigation measures will be put in place to minimise loss of and damage to vegetation:</p> <p>a) Include the removal of alien vegetation and maintenance of this site for a 12 month period.</p>		Such requirements will be specified in the EMPr.
		<p>14. The preparation of Specialist Studies by independent specialist will be necessary during the EIA phase and budgetary provision must therefore be included for, but not limited to the following studies:</p> <p>a) Geotechnical Assessment;</p> <p>b) Hydrological Assessment including the determination of the 1:100 year and 1:50 year flood lines;</p> <p>c) Geo-Hydrological assessment;</p> <p>d) Biodiversity Assessment including fauna, flora (vegetation assessment) and invertebrate species as well as a relocation plan of critical species and measurable offset options if required;</p> <p>e) Wetland Delineation and Functionality Assessment including the Department of Water and Sanitation 500m requirement as well as measurable offset options if required;</p> <p>Wetland Management and Rehabilitation Plan;</p> <p>f) Heritage Impact Assessment;</p> <p>g) Socio-Economic Assessment;</p> <p>h) A Conservation and Open Space Management Plan;</p> <p>i) Fully Indigenous Landscape Plan.</p>		<p>Please refer to Sections 7.5 of the Scoping Report for details on the planned Specialist Studies.</p> <p>In the opinion of SLR the following studies are unnecessary for this application and will not be undertaken:</p> <ul style="list-style-type: none"> - Geotechnical (no built-infrastructure will be established and thus knowledge on the geotechnical conditions is not required); - Hydrology and flood lines (no built-infrastructure will be established and thus detailed knowledge on floodlines will not be required. Consideration will be given in the EIA phase to the identification and avoidance of relevant hydrological features with respect to the siting of field-based exploration activities); - Wetland delineation (It is not feasible to delineate all wetlands across the application area. Available information will, to a large degree, be adequate to identify wetland sites that should be avoided when siting field-based exploration activities. If wetland risks are identified during the site assessment then delineation would be recommended for that site); - Socio-economic assessment (economic impacts of the proposed early phase exploration work programme will be extremely limited and do not require specialist input to assess. An opinion may be sourced.) - Conservation and Open Space Management Plan (As detailed in the Scoping Report, exploration will not take place in conservation areas and thus there will not be any obligations for the management thereof. The requirements for rehabilitation will be specified in the EMPr) - Landscape Plan (The requirements for rehabilitation will be specified in the EMPr).
		<p>15. The EAP is required to seek authority from the competent authority to undertake the role of Environmental Control Officer (ECO) during the construction, operation and rehabilitation phases of the project. Responsibilities of the ECO would include the following:</p> <p>a) Monitor and ensure compliance with approved EMPr;</p> <p>b) Prepare and present onsite training to contractors and their staff to ensure they are familiar with, understand and adhere to the approved EMPr prior to site works/land clearing commencing;</p> <p>c) Ensure compliance with the provisions for <i>Duty of Care and Remediation of Environmental Damage</i> as contained in Section 28 of NEMA (Act 107 of 1998);</p> <p>d) Conduct weekly site inspections;</p> <p>e) Maintain a site diary;</p> <p>f) Establish a central database documenting all incidents, complaints and incident close-outs; and</p> <p>g) Prepare monthly audit reports to be submitted to the competent authority and the Msunduzi</p>		Such requirements will be specified in the EMPr.

		Environmental Management Unit.		
1.4		<p>We are currently working on this document. We would like to request more time to work on it and submit comments by Friday the 15th of April 2016.</p> <p>Title: Scoping Report for a proposed Exploration Rights application for Petroleum Products on various farms in the magisterial district of Pietermaritzburg, KwaZulu Natal</p> <p>Applicant: Rhino Oil and Gas Exploration South Africa (Pty)Ltd</p> <p>Project Number:723.18034.00004</p>	<p>Qiniso Q. Nxumalo, Umgungundlovu District Municipality, Email, 11 April 2016</p>	<p>Email response provided by EIA team on 12 April 2016.</p> <p>Hi Andiswa</p> <p>Thank you for letting us know.</p> <p>We will be happy to receive your comments for consideration in the EIA process.</p> <p>We can consider meeting with the Department when we are next in the region. However be advised that there is no 'site' at this point in the process. The application covers the area as depicted. This is the nature of exploration .</p> <p>Kind regards</p>
1.5	I&AP Comments (various)	All this over Easter, whose side are you on?	Lynne Garbutt , Email, 07 March 2016	The period provided for review of the Scoping Report was extended to account for the public holidays in this period.
1.6		<p>Just an observation as I went to my local library today to request the scoping report. Prior to beginning to try and read it, I note that it constitutes 3 full lever arch files – presumably compiled by a lawyer and in that type of language?</p> <p>As someone who is simply a interested and affected member of the public with no legal background, no technical background, and also in the interests of more rural people or anyone indeed who might perhaps have even less of the requisite education/ understanding/English expertise or English as a first language, to make an informed and educated decision, can we request :</p> <ol style="list-style-type: none"> 1) An extension if necessary to the period prescribed ?, or 2) A meeting with SLR in Howick or in the Midlands region for a full discussion of the report and a thrashing out of issues arising? or 3) Does the 20 page KZN Executive Summary constitute from SLR's perspective a comprehensive and transparent summary of the scoping report? <p>I would be surprised if it was, even without a legal background.</p>	Jane Weston, Email, 10 March 2016	<p>Email response provided by EIA team on 11 March 2016.</p> <p>Thanks for the comments. The Scoping Report is voluminous, which is a direct reflection of the level of public interest in the project. The great majority of this is however supporting documentation for record purposes.</p> <p>The written report is just over 300 pages with 150pg of this detailing the comments that have been raised. Thus the actual written part of the report is around 150 pages which is not unusual for a scoping report.</p> <p>The executive summary (available in English and isiZulu) is aimed at providing a comprehensive summary of the report contents for interested and affected parties.</p> <p>The granting of time extensions in the EIA process lies with the Petroleum Agency, and requires the demonstration of 'exceptional circumstances'. A request could be made, but in our experience would be unlikely.</p> <p>Formal meetings to discuss the contents of scoping reports are not part of a typical EIA process and are not planned. There will be further meetings in the following phase where the findings of the EIA work will be discussed.</p>
1.7		<p>Our country does not have the necessary systems in place to stop mining of petroleum resources if you find any commercially viable pockets of petroleum resources in the study area. In fact, state departments are organized in such a manner than the Departments of Water, Sanitation and Environmental Affairs are inferior to the Dept of Mineral Resources http://www.netwerk24.com/Stemme/Menings/elise-tempelhoff-as-water-by-jou-gevat-word-vir-myne-20160202. If the Dept of Mineral Resources issue a license for mining of these resources, the departments of water, sanitation and environmental affairs are obliged to also issue permits. Therefore, it is best not to start even with the exploration of petroleum resources.</p>	Lize van der Merwe, Email, 24 March 2016	<p>Section 83 of the MPRDA sets out the steps involved in making an application for a production right. This includes that applicant must obtain environmental authorisation in terms of Chapter 5 of the National Environmental Management Act, 1998. The National Water Act, 1998 is a specific environmental management act in terms of the NEMA and thus the requirement for 'environmental authorisation' includes a water use licence if required. Furthermore, obtaining approval under the MPRDA does not remove the requirements for compliance with other legislation such as the National Water Act, 1998.</p> <p>Section 84 of the MPRDA sets out that the application can only be granted if the production will not result in unacceptable pollution, ecological degradation or damage to the environment.</p>

1.8		<p>Thank you for the opportunity to comment on the Scoping Report for this project.</p> <p>The iSimangaliso Wetland Park Authority (iSimangaliso) has reviewed the Scoping Report. The iSimangaliso's concerns remain as indicated in the previous letter from the iSimangaliso, dated 03 March 2016, regarding the BID, viz. the iSimangaliso's concerns as to potential negative impacts on water resources in the catchments feeding the iSimangaliso. While unlikely to be an issue of concern for the iSimangaliso during exploration, this could be of significant concern should mining go ahead in future. Thus, please note that the iSimangaliso will not support any future mining proposals (arising from findings of exploration) that will pose potentially significant risks to the iSimangaliso's water resources.</p>	<p>Mr A Zaloumis, on behalf of iSimangaliso Wetland Park, Email, 05 April 2016</p>	<p>This concern for the water resources in catchments draining to the iSimangaliso Wetland Park has been noted. The value of the iSimangaliso Wetland Park and its dependence on water from upstream catchments is noted.</p> <p>The objection is recorded.</p>
1.9				
1.10		<p>Good day Mr Hemming</p> <p>As a general IAP seeking to develop informed and reasonable opinions on the project, I herewith present my 44 random questions without prejudice or fear, motivated by a citizen's concern for many aspects that are under threat.</p> <p>I have tried my best to read the report thoroughly but have run out of time. I do apologise for my lack of expertise in legal, procedural or technical areas and my possible misunderstanding of certain issues, but I am probably representative of many others who might struggle with the extent of the report and procedures, and offering comment within the limited time available. Some of my comments/questions no doubt will fall outside the scope of this EIA which makes me think this is a waste of time.</p> <p>As an observation, every time you state that the questions are beyond the scope of this EIA, not much will happen in phase 1, little disturbance can be expected, only .0001% land will be affected, it simply reinforces the perception that future phases will be the exact opposite, will be hugely damaging, wide ranging and have devastating effects on human livelihoods let alone fauna and flora.</p> <p>I have put quotes from the report in purple to distinguish from my questions in black.</p> <p>Yours sincerely JS Weston</p>	<p>J S Weston, Email, 06 April 2016</p>	<p>Thank you for the comments. Responses are provided in the sections below.</p>
1.10.1		<p>1. I understand that 'The assessment of possible further exploration or future production is outside of the scope of this Scoping and EIA process'; 'It is clear that the EIA process will not be able to resolve such objections'; 'These issues and concerns are documented, but will not be responded to as they are made in regard to further exploration work or future production activities which <u>have not been proposed</u> by Rhino Oil and Gas for this application...'; 'The primary intent was to inform landowners and other I&APs of the proposed exploration right application, in sufficient detail, in order that they may <u>contribute meaningfully</u> to the identification of impacts and alternatives during the Scoping phase'</p> <p>Would you agree that 'contribute meaningfully' has not been achieved to the satisfaction of the IAP's and general public? It is disingenuous to suggest that 'future activities have</p>		<p>SLR has received significant input from the interested and affected parties who have participated in the process to date. Refer to Section 5.4 and Appendix 6 of the Scoping report. Many interested and affected parties have contributed meaningfully and SLR is confident that public participation has achieved the purpose of scoping the key issues requiring consideration in the EIA phase for the exploration right application.</p> <p>Further activities have not been proposed for approval. Please refer to Section 2.3.10 of the Scoping Report.</p>

		not been proposed' and that you are unable to address the issues that those future activities point to. Refer Q5.		
1.10.2		2. Public participation is an ongoing process and will continue throughout the EIA. Comments from I&APs will continue to be received and documented for the duration of the EIA process. Am I right in thinking most of those comments/questions will only be dealt with in the EIA which occurs after year 3 of the proposed process? ie once invasive work begins		This is not correct. The EIA phase commences immediately after the Scoping phase, and is undertaken prior to the decision on the exploration right. The proposed exploration could only be undertaken if the application for the right was approved.
1.10.3		3. The reasons for the public opposition are varied and in many cases are not explicitly stated or articulated in the submissions. SLR does not find it possible to adequately explain the nuances/reasons/motivation for the opposition, as much of this is deeply personal to each I&AP' As the independent EAP responsible for undertaking the required environmental assessment and conducting the public participation process, are you not obliged to understand comments fully in order to effectively conduct the public participation process ? Observation: We can't have been reading the same comments.		The statement simply indicates that SLR does not claim to understand the rationale behind each of the comments made by I&APs. However, the intent of the comments is understood and documented in Section 5.4 of the Scoping Report. SLR is confident that public participation has achieved the purpose of scoping the key issues requiring consideration in the EIA phase for the exploration right application.
1.10.4		4. Would SLR employ any of the highly knowledgeable/competent/informed/eminently qualified experts, organisations who have contributed Comments and Objections and could therefore be seen as more impartial, transparent and independent contributors to the EIA in the spirit of your statement that 'The process involves an open, participatory approach to ensure that all impacts are identified and that decision-making takes place in an informed, transparent and accountable manner'	J S Weston, Email, 06 April 2016	SLR will sub-contract the specialist studies as set out in Section 7.5 of the Scoping Report. SLR's choice of sub-contractors is based on using suitably qualified, experienced and independent specialists. In addition a specialist must meet the general requirements of Regulation 13 and be able to produce reports in terms of Appendix 6 to the EIA Regulations. Any such specialist would also sign a declaration of independence.
1.10.5		5. Would you agree, that based on the following quotes, it is plainly clear that this project IS planned to continue way beyond this phase, regardless of the Public Participation Process and your objective is to enable this to happen and mitigate anything that might prove an obstacle? You say "approval is not being sought for any work to determine the commercial viability of any such resource' yet this is in direct contradiction to ROG's statement and the government's stated interest as per 'ultimate goal for the overall project is to extract hydrocarbons in a commercially viable manner.' and the comment by ROG 'very little will be accomplished in the 3 year 'no drill no invasive' period' and ' <u>It is noted that the only reliable way to determine whether the identified formations contain hydrocarbons is to undertake exploration well drilling (DTI, 2001) and 'The draft EMPr will provide recommendations on how to select, establish, operate, maintain and close the activities and associated infrastructure through all relevant phases of the project life.'</u> So will all the comments and objections then be dealt with in the EMPr if not the EIA in phase 1?		Please refer to section 1.3 of the Scoping Report for an explanation of the exploration process. This early-phase exploration project is a pre-cursor and pre-requisite to any further exploration work and future production. However, early-phase exploration is no guarantee that there will be a resource for the applicant to pursue, not that approval could be obtained for such work. It should be noted the current EIA process is only assessing and could only result in a decision on the application for the early-phase exploration work. All comments relevant to the proposed early-phase exploration will be considered in the EIA phase. Objections relevant to the early-phase exploration will be addressed where possible. Unresolved objections will be handled as per PASA's response (see Section 5.4.1). Please refer to Sections 5.4.24 and 5.4.25 for discussion on risks and objections that relate to future projects.
1.10.6		6. ROG's quote that they will 'undertake Least amount of work and least cost and this phase is unlikely to produce any real and worthwhile info' and 'It is therefore only possible to determine the properties where on-the-ground activities (e.g. core drilling and seismic surveys) may take place once the initial phases have been undertaken. These initial phases can only be undertaken once an exploration right is granted' Q Would you agree this tends to point to the 'rubber stamping' of the 'future exploration		Please refer to section 1.3 of the Scoping Report for an explanation of the exploration process as well as Section 2.3.10 for details on what is required to inform and approve possible further exploration or future production.

		activities' as someone mentioned?	
1.10.7		<p>7. P3 'The initial exploration work programme is restricted to various non-invasive and remote techniques' – yet later on you state 'The primary mitigation applied to the early-phase exploration would be to use non-invasive, remote sensing techniques as much as possible in order to refine the information on where to conduct field exploration.'</p> <p>Q Would you agree that 'restricted' and 'as much as possible' do not have the same meaning and 'as much as possible' could leave an opening for more invasive means to be utilised.?</p>	<p>No, this is not the case. The exploration work programme for which Rhino Oil and Gas is seeking approval is described in Section 2 of the Scoping Report and was made as a submission to PASA in terms of Regulation 7 of the MPRD Regulations.</p> <p>Any further activities not detailed in the exploration work programme would not be permissible without additional authorisation.</p>
1.10.8		<p>8 'Section 10 of the MPRDA makes provision for the Regional Mining Development and Environmental Committee (REMDEC) to consider and advise the Minister of Mineral Resources on objections received in respect of applications for permits or rights. Thus PASA will send all objections received in respect of the current application to the relevant REMDEC for consideration before a decision to grant or refuse the exploration right is made by the Minister'</p> <p>So there is no direct engagement available to IAP's with PASA, as the agency of DMR in a "process providing for further engagement with I&APs and in-depth assessment of the associated issues.' ?</p> <p>Am I right in thinking any of these bodies can completely reject/ignore/overrule, if they wish and without explanation, the following ; IAP comments and objections ; your EIA and its "role of ... to identify all such constraints and restrict or prohibit exploration activities through documented management commitments' ; the EMPr and SLR's authority to enforce/ensure compliance ?</p> <p>As per their website 'Rhino Resources, Ltd. is committed to work cooperatively and responsibly with local communities and our partners in our host countries, and perform our obligations in a social, environmental, and ethical manner for all stake holders over a sustained period of time to obtain real results and lasting change'.</p> <p>Will IAP's ever have a chance to engage with the directors of Rhino Resources?</p>	<p>Section 10 of the MPRDA in fact relates to the obligations of the Regional Manager to make known that applications for minerals rights have been accepted and to provide for objections to such acceptance to be considered. The acceptance procedure differs from the grant/refusal procedure in place for rights applications.</p> <p>As per section 79(4)(b) of the MPRDA, public participation as set out in the NEMA EIA Regulations 2014 and more specifically Chapter 6 thereof is the 'prescribed manner' in which the applicant must consult with interested and affected parties. As per the EIA Regulations all comments submitted to SLR are provided to PASA.</p> <p>As a government Department, PASA are accessible to the public. Details are available on their website. www.petroleumagencysa.com.</p> <p>Mr P Steyn, the COO and Director of Rhino Resources, attended all (bar one) of the public meetings that have been held to date.</p>
1.10.9		<p>9. 'This work is aimed at identifying and defining the extent of 'sweet spots' with high potential for reserves of oil and / or gas, as well as whether or not the size of the resource warrants further study and drilling.. At the end of this stage the non-prospective areas would typically be relinquished by the project.'</p> <p>So who will be tasked with monitoring that only 10 core holes will be drilled and that ROG's assurances that they will keep to that</p> <p>Once 'relinquished' does that mean forever? What is the legal implication of this word?</p> <p>Would you agree that an independent monitor/observer must be appointed and allowed access to the areas in which they propose to work do you agree?</p>	<p>PASA will be directly responsible for compliance with the approved right.</p> <p>The EMPr will also specify the involvement of other parties with a responsibility for compliance.</p> <p>The term 'relinquish' is not defined in the MPRDA but is used to mean "give up the right to specific properties". Exploration rights generally contain a condition that the holder must relinquish a percentage of the area held at the end of defined time periods.</p> <p>Once an area has been relinquished, any other party may apply for an exploration right.</p>
1.10.10		<p>10. 'exploration right application area is extensive and it is not considered feasible nor necessary to undertake surveys of every aspect of the area in order to obtain the regional understanding</p>	<p>These statements refer to two separate actions. During the EIA there will not be detailed assessments of specific sites as the locality of such sites are not known. At a broad scale the</p>

		that is required' yet later you state 'Each locality would be subject to an environmental site assessment and approval from PASA to ensure that the activity is not being placed at a sensitive site.' Sounds a bit contradictory to me?		EIA will assess the areas/types of sensitivity that should be avoided from future exploration (e.g. declared conservation areas, wetlands). However, local area sensitivities can only be assessed once the actual areas for seismic or core borehole drilling have been identified. The EMPr will however detail the need for and method of 'environmental site assessment' of each site at which field activities are proposed.
1.10.11		11. "There will be no significant changes to the project description or surrounding environment between the completion of the scoping and EIA process and implementation of the proposed project that could substantially influence findings, recommendations with respect to mitigation and management, etc." So does this mean that the EIA is a done deal ?		No. It is an assumption made by SLR that what we have assessed is materially the same as what will be implemented.
1.10.12		12. Your report is replete with typos and spelling errors which is not indicative of care and attention to detail nor the professional standard one might expect from a company such as yours. 'The EIA is being 'conducted' in terms of the guidance from PASA' So you are not independently or impartially producing this EIA?		SLR endeavours to produce accurate reports and we implement a review and quality control system. Where these are identified the necessary changes have been made PASA are the competent authority in terms of the legislation and provide guidance in certain instances. This is provided for in Regulation 8 of the EIA Regulations 2014.
1.10.13		13. While I understand your claim of being 'independent and having no vested interest' are you by law then legally responsible should any aspect of your EIA reports lead to damage or injury to any of the parties, land owners, land inhabitants or by virtue of any omission, negligence or professional lack of understanding of the national and international best practice ?	J S Weston, Email, 06 April 2016	As an EAP we have a responsibility in terms of the EIA Regulations 2014 and include an oath or affirmation in this regard.
1.10.14		14 . Rhino Resources website suggests they wish to be transparent and ethical in their dealings so Q will the whole financial aspect of this project be transparent? Q Would SLR agree that the entire financial aspect of this project and the compensation/insurance issues that will arise, requires a very specific financial/ expertise that would lie beyond the scope of your company's current expertise for either this or the next phases of the project and EIAs? Q Will you be employing independent financial assessors that represent the interests of not just ROG, RR or SLR?		Rhino: Companies in the oil and gas industry including Rhino abide by the FCPA (Foreign Corruption Practices Act). This process is 100% Transparent. Any insinuation that it is not, is unfounded and without any facts or reason. The determination of the financial provision in respect of this application will be made by SLR in terms of the Financial Provisioning Regulations (GNR 1147 of 2015). Rhino Oil and Gas would obtain the necessary financial expertise in order to ensure that all the necessary insurance, etc is place.
1.10.15		15. Apropos the above and quoting Gaetane Le Grange Comments section 'The pre-cautionary principle states that, if one does not understand the impacts fully, they should not go ahead with the project. The 'polluter pays' principle states that, the one who causes pollution is responsible to mitigating it. Both these principles apply in this process' It is therefore concerning that when another lady asked at one of the meetings, 'what Rhino's policies were about clean up after accidental contamination. I was told Rhino had none" You state 'It is in the interest of Rhino to adopt an all-encompassing definition of rehabilitation.' "Rehabilitation would be undertaken to re-establish pre-exploration land use. The process of managing the impacts and rehabilitating the exploration sites would be conducted in terms of an EMPr approved by the PASA"		

		<p>‘This quantum must be made available by Rhino Oil and Gas to PASA as security for the completion of rehabilitation should Rhino Oil and Gas fail to do so. PASA in consultation with other relevant authorities would determine the use and allocation of this money for rehabilitation. The financial provision that needs to be made is not limited to the land on which the exploration would be undertaken, but would provide for rehabilitation of damages from exploration. The quantum of the required financial provision would be determined through the EIA process. The amount and the method of providing the provision would be detailed in the EIA report.’</p> <p>Q As I understand it, ROG are not liable in the long term and have no track record to suggest they are a financially sound outfit? If they go ‘belly up’ many people will be left in a difficult position and from what I understand PASA makes the decisions about rehabilitation and how much and to who and not the ‘polluter’?</p> <p>Q An independent overseer must surely be critical to monitor how monies are allocated and how to ensure that procedure remains legitimate?</p> <p>Q Is there a specific time frame in which the Minister/PASA/MPRDA should/can issue a ‘closure certification’ to the holder ?</p> <p>Q How is the landowner or other affected party protected in this process, if the time frame can expire or proscribe?</p> <p>Q Will the EMPr specify responsibility in the long term?</p> <p>Q What happens if ROG/RR no longer operating, have passed on the liability to someone else who refuses to honour it – liability is of no legal consequence surely if company no longer around</p>		<p>In terms of Section 43 of the MPRDA the holder of a right “remains responsible for any environmental liability, pollution, ecological degradation, the pumping and treatment of extraneous water, compliance to the conditions of the environmental authorisation and the management and sustainable closure thereof, until the Minister has issued a closure certificate in terms of this Act”.</p> <p>A financial provision in respect of this application will be made by Rhino Oil and Gas in terms of the Financial Provisioning Regulations (GNR 1147 of 2015). The funds are administered by the DMR.</p> <p>The time frame for application of a closure certificate is defined in Section 43(4) as being “within 180 days of the occurrence of the lapsing, abandonment, cancellation, cessation, relinquishment or completion contemplated in subsection (3)”.</p> <p>The responsibility of a rights holder is defined in the MPRDA. The EMPr will define management, mitigation and monitoring measures through all phases of the exploration up to an application for closure or a production right.</p> <p>The liability attached to a mineral right lies with the holder of the right. A mineral right can only be transferred to someone else through an application and approval in terms of Section 11 of the MPRDA. The Minister must confirm that the receiving party is capable of carrying out and complying with the obligations and the terms and conditions of the right.</p>
<p>1.10.16</p>		<p>16. ‘Prior to the early-phase exploration (as proposed) being concluded they are therefore not able to provide any information on what the future may bring with regards the extraction of hydrocarbons’</p> <p>Q With ROG/RR’s claims of expertise as ‘the operator for the proposed project” locally and internationally and the vast information from 60 odd years of fracking overseas (they did all the base work, research, and pathfinding) would you agree it is foolhardy for the applicants not to do more sums on operational costs/productivity before they launch such explorations? No forward projections of any kind ? but they request that we respect their expertise?</p> <p>Q Do you find that short sighted in the extreme?</p> <p>Comment from IAP: Viability: Any proposed fracking project must prove its viability on the basis of an Energy Return On Energy Invested (EROEI) study, also known as, Net Energy Return</p>		<p>Rhino Oil and Gas maintain that there is too little information on the local setting with regards prospectivity for oil and or gas in order for them to accurately predict what the proposed project might become until such time as they have completed the early phase exploration. To do so now would be speculative.</p> <p>If and when Rhino Oil and Gas apply for approval of future work then such details would be presented through the authorisation processes required at that time.</p> <p>The financial viability of a project is the applicants concern. Financial provision for</p>

		(NER) Q Will you be using the EROEI/NER method in your EIA	rehabilitation will be addressed in the EIA.
1.10.17		<p>17. The aim will be to identify key features of the groundwater resource and to define which regions may be incompatible with the proposed exploration activities related to the groundwater resources. Pxii'</p> <p>"Water required for the operation of the drilling rig as well as potable water would be obtained from an available source and in compliance with legislation'</p> <p>Given what we know from international experience and the effects on water supply/quality (and the negative effects on water are not different in SA from any other country, surely) and that this is a small area comparatively with key water resources in a dry country</p> <p>Q Surely your expertise as an environmental scientist will ensure that when it comes to water you will find no mitigating reasons, no loopholes, nothing to suggest that this country, this region, we citizens can afford any water let alone the humungous quantities we hear are required, using that 'reassuring' word 'only' 100 000 litres per hole per single drill" multiplied by thousands of drill episodes? You state somewhat differently 'For an average of 20 days of drilling, the total water use per hole is likely to be less than ~100 000 L'.</p> <p>Q Would you agree, the inability to be certain around the quantity of water to be used is surely unacceptable, renders the EIA unreliable in this instance and open to abuse ?</p> <p>Recent American information states 'horizontal portions of wells have grown longer, while the number of "stages," or sections of a well that are hydraulically fractured, has increased: Both of these factors drive water use up such that they are bringing in new laws and regulations.'</p> <p>Some citizens have meters and pay good money for every drop we use, listen obediently to urges to be waterwise, reduce consumption, shower rather than bath – others rely on boreholes and rivers and walk many kilometres to find suitable quantities and quality of water.</p> <p>Q So how does ROG get it right to use, unsupervised, (up to or including maybe perhaps who knows)100 000++++ litres for one drilling of one hole (thumbsuck and underreported) or your claim of 20 days worth (also surely thumb sucked and underreported) or whatever is the SA equivalent they are allowed to use as per water volumes permitted by the General Authorisation (No. 1191 in the Government Gazette No. 26187 published on 26 March 2004)?</p>	<p>The concerns around water availability are documented in the Scoping Report and will be considered in the EIA phase.</p> <p>As with the activities of many projects, the actual parameters (in this case use of water) vary due to local circumstances. The consideration of water use in the EIA will follow a conservative approach and assess the impacts of the likely maximum volume of water use. Such requirements will be specified in the EMPr.</p> <p>The drilling as proposed for the this early phase exploration work programme is vertical stratigraphic core holes only. No horizontal, directional drilling or wells for hydraulic fracturing will take place. Please refer to section 2.3.5 of the Scoping report.</p>
1.10.18		<p>18. 'Rhino Oil and Gas would need to be aware of such constraints for their planning as the lack of water could influence where exploration activities are undertaken. "The aim will be to identify features of the resource that may be sensitive to contamination and which should be avoided. '</p> <p>Q How will they monitor/measure their volume usage and who will check up on them?</p> <p>'No activities are being proposed that trigger the need for a Water Use Licence, although certain water uses would need to be assessed once the volumes and localities are known' -</p> <p>Q Would you would agree this is so loose an arrangement, it will be hard, if not impossible to monitor or control on their part and is likely to be abused, negligently, unknowingly, or</p>	<p>Such requirements will be specified in the EMPr.</p> <p>Such requirements will be specified in the EMPr.</p>

		<p>carelessly and without regard ?</p>	
<p>1.10.19</p>		<p>19. Rhino Resources claim on their website: on their Corporate Responsibility page they emphasise 'the benefit of enhanced prosperity for African host countries and local communities including 'ensuring access to clean water'</p> <p>Q Will they commit to showing us specifically how they will achieve this through the proposed project ? Will they set out what the costs are to them, what shareholders can expect, the government's percentage, the landowners benefit, rural communities that live in exploration areas, so that figures can do the real talking?</p>	<p>Rhino: This application is for exploration only. Thus Rhino Oil and Gas would only incur expenses associated with the various proposed exploration techniques. They would receive no income during An example in the USA is that with abundant and affordable supplies of natural gas and its associated liquids, which manufacturers use as a feedstock for the products they make, have helped lower the cost of doing business in the United States, making the U.S. an attractive place for companies to invest.</p> <p>According to PwC, these lower costs will create more than 1 million additional American manufacturing jobs by 2025. PwC also reports that these costs could help U.S. manufacturers reduce their natural gas expenses by up to \$11.6 billion each year through 2025. That is helping companies make new investments into American industry, from fertilizer plants in Iowa and the Dakotas, to new plastics facilities along the Gulf Coast and new and expanded steel facilities in the Rust Belt.</p> <p>All of the development of these industries brings with the benefit of employment.</p> <p>Shale development is creating new employment opportunities within communities and regions. A recent report by the American Gas Foundation and IHS CERA found the shale value chain supported 2.1 million jobs in 2012. These jobs are helping to support local communities on and off the well pad. More than 95 percent of Marcellus Shale workers are from the states that overlie it: Pennsylvania, West Virginia, Ohio, Maryland and New York. According to an analysis from Raymond James, almost 90 percent of the job growth in Pennsylvania between 2005 and 2012 was attributable to oil and gas development in the state.</p> <p>Outside of direct jobs in the oil and natural gas industry, shale development has spurred other economic growth, including hotels, restaurants, shops and more. These businesses provide additional jobs and opportunities for the local workforce.</p> <p>The benefits of any current proposed exploration and any future proposed oil and gas extraction or production has far reaching benefits not only to people directly working on the project but also indirectly.</p> <p>The economic consultancy Econometrix estimates if just 5% of South Africa's resources are economically recoverable, this will add more than R80bn, or 3.3% a year, to gross domestic product for 25 years. This, Econometrix notes, is nearly double the total current contribution of coal mining to the economy. Government tax revenue would increase by R35bn a year. If 10% or 20% of the reserves can be turned to account, the long-term economic benefits for South Africa would be enormous.</p> <p>Econometrix economist and principal analyst in the Karoo shale gas report, Tony Twine, indicated that shale gas exploration will satisfy the country's future energy needs and will</p>

		Q Would you agree 'fracking' and 'clean water' are contradictions in terms?		have a significant contribution to GDP, adding up to R200 billion (US\$ 23 billion), and the establishment of up to 700,000 jobs. This could be the case, however, this is not relevant to the current application as hydraulic fracturing is not proposed.
1.10.20		20. 'Hydraulic fracturing could be one of the potential techniques for gas production.' Q Why does the report not mention green or eco friendly methods ? Q Does SLR have the up to date expertise to undertake investigating any other techniques that may be more green or environmentally friendly (ie no water drilling, desalinated water). Q Do you agree that if the process is an expensive one, the applicants will go for the cheapest methods so they will throw out any eco friendly/green options? And cheap means more damaging right? Q Who has the skills locally to undertake the many potential techniques for gas production?		Hydraulic fracturing is not part of this application, as such it is not assessed as part of the current EIA. The Scoping Report documents the project activities as proposed by the applicant. SLR will assess the potential impacts of the proposed methods. Where information is available on reasonable and feasible alternatives then SLR would be able to assess impacts of these. Economics would play a role in the implementation of any project. The EMPr, which would be approved prior to an approval of the right, will specify methods for undertaking key activities and the applicant would be committed to these. Rhino is currently only applying for an early stage exploration or prospecting project, and do not yet know if there are commercial quantities of oil or gas in the areas of application. However should there be commercial quantities, the company has substantial technical expertise to deal with production.
1.10.21		21. 'The outcome will be to define which habitats for fauna may be incompatible with the proposed exploration techniques and to determine exclusion criteria' Q Will an independent observer have access to the areas that ROG will operate in to ensure those criteria are followed, especially as fauna generally have no concept of 'exclusion criteria'?"		Such requirements will be specified in the EMPr.
1.10.22				No point 22
1.10.23		23. 'Guidance on how to manage chance finds of heritage resources will also be detailed.' Q What about unmarked graves or war graves of unidentified soldiers since this is a historically significant area? There is an extensive legal governmental procedure to be followed when any unmarked grave is discovered. Apparently it involves advertising for family members or descendants, disinterment, reinterment at a proper cemetery, marking of the new grave. No doubt the ancestors, where applicable, will need to be recognised and the requisite cultural procedures and rites will need to be honoured and paid for.		Such requirements will be specified in the EMPr.
1.10.24		24. Q If the permission is given to the drilling company by the landowner and a neighbour of the landowner is negatively impacted, affected, something is damaged or some health issue arises due to activities on neighbour's ground, who gets sued – the guys doing the drilling that caused the impacts or the guy who gave the permission for the damage to occur ?		The holder of the right is responsible.

<p>1.10.25</p>		<p>25. The impact on the local economy will be further investigated and assessed in the EIA. An economic specialist may be consulted for input.' Pxvi</p> <p>Q Considering this is one of the positives touted as the great benefit to all of us, then may should be must?</p> <p>Past history does not bear out that the many will benefit and that deals made will produce the goods to the advantage of SA and not just for a few vested interest parties.</p> <p>The idea of employment is promoted and a figure of 700 000 jobs is quoted in various sources, including your report if I'm not mistaken, and ROG commit to training and skills transfer, but your report contradicts this</p> <p>'However, since exploration is highly technical and requires specialised equipment and crews, job opportunities for local communities would be very limited. The small number people required and very short duration of each of the proposed exploration operations further limits opportunities. A staff of approximately five persons would operate a drill rig, while seismic survey teams would consist on between 15 and 25 persons.'</p> <p>Yet elsewhere you state 'In addition, the proposed project would indirectly contribute to economic growth in the national, local and regional economies by strengthening the national economy and because the increase in the number of income earning people has a multiplying effect on the trade of other goods and services in other sectors.'</p> <p>Q So you seem to contradict yourself regarding the potential employment opportunities especially for the majority unskilled workforce?</p> <p>Q How will this situation change once phase 2 and 3 get going to assure the unemployed that the promise of jobs is real?</p>		<p>It is the opinion of SLR as the EAP that any economic impacts of the proposed early phase exploration work programme would be extremely limited and thus does not require assessment at a specialist level.</p> <p>There is no contradiction. The information supplied in the BID and Scoping Report indicates that there will be very limited employment opportunities during the proposed exploration. As part of their motivation for the development and potential of the oil and gas industry in South Africa, Rhino Oil and Gas has made use of examples from the USA indicating the job creation that could result should a shale gas industry be developed..</p>
<p>1.10.26</p>		<p>26. p60 Objective of EIA Scoping Report 'To identify suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of residual risks that require management and monitoring. The outcome would be to determine practicable mitigation measures to reduce any potential negative impacts.'</p> <p>Q Why do you focus on mitigation rather than prohibition?</p>	<p>J S Weston, Email, 06 April 2016</p>	<p>The Scoping and EIA process is being undertaken in terms of the provisions of the NEMA EIA Regulations 2014. The section quoted is a summary of the objectives of an EIA as set out in Appendix 3 to the EIA Regulations 2014.</p> <p>The premise of identify areas and environmental aspects that are not compatible with exploration, as proposed in the methodology for the EIA, is to prohibit exploration from taking place.</p>
<p>1.10.27</p>		<p>27. SLR uses an assessment methodology which considers:..... The significance of environmental impacts will be rated before and after the implementation of mitigation measures. These measures may be planned or additional measures that may arise from the impact assessment and specialist input. Pxv111</p> <p>Q Without baselines studies how can one rate the 'before' based on outdated reports and desktop surveys?</p>		<p>The EIA phase will make use of available information relevant to the assessment of proposed project activities. If the information is inadequate to make an assessment then additional work will be undertaken or this would be highlighted as a limitation of the assessment.</p>
<p>1.10.28</p>		<p>28. 'The environmental management programme will detail restrictions required to ensure that no unauthorised activities are undertaken during the proposed exploration'</p>		<p>Such requirements will be specified in the EMPr.</p>

		Q Who will be tasked to supervise this and will they be independent of vested interest ie who pays them?	
1.10.29		29. 'Full details of the water volumes, types of drilling fluids and the water management will be provided in the EIA report'. Q Since only some of the drilling fluids are recycled – will your EIA identify what happens to the rest, what quantities are involved, how waste water management will be handled or will it just be vague descriptions.	The EIA will give consideration to the water cycle with regards to the proposed project activities. This will include the consideration of waste water management. Such requirements will be specified in the EMPr.
1.10.30		30. All general and hazardous waste generated at the drilling site would be separated and stored in containers, before being removed from site and disposed at an appropriate waste disposal facility. Q Does such expertise exist in SA and if so will they be named? Q Where will the waste disposal facility be situated and who will ensure dumping does not occur?	Such requirements will be specified in the EMPr.
1.10.31		31. The expected dispersed nature of petroleum resources is such that a reasonably large area is required initially in order to secure a resource that may be economically viable. Q Do you agree in future phases, beyond the scope of the current EIA, that the reasonable person would expect this to mean major disturbance, habitat destruction, for the sake of a small quantity of difficult to extract gas, requiring untold numbers of core holes ranging across all kinds of terrain, frequent new drilling in new places to replace old ones, huge waste issues, extensive contamination issues?	Future phases, beyond the proposed early phase exploration, could well have wide ranging impacts. However, a formal assessment would be required to qualify and quantify the significance of impacts.
1.10.32		32. Rhino was granted the opportunity to apply for the proposed Exploration Right based on experience. In terms of the MPRDA, an exploration right can only be granted if, inter alia, the applicant has access to financial resources and has the technical ability to conduct the proposed exploration operation optimally in accordance with the exploration work programme. Q What technical ability did the two guys at ROG claim to get the exploration right granted? Q Will the financial resources be held in a separate account that is handled by an independent body with due checks and balances to ensure said account not emptied by interested parties? Will this be as transparent as RR suggests is their company ethos?	Rhino: Rhino and its technical team in the US have substantial technical capabilities to efficiently conduct all of the proposed work processes in the proposed ER application. Rhino also has access to a number of world class domestic and international consulting firms and service companies in assisting with the proposed project in South Africa. The method of making the financial provision in respect of this application will be based on the Financial Provisioning Regulations (GNR 1147 of 2015) and approved by PASA.
1.10.33		33. Geological data is data that Rhino would use to determine both the financial and technical feasibility of the resource. If shared publicly, it can disadvantage the competitive advantage of rhino Q So were there any other companies bidding/negotiating for the exploration application? If not, it won't disadvantage ROG surely?	Rhino: Geological work done by Rhino is proprietary to the company and submitted to the Petroleum Agency of South Africa.
1.10.34		34. SLR will assess the impacts of the proposed early-phase exploration work programme. It is not possible to provide an informed assessment of potential future impacts <u>where the proponent has no idea of the project plan</u> , the methodology or the locality. The scope of the	This statement refers to the assessment of impacts from possible further exploration and future production. Rhino Oil and Gas maintain that there is too little information on the local setting with regards

		current EIA is therefore linked and limited to the early-phase exploration work programme. Q They have no idea of the project plan ??? Is this another typo?		prospectivity for oil and or gas to accurately predict what the proposed project might entail until such time as they have completed the early phase exploration
1.10.35		35. 'Rhino Oil & Gas indicated to SLR that it will ensure that all of its activities are undertaken in a lawful and environmentally responsible manner ' Q Who will oversee them and ensure they adhere to the less than 50ha and less than 0.0001% of the surface Section 5.4.1.1? They may claim this but unless the techniques and procedures are in place with people who know what they are doing this statement can only be wishful thinking at best and dangerous at worst, don't you think?.		Such requirements will be specified in the EMPr.
1.10.36		36 The potential impact on water resources is discussed separately below (see Section 5.4.8 and Error! reference source not found.). ??? Meaning?		Thank you for pointing out this cross-referencing error. The Scoping Report has been updated.
1.10.37		37 'Other mitigation to minimise the impact on groundwater resources that will be considered for inclusion in the EMPr include: • Monitoring of groundwater (level and quality) in active water boreholes in close proximity to exploration boreholes must be considered. Q This surely should be mandatory not just 'considered"? Especially as there will be some drilling. This surely is leaving holes the size of a house for any future legal action to fall through?		The Scoping phase identifies the issues that must be considered, hence the wording. Potential impacts will be assessed in the EIA. Such requirements will be specified in the EMPr.
1.10.38		38. ' Fluids are designed to not move far from the drilling hole unless very poor formations or large cracks are encountered; ' Q Who will know this before the drilling starts? Sounds very flakey considering technical excellence claimed?		Details, including safety datasheets, of the potential lubricants to be used during core hole drilling will be supplied in the EIA. Details on the management of drilling processes will be sourced and information provided in the EIA.
1.10.39		39. Although in almost all cases exploration sites/routes would be located where access is available, the seismic survey lines may be required to cross watercourses. Any activity that impedes or diverts the flow of water in, or alters the bed, banks, course or characteristics of a watercourse, requires Water Use Authorisation in terms of the NWA Q when will anyone know this and be obliged to obtain WUA? Who will be doing due diligence?		The process involved in determining sites/routes for field-based exploration will include a site assessment by an independent environmental scientist. This person will assess such requirements and inform the holder of their obligations. Such requirements will be specified in the EMPr.
1.10.40		40. As such a change in land value is highly unlikely for early phase exploration Q Would you agree another key issue which is being ignored and therefore prevents meaningful engagement by IAP's before the damage is done and the process can't be stopped?		It is the opinion of SLR as the EAP that impacts of the proposed early phase exploration work programme on land values would be extremely limited. As such input at a specialist level is not considered necessary to assess.
1.10.41		41. 'The current EIA is aligned to the early-phase exploration work programme as proposed by Rhino Oil and Gas. The potential impacts of further detailed exploration and future production activities would not be assessed in the EIA process.' Further to this, Rhino Oil and Gas maintain that due to the current information and the nature of exploration they cannot have details at this stage on what the resource is, where it is located		

		<p>geographically or geologically, or how it might be extracted. As the EAP it would simply be speculation to undertake an environmental impact assessment of future activities for which no defined details are known'</p> <p>Despite RR claims that they have identified resources in this region?</p> <p>'I&APs are advised that the responsibility for the assessment of impacts of any future exploration or production activities would fall to the future EIA (or environmental authorisation amendment) process which is required by legislation to inform the environmental authorisation required as part of a mineral right. This would include a further public participation process and in-depth assessment (including specialist studies) of all project-related activities / issues. <u>The assessment would be based on the known details of the work as proposed by the applicant.</u> It is also expected that if/when this phases commences that the Karoo SEA for Shale Gas will be complete and will provide a sound basis on which to undertake an assessment of future exploration work.'</p> <p>The applicant says 'very little by way of information will be forthcoming in this phase' so what known details do they allude to?</p> <p>Why not wait for the Karoo SEA to be completed so there is, as you say a 'sound basis' on which to work, which ROG appears to <u>not</u> have in any shape or form with this giant project?</p>		<p>Rhino Oil and Gas has only claimed that they "believe the area may be prospective for oil and or gas resources".</p> <p>The MPRDA defines timeframes and implements a 'use-it or lose-it' policy with regards mineral rights. With the technical co-operation permit period complete, Rhino Oil and Gas have to proceed to the next phase (exploration right) and could not wait for the completion of the Karoo SEA without risking the loss of their application.</p> <p>Additionally, while aspects of the Karoo SEA findings would probably be relevant to this application, there is no guarantee of this as the study is focussed on deep shale gas in a specific locality.</p>
1.10.42		<p>42. No critically endangered ecosystems are located within the proposed exploration area (Mucina and Rutherford, 2006).</p> <p>Q Considering the challenges to our natural environment and based on the outdated information you seem to be relying on, can this still be the case? Do we have to get to the point of extinction before we take notice and give it exclusion?</p>		<p>Mucina and Rutherford is the most up to date reference material on vegetation. However SLR and the biodiversity specialist will also draw on multiple other sources of information with regards the status of biodiversity across the application area.</p>
1.10.43		<p>43. Q Will the EIA address the issue of below ground horizontal drilling and the risks inherent?</p> <p>Q If not, why not, given that it is highly controversial?</p>		<p>No. Horizontal drilling is not included. The Scope of the EIA is aligned to the proposed exploration work programme.</p>
1.10.44		<p>44. 'The preliminary assessment ratings provided in this table are for the unmitigated scenario only which assumes that limited consideration is given to the prevention or reduction of environmental and social impacts. In most cases the alternative would be the mitigation'</p> <p>Q Does this mean nothing will be allowed to stand in the way?</p>		<p>This is quoted from the Section of the Scoping Report which was a comparative assessment of the available alternatives.</p> <p>The method that will be applied to assess impacts in the EIA is detailed in Section 7.3 of the Scoping Report. This meets the requirements of the EIA Regulations 2014.</p>
1.11.1		<p>Rhino Oil and Gas (ROG) is a South African registered subsidiary of Rhino Resources (RR) whose website informs that RR is "a <i>technology driven independent oil and gas exploration and development company focused on Africa</i>".</p> <p>It is also the "<i>largest holder of both onshore and offshore oil and gas rights in South Africa with over twenty five million acres granted by the Petroleum Agency of South Africa</i>"</p> <p>Also RR's "<i>experienced management and advanced technology – will unlock the vast potential of Africa's petroleum resources structures</i>" So yes, we are under no illusions that ROG's "ultimate goal for the overall project is to extract hydrocarbons in a commercially viable manner." ,</p>	<p>Margaret Neunborn on behalf of M25 Mbona Private Nature Reserve, Email, 10 April 2016</p>	<p>Any entity that applies for an explanation/prospecting right, is ultimately anticipating successfully finding a resources. Otherwise such activities would never take place. For example, the early mining development of South Africa was based on the discovery of minerals which followed periods of prospecting. However, until a resource is identified and the extent determined, there can be no guarantee that there would be any production/mining of a resource.</p> <p>Rhino: The benefits of any current proposed exploration and any future proposed oil and gas</p>

		<p>despite repeated statements in this Scoping Report that only three iterative years of exploration are under discussion. But to whose benefit?</p>		<p>extraction or production has far reaching benefits not only to people directly working on the project but also indirectly.</p> <p>The economic consultancy Econometrix estimates if just 5% of South Africa's resources are economically recoverable, this will add more than R80bn, or 3.3% a year, to gross domestic product for 25 years. This, Econometrix notes, is nearly double the total current contribution of coal mining to the economy. Government tax revenue would increase by R35bn a year. If 10% or 20% of the reserves can be turned to account, the long-term economic benefits for South Africa would be enormous.</p> <p>Econometrix economist and principal analyst in the Karoo shale gas report, Tony Twine, indicated that shale gas exploration will satisfy the country's future energy needs and will have a significant contribution to GDP, adding up to R200 billion (US\$ 23 billion), and the establishment of up to 700,000 jobs.</p> <p>The shale oil & gas revolution in the USA has been the nation's biggest single creator of solid, middle-class jobs—throughout the economy, from construction to services to information technology.</p> <p>Overall, nearly 1 million Americans work directly in the oil & gas industry, and a total of 10 million jobs are associated with that industry by way of indirect jobs.</p> <p>Oil & gas jobs are widely geographically dispersed and have already had a significant impact in more than a dozen states: 16 states have more than 150,000 jobs directly in the oil & gas sector and hundreds of thousands more jobs due to growth in that sector.</p> <p>In recent years, America's oil & gas boom has added \$300—\$400 billion annually to the economy—without this contribution, GDP growth would have been negative and the nation would have continued to be in recession.</p> <p>The resources, technology, infrastructure, and thousands of small and midsize businesses are capable of producing even more growth and many more jobs, so long as policymakers do not obstruct progress in the oil & gas sector.</p>
<p>1.11.2</p>		<p>“ 5) Need and desirability</p> <p>ROG present its rationale for the proposed exploration in terms of various national plans and policies. They make the case that exploration success would result in long-term benefits for South Africa consisting of new energy sources, improved security of supply in the gas-to-liquids industry, major in-country investments in a development project and reduced dependence on the importation of hydrocarbons. Analogues to the benefits derived from the oil and gas industry in the USA are presented”</p> <p>a) If this Scoping Report is limited to a 3-year, limited exploration, iterative process which ROG states “only includes work aimed at determining the presence of a petroleum resource” then ROG is out of line to underpin it with this promissory broad scale national benefit of unknown capital requirements and infrastructure, and un-named national plans in this blatantly cynical appeal to economic patriotism – this should be removed from the Scoping Report and any application.</p>		<p>The information supplied in the BID and Scoping Report indicates that there will be very limited employment opportunities during the proposed exploration.</p> <p>As part of their motivation for the development and potential of the oil and gas industry in South Africa, Rhino Oil and Gas has made use of examples from the USA indicating the job creation that could result.</p>

1.11.3		<p>b) Furthermore, at two public meetings I attended Philip Steyn was asked to provide details on the shareholding and capital providers behind ROG. He stated that there were only three shareholders. My research has turned up Mr. Patrick Mulligan, Philip Steyn is one, and an unknown other. Philip Steyn refused to divulge any further information RR is domiciled in Cape Town, Dallas and the British Virgin Islands and its President and CEO is Mr. Patrick Mulligan. ROG is expecting to be granted an ER to a vast tract of KZN encompassing 1.5 million hectares and 10 000 farms, involving the lives and livelihoods and well-being of countless numbers of South Africans, now and in the future. I believe that in terms of Access to Information 32 (1) (b) of the Constitution ROG should be required to explain very clearly the persons and mechanisms of financing this exploration, and the further processes possibly devolving from it, as well as who will benefit from “exploration success” revenue streams and taxation.</p>		<p>Rhino: Because Rhino is a privately owned company, we are under no obligation to provide any financial information publicly. The two directors of Rhino Oil and Gas Exploration South Africa (PTY) Ltd are Patrick Mulligan and Phillip Steyn.</p> <p>Overall, nearly 1 million Americans work directly in the oil & gas industry, and a total of 10 million jobs are associated with that industry by way of indirect jobs.</p> <p>Outside of direct jobs in the oil and natural gas industry, shale development has spurred other economic growth, including hotels, restaurants, shops and more. These businesses provide additional jobs and opportunities for the local workforce.</p>
1.11.4		<p>c) ROG is also being disingenuous in comparing SA and USA in terms of the oil and gas industry benefits:- the economies of scale and demographics are worlds apart, and this comparison is also historic and outdated in terms of the Paris Agreement on the Environment of December 2015, when 200 countries signed up for the end of the era of fossil fuels. We have moved into a newer age where investment and commitment should be to renewable energy resources rather than raping 25 million acres of Southern Africa, onshore and offshore.</p>		<p>Rhino: When oil and gas exploration is done properly it can be done with a high degree of safety.</p> <p>In 2015, there were nearly 100 days of scheduled power reductions in the country. While the people of South Africa are beginning to learn to deal with the unfortunate reality of regularly living without electricity, and grappling with the environmental implications of more than 85 percent of state-owned Eskom Holdings' generation capacity coming from coal-fired power plants, as a result the highest per capita greenhouse gas emissions in Africa, and with less than one percent of power supplied by true renewables primarily from hydropower, the issue is also continuing to dramatically damage the nation's already sluggish economic progress.</p> <p>This is an exciting time for Rhino. We strongly believe South Africa's oil and gas resources can one day enhance prosperity for the country's communities by helping alleviate the current, crippling national power crisis by providing a cleaner, dependable, reliable and affordable source of energy. We also are confident their development will create highly skilled technical jobs, move the country away from its dependence on coal and provide significant benefits to the nation's communities in areas such as education and health.</p> <p>Further details on the need and desirability of the project will be provided in the EIA report. Consideration of government policies as well as the Paris Agreement, as relevant to this application, will be documented.</p>
1.11.5		<p>Distribution for review of Scoping Report</p> <p>This report is contained in one set only of three lever arch files in various public libraries, or via a link to SLR. Please note that libraries are closed on Sunday, open for half day on Saturday. At very best this extensive and highly technical document has been available for review for 26 days, even when counting half-Saturdays as a full day, and not for the 30 days as stated. I would think an advertised extension of time should be granted, as a large section of IAP's who cannot access computers have thereby been disadvantaged.</p>		<p>Please refer to Regulation 3 of the EIA Regulations 2014 for guidance on the prescribed timeframes in the EIA process. 30 calendar days is the legally stipulated period for comment on a scoping report.</p> <p>Please refer to Section 1.6 of the Scoping Report for details on where and how the Scoping Report was made available to I&APs.</p>
1.11.6		<p>4) Legal Framework</p> <p>What contact was made with relevant Government departments, Provincial and local authorities</p>		<p>Numerous government departments, provincial and local authorities were identified by SLR and informed of the Scoping and EIA process. Please refer to the relevant sections of the</p>

		in the (291 ER) area so that they could act on behalf of taxpayer and other IAP's in the area under application. What happens when the resources of central government, provincial government, municipalities and others are utilised by ROG for their own business purposes. All the comment and public participation has had to be handled by private individuals, at their own private expense and time. This seems to me to be a huge omission in this scoping process.		Stakeholder database in Appendix 5.3 and Section 5.2 . of the Scoping Report.
1.11.7		5) Needs and Desirability – see above		
1.11.8		7) Public Participation Methods The Scoping Report sets all this out as though it went smoothly. As a matter of record, the Howick meeting was not an extra meeting but the same meeting as the totally disastrous, badly handled Lions River meeting. Additionally, you should advise PASA that the Howick meeting was 'policed' by private security and facilitated by some unknown and strident other company. Not conducive to public participation.		Refer to Section 5.2 of the Scoping Report for details of the public participation method. It is explicitly stated in Section 5.26 that some of the meetings did not take place. This is also documented in the Minutes of the various meetings which are included in the Appendices. Private security was used to ensure that there would be no further damage to property of the EAP team or to the venues. This was a real risk, with vandalism having occurred at a previous meeting where members of the public slashed tyres and damaged vehicles. This was also seen as being non conducive to public participation.
1.11.9		10) Anticipated Issues and Impacts Above all, above all, where does it state in this Scoping Report that South Africa is a water-poor country, in the grip of horrendous drought, with unforeseen and unknowable outcomes. Historic data and desktop analysis of old reports and old boreholes being used to prop up an exploration application for exploration rights which will ultimately result in meddling with the geological and hydrological structures of 1.5 million hectares of this province, with unknowable results and consequences which we will have to live with long after ROG and RR have taken their short-sighted business model elsewhere.		Please refer to Sections 5.4.8.3 and 6.1.3.4 of the Scoping Report which indicate that water consumption could be a concern in light of the limited supplies available. Details of the specialist geohydrological investigation that will be undertaken are set out in Section 7.5.2.
1.12		2) Project Description In terms of Section 48 of the MPRDA, the extent of the exploration right application area excludes all properties with protected area status under the National Environmental Management Protected Areas Act 2003, as well as properties zoned for urban/residential use in the towns within the exploration right application area. KwaZulu Natal has thousands upon thousands of residential properties that are neither urban nor zoned – the current difficulties in drawing up an accurate Voters' Roll underscores this. The Scoping Report and Exploration Application needs to address this matter, or is it intending to treat non-urban non-zoned persons as less-than-citizens. This is largely a province of rural dwellings – you only need to drive or fly around KZN to see the homesteads in the hills and valleys where sometimes even the roads do not reach.	Margaret Neunborn on behalf of M25 Mbona Private Nature Reserve, Email, 11 April 2016	This is a relevant point and the merits thereof are being given consideration by the EAP team and response will be provided in the EIA. As with other environmental aspects the objective in the assessment phase will be to determine exclusion/buffer criteria that should be applied to the different residential classes when identifying and assessing sites for physical exploration.
1.13		I have the following comments to make on the draft Scoping Report in respect of 12/3/291 ER: 1. It is incredibly difficult and cumbersome to work off the ftp site, only one document in the extensive range of documents comprising the draft Scoping Report opens at a time. This	Sarah Allan and Curry's Post Conservancy, Email,	The ftp allows for each document to be downloaded/saved to your local computer. Multiple documents can then be opened.

	<p>makes cross referencing virtually impossible and defeats the purpose of public participation.</p> <ol style="list-style-type: none"> 2. Each document also takes a long time to open and close (and I have a fast internet connection) before you can view the next map/document, I can only imagine how frustrating that is for people working off their phones or on dial up modems. 3. It seems that the public meetings in the Zululand/Ulundi area didn't actually take place. This disadvantages these communities from participating in a process that has significant implications for their livelihoods, now and into the future. This flaws the public participation process and is unacceptable. 4. The only information given for FTG is that the aircraft will fly slowly at low level. Low level is not specified nor elaborated on. The aircraft will invade my privacy and that of my neighbours and the noise will be a nuisance and potentially hazardous to my livestock and that of my neighbours. This could also be a security hazard. 5. KwaZulu-Natal is an incredibly important water resource area and even "just" an exploration right has the potential to destroy both ground and surface water. The current drought has added emphasis to the value of the totality of water resources and the extent to which food production is reliant on available quality water. The interruption of water flows and any compromise to the quality of the water resource in favour of an extractive industry can never be accepted. 6. The infrastructure even for "just" exploration activities is either not present or wholly inadequate. Current road quality is too poor for seismic machinery to transverse, and if the machinery does negotiate its way through the byways of rural KZN, there is no undertaking nor guarantee to at least repair affected roads to current or better condition. As mentioned above, the water resource is already under pressure and any exploitation of the water resources for exploration purposes is unacceptable. The document is very difficult to work with. Please find an alternative system for the EIA phase to promote greater access to a wider audience. 7. The KZN Midlands is blessed with "special" biodiversity, not only being in the moist midlands grasslands but being part of the Maputaland-Pondoland-Albany Hotspot of biodiversity endemism. The maps tucked into the Annexures bear testament to this (once you can persuade them to open and close). The exploration activities can compromise this by breaches in security profile and opportunistic poaching. <p>The document is very difficult to work with. Please find an alternative system for the EIA phase to promote greater access to a wider audience.</p> <p>The POS doesn't specify which studies will be undertaken by which specialists nor provide their</p>	<p>11 April 2016</p>	<p>The availability of bandwidth on the SLR server with regards the ftp facility is regularly monitored and managed to ensure that download speeds are not constrained on the SLR side. SLR is however investigating measures to improve the accessibility of documents to I&APs.</p> <p>It is documented in the Scoping Report that the meetings at Tugela Ferry, Nqutu and Nkandla did not take place. SLR was then asked by the Board of the Ngonyama Trust not to proceed with any consultation with Traditional Authorities until such time as they had been consulted. The Ngonyama Trust indicated to SLR that their advice to Traditional Authorities has been to not participate in the EIA process.</p> <p>Specific parameters on FTG will be provided in the EIA and the related impacts assessed.</p> <p>SLR is aware of the water resource value of the KZN Midlands with initial information in this regard presented in the baseline section and relevant Figures in the Scoping Report. It is not necessarily a given that the proposed exploration activities would compromise water resources in the region. The potential risks will be assessed in the EIA. Detail on the studies that are proposed in relation to geohydrology and biodiversity is set out in Section 7.5.1 and 7.5.2 of the Scoping Report. As detailed, the outcome will be to define which water resources and uses are incompatible with the proposed exploration and to determine exclusion criteria that should be applied when identifying and assessing sites for field-based exploration. Such requirements will be specified in the EMP.</p> <p>The use of infrastructure for exploration would be relatively low key and transient. However it is acknowledge in the Scoping Report that there could be a risk to both private and public infrastructure. The potential risks will be assessed in the EIA. Commitments to the necessary management will be detailed in the EMP.</p> <p>SLR is aware of the biodiversity value of the KZN Midlands with initial information in this regard presented in the baseline section and relevant Figures in the Scoping Report. It is not necessarily a given that the proposed exploration activities would compromise environmental assets in the region. The potential risks will be assessed in the EIA. Detail on the study that is proposed in relation to biodiversity is set out in Section 7.5.1 of the Scoping Report. As detailed, the outcome will be to define which biodiversity units and uses are incompatible with the proposed exploration and to determine exclusion criteria that should be applied when identifying and assessing sites for field-based exploration. Such requirements will be specified in the EMP.</p> <p>Not all of the specialists had been appointed at the time of production of the Scoping Report. There is no requirement to specify which specialists will be used or to provide their CVs in the Scoping Report. Such details will be supplied in the EIA Report as required in terms of</p>
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		abbreviated CV's. This is deficient.		Appendix 6 to the EIA Regulations, 2014.
1.14		<p>The Kwa Zulu-Natal Crane Foundation has a few concerns and points with the possible exploration by Rhino Oil & Gas in the Kwa Zulu-Natal area.</p> <ul style="list-style-type: none"> Have there been any observations or research done with regards to the impact seismic data collection has on the Wildlife? <p>e.g. The Kwa Zulu-Natal midlands has the only population of Critically Endangered crane (Wattled Crane-<i>Buggeranus carunculatus</i>) in South Africa to which there are only 311 individual birds left in the wild in South Africa. This population is already at high risk of extinction due to the lack of projected wetlands and grasslands. It is feared that any disturbance within their home range can be catastrophic as it could displace breeding pairs from good breeding grounds and foraging areas.</p> <ul style="list-style-type: none"> Is it viable to be doing an EIA during a drought cycle? This could have miss leading information on the state of the environment and the impacts exploration would have on it. Any damage to our Fauna & Flora will have catastrophic effects on the water system to which our main wetlands being the heart of our water catchment for human and animals alike. <p>On behalf of the Kwa Zulu-Natal Crane Foundation I Ryne Ferguson request answers to the above concerns in writing.</p>	Penny Letleyon behalf of Kwa Zulu-Natal Crane Foundation, Email 12 April 2016	<p>Please refer to Section 7.5.5 for details of the noise and vibration study that will be undertaken. This will include a literature review of the impacts of seismic data collection on wildlife.</p> <p>SLR is aware of the occurrence of populations of the three crane species in the KZN Midlands and will give due consideration to the importance and sensitivity of these species in the EIA phase.</p> <p>While the effects of the current drought are acknowledged, there is no direct link with regard to the timing of the application or the EIA. Similarly the proposed work, if approved, is only likely to take place from 2017 onwards. The rainfall conditions at that time may be completely different.</p> <p>SLR is aware of the value and sensitivity of the wetlands, water systems as well as fauna and flora in the KZN Midlands. The assessment of potential impacts during the EIA phase will give this due consideration.</p>
1.15		<p>Due to overwhelming evidence from overseas that fracking can have a devastating impact on communities' survival I would like to register our total objection to Rhino Gas and Oil's activities in KZN. How an overseas company can be given such a license is inexcusable. Their only motive is monetary and they will no doubt walk away with billions in their pockets leaving behind a shattered future for rural communities throughout the province.</p>	Tom and Lucinda Bate, Email, 05 April 2016	Your objection is recorded. Hydraulic fracturing is not included as part of this application.
1.16		<p>I do not intend to dignify this farce of an application with a serious study of its contents.</p> <p>The applicants have consistently refused to clearly state who they are, and what little information they have provided indicates that they clearly do not have any experience in the field/industry, and absolutely no logistical capacity to execute the proposed activities outlined in the BID. In my opinion, this raises suspicions over relationship between the applicants and PASA, and that this is nothing more than a "get-rich-quick-at-any-cost" scam by fly-by-night operators... grab any mineral/gas/oil rights and sell them to the highest bidder is clearly the intention. It is an insult to expect anyone to believe that the claims put forward by the applicants, and SLR Consulting on the applicants' behalf, are anything other than pure self-interest, at the expense of the environment and any person or community that happens to be in the wrong place.</p> <p>The claims that this application is not about fracking are laughable. What is the point of exploring and possibly finding gas/oil, if there's no intention to frack?</p> <p>It is common knowledge that the fracking industry in the US is in turmoil, with numerous fracking companies going bust. It is equally common knowledge that the problems fracking has brought to local communities is profound.</p>	Barry Downard, 07 March 2016	<p>The points raised and your objection is recorded. Relevant issues and concerns will be assessed in the EIA.</p> <p>Any entity that applies for an explanation/prospecting right, is ultimately anticipating successfully finding a resources. Otherwise such activities would never take place. For example, the early mining development of South Africa was based on the discovery of minerals which followed periods of prospecting. However, until a resource is identified and the extent determined, there can be no guarantee that there would be any production/mining of a resource.</p> <p>Prior to going into any extraction phase an application for a production right would have to be made, assessed and approved in terms of Sections 83 and 84 of the MPRDA.</p>

		I stand with the many people in the KZN Midlands who have already delivered a resounding "NO!" to this ill-considered application.		
1.17		I would like to find out if there is any way to assist in the opposition to this exploration. I am from the South Coast of KZN where we have a strong conservancy association, who I am sure would also be able to sign any petitions to oppose Rhino Resources with their planned operation.	Sarah Unsworth, Email, 09 March 2016	Email on 9 March. SLR Consulting is undertaking the EIA process for this exploration right application. As part of the process we are documenting public input, which includes opposition to the proposed project. If you have an opinion on the proposed exploration project we will happily receive this and you are encouraged to register as an interested & affected party in order to be involved in the assessment process. SLR would not manage any petitions. However, any petitions that we do receive would be included in the EIR. We suggest that you contact Frack Free KZN for information in that regard.
1.18		As an affected party living in the Kranskop district I would like to say that the potential threats of exploration by Rhino oil and gas are far too numerous and potentially life threatening to the environment and especially humans dependant on water reserves for the proposal to be acceptable. I strongly oppose the application from being granted.	Beth Thiem, Email, 10 March 2016	The points raised and your objection is recorded. Relevant issues and concerns will be assessed in the EIA.
1.19		Given the current drought situation and the shortage of water in the KZN area, it seems madness for Rhino Oil & Gas to proceed with this project and endanger or pollute the little water we have available. What about the future of the environment in this beautiful area, and the future of our children and grandchildren? This seems a very shortsighted project - surely we should be looking at renewable sources of energy instead! You have no idea how much distress this is causing to all the residents within the affected area who are now living in uncertainty. Please tell Rhino Oil & Gas to go away!	Robyn Hedley, Email, 15 March 2016	The points raised and your objection is recorded. Relevant issues and concerns will be assessed in the EIA.
1.20		With regards to the proposed petroleum exploration on various farms in the Northern Kwa-Zulu Natal region, the following information and statements about the proposal are as follows: The Northern Kwa-Zulu Natal region comprises of the Ecca Group of the Karoo Supergroup. The Ecca Group comprises of sedimentary rocks such as sandstone, mudstone and coal. Dolerite intrusions of Mesozoic age intruded through these rocks later on. The sedimentary rocks have a low angle dip which formed from previous overlying rocks that have been eroded away over time (Van Vuuren <i>et al.</i> , 1998; Duncan and Marsh, 2006; Johnson <i>et al.</i> , 2006). The Northern Kwa-Zulu Natal region is known for its coal deposits that are associated with the Vryheid Formation (Johnson <i>et al.</i> , 2006). When it comes to oil and gas, previous studies have found these resources but in small amounts (Van Vuuren <i>et al.</i> , 1998). The main requirements for hydrocarbons such as oil and gas to form are the following: 1. The proximity of a source rock that has the potential for it to be generated.	JHA Clark on behalf of Friends of the Environmental Action Group, Email, 31 March 2016	Thank you for this information. The points raised and your objection is recorded. Relevant issues and concerns will be assessed in the EIA. The geological information has been passed onto the geologists at Rhino Oil and Gas.

		<p>2. Diagenesis that takes place for oil and gas to be generated and preserved.</p> <p>3. The presence of a reservoir rock that is permeable / porous to store the oil and gas.</p> <p>4. It must be structurally constrained – oil needs to be trapped for it not to move away.</p> <p>Examples are anticlinal folds or unconformities where the overlying rocks are impermeable and act as a trap for the oil. Previous studies indicate that oil has been found in the Northern Kwa-Zulu Natal region. Locations where oil was discovered were near a mine in Dannhauser and south-east of Wakkerstroom. The oil was discovered in the Vryheid Formation (Van Vuuren <i>et al.</i>, 1998).</p> <p>Our opinion is the following:</p> <p>There is a possibility for further oil resources to be discovered in the region but the structural constraints of the area stipulate that the generation of oil to take place will be low.</p> <ol style="list-style-type: none"> 1. Firstly there are small areas in the region that are slightly folded (Van Vuuren <i>et al.</i>, 1998). 2. The sedimentary layers are at a low angle dip so the chances of possible traps to form are low. 3. Dolerite intrusions in the area would have destroyed any oil that had formed before the dolerites intruded during Jurassic times. <p>The chance of oil to form is low and if oil was to be discovered, it will not be economically viable to mine as it will be in small amounts. If there was sufficient oil to mine, the mining techniques such as fracking would be detrimental to the nearby environment. If the technique was done incorrectly, aquifers that contain precious water could possibly be contaminated with the chemicals used in fracking, the vegetation in area will need to be removed which is not a good idea, Vehicles that need to be used to transport the oil will cause local air, water and sound pollution. Another problem is that the potential area that has been stipulated on the map surrounds protected areas, if contamination were to take place if mining had to take place near these areas, it will cause a massive problem to those protected area.</p> <p>Therefore in our opinion exploration and mining should not be done in this area.</p>		
<p>1.21.1</p>		<p>RCL Foods Consumer (Pty) Limited Application for Exploration Right for Petroleum on various Farms in the Magisterial District of Pietermaritzburg, KwaZulu-Natal, PASA Reference Number (12/3/291 ER).</p> <p>1. Introduction</p> <p>We are instructed by RCL Foods Consumer (Pty) Limited ('RCL FOODS') to lodge comments on the Draft Scoping Report for the application by Rhino Oil and Gas Exploration South Africa (Pty) Ltd for an Exploration Right for Petroleum on various Farms in the Magisterial District of Pietermaritzburg, KwaZulu-Natal.</p> <p>RCL Foods, including their contract growers, own a number of highly productive poultry farms within the area chosen for exploration by Rhino Oil and Gas Exploration South Africa (Pty) Ltd. Attached marked Annexures 'A' are maps indicating the location of RCL Foods' sites, including</p>	<p>Aldine Armstrong and Pascale Coetze, Eversheds, Email, 08 April 2016</p>	<p>Thank you for the comprehensive submission.</p>

		<p>the sites of RCL Foods' contract growers, in relation to the proposed exploration layout.</p> <p>This submission demonstrates why the exploration activities cannot be accommodated on or anywhere near the RCL Foods or contract grower's sites as proposed by the Draft Scoping Report.</p>		
<p>1.21.2</p>		<p>2. RCL FOODS</p> <p>In assessing the weight to be given to our client's submission it should be borne in mind that RCL Foods is a major national producer of broiler chickens. It is a fully vertically integrated broiler producer that breeds and rears its own livestock which it feeds from its own feed mills, and processes, distributes and markets its products. RCL Foods produces and supplies fresh, frozen, value-added and further-processed chicken products, and operates in the retail, wholesale and foodservice channels with four brands - RCL Foods, Farmer Brown, RCL Simply Chicken and Food Solutions. It supplies its products to major retailers, wholesalers and fast food chains. It also produces a variety of dealer-own brands for certain retailers and wholesalers.</p> <p>2.1 The Value Chain</p> <p>To place our client's concern in context it is necessary to understand how its business operates. The farms affected by the proposed activities are components of a much larger production chain. RCL Foods' operation runs on an extremely detailed and sensitive chain of laying and rearing events. A brief explanation is as follows.</p> <p>RCL Foods sources its pedigreed breed stock (Grandparents) from the United Kingdom and Europe. From those pedigreed animals it breeds its parent stock. Those breeding parents lay chicks that will ultimately become broiler chickens for slaughter. The initial pedigreed grandparents result in the production through the parent stock of approximately 5 million chickens per week. Any disruption to the grand parents will result in a disastrous multiplier effect and loss of birds – equating to the loss of millions of rand per week, and a significant disruption to the supply of staple food to the nation's population. The RCL Foods farms are managed and controlled on an exceptionally delicately balanced protocol which ensures the stability and well-being of the birds. Any minor disturbance thereto will create disruption and death. The major factors are water, food, light, noise, vibrations, dust and air quality, and any threat to its biosecurity. Any disturbance to the chicks will affect their feeding pattern.</p> <p>There are effectively 4 phases to the production of chickens for slaughter. The first phase introduces and rears the pedigreed grandparent stock that will produce the good breeding parent stock. The second phase is production and rearing of the good breeding stock in order to produce the broiler stock (the stock that will be sold for consumption).The third phase is the production and rearing of the broiler stock, and the fourth phase is the processing of the broiler stock.</p> <p>RCL Foods import a "female line" and a "male line". These grandparent chicks are placed on a rearing farm where they are fed and grown to 22 weeks. At 22 weeks the chicks are transferred to the laying farms. At the laying farms the chicks mate. From 26 to 60 weeks the hens produce eggs. (At 60 weeks the birds are replaced with new intake). The eggs are placed in an incubator for 18 days and thereafter they are transferred to the hatchery for 3 days. Each grandparent hen produces approximately 148 to 162 parent eggs- approximately 11 million eggs. From these eggs</p>		<p>Thank you for the information on RCL Foods</p>

		<p>breeding (parent stock) chicks are produced.</p> <p>These chicks are responsible for laying the eggs that will be reared into broiler chickens for slaughter. From the grandparent farms the parent stock chicks are transported to the rearing houses. The chicks are fed and grown to 21 weeks and from there they are transferred to the laying farms. Here the chicks mate and from 26 to 60 weeks the hens produce ideal eggs. These eggs are then transferred to the hatchery where they are placed in an incubator for 18 days. After 18 days they are transferred to the hatchery for 3 days and after this cycle of 21 days a broiler chick gets produced.</p> <p>The broiler chicks get transferred to the broiler farms and here they are fed and grown to the point of slaughter on a 6 week cycle. Five million chicks per week are slaughtered as a result of this production chain.</p> <p>RCL Foods then slaughters and processes the birds at its processing plants, prior to distribution of a variety of products to supermarkets, restaurants and fast food chain stores. Please find attached marked Annexure 'B', a flow chart indicating RCL Foods processes.</p> <p>Examples of the strict controls that are required for the successful rearing of the grandparent and parent stock and production of broiler chicks for slaughter are:</p> <ul style="list-style-type: none"> - On arrival the grandparent chicks are quarantined for six weeks. - The personnel responsible for the chicks are quarantined with them for 2 weeks and do not leave the facility during this time nor are the staff changed. A change in staff at this stage disrupts the chicks. - All persons and vehicles going in and out of the premises have to go through sanitization processes, including showering twice on leaving the outside environment and entering the chicken houses, and showering twice on leaving. All persons have to wear specially designed protective clothing. - The chicks are fed the exact amount of food through feeders at hourly intervals every day to an exact weight. - They are provided with the exact amount of water of a constant quality through dispensers every day. <p>It is clearly evident from the above that RCL Foods is an integrated, complex and delicately balanced value chain.</p> <p>The operations in question are not individual, standalone chicken farms, and each forms a significant link in this value chain. Any minor disruption to these processes will result in disastrous consequences for RCL Foods - both in terms of known and unknown impacts.</p> <p>RCL Foods has contracts in place with retailers and fast food chain stores to supply chicken products. In the event that the operations at any of these farms are interrupted then this will place RCL Foods in breach of its obligations. RCL Foods has established effective best practice national norms and complies with strict international policy relevant to its national demand.</p>		
1.21.3		<p>3. The Impacts</p> <p>3.1 Bio-Security</p>		<p>The bio-security requirements of RCL are noted.</p> <p>Should the applicant ever propose to explore at an RCL Foods site then RCL Foods</p>

	<p>Due to the sensitivity of RCL Foods' operations it has very strict bio-security rules. Bio-security, simply put, is the processes followed to ensure that an infectious disease, or any other vector that may cause death or sickness, is not introduced into the flock. These preventative measures are based on applied micro-biology and epidemiology.</p> <p>Conceptual bio-security is the primary level of bio-security and involves the siting of a poultry operation and its various components. Physical isolation is a primary consideration in securing conceptual bio-security.</p> <p>The following are, amongst others, the sources of poultry diseases:</p> <ul style="list-style-type: none"> ▣ Source contamination: Animals, feed or water that carry a biological agent and transmit it. People, clothing or vehicles can harbour a biological agent that when moved around can spread the agent; ▣ Vector contamination: Vermin, wild birds (especially water that fowl and pigeons), insects and fomites (such as faecal material, feathers and dust) can be human, animal, wind or water transmitted; ▣ Facility contamination: a major source of disease is transmission by people (employees, truck drivers etc). <p>The farms are currently isolated and are exposed to no threat from the immediate environment. Public roads and small roads in the vicinity of a chicken farm exacerbate exposure of that farm to bio-security risks. As does any increase in uncontrolled human/vehicle traffic on and around the farms.</p> <p>Disease with potential transmission risks associated with an increase in the number of people, the activities involved with exploration for gas/minerals and the uncontrolled access to the area include:</p> <ul style="list-style-type: none"> ▣ Avian influenza Newcastle disease ▣ Salmonella ▣ Mycoplasma ▣ Avian Rhinotracheitis virus ▣ Infectious bronchitis virus ▣ Infectious Laryngotracheitis virus ▣ Adenovirus infections ▣ Mareks disease virus ▣ Infectious Coryza ▣ Pasturellosis <p>Additionally, there is the related risk that government and quarantine certification will be withdrawn where the farm is no longer isolated as before.</p> <p>In principle, if RCL Foods was looking to introduce a new broiler farm to an area, it would not place its farm within a 10km radius of any farm which was not a RCL Foods farm. This radius</p>	<p>would have opportunity to ensure adherence to the bio-security requirements through a negotiated access agreement.</p>
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		<p>would put RCL Foods' operation outside of the buffer control area for the outbreak of Avian Influenza ("AI"). Were AI not a threat, then RCL Foods would in any event not position a rearing farm close to a source of bio-security risk, and to any other risk that will put the rearing of the animals at risk. A full breakdown of RCL Foods' bio-security protocol is available on request. A comprehensive bio-security program comprises a hierarchy of conceptual, structural and operational components directed at preventing infectious disease transmission.</p> <p>The influx of people, the increase in activities introduced to the area, the impact on water resources and the dust, noise and vibrations created by the proposed exploration work, and the associated risk of human health issues and social ills will exacerbate the risk to RCL Foods' bio-security.</p> <p>Veterinarian for RCL Group Services, Dr A Knoetze describes a number of associated bio-security risks in his report on the preliminary bio-security disease risks associated with the construction of the proposed Isundu substation and powerline (please see Annexure 'C'. Whilst Dr Knoetze's report is in respect of the Isundu substation which is proposed to be developed and which RCL Foods is also opposing, the principles remain the same, if not exacerbated by the nature of the exploration activities, which are more wide spread and will take longer to complete.</p> <p>Should any minable resources be located within a 10 km radius of any of RCL Foods' chicken farms, or any of RCL Foods' contract growers' farms, mining within this 10 km radius cannot be allowed to go ahead due to the increased bio-security risk associated with mining activities.</p>		
<p>1.21.4</p>		<p>3.2 Noise and Vibrations</p> <p>The chickens are very sensitive to noise, vibrations/tremors, dust and interruptions and these factors will have a severe negative impact on production in any combination of the following ways:</p> <ul style="list-style-type: none"> ▣ Decrease in Eggs per hen, hatchability, and fertility; ▣ Decreased growth; ▣ Decreased feed and water intake; ▣ Increase in mortality - birds 'bundle up' when stressed which causes 'smothering'; ▣ Excessive dust entering the chicken houses and affecting the health of the birds. <p>A study published in 2008 by the University of Veterinary and Pharmaceutical Sciences in Brno, Czech Republic, on "Stress in Broiler Chickens Due to Acute Noise Exposure" (please see Annexure 'D') concluded that "a significant negative influence of noise exposure on the stress and fearfulness of broiler chickens was determined" after having exposed the test broiler chickens to sound levels of 80 decibels and 100 decibels.</p> <p>The following are RCL Foods' concerns with regard to potential noise and vibration disturbances associated with the proposed exploration for minerals.</p> <p>The technology to be used and the methods of exploration, such as shot hole drilling, core borehole drilling and seismic surveys, will create noise and vibrations in the area, and surrounding area, of exploration site.</p> <p>Under section 5.4.7.2 ("Disturbance to and mortality of fauna") of the Draft Scoping Report (page</p>		<p>The noise and vibration concerns of RCL are noted and will be passed to the appointed specialist for consideration.</p> <p>The findings of the noise and vibration study will make recommendations on buffers necessary to manage risk to various receptors such as RCL Foods.</p>

	<p>212) the EAP states that:</p> <ul style="list-style-type: none"> □ "Several studies indicate that noise/vibration has a negative impact on wildlife, mostly observed as behavioural changes including startle and alarm response, with animals moving away from a source of noise and activity (particularly mobile species such birds, large snakes and medium-sized mammals)." □ "Drilling noise and vibration caused by detonation of explosives in shot holes or vibroseis could affect sensitive species, forcing individuals to move away from the source. Some may abandon their shelters." □ "In addition to disturbance of faunal movement, direct mortality could result from the proposed activities. Those species that cannot effectively vacate the area by themselves may suffer direct mortality due to increase traffic, site clearing or detonation of explosives." <p>As per Annexure 'D', it is clear that the chickens will be negatively affected by any increase in noise or vibration. The EAP describes in the Draft Scoping Report the potential negative effects on fauna that may be caused by the noise and/or vibrations associated with the exploration activities.</p> <p>It is important to point out here that the chickens in RCL Foods' farms will not have the ability to "move away from the source" of the noise and/or vibrations and will thus be made to endure the noise and vibrations caused by the exploration activities. This will cause undue stress and harm to the chickens and will have a direct negative effect on RCL Foods' operations.</p> <p>Any further investigations undertaken during the EIA phase must consider the effects of the generation of noise and vibrations on RCL Foods' operations.</p> <p>Due to the nature of the exploration activities a 10 kilometre buffer will be required by RCL Foods in order to mitigate and/or prevent any negative effects on their operations. Thus, no exploration activities can be allowed within a 10 kilometre radius of any of RCL Foods' operations, or any of RCL Foods' contract grower's operations.</p>		
<p>1.21.5</p>	<p>3.3 Air Quality</p> <p>In addition to the above, there will be an enormous increase in dust and vehicle emissions during the exploration processes as well as the potential for the escape or release of hazardous gasses from exploration core holes.</p> <p>Dr A Knoetze's report (Annexure 'C') describes a number of associated bio-security risks associated with the increase in dust.</p> <p>"Newcastle disease (NCD) is state controlled disease of poultry. [...]KZN is still currently experiencing NCD cases as recently as August 2015 (pers. communication Dr A Still, State veterinarian) and thus the risk is very high at this point.[...].</p> <p>Transmission has been shown to be from infected birds through direct contact but more commonly from infected dust or fomite particles". (Emphasis added)</p> <p>"Salmonella enteritidis and Salmonella typhimurium are the two most significant due human impact, the former being a state controlled disease. Salmonella gallinarum and Salmonella pullorum are poultry pathogenic serovars both of which are state controlled." Routes of</p>		<p>The air quality concerns of RCL are noted and will be passed to the appointed specialist for consideration.</p> <p>The findings of the air quality study will make recommendations on buffers necessary to manage risk to various receptors such as RCL Foods.</p>

		<p>transmission of the salmonella infection include, amongst others, humans and contaminated dust.</p> <p>"Mycoplasma causes direct pathology as well as immunosuppressive conditions which can result in mortality as high as 30% in infect broiler flocks." Mycoplasma is transmitted via infected dust, amongst others.</p> <p>"Liberation of dust during construction can risk to the transmission of fomites [...] that can act as vectors for disease, some listed prior. In addition the generation of dust adds a burden to the primary immune defence system of the bird (mucosal cilia) resulting in increased susceptibility (reduced infective dose) to poultry diseases". (Emphasis added)</p> <p>The EAP points out, under section 5.4.17 (Air Quality) of the Draft Scoping Report (pages 226 – 227), the nature and occurrence as well as potential mitigation measures for the generation of dust and vehicle emissions. Further, the EAP points out the potential for and possible effects of the escape or release of gas from exploration boreholes. Despite the period of time during which the above mentioned air pollutants may potentially be generated, the negative effects and bio-security risk caused to RCL Foods' operations during this time could be significant.</p> <p>Again, any further investigations undertaken during the EIA phase must consider the effects of poor air quality on RCL Foods' operations.</p> <p>Should the exploration activities be allowed to go ahead, RCL Foods further reiterates the requirement of a minimum 10 kilometre buffer in order to mitigate these negative impacts on their operations.</p>		
1.21.6		<p>3.4 Traffic</p> <p>Any increased traffic and congestion created on the roads used by RCL Foods or their contract growers during the exploration activities will result in delays in the transportation of the poultry produce (in the forms of either eggs or chickens) to and from the farm. Any delay in the transportation can result in the death of the animals and is highly detrimental to RCL Foods' operations.</p> <p>In addition to the above, the increased traffic and use of the road by light and, particularly, heavy vehicles will severely decrease the quality of the road, which will again affect RCL Foods' ability to effectively transport their poultry produce.</p> <p>A Traffic Assessment must be undertaken during the EIA phase in order to determine any potential impacts to surrounding land users, in particular to RCL Foods, which would arise through the increased traffic.</p>		<p>The traffic concerns of RCL are noted and will be considered by SLR in the EIA.</p> <p>It is the opinion of SLR as the EAP that traffic impacts of the proposed early phase exploration work programme will be very limited. Thus not requiring assessment at a specialist level.</p>
1.21.7		<p>3.5 Water</p> <p>Water is one of the most important resources for any poultry operation, and RCL Foods is reliant on both the municipal water supply and borehole water for the operation's water supply.</p> <p>RCL Foods requires about 7200 kilometres per site per month (six farms per site). The animals require a consistent supply and standard of water. Any change to volume or character of the water can result in death.</p>		<p>The water concerns of RCL and the requirements for groundwater abstraction are noted and will be passed to the appointed specialist for consideration.</p> <p>The findings of the geohydrological study will make recommendations on buffers necessary to manage risk to various receptors such as RCL Foods.</p>

		<p>The EAP themselves in the Draft Scoping Report states on page 302, section 6.1.3, that:</p> <p>"Most agricultural activities in the region use groundwater and may be partly or wholly dependent on groundwater. Any changes to the quality or quantity of groundwater in near surface aquifers may affect adjacent users who rely on groundwater for domestic and agricultural use. Activities during exploration, including shot hole preparation and core hole drilling, might result in some interaction with groundwater that could impact groundwater availability and quality."</p> <p>Any activity which damages the natural aquifers or affects the water supply will have a severely negative effect on RCL Foods' operations. As aquifers do cross properties, activities on neighbouring properties may have a direct impact on RCL Foods' water supply. Exploration activities and the risk of contamination causing an increase in the bacterial load, and an increase in diseases could have a highly detrimental effect on the water source. Should the water supply to any farm be affected, RCL Foods' operations will be forced to terminate on that specific farm with the resultant cumulative effects.</p> <p>Any or all of these impacts have the potential to carry disease, create imbalances in the birds' reproductive capacity, and can lead to death. Please see Annexure 'E', a veterinary report compiled by Dr JL Goosen, titled "Veterinary overview on external environmental factors that can possibly affect bird health, production and wealth fare", in support of the above.</p>		
<p>1.21.8</p>		<p>3.6 Social and Economic</p> <p>The number of birds and the value thereof produced by farms located within the exploration area is extensive. Besides the severe financial loss RCL Foods would suffer itself, the contribution it makes to the national economy and social fabric of the country is significant. Any disruption to the cycle of the production of chicken at this point will result in significant losses to the country. See attached Annexure 'F', a table indicating the number of birds produced at one laying farm and the estimated value arising out of each farm.</p> <p>As an example of this, in the Camperdown area alone, the following scenario arises out of a disruption to only 7 rearing farms. Each of the 7 rearing farms receives 44000 chicks from the grandparent stock twice a year. Each farm produces 7 million eggs twice annually - a total of nearly 100 million eggs for broiler production. When the chicks are sexually mature they get transferred to 14 laying farms throughout the cycle where they produce eggs. The eggs are incubated and hatched at the hatchery. A chick is produced and gets transferred to the various broiler farms in the area. They are meticulously fed and watered according to scientific data to the point of slaughter. The loss of one 1 breeding cycle at a single rearing or laying farm, would result in 5.3 million birds being lost to the market at a gross financial loss of R338 million. If all 7 rearing farms were to be affected the loss of birds to the market would be 37.5 million at a financial loss of R4 732 million. If the cycle cannot be re-established these losses must be multiplied by two – resulting in the loss of 75 million birds to the market at a gross cost of R9 464 million. If the cycles cannot be re-established the multiplier effect is enormous. The loss of profit resulting from each breeding cycle would be R42 million per cycle. If both breeding cycles were disrupted at all farms the loss of profit would be R 588 million per annum.</p>		<p>The socio-economic concerns of RCL are noted.</p> <p>It is the opinion of SLR as the EAP that any economic impacts of the proposed early phase exploration work programme would be extremely limited and thus do not require assessment at a specialist level.</p>

		<p>The Socio-Economic Assessment undertaken as part of the EIA must identify RCL Foods as a significant social and economic contributor and the EAP has a duty to adequately scope the status quo in order to ensure that the Competent Authority makes their decision based on the true socio-economic value of RCL Foods and their contribution both nationally, in South Africa, and locally, in KwaZulu-Natal.</p> <p>Activities such as mineral exploration and mining must be viewed in light of the interests of existing agriculture, local and national disease control and national food security.</p> <p>The proposed exploration, and any future mining, has the potential to detrimentally affect the poultry industry which would have a severe knock-on effect that could potentially outweigh any possible socio-economic gains from exploration and mining.</p>		
<p>1.21.9</p>		<p>3.7 Public Participation</p> <p>The need for an effective, meaningful and substantial Public Participation Process in environmental decision-making is highlighted not only by National legislation and policy, but also by International Conventions.</p> <p>Some of the many purposes of public participation include:</p> <ul style="list-style-type: none"> ▫ Highlighting the experiences and the social, economic and environmental concerns of the public (interested and affected parties); ▫ Providing the public with an opportunity to voice their support, concerns and questions regarding the project, applications or decision; ▫ Providing public consensus on the nature of an activity within a specific location; ▫ Enabling the applicant to incorporate the needs, preferences and values of the affected parties into its application; ▫ Providing potential location, layout, technology or "no-go" alternatives; ▫ Informing the applicant of the potential problems they may face socially, economically and environmentally; ▫ Ensures transparent and open decisions-making processes; and, ▫ Assisting the Competent Authority in their decision-making process in deciding whether the proposed activity is acceptable and justifiable. <p>Public participation forms the cornerstone of an open and democratic society and is vital in any decision-making process which decision affects the public.</p> <p>The Constitution of the Republic of South Africa provides as follows:</p> <p>Section 32. Access to information</p> <p><i>"(1) Everyone has the right of access to –</i></p> <p><i>(a) any information held by the state; and</i></p> <p><i>(b) any information that is held by another person and that is required for the exercise or protection of any rights.</i></p>		<p>Details of the public participation method are set out in Section 5.2 of the Scoping Report.</p> <p>Section 5.4 of the Scoping Report provides a comprehensive summary of the results of the public participation process. SLR is confident that public participation has achieved the purpose of scoping the key issues that require consideration in the EIA phase for the exploration right application.</p>

	<p>(2) National legislation must be enacted to give effect to this right, and may provide for reasonable measures to alleviate the administrative and financial burden on the state.”</p> <p>Section 33. Just administrative action</p> <p>“(1) Everyone has the right to administrative action that is lawful, reasonable and procedurally fair.</p> <p>(2) Everyone whose rights have been adversely affected by administrative action has the right to be given written reasons.</p> <p>(3) National legislation must be enacted to give effect to these rights, and must –</p> <p>(a) provide for the review of administrative action by a court or, where appropriate, an independent and impartial tribunal;</p> <p>(b) impose a duty on the state to give effect to the rights in subsections (1) and (2); and</p> <p>(c) promote an efficient administration.”</p> <p>The Promotion of Access to Information Act 2 of 2000 and the Promotion of Administrative Justice Amendment Act 3 of 2000, which were enacted to give effect to the above constitutionally enshrined rights, both emphasise the importance of public participation in decision-making processes, and provide mechanisms for fair, open and meaningful public participation.</p> <p>The National Environmental Management Act 107 of 1998 (‘NEMA’) incorporates the need for public participation in decision-making as provided for by, <i>inter alia</i>, Chapter 5 (Integrated Environmental Management), section 23 (General objectives) which provides:</p> <p>“(1) The purpose of this Chapter is to promote the application of appropriate environmental management tools in order to ensure the integrated environmental management of activities.</p> <p>(2) The general objective of integrated environmental management is to-</p> <p>(d) ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment; ...”</p> <p>The Environmental Impact Assessment Regulations of 2014 (‘EIA’), published in terms of the NEMA, specifically states the necessity for an appropriate public participation process to have been conducted at each step of the EIA process. Both the 2014 Regulations and the repealed 2010 Regulations provide for the public participation process in Chapter 6 (Public Participation).</p> <p>In addition to the above legislation, the Department of Environmental Affairs has published in terms of section 24J of the NEMA the “Public Participation Guideline” which provides that:</p> <p>“Public participation is one of the most important aspects of the environmental authorisation process. It is considered so important that it is the only requirement for which exemption cannot be given. This is because people have a right to be informed about potential decisions that may affect them and to be afforded the opportunity to influence those decisions. Effective public participation also facilitates informed decision-making by the competent authority and may result in better decisions as the views of all parties are considered.” (Emphasis added)</p> <p>Public participation is so important that it has been included in International Conventions such as the Rio Declaration on Environment and Development.</p>		
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<p>1.21.10</p>		<p>4. Sustainable Development, Renewable Energy and Climate Change</p> <p>4.1 Sustainable Development</p> <p>The Constitutional Court has recognised the importance of sustainable development and has stated that:</p> <p><i>"Sustainable development does not require the cessation of socio-economic development but seeks to regulate the manner in which it takes place. It recognises that socio-economic development invariably brings risk of environmental damage as it puts pressure on environmental resources. It envisages that decision-makers guided by the concept of sustainable development will ensure that socio-economic developments remain firmly attached to their ecological roots and that these roots are protected and nurtured so that they may support future socio-economic developments."</i></p> <p>1 The Constitution provides in section 24 (Environment) that:</p> <p><i>"Everyone has the right – (a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that – (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."</i> (Emphasis added)</p> <p>The principles of sustainable development have further been encapsulated by the NEMA in section 2, some of the significant principles include:</p> <p><i>"(4)(a) Sustainable development requires the consideration of all relevant factors including the following: (i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied; (ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are</i></p>		<p>Thank you for this information on sustainable development. As you point out and quote "Sustainable development does not require the cessation of socio-economic development but seeks to regulate the manner in which it takes place. It recognises that socio-economic development invariably brings risk of environmental damage as it puts pressure on environmental resources". This EIA is being undertaken to assess the impacts of the proposed early phase exploration activities.</p>

		<p>minimised and remedied; (iii) that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied; (iv) that waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner; (v) that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource; (vi) that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised; (vii) that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and (viii) that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied." (Emphasis added) ... (d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination. (e) Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle. (f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured. (g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge.</p> <p>... (p) The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.</p> <p>... (r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure."</p> <p>RCL Foods plays a significant role in supplying a form of cost-effective protein, in the form of poultry products, both nationally and locally. Any activity or development which is undertaken in an unsustainable manner (socially, economically and particularly environmentally) that does not comply with the principles of sustainable development will ultimately affect the economic sustainability of RCL Foods which will in turn have an effect on the economic and social fabric of society.</p>		
1.21.11		<p>4.2 Renewable Energy and Climate Change</p> <p>Climate change is a very real and common threat humans and the availability of vital natural resources such as food, water and air. It is the duty of each State to take responsibility for ensuring that policy is adopted and implemented in order to decrease their greenhouse gas</p>		<p>Thank you for this information on renewable energy and climate change. These points must however, also be put in context terms of the governments various policies towards the development of an indigenous fossil fuel resource and gas industry.</p>

		<p>emissions (GHGs) and to lessen the effects brought on by climate change.</p> <p>The recognition of the effects of climate change by the United Nations instigated the publication of the United Nations Framework Convention on Climate Change (UNFCCC) which is an international environmental treaty negotiated at the Earth Summit in Rio de Janeiro from 3 to 14 June 1992, then entered into force on 21 March 1994. The UNFCCC is a framework for international cooperation to combat climate change by limiting average global temperature increases and the resulting climate change.</p> <p>The Kyoto Protocol was adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005. The Kyoto Protocol is an international agreement linked to the UNFCCC, which commits its Parties by setting internationally binding emission reduction targets.</p> <p>At COP 21 in Paris, Parties to the UNFCCC reached a historic agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future.</p> <p>The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.</p> <p>Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives.</p> <p>The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework. The Paris Agreement requires all Parties to put forward their best efforts through "nationally determined contributions" (NDCs) and to strengthen these efforts in the years ahead.</p>		<p>Further details on the need and desirability of the project will be provided in the EIA report. Consideration of government policies as well as the Paris Agreement, as relevant to this application, will be addressed in the EIA report.</p>
1.21.12		<p>4.3 South Africa's commitments on Climate Change and Renewable Energy</p> <p>South Africa ratified the United Nations Framework Convention on Climate Change (UNFCCC) in August 1997 and acceded to the Kyoto Protocol in July 2002, and has confirmed their commitment to reducing GHG emissions and to use renewable energy technologies.</p> <p>In terms of the provisions of the UNFCCC and the Kyoto Protocol, the Republic must—</p> <ul style="list-style-type: none"> □ Prepare and periodically update a national inventory of greenhouse gas emissions and sinks. □ Formulate and implement national and, where appropriate, regional programmes to mitigate climate change and facilitate adequate adaptation to climate change. □ Promote and cooperate in the development, application and diffusion of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases. <p>South Africa has responded through the publication of a number of Acts and policies such as, <i>inter alia</i>, the White Paper on Energy Policy (1998), the Renewable Energy White Paper (2003), the National Climate Change Response Policy White Paper (2011) and the National</p>		<p>Thank you for this information on South Africa's commitments to climate change and renewable energy. While relevant, these points must also be considered in context of the same governments various policies towards the development of an indigenous fossil fuel resource and gas industry.</p>

		<p>Environmental Management: Air Quality Act 39 of 2004.</p> <p>A report titled "State of Renewable Energy in South Africa", attached marked Annexure 'G', which presents a consolidated and authoritative account of progress made thus far in advancing renewable energy technologies to the economy and citizens at large point out that: "the Integrated Resource Plan (IRP) of 2010 set a target of 17,800MW (equivalent to 42%) of new electricity generation capacity to be derived from renewables, largely Solar (PV & CSP) and Wind."</p> <p>In light of the above international and national policy obligations it is evident that energy production in South Africa must make a substantial move toward renewable energy and away from the use of fossil fuels. The authorisation of exploration rights and, eventually, mining rights for the purpose of abstracting fossil fuels cannot be considered a step in the direction of achieving national and international climate change objectives.</p> <p>The change in climate will have a significant impact on not only RCL Foods' farming operations and their ability to provide poultry products, but also on agriculture and food production in general. The value of exploration and mining must be weighed against the value of continued food availability, particularly in light of the fast-growing availability of renewable energy technologies.</p>		
1.21.13		<p>5. Conclusion</p> <p>One understands the challenge the Applicant faces in satisfying demands, needs and environmental attributes of all parties concerned, but to jeopardise an operation such as RCL Foods' cannot be justified in any terms. The application for exploration rights in this area of KwaZulu-Natal is simply inappropriate.</p> <p>This submission shows that the potential impacts caused by the proposed exploration may have a significant negative and undesirable effect on the farming activities of RCL Foods. It is neither desirable nor in the national interest to jeopardize this operation.</p> <p>Additionally, although it is understood that the Application is for an Exploration Right and not (yet) for a Mining Right, the entire application should not be authorised due to the fact that the purpose of obtaining an exploration right is to determine whether there are in fact minable minerals located within the designated area and, once located, for mining activities to go ahead. There would be no need for the exploration for minerals if not for the intention of mining the minerals.</p> <p>RCL Foods submissions must be given due consideration due to their significant role in the national and local economy of South Africa.</p> <p>Our client's rights to submit further comments as more information is made available are fully reserved.</p>		<p>The applicant is clearly looking at establishing if there is an economic resource associated with the geology of this area. However, there is much greater chance in exploration that a resource is not found that visa versa. If establishing a resources was straightforward, then many other forms of more conventional hydrocarbons would have been developed, oil and gas price would be substantially lower and unconventional resources would not have to be considered.</p> <p>Your objection is recorded and the reservation is noted.</p>
1.22		<p>I have read the Scoping Report on Rhino Oil and Gas' plans for fracking in the KZN Midlands and as an affected party, I have to let you know that I strongly object to your company exploring the area for gas extraction.</p> <p>You must surely be aware of the adverse environmental effects of fracking; even if you choose to ignore that you must consider that there is no financial future in oil and gas extraction. The entire</p>	Stephanie Ando, Email, 09 April 2016	The points raised and your objection is recorded. Relevant issues and concerns will be assessed in the EIA.

		<p>tide of the world is turning away from non-renewable to renewable energy resources. Surely better for your company to invest in that future rather than fighting the tide and losing?</p> <p>I ask that Rhino Oil and Gas immediately desist from all activities related to fracking in the KwaZulu-Natal and in South Africa.</p>		
<p>1.23</p>		<p>After wading through the lengthy Report and admitting to myself that legal speak is almost as much rubbish as the proposal Rhino Oil & Gas has put forward for permission to explore the KZN Midlands, herewith my 5c worth:</p> <p>In your statements that so many points are outside the initial Scoping Report and cannot be dealt with in this report, I see a massive minefield awaiting all of us who object to RO &G's application for permission to explore - it is disingenuous to say the least to make this statement, as most of our concerns could and will only be addressed once or after the invasive activities begin. This is unacceptable to us as we will be left "holding the baby" once RO &G have raped our beautiful countryside and then sold off any exploration or other rights to some other totally disinterested party.</p> <p>We feel very strongly that your so-called "public Participation Process" is just whitewashing and a cover-up for the highly suspect RO &G applications.</p> <p>In fact the entire Scoping Report is a whitewash for a load of hogwash.</p> <p>The public have participated and throughout have told RO &G and yourselves to frack off in no uncertain terms. Nobody wants exploration to take place and above all else nobody wants any invasive process to take place, no matter WHAT the process is - we do NOT believe that PASA, SLR, RO &G and DMR have our interests at heart and therefore mistrust deeply any processes and/or applications which may lead in the direction of this occurring.</p> <p>And quoting Gaetane Le Grange in the Comments section 'The pre-cautionary principle states that, if one does not understand the impacts fully, they should not go ahead with the project. The 'polluter pays' principle states that, the one who causes pollution is responsible to mitigating it. Both these principles apply in this process and we do not for one second believe that either RO &G, PASA, SLR, DMR or anyone else however remotely involved in mining or future extraction processes will adhere to these tenets.</p> <p>Your document states:</p> <p>17. 'The aim will be to identify key features of the groundwater resource and to define which regions may be incompatible with the proposed exploration activities related to the groundwater resources. Pxii'</p> <p>"Water required for the operation of the drilling rig as well as potable water would be obtained from an available source and in compliance with legislation'</p> <p>With the entire country gripped in the worst drought in decades, does this not seem like an irresponsible attitude? Even if the drought breaks in the near future, South Africa remains a water-scarce country. Then there remains the possibility of contamination of already scarce water resources. We deem that the possibilities of water and other contamination simply outweigh any benefit to the entire country as a whole.</p>	<p>Malvina van Breemen, Email, 11 April 2016</p>	<p>The points raised and your objection is recorded. Relevant issues and concerns will be assessed in the EIA.</p> <p>The separation of rights for exploration and production (and the related EIA processes) is prescribed by the MPRDA and NEMA. Amongst many others, the reason being that the applicant does not have sufficient information to inform a proposal for production until such stage as the exploration has been completed. Without information on the specifics of the proposed activities it is not feasible to assess the potential impacts thereof.</p> <p>Any further exploration or future production will require authorisation in terms of the MPRDA and NEMA. Future applications for authorisation will require related EIA processes and this will include public consultation. See Section 5.4.2 of the scoping report.</p> <p>The results of the public participation are documented in the scoping Report.</p> <p>This is one of the key principles of the NEMA and an important consideration in the Scoping and EIA process.</p> <p>There is sound argument in the avoidance of sensitive or incompatible sites, utilizing available sources and doing so in a lawful manner being responsible approach.</p>

		<p>There is simply NOTHING 'green' or eco-friendly in the proposed processes of either exploration or future extraction, thereby leaving no doubt that any and all processes involved will be highly detrimental to health, welfare, income, quality of life and anything of benefit to society within South Africa.</p> <p>As to the veracity of the following, we have our gravest doubts:</p> <p>32. Rhino was granted the opportunity to apply for the proposed Exploration Right based on experience. In terms of the MPRDA, an exploration right can only be granted if, <i>inter alia</i>, the applicant has access to financial resources and has the technical ability to conduct the proposed exploration operation optimally in accordance with the exploration work programme.</p> <p>At the Howick West follow-up meeting, one Travis Smithard was trotted out as the "expert geologist" - he is no more than 26 or 27 years old and has not even finished his degree/postgraduate studies - are these the so-called type of "experts" who will be involved in the future? When far more senior and informed experts within South Africa are already espousing the risks and dangers associated with both exploration of this type and ultimately extraction?</p> <p>Your document also leaves us in no doubt as to how clueless you really are:</p> <p>34. SLR will assess the impacts of the proposed early-phase exploration work programme. It is not possible to provide an informed assessment of potential future impacts where <u>the proponent has no idea of the project plan</u>, the methodology or the locality. The scope of the current EIA is therefore linked and limited to the early-phase exploration work programme.</p> <p>The true ramifications of the dangers of both exploration and extraction processes are far, far too great to allow any of these processes to occur. We therefore submit in the strongest terms possible that we do not condone or approve of any application going forward, be it exploration or extraction of any sort. Leave it where it is and rather invest everything in renewable energy, instead of threatening our health, environment and livelihoods and just plain wasting our time!</p> <p>Please note that I reserve my right to give additional commentary on this matter until the prescribed timeframe is exhausted and that the above is by no means a comprehensive commentary on your document.</p>		<p>The proposed exploration will not necessarily lead to all of the impacts as you indicate. Potential impacts will be assessed in the EIA.</p> <p>Rhino and its technical team in the US have substantial technical capabilities to efficiently conduct all of the proposed work processes in the proposed ER application. Rhino also has access to a number of world class Domestic and international consulting firms and service companies in assisting with the proposed project in South Africa.</p> <p>This statement refers to the assessment of impacts from possible further exploration and future production. This does not form part of the scope of this EIA.</p> <p>Rhino Oil and Gas maintain that there is too little information on the local setting with regards prospectivity for oil and or gas to accurately predict what the proposed project might entail until such time as they have completed the early phase exploration</p> <p>These reservations are noted.</p>
<p>1.24.1</p>		<p>NatureStamp (Pty) Ltd is an environmental and natural resource management company, with a wide range of experience and specializing in hydrology and sustainable agriculture. NatureStamp puts Care of the Environment first, aiming for protection and enhancement of ecosystems on all accounts.</p> <p>NatureStamp OBJECTS to the application on the following grounds:</p>	<p>Susan Carter-Brown on behalf of Nature Stamp, Email, 11 April 2016</p>	<p>Your objection is recorded.</p>
<p>1.24.2</p>		<p>1. THE PROPOSED ACTIVITY DIRECTLY CONFLICTS WITH PREVIOUS AND CURRENT INVESTMENTS IN THE AREA:</p> <p>The KZN Midland is an area that is renowned for its eco-tourism and has become the area of choice for many due to its unique and diverse environmental assets. These include, but are not limited to, grasslands, birdlife, mountain trails, rock painting and cultural heritage. The conversion of these (environmental) assets of long term economic benefit to the people of the Midlands into</p>		<p>The environmental assets, the conservation thereof and the eco-tourism activities resulting from these in the KZN Midland area of the region is noted.</p> <p>The potential impacts of the proposed exploration activities on environmental assets are discussed in Sections 5.4.7 and 6.2 of the Scoping Report. It is not necessarily a given that the proposed exploration activities would compromise environmental assets in the region, nor the eco-tourism value of such. The potential risks will be assessed in the EIA.</p>

		<p>gas and/or oil for the short term benefit of the Rhino Oil and Gas Directors is seen to be a direct threat to the communities and their livelihoods.</p> <p>As an organisation that works closely with many farming communities with the intention to increase environmental best practice and ensure a sustainable culture of economic development, we feel that such an application is in direct conflict. The application for exploration would thwart the tremendous ground that we and many other environmental and development companies have made in the drive to create environmentally conscious and aware communities.</p> <p>As an environmental organisation, we appeal to the drivers of the application, the Independent EAP, PASA and the Minister of the DMR to consider the objection that we are making as it directly relates to our objectives of contributing positively to sustainable development as outlined in the Rio Declaration of which South Africa is a signatory of.</p>		<p>Detail on the study that is proposed in relation to biodiversity is set out in Section 7.5.1 of the Scoping Report. As indicated, the outcome will be to define which biodiversity units and uses are incompatible with the proposed exploration activities and to determine exclusion criteria that should be applied when identifying and assessing sites for field-based exploration. Such requirements will be specified in the EMPr.</p>
<p>1.24.3</p>		<p>2. THE PROPOSED ACTIVITY IS A DIRECT THREAT TO WATER RESOURCES:</p> <p>Groundwater contamination that may occur as a result of accidents and/or defective equipment may have an increased stress on the already water stressed catchment. Water use for the proposed activity will certainly increase stress on the water use allocations in the area.</p> <p>The preamble to the National Water Act (No 36 of 1998) states the following to be acknowledged in the formulation of the Act (emphasis underlined):</p> <ul style="list-style-type: none"> □ Recognising that water is a scarce and unevenly distributed national resource which occurs in many different forms which are all part of a unitary, interdependent cycle; □ Recognising that while water is a natural resource that belongs to all people, the discriminatory laws and practices of the past have prevented equal access to water, and use of water resources; □ Acknowledging the National Government's overall responsibility for and authority over the nation's water resources and their use, including the equitable allocation of water for beneficial use, the redistribution of water, and international water matters; □ Recognising that the ultimate aim of water resource management is to achieve the sustainable use of water for the benefit of all users; □ Recognising that the protection of the quality of water resources is necessary to ensure sustainability of the nation's water resources in the interests of all water users; and □ Recognising the need for the integrated management of all aspects of water resources and, where appropriate, the delegation of management functions to a regional or catchment level so as to enable everyone to participate; <p>Thus, the proposed activity is in direct contravention of the 'spirit' of this law and sustainable and equitable water use.</p> <p>Furthermore, the proposed exploration area has at least two major catchment areas with it, namely the Mooi River CA and the Umgeni CA that play a significant role in the area's water security. Considering the increasing water stress that communities, businesses and departments are facing it is not in the best interest of local and regional economic growth to jeopardise the economic activity of many other industries by putting their water resources at risk, for the possible</p>		<p>The potential impacts of the proposed exploration activities on groundwater are discussed in Sections 5.4.8 and 6.1.3 of the Scoping Report. The value and shortage of water supply in the key catchments is acknowledged. It is not necessarily a given that the proposed exploration activities would compromise groundwater resources in the region. The potential risks will be assessed in the EIA.</p> <p>Detail of the study that is proposed in relation to groundwater is set out in Section 7.5.2 of the Scoping Report. As detailed, the outcome will be to define which groundwater units and uses are incompatible with the proposed exploration activities and to determine exclusion criteria that should be applied when identifying and assessing sites for field-based exploration. Such requirements will be specified in the EMPr.</p> <p>As part of the Scoping and EIA process a review of the legislative and policy context of the project is undertaken. See Table 3.1 of the Scoping Report. The National Water Act, 1998 is identified for consideration. This will be undertaken through the course of the EIA.</p>

		<p>benefit of one international company. It is in this respect that we need to consider the impact of the proposed work on our water resources.</p> <p>According to the NFEPA implementation manual, mining in any form (including prospecting/exploration) should not be permitted in wetland FEPAs or within 1km of a wetland FEPA buffer, or within 1km of a riverine buffer (including all associated wetland systems and tributaries) within a FEPA catchment. Thus, the proposed activity is a direct threat to 1) Water Resources (quality and quantity), 2) Agric-Economy potential (rangeland/livestock) and 3) the Ecotourism Potential of the Midlands/uMgungundlovu area.</p>		
<p>1.24.4</p>		<p>3. THE PROPOSED ACTIVITY IS A DIRECT THREAT TO HEALTHY ENVIRONMENTS:</p> <p>The proposed activity, through various forms of exploration activities, would disturb and potentially degrade the environment. The long term impacts of exploration activities (i.e. fracking) are well-documented to bring negative consequences to the local social and natural environment. This would be a direct contravention of Chapter 2, section 24 of the Constitution of the Republic of South Africa (1996) which states the following –</p> <p><i>24. Environment - Everyone has the right:</i></p> <p><i>(a) to an environment that is not harmful to their health or well-being; and</i></p> <p><i>(b) to have the environment protected, for the benefit of present and future generations,</i></p> <p><i>(c) through reasonable legislative and other measures that-</i></p> <p><i>(i) prevent pollution and ecological degradation;</i></p> <p><i>(ii) promote conservation; and</i></p> <p><i>(iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.</i></p>		<p>The potential impacts of the proposed exploration activities on environmental assets are discussed in Sections 5.4.7 and 6.2 of the Scoping Report (amongst others).</p> <p>It is not necessarily a given that the proposed exploration activities would disturb and degrade environmental assets in the region. The potential risks will be assessed in the EIA.</p> <p>Detail of the study that is proposed in relation to biodiversity is set out in Section 7.5.1 of the Scoping Report. As detailed the outcome will be to define which biodiversity units and uses are incompatible with the proposed exploration activities and to determine exclusion criteria that should be applied when identifying and assessing sites for field-based exploration. Such requirements will be specified in the EMPr.</p>
<p>1.25</p>		<p>The Scoping Report has done nothing to alleviate the fears I have about the extraction of Unconventional Gas, or the exploration process. It is very clear that should anything be found, extraction rights will follow. Across the globe we have examples of the horrors that Unconventional Gas extraction brings to communities in terms of health and social issues, destruction of the eco-systems which support our lives and livelihoods, and that the economic benefits accrue to very few. This short term greed by a minority, overriding the rights of communities and, in all likelihood, leaving them with the mess to deal with afterwards (plenty of evidence of this in other extractive industries in South Africa) is completely unacceptable. Business as usual is no way to deal with the challenges our planet (and humanity) is facing.</p> <p>During the exploration process, my major concerns are with the seismic studies/vibroiseis. There appear to be no baseline studies about what below ground eco-systems (including micro-organisms) would be affected. It is clear that seismic disturbances in the ocean are extremely detrimental to marine eco-system functionality and references to the possibility of this are made in the BID. We know that everything is linked and that by destroying or damaging soil life, above ground organisms would be affected, which will impact on river health as well. Until, very clear</p>	<p>Nikki Brighton, Email, 11 April 2016</p>	<p>Section 2.3.10 of the Scoping Report explains how the legislation in this regard is implemented. Section 84 of the MPRDA sets out that an application for a production right could only be granted if the production will not result in unacceptable pollution, ecological degradation or damage to the environment.</p> <p>The concerns over vibration are documented in the Scoping Report. Please refer to Section 7.5.5 for details of the noise and vibration study that will be undertaken. This will include a literature review for impacts of seismic data collection on wildlife.</p> <p>Your objection is recorded.</p>

		<p>data is provided on exactly what the impact of 'low frequency, long wavelength acoustic waves' might be, and a full study on the soil organisms which may be affected in the entire area of the application is complete, I strongly oppose this application.</p> <p>No matter where Rhino Oil & Gas intends drilling core-wells (in the very unlikely instance that this right to explore be granted), please be assured that there will be opposition and it is very unlikely that they will be able to go ahead. Investment in renewable energy and resilient communities must surely be a more sensible option.</p>		
1.26.1		<p>1. POSITION ADVOCATED</p> <p><i>We would like to object on this application and request that a moratorium is granted for all such gas exploration processes until a Strategic Environmental Assessment (SEA) is put in place.</i></p>	Joyce Loza on behalf of MDTP, Email, 11 April 2016	<p>Thank you, receipt of comments confirmed on 11 April 2016.</p> <p>The objection by MDTP is noted.</p> <p>The request by I&APs for a Strategic Environmental Assessment has been noted and reported on in Section 5.4.3 of the Scoping Report.</p>
1.26.2		<p>2. Background</p> <p>The Maloti Drakensberg Transfrontier Conservation and Development Programme (MDTP) is a collaborative initiative between South Africa and the Kingdom of Lesotho which was established in 2001 through signing of a Memorandum of Understanding (MoU) between the two countries to protect the exceptional biodiversity of the Drakensberg and Maloti mountains through conservation, sustainable resource use, and land-use and development planning. This area encompasses distinct landscape and biological diversity. It is rich in species and high in endemism. The project takes a regional and ecosystem approach to conservation and development, and serves to promote biodiversity conservation through linkages with community development based on realization of the region's high potential for nature based tourism. The area transcends three provinces in South Africa namely – Free State, KwaZulu Natal and the Eastern Cape.</p> <p>MDTP hereby wishes to submit its comments in response to the above-mentioned application for exploration scoping report. We wish to do this proactively to possible future development, bearing in mind that the exploration phase, is a phase preceding possible fracking, I would like to draw your attention to a number of concerns regarding the application. Your Scoping Report clearly depicts the implications of the exploration process, however does not provide a guarantee on future effects of the application. In my view, this is expected given the absence of proper strategic and environmental studies especially the Strategic Environmental Assessment (SEA). I would therefore like to raise these issues and also recommend that a SEA is conducted to clearly address concerns. In the interest of our mandate which includes managing ecosystems and their services and promoting eco-cultural tourism in this area, we are more than happy to provide the applicants with information required for strategic planning processes.</p>		<p>We are aware of the existence and extent of the MDTP. See Section 5.5.8 of the Scoping Report.</p> <p>GIS files of the extent of the various zones of the MDTP would benefit the EIA process and have been requested.</p> <p>The separation of rights for exploration and production (and the related EIA processes) is prescribed by the MPRDA and NEMA. Amongst many others, the reason being that the applicant does not have sufficient information to inform a proposal for production until such stage as the exploration has been completed. Without information on the specifics of the proposed activities it is not feasible to assess the potential impacts thereof.</p> <p>Any further exploration or future production will require authorisation in terms of the MPRDA and NEMA. Future applications for authorisation will require related EIA processes and this will include public consultation. See Section 5.4.2 of the scoping report.</p> <p>The request by I&APs for a Strategic Environmental Assessment has been noted and reported on in Section 5.4.3 of the Scoping Report.</p>
1.26.3		<p>3. Comments</p> <p>According to your map of targeted areas, the areas affected include the Maloti Drakensberg Transfrontier Conservation and Development Area (MDTFCA) areas around uThukela District Municipality protected areas within the MDTFCA and stewardship areas critical for biodiversity</p>		<p>All formally protected areas, in terms of NEMPAA, are excluded from the application area by law. Other project and planning areas will have to be considered and the significance of impacts that could arise from exploration assessed. If there was significant risk then measures would be implemented through the EMP to prevent this.</p>

		conservation, tourism development and sustainable livelihood. In a sense if the process goes ahead, it will certain be contravening the MDTP objectives. And those are not only South African objectives, but also Lesotho objectives given the status of the MDTP being an area of collaboration in the above objectives between Lesotho and South Africa as endorsed by the governments of the two countries.		The potential impacts of the proposed exploration activities on environmental assets are discussed in Sections 5.4.7 and 6.2 of the Scoping Report. Details on the study that is proposed in relation to biodiversity is set out in Section 7.5.1 of the Scoping Report. As detailed the outcome will be to define which biodiversity units and uses are incompatible with the proposed exploration activities and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration. Such requirements will be specified in the EMPr.
1.26.4		Desirability: In reading the desirability on your report, I'm not very clear as to what has been the feedback from the communities with regards to why would they desire the product of this application. I'm convinced that it would make more sense to address desirability on the basis of the needs of landowners and local communities. What is their pressing need, what are their priorities?		The Guideline on Need and Desirability, 2010 requires consideration of the need and desirability of a proposed project during both the Scoping and Assessment phases. Further details on the need and desirability of the project in will be provided in the EIA report. Consideration of inputs derived from the public participation, as appropriate, will be documented in the EIA report. The EIA will assess the proposed exploration activities in terms of the impact on the affected environment (both biophysical and socio-economic). The contextual setting of the affected areas will be described in the EIA. However, the EIA will not directly addresses the desirability of landowners and local communities.
1.26.5		Appropriate buffers should be determined around the protected areas and other areas': The significance of protected areas is: <ul style="list-style-type: none"> i. Natural and historical heritage values. These are of regional and national significance, and incorporate the following: ii. The outstanding natural beauty and aesthetic value of the area; iii. The biological diversity of species and habitats associated with the vegetation types representing the southern Drakensberg which are not formally protected elsewhere; iv. Some of these provide protection to a wetland complex. v. Water Production. The correct management of these areas contributes sustained production of high quality water to the uThukela Catchment and other catchments in the area. vi. Eco-cultural Tourism. The natural beauty of the landscape and its historical significance together with other cultural heritage assets in the local area provides the area with a significant potential from an eco-cultural tourism perspective. <p>I want to emphasise on the importance of the buffer area in securing the core area of the reserve, and would require clarity on how the buffer will be protected from the expected operations. Moreover, if you happen to discover the potential for fracking in the areas outside the buffer, what are the chances of not wanting to explore opportunities in the buffer?</p>		An Exploration Right has not been granted to Rhino Oil and Gas but is under application, subject to the EIA process. The potential impacts of the proposed exploration activities on environmental assets are discussed in Sections 5.4.7 and 6.2 of the Scoping Report. Details on the study that is proposed in relation to biodiversity is set out in Section 7.5.1 of the Scoping Report. As detailed the outcome will be to define which biodiversity units and uses are incompatible with the proposed exploration activities and to determine exclusion criteria (and buffers) that should be applied when identifying and assessing sites for physical exploration. Such requirements will be specified in the EMPr.
1.26.6		Water use and contamination: Many publications have made us aware of the implications of subsequent fracking (we need to keep this in mind because exploration may lead to subsequent fracking once you discover the potential to mine gas). These are: <ul style="list-style-type: none"> i. The processes of fracturing mixes water, sand, and chemical compounds of which some are toxic and carcinogenic including benzene, toluene, ethylene benzene, xylene, ethylene 		Hydraulic fracturing is not part of this application, as such it is not assessed as part of the current EIA. The value and shortage of water supply in the key catchments is acknowledged. The potential impacts of the proposed exploration activities on groundwater are discussed in Sections 5.4.8 and 6.1.3 of the Scoping Report. It is not necessarily a given that the proposed exploration

		<p>glycol, diesel fuel, naphthalene compounds, boric acid, arsenic, formaldehyde, various acids and pesticides, are injected into the borehole to facilitate the fracking process.</p> <p>ii. Each gas well may be fracked several times to maintain the flow of gas and each gas field may contain hundreds or thousands of such wells.</p> <p>ii. We have also been made aware that the abovementioned chemicals are detrimental to human health. For example benzene used in the mixture of fracturing chemicals is linked to leukaemia, other cancers, reproductive and developmental disorder, toluene long-term exposure is associated with birth defects and may affect the nervous system.</p> <p>Water contamination and use: For example uThukela Catchment is a water strategic area for KwaZulu Natal and Free State. It is characterised by some of the priority wetlands that contribute enormously to water security in the area. The risk of water contamination is inevitable. Groundwater wells can be contaminated with natural gas, radioactive and various carcinogenic hydrocarbon compounds, associated with natural gas as well as chemicals contained in the fracking solution (Earthlife Africa Cape Town). The hydraulic fracturing process uses extremely large amounts of water (100 000 l is a lot for an area with local people that still rely on sips for drinking and washing water). This threatens water resources in the midst of drought which is becoming evident nationally. Where is Rhino going to get this water? Moreover, local rural communities still drink from seeps, what happens when they get contaminated? We have seen mining applications, taking away sources of livelihoods, leaving people sick and poor, and as far as I'm concerned there is no amount of money that will ever compensate for an individual's life. We cannot allow this to happen.</p>		<p>activities would compromise groundwater resources in the region. The potential risks will be assessed in the EIA.</p> <p>Detail of the study that is proposed in relation to groundwater is set out in Section 7.5.2 of the Scoping Report. As detailed, the outcome will be to define which groundwater units and uses are incompatible with the proposed exploration activities and to determine exclusion criteria that should be applied when identifying and assessing sites for field-based exploration. Such requirements will be specified in the EMPr.</p>
<p>1.26.7</p>		<p>'Small scale and isolated spillages of hydrocarbons or chemicals may occur but can generally be prevented or treated in-situ with a suitable remediation product: 'The use of explosives and Vibroseis trucks to generate vibrations could damage structures. Localised compaction and soil erosion could happen on the access routes and at drill sites'</p> <p>The uThukela District Municipality area is one of the areas that generate revenue from tourism, thereby contributing to the countries tourism economy. The unique tourism experience is accounted to its landscape character - the meandering grasslands, its superlative nature – scenic beauty, solitude, habitats for fauna species such as the critically endangered Bearded Vulture which is restricted to the Maloti Drakensberg Bioregion, wetland habitats for beautiful cranes species providing a tourism experience to bird lovers, flora species, cultural heritage. These are very sensitive habitats, even the slightest increase in the number of trucks will have an impact in terms of increased noise, air pollution, increased erosion. The increased disturbance due to the presence of trucks is highly expected to have detrimental effects to the tourism experience of the area. They will negatively affect solitude, increase erosion in an area with roads that are already facing tremendous erosion pressure and impeding accessibility for tourism purposes. Some of the species mentioned above specifically the Bearded Vulture are nearly extinct, any disturbance (destruction of their habitat, noise etc) may result in them abandoning their distribution range. Therefore we cannot take the risk of creasing the number of vehicle access to these areas.</p> <p>Even the slightest vibration from the trucks will destroy the solitude which is one of the wilderness</p>	<p>Joyce Loza on behalf of MDTP, Email, 11 April 2016</p>	<p>The potential impacts of the proposed exploration activities on environmental assets are discussed in Sections 5.4.7 and 6.2 of the Scoping Report.</p> <p>Details on the study that is proposed in relation to biodiversity is set out in Section 7.5.1 of the Scoping Report. As detailed the outcome will be to define which biodiversity units and uses are incompatible with the proposed exploration and to determine exclusion criteria (and buffers) that should be applied when identifying and assessing sites for physical exploration. Such requirements will be specified in the EMPr.</p> <p>Consideration will also be given to issues relating to noise and vibration. Details on the study that is proposed in relation to noise and vibration is set out in Section 7.5.5 of the Scoping Report.</p>

		aspects attracting tourists to this area.		
1.26.8		<p>'Where the exploration activities prevent productive agriculture or land use from taking place, the owner must be compensated appropriately'</p> <p>Colorado is currently sitting at only about 84% of agricultural production due to fracking. Your above statement is a grave concern given the reliance of local communities on agricultural production. The Matatiele area is largely rural with local communities relying on agriculture to sustain livelihoods, and the truth is that agriculture contributes more jobs than public transport, building retrofills, biomass, solar, wind, smart grid, coal and natural gas. No amount of compensation for land will match the value of job creation for the disenfranchised people of the region. How many sustainable jobs for, specifically local communities will be derived from these applications?</p>		<p>Hydraulic fracturing is not part of this application.</p> <p>The EIA will present clear information with regards to the potential for job creation and effect on current employment from the proposed exploration activities.</p>
1.26.9		<p>Drilling requires the use of a truck or trailer mounted, mobile drilling rig at target sites. Drill sites will be accessed using existing roads and farm tracks. The drill rig will be accompanied by supporting equipment such as a water bowser, compressor and vehicles. The drill rig is manned by a staff of approximately five (5) persons. A typical diamond core drill rig and equipment requires an operating area of approximately 2000 m2 (ie. 40 m by 50 m). There may be an on-site caravan for the logging of core data.</p> <p>i. How many of these jobs are for local communities?</p> <p>ii. How many jobs will you create for specifically local communities whose land will be impacted?</p> <p>I am raising this because there seems to be misconceptions with regards to the potential for job creation from this initiative. It is therefore critical to address this at length and provide clarity so that local communities are well informed prior to them making decisions.</p>		<p>The EIA will present clear information with regards to the potential for job creation.</p>
1.26.10		<p>Recommendation</p> <p>It is therefore recommended that:</p> <p>i. A moratorium is instituted on this application until a Strategic Environmental Assessment is conducted and we have better clarity on its implications on our already stressed environmental resources.</p> <p>ii. MDTP will gladly avail any data and technical support it has regarding the SEA process.</p>		<p>The request by I&APs for a Strategic Environmental Assessment has been noted and reported on in Section 5.4.3 of the Scoping Report.</p>
1.27		<p>1. The fear of the landowners re this project that you mention is not due to ignorance or misunderstanding of the processes involved as suggested. It is due to a real understanding of the threats posed to the environment health and water security of this proposed project and is due to diligent research done. It is also due to the mistrust in governmental processes to evaluate this accurately and protect citizens constitutional rights of living in a healthy sustainable environment</p> <p>2. PASA is absolving itself from the complaints procedure and redress as mentioned in the questions put to them from the community and replied by them. It also seems to not have initiated ANY communication with other governmental departments that should have a</p>	<p>Dela Maiwald, Email, 11 April 2016</p>	<p>Section 5.4 of the Scoping Report provides a comprehensive summary of the results of the public participation process. Misunderstanding of the process was one of the reasons suggested.</p> <p>As required by law PASA/DMR have to take into consideration all of the comments made as part of this EIA process in their decision-making</p>

		<p>determining role to play as major stakeholders in the decisions to be made e.g. Dept agriculture, environmental affairs, health and water and sanitation. This lack of interdepartmental communication and advice will lead to the destruction of life security(water, food ,health) in the communities that are already burdened with poverty and thus in no way able to cope with a worsening in these areas.</p> <p>3. Job creation for the rural citizens is unlikely as this process needs specialist labour NOT available in this country. It does not need unskilled labour.</p> <p>4. The perceived economic gains are poor if thought about carefully. All equipment needed will need to be imported and the market for gas usage in the country is non-existent. So it will not benefit citizens initially as the market and infrastructure needs to be developed for it to benefit ordinary citizens. the budget is so strained already that current service delivery is protested against daily somewhere in the country. So the initial exploration and production will be for export.. This profit is also under strain due to the very definitive move towards divestment in oil gas and coal in the international developed world countries and markets.</p> <p>5. SA boasts excellent environmental legislation but typical of developing countries seems to want to ignore that legislation. This and the inability to enforce the legislation and regulation is also EXTREMELY concerning. SA may well have the resource available but does not have the climate to utilise this resource responsibly and appropriately yet.</p> <p>6. If job creation and electricity security is at the heart of this governmental venture, this is not the path.</p> <p>Alternate sources that are more sustainable need to be investigated. It has been done successfully in the George airport that is run on solar energy.</p> <p>I am 100% against this exploration attempt that will surely lead to production. Let us not deny that fact. Other countries have ample evidence of the negative effects that were not anticipated by their governments or scientists. We have the advantage of that knowledge and should heed the experiences carefully...we will surely experience the same and do not have better capacity to avoid the negative impacts...in fact we may have less capacity to cope with negative impact.</p> <p>Hoping that the government will have the interests of its citizens at heart and uphold the constitutional rights for each of us.</p>		<p>The limited opportunity for unskilled labour job opportunities as part of the early phase exploration work is stated in the Scoping Report.</p> <p>Exploration will not produce any gas. However the information derived from exploration is a necessity for further exploration and possible production if considered economically viable</p> <p>Your concerns and objection is recorded.</p>
1.28		<p>Rhino Oil and Gas Exploration South Africa (Pty) Ltd : Application for an Exploration Right with the Petroleum Agency South Africa (PASA) on various farms in Registration Divisions ET, FT, GS, GT, GU & GV in the Magisterial district of Pietermaritzburg, Kwazulu-Natal</p> <p>It has been brought to our attention through the notice of application that Rhino Oil and Gas Exploration South Africa (Pty) Ltd has lodged an application for an exploration right to the Petroleum Agency South Africa (PASA) in terms of section 79 of the Minerals and Petroleum</p>	<p>Sandy La Marque on behalf of Kwanalu, Email, 11 April 2016</p>	<p>Your objection to this and the other related applications is recorded.</p> <p>The environmental impacts of the proposed application, including the majority as raised by you, will be assessed in the EIA.</p>

	<p>Resources Development Act, 2002. Rhino Oil and Gas will make an application to PASA for environmental authorisation of exploration activities as set out in the Listing Notices made in terms of Section 24(5) of the National Environmental Management Act (No. 107 of 1998) (NEMA).</p> <p>RHINO OIL AND GAS SOUTH AFRICA (PTY) LTD PROPOSED EXPLORATION RIGHT FOR PETROLEUM ON VARIOUS FARMS IN THE MAGISTERIAL DISTRICTS OF MATATIELE AND MT FLETCHER, EASTERN CAPE</p> <p>It has been brought to our attention through the notice of application that Rhino Oil and Gas Exploration South Africa (Pty) Ltd have lodged an application for an exploration right (ER) in terms of Section 79 of the Minerals and Petroleum Resources Development Act, 2002 (MPRDA) to the Petroleum Agency South Africa (PASA). PASA accepted the application for the area titled 'Exploration Right for Petroleum on various farms in the Magisterial Districts of Matatiele and Mt Fletcher, Eastern Cape' (12/3/295 ER) in May 2015. The exploration right area is 120 000 ha in extent and covers 200 farms in the Eastern Cape Province. Minerals included in the ER application are oil, gas, condensate, coal bed methane, helium, biogenic gas.</p> <p>Advance NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION In support of An Exploration Right for Petroleum on various farms in Registration Divisions GT, GU, GV, HT, HS, HU & HV, Kwazulu-Natal Province (12/3/108 TCP)</p> <p>It has been brought to our attention through the notice of application that:</p> <p>Rhino Oil and Gas Exploration South Africa (Pty) Ltd has lodged an application for an exploration right with the Petroleum Agency South Africa (PASA) in terms of section 79 of the Minerals and Petroleum Resources Development Act, 28 of 2002 (MPRDA). The application will be made over the area where Rhino Oil & Gas currently holds a Technical Co-operation Permit (108 TCP).</p> <p>Summary:</p> <p>Onshore Pietermaritzburg – 15,135 km² or 3,739,960 acres – TCP No. 91 Onshore Matatiele – 1,247 km² or 308,140 Acres – TCP No. 104 Onshore KwaZulu – 32,737 km² or 8,089,488 Acres – TCP no. 108</p> <p>As previously indicated we further place on record our objection and opposition to the applications as referred to above for the granting of the application for Exploration Right for Petroleum on various farms as indicated in the above mentioned.</p> <p>We have further taken note of the vociferous opposition which has occurred during the public hearings across the province. Further we have found various stakeholders uniting in a</p>		
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	<p>common goal – to protect the natural resources of our province amongst other.</p> <p>Our objection and opposition relates to the impact and extends to amongst other summarized as follows:</p> <ul style="list-style-type: none"> • Environment <ul style="list-style-type: none"> o Environmentally sensitive areas and species o Wetlands and o Protected areas o Seismic impact • Cultural <ul style="list-style-type: none"> o KZN has a diverse cultural and heritage resources o Land claims (restitution, ESTA, labour tenancy etc.) • Water <ul style="list-style-type: none"> o Quality and quantity o Storage facilities (dams) o Seismic impact o Pollution and contamination • Safety & Security <ul style="list-style-type: none"> o Access to property – home and hearth o Stock theft, arson etc. o OHSA • Infrastructure <ul style="list-style-type: none"> o Lack of sufficient infrastructure o Roads, bridges etc. not sufficient o Damage during use • Socio-economic <ul style="list-style-type: none"> o Increased crime and farm attacks and murders • Energy <ul style="list-style-type: none"> o Other sources of renewable energy should rather be pursued o Less environmentally invasive techniques be used • Rehabilitation <ul style="list-style-type: none"> o Poor or lack thereof • Economic Impact 		
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		<p>o Cost of rehabilitation</p> <p>o Job losses on farms from the impact on agriculture/water etc.</p> <p>Whilst we represent the agricultural sector of Kwazulu-Natal our involvement in this matter does not in any way negate the responsibility of yourselves to engage with each interested and affected party. We confirm that the rights of Kwanalu and its member's rights remain reserved.</p>		
1.29		<p>It is disheartening to hear of this continued pursuit to carry out fracking tests in the greater Midlands area which not only puts our scarce water resources at risk but will certainly have a negative impact on the overall environment both in the long and short term as well as a negative impact on tourism.</p> <p>The manner in which Rhino is approaching this is also not seemingly fully transparent and it smells of a Gupta type venture.</p> <p>Would definitely like to see this stopped as think there is better energy alternatives for our country.</p>	Anthony Currie, Email, 11 April 2016	<p>Hydraulic fracturing is not part of this application, as such it is not assessed as part of the current EIA.</p> <p>The points raised and your objection are recorded. The environmental impacts of the proposed exploration right application will be assessed in the EIA.</p> <p>This Scoping and EIA process in being undertaken in terms of the EIA Regulations 2014.</p> <p>While government has policies for renewable and alternate energy, they also continue to encourage the development of a local oil and gas industry.</p>
1.30		<p>We do not understand why this application is persisting despite and/or in spite of the overwhelming negative response you have received to date during and after the "public participation" meetings. This application should have been withdrawn long ago. It is neither needed nor desirable and is definitely not in the public interest. A few people will make a lot of money and the local communities will be left to deal with the legacy with shattered lives and livelihoods.</p> <p>We have a planet in crisis from greenhouse gas emissions and need to heed the global call for "business unusual" to ensure that the human race can survive the global warming that is underway. In South Africa, the water crisis is being exacerbated by Climate Change impacts. The activities ensuing from this application will continue to add to the impacts and drivers of Climate Change.</p> <p>We will thus never support this application for exploration across KZN by Rhino Oil & Gas for so many good reasons as knowing that:</p> <ul style="list-style-type: none"> • Exploration leads to production and that to our knowledge not a single application for production that has been denied by PASA; • The SLR report does not deal with the production aspect of the application which will follow exploration as surely as marriage follows the payment of lobola; • The impacts of exploration and production will never be known as there has been no attempt to determine the baseline; • It is unbelievable that seismic surveys have no impacts other than damage from vehicles and equipment or craters which will be filled; • There has been no mention of the impact of drilling fluids or how they will be stored 	Judy Bell and FrackFreeSA, Email, 11 April 2016	<p>The points raised and your objection have been recorded. The environmental impacts of the proposed application will be assessed in the EIA.</p> <p>One of the purposes of public participation is to ascertain the issues and concerns of the public. The results of the public participation are documented in the Scoping Report. It is not necessarily a given that the proposed exploration activities would result in the impacts that the public have identified. The environmental impacts of the proposed exploration right application will be assessed in the EIA.</p> <p>Please refer to Sections 1.5 and 2.3.10 of the Scoping Report for an explanation regarding exploration and future production. The applicant would hope that the exploration work identifies a resource that would be commercially viable to extract. Section 83 of the MPRDA sets out the steps involved in making an application for a production right. This includes that applicant must obtain environmental authorisation in terms of Chapter 5 of the National Environmental Management Act, 1998. The term 'environmental authorisation' includes authorisation in terms of all acts that are specific environmental management acts in terms of the NEMA. Section 84 of the MPRDA sets out that the application for a production right can only be granted if the production will not result in unacceptable pollution, ecological degradation or damage to the</p>

		<p>and treated for safe disposal during exploration drilling;</p> <ul style="list-style-type: none"> • PASA’s mandate “promotes exploration for onshore and offshore oil and gas resources and their optimal development on behalf of government” and nowhere in it is the requirement to protect people and the environment from the adverse impacts of exploration and/or mining; • Mining has never improved the lives and livelihoods of local communities, but has rather left people worse off than they were before; • The lessons from the Marikana Massacre have neither been learnt by government nor the mining industry; • South Africa’s mining industry is not sustainable as envisaged in the principles of NEMA and our Constitution – there is not a single example where the impacts are being managed to prevent pollution, protect human health and benefit the local communities sustainably; • Cheap gas is a misnomer – the costs are borne by society and the environment, not by those organisations involved in “moneytisation” of the “resource”; • Rhino’s application is over a huge swathe of KZN, in sensitive areas where water is scarce/absent and children and old people already die from malnutrition; • Rhino’s application should have been focused to the 10 areas where exploration will take place to ensure that the impacts in that area are predicted and addressed; • Climate Change is being driven by emissions of gases and that extraction of underground gas will lead to large volumes of methane gas emissions to atmosphere during drilling, well casing and production, as well as during transport; • South Africa has committed to reducing emissions of greenhouse gases and focusing on renewable sources of energy to avoid reaching the point of no return in terms of global warming; • Fracking is banned in many developed and developing countries; • Fracking is causing health impacts in all the areas where it has been used from emissions to the air and pollution of groundwater; • Gas extraction uses huge amounts of water which will have to come from a supply that is already oversubscribed; • Fracking generates “production” water, comprising toxic chemicals which has no way of being treated to avoid contamination; • 6% of new wells in the USA fail in the first year and all fail with time causing pollution and affecting health of people, domestic animals and the environment • Methane emissions from fracking have not been included in the database of emissions used to predict global warming increases in future which determine if we will be able to continue to live on our planet; • Solar energy in South Africa is setting the standard for sustainability especially in 		<p>environment.</p> <p>Initial baseline information is described in Section 5.5 of the Scoping Report. Please refer to Section 7.5 for details on the proposed specialist studies that will also include the documenting of relevant baseline information. See also Section 5.4.22.</p> <p>A number of potential impacts of seismic surveys are identified in the Scoping Report. The impacts of these will be assessed in the EIA. Please refer to Section 7.5.5 for details of the noise and vibration study that will be undertaken. This will include a literature review for impacts of seismic data collection on wildlife.</p> <p>Details, including safety datasheets, of the potential lubricants to be used during core hole drilling will be provided in the EIA. Commitments to the safe use, storage and disposal of the drilling fluids will be documented in the EMPr.</p> <p>With respect to PASA’s mandate, we refer to Section 2 of the MPRDA, and specifically 2 (h) which details the objects of the act to “give effect to section 24 of the Constitution by ensuring that the nation’s mineral and petroleum resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development”. Section 80 (1) c also prescribes that an exploration right can only be granted if the Minister has issued an environmental authorisation.</p> <p>Amongst other functions, it is the role of the Scoping and EIA process to identify environmental sensitivities and make recommendations on management and mitigation measures to prevent harm to these. A considered approach is being followed through the course of the Scoping and EIA process to ensure an appropriate outcome with regards the identification, protection and /or exclusion of environmentally sensitive areas. The full outcome of this process and the proposed mitigation will be presented in the EIA report.</p> <p>In order to define sites for field exploration, the proponent requires adequate and appropriate data. Such data is either not accessible or does not exist and an exploration right is required to procure or generate such data. Once early phases of exploration have taken place and been processed, i.e. desktop and airborne surveys, this would enable the applicant to focus on specific identified target areas for further exploration.</p> <p>The extraction of hydrocarbons, though hydraulic fracturing or any other method, are not part of this application.</p>
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		<p>terms of job creation and community development and this application represents damaging technology for dirty fuel sources which will keep us back;</p> <ul style="list-style-type: none"> • People living in the fracking belts of the USA and Australia have all repeated the refrain that they never knew how fracking would destroy their lives and livelihoods. <p>WE KNOW!</p> <p>We thus will not support this application and call on the regulators to prevent exploration rights from being granted. This and similar projects must not be authorised in any shape or form.</p>		
1.31		<p>I would like to respond to the Rhino Oil & Gas Exploration Application Scoping report</p> <p><u>No more hydro-carbons please</u></p> <p>According to the National Development Plan we should be transitioning to a low-carbon future and a more diverse and inclusive economy.</p> <p>In the light of the crisis of global warming and that 2015 was the hottest year on record- we should not be exploring for or mining any more hydrocarbons. We cannot afford to have "access to new energy sources" (pg 5 of Executive Summary) that are hydrocarbons. Enough is enough. We need to be investing in green and non-polluting energy such as wind and solar.</p> <p>The proposal of Rhino Oil & Gas Exploration is immoral and shows an unbelievable blindness and short-termism.</p> <p><u>This is Environmental application is a deeply flawed and unfair process</u></p> <p>The adjudicators and decision makers in this application have a vested interest in mining. The fact that PASA and the MPRDA are the ones to consider the objections would be laughable if it wasn't so seriously unfair. They are champions of the petroleum industry and mining.</p>	Moraig Peden, Email, 11 April 2016	<p>Your objection is recorded.</p> <p>Thank you for this information on South Africa's commitments to a low carbon future and addressing climate change. While relevant, these points must also be considered in context of the same governments various policies towards the development of an indigenous fossil fuel resource and gas industry.</p> <p>Any appeal on an environmental authorisation decision made by the DMR would be heard by the DEA.</p>
1.32		<p>I reiterate the concerns we voiced at the public meetings, and in general over the past few months.</p> <p>We do not condone the process, the application and reserve all rights in this regard.</p> <p>We find the application and its purport flawed and insufficiently considered in light of the real and documented risks, as indicated in your BID and internationally.</p> <p>Comments on Rhino Oil & Gas Exploration Applications for KZN</p> <p>We will never support this application for exploration across KZN by Rhino Oil & Gas for so many good reasons.</p> <p>You and your client, Rhino Oil and Gas, have publically acknowledged that:</p> <ul style="list-style-type: none"> • There are risks to the process of exploration and production, which may include seismic testing, fracking, and/or gas extraction; • The risks are real and documented and in fact outlined in parts of your BID; • Rhino Oil and Gas is in the business of making money and is speculating on the value and whereabouts of potential gas plays in KZN; • Rhino seeks, for its own personal profit, to compromise the integrity of the environment and the rights of the landowners, and the health, social and economic 	Francois du Toit, Email, 11 April 2016	<p>Your objection is recorded. These concerns have been recorded and contributed to the formulation of the Scoping Report.</p> <p>Your reservation is noted.</p> <p>The risks and impacts of exploration will be assessed and reported on in the EIA.</p>

		<p>detriment of the current land occupiers.</p> <p>Furthermore knowing that:</p> <ul style="list-style-type: none"> • Exploration leads to production and that to our knowledge not a single application for production that has been denied by PASA; • The SLR report does not deal with the production aspect of the application which will follow exploration as surely as marriage follows the payment of lobola; • The impacts of exploration and production will never be known as there has been no attempt to determine the baseline; • It is unbelievable that seismic surveys have no impacts other than damage from vehicles and equipment or craters which will be filled; • PASA's mandate "promotes exploration for onshore and offshore oil and gas resources and their optimal development on behalf of government" and nowhere in it is the requirement to protect people and the environment from the adverse impacts of exploration and mining; • Mining has never improved the lives and livelihoods of local communities, but has rather left people worse off than they were before; • The lessons from the Marikana Massacre have neither been learnt by government nor the mining industry; • South Africa's mining industry is not sustainable as envisaged in the principles of NEMA and our Constitution – there is not a single example where the impacts are being managed to prevent pollution, protect human health and benefit the local communities sustainably; • Cheap gas is a misnomer – the costs are borne by society and the environment, not by those organisations involved in "moneytisation" of the "resource"; • Rhino's application is over a huge swathe of KZN, in sensitive areas where water is scarce/absent and children and old people already die from malnutrition; • Rhino's application should have been focused to the 10 areas where exploration will take place to ensure that the impacts in that area are predicted and addressed; • Climate Change is being driven by emissions of gases and that extraction of underground gas will lead to large volumes of methane gas emissions to atmosphere during drilling, well casing and production, as well as during transport; • South Africa has committed to reducing emissions of greenhouse gases and focusing on renewable sources of energy to avoid reaching the point of no return in terms of global warming; • Fracking is banned in many developed and developing countries; • Gas Extraction including fracking is causing health impacts in all the areas where it has been used from emissions to the air and pollution of groundwater; • Gas extraction uses huge amounts of water which will have to come from a supply 		<p>Please also refer to the responses given to Judy Bell on pages 45, 46 and 47 above.</p>
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		<p>that is already oversubscribed;</p> <ul style="list-style-type: none"> • Fracking generates "production" water, comprising toxic chemicals which has no way of being treated to avoid contamination; • 6% of new wells in the USA fail in the first year and all fail with time causing pollution and affecting health of people, domestic animals and the environment • Methane emissions from fracking have not been included in the database of emissions used to predict global warming increases in future which determine if we will be able to continue to live on our planet; • Solar energy in South Africa is setting the standard for sustainability especially in terms of job creation and community development; • People living in the fracking belts of the USA and Australia have all repeated the refrain that they never knew how fracking would destroy their lives and livelihoods. <p>WE DEMAND AN IMMEDIATE MORATORIUM ON ALL APPLICATIONS, A STRATEGIC ENVIRONMENTAL ASSESSMENT OF KZN AND THIS AREA IN PARTICULAR, A CESSATION OF ALL ACTIVITIES IN FURTHERANCE OF THIS APPLICATION.</p> <p>You personally have indicated that your responsibility is to the process and the environment. I BELIEVE THAT FAILURE TO STRONGLY RECOMMEND THE ABOVE, IN THE LIGHT OF THE MANY OBJECTIONS RECEIVED ON THIS AND THE OTHER GAS EXPLORATION APPLICATIONS YOU ACT FOR, IS A MATTER OF BAD FAITH BY YOURSELF AS AN ENVIRONMENTAL PRACTITIONER AND YOUR ORGANISATION AS A PROTECTOR OF THE RIGHTS OF SOUTH AFRICANS! YOU SHOULD BE CONDEMNING THE APPLICATION PROCESS INSTEAD OF BEING PART OF IT, FOR ALL THE REASONS OUTLINED ABOVE.</p> <p>Withdraw your services and absolve yourself from infringing on the very rights you are supposed to be upholding We are not impressed with the integrity of this process, its applicants and its proponents.</p>		<p>The request by I&APs for a moratorium and Strategic Environmental Assessment for KZN has been noted and reported on in Section 5.4.3 of the Scoping Report.</p> <p>The MPRDA defines timeframes and implements a 'use-it or lose-it' policy with regards mineral rights. With its technical co-operation permit period complete, Rhino Oil and Gas has to proceed to the next phase of the process (exploration right application). Rhino Oil and Gas cannot elect to cease activities in respect to this application without risking the loss of their application.</p>
<p>1.33</p>		<p>I, Kerry Carter-Brown, OBJECT to the application on the following grounds:</p> <ol style="list-style-type: none"> 1. Water is a scarce and national resource 2. I realise that water belongs to everyone but laws and practises of the past have meant that this has not always been the case. This scenario is slowly being rectified but should fracking occur I feel that the previously water disadvantaged may most certainly, once again, be disadvantaged as more and more water is diverted to, and contaminated by, the fracking process. 3. Water quality may well be jeopardised. Rhino are of the opinion that it will not but from my readings it appears that it most certainly will be (Australia/North America). 4. There are two major catchment areas in the proposed exploration area – Mooi River and Umgeni. It is unreasonable to put this area (or ANY area) at risk when so many local business and communities rely upon it – especially for an insensitive international company. 	<p>Kerry Carter-Brown, Email, 11 April 2016</p>	<p>Your objection is recorded.</p> <p>The value and shortage of water supply in the key catchments is acknowledged. It is not necessarily a given that the proposed exploration activities would compromise water resources or quality in the region. The potential risks will be assessed in the EIA.</p> <p>Amongst other functions, it is the role of the Scoping and EIA process to identify environmental sensitivities and make recommendations on measures to prevent harm to these. A considered approach is being followed through the course of the Scoping and EIA process to ensure an appropriate outcome with regards to the identification, protection and /or exclusion of environmentally sensitive areas. The full outcome of this process and the recommended mitigation will be presented in the EIA report.</p>

		<p>5. There are many wetland, and protected areas, in this proposal and no mining, of any form, should be allowed. Should a buffer be proposed this would not help as mining is underground and the impurities will find their way into our precious water resources.</p> <p>6. The environment will be disturbed and degraded – it is well documented that fracking brings with it negative consequences to the local social and natural environment.</p> <p>Fracking/exploration is a direct contravention of Chapter 2, section 24 of the Constitution of the Republic of South Africa (1996) which states the following:</p> <p>24. <i>Environment – Everyone has the right:</i></p> <p>(a) <i>to have an environment that is not harmful to their health or well being; and</i></p> <p>(b) <i>to have the environment protected for the benefit of present and future generations'</i></p> <p>(c) <i>through reasonable legislative and other measures that –</i></p> <p>(i) <i>prevent pollution and ecological degradation;</i></p> <p>(ii) <i>promote conservation; and</i></p> <p>(iii) <i>secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development</i></p> <p>For all the reasons stated above I, Kerry Carter-Brown, categorically OBJECT to the proposed activity.</p>		<p>The extraction of hydrocarbons, though hydraulic fracturing or any other method, are not part of this application.</p>
<p>1.34.1</p>		<p>COMMENT ON THE DRAFT SCOPING REPORT (SR)</p> <p>1. CONFIRMATION ON COASTWATCH STANCE</p> <p>The organisations' focus is specifically the coastal zone and we are acutely aware of the importance of the condition of catchment water resources as a major influence on the coastal environment. Coastwatch comments from the perspective of activities with the potential to severely impact critical water resources.</p> <p>Notwithstanding that the objective of the proposed early-phase exploration activities is to acquire data to determine the existence of a resource, in this case oil and gas, that may or may not warrant further exploration (the primary motivation for the activities being too clearly define geological structures across the exploration right application area) Rhino Oil and Gas has stated that the ultimate goal for the overall project is to extract hydrocarbons in a commercially viable manner - Coastwatch again documents its objection to the activities which have, as the ultimate goal, the extraction of commercial hydrocarbons.</p> <p>From desk top studies reported on in the SR it is shown that the area includes headwaters, rivers and dams which comprise catchments of key importance for agriculture, industry and human consumption; many agricultural practices (and residents on these farms) rely on groundwater; the water resource is fully allocated in many of the catchments. The bigger picture is of a region which is highly biodiverse with many areas identified, through different mechanisms, as having conservation value. Agriculture and eco-tourism are the drivers of the local economy. Exploration for, and future extraction of, hydrocarbons is therefore totally incompatible with the land features and land uses in the study area.</p>	<p>Carolyn Schwegman on behalf of Coastwatch KZN, Email, 11 April 2016</p>	<p>The objection by Coastwatch is recorded.</p> <p>The value of water derived from the key catchments, and current shortage thereof of is acknowledged. It is not necessarily a given that the proposed exploration activities would compromise water resources or quality in the region. The potential risks will be assessed in the EIA.</p> <p>Amongst other functions, it is the role of the Scoping and EIA process to identify environmental sensitivities and make recommendations on measures to prevent harm to these. A considered approach is being followed through the course of the Scoping and EIA process to ensure an appropriate outcome with regards the identification, protection and /or exclusion of environmentally sensitive areas. The full outcome of this process and the proposed mitigation will be presented in the EIA report.</p>

		<p>In addition, South Africa does not have the infrastructure for natural gas distribution and use, thus there is no market for the resource. We further submit that South Africa has neither the institutional capacity nor adequate data for safe involvement in this industry, one which places vital resources at enormous risk.</p> <p>Notwithstanding our objection to the proposed activities we are aware that NEMA and the EIA regulations do not provide for objections at this stage of the process; Coastwatch thus continues its participation in the process.</p>		
<p>1.34.2</p>		<p>2. POLICY AND LEGISLATIVE CONTEXT (SR LEGISLATION SECTION 3)</p> <p>Considering the significant social and environmental concerns surrounding the extraction of hydrocarbons (including the exploration phase) the public must fully understand the legislative context within which the activities fall. We find that additional information in this respect is required. For example,</p> <p>a) National Water Act (NWA)</p> <p>Statement: <i>No activities are being proposed that trigger the need for a Water Use Licence (section 21), although certain water uses would need to be assessed once the volumes and localities are known.</i></p> <ul style="list-style-type: none"> - Section 21 lists 11 water uses which require a Water Use Licence. Can it be confirmed that apart from a possible water supply (under General Authorisation) no other water use is likely? - The NWA will apply to any wetland or stream crossings. As area/properties which will be affected by the field activities in Years 2 and 3 are currently not known (this depending on the outcome of the initial phase investigation); also work within 500 m of a wetland will require a Water Use Licence. Can it be confirmed at this stage that the above are not relevant? - Section 21 (j) <i>Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people.</i> Under discussion on potential groundwater impacts it is stated that <i>“Contamination of surface or groundwater could occur as a result of the use of drilling fluid use and accidental spillages of pollutants”.</i> - Government Notice No. 704, 4 June 1999, National Water Act, 1998 (No. 36 of 1998): Regulations on the use of water for mining and related activities aimed at the protection of water resources. Is this applicable and if so it needs to be explained? <p>b) National Forest Act (NFA)</p> <p>It is stated that vegetation clearance may be required in areas where there is “thick bush”. Should “thick bush” be natural forest (as defined in the NFA) approval for any disturbance of any feature of a natural forest will be required from the Department of Agriculture, Forestry and Fisheries, Forestry Oversight and Legislation, apart from a licence requirement for specific tree species.</p> <p>c) KZN Conservation Act and Ordinance</p> <p>d) Mineral and Petroleum Resources Development Act (MPRDA)</p> <p>Regulation 122 applies to mining and water resources. Please explain the application of this regulation with respect to the proposed activities.</p>		<p>As per Table 3-1 of the SR, the current interpretation is that no activities are being proposed that trigger the need for a Water Use Licence, although certain water uses would need to be assessed once the volumes and localities are known. This position will be re-assessed in the EIA.</p> <p>The intent is to ensure the protection of wetlands by defining commitments in the EMP that all field-activities be located at least 500m from wetlands. Adherence to this requirement will prevent a regulated water use from occurring.</p> <p>No water will be removed from underground for the efficient continuation of an activity during exploration. Thus no regulated water use would occur.</p> <p>The requirements of GN R 704 will be addressed and where the context requires, the requirements of these regulations will be addressed in the EIA (Refer to Table 3-1).</p> <p>The National Forests Act has been included in Table 3-1 for consideration. Where the context requires, the requirements of the Act will be addressed in the EIA</p> <p>The requirements of the KZN Conservation Act and ordinance will be addressed in the EIA.</p> <p>Regulation 122 of the MPRD Regulations prescribes the Protection of Water Resources prior to and during all the phases of drilling and hydraulic fracturing operations. Where</p>

		<p>e) MPRDA and I&AP Objections The EIA process provides for an appeal process once environmental authorisation is granted or refused. Please explain the appeal process/I&AP rights of objection in terms of the MPRDA.</p> <p>f) National Environmental Management Waste Act (NEMWA) In terms of waste management it is said that <i>"No activities are being proposed that trigger the need for a Waste Management Licence."</i></p> <p>And also - <i>"Management of wastes arising from exploration must be undertaken in compliance with the NEMWA and the Regulations Regarding the Planning and Management of Residue Stockpiles And Residue Deposits."</i></p> <p>We find this ambiguous. Please provide clarity on the management of waste. What of an Integrated Waste and Water Management Plan in terms of the NWA?</p>		<p>the context is applicable, the requirements of these regulations will be addressed in the EIA (Refer to Table 3-1). Sections of Regulation 122 also define restrictions where well drilling and hydraulic fracturing operations may not take place. These restrictions are not applicable to the stratigraphic core holes as proposed for this application.</p> <p>Waste management during exploration would need to comply with the relevant provisions of the NEMWA. However, compliance with the legislation does not necessarily require a waste management licence. As per Table 3-1, the current interpretation is that no activities are being proposed that trigger the need for a waste management licence. This position will be re-assessed in the EIA.</p>
<p>1.34.3</p>		<p>3. SPECIALIST STUDIES</p> <p>We have considered the plan of study and specialist studies which will be undertaken. In this regard we raise the following –</p> <p>a) Gap Analysis Historical and existing information will be used (desk top studies). We accept this in general however all such studies must be supplemented with the latest data and best environmental science available, and must include a gap analysis.</p> <p>b) Independent Studies The SR Section 10, Physical Impacts, under Effect on Water Resources: Altered surface water hydrological regime provides that <i>"The impact on surface water will be investigated by SLR and assessed in the EIA"</i>. Should in-house specialist studies be undertaken (ie done by SLR) we request that they are peer reviewed. This is a standard requirement by the Department of Economic Development, Tourism and Environmental Affairs in KZN.</p> <p>c) Water Contamination The SR Section 10, Physical Impacts, under Effect on Water Resources: Contamination of surface and groundwater resources <i>"Contamination of surface or groundwater could occur as a result of the use of drilling fluid use and accidental spillages of pollutants"</i> -It is a serious concern that contamination of surface or groundwater could occur as a result of the use of drilling fluid – this during the exploration phase! It must be regarded as a fatal flaw, and is most certainly a risk which would preclude any future hydrocarbon extraction activity; -Please confirm whether NWA Section 21 j) has relevance to this aspect of the proposed activities <i>(removing, discharging or disposing of water found underground if it is necessary for the efficient use of an activity or for the safety of people.)</i>.</p> <p>d) Physical Impact - Effect on Infrastructure: Vibrations It appears that the impact of vibrations on fauna is not being considered, infrastructure only being mentioned. Ground dwelling animals? Even if species are affected and have the ability to move</p>		<p>The scope for each specialist study (Section 7.5 of the Scoping Report) includes the requirement to identify data sources and to acquire such data.</p> <p>This point is noted. SLR does not intend to undertake any of the proposed specialist studies in-house.</p> <p>This has been identified as a potential impact. However, such statement provides no indication of the probability, extent, intensity or significance of such impact. The impact will be assessed in the EIA.</p> <p>Please refer to Section 7.5.5 for details of the noise and vibration study that will be</p>

		<p>out of the area they may be obstructed by roads, farm fences etc.</p> <p>e) Biodiversity</p> <p>-It needs to be ensured that while providing a description of the biodiversity baseline in terms of taxa identified (i.e. trees and plants, birds, reptiles, frogs and millipedes etc), ecological processes must be studied, as well as ecological linkages within the landscape;</p> <p>-Conservation plans, which include <i>inter alia</i>, Conservation Area Support Areas and Expansion Plans (Ezemvelo KwaZulu-Natal Wildlife), as well as conservation planning with respect of mapping of natural forests (DAFF) must be applied;</p> <p>f) Air Quality</p> <p><i>"A specialist will be appointed to undertake a literature review of the gaseous emissions that could be expected from the proposed exploration activities. The aim will be to provide an understanding of the volumes and types of emissions that could be generated during exploration and to relate these to potential sensitive receptors."</i></p> <p>Changes in air quality should be evaluated from the perspective of any changes in ambient conditions and not only considered whether legislated thresholds may/may not be exceeded;</p> <p>g) Integration of Specialist Findings</p> <p>This is an extremely important aspect.</p> <p>Statement: <i>"The specialist findings, recommendations and other relevant information will be integrated into the EIA report by SLR."</i></p> <p>While the EAP is required to integrate information into the EIA report there needs to be specialist interaction to consider the relationship between vegetation, fauna and water resources, for example. Studies must not be interpreted in isolation.</p> <p>h) Desk Top Studies</p> <p>Statement: <i>"It must be noted that although the work described will be undertaken by specialists, the extent of the study area means that a desktop approach is the only feasible method."</i></p> <p>If the authorities (commenting authorities and competent authority) accept that desk top studies are adequate for the nature of the activities and extent of the study area Coastwatch suggests that KZN based specialists are appointed as value to the desk top analyses would be added through their experience of local conditions.</p>		<p>undertaken. This will include a literature review of impacts of seismic data collection on wildlife</p> <p>These issues will be considered where the proposed activities represent a risk to ecological processes.</p> <p>Relevant conservation data and planning instruments will be given consideration in the specialist study and EIA. Compliance of plans with legal standing will be a minimum requirement.</p> <p>Noted. The necessity for this approach will be discussed with the Air Quality specialist and implemented if appropriate.</p> <p>This will be facilitated to the extent possible.</p> <p>Noted. SLR intend to appoint specialists with relevant expertise, including local knowledge, to the extent that this is practicable.</p>
<p>1.34.4</p>		<p>4. IMPACT ASSESSMENT</p> <p>Briefly, we understand that the legislated assessment process aims to identify (and quantify) potential impacts and after applying the mitigation hierarchy determine the significance and risk of the impact. Measures to mitigate an impact, which are measurable, are applied. Based on these finding the competent authority is able to make a defensible decision on whether to refuse or grant environmental authorisation.</p> <p>We find that due to the approach to the EIA, site specific information will not be available at the end of the EIA.</p>		<p>The fact that the sites for the field-based exploration activities cannot be identified at this stage could be considered as a limitation to the value of the environmental impact assessment. Thus SLR has proposed an approach to the EIA whereby the anticipated impacts of the proposed, defined activities are assessed in relation to the known classes/type of locally occurring environmental aspects. To prevent or mitigate the identified impacts of significance, the proposed exploration activities would be prohibited from taking place at localities where such environmental aspects occurred. This would be achieved by providing legally enforceable management actions in the EMPr which</p>

	<p>From the SR we note that this assessment aims to identify the <i>general</i> environmental sensitivities across the exploration area. We have concern with this approach as it does not allow the identification, quantification, and management of specific impacts. The specialist studies and reports will be structured in terms of the EIA Regulations 2014 and although the work described will be undertaken by specialists, the extent of the study area means limits input to a desktop study.</p> <p>Considering the identified significance of the area in terms of water resources, land uses etc should the scope of study not be increased rather than curtailed for the reasons given?</p> <p>It is proposed that <i>"site specific assessments of relevant features will be undertaken when the locality of survey lines and drill sites are being finalised. Exclusion criteria that should be applied when identifying and assessing sites for physical exploration during the detailed site assessment will be presented in the EMPr."</i></p> <p>a) Considering the nature of the activities, such as risk to significant and vital water resources, public objections etc, desk top studies are unlikely to give I&APs confidence in the outcomes of the EIA, particularly in the absence of a Strategic Environmental Assessment for the area, and also if information is not up to date;</p> <p>b) <i>Site specific assessments of relevant features will be undertaken when the locality of survey lines and drill sites are being finalised.</i> We understand that this will happen in the later stages of the exploration work ie Year 2 and 3 field activities. This means that information on potential impacts of field activities and how they will be managed will not be available to the Competent Authority (CA) at the end of the EIA. The CA will, therefore, be making a decision "in principle" which is not defensible.</p> <p>c) <i>Exclusion criteria that should be applied when identifying and assessing sites for physical exploration during the detailed site assessment will be presented in the EMPr.</i></p> <p>Once the initial phase is complete ground-truthing/site specific assessment by the different specialists should be undertaken on the sites identified for physical exploration prior to field work commencing. Reports on the findings should be submitted for further evaluation by the CA, this being stipulated as a condition of environmental authorisation, should it be granted.</p> <p>d) How will exclusion criteria be determined? For example, will the cost of moving equipment away from a small identified exclusion zone be considered feasible and even reasonable? What will prevent environmental limitations be overridden in favour of convenience and cost?</p> <p>e) <i>Where physical exploration/field activity is proposed the primary mitigation would be the appropriate siting at a locality of low sensitivity. This would be achieved through a site assessment by a suitably qualified environmental scientist.</i></p> <p>Will this mean that each specialist will be retained to review the initial findings in each of their fields of expertise once the sites for field work have been identified?</p> <p>f) Following on from the above it is said that <i>Mitigation would further be achieved by the use of the most appropriate methods to undertake exploration.</i></p> <p>Again, we contend that the CA is not able to make a defensible decision on the "most appropriate</p>	<p>would restrict the holder from undertaking an exploration activity at sites with the incompatible class/type of environmental aspect. No-go areas will be defined either through mapping where data is available and/or through the prescription of rules defining the restrictions. The impacts will therefore have been assessed and the commitments to the management and mitigation thereof made prior to the authority making a decision on granting of the right.</p> <p>To provide assurance on implementation post authority-decision, and to ensure that site-specific features of proposed localities are identified and assessed against the prohibitions and restrictions of the EMPr, the EMPr will include the requirement for a 'site assessment' by a suitably qualified environmental scientist. The final site plan would require to be approved by the environmental scientist, the land owner and PASA.</p> <p>While differing from the standard approach to impact assessment, it is the opinion of SLR that such approach and the decision arising therefrom can be considered defensible and are not fatally flawed.</p>
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		<p><i>methods to undertake exploration” unless they are documented/assessed/impacts identified and mitigated. How will any impacts from the “most appropriate method” be measured?</i></p> <p>g) The SR outlines in section 7.7 measures to avoid, reverse, mitigate, or manage identified impacts and states that a draft EMPr (structured in terms of Appendix 5 to the EIA Regulations 2014) will be compiled. The EMPr will provide recommendations on how to select, establish, operate, maintain and close the exploration activities through all relevant phases of the project life.</p> <p>This is conceptual. An EMPr is a document which should provide legally enforceable management measures and conditions. No-go areas must be established up front. “Recommendations” can be flexible and who has the final say on selection?</p>		
1.34.5		<p>5. FINANCIAL PROVISION</p> <p>This is discussed in the SR Section 7.9.1 Financial Provision.</p> <p><i>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. Rhino Oil and Gas would put in place the required financial provision for the proposed exploration activities. Rhino Oil and Gas will discuss the nature and quantum of the financial provision with PASA during the next phase of the EIA. The proposed nature and quantum of the financial provision will be presented in the EIA Report.</i></p> <p>While Rhino Oil & Gas will be discussing the required financial provision with PASA during the next phase of the EIA it would be necessary to have a Resource Economics Study to inform the discussion and determine the nature and quantum of the financial provision.</p>		<p>The determination of the financial provision in respect of this application will be made by SLR in terms of the Financial Provisioning Regulations (GNR 1147 of 2015).</p> <p>It is the opinion of SLR as the EAP that any economic impacts of the proposed early phase exploration work programme would be extremely limited and thus does not require assessment at a specialist level.</p>
1.34.6		<p>In closing -</p> <p>We are pleased to read that Rhino Oil and Gas is aware that there are many potential restrictions that could prevent them from undertaking certain exploration or production activities at specific sites. We await further information on specific sensitive features which would preclude exploration (and by extension all future activities), the management commitments and monitoring which will be in place should an Exploration Right be granted and access to private land be gained.</p>		<p>These comments are noted.</p>
1.35.1		<p>Thank you for the opportunity to comment on the Scoping Report prepared by SLR Consulting on behalf of Rhino Oil and Gas Exploration South Africa in support of its application for an „Exploration Right for Petroleum on various Farms in the Magisterial District of Pietermaritzburg, KwaZulu-Natal” (12/3/291 ER).</p> <p>Due to time constraints, we were only able to review in detail the document’s Executive Summary and only scan the main body of the report, and our comments and questions should therefore be interpreted with the prior acknowledgment that the details laid out in the body of the report have not been read in full. We apologise for any comments/questions presented here that may be addressed in the main body of the report and are thus superfluous.</p>	<p>Susan Viljoen and Tjaša Bole-Rentel on behalf of WWF, Email, 11 April 2016</p>	<p>This is noted.</p>

<p>1.35.2</p>		<p>I. GENERAL COMMENTS</p> <ul style="list-style-type: none"> While it is understood that the Scoping Report only deals with early exploration activities over the first 3 years of the exploration programme, which do not include extraction of hydrocarbons or significant amounts of water (on a regional level), no stimulation of wells or hydraulic fracturing (fracking), we wish to re-iterate the strong opposition to activities that would result from a successful completion of this early exploration phase, thus questioning the rationale for even early exploration. It is greatly appreciated that SLR dutifully reported the wide public opposition to both Rhino's short-term exploration activities, as well as long-term hydrocarbon extraction ambitions. We find the major themes of the public opposition to be appropriately summarised and welcome SLR's word of caution for its client (Rhino) urging it to give due consideration to the concerns underlying public opposition to oil and gas development in KZN and the practical implications for its exploration programme in the application area. While the list of specialist studies proposed seems acceptable, what is lacking is a summary of the known or possible impacts for <i>each method of exploration</i>. i.e. what impacts could one expect from the drill tests versus the seismic surveys? If all the potential impacts with all the steps involved in exploration are conflated into one section such as surface water, it is hard to ascertain exactly what risks are relevant to which type of exploration. This separation of methods and associated impacts could be useful for landowners, as some might have core borehole drilling on their property and others might have the seismic 2D survey cross their property. We recommend that the WRC project recently completed and led by Dr Surina Esterhuysen is consulted (namely "<i>Development of an Interactive Vulnerability Map and Monitoring Framework to Assess the Potential Environmental Impact of Unconventional Oil and Gas Extraction by Means of Hydraulic Fracturing</i>") when considering potential locations for both exploration and possible later extraction, as this work provides a useful framework for assessing environment impacts of unconventional hydrocarbon extraction, and it also covers CBM methods. The full technical WRC report of Dr. Esterhuysen's UFS team can be downloaded from researchgate here: https://www.researchgate.net/publication/280920027_Development_of_an_Interactive_Vulnerability_Map_and_Monitoring_Framework_to_Assess_the_Potential_Environmental_Impact_of_Unconventional_Oil_and_Gas_Extraction_by_Means_of_Hydraulic_Fracturing 		<p>The objection is recorded.</p> <p>The suggestion to present the impacts per activity rather than per aspect is noted and we will consider if there is any reason not to implement this for the EIA.</p> <p>Thank you for the information on WRC project. SLR will review this work and as appropriate to this application provide consideration thereof in the EIA..</p>
<p>1.35.3</p>		<p>II. SPECIFIC COMMENTS</p> <p>For ease of reference, our specific comments to the Scoping Report are presented in table format:</p> <p>1. Executive Summary (pg ii): "These comments will be used to update the Scoping Report which will then be submitted to PASA for acceptance"</p> <p>This statement could mislead some of the public to assume their comments would simply be integrated into the Scoping Report if useful for its improvement and not recorded and reported to PASA in their entirety, thus discouraging some stakeholders from providing feedback.</p>		<p>This was obviously not the intent. As per the EIA Regulations, 2014 all comments received are recorded in a Comment Report and this and the actual comments are submitted to the competent authority, in this case PASA.</p>

	<p>2. Executive Summary (pg iv):“Approvals are also likely to be required in terms of other legislation”</p> <p>It would be useful if the Scoping Report clarified what legislation and under what conditions are further approvals going to be necessary and when not?</p> <p>3. Executive Summary (pg iv): “...if the later exploration led to the discovery of a commercial resource suitable for development then Rhino Oil and Gas would need to secure a production right from PASA.”</p> <p>This sentence touches upon the crux of the procedural problematic. Under current legislation if exploration is successful, then the Minister “will” grant a production right to the applicant (subject to a number of financial and technical conditions, but not environmental or social ones), so it is crucial for I&AP to know if the exploration right Rhino is currently applying for is granted, is there going to be another – a separate - exploration right application for further exploration activities, subject to the same process where I&AP will again have the opportunity for meaningful engagement?</p> <p>This uncertainty is further exacerbated by PASA’s response to Issue 2 in Section A on pg viii, which says “If the applicant wanted to pursue any activities beyond the scope of the proposed work programme then environmental authorisation for such activities would have to be obtained. This process provides for further engagement with I&APs and in-depth assessment of the associated issues.” It mentions the need for an additional environmental authorisation, but not a new exploration right application.</p> <p>Figure 1.1 on pg 1-4 also seems to suggest that additional environmental authorisation does not require another exploration right application. All this suggests that if Rhino’s hydrocarbon production activities are not stopped now, there might not be another opportunity for the public to do so in the process leading up to a production right.</p> <p>4. Executive Summary (pg v) and Section 4: “Need and desirability”</p> <p>The US experience with unconventional hydrocarbons, especially shale gas holds limited relevance for South Africa, as production of unconventional hydrocarbons would take place in a completely different socio-economic, institutional, infrastructure and historical context, which will severely diminish the benefits of developing a domestic “unconventionals” sector and may indeed prove less rational than importing conventional gas.</p> <p>5. Executive Summary (pg v): “Where physical exploration/field activity is proposed the primary mitigation would be the appropriate siting at a locality of low sensitivity”</p> <p>The locality of physical exploration/field activity is a function of both likelihood of hydrocarbon presence and environmental sensitivities. In practice, how are the two reconciled if they are in opposition (i.e. the locality that shows highest likelihood of hydrocarbon presence is also one of high environmental sensitivity)?</p> <p>6. Executive Summary (pg vii): “The overriding finding of the public participation has been that the great majority of I&AP’s are strongly particular.”</p> <p>There is a typo at the end of this very important sentence - please rectify what should be where the word “particular” is?</p>		<p>This quoted statement is in reference to possible additional exploration work and/or an application for a production right. The Scoping Report does detail the relevant legislation and required approvals for the proposed exploration work programme (refer to Section 3.1). This cannot be undertaken for future projects as there are too many unknown parameters which would render the review speculative at best.</p> <p>Please refer to Section 84 of the MPRDA in its entirety. This sets out that the Minister <u>must</u> grant a production right <u>if</u> conditions a) to i) are met. Subsection c) details that a right could only be approved if “production will not result in unacceptable pollution, ecological degradation or damage to the environment”;</p> <p>Please refer to section 2.3.10 of the Scoping Report for an explanation in this regard.</p> <p>Exploration beyond the proposed exploration work programme would require an amendment to the exploration right in terms of Section 102 of the MPRDA. This would in turn trigger a requirement for an additional or amended environmental authorisation in terms of the NEMA. Thus an amended or new right cannot be issued until an Environmental Authorisation is issued.</p> <p>The differences between South Africa and the USA are acknowledged. Information from the US is provided by Rhino Oil and Gas as an example.</p> <p>The EMPr, which would have to be approved prior to the undertaking of any exploration work, will contain commitments to prevent specific exploration activities in areas of environmental sensitivity. Thus the environmental sensitivity conditions will take precedence.</p> <p>Thank you for pointing out this error. The sentence should have read “The overriding finding of the public participation has been that the great majority of I&APs are strongly opposed to all forms of oil and gas exploration in the KZN and to this application in particular .” This has</p>
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	<p>7. Executive Summary (pg vii): Section 8, “Results of Public consultation” and Second to last bullet in this section “SA does not understand shale gas risks....”.</p> <p>Concerns around future water resource impacts (if extraction follows) were repeatedly raised at a number of public meetings, especially considering the current drought and water restrictions being faced by many IAP’s in KZN. However this point was not mentioned in the bulleted list/summary of major themes of the public opposition in this section. Please amend.</p> <p>This should rather read “SA does not yet fully understand unconventional hydrocarbon extraction risks” considering this application covers a number of minerals.</p> <p>8. Executive Summary (pg viii): Issue 4: “The time available in the current EIA schedule is insufficient to allow for the required public consultation for such a large application area and contentious project. “The Agency can consider requests received in writing from the EAP or applicant to extend the timeframe provided that the requests comply with the provisions of the EIA Regulations.”</p> <p>Has SLR or Rhino followed-up on this opportunity and requested more time for public consultation as demanded by the I&AP?</p> <p>9. Executive Summary (pg xiv): “The proposed exploration activities could result in the loss of or damage to heritage resources (including archaeological, palaeontology and cultural heritage sites</p> <p>Shouldn’t such sites (and a suitable buffer zone around them) be a-priori excluded from exploration activities, just as protected areas?</p> <p>10. Executive Summary (pg xv): “Exploration activities could increase noise levels, which may disturb or be a nuisance to landowners or adjacent residents.”</p> <p>We question the use of conditionality in this statement as exploration activities; especially seismic surveying and core drilling will increase noise levels.</p> <p>11. Executive Summary (pg xv): Paragraph on “Effect on local economy due to job creation and direct revenues”</p> <p>We find that this paragraph in the Executive Summary does not adequately summarise the finding of Section 5.4.19 (Contribution to the local economy) which correctly concludes that the contribution to the local economy in terms of direct job creation for local job seekers would be negligible.</p> <p>In addition the possible negative impacts on the environment, particularly water resources (and the well-known and reported general lack of legislative oversight or compliance to environmental and related legislation, such as the National Water Act), which would accrue over time as exploration and possible extraction activities continue and its ecological footprint increases, these activities could ultimately result in job losses as existing rural livelihoods such as agriculture, farming, livestock production, ecotourism, community arts & crafts projects, etc are curtailed due to the environmental impact. Job losses will have a knock-on effect ultimately on the economies of towns, which usually support the rural communities and farmers surrounding them, as well as their economic activities.</p> <p>12. Executive Summary (pg xv & xvi) and Page 6 – 308 in Scoping Report: “If exploration</p>		<p>been corrected.</p> <p>The Scoping Report has been updated to include the words “unconventional hydrocarbon extraction”.</p> <p>Yes, a 16 week extension was obtained from PASA. Please refer to Section 5.2.10 of the Scoping Report.</p> <p>That is the intent. Please refer to Section 7.5.3 for details on the proposed heritage study. One of the stated objectives for the heritage study is to: Determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration during the detailed site assessment. Note however, that prohibiting exploration work is different from excluding the area from the right application.</p> <p>Point noted, but has to be considered in terms of receptors.</p> <p>Noted. Additional text was added in the executive summary and in the report body. See amended text below “Contribution to the local economy could occur through the creation of direct employment opportunities (albeit limited) and generation of indirect revenues as a result of support services and supplies. Alternatively, if exploration detracts from or compromises the main attractions of the region then it could result in a reduction in external inputs to the local economy. KZN has many well developed industries (agriculture, eco-tourism, forestry etc) which are reliant on the environmental assets of the region. Any significant impacts on the environmental assets (could have negative impacts on the industries that rely on these. The impact on the local economy will be further investigated and assessed in the EIA. An economic specialist may be consulted for input.”</p>
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	<p>detracts from or compromises the main attractions of the region then it could result in a reduction in external inputs to the local economy.”</p> <p>It is recommended that the impact on tourism in the Natal Midlands is included in the list of “Socio-economic” aspects to be assessed with specialist studies in the EIA. Tourism is only briefly mentioned in the section under local economy, but warrants its own dedicated section, considering one of the main attractions of the midlands is its scenic landscapes, unspoilt natural beauty and sporting events such the Midmar Mile and Dusi Canoe Marathon. Even exploration in a popular tourism destination is likely to raise negative expectations and ill-feeling amongst tourism establishments, and should extraction proceed, is highly likely to detrimentally impact on the midlands tourism industry and sense of place in the midlands.</p> <p>13. Section 5.4.8.2: Contamination of groundwater resources: “Contamination of groundwater could occur as a result of the use of drilling fluids during core hole drilling, and accidental spillages and leaks”</p> <p>It is proposed that as an additional mitigation measure once the desktop stage of exploration is complete and the locations of the 10 core boreholes have been selected, that these locations are made public, and that baseline monitoring of surface and groundwater resources around these 10 sites is then immediately commenced.</p> <p>14. Section 5.4.8.2: Contamination of groundwater resources: “The drilling additives used are largely not hazardous and/or are bio-degradable”</p> <p>A complete list of drilling additives likely to be used is requested and flagging of the ones that are not “not-hazardous”.</p> <p>15. Section 5.4.8.3: Water consumption: “In some catchments in the region the water resource is fully allocated and there is no surface or groundwater available for new users, unless such water is reallocated from an existing user. Exploration will therefore compete with farmers and other users.”</p> <p>To the best of our knowledge, water that is licensed for a certain use cannot be re-directed to other uses without approval from DWS? Or is there a minimum amount that can? In addition, the mitigation actions proposed to avoid water competition fall short of recommending abandoning a drill site if sufficient water cannot be sourced economically without compromising the rights of existing water users in the area.</p> <p>16. Section 5.4.8.3: Water consumption: “The (EIA) assessment would be based on the known details of the work as proposed by the applicant. It is also expected that if/when this phase commences that the Karoo SEA for Shale Gas will be complete and will provide a sound basis on which to undertake an assessment of future exploration work.”</p> <p>The scope of the Karoo SEA is limited to shale gas only, and therefore will not describe the expected impacts of other forms of unconventional gas extraction methods.</p> <p>17. Section 5.5.8: Biodiversity (pgs. 5-266/267); Sites of Conservation Significance: Protected Areas</p> <p>Not all of the most recently proclaimed protected areas which will be excluded from exploration</p>	<p>As per the above, additional text was added in the executive summary and in the report body to reflect the reliance of tourism and other business on the environmental assets of the region. The assessment of impacts of exploration on the socio-economic environment will be undertaken in the EIA. This will not include consideration of “possible extraction activities”. It is the opinion of SLR as the EAP that any economic impacts of the proposed early phase exploration work programme would be extremely limited and thus does not require assessment at a specialist level.</p> <p>Such monitoring requirements will be specified in the EMP.</p> <p>Details of the potential lubricants, including safety datasheets, to be used during core hole drilling will be supplied in the EIA.</p> <p>Any use of water for exploration drilling would need to be lawful. The impacts will be assessed in the EIA and commitments presented in the EMP.</p> <p>The quoted statement is in reference to possible additional exploration work and/or an application for a production right. The SEA could only be used where its findings had relevance.</p>
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	<p>activities are listed (e.g. uMngeni Plateau Nature Reserve). Refer to WWF's note on our submission dated 12 Nov 2015 about the 14 other privately owned reserves that were proclaimed on 9 Oct 2015 (as per Govt Gazette No. 1522, Vol 9).</p> <p>18. Appendix 5.3: "Stakeholder Database"</p> <p>It is suggested that for future reports the following is considered:</p> <ul style="list-style-type: none"> • Please list names alphabetically, as it is difficult to search for a particular name when not arranged in this way. • Please list the regulating authorities as the first section (as their comments carry the most weight). • We were dismayed to see that only 1 official from KZN Department of Water & Sanitation was listed (namely Ms B Msane). For an application of this scale with large potential future impacts on water, we strongly recommend more senior officials are contacted (e.g. Angela Masefield, Jay Reddy, Alistair Starkey) as well as water quality officials from all the regions that cover the exploration area. Furthermore, Namisha Muthraparsad should be consulted from National DWS in Pretoria (muthraparsadn@dws.gov.za), as it is her directorate that is responsible for authorising activities linked to hydraulic fracturing. • No name was listed next to Dept of Mineral Resources. • We suggest TAU (Transvaal Agricultural Union) is also included in the list of Agricultural Associations. The contact person is Herman de Wet (who also represents Agri-SA), email: hjdewet1@absamail.co.za. They do have members within Natal. 		<p>This is noted. The EIA will include the most updated list of proclaimed protected areas and stewardships sites that we can source. Ezemvelo KZN Wildlife and the WWF will be consulted in this regard.</p> <p>These suggestions and additions will be considered for the EIA and implemented where feasible.</p>
1.35.4	<p>In conclusion, WWF-SA would like to note that it concurs with the points provided by FrackFreeSA SA, Maloti Drakensberg Transfrontier Park and NatureStamp in the comments these organisations submitted on the Scoping Report.</p>		<p>This is noted.</p>
1.36	<p><i>"Rhino Oil and Gas is proposing to undertake a 3-year, early-phase exploration programme for oil and gas resources. The application only includes work aimed at determining the presence of a petroleum resource and approval is not being sought for any work to determine the commercial viability of any such resource. The initial exploration work programme is restricted to various non-invasive and remote techniques, as well as the drilling of a maximum of 10 core boreholes and up to a maximum of 125 km of seismic survey lines."</i></p> <p><i>"No extraction of hydrocarbons or water, no stimulation of wells or hydraulic fracturing (fracking) is proposed in the 3-year exploration work programme."</i></p> <p><i>"Prior to the early-phase exploration being concluded they are, therefore, not able to provide any information on what the future may hold with regards the extraction of hydrocarbons."</i></p> <p><i>"Similarly, if the later exploration led to the discovery of a commercial resource suitable for development then Rhino Oil and Gas would need to secure a production right from PASA. <u>Hydraulic fracturing could be one of the potential techniques for gas production.</u>"</i></p> <p>The above are excerpts from the Scoping Report published by SLR Consulting (Pty) Ltd. The boldface and underlining are ours.</p>	<p>Adrian Wilson on behalf of Rosetta-Nottingham Road Conservancy, Email, 11 April 2016</p>	<p>Your objection is recorded.</p> <p>Hydraulic fracturing is not part of this application, as such it is not assessed as part of the current EIA. Please refer to Section 2.3.10 of the Scoping Report.</p>

	<p>Our objection to the granting of rights to explore for oil and gas resources in KZN is based on the potential damage to critical water resources which are vital to the cities of Pietermaritzburg and Durban and all their associated peri-urban areas, as well as local smaller towns and all of agriculture in the KZN Midlands. This threat is not the only objection we have but it is the greatest and is of huge consequence. Millions of people stand to be affected by contamination of drinking water sources and the potential loss of food production follows a close second.</p> <p>It is not within the power of Rhino Oil and Gas Exploration South Africa (Pty) Ltd to guarantee that there will be no contamination of water resources or loss of agricultural production. Unless these guarantees can be made and backed up by the financial worth of our water and agricultural land and production, our Government should not permit any exploration which has the POTENTIAL to lead to hydraulic fracturing or any similar process. And this should be the underlying issue wherever such exploration is proposed.</p> <p>On the question of energy production and power into the future, money should instead be invested in sources such as solar energy and bio-gas production (ask the dairy farmers and chicken farmers in KZN Midlands about this potential resource, already above the ground and available right into the foreseeable future).</p> <p>For the record, our other objections to the granting of exploration rights for oil and gas include but are not limited to:</p> <ul style="list-style-type: none"> • Environmental damage which may be irreversible • Loss of wildlife habitat • Loss of endangered species • Massive increase in road networks and heavy traffic • Requirements for additional pipeline networks • Ultimate loss of agricultural jobs and livelihoods for our rural population • Noise and dust pollution • Air pollution • Loss of tourism • Damage to culturally valuable sites such as graves • Long-term ground instability • Irreversible alterations to the landscape <p>Furthermore, we believe that many of the rural people of KwaZulu-Natal have not been given sufficient explanation of the proposals and their possible consequences, nor have they been provided with sufficient opportunities for discussion of all aspects of the proposed exploration and the longer-term plans. This has deprived them of making informed decisions and even of allowing them the opportunity to have their say.</p> <p>And yet another point is that our climate is extremely unstable and there is real potential for further drought conditions alternating with storms and flooding. These conditions render any further strain on or threat to our water resources out of the question.</p>	<p>The value of water derived from the key catchments, and current shortage thereof is acknowledged. It is not necessarily a given that the proposed exploration activities would compromise water resources or quality in the region. The potential risks will be assessed in the EIA.</p> <p>While these points on renewable energy are relevant, and promoted by some government policy they must also be considered in context of the same governments' various policies towards the development of an indigenous fossil fuel resource and gas industry.</p> <p>Potential risks as indicated that are applicable to the exploration phase will be assessed in the EIA.</p> <p>Please refer to Section 5.2 of the Scoping Report for details on the public participation method. A number of the challenges to the public participation process are detailed here.</p>
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<p>1.37</p>	<p>INTEREST IN PROPOSED PROJECT</p> <p>I own property and live within the proposed project area and am thus justifiably concerned about the safety and health of my household, property, community, environment and the greater planet.</p> <p>COMMENTS:</p> <p>Apparently the detailed project information on the KwaZulu-Natal exploration application from Rhino Oil and Gas Exploration South Africa (Pty) Ltd was available on the website (ftp.slrconsulting.co.za), but I was unable to gain entry to the website. I could not log onto the site (neither as myself, nor as Anonymous) and had to search the internet for information related to the proposed project, thus I am sending the information through to you for action and to please carry forward to the relevant parties and the correct decision-makers. Some important potential impacts were summarised in the 'Background information on proposed petroleum exploration on various farms in KwaZulu-Natal (291ER)' article of October 2015. The full impact of these concerns may need to be stressed further to become real to the decision-makers. Below are my comments and concerns regarding the proposed exploration project for consideration.</p> <p>Not 'non-invasive' - The statement that initial work will use 'non-invasive' methods is just designed to lull us into a false sense of security despite what the application may state to the contrary that 'no hydraulic fracturing or fracking is proposed for this exploration'. This is clearly worded to allow scope to do so at a later stage if we foolishly allow them to go ahead with the exploration. Apparently the applicant stated that it is premature to consider fracking, but in reality methane and related resources are generally found deep in the bedrock and regrettably the common approach to exploiting gas is to use fracking or hydraulic fracturing, so it is logical to conclude that this would be their intention if they found these resources underground. It seems to me to be a game of 'cloak and daggers', trying to hide the truth of their intentions at our expense.</p> <p>Destabilising Foundations - Agreeing to the exploration application would amount to agreeing to hydraulic fracturing and fracking as we know logically that these are the generally applied technologies to extracting gas and similar resources from the deep underground. Even the proposed actions for year two starts playing with the stability of rock structures and beds with fission track analysis and gravity surveys. Year three's seismic surveys will literally shake the foundations and cause untold instability, whilst the digging of the boreholes will release gas in an uncontrolled situation which will enter our air system.</p> <p>We Have NO Right - Humans do not own earth, they are merely custodians (at best) of the planet and the country and their responsibility is to protect and preserve the resources for current and future generations of species, including humans, animals, plants, etc. To be candid, we have done a really poor job of protecting the living organisms on this planet; quite the contrary, humans have done more damage to the planet than all the other life forms put together and in such a short timeframe. We do not have the right to destabilise the planet by allowing a project that will most likely lead to fracking or other equally destructive methods to extract the resources.</p> <p>Untold Damage - We should not be asking whether or not there is methane and related resources deep in the earth's structure, but how much damage will be caused by extraction and thus what price will we all pay for this perilous action.</p>	<p>Nicki Varty, Email, 11 April 2016</p>	<p>Your concerns are noted.</p> <p>The BID and Scoping Report have aimed to provide relevant information on the activities proposed by the applicant for their early phase exploration work programme. The impacts of the proposed activities will be assessed in the EIA.</p> <p>The referenced sentence in fact describes the non-invasive as well as other techniques (drilling and seismic) that are proposed. The exploration work programme for which Rhino Oil and Gas is seeking approval is described in Section 2 of the Scoping Report and was made as a submission to PASA in terms of Regulation 7 of the MPRDA Regulations.</p> <p>If the proposed exploration did identify resources for further investigation then the applicant would be required to apply for further authorisation. Please refer to Section 2.3.10 of the Scoping Report.</p> <p>The impacts you describe in your comments below would not necessarily result from the exploration work programme as proposed. In some cases the examples relate to extraction and fracking. Hydraulic fracturing is not part of this application, as such it is not assessed as part of the current EIA. Please refer to Section 2.3.10 of the Scoping Report in this regard.</p> <p>Potential risks as indicated that are applicable to the exploration phase will be assessed in the EIA. A noise and vibration study is proposed to give consideration to the potential effect of seismic testing. Refer to Section 7.5.5 of the Scoping Report.</p> <p>Noted.</p> <p>The purpose of this EIA process, and those required should further exploration or future production be considered, aim to give consideration to this.</p>
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	<p>Pressure Shatters - The pressure from the water being forced into cracks is extremely risky for causing further fractures and widening the existing ones, which must obviously place unnecessary and foolish pressure on the earth plates and destabilise the plates and thus the planet over time.</p> <p>Nobody actually knows the damage this will cause, so nobody (expert or otherwise) is in a position to guarantee that the methods of fracturing / fracking are safe – rationally they cannot be! Let me give a more identifiable example, when you apply pressure to a vase either, from the inside or the outside, it is just a matter of time and pressure before the vase shatters. You can try to glue the vase together again, but the cracks and spaces will always be there and the weaknesses will remain, where seepage and leaks will occur. The vase will never be the same - and not in a good way at all! If we expand this example to the earth plates we cannot repair them, so our nice stable earth in South Africa will become an earthquake zone with toxic air in the equation. America has been guilty of fracking and fracturing and the presidency acknowledges that there has been an increase in number and severity of earthquakes; fracking is listed as one of the most likely causes of this instability.</p> <p>Shaking Foundations - Low frequency waves resonate deeper and carry further, so what instability will the seismic surveys cause deep underground? Adding explosives, air guns and seismic vibrators to the equation will really add to the explosiveness of the situation especially with flammable and toxic gases in the system. Performing these tests along a fissure line is likely to have a compounding effect on the situation. Surveys along the roads may result in fewer disturbances on the surface, but in the scale of things this is so minor when we are talking about undermining the very foundation on which our lives are based. We have seen what damage simple rain can do to non-solid roads in the form of the many potholes that keep re-opening on the Greytown – Mooi River road despite the attempts to repair the damage.</p> <p>Unpredictable Explosions - Water and pressure will build up in fissure and pockets underground which will explode in unpredictable places and times, with potentially disastrous results on life in the areas.</p> <p>Damage to Ecosystems - Protected areas will be affected if they go ahead and mine the underground resources as the water table will be negatively affected and nobody can truthfully say that there will be no residual effects, which will destroy delicate ecosystems – actually more likely damage the entire environment. Most of the delicate ecosystems are such because humans have placed their need for instant gratification above everything else, without due thought to the negative medium and long term effects of their decisions and actions.</p> <p>Damage to Wetlands - The wetlands are also a sensitive ecosystem, with chemicals and toxins seeping into the system, this would result in destruction of the life in the wetlands. Rehabilitation has mixed success with many failures, and even where there is some rehabilitation it takes time for the environment to recover and heal, often many years or even decades. Without doubt rehabilitation is not as effective as not doing the damage in the first place!</p> <p>Toxic Air for Birds - Leaking gas from the rock core drilling and later from the fissures will flow toward the air streams on which the birds fly, like leaving a tap open. This will result in problems ranging from illness, inherent weaknesses, deformities, death of birds and later death of species.</p>		<p>A noise and vibration study is proposed to give consideration to the potential effect of seismic testing. Refer to Section 7.5.5 of the Scoping Report.</p> <p>The environmental assets, including wetlands and protected areas in the KZN Midlands area of the region is noted.</p> <p>The potential impacts of the proposed exploration activities on environmental assets are discussed in Sections 5.4.7 and 6.2 of the Scoping Report (amongst others). It is not necessarily a given that the proposed exploration activities would compromise environmental assets in the region. The potential risks will be assessed in the EIA.</p> <p>Detail on the specialist study that is proposed in relation to biodiversity is set out in Section 7.5.1 of the Scoping Report. As detailed, the outcome will be to define which biodiversity units and uses are incompatible with the proposed exploration activities and to determine exclusion criteria that should be applied when identifying and assessing sites for field-based exploration. Such requirements will be specified in the EMPr.</p>
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	<p>Weaknesses in Life Forms - Polluted air and water would result in disease, weakness, deformities and death of domestic livestock, wild animals, fish and water life and insects, including bees which make such lovely honey and the plants from which they thrive!</p> <p>Extinction of Life Forms - Rhinos are becoming extinct because we selfishly exploited their use for a whim, greed and to overcome our own weaknesses and inferiority complexes; are we going to do the same to our planet? The problem with exploiting mother Earth is that we do not have another planet to move to. Earth is all that we have to sustain our lives and without her nourishment and resources and solidity we will <u>all</u> be extinct.</p> <p>Beyond Farmer Impact - This proposal goes beyond the approval of local farm owners who may be lured into temptation and sell out for short term monetary gains as they may not realize the later significantly negative implications of allowing the applicant to desecrate their lands – the same could be said for those decision-makers contemplating this application.</p> <p>Explosive Fire Threat - There is a significantly increased risk of uncontrolled and widespread fires and fire damage from the leaking methane releases. This is a critical factor as this is a forestry area with many flammable trees which would burst into flame and spread across huge areas, requiring water bombers to douse the flames with belated success. Would the applicant or the government be responsible for reimbursing farmers and other victims for the fire damage?</p> <p>Food Sources Wrecked - According to the overview, over 10 000 farms will be affected by the proposed exploration – farms that provide life-sustaining food, water and other resources for survival of humans and other living creatures. There is a large population of rural people who rely on the ground and water to provide sustenance for their survival and to feed their children.</p> <p>Food Shortage & Unhealthy - Food availability is a challenge due to the drought, higher earth temperatures and increased population figures, so we are already placing our food supplies at risk. Polluting the waters through invasive mining methods will exacerbate the problem, especially since the proposed area is rich farmland that provides much needed produce for the country.</p> <p>Undrinkable Water - A small amount of polluted water with toxins or damaging chemicals is enough to make an entire water system unsafe for human, animal and plant consumption. We do not have the right to place other species at risk just to meet our insatiable needs. Once the water has been fouled what will we do for water? We cannot live without water and we do not know how to make it ourselves.</p> <p>Exacerbated Water Shortages - There is a shortage of water already, so it is very short-sighted and foolish to contaminate or even significantly risk contamination of the water that we do have on the planet in the water table, dams, lakes, rivers, etc.</p> <p>Negligible Benefits on Livelihoods - Very few new job opportunities will be provided by the exploration as the applicant will be using specialists in the field. Even if there are job opportunities later, what about the quality of the lives of those working there and living nearby with the pollution of the water, air, etc.</p> <p>Relocation from Hazardous Environment - The likely result of fracking and fracturing is that the environment will become unstable, dangerous for habitation and the people will then have to be</p>		<p>Noted.</p> <p>The application for environmental authorisation and the exploration right are heard and decided on by PASA/DMR.</p> <p>The risk of fire is recognised as a potential impact of the exploration activities. The risk will be assessed in the EIA and requirements to manage the risk presented in the EMPr.</p> <p>10 000 properties are included in the application. Only a limited number will have any field-based exploration.</p> <p>The environmental assets of the region, including agricultural lands and water resources is noted. Potential risks as indicated that are applicable to the exploration phase will be assessed in the EIA.</p>
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	<p>relocated – to where and at what cost, economically, emotionally, spiritually and physically!</p> <p>Costs for Repair Attempts - The short term potential financial gains for the applicant will most likely be lost in costs and penalties to attempt to repair the damage from their damaging activities; and if they do not pay then the local government and thus the tax payers will have to take on the additional payment burden on top of the other inconveniences. Additional costs would include public antipathy, lost food and water supplies, health and safety problems, having to filter air and water before consumption, lost votes, wasted financial and other resources, etc, etc.</p> <p>Insufficient Justification - People can give ‘facts and ‘figures’ to attempt to justify projects by creatively interpreting data for their purposes, but we must not be blinded into jeopardising our very existence on this planet for short term gluttony and perceived need. There are times when we need to bring our emotions into the equation in order to do what is right – and that is to deny the application for the exploration in KZN. There is a risk that people may be coerced, bullied or bought to allow the project to continue, so I hope that interested parties and decision-makers will be protected and guided to do what is right for our country now and in the future.</p> <p>Source Safer Means - Time and resources would be much better put to sourcing, developing and enhancing other means of creating energy that do not cause so much damage to our environment</p> <p>Prosecute Frackers - This exploration, and later project if the resources are discovered and the process is approved, will place a whole province and country at risk and I really do not understand how anybody in their right mind could even consider such a venture. Fracking and fracturing needs to be banned worldwide and South Africa need to design legislation that makes fracking, fracturing and other related invasive mining a criminal offence carrying severe penalties. The exploration application should be burned, or at least rejected decisively and the applicants should be arrested and face charges of proposing wanton destruction of our planet and the guilty parties should be punished most severely including incarceration, steep fines and other legitimate penalties. Terrorists and saboteurs receive harsh penalties for their sins of blowing up buildings or localised areas. Surely those who intend damaging and potentially blowing up our planet should also be punished, especially since this would also affect planetary alignment and thus the entire galaxy. You may think I am exaggerating, but if we continue along this course it is just a matter of time and degree before we do place our planet in this situation, so why begin a process that is so very hazardous? Let us stop the destruction before it gets way out of control!</p> <p>Public Outcry and Action - People go to war to fight injustice – how much more so to protect our very lives and the planet without which we cannot exist. South Africa is rather volatile at the moment with political instability or at least reduced confidence, labour unrest, drought, lack of food and water for personal and commercial needs resulting in increased cost, poverty, educational demands, etc, etc. Let’s not add breaking up KZN and risking it’s stability to this volatile mix. Humans have already done so much damage to the planet, please don’t make it even worse by allowing something that will surely lead to fracking and therefore untold damage to our world.</p> <p>Exploration Project is Just Preparation for Fracking – Even though the applicant says no fracking is anticipated during the exploratory stage, they will most likely need to do so to acquire</p>		
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<p>1.38</p>		<p>I have two major concerns with any move towards shale gas extraction in South Africa at the current point in time, including exploration.</p> <p>Firstly,</p> <p>Consider the debate that is currently raging in the world regarding the cost at which shale gas extraction comes. The cost to the environment, the cost to natural resources such as clean air and water, the cost to people's health, the unknown costs in the long term. It is not necessary at this point in time to be able to prove everything for ourselves in South Africa, we do not need to reinvent the wheel, the wheel is and will always be ROUND! Anyone who tries to mess with that invention is in for a bumpy ride.</p> <p>Do you propose that this world wide lobby against shale gas extraction and especially fracking is unfounded and the work of a bunch of stupid fanatical extremists?</p> <p>Do you propose that all the articles, blogs, movies and more on the internet that are "anti-shale gas extraction" are unfounded? Where there is smoke, there is a fire.</p>	<p>Dirk Combrink, Email, 11 April 2016</p>	<p>Hydraulic fracturing is not part of this application, as such it is not assessed as part of the current EIA. Please refer to Section 2.3.10 of the Scoping Report in this regard.</p> <p>It is not questioned that there is significant concern and some evidence from around the world regarding the environmental impacts of unconventional gas extraction. It is also acknowledged that the current application for an exploration right is potentially a precursor to future activities that could have similar risks. The reason that this Scoping and EIA process does not include consideration of those future risks is that applicant</p>

		<p>Do you propose that all the countries and states that have in the last 5 years either banned fracking or placed moratoriums on fracking did it for no good reason?</p> <p>Even if the reason is to be rather safe than sorry, it is a very good reason considering what is at risk.</p> <p>So in the first place I fear for our future if we are going to act as if we are cleverer than thou and ignore the obvious.</p> <p>The department of environmental affairs is the legal custodian of the natural air and water of South Africa, to ensure we leave this heritage behind for generations to come in the same pristine way in which we inherited it. But right now, Mr Hemming, the ball is in your court. You have this huge responsibility on your shoulders of making a recommendation on something which should guide the legal custodian to make the right choice. So you are very much carrying the responsibility of a custodian of our environment. Please do not treat that responsibility with contempt.</p> <p>Secondly,</p> <p>Considering all factors of shale gas extraction, including the negative effects it might have on a large part of the South African environment and population, the vital role of integrity that regulating bodies and authorities would need to play in a project of this nature, and the substantial amounts of money that will be moved around between share holders, government, contractors etc - It makes absolutely no sense to even consider any application that has anything to do with shale gas extraction at a time when our government is in a "state of emergency" due to corruption and lack of integrity. At a time when our president is being called upon to step down, when the National Assembly's credibility and integrity is under scrutiny, when numerous ministers are scrutinized for their connections with the Gupta family who was capturing our state (including the minister of Mineral Recourses Mr MJ Zwane).</p> <p>Entertaining permit applications at such a time is like taking the primary school children on an outing to the zoo while the zoo keepers are busy trying to recapture the lion and tiger that escaped last night.</p> <p>Who knows, maybe you are soon to find out that the application of Rhino Gas and Oil which you are working on so hard to try and comply to all the regulations has in fact already been given the green light by the Guptas.</p>		<p>has not applied for production rights.</p> <p>The separation of rights for exploration and production (and the related EIA processes) is prescribed by the MPRDA and NEMA. Amongst many others, the reason being that the applicant does not have sufficient information to inform a proposal for production until such stage as the exploration has been completed. Without information on the specifics of the proposed activities it is not feasible to assess the potential impacts thereof.</p> <p>SLR, as the EAP, is managing the EIA process for the application in an objective manner, taking into account relevant information to the extent possible.</p> <p>Concerns around the institutional capacity of the regulator have been raised by a number of I&APs. It is understood that PASA are building capacity in order to be able to meet their commitments and obligations as the regulator.</p>
<p>1.39.1</p>		<p>Our letter dated 12 November 2015, has reference. All issues raised in that letter still apply in terms of our response below to the draft Scoping Report.</p> <p>In addition, our response to the draft Scoping Report and associated Terms of Reference for the proposed EIA is as follows:</p> <ol style="list-style-type: none"> 1. We object to any oil and gas exploration and production activities on or adjacent to our landholdings, as such activities can have significant direct and indirect impacts on our forestry areas, on our environmental assets and hence ultimately on the profitability of our business and the economic knock-on effect to the shareholders, staff and communities associated with Mondi. 	<p>Craig Barret on behalf of Mondi, Email, 12 April 2016</p>	<p>Your previous submission was recorded and contributed to the formulation of the Scoping Report.</p> <p>Your objection is recorded.</p> <p>It is not necessarily a given that the proposed exploration activities would compromise forestry operations or environmental assets in the region. Potential risks as indicated that are applicable to the exploration phase will be assessed in the EIA.</p>

<p>1.39.2</p>		<p>2. Overall, the draft Scoping Report and the draft ToR for the proposed EIA is technically and legislatively flawed in not addressing site-specific impacts. Trying to do a Scoping process and an EIA, when specific sites cannot be identified and assessed effectively for potential impacts from the proposed exploration activities, is incorrect, and in fact cannot be completed or approved as such.</p> <p>As the applicant or its consultants cannot define sites where the exploration will actually take place, the draft Scoping Report and the proposed EIA cannot determine if the exploration process will have site-specific impacts on key environmental, economic and social values and assets of the various land-users in the region, and hence the process and documents are flawed as they don't address their core purpose.</p> <p>This exercise is actually attempting to combine a screening assessment, a strategic environmental assessment and site-specific impacts in one step, and hence is flawed and failing from all perspectives.</p> <p>The proponent, its consultants and the relevant authority, PASA, has erred in even starting this process as a scoping and EIA. The present process should be stopped, and instead, a Strategic Environmental Assessment for the exploration area, with guidance and oversight from the Department of Environmental Affairs and the Department of Water Affairs, should be undertaken for the exploration region, using both desktop and in-filed assessment methods.</p> <p>Once completed, all no-go areas should be identified (e.g. such as economically viable land uses, water resources, protected areas, biodiversity priority areas or any other sensitive sites) and specific sites for the exploration activities can then be identified. At this point, specialists can then be appointed to do desktop and in-filed site-specific assessments on the specific sites, as part of the formal scoping and EIA processes.</p>		<p>The fact that the sites for the field-based exploration activities cannot be identified at this stage could be considered as a limitation to the value of the environmental impact assessment. Thus SLR has proposed an approach to the EIA whereby the anticipated impacts of the proposed, defined activities are assessed in relation to the known classes/type of locally occurring environmental aspects. To prevent or mitigate the identified impacts of significance, the proposed exploration activities would be prohibited from taking place at localities where such environmental aspects occurred. This would be achieved by providing legally enforceable management actions in the EMPr which would restrict the holder from undertaking an exploration activity at sites with the incompatible class/type of environmental aspect. No-go areas will be defined either through mapping where data is available and/or through the prescription of rules defining the restrictions. The impacts will therefore have been assessed and the commitments to the management and mitigation thereof made prior to the authority making a decision on granting of the right.</p> <p>To provide assurance on implementation post authority-decision, and to ensure that site-specific features of proposed localities are identified and assessed against the prohibitions and restrictions of the EMPr, the EMPr will include the requirement for a 'site assessment' by a suitably qualified environmental scientist. The final site plan would require to be approved by the environmental scientist, the land owner and PASA.</p> <p>While differing from the standard approach to impact assessment, it is the opinion of SLR that such approach and the decision arising therefrom can be considered defensible and are not fatally flawed.</p> <p>The request by I&APs for a Strategic Environmental Assessment has been noted and reported on in Section 5.4.3 of the Scoping Report. This would need to be initiated by government.</p>
<p>1.39.3</p>		<p>3. The draft Scoping Report and the proposed scope of work for the EIA are flawed in that they do not address the issue of potential direct and indirect impacts of the exploration activities on forestry and agriculture as an economically viable and natural resources dependent land uses in the proposed exploration area.</p> <p>The draft Scoping Report does not identify or recognise forestry as an important land use in the target areas. Only agriculture and other land uses have been identified. The draft Scoping Report must be updated to reflect the existence of significant forestry landholdings and associated environmental assets. Through this, the draft Terms of Reference for the EIA should be updated accordingly.</p> <p>The draft Scoping Report must also emphasise the need for specialists soils, forestry and geohydrological consultants to undertake desktop AND in-filed assessments to determine direct and indirect impacts of the proposed exploration techniques on groundwater and surface water</p>		<p>The method of the EIA as indicated by SLR will be undertaken in order to comply with the scope of assessment as required in the EIA regulations, 2014 and Appendix 3 thereto. Direct and indirect impacts will be assessed where this is appropriate.</p> <p>Section 5.5.5 of the Scoping Report provides a preliminary description of land use in the exploration right application area. Forestry is identified here as an important land use. Potential risks as indicated that are applicable to the exploration phase will be assessed in the EIA.</p> <p>Sections 7.5.2 and 7.5.4 of Scoping Report presents the terms of reference for the geohydrological and soils and land cover studies. It is the opinion of SLR, as the EAP, that field investigations for these aspects would firstly not be practicable, and secondly if</p>

		resources that are critical for our commercial production requirements, as well as on the soil resources, rooting stability and other requirements.		conducted at a scale that made them feasible would not add significant value to the assessment of impacts applicable to the exploration phase.
1.39.4		4. Mondi strongly recommends that the EIA consultants and applicant consults directly with the forestry industry representative body (Forestry South Africa) when developing the terms of reference for specialists that will assess the potential direct and indirect impacts on the forestry landholdings in the study area. Further consultation should take place during the implementation of the specialist studies.		Forestry South Africa is welcome to participate as an I&AP during the course of the EIA. The respective specialists will be advised of this recommendation.
1.39.5		5. Another critical issue is water availability. As South Africa, we are a water stressed country, and hence all our water resources need to be managed and used correctly, including for ecological reserve and basic human requirements. This normal water stress situation is exacerbated by drought conditions, which we are in at present. As identified in the draft Scoping Report, many of the catchments in the proposed exploration area are closed for further water use allocations. Exploration and mining activities, and in particular, oil and gas mining activities require vast amounts of water- directly and indirectly (such as wastewater management). As such, if there is no water available for such oil and gas mining activities-leaving all other issues and impacts aside for now- then why even consider exploration in the first place, as there is no water available with which to mine in the first place! And when there is water available for allocation, then mining may not be feasible due to other commitments and priorities.		The value of water derived from the key catchments, and current shortage thereof of is acknowledged. It is not necessarily a given that the proposed exploration activities would compromise water resources or quality in the region. Potential risks as indicated that are applicable to the exploration phase will be assessed in the EIA.
1.39.6		6. The proposed water use could trigger a requirement for a water use license as it is a proposed commercial water use. We strongly recommend DWS is consulted to determine if a water use license is required, and if so, is there available water for the exploration activities. As the applicant and its consultants cannot identify specific sites for its exploration activities, it will be difficult for the DWS to allocate any water use licenses as these can only be done on catchment by catchment basis. <ul style="list-style-type: none"> - GA No. 1191 deals with surface and groundwater abstraction differently, allowing abstraction within limits and conditions as set out in the document. <p>In terms of this GA, abstraction is allowed in terms of section 1.7 (a) and b (i) and (ii) if the location falls OUTSIDE of the areas listed in Table 1.1 for surface water and OUTSIDE of the areas listed in Table 1.2 for groundwater.</p> <p>The applicant must comply with all the requirements as set out in the General Authorisation of 8 October 1999, clauses 1, 3 and 4 (if applicable), Clause 3 (if applicable) of the General Authorisation of 26 March 2004 as well as taking heed the Draft General Authorisation of 4 April 2012. Any water uses in excess of the General Authorisation are required to be licensed in terms of Section 40 of the National Water Act.</p> - The exploration requires authorisation of the Department of Water and Sanitation. <p>Government Gazette 39299 GN 999 of 16 October 2015- 37 (e). The exploration and production of onshore naturally occurring hydrocarbons that require stimulation, including but not limited to hydraulic fracturing and/ or underground gasification, to</p> 		Refer to Section 3 and Table 3-1 of the Scoping Report. As indicated " No activities are being proposed that trigger the need for a Water Use Licence, although certain water uses would need to be assessed once the volumes and localities are known." <p>The EIA will include a further review in this regard and the requirement for authorisation, such as a WUL, confirmed. The DWS will be consulted in this regard.</p> <p>The activities proposed for this exploration right application do not include stimulation, hydraulic fracturing and/ or underground gasification. Thus proposed activities are not controlled activities under section 37 of the National Water Act.</p>

		extract and any activity incidental thereto that may impact detrimentally on the water resource. Therefore exploration for oil and gas is a controlled activity under section 37 of the National Water Act (Act No. 36 of 1998) and requires authorisation from DWS.		
1.39.7		7. Other specific comments are as follows: - All of the specialist studies recommended in the draft Scoping Report and above need to focus on an SEA of the proposed exploration area and must be in-field and just desktop. - With an EIA, an EMPr will need to be approved for specific sites. As no sites can be identified in the present process, site-specific impacts cannot be identified, specific mitigation measures cannot be identified, and hence the EMPr cannot be finalised as site-specific document. The EMPr cannot be developed as a generic document for the exploration area. - Doing an environmental impact assessment for such a large area is dependent on using coarse scale data sets and assessment techniques, and hence site specific issues will not be picked up and the process will be flawed as a result. As stated above, PASA should request the applicant and its consultants to undertake a strategic environmental assessment of the proposed exploration area.		The request by I&APs for a Strategic Environmental Assessment has been noted and reported on in Section 5.4.3 of the Scoping Report. This would need to be initiated by government. The proposed approach to the impact assessment and EMPr is described in the answer to your point 2 above. An EMPr requirement for a site assessment by a suitably qualified environmental scientist is proposed to address this.
1.39.8		We reserve the right to engage the process when site-specific or fine-scale information is available.		The reservation is noted.
1.40		I believe it is still important to establish the actual ownership of Rhino Oil and Gas so that the question "who benefits" is answerable. While legally it is owned by an American lawyer with company address in a tax haven, it's quite clear that this is a mechanism to avoid identification of the real owners. I believe the answer to this question is required to be included in your scoping report, or if not, <i>the fact that this question has not been answered and therefore we have no idea at all if this is owned in reality by South Africans, foreigners, or indeed, a criminal syndicate.</i> Those who will be affected directly (landowners) and indirectly (all those who take water and food in some way from the water resources in the area and are fed by the farmers) have a right to know this as do all South Africans. It is our national irreplaceable resources which will be affected and it is the States job and mandate to protect these from predation for the benefit of citizens. It is not possible for the State to make an informed decision without knowing the identity of the real owners. And If this is not forthcoming, permission even to explore should be refused.	Josie Rowe-Setz, Email, 07 March 2016	The directors and owners of Rhino Oil and Gas Exploration South Africa (Pty) LTD are Mr P Mulligan and Mr P Steyn. More information is available on http://www.rhinosourcesltd.com/management . Please refer to Section 1.2.1 in the Scoping Report.
1.41		I would like to register my opposition to the proposed fracking exploration on the grounds that it will have negative consequences for the environment, particularly facilitating the spread of invasive alien species, due to the disturbance that will be caused to the fragile ecosystems in the region.	Ingrid Nanni, Email, 05 April 2016	Your objection is recorded. Hydraulic fracturing is not part of this application, as such it is not assessed as part of the current EIA.

1.42		<p>Fracking is just a way for some people to get rich quickly, and will destroy the environment FOREVER. People have no idea of the implications.</p> <p>I heard that in the Netherlands it has been put on halt for at least ten years, since with the first attempts there were earthquakes in the area where the testing took place.</p> <p>Mozambique has the richest gas fields in the world; why don't we use that up first???</p>	<p>Willemien Verwiel on behalf of Mbona Private Nature Reserve, Email, 10 April 2016</p>	<p>Hydraulic fracturing is not part of this application, as such it is not assessed as part of the current EIA.</p>
1.43		<p>Besides many, many reasons why fracking is a NO-NO, here are a few simple facts;</p> <ul style="list-style-type: none"> • Quite simply, there is nowhere near enough water in KZN to meet fracking's needs, ask me, I have given my life to water interventions and drought issues. • Quite simply, the false and misleading statements made by Rhino's Travis re his qualifications and successes achieved elsewhere in the world. He's obviously been smoking something green! • Quite simply, the millions of uneducated people living in far outlying areas who know nothing about fracking and it's devastating aftermath. Rhino arrives and waves bank notes in their faces, and it's all done. • Quite simply, the government that controls and issues fracking licences is in such disarray, awash with incompetence and riddled in vomit inducing corruption, has no right to be dictating the demise of our right to peace, security, health and happiness. What about the wildlife? • Quite simply, I could go on and on, so before you stop reading, through boredom, I'll just give you one more! • Quite simply, I find it disturbing that someone, no doubt a family man such as yourself, can stoop so low as to support such a criminal activity.....sorry, I forgot that actually..... this is all about money. 	<p>Brian Walker, Water Activist Supreme, Email, 08 April 2016</p>	<p>Hydraulic fracturing is not part of this application, as such it is not assessed as part of the current EIA.</p>
1.44		<p>I am most disappointed that you continue to pursue this action. We farm in these midlands – not frack and this does not conform to renewable energy – it will be the end of these farming communities. Farmer for 60 years in the Midlands.</p>	<p>Faith Stanistreet, Email, 08 April 2016</p>	<p>Hydraulic fracturing is not part of this application, as such it is not assessed as part of the current EIA.</p>
1.45		<p>I get the feeling you may have your hands full on this one, and have probably had the same litany of queries and objections posed.</p> <p>However, I would be remiss not to write, as a resident in the Midlands, and being interested in the whole water issue from a professional perspective. I write in my private capacity and have the following specific interests and queries which I would like to see covered and comprehensively addressed in your assessments which I gather SLR are running with.</p> <p>Water quantities - required for the fracking process to be successful – the exact sources, and quantities which will be required. This is going to be hugely challenging, particularly as we are already stretched on the water resource front and in a drought, which may reoccur in the future.</p> <p>Water quality impacts – the possible contamination issues of both surface and groundwater resources. Current reading of international experiences and literature around this issues is not</p>	<p>Dr. Mark Graham, Email, 11 April 2016</p>	<p>Hydraulic fracturing is not part of this application, as such it is not assessed as part of the current EIA.</p> <p>Water will be consumed during the core hole drilling and the parameters of this will be supplied and impacts assessed in the EIA.</p> <p>The risks to surface and groundwater quality have been identified. Please refer to section 5.4.8 and 5.4.9 of the Scoping Report. The potential risks will be assessed in the EIA.</p>

		<p>reassuring and by no means does not guarantee that we will not have similar issues and problems in this part of the world. As a key water factory for the province this poses potentially high risks for the operation.</p> <p>The regulatory capacity to manage and "police" the fracking operations, should they be granted. The current capacity to manage the water quality and quantity issues in the country are already stretched, and in many cases appear to be inadequate to deal with the current suite of issues in this field. It is questioned how this capacity will now suddenly be found/resourced and managed, from an already overstretched governmental oversight perspective.</p> <p>With SA as a party to the Paris Agreement https://en.wikipedia.org/wiki/2015_United_Nations_Climate_Change_Conference the plans to pursue fossil fuel sources as an energy source are in direct contradiction to the stated aims of the Agreements objectives to limiting global warming.</p>		<p>Concerns around the institutional capacity of the regulator have been raised by a number of I&APs. It is understood that PASA are building capacity in order to be able to meet their commitments and obligations as the regulator.</p> <p>Further details on the need and desirability of the project will be provided in the EIA report. Consideration of government policies, as well as the Paris Agreement, as relevant to this application, will be documented in the EIA report.</p>
1.46		<p>We use borehole water, which is highly threatened by fracking.</p>	<p>Greg Theron, Fax, 11 April 2016</p>	<p>Hydraulic fracturing is not part of this application, as such it is not assessed as part of the current EIA.</p> <p>The potential impacts of the proposed exploration activities on groundwater are discussed in Sections 5.4.8 and 6.1.3 of the Scoping Report. The potential risks will be assessed in the EIA.</p> <p>Detail of the study that is proposed in relation to groundwater is set out in Section 7.5.2 of the Scoping Report. As detailed, the outcome will be to define which groundwater units and uses are incompatible with the proposed exploration and to determine exclusion criteria that should be applied when identifying and assessing sites for field-based exploration. Such requirements will be specified in the EMP.</p>

5.4 DISCUSSION OF KEY ISSUES

A number of key issues were identified during the Scoping Study to date. The key issues described in this section have been identified by the EIA project team with inputs made by I&APs. These are presented below, together with responses by the EIA project team, in three sections, namely:

- A: Issues material to the overall application and the Scoping and EIA process;
- B: Issues related to the proposed work programme and current EIA; and
- C: Issues not related to the proposed work programme and current EIA.

The sequence in which the issues are listed in each section are in no order of priority or importance. The verbatim issues and concerns raised by I&APs during the Scoping Study to date have been compiled into a Comments and Responses Report (see Table 5-1 and 5-2) with the actual submissions included in Appendix 6.

A. ISSUES MATERIAL TO THE EIA PROCESS

A number of key issues material to the application and the Scoping and EIA process arose during the initial consultation conducted in the last quarter of 2015. SLR identified five key issues which were submitted to PASA for consideration and response. Details in this regard are provided below (SLR's letter to PASA and PASA's response thereto are provided in Appendix 5.1):

5.4.1 ISSUE 1

Most persons participating in the EIA process stated their opposition or lodged an objection. Many of the objections were made with reasons relating to production and fracking. It is clear that the EIA process will not be able to resolve such objections. What mechanisms exist for these objections to be addressed?

PASA Response: *"There is no mechanism under NEMA to address objections, however as part of the EIA process the EAP must consider issues raised and engage with respective parties to resolve or provide clarity on issues raised. Section 10 of the MPRDA provides for the Regional Mining Development and Environmental Committee to consider and advise the Minister on objections received in respect of applications."*

SLR Response: SLR has, and will continue to, receive and document all opposition to and objections against the application. Through the course of the current EIA process SLR will respond to all submissions which are reasonable and relevant to the early-phase exploration application. Objections that cannot be resolved through the EIA process will have to be handled in terms of the mechanisms provided for in the legislation.

I&APs are advised that where the objections are based on concerns relating to further exploration or future production activities these will be documented but not responded to. The reason for this is that legislation provides that Rhino Oil and Gas would have to make further application for approval/authorisation for any activities beyond the proposed early-phase exploration. The responsibility for assessing impacts and considering objections to future work rests with those future approval processes.

5.4.2 ISSUE 2:

Most I&APs have demanded that the current EIA process present details on production and undertakes an assessment of potential production (including fracking) related impacts, even though the current application does not cover further exploration or production. What is PASA's instruction with regards the scope of the current EIA?

PASA Response: *"The current EIA is aligned with the proposed exploration work programme submitted with the application for an exploration right. If the applicant wanted to pursue any activities beyond the scope of the proposed work programme then environmental authorisation for such activities would have to be obtained. This process provides for further engagement with I&APs and in-depth assessment of the associated issues."*

SLR Response: As confirmed by PASA the scope of the EIA is aligned with the early-phase exploration as proposed by Rhino Oil and Gas. SLR will assess the impacts of the proposed early-phase exploration work programme.

It is not possible to provide an informed assessment of potential future impacts where the proponent has no idea of the project plan, the methodology or the locality. The scope of the current EIA is therefore linked and limited to the early-phase exploration work programme.

5.4.3 ISSUE 3:

Many I&APs have asked why the current Strategic Environmental Assessment (SEA) for Shale Gas Development in the Karoo is not applicable to all areas of South Africa. Moreover, I&APs have demanded that all exploration right applications and related EIA processes be stopped until the SEA is complete. What is PASA's response in this regard?

PASA Response: *"The scope and terms of reference for the SEA are finalised and the assessment has commenced. Queries on the SEA should be directed to the Department of Environmental Affairs as the driver of that process."*

SLR Response: The following is taken from the official website for the Strategic Environmental Assessment (SEA) for Shale Gas Development in South Africa (<http://seasgd.csir.co.za/>):

The South African government, through Cabinet and various other decision-making institutions, has made high-level public commitments to shale gas exploration. If the exploration phase occurs and yields successful hydrocarbon deposits and gas-flow regimes, it is a reasonable assumption that Government would consider development of those resources at a significant scale. DEA, along with other relevant authorities, need to be in a position to make decisions relevant to that choice in a timely and responsible fashion.

Although a substantial amount is already known about shale gas development and its consequences based on experience from around the world, very little is known about the industry in the South African context, which makes information very hard for decision-makers and stakeholders to evaluate. In order to make well-informed decisions and have some hope that decisions will be broadly accepted by stakeholders as credible and legitimate, a structured and transparent process of information sharing and scientific assessment needs to take place.

The mission statement of the SEA is “to provide an integrated assessment and decision-making framework to enable South Africa to establish effective policy, legislation and sustainability conditions under which shale gas development could occur.”

The Strategic Environmental Assessment (SEA) for Shale Gas Development is being undertaken by a team led by the CSIR. The project has a public participation component and the public are encouraged to participate.

The scope and study area of the Karoo SEA is linked to a specific geographic area which was defined based on the extent of applications for exploration rights made by three applicants [Falcon (x1), Bundu (x1) and Shell (x3)]. It is stated on the website that: *“Considering that PASA’s sweet spot reserve estimates are succinctly aligned with the current Exploration Right applications from Falcon, Bundu and Shell, this region represents the obvious area to initiate the first pass SEA process.”*The geographical extent of the SEA (copied from the website) is depicted in the image below.

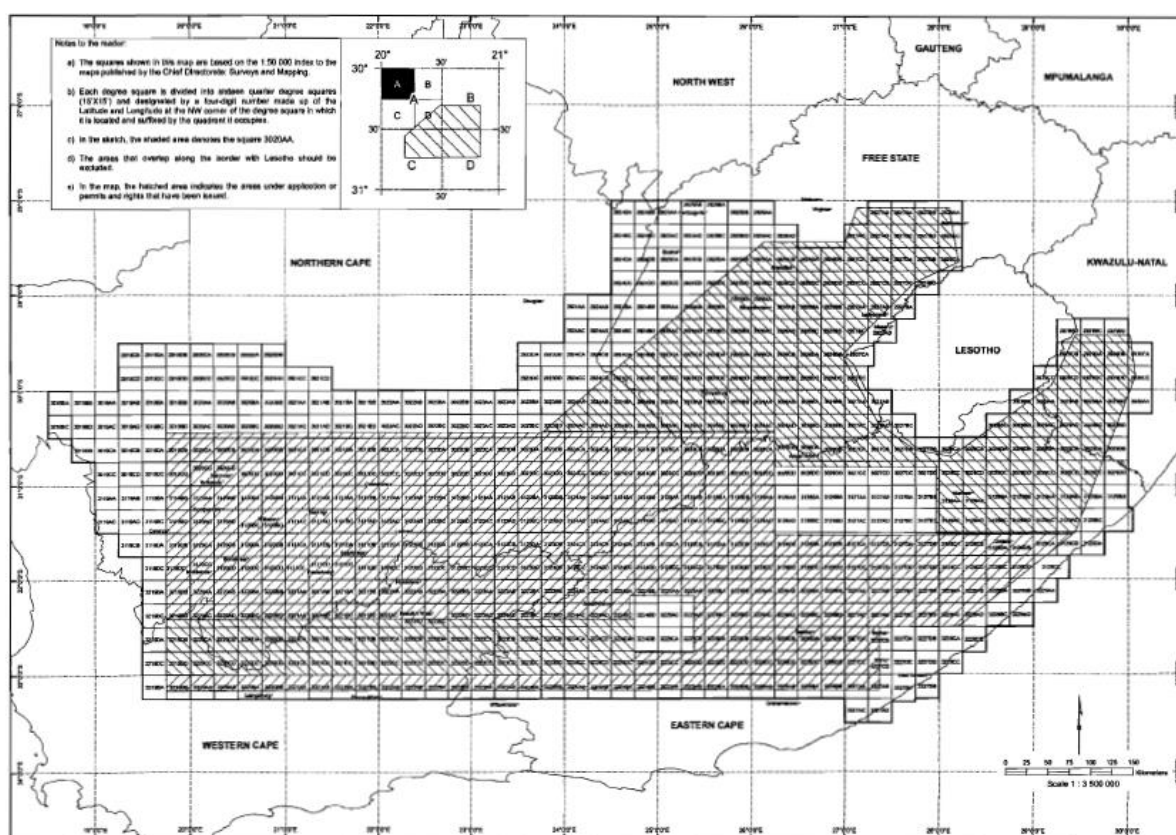


FIGURE 5-3: ANNEXURE A FROM GN 54 OF 2011

The effect of the moratorium is that all applications within the moratorium area are placed on hold (presumably until the SEA is completed). The moratorium remains in place. Conversely, any applications outside of the area defined in the notice are not under moratorium and must be processed as per the legislated requirements and timeframes set out in the MPRDA. The application made by Rhino Oil and Gas is outside of both the SEA study area and the moratorium area.

While the outcomes of the Karoo SEA may be applicable to all shale gas development in South Africa, the defined scope of the study area is limited. There is strong argument that study area of the Shale Gas SEA should be aligned with the full geological extent of areas with shale gas potential and not limited to a geographical area. In this regard the advice of SLR to the responsible authorities is to consider expanding the study area of the Shale Gas SEA. SLR also advises the public to motivate to the Department of Environmental Affairs for the study area of the Shale Gas SEA to be expanded.

5.4.4 ISSUE 4:

Most I&APs have argued that the time available in the current EIA schedule is insufficient to allow for the required public consultation for an application area of such large extent. Will PASA grant an extension of time within the EIA process to allow the project to respond to these issues and adjust the public participation process accordingly?

PASA Response: *“The Agency can consider requests received in writing from the EAP or applicant to extend the timeframe provided that the requests comply with the provisions of the EIA Regulations.”*

SLR Response: In terms of the EIA Regulations 2014, an applicant must within 44 days of receipt of an application by the competent authority submit the Scoping Report, which has been subject to a public participation process of at least 30 days. This effectively leaves only 14 days to prepare the Scoping Report, consider and respond to all comments received and submit the revised Scoping Report to PASA.

Since the timing stipulated in the EIA Regulations 2014 is considered inadequate for a project of this nature, SLR advised Rhino Oil and Gas in July 2015 to submit a written motivation to PASA requesting a delay in the submission of the application for environmental authorisation, so that a pre-application phase could be undertaken to allow for a more comprehensive public participation process to be included in the Scoping Phase. PASA agreed to the extension and required that the application for environmental authorisation be submitted in November 2015. Unfortunately much of this time was not available to SLR as the applicant was responsible for procuring data (e.g. property data) which was required for the process. This was provided late to SLR, thus reducing the time available. SLR commenced with a pre-application phase in September 2015, which included the distribution of a BID for comment and public meetings (see details in Section 5.2).

The response from I&APs to this initial consultation was a demand that more time be provided in the scoping schedule and for consultation to be augmented to reach the full range of potentially affected parties. In order to incorporate further public interaction and investigation to augment the scoping process, SLR applied to PASA for an extension of time available in the scoping phase. In December 2015 PASA granted a 16-week extension for the scoping process, with the requirement that the final scoping report be submitted to PASA by the 20th April 2016.

5.4.5 ISSUE 5:

I&APs raised the concern that many sites within the application areas are either protected outright or incompatible with exploration and/or the production of oil and gas and that legislation prevents such work from taking place in these areas. The question has been asked “why undertake an EIA to obtain exploration rights in areas where any gas, if it were to be found, would not be able to be extracted because of the restrictions imposed by protected area legislation and Regulation 122 of the Petroleum Regulations (GN R 466 of 2015) relating to the location of wells?”. The demand is that the application be stopped, all of the future non-compatible/unlawful areas removed and then a new EIA be commenced for the revised area. What is PASA’s response in this regard?

PASA Response: *“The EAP has the responsibility to identify environmental attributes; to assess the risks and impacts and provide appropriate mitigation measures. In doing so the EAP has the obligation to consider and apply the provisions of the relevant environmental legislation. PASA, as the regulator, has*

no authority to direct the EAP or applicant to stop the EIA or to remove incompatible areas. The application will be evaluated in line with the provisions of NEMA and other relevant legislation. The Agency will make recommendations that will be aligned with the relevant provisions to ensure that specified environment receives the necessary protection.”

SLR Response: Rhino Oil & Gas has indicated that they are reviewing the application area (currently under revision by their surveyors) to exclude all properties where the granting of an exploration right is prohibited by Section 48 of the MPRDA including:

- as per section 48 of the Protected Areas Act (57 of 2003), special nature reserves, national parks, nature reserves, protected areas or protected environments (including world heritage sites, marine protected areas, specially protected forest areas, forest nature reserves and forest wilderness areas)
- land comprising a residential area;
- any public road, railway or cemetery;
- any land being used for public or government purposes or reserved in terms of any other law; and
- areas identified by the Minister by notice in the Gazette in terms of section 49.

A revised plan as required by Regulation 2(2) will be prepared by the applicant's surveyors. Overall this will not make a significant difference to the application area as the majority of these were excluded in the original area.

Rhino Oil & Gas further advised SLR that they will not be excluding properties or areas where a constraint may restrict exploration activity (current or future), but does not specifically prohibit the granting of an exploration right. See Section 1.3 for an explanation of the exploration process and the motivation made by Rhino Oil and Gas for retaining these areas in order to develop the regional geological picture required for early-phase exploration.

Rhino Oil & Gas indicated to SLR that it will ensure that all of its activities are undertaken in a lawful and environmentally responsible manner. It is the role of the EIA process to identify all such constraints and restrict or prohibit exploration activities through documented management commitments. An example of a constraint which prohibits specific exploration activities in certain areas, but does not prohibit the granting of a right is Sections 122 (2) and (3) of the Regulations on Petroleum Exploration and Production (GN R 466, June 2015). These restrictions prohibit “well sites for Hydraulic Fracturing operations” and “wells” within set distances from specific water resources. The term “well” is defined in the Regulations. The restrictions do not apply to stratigraphic core holes (defined separately) or seismic testing as is proposed by Rhino Oil and Gas. SLR will identify and document the relevant constraints in the EIA. Measures to restrict exploration activity in line with the constraints will be defined in the EMP.

B. KEY ISSUES RELATED TO THE PROPOSED WORK PROGRAMME AND CURRENT EIA

The issues and concerns described below are considered, and responded to, in regard to the early-phase exploration work programme as proposed by Rhino Oil and Gas.

5.4.6 OPPOSITION TO THE PROJECT

The great majority of I&APs that have participated in the EIA process have expressed their opposition to all forms of oil and gas exploration in KwaZulu-Natal and to this application in particular. This opposition is documented in the minutes of the public meetings and in a large percentage of the correspondence received to date. There have been numerous requests and appeals to Rhino Oil and Gas to withdraw their application in the face of this public opinion. It is thus evident that public opinion on whether the project should be approved is a resounding “no”.

The reasons for the public opposition are varied and in many cases are not explicitly stated or articulated in the submissions. SLR does not find it possible to adequately explain the nuances/reasons/motivation for the opposition, as much of this is deeply personal to each I&AP. Provided below is a brief summation of the major themes of the public opposition.

- Concern, even fear, of the future risks that might arise from production should a resource be found. Production, and shale gas fracturing (fracking) in particular, has huge risks to society and the environment and should not be entertained in any form. There is a significant body of evidence from around the world (not least that fracking is banned in a growing number of countries and territories) that fracking results in unacceptable risks to surface and groundwater resources and human health. Such risks are borne by the landowners and local communities who do not participate in the economic benefits that accrue to the right holder and government. While there may be a consumer driven need for hydrocarbons, the risks and costs to society and the environment far outweigh the benefits. There is a lot of evidence of the risks and costs and little evidence that gas production can consistently be undertaken in a safe manner. For this reason I&APs argue that the project should not be approved.
- Concern that given the money involved, if any hydrocarbon resource is found, it will not be possible to stop production regardless of what the future EIA processes may indicate in terms of risk. Thus the only way to avoid such risks is to not open the door to such projects. In addition to the argument presented above there is an opinion that oil and gas industry has a reputation for massive financial contributions, bribery and conspiracy with governments. It is evident that the large amounts of money involved in the industry are such that governments have traditionally and will continue to favour the needs of the oil and gas industry. The substantial, often short-term, economic benefits that are likely to be derived ‘blind’ government to sound decision making and it is the landowners and local communities who will bear the risks. The South African government

has been associated with a number of financial scandals, providing scant comfort for the integrity of the legislation. In order to prevent any such risks it is best not to begin exploration as once the economic value is known, the greed of the participating parties will make it very difficult to stop production, despite the known risks. For this reason I&APs argue that the project should not be approved.

- Hydrocarbon based energy is a flawed concept and countries are moving away from new hydrocarbons in favour of a renewable energy system. The extraction of hydrocarbons from the earth and their subsequent processing and combustion for human energy needs is the major driver of global warming and climate change. The global community has acknowledged the risk that these place on the planet and humans. Vast amounts of money and effort are being directed to avoid further climate change. The global community has further agreed on the need to move away from hydrocarbon based energy toward more sustainable sources such as renewable energy. Despite gas being cleaner burning than coal and thus considered by some as a transition fuel, the argument is that any continued development of hydrocarbons is counter to the renewable energy path. South Africa has various policies that support the implementation of renewables into the energy pool. For this reason I&APs argue that the project should not be approved.
- A deep mistrust of government institutions and the true motives and people behind such an application. Whilst the exploration right application and EIA processes are set out in legislation, there is a deep mistrust of how these processes are implemented and who the real beneficiaries are. Many people have voiced suspicion that National government has committed to pursue gas extraction and will do so despite public opinion or the findings of an EIA. There is also general suspicion that high ranking political figures and connected families are involved. The South African government and various figures have been associated with a number of financial scandals. There is an expectation that Rhino Oil and Gas (a two person company) are not making the application without some form of support from such parties. Lastly there is a suspicion that Rhino Oil and Gas would ultimately sell the right onto such parties, who would likely ignore the commitments and legislation in the pursuit of profit. For this reason I&APs argue that the project, which has risks and could lead to even greater risk in the future, should not be approved.
- Significant doubt over government's ability to enforce compliance to the legislation. Some participants accept that the EIA process must take place in terms of legislation and expect that the EIA and EMPr will provide for reasonable measures to manage and mitigate risk. Thus in theory the exploration project could be undertaken without unacceptable risk to health and the environment. The concern however, is that there is little to no enforcement of compliance during operations. The result is that rights holders can and will do what they want with little regard for landowners and local communities who will bear the brunt of negative impacts. For this reason

the project, which has risks and could lead to even greater risk in the future, should not be approved.

- South Africa does not understand Shale Gas risks and the necessary legislative framework to protect the environment is not in place. As is acknowledged through the Shale Gas SEA, very little is known about the industry in the South African context. In order to make well-informed decisions and have some hope that decisions will be broadly accepted by stakeholders as credible and legitimate, a structured and transparent process of information sharing and scientific assessment needs to take place. Given this it is non-sensical to allow some exploration applications to proceed in parallel to the SEA and moratorium on other applications. The moratorium should apply to all areas and all forms of onshore exploration. For this reason I&APs argue that the project should not be approved.
- Lack of understanding of how an exploration programme is undertaken and what is actually being authorised. Many people have expressed concern that the current application process, despite only assessing 'early-phase exploration', will provide a blanket authorisation to the full ambit of activities that occur through oil and gas production. They claim that the applicant is intentionally not providing any information on their future plans or the risks that could arise from these. Without detailed information on the future activities and risks thereof it is not possible for I&APs to make informed input into the EIA. I&APs argue that the application and EIA process should therefore not be allowed until such time as all of the future intentions are declared and the information is available for these to be assessed.

Response: Overall the public opposition makes for a very strong argument against the application and the process. Regardless of the reasons and motivation, the fact remains that the majority of I&APs participating in the EIA process are opposed to the project. Although it is noted that that not every I&AP has been opposed to the application, with a small percentage have expressed interest in knowing the outcomes of the exploration or being able to participate in the benefits. If the EIA process were simply a democratic process then the majority vote is clearly "no".

As the EAP, SLR has never before encountered such a united and passionate opposition to a project from such a broad range of I&APs. It is vital that this public opinion is taken into consideration through the EIA process, by the applicant and by the decision makers.

5.4.7 IMPACT ON ECOLOGY

The region is host to a number of sites and habitats of ecological value or which are sensitive as a result of the presence of species of conservation concern. I&APs have questioned whether Rhino Oil and Gas

is aware of these areas and why are they not being excluded from the application area. During exploration impacts to the ecology could include:

- Loss of or disturbance to vegetation, including species of conservation concern, from vehicles traversing areas or on-site activities;
- Disturbances to fauna, particularly species of conservation concern, as a result of on-site activities; and
- Enabling the establishment of alien and invasive species in disturbed areas.

The potential impact on water resources is discussed separately below (see Section 5.4.8 and 5.4.9).

5.4.7.1 Loss of or disturbance to vegetation and faunal habitats

Issue: Vegetation would need to be cleared and/or disturbed as a result of the proposed activities, including the possible creation of new access routes / tracks, establishment of work platforms for drilling, etc. The clearing of vegetation and exploration activities may result in the loss or disturbance to habitats of faunal significance.

Response: The maximum cumulative extent of the total exploration area that would encounter physical on-site activity over the 3 year period would be less than 50 ha (sum of seismic and core hole footprints). Of this only an estimated 6 to 10 ha would be subject to significant disturbance from exploration activities (i.e. less than 0.001 % of the surface of the exploration right area).

Vegetation cover and soil structure would only be disturbed on a small portion of each drill site. A typical diamond core drill rig and equipment requires an operating area of approximately 1 200 m² (i.e. 0.12 ha), with approximately 100 m² forming the central working platform and the balance used for equipment storage, staging and parking. Similarly for seismic surveys, significant disturbance to vegetation is limited to the actual site of the seismic source (shot hole or vibroseis plate). The disturbance footprint is seldom wider than 3m. Thus the extent of vegetation exposed to these risks is very limited. The balance of the disturbance is transient with vegetation trampling being the most prominent disturbance. Access would, for the most part, take place on existing roads and tracks. If appropriate mitigation measures are not put in place and there is inadequate on-site management such impacts could be residual and long lasting. Such impact would be of concern if drilling or seismic sites were located in areas where sensitive natural vegetation or plant species of conservation importance occur, or if exploration takes place in important faunal habitats.

Since the exact location of an exploration site is flexible and can be adjusted to accommodate environmental sensitivities, impacts on ecological resources (including vegetation, faunal habitat, etc.) can generally be avoided or reduced with the placement of activities on sites that are not sensitive and do not have sensitive natural vegetation. Thus it is recommended that prior to final site selection of the seismic lines or drill sites a detailed site assessment is undertaken by a suitably qualified ecologist /

botanist. The final site location should, if necessary, be adjusted to avoid identified sensitive vegetation types or faunal habitats. The final site plan should be submitted to PASA for approval. The specific requirements for such detailed site assessments will be identified in the EIA phase as part of a specialist biodiversity assessment (see Section 7.5.1). These specific requirements will be included in the EMPr.

Additional mitigation measures to minimise the potential impact of loss of and damage to vegetation that will be considered for inclusion in the EMPr include:

- Implementation of buffers (no-go areas) around sensitive areas;
- Minimising the extent of any vegetation clearance by having clearly demarcated work areas;
 - Trees that are larger in diameter than 20 cm should not be felled; and
 - Leave in place smaller vegetation, topsoil, root stock, seeds and endangered or protected species and species used by local communities for commercial or subsistence use (identified in the detailed site assessment);
- Not clearing of vegetation for seismic lines or cutting seismic lines by hand to minimise disturbance;
- Use a seismic method that would be least likely to cause impact to natural vegetation;
- Use existing access routes as far as is possible; and
- Rehabilitation of disturbed areas. Where surface areas have been disturbed (by vehicle tracks, shot holes, work platform, etc.) rehabilitation would be undertaken to re-establish the pre-exploration land use. The pre-exploration land-use would be determined during the detailed site assessments, which would be undertaken when finalising the location of each seismic line or drill site. Rehabilitation will be detailed in the EMPr.

Risks to the natural vegetation and sensitive faunal habitats are further reduced due to the following:

- The exploration right area excludes protected areas (refer to Section 5.4.14 for details); and
- Rhino has not applied for environmental authorisation for those listed activities that apply to the clearance of indigenous vegetation. Thus Rhino would not be permitted to clear more than 1 ha of indigenous vegetation or an area of 300 m² or more within, *inter alia*:
 - > Community Conservation Areas;
 - > Biodiversity Stewardship Programme Biodiversity Agreement areas;
 - > Within any Critically Endangered or Endangered ecosystem listed in terms of Section 52 of the NEMBA;
 - > Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;
 - > On land zoned open space, conservation or had an equivalent zoning;
 - > A protected area identified in terms of NEMPAA, excluding conservancies;
 - > World Heritage Sites;
 - > Areas designated for conservation use in the SDF adopted by the competent authority or zoned for a conservation purpose; and

- > Sensitive areas as identified in an Environmental Management Framework as adopted by the competent authority.

5.4.7.2 Disturbance to and mortality of fauna

Issue: In addition to the indirect impact on fauna as a result of loss or damage to natural vegetation (faunal habitat), animals in the vicinity of exploration activities may be affected by increased human presence/activity, and increased noise and vibration generated by vehicles, shot hole drilling and the use of explosives or vibroseis. Some areas are host to species of conservation concern which are often more sensitive to disturbances.

Response: It is acknowledged that some of the natural habitats within the region host a wide variety of faunal species with a number of these species being protected or of conservation importance. Some may not be tolerant of disturbance, particularly during breeding, while others may be range/habitat restricted.

Several studies indicate that noise/vibration has a negative impact on wildlife, mostly observed as behavioural changes including startle and alarm response, with animals moving away from a source of noise and activity (particularly mobile species such as birds, large snakes and medium-sized mammals). However, many reptiles and small mammals (rodents and insectivores) may hide underground and may be directly impacted by site clearing. Others may not be able to move out due to a lack of alternate habitat.

Drilling noise and vibration caused by detonation of explosives in shot holes or vibroseis could affect sensitive species, forcing individuals to move away from the source. Some may abandon their shelters. However, most animals would return to the area after the noise or disturbance has ceased, which would be within a day in the case of a seismic survey and within a few weeks for each core hole. Noise and other disturbances as a result of the proposed exploration activities would be unlikely to alter feeding and breeding behaviour or displacement of animals from their preferred habitats, as it would not be of sufficient duration to cause species not to return in the short-term. Provision would need to be made prevent disturbances for specific instances (e.g. breeding cranes).

In addition to disturbance of faunal movement, direct mortality could result from the proposed activities. Those species that cannot effectively vacate the area by themselves may suffer direct mortality due to increase traffic, site clearing or detonation of explosives. Explosives would only be detonated under strictly controlled circumstances (including ensuring through visual checks that the area is clear) and injury or mortality of livestock and game is highly unlikely. However, as seismic surveys involve the generation of subterranean energy waves, burrowing animals may be particularly vulnerable to effects. Mortality of burrowing fauna could result from direct injury due to energy sources or burrow collapse, or from indirect reasons due to physical impairment (e.g. inability to forage, increased predation) or

emigration. Monitoring studies have, however, found that although small mammal activity (burrows) may decrease in the seismic corridor just after a seismic survey, there is no long-term impact to the habitat or on small mammal species (Fiehler *et al.* 2014). Other studies (Cypher *et al.* 2012) found there to be no adverse impacts on the animal studied (kangaroo rat) and it was concluded that this, in part, could be as a result of the mitigation measures implemented.

Mitigation would primarily be through a detailed site assessment undertaken by a suitably qualified ecologist prior to final site selection of the drill sites or seismic lines. Other mitigation to minimise the impact on terrestrial fauna that would be considered for inclusion in the EMPr include:

- Restricting vehicle activity (especially vibroseis trucks) to existing roads, as far as possible;
- Implementation of buffers (no-go areas) around sensitive faunal habitats;
- Scheduling operations during least sensitive periods, avoiding migration, nesting and mating seasons;
- Ensuring the charge is small enough and deep enough to avoid sink holes or cratering;
- Ensuring that misfired charges are disabled and removed;
- Avoiding using vehicles and vibration baseplates on soft ground if compaction is a risk; and
- Imposing and enforcing speed limits.

5.4.7.3 Enabling the establishment of alien and invasive species in disturbed areas

Issue: The establishment of alien and invasive plant species may be enabled by disturbances to the natural vegetation. Thus vegetation clearance and soil excavations during exploration could be the catalyst that enables alien and invasive plant species to colonise or proliferate in new areas. The introduction of alien invasive vegetation could occur as a result of vehicular traffic and the import of materials. Many of these activities happen regularly as part of daily activities in the region.

Response: Alien and invasive plant species occur widely in the region and are known to have impacts on natural vegetation, water resources and fauna. As indicated in Section 5.4.1.1, it is estimated that only 6 to 10 ha would be subject to actual disturbance from exploration activities (i.e. less than 0.001 % of the surface of the exploration right area). Thus the extent of disturbed areas vulnerable to colonisation by alien and invasive plants is very limited.

Indirect impacts on natural vegetation from the inadvertent introduction of alien vegetation (through imported material / seeds or vehicles brought in from other areas) can be adequately managed through implementation of an alien eradication / monitoring programme. The specific requirements for an alien eradication / monitoring programme will be identified in the next phase of the EIA as part of a specialist biodiversity assessment (see Section 7.5.1). These specific requirements will be included in the EMPr.

5.4.8 IMPACT TO GROUNDWATER

Most agricultural activities in the region use groundwater and may be partly or wholly dependent of groundwater. Many rural houses obtain potable water from groundwater. Some of the smaller towns operate municipal wellfields as a water source. In some catchments in the region the groundwater is fully allocated and there is no water available for new users, unless such water is reallocated from an existing user. Groundwater can, therefore, be viewed as a critical resource. Any changes to the quality or quantity of water in near surface aquifers may affect local, adjacent and even distant users who rely on groundwater for domestic and agricultural use.

5.4.8.1 Altered hydrogeological regime and groundwater availability

Issue: Activities during exploration, including shot hole preparation and core hole drilling, might involve interaction with groundwater that could impact groundwater availability.

Response: Groundwater levels in the application area are likely to vary significantly, but on average are likely to be approximately 10 m to more than 30 m below ground level. Shot holes would be drilled to a depths of between 5 m and 80 m below ground level. In some places they may therefore reach the water table. If in isolated instances shot holes are drilled in areas where the water table is shallower and intercept groundwater, it may result in a vertical flow of groundwater into the borehole. However, shot holes would immediately be backfilled (before detonation), which would reduce the risk of this occurring. The explosive charges would be small and are not designed to cause damage or break open rock, just to create a sound wave. Any impact and changes in aquifer porosity would be extremely localised (at most only a few square metres around the shot hole) and would not impact on the much larger and extensive surrounding aquifers. The placement of shot holes at suitable buffer distances away from existing boreholes would prevent impacts on those holes.

Core holes would be drilled to depths of up to 3000 m and would intercept groundwater if aquifers are present. The drilling of the core hole creates a direct conduit (of very small diameter) that connects the rock strata from higher up to the bottom of the hole. Groundwater in different stratigraphic aquifers could theoretically flow via this conduit from one aquifer to another, potentially affecting the availability and quality of water in these aquifers. If a core hole is abandoned without proper plugging this flow could continue.

In reality the core holes would be few, of small diameter, widely distributed across large areas and could not easily transfer significant volumes of water. There would also need to be a significant pressure differential between connected aquifers to cause movement, which is unlikely. There would not be any active introduction of materials, no extraction of water, nor any stimulation of the formations via these core holes. During drilling the upper sections of the core holes would be cased and grouted for stability and to close off the near surface aquifer. Core holes would also be backfilled with cement on completion.

There is, therefore, very little opportunity for cross connection between aquifers and changes in water availability are not expected.

Since the exact location of a site is flexible and can be adjusted to accommodate environmental sensitivities, impacts on the groundwater can generally be avoided with the placement of activities outside of areas that are not considered suitable on the basis of the specific groundwater resources on site. Thus it is recommended that prior to final site selection of the seismic lines or drill sites a detailed site assessment is undertaken by a suitably qualified geohydrologist. The final site location should, if necessary, be adjusted to avoid identified sensitive groundwater resources. The final site plan should be submitted to PASA for approval. The specific requirements for detailed site assessments will be identified in the next phase of the EIA as part of a specialist groundwater assessment (see Section 7.5.2). These specific requirements will be included in the EMPr.

Other mitigation to minimise the impact on groundwater resources that will be considered for inclusion in the EMPr include:

- Casing of core holes through the aquifer layers;
- Adequate sealing and plugging of core holes after drilling; and
- Monitoring of groundwater (level and quality) in active water boreholes in close proximity to exploration boreholes must be considered.

Also see Section 5.4.9.1 for possible impact on boreholes due to vibrations.

5.4.8.2 Contamination of groundwater resources

Issue: Contamination of groundwater could occur as a result of the use of drilling fluids during core hole drilling, and accidental spillages and leaks.

Response: Very few or no drilling fluids would be used during drilling of the seismic shot holes. Shot hole drilling will be by means of normal rotary air-percussion, i.e. the same method used for most of the water boreholes drilled in the area. Thus there would be no contamination of groundwater from drilling.

Drilling of core holes would, however, require the use of some drilling fluids and lubricants in order to maintain cooling and lubrication of the bit and to return the fine drill cuttings to the surface (these are not fracking fluids). The drilling fluids could mix with groundwater encountered down the hole until such time as the hole is cased and grouted. The upper aquifers would be exposed to the drilling fluids for the shortest periods as the upper section of the hole is cased and grouted early in the drilling process. Drilling fluids unlikely to have a significant effect on groundwater quality for the following reasons:

- The drilling additives used are largely not hazardous and/or are bio-degradable (these are not fracking fluids);
- Drilling additives are relatively diluted in the drilling water (<3%);

- Fluids are designed to not move far from the drilling hole unless very poor formations or large cracks are encountered;
- A 'mudcake' of drill cuttings seals most of the drilled formations even during drilling;
- Drilling fluids are only used for a short period while the hole is being drilled;
- The total volume of drilling fluids is very small in comparison with any aquifer volume; and
- Return water and drilling fluid would be managed in above surface sumps.

Contaminants could also potentially enter the core hole from accidental situations, and would be introduced directly into the aquifer with limited opportunity for natural filtration by soils or geologic materials. Leaks and spills from vehicles, machinery and handling of potential pollutants (e.g. fuel and lubricants) during activities in the field could potentially contaminate groundwater resources through infiltration. If a contamination incident occurs it could put other boreholes in the same aquifer at risk, particularly those boreholes on the same property or those that are close to the core hole. Although it is not possible to predict the quantities of potential contaminants that may be accidentally released into the environment, periodic leaks and spills, should they occur, are likely to be very small. The placement of core holes at suitable buffer distances away from existing boreholes would prevent impacts on those holes.

Mitigation to minimise the contamination of groundwater resources that will be considered for inclusion in the EMP include:

- Declare all drilling additives and the quantities to be used prior to use;
- Choose the least hazardous and/or are bio-degradable additives and use the smallest volumes of these;
- Appropriate management and disposal of drilling fluids on surface;
- As a precautionary measure, implement a buffer (no-go area) between shot holes / core holes and active water production boreholes. An appropriate buffer would need to be determined;
- Adequate maintenance of vehicles and machinery;
- Implementation of an adequate waste management plan;
- Good housekeeping practices (including spill prevention and response);
- Appropriate handling and storage of fuels and hazardous materials (e.g. explosives); and
- Monitoring of groundwater in active water boreholes in close proximity to exploration boreholes must be considered.

5.4.8.3 Water consumption

Issue: Water would be required for the operation of the core hole drilling rig. In some catchments in the region the water resource is fully allocated and there is no surface or groundwater available for new users, unless such water is reallocated from an existing user. Exploration will therefore compete with farmers and other users.

Response: The total volume required for core hole drilling depends on the formations encountered, but is estimated to be less than 5 000 L per day. For an average of 20 days of drilling, the total water use per hole is likely to be less than ~100 000 L. The drilling of up to 10 holes would thus consume less than 1 000 000 L from an area of > 1 500 000 ha over a period of many months. At a regional scale this water use is insignificant. However at a local scale, in terms of existing allocations and in times of drought the water use could be significant. The water could lawfully be acquired from a supplier, abstracted from an existing borehole or a local surface water resource (e.g. river or dam). Given the expected water volumes, it is not anticipated that Rhino Oil and Gas would require authorisation in terms of the NWA.

Mitigation to ensure the lawful use of groundwater resources that will be considered for inclusion in the EMPr include:

- Water must be sourced in a lawful manner and without comprising the rights of any existing user.
- Any abstraction from an existing borehole or surface resource must be undertaken with the landowners' consent;
- Water use must be minimised; and
- Water separation / recycling mud systems should be considered for use.

5.4.9 IMPACTS ON SURFACE WATER

Surface water is found in springs, seeps, wetlands, pans, dams and water courses. Surface water in the area is used locally for livestock watering and in ecological services. Baseline water quality in the area is generally good to very good. The region comprises the headwaters of a number of very important river systems which supply large quantities of water for human consumption, agricultural and industrial use. In fact these areas generate the water that supplies the major centers of KZN including Pietermaritzburg and eThekweni. In some catchments in the region the water is fully allocated and there is no water available for new users, unless such water is reallocated from an existing user. Surface water can, therefore, be viewed as a critical resource. Any changes to the quality or quantity of water in surface resources may affect adjacent users who rely on water for domestic, agricultural and industrial use.

5.4.9.1 Altered surface water hydrological regime

Issue: Potential changes to the surface water hydrological regime (surface flow, drainage patterns, sediment load and availability) could have secondary impacts on water users and terrestrial and aquatic environment.

Response: The proposed exploration activities are unlikely to have any real effect on the overall hydrological regime as the small footprint of the proposed activities would not alter natural surface drainage patterns. Since project activities would for the most part take place on existing roads and tracks, further surface disturbances that could affect surface drainage patterns (e.g. soil compaction or increased erosion) would be limited.

Although in almost all cases exploration sites/routes would be located where access is available, the seismic survey lines may be required to cross watercourses. Any activity that impedes or diverts the flow of water in, or alters the bed, banks, course or characteristics of a watercourse, requires Water Use Authorisation in terms of the NWA. Since the exact location of a site is flexible, the location of sensitive areas (including wetlands, rivers and streams) would be taken into consideration during the final site selection process. The final site location should be adjusted to avoid identified sensitive surface resources. The specific requirements for detailed site assessments during finalising of the seismic lines or drill sites will be included in the EMP.

Where surface areas have been disturbed (by vehicle tracks, shot holes, work platform, etc.) rehabilitation would be undertaken to re-establish the pre-exploration land use. The pre-exploration land-use would be determined during the detailed site assessments, which would be undertaken when finalising the location of each seismic line or drill site. The process of managing the impacts and rehabilitating the exploration sites will be detailed in the EMP.

5.4.9.2 Contamination of surface water resources

Issue: As for groundwater contamination, leaks and spills from vehicles, machinery and handling of potential pollutants (e.g. fuel, and lubricants) during activities in the field could potentially contaminate surface water resources. In addition, inadequate management of surface sumps could result in the contamination of surface water resources. The release of contaminants into water resources could result in a deterioration of water quality, limiting use by water users, as well as damaging aquatic ecosystems.

Response: Exploration requires the use of vehicles and equipment driven by engines using hydrocarbons (diesel). Some of the equipment has hydraulic systems with lubricants. Certain hazardous lubricants and chemicals may also be used and stored on site. Thus leaks and accidental spillages could occur from containers or during refuelling, which could in turn contaminate surface water resources through stormwater discharge into wetland, rivers and streams.

The overall volume of the high risk materials on-site during drilling would be relatively small (such materials are generally in 210 L drums or smaller) with no bulk containers on-site. Although it is not possible to predict the quantities of potential contaminants that may be accidentally released into the environment, periodic leaks and spills, should they occur, are likely to be very small. Adequate maintenance of vehicles and machinery, good housekeeping practices (including spill prevention and response) and the implementation of an adequate waste management plan would minimise any potential impact.

Return drill water would be managed in above surface sumps. Thus these surface sumps would also contain sediments, drilling fluids and possibly hydrocarbons at concentrations not suitable for release to

the environment. Inadequate management of surface sumps could result in the contamination of surface water resources.

Since the exact location of a site is flexible, it is recommended that exploration sites be sited away from watercourses/bodies. The specific requirements for detailed site assessments during finalising of the seismic lines or drill sites will be included in the EMPr.

Other mitigation to minimise the contamination of surface water resources that will be considered for inclusion in the EMPr include:

- The location of the surface sumps should also avoid surface water resources and should take the topography, natural drainage and site run-off into account;
- As a precautionary measure, implement a buffer (no-go area) between shot holes, core boreholes and sump ponds and surface water resources. An appropriate buffer will need to be determined;
- Adequate maintenance of vehicles and machinery;
- Good housekeeping practices (including spill prevention and response);
- Appropriate handling and storage of fuels and hazardous materials (e.g. explosives); and
- Implementation of an adequate waste management plan.

5.4.9.3 Water consumption

Refer to Section 5.4.8.3.

5.4.10 GEOLOGY

Issue: There is a remote risk that during exploration the drilling or seismic survey could destabilise certain geologies and pose risks to underground caverns or mine workings.

Response: The total number of exploration boreholes proposed for drilling (maximum of 10) is considered insignificant across the extent of the exploration area. The drilling would not impact on the geological strata in any significant manner. The sterilisation or damage to coal reserves during this early phase of exploration activities is highly unlikely due to the short duration of the exploration activities. Exploration drilling would not take place in areas where active underground mining is taking place. The drill rig would only be in place for a short period of time and there would be no permanent effects preventing future mining of any reserves. The steel casing and cement plugged holes would not pose a significant risk to future underground mining. Information on the locations of such boreholes would be on record with regulatory authorities and thus available to any future mining stakeholders. This risk is not different to that from the thousands of water and prospecting boreholes that occur across the exploration right application area.

The energy generated by a seismic source comprises a low frequency, long wavelength and is directed into the earth. The energy dissipates rapidly over a very short horizontal distance. The peak particle vibration (i.e. the measurement of ground vibration) from the seismic surveys is anticipated be less than 0.5 mm/s at a horizontal distance of less than 20 m. A preliminary review of the international literature has shown that such energy is not comparable to a natural seismic event such as an earth quake or tremor and is closer in magnitude to a person jumping or slamming a door (Matheson Mining Consultants, Inc). The surveys are, therefore, unlikely to result in vibrations that could initiate instability in sensitive lithology's and mine operations.

Seismic surveys would only be undertaken in areas where the seismic sensitivity is not a concern. Consideration would also be given during planning to dolomitic areas and those with known underground caverns. This issue related to faults and seismic sensitivity will be further investigated in the next phase of the EIA, where appropriate buffers / no-go areas will be considered.

5.4.11 SOILS

5.4.11.1 Physical impact on soils (increased erosion / compaction)

Issue: The exposure of soils through vegetation clearance and/or physical disturbance of exposed soils may increase the risk of erosion (by wind and water), while the repetitive movement of vehicles and machinery over such surfaces could compact soils. These impacts may collectively affect the surface hydrology, damage soil structure, reduce aeration, soil permeability, infiltration rates and water retention capacity, and retard the regeneration of vegetation. Reduced infiltration could also result in an increase in surface runoff, potentially causing increased sheet, rill, and gully erosion.

Response: Impacts to soils caused by the proposed exploration activities would be limited to the footprint area, which would for the most part be confined largely to existing roads, tracks and other previously disturbed areas (e.g. agricultural lands) already exposed to disturbance, compaction and at increased risk of erosion.

Vegetation cover and soil structure would only be disturbed on a small portion of each drill site. A typical core drill rig and equipment requires an operating area of approximately 1 200 m² (i.e. 0.12 ha), with approximately 100 m² forming the central working platform and the balance used for equipment storage, staging and parking. Thus the extent of soil exposed to these risks is very limited. In addition, the majority of exploration activities do not require the clearing of vegetation and thus there would be limited actual disturbance to soils and associated roots/seed.

Since the exact location of a site is flexible, the location of areas would be adjusted to avoid areas that are sensitive to compaction and erosion. Previously disturbed areas would be selected. The specific requirements for detailed site assessments during finalising of the seismic lines or drill sites will be included in the EMPr.

Other mitigation to minimise the impact on soils that will be considered for inclusion in the EMPr include:

- Restricting the movement of vehicles and people to previously disturbed areas (e.g. existing roads) as much as possible,
- Limiting and controlling the movement of people and vehicles over natural areas (i.e. site demarcation and the establishment of no-go areas);
- Minimise the clearing of vegetation cover;
- Ensuring the charge is small enough and deep enough to avoid cratering; and
- Rehabilitation of disturbed areas (including erosion control measures).

5.4.11.2 Potential contamination of soils

Issue: Leaks and spills from vehicles, machinery and handling of potential pollutants (e.g. fuel and lubricants) during on-site activities may potentially contaminate the soil.

Response: Exploration does requires the use of vehicles and equipment that use fuel. Some of the equipment has hydraulic systems with lubricants. Certain hazardous lubricants and chemicals may also be used and stored on site. Thus leaks and accidental spillages could occur from containers or during refuelling, which could in turn contaminate the soil.

The overall volume of the high risk materials on-site during drilling would be relatively small with no bulk containers on-site (such materials are generally in 210 L drums or smaller). Although it is not possible to predict the quantities of potential contaminants that may be accidentally released into the environment, periodic leaks and spills, should they occur, are likely to be very small. Adequate maintenance of vehicles and machinery, good housekeeping practices (including spill prevention and response) and the implementation of an adequate waste management plan would minimise any potential impact.

5.4.12 HERITAGE

Issue: Loss of or damage to heritage resources as a result of exploration activities. Many farms and communities in rural areas have graveyards located near to them. There are also many buildings, infrastructure and sites of cultural or heritage importance across KZN.

Response: The heritage resources of the application area include archaeological and palaeontological material and the built environment comprising historic towns and farm buildings. Heritage resources, including archaeological or palaeontological sites over 100 years and buildings, graves and other structures older than 60 years are protected in terms of the NHRA and may not be disturbed without a permit from the relevant heritage resources authority.

The amount of surface and subsurface disturbance is minimal during the exploration phase. Cultural resources buried below the surface are unlikely to be affected, while material present on the surface could be disturbed by vehicular traffic, ground clearing and pedestrian activity.

No exploration drilling or seismic survey would be allowed to take place near to known heritage sites. Site selection would thus take cognisance of all buildings and other known structures, which will include built heritage resources, as well as other known heritage sites.

Since the exact location of a site is flexible and can be adjusted to accommodate environmental sensitivities, impacts on heritage resources can generally be avoided with the placement of activities on sites that do not have any heritage resources. Thus it is recommended that prior to final site selection of the seismic lines or drill sites a detailed site assessment is undertaken by a suitably qualified heritage specialist. The final site location should, if necessary, be adjusted to avoid identified se heritage resources. The final site plan should be submitted to PASA for approval. The specific requirements for detailed site assessments will be identified in the next phase of the EIA as part of a specialist heritage assessment (see Section 7.5.3). These specific requirements will be included in the EMPr.

Additional mitigation measures to minimise the potential impact on heritage resources that will be considered for inclusion in the EMPr include:

- Consultation with the landowner prior to commencement may help to identify heritage site;
- Consultation with leaders and elders of rural communities may help to identify sites of cultural significance; and
- Implementation of buffers (no-go areas) around known heritage sites.

5.4.13 LAND TENURE AND ACCESS TO PRIVATE PROPERTY

Issue: The issuance of an exploration right would result in Rhino Oil and Gas holding a right that necessitates them to access private property in order to conduct exploration. Various queries were raised about how Rhino Oil and Gas would access the minerals on private land. Do land owners have any say with regards to access over their land for exploration? What would Rhino Oil and Gas do if the land owner denied access?

Potential impacts from the proposed exploration activities include:

- Access by exploration personnel onto private property;
- Creation of access routes onto land where none existed; and
- Potential change in land use value.

Response: Despite the issuance of an exploration right, the owner remains in control of the surface rights. A land owner has specific rights over land for which they hold title and is entitled to deny access to their land as this is private property. There would not be any change in land tenure.

Rhino Oil and Gas could not access any property without engaging with the land owner to agree terms and provide adequate notice. A written Access Agreement defining all relevant conditions would be concluded, giving the landowner opportunity to influence the location and terms of use. The MPRDA provides that a mineral right is a limited real right and sets out that the holder may enter the land to which such right relates together with his or her employees, and bring onto that land any plant, machinery or equipment and build, construct or lay down any surface, underground or under sea infrastructure which may be required for the purpose of prospecting, mining, exploration or production, as the case may be. Rhino Oil and Gas's stated approach is to negotiate with willing participants.

Land owners' should be aware that the right to access land is conferred to a mineral right holder in terms of Section 5 of the MPRDA. Rhino Oil and Gas indicated that any enforcement of these rights would only be undertaken if necessary and then in terms of the appropriate legislation (Sections 54 and 55 of the MPRDA).

At this stage the final seismic survey lines and boreholes sites have not been determined and would only be finalised during Year 2/3 of the work programme. The exact location on the ground is flexible and can be adjusted to accommodate local features, landowner' needs and environmental sensitivities. Ultimately, Rhino Oil and Gas want to develop and maintain good working relationship with all landowners and would want to make sure that they understand and are comfortable with the planned activities before any work commences. Any access and use of the land for exploration activities would thus be through an Access Agreement negotiated between the exploration right holder and the landowner (or lawful occupier as the case may be). Thus each landowner will have direct input in where exploration activity could take place on their land.

Access would largely be through existing routes and gates. New routes or gates would only be created in agreement with the landowner. Controlled access points would be locked at all times if that is what the landowner requires.

Activities for the early phase exploration are of short duration, limited extent and localised such that no real change to the land would occur. Unlike with mining there would not be disturbance or sterilisation of large areas of land. As such a change in land value is highly unlikely.

5.4.14 LAND USE

Issue: Exploration activities would occupy land area, which could have an impact on current land uses, e.g. farming, forestry plantation, mining, etc. Exploration activities would preclude other land uses for the duration of the drilling and testing period. Potential impacts include:

- Prevention or disruption of land user' activities;
- Impacts to crops, plantations, veld and livestock/game;

- Related loss of income; and
- Loss of productivity on disturbed land.

Response: The maximum cumulative extent of the exploration area that would encounter on-site activity over the 3 year period would be less than 50 ha. Of this only an estimated 6 to 10 ha would be subject to significant disturbance from exploration activities (i.e. less than 0.001 % of the surface of the exploration right area). At a regional level this is insignificant, although to an individual land owner it may have much greater bearing.

Core hole drill sites would occupy an area of approximately 1 200 m² (i.e. 0.12 ha). The drilling and testing period would only preclude other activities for a short period of a few weeks. Seismic surveying can require the use of an area of average of 3 m in width over many kilometres with regularly spaced drill sites. Shot hole or vibration sites are very small (< 50 m²) and would preclude other activities for a very short duration (hours to a few days). Thus any loss of land for farming activities would be highly localised and temporary.

The placement of the target sites/routes would be undertaken in consultation with the landowner/occupier to ensure that conflicting land uses are avoided where possible and disturbance to current land use activities are kept to a minimum. The primary target for any drilling site would thus be a previously disturbed area that is not currently being used for agricultural production. The use of any land for exploration activities would have to be through an Access Agreement negotiated between the exploration right holder and the landowner/occupier. Measures to ensure that any interference is avoided or minimised would be written into the agreement drawn up with each landowner and included in the final exploration plan. Thus the landowner would have direct say input where the exploration drill site is placed or not placed and the measures required to avoid or minimise interference. Refer to Section 5.4.7 above for further detail on access to land.

All disturbances occurring from exploration would be documented and the affected area returned to an agreed condition by the right holder. In most cases the effects of any disturbance would more than likely not be visible over a period of a few months.

Other mitigation to minimise the impact on landowners and current land uses that would be considered for inclusion in the EMP include:

- Possible exclusion periods to minimise the impact on current or planned land use activities (e.g. sowing, harvesting, etc.);
- Ensuring livestock is kept away from exploration sites (including temporary fencing and gates, established of buffers zones, etc.);
- Any loss of income would be determined between the landowner and the right holder and compensation agreed where necessary (see Section 5.4.15 for more detail on compensation); and

- Adequate and ongoing consultation with landowners and other mineral right prior to and during on-site exploration activities.

5.4.15 STRUCTURAL DAMAGE TO INFRASTRUCTURE

5.4.15.1 Vibrations

Issue: There are concerns that airblasts (airborne shock waves), air overpressure and ground vibration, generated by the underground detonation of explosives or Vibroseis used during seismic data acquisition, may cause structural damage to infrastructure, including buildings, groundwater boreholes or affect the stability thereof.

Response: The vibration energy of a seismic survey is of a low frequency, long wavelength and is directed into the earth. The energy dissipates rapidly over a very short horizontal distance. The peak particle vibration (i.e. the measurement of ground vibration) from the seismic surveys is anticipated be less than 0.5 mm/s at a horizontal distance of less than 20 m. As a comparison, guidelines for piling using a drop hammer (intermittent) and a vibratory rig (continuous) suggest keeping the peak particle vibration below 15 mm/s and 7.5 mm/s, respectively, in order to prevent damage to buildings (Maslin, 2015). The seismic survey vibrations being much lower than the piling standards are, therefore, unlikely to result in vibrations that could damage structures.

A preliminary review of the international literature has shown that in Australia the guideline limits for airblasts and ground vibration, as a result of a 800 g explosive charge detonated at 5 m depth, are reached at 116 m and 67 m from the shot hole, respectively (Umwelt, 2010). Singh *et al.*, 2007 found that a seismic shot using a large explosive charge (2.5 – 7.5 kg) in deep shot holes (9 – 15 m) had no effect to structures 20 m from the shot hole. The Canadian Oil and Gas Geophysical Operations Regulations (SOR/96-117) provide guideline stand-off distances for the safe operation of seismic surveys from a variety of facilities. These distances vary from as little as 15m to as much as 100m for different seismic sources. Other studies have proposed setbacks ranging from 50 m to 200 m from any buildings, groundwater boreholes, springs, water pipelines, power lines, etc. This issue will be further investigated in the next phase of the EIA and an appropriate buffer will be determined.

5.4.15.2 Degradation or damage due to exploration vehicles and equipment

Issue: Farmers have raised concerns about possible damage to infrastructure such as fences, gates, culverts, pipes and roads due to exploration activities. Accidental damage during exploration could occur as vehicles and equipment move on and between sites. Such damage has direct cost of repair/replacement as well as potential for significant loss of income due to the effects of such damage.

Response: Any use of land or infrastructure for exploration activities would be through an Access Agreement negotiated between the exploration right holder and the landowner/occupier. Thus the

landowner would have input into where exploration takes place and which infrastructure is used. Refer to Section 5.4.7 above for further detail on access to land.

Exploration would typically be planned to be located away from infrastructure and appropriate buffers would be applied. Any risks with regard to accidental damage can be minimised by maintaining a suitable buffer between the exploration site and the nearest receptor. Ultimately, if access by exploration personnel and equipment caused any degradation or damage, the right holder would be responsible for effecting satisfactory repairs.

This issue will be further investigated in the next phase of the EIA and an appropriate buffer will be determined.

5.4.16 NOISE

Issue: Primary sources of noise associated with the proposed exploration activities include vehicle traffic, seismic surveys (detonation of explosives) and drill rig operations. Increased noise levels may cause disturbances and nuisance to nearby receptors. The region generally has low ambient noise levels and exploration activities could change this, albeit for short durations.

Response: The noise generated by general operations (presence of vehicles and crew) would be similar in nature to farming operation, and would be transient, with exploration activities not fixed in location. Thus impacts are expected to be of low significance.

Drilling of shot-holes and core holes could introduce and increase noise levels for a slightly extended time period and could impact receptors. The detonation of seismic shots or Vibroseis trucks would also result in noise (a dull thud) which would be new and alter noise levels. Noise is known to attenuate with distance as well as due to other barriers and absorbing factors. Noise levels of shot would decrease rapidly with distance and is of very short duration. Noise impacts would occur where receptors were in close proximity to the source with nuisance levels at distances of up to 250 m.

Any risks with regard to potential noise impacts of drilling and shot blasts can be avoided completely by maintaining a suitable buffer between the exploration site and the nearest receptor. This issue will be further investigated in the next phase of the EIA and an appropriate buffer will be determined.

5.4.17 AIR QUALITY

5.4.17.1 Dust and vehicle emissions

Issue: Dust fallout resulting from the movement of vehicles to and from exploration sites on unsurfaced roads may contribute to elevated particulate matter levels in the air on a local scale. Emissions would also be generated by vehicles and other combustion-driven equipment (e.g. generators) that release

nitrogen oxides (NO_x), carbon dioxide (CO₂), carbon monoxide (CO) and volatile organic compounds (VOC).

Response: Dust is relatively inert, but high particulate levels can be damaging to health and vegetation. In terms of dust generation and emissions, the proposed exploration activities would be similar to any comparable operation involving similar vehicles and equipment and emissions would be very limited in both intensity and duration. With regard to seismic surveys it is estimated that approximately 10 km can be completed per day. Thus the potential impact would be temporary in nature.

The impact on air quality as a result of the proposed exploration activities would be managed through good maintenance of vehicles and machinery to minimise emissions. Dust generation can be controlled by imposing and enforcing speed limits on all unsurfaced roads and tracks. Note that spraying affected areas with water to control dust may not be possible or allowed due to water scarcity.

5.4.17.2 Escape or release of gas from exploration boreholes

Issue: Core holes drilled to the target strata could create the opportunity for gas to escape to the surface. The escape or release of gas from exploration core holes is of concern as methane (one of the main constituents of natural gas) is a relatively powerful green-house gas with a high global warming potential (23 times that of CO₂).

Response: If gas is present, the passive flow of gas up the core holes is expected to be unlikely/limited as the strata remain under pressure and much of the gas is adsorbed to the particle surfaces. However, the leak of gas could pose a safety risk and contribute to green-house gas emissions. Core holes would only be open for a period long enough to complete the drilling and downhole geophysics. If free flowing gas was detected then the holes would need to be plugged as a priority. The core holes are then sealed and plugged across the entire depth, which would ensure that no gas would escape. Thus emissions are not anticipated to have a measurable impact on climate change.

Air quality issues will be further investigated in the next phase of the EIA and an appropriate management will be determined.

5.4.17.3 Health risks from gas release in exploration boreholes

Issue: Core holes drilled to the target strata could create the opportunity for gas to escape to the surface. Gas that is released could be harmful to human health if exposure occurs.

Response: As indicated in the previous section there are not anticipated to be significant releases of gas and thus health impacts are not anticipated. Air quality issues will be further investigated in the next phase of the EIA and if health risks are identified then these will be considered further.

5.4.18 SAFETY AND SECURITY

5.4.18.1 Public safety

Issue: Public safety with widespread exploration in the region is a concern. Activities at exploration sites are potentially dangerous due to, *inter alia*, increased traffic volumes, heavy machinery, explosives, hazardous materials, release of gas etc. Thus member of the public could be injured if access to exploration sites is not controlled.

Response: Provision would need to be made to ensure public health and safety. Mitigation would largely involve excluding the public from sites where exploration is undertaken.

Any risks relating to drilling and shot blasts can be avoided completely by maintaining an appropriate buffer between the exploration site and the nearest receptor. It is recommended that no core hole drilling site be located within 200 m of a residence or within 500 m of a residential area. This issue will be further investigated in the next phase of the EIA and an appropriate buffer will be confirmed. Explosives would only be detonated under strictly controlled circumstances (including ensuring through visual checks that the area is clear) and injury or mortality of people is highly unlikely.

Other mitigation to minimise the impact on public safety that will be considered for inclusion in the EMPr include:

- Appropriate demarcation of sites (using temporary fencing or danger tape);
- Erecting signage (in appropriate languages); and
- Ensuring excavations are backfilled.

5.4.18.2 Landowner security

Issue: Concerns have been raised relating to safety and security on farms with many farmers having experienced a wide range of crimes against their property, possessions and persons. There is a concern that the increased numbers of people in the area as a result of the proposed exploration activities could exacerbate the situation, either through direct theft by contractors and staff or through undeterred access onto private land through gates that are left open or fences that are removed / damaged.

Response: Concerns regarding site access, trespassing and farm security as a result of exploration teams would be alleviated by developing relationships with individual landowners. All access to land for exploration activities would have to be through an Access Agreement negotiated between the exploration right holder and the landowner/occupier. The project is aware of the farm access protocol developed by Agri SA and will base any agreement on the principals provided therein. Thus any additional landowner requirements with regard to safety and security can be discussed during landowner negotiations prior to the start of exploration and written into the land use agreements with each landowner, as required.

Mitigation to minimise the risks to landowner security that will be considered for inclusion in the EMPr include:

- Avoiding the creation of new access points to farms, as far as possible;
- Ensuring the staff are under constant supervision and do not enter adjacent farms / residential areas under any circumstances except on official business; and
- Ensuring all gates are closed/locked and any fences that are damaged or may need to be removed are repaired / replaced immediately.

5.4.18.3 Fires

Issue: The extensive natural vegetation of the region provides high fuel loads for veld fires. The dry winters combined with high wind speeds provide an environment susceptible to fire. Veld fires can have a devastating effect on landowners with risks to human life and livestock, damages to infrastructure and loss of winter grazing.

Response: During any exploration activities Rhino Oil and Gas and its contractors would be aware of the risk of fire. The contractor would be required to comply with the requirements of the Veld & Forest Fires Act, 1998 (No. 101 of 1998) in terms of establishing contact with the Fire Protection Association and /or surrounding landowners. Environmental awareness training would specifically need to address fire risks. Measures would be put in place to assess the fire risk of all activities and reasonable preventative actions would be implemented where necessary. An emergency procedure for the control of accidental fire would also be put in place. Suitable insurance would be maintained by Rhino Oil and Gas.

5.4.19 CONTRIBUTION TO LOCAL ECONOMY

Issue: Contribution to the local economy could occur through the creation of direct employment opportunities and generation of direct revenues as a result of using local businesses for support services and supplies. On the other hand if the exploration detracts from or compromises the main attractions of the region then it could result in a reduction in external inputs to the local economy. The KZN Midlands has a well-developed eco-tourism industry that is dependent on the environmental assets of the region.

Response: Since economic growth and employment opportunities are depressed in many of the small towns within the exploration area, any potential stimulation of the local economy would result in a positive impact. However, since exploration is highly technical and requires specialised equipment and crews, job opportunities for local communities would be very limited. The small number people required and very short duration of each of the proposed exploration operations further limits opportunities. A staff of approximately five persons would operate a drill rig, while seismic survey teams would consist on between 15 and 25 persons. These are mostly persons with specific technical skills.

The employment and training of local persons, particularly Historically Disadvantaged Individuals, even for short-term jobs, would be encouraged by Rhino Oil and Gas and all of their sub-contractors. Where ever possible the materials and equipment needed to operate the exploration equipment and sustain the personnel would be acquired locally, thus providing some limited input into the local economy. Training and skills transfer should be ensured whenever possible.

The above potential contribution to the economy would also need to take into consideration any potential negative impacts, e.g. impacts on existing land uses (e.g. agriculture, mining, tourism). KZN has many well developed industries (agriculture, eco-tourism, forestry etc) which are dependent on the environmental assets of the region. The eco-tourism industry of the KZN Midlands is particulrly

dependent on the local environmental assets. Any significant impacts on the environmental assets of the region (as well as perceived impact) could have negative impacts on the industries that rely on these. Refer to Section 5.6.2 for a more detailed description of the impacts on existing land use.

5.4.20 COMPENSATION

Issue: Various queries were raised relating to compensation for: the minerals derived from the land; access to land; and the use of or impact to land.

Response: The MPRDA provides that all minerals vest with the State. Thus a landowner has no claim to the minerals that may occur on their land and is not due any compensation for those minerals.

The nature of the proposed exploration programme is not expected to have a significant effect on any landowner or occupier, nor the income derived from such land. This would be ensured by negotiating access with landowners and siting activities at agreed locations that do not conflict with current land use. Where necessary, compensation would be agreed with landowners for access as well as any economic loss, damage to infrastructure, etc. This would form part of the Access Agreement that is negotiated between the exploration right holder and the landowner (see Section 5.4.13).

5.4.21 REHABILITATION AND LIABILITY

Issue: Land owners were concerned about who would be responsible for rehabilitation of land and property after any exploration activity. How would the rehabilitation be funded? Was there any enforcement by authorities of rehabilitation and who would foot the bill if Rhino Oil and Gas failed to complete the rehabilitation adequately. Owners were also concerned for the case where exploration was conducted on an adjacent farm, with resulting impacts affecting them.

Response: Rhino Oil and Gas would be responsible for the rehabilitation of all disturbances resulting from their exploration work, as set out in the NEMA. Where areas have been disturbed by exploration, rehabilitation would be undertaken to re-establish the pre-exploration land use. The pre-exploration land-use would be determined during the detailed site assessments, which would be undertaken when finalising the location of each seismic line or drill site. The process of managing the impacts and rehabilitating the exploration sites would be conducted in terms of an EMP approved by the PASA. The landowner's agreement is required before a drill site is considered rehabilitated.

As part of the EIA process it is necessary to determine the quantum of a financial provision that is required for rehabilitation, closure and on-going post decommissioning management of negative environmental impacts (Regulations Pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations, GN 1147). This quantum must be made available by Rhino Oil and Gas to PASA as security for the completion of rehabilitation should Rhino Oil and Gas fail to do so. PASA in

consultation with other relevant authorities would determine the use and allocation of this money for rehabilitation. The financial provision that needs to be made is not limited to the land on which the exploration would be undertaken, but would provide for rehabilitation of damages from exploration.

The quantum of the required financial provision would be determined through the EIA process. The amount and the method of providing the provision would be detailed in the EIA report.

5.4.22 DETAILED BASELINE DESCRIPTION OF THE AFFECTED ENVIRONMENT

Issue: I&APs requested that the EIA report provides a detailed baseline description of the current state of the environment in the area.

Response: The status of the baseline environment is described later in the Scoping Report (see Section 5.5). This description would be added to and augmented in the EIA report. However, as the application area is vast and specific sites for core hole sites and seismic lines have not yet been identified, it is not possible to provide detailed site specific descriptions at this stage or in the EIA.

Only once Rhino Oil and Gas has analysed existing data and undertaken the initial exploration activities (e.g. desktop work and gravity survey) would they be able to identify preliminary locations for the field activities. These preliminary locations would then be subject to more detailed on-site investigation, which would provide an actual indication of the baseline conditions and environmental sensitivities at each site.

Since the exact location of a site is flexible, the final location can be adjusted to accommodate, *inter alia*, local features and environmental sensitivities identified during the site investigation.

Thus the EIA would aim to identify the general environmental sensitivities and categories across the exploration area, based on a desktop analysis, which must be taken into consideration when selecting a site for a core hole or seismic line. The specific requirements for detailed site assessments during finalising of the core hole sites or seismic lines would be included in the EMP. The proposed approach would ensure sensitive areas are avoided.

5.4.23 CONCERN WITH THE ADEQUACY OF THE PUBLIC PARTICIPATION METHOD

Issue: I&APs have raised various concerns over the intent, method and adequacy of the public participation process. Concerns have been raised in light of both the legislated requirements and expectations on the level of consultation required for a project of such broad extent and long-term consequence. The issues in this regard are varied but include inadequate timeframes for meaningful response; the method and success of notification to both landowners and I&APs; lack of provision for the involvement of persons whose background are rural, non-English and or low education levels; lack of consultation as provided for in the MPRDA and NEMA.

Response: The requirements for public participation and the timeframes for a scoping and EIA process are set out in the EIA Regulations 2014. The timeframes provided in the EIA Regulations require that an applicant must within 44 days of receipt of an application by the competent authority submit the Scoping Report, which has been subject to a public participation process of at least 30 days. This effectively leaves only 14 days to prepare the Scoping Report, consider and respond to all comments received and submit the revised Scoping Report to PASA. In projects such as these where extensive consultation is required, such timeframes are very limiting. The method followed for the public participation to date is described in Section 5.2 of the Scoping report

As described in Section 5.4.4 SLR proposed a pre-application phase to Rhino Oil and Gas to allow for a more comprehensive public participation process to be included in the Scoping Phase. The submission of the application for environmental authorisation was delayed to allow additional time. Unfortunately much of this time was not available to SLR and the pre-application phase was less than 6 weeks. Following the commencement of the public participation in late 2015 it was evident that further time was required. SLR applied to PASA for an extension of time available in the scoping phase and a 16-week time extension was granted. Additional public interaction and investigation to augment the scoping process was undertaken. The further public participation that was undertaken is also detailed in Section 5.2.

The key challenges are the involvement of rural communities who don't have access to mainstream media or whom are not well educated and the identification of contact information for landowners. SLR continues to address these. Notices are being run on community radio stations in local languages and SLR continues to work on consultation with the Traditional Leadership on mechanisms to involve rural communities.

The public consultation process is ongoing and will continue throughout the EIA. Section 7.8 of the scoping report details the future opportunities for I&APs to participate. SLR will continue to augment the public participation process with the aim of involving all potential interested and affected parties; giving I&APS access to information that has the potential to influence the decision with regard the application; and giving I&APS a period of at least 30 days to submit comments on each of the reports produced through this process.

C. KEY ISSUES NOT RELATED TO THE CURRENT EIA PROCESS AND PROPOSED WORK PROGRAMME

The issues and concerns described below are documented, but will not be responded to as they are made in regard to further exploration work or future production activities which have not been proposed by Rhino Oil and Gas for this ER application. Such issues are therefore beyond the scope of this EIA.

However, the applicant (Rhino Oil and Gas) and the authority (PASA) are both advised to give due consideration to these concerns as much of the current public opposition to oil and gas development is based on these.

5.4.24 ASSESSMENT OF RISKS OF POTENTIAL FURTHER EXPLORATION AND FUTURE PRODUCTION

Many of the issues and questions raised by I&APs in this process are in regards to the impacts of further detailed exploration and future production activities. I&APs have identified numerous impacts to various environmental aspects which are expected to occur during further detailed exploration and future production activities. This includes many of the impacts as described in the previous section, but with impacts of much greater significance or even unknown consequences.

I&APs set out that production, and fracking in particular, has huge risks to society and the environment and should not be entertained in any form. They state that there is a significant body of evidence from around the world (not least that fracking is banned in a growing number of countries and territories) that fracking results in unacceptable risks to surface and groundwater resources and human health. Such risks are borne by the landowners and local communities who do not participate in the huge economic benefits that accrue to the right holder and government. While there may be a consumer driven need for hydrocarbons, the risks and costs to society and the environment are considered to far outweigh the benefits. There is substantial evidence of these risks and costs and little evidence that gas production can consistently be undertaken in a safe manner.

Given that Rhino Oil and Gas acknowledge that the end-goal of the exploration process is to extract hydrocarbons, I&APs demand that potential impacts of all future activities should be identified and assessed at this time, before any form of exploration is allowed. I&APs have quoted the precautionary principle as defined in NEMA which “promotes a cautious and risk-averse approach to the use of resources especially where scientific information is insufficient to accurately indicate the possible impacts of such use”. In light of this, I&APs have stated that exploration should only be considered for approval if it can be demonstrated that all future activities arising from the exploration would not lead to unacceptable risks.

Response: The interest in and concerns around fracking are recognised and acknowledged. However, no fracking is proposed as part of the current work programme and the ER, if granted, would only allow the proposed work programme as described in this report (see Section 2.3). The current EIA is aligned to the early-phase exploration work programme as proposed by Rhino Oil and Gas. The potential impacts of further detailed exploration and future production activities would not be assessed in the EIA process.

Further to this, Rhino Oil and Gas maintain that due to the current information and the nature of exploration they cannot have details at this stage on what the resource is, where it is located geographically or geologically, or how it might be extracted. As the EAP it would simply be speculation to

undertake an environmental impact assessment of future activities for which no defined details are known.

I&APs are advised that the responsibility for the assessment of impacts of any future exploration or production activities would fall to the future EIA (or environmental authorisation amendment) process which is required by legislation to inform the environmental authorisation required as part of a mineral right. This would include a further public participation process and in-depth assessment (including specialist studies) of all project-related activities / issues. The assessment would be based on the known details of the work as proposed by the applicant. It is also expected that if/when this phases commences that the Karoo SEA for Shale Gas will be complete and will provide a sound basis on which to undertake an assessment of future exploration work.

5.4.25 OBJECTIONS TO THIS APPLICATION ON THE GROUNDS OF FUTURE RISK

Many of the objections submitted by I&APs in terms of this process are with regards to risks of further detailed exploration and future production activities. These objections are aimed at preventing exploration from ever commencing because the proposed exploration activities may lead to a gas discovery, which may in turn lead to an application for a production right, which may include the possibility of hydraulic fracturing (“fracking”) as a production method. Stopping the process now is the surest way to prevent any of the future risks from materialising.

Response: Whilst such risks could arise in relation to the further exploration and future production (i.e. hydraulic fracturing), the objections to the EIA process for the current application should be dealt with as part of a possible future application and not in the consideration of the current early phase exploration application.

D. ISSUES RAISED BY THE NGONYAMA BOARD

At the meeting held with the Board of the Ngonyama Trust on 18 March 2016, the Chairman of the Board terminated the meeting due the dissatisfaction of the Board with governance and compliance aspects of the exploration right application process. On the basis of these concerns the Board of the Ngonyama Trust indicated that they did not recognise the EIA process and would therefore not participate or engage with SLR any further. The Board of the Ngonyama Trust further indicated that their advice/instruction to the Traditional Authorities was to not engage with SLR with respect to this application.

Their concerns, as interpreted by SLR (no written submission has been received from the Board of the Ngonyama Trust), are described below.

5.4.26 FAILURE OF PASA TO NOTIFY THE NGONYAMA

Issue: The Board of the Ngonyama Trust indicated that Section 10 of the MPRDA required that the Regional Manager must (within 14 days after accepting an application), in the prescribed manner -

- (a) make known that an application for a prospecting right , mining right or mining permit has been accepted in respect of the land in question; and
- (b) call upon interested and affected persons to submit their comments regarding the application within 30 days from the date of the notice.

The Board of the Ngonyama Trust confirmed that they had never received a notice from nor been consulted by the Regional Manager and as a result were unaware of the application and had not been granted opportunity to object to the granting of the right. As such consultation must be undertaken as a pre-cursor to the EIA, the Board of the Ngonyama Trust were not prepared to engage with the EAP until such time as Regional Manager had fulfilled the obligations in terms of Section 10 of the MPRDA.

Response: On enquiry with PASA, who is the designated agency of the DMR with regards applications for rights in respect of petroleum, PASA indicated that they had made the application known in terms of the manner prescribed in the MPRDA. Regulation 3 (1) sets out that the Regional Manager or designated agency, as the case may be, must make known by way of a notice, that an application contemplated in regulation 2, has been accepted in respect of the land or offshore area, as the case may be. Regulation 3 (2) requires that the notice referred to in subregulation (1) must be placed on a notice board at the office of the Regional Manager or designated agency , as the case may be, that is accessible to the public. Regulation 3 (3) further requires that in addition to the notice referred to in subregulation (1), the Regional Manager or designated agency , as the case may be, must also make known the application by at least one of the following methods -

- (a) publication in the applicable Provincial Gazette;
- (b) notice in the Magistrate's Court in the magisterial district applicable to the land in question; or
- (c) advertisement in a local or national newspaper circulating in the a where the land or offshore area to which the application relates, is situated.

SLR has requested PASA to confirm, in respect of this application, that they placed notices 1) in the foyer of their office and 2) in the Magistrate's Court in the magisterial district applicable to the land in question.

5.4.27 FAILURE OF RHINO OIL AND GAS TO CONUSLT WITH THE NGONYAMA

Issue: The Board of the Ngonyama Trust indicated that in terms of Section 79 (4)(a) of the MPRDA the applicant must consult in the prescribed manner with the landowner, lawful occupier and any interested and affected party and include the result of the consultation in the relevant environmental report as required in terms of Chapter 5 of the National Environmental Management Act, 1998.

Part 4(b) subsequently requires that the applicant must submit the relevant environmental reports required in terms of Chapter 5 of the National Environmental Management Act, 1998 , within a period of 120 days from the date of the notice.

The Board of the Ngonyama Trust confirmed that they had never received a notice from nor been consulted by the applicant in respect of the acceptance of the subject application. It is the view of the Board of the Ngonyama Trust that the requirement for consultation by the applicant with the landowner is specifically in terms of the MPRDA and that such consultation is distinct from the process as required by NEMA. As the required MPRDA consultation must be undertaken as a pre-cursor to the EIA, the Board of the Ngonyama Trust were not prepared to engage with the EAP until such time as applicant had fulfilled their obligations in terms of Section 79 (4)(a) of the MPRDA.

Response: On enquiry with a legal practitioner, SLR was advised that the Regulations to the MPRDA do not define the 'prescribed manner' with respect to the consultation of land owners required in terms of Section 79 (4)(a). Consultation in the 'prescribed manner' to be conducted by the Applicant was a phrase introduced into this Section of the Act by the MPRDA Amendment Act 49 of 2008. Taking note of the main intention with which this amendment was published (i.e. for the purpose of integrating environmental management provisions contained in the National Environmental Management Act 107 of 1998 with the MPRDA to ensure mining and its associated impacts are managed sustainably), it is logical to accept that the 'prescribed manner' referred to by the legislators in the context of the Applicants' consultation obligations, would be the public participation process contained in the NEMA EIA Regulations, 2014 and more specifically Chapter 6 thereof.

Due to the specialised nature of the processes for rights application under the MPRDA, it is common place for Applicants to appoint external consultants/specialist in rights applications to assist with the phases of the rights application. The NEMA explicitly requires Applicants for environmental authorisation appoint 'independent' environmental assessment practitioner (EAP's) to complete the environmental assessment and reporting process to obtain an environmental authorisation.

There is thus sound argument that the public participation process being undertaken by SLR is in terms of the NEMA EIA Regulations, 2014 is the 'prescribed manner' of consultation as required by Section 79 (4)(a) of the MPRDA.

It is thus presented that this argument as offered by the Board of the Ngonyama Trust has no merit. SLR will inform the Board of the Ngonyama Trust of this understanding and attempt to recommence consultation with the Ngonyama Trust in terms of the process provided for in the EIA Regulations. It is hoped that following engagement, the Board of the Ngonyama Trust will alter their advice and allow/assist SLR to engage with the Traditional Authorities and rural communities with respect to this application.

5.5 ATTRIBUTES OF THE AFFECTED ENVIRONMENT

The baseline information presented here is aimed at providing the reader perspective on the existing status of the cultural, socio-economic and biophysical environment in the proposed exploration area. The large extent of the proposed exploration area and the fact that exploration is estimated to physically disturb much less than 0.05% of the surface area meant that it was not feasible, nor necessary, to provide detailed assessments of the environmental aspects. This assessment has thus aimed to identify the environmental sensitivities within the exploration area, at a high-level.

Baseline information for this scoping report was sourced through a desktop study and draws extensively on information contained in studies that have been conducted by various government departments and non-government environmental organisations responsible for the area covered by the exploration right application. Several sources were used for this section, including:

- KZN Provincial Biodiversity Conservation Plan;
- Data held by the South African National Biodiversity Institute (SANBI), World Wildlife Fund (WWF), BirdLife SA, Animal Demography Unit (ADU) etc;
- National Freshwater Priority Areas project;
- The International Union for the Conservation of Nature (IUCN) Red Data List of species;
- Available internet information on environmental issues related to exploration and production;
- Mining and Biodiversity Guideline;
- Available internet information on the baseline environment within the exploration area; and
- Topocadastral and geological maps covering the exploration area at scales ranging from 1:50 000 to 1:250 000.

More detailed information will be provided in the EIA report once the specialist reports and other research has been concluded.

5.5.1 CLIMATE

Introduction

Climate can influence the potential for environmental impacts and related design. Specific issues are listed below:

- Rainfall could influence erosion, evaporation, vegetation growth, rehabilitation planning, dust suppression, and surface water management planning
- Temperature could influence air dispersion through impacts on atmospheric stability and mixing layers, vegetation growth, and evaporation which could influence rehabilitation planning

To understand the basis of these potential impacts, a brief baseline situational analysis is described below. More detailed information will be provided in the EIA report.

Data sources

Information in this section was sourced from the review of available literature (Water Resources of South Africa manual 2005 (WR, 2005)).

Results/Conclusion

Regional Climate

The proposed exploration area is characterised by summer rainfall usually in the form of thunderstorms. Mean annual precipitation varies across the proposed exploration area. In this regard it is expected that the mean annual precipitation for the southern section of the proposed project area can vary between 800 to 1000mm per annum. The northern section of the proposed project area, experiences lower rainfall levels and as such mean annual precipitation can range between 600 to 800mm per annum (WR, 2005).

Evaporation rates in the southern section of the proposed exploration area are expected to range between <1200 to 1400mm per annum (S-Pan). Towards the northern section of the proposed exploration area, the mean annual evaporation rate varies between 1400 to 1600mm (WR, 2005).

The proposed exploration area is characterised by hot wet summers and cool dry winters. The average summer midday temperature expected within the proposed exploration area is 26 °C while the average winter midday temperature is 16 °C. Maximum summer temperatures are known to reach 40 °C and the maximum lowest temperatures in winter can drop to below zero. Further inland, snow and frost can be expected. The midlands (area that lies outside of Pietermaritzburg but before the Drakensburg Mountain range) is often associated with heavy and frequent mist.

5.5.2 GEOLOGY

Introduction

The geology of a particular area will determine the following factors:

- The type of soils present since the soils are largely derived from the parent rock material;
- The presence and quality of groundwater and the movement of the groundwater;
- The presence of paleontological resources in the rock strata;
- The potential for contaminant generation ; and
- The potential for the occurrence of the hydrocarbons of interest.

Groundwater is discussed in section 5.5.7 and paleontological resources in section 5.5.10.

A basic description of the regional geology is provided below. More detailed information will be provided in the EIA report.

Data sources

Information in this section was sourced from the review of available literature. Rhino Oil and Gas have also gathered data from government, industry (where available) and academic sources (theses and dissertations), as well as published papers from the academic literature. Data relevant to the project was synthesised from the review of approximately 150 such reports. These reports were supplemented by over 140 papers from the academic literature as well as dissertations and theses.

Results/Conclusion

The proposed exploration area lies in the north east of the Karoo Basin (see Figure 5-4). The main Karoo Basin in South Africa formed as a result of compression predominantly associated with flexural subsidence, characteristic of foreland basins, during the assembly of the Gondwana super-continent. Consensus on the tectonic setting of the basin, however, remains debated (Tankard et al., 2012; Schreiber-Enslin et al., 2014). The Karoo Basin represents a diverse and complex suite of rock units with an areal extent of roughly 600,000 square kilometers that attains a maximum sedimentary thickness of 12 kilometers. The north east of the basin is host to several distinct facies of rocks that vary between shoreface, fluvial and lacustrine sediments, deposited between the Permian and Triassic. The deposition of Karoo Supergroup sediments ended in the early Jurassic during the emplacement of the igneous rocks that constitute the Drakensberg Group. The preserved basalts and dolerites attain a maximum thickness of approximately 1,400 m in the Lesotho area. The northern flank of the basin is defined by the erosional limits of the late Carboniferous-Permian Dwyka and Ecca Groups, where they unconformably overlay Archean-Cambrian age, Kaapvaal and Namaqua-Natal basement. The Ecca Supergroup consists mainly of sandstone and shale from the Permian period. The Dwyka Formation within the proposed exploration area consists mainly of tillite from the Carboniferous period.

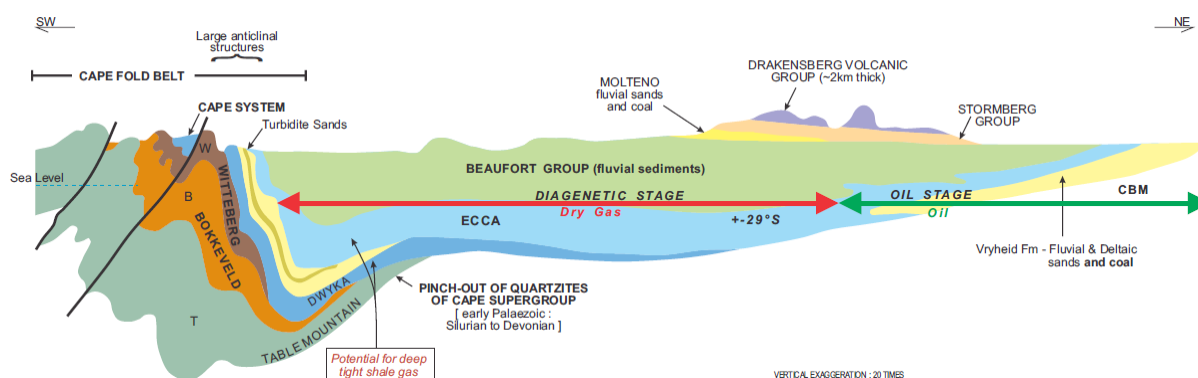
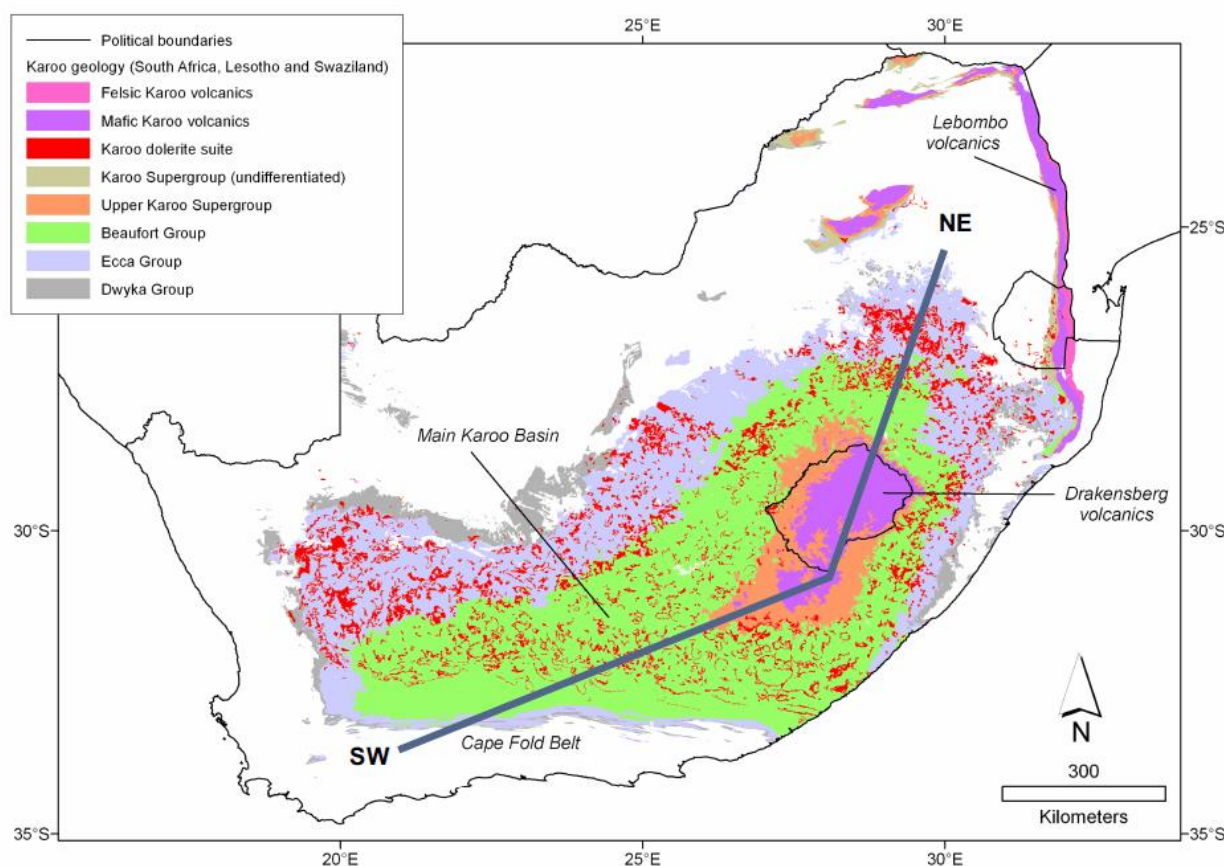


FIGURE 5-4: SIMPLIFIED GEOLOGY OF THE KAROO BASINS
(source PASA brochure)

Resource assessments of the Karoo Basin have historically emphasized 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 NE Karoo Basin has potential for a tremendous diversity of hydrocarbon resources including shale oil and shale gas, coalbed methane, helium and biogenic gas.

One of the complications recognized during the initial resource exploration effort undertaken in the 1960s was the widespread occurrence of dolerite dykes, especially in the NE Karoo Basin. The thermal effects of these dykes led some early researchers to state that the dykes were required for distillation of hydrocarbons from adjacent coal and shale beds. The complexity of these dyke intrusions, well documented in the shallow NE Karoo coal fields, makes it difficult to understand the geometry of any possible reservoir horizons in the adjacent sediments. As a result, there is poor understanding of the relationship between the observed non-commercial oil and gas occurrences and any structural control. Further compounding the perception of an absence of commercial hydrocarbons in the Karoo Basin was the documentation of low-permeability conditions in most drill holes. This led many researchers to conclude that the rocks possessed too low a permeability to produce hydrocarbons and porosities too low to trap them.

Shale Gas Potential

The development of shale gas fields, which commenced in the United States in the early 21st Century, has demonstrated the ability to produce voluminous economic quantities of hydrocarbons from extremely low permeability rocks. This was made possible by the use of horizontal drilling and hydraulic fracturing to maximize wellbore connectivity with low-permeability hydrocarbon-bearing strata.

As a result, shale gas in South Africa is being reassessed as a potential hydrocarbon resource. Most exploration focus has emphasized the potential gas resource of the deep Karoo Basin in the southern and western sub-basins where the rocks are most thermally mature. Based on limited preliminary data, Advanced Resources International (ARI, 2011; ARI, 2013), on the behalf of the US Energy Information Administration, assessed the shale gas potential of the Lower Ecca Group shales in the southern Karoo Basin to contain 1,834 TCF of gas-in-place with recoverable shale gas resources of 485 TCF. In 2013, ARI completed a reassessment to show that the lower Permian Ecca Group contains 1,559 TCF of shale-gas-in-place with 370 TCF as the technically recoverable shale gas resource. In this part of the Karoo Basin, the sediments reach nearly 12 kilometers in thickness (Raseroka and McLachlan, 2008). The Petroleum Agency of South Africa estimates recoverable shale gas reserves of about 40 TCF according to a 2014 interview by PASA Resource Development Manager David van der Spuy. ("SA petroleum Agency's Karoo shale-gas estimate 'far lower'", *Businessday BDLive* Paul Vecchiattor 2-12-14, <http://www.bdlive.co.za/business/energy/2014/02/21/sa-petroleum-agencys-karoo-shale-gas-estimate-far-lower>).

Oil Potential

The oil resource potential of the Karoo Basin has largely been ignored because of the historical absence of commercial oil discoveries, and the restricted occurrence of oil accumulations to the NE Karoo Basin where the rocks are less thermally mature. Further evaluation still needs to be undertaken in the frontier basins.

Coalbed Methane Potential

The NE Karoo Basin also has considerable potential as a Coalbed Methane (CBM) resource play due to well-documented gassy coals at relatively shallow drilling depths. Estimates of the CBM resource in the NE Karoo ranges from 1 TCF for the Waterberg Coalfield (Anglo Thermal Coal for Waterberg Coalfield) to over 196 TCF for the NE Karoo region. (PASA Unconventional Resources Onshore Report).

Helium Potential

In addition to the oil and coalbed methane potential of the NE Karoo Basin, there are also documented reserves of helium in Precambrian-hosted gold mines in some regions. The methane component of these reserves is estimated at over 11.5 BCF (Molopo Energy Company website; PASA Unconventional Resources Onshore Report). Helium is an extremely valuable strategic resource found in limited areas of the world. A rare gas on earth, the bulk of the current helium production (75%) is from the United States. The most important use of helium currently is for cryogenic cooling (32%), although helium has numerous other industrial uses which include welding, controlled atmosphere (medical and other laboratory testing), leak testing, as a purge gas, breathing mixtures for deep sea diving, and also as a lifting gas.

5.5.3 SEISMICITY

The Southern African region is considered to be relatively stable from a seismic perspective. South Africa is located on the African tectonic plate, which includes the African continent and parts of the floor of the Atlantic and Indian Oceans. In general earth tremors and quakes are infrequent and generally of low magnitude. The largest ever recorded earthquake to occur in South Africa was the Ceres-Tulbagh Earthquake, which occurred in September 1969, and had a magnitude of 6.3 on the Richter scale.

There are areas in South Africa with higher peak ground acceleration which indicates a greater likelihood of earth quakes. These are found in the Western Cape region and in parts of the northern and western Free State as well as the Witwatersrand.

5.5.4 SOILS

Introduction

The soils of a particular area will influence the vegetation, agricultural potential and ultimately land use.

A basic description of the regional soils is provided below. More detailed information will be provided in the EIA report.

Data sources

Information in this section was sourced from the review of available literature.

Results/Conclusion

The 73 soil forms can broadly be separated into 14 groups. The soils of KwaZulu-Natal have a wide range of properties. Variations in texture from light sandy soils to heavy swelling clays; leached soils that are high in organic matter to virtually unweathered soils. The primary driver of this diversity in the province is the variability in the underlying geology, climate and topography.

Soils across the proposed exploration area are extremely diverse with soils ranging in structure and composition. The majority of soils within the study area are considered Lithic and Oxidic and to lesser degree Duplex. 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 dominant soils include Humic soils which would be encountered in the Zululand areas and Gleyic soils in lesser concentrations.

5.5.5 CURRENT LAND USES

Introduction

Exploration activities have the potential to affect land uses both within the exploration areas and in the surrounding areas. This could be caused by physical land transformation and through direct or secondary impacts. To understand the basis of the potential land use impacts, a brief baseline situational analysis is described below. More detailed information will be provided in the EIA report.

Data sources

Information in this section was sourced from the review of topographical maps and satellite imagery and through the review of available literature. Google Earth and a Site visit also provided insight into the area.

Results/Conclusion

Agricultural activities

Numerous agricultural activities take place within the proposed exploration area. Commercial crop cultivation activities include potatoes, cabbages, forestry (plantations) and sugar cane. Crop cultivation includes combinations of rain fed methods, irrigation directly from river and groundwater abstraction and/or farm storage dams. There are also significant commercial forestry plantations that provide raw materials for wood-related products. Much of the area remains under natural vegetation (largely grassland) which is used extensively for the grazing of livestock in both commercial and subsistence farming. Refer to Figure 5-11 for the distribution of the cultivation and plantation activities within the proposed exploration area.

Eco-tourism

The region is well known for its scenic beauty (natural and agricultural) and revenue is generated from numerous eco-tourism activities. The KZN-Midlands in particular has numerous eco-tourism initiatives,

businesses and events, many of which are dependent on the environmental assets and scenic character of the area.

Towns

The major town located within the proposed exploration area is Pietermaritzburg. Smaller towns include Colenso, Richmond, Howick, Albert Falls, Kranskop, Babanango, New Hanover, Tugela Ferry and Greytown.

The smaller towns comprise numerous buildings such as schools, churches, sports facilities, hospitals/clinics, shops, local farm co-operations and designated residential areas. The larger town (Pietermaritzburg) is associated with similar facilities, however on a larger scale and also includes additional facilities such as malls, shopping centres, airports, a university, casino and museums.

The residential areas (i.e. erfes) of the towns are excluded from the exploration area.

Local road network

With reference to Figure 1-2, the main provincial roads located within the proposed exploration area include:

- The N3 national highway which crosses the area between Camperdown and Mooi River.
- The R103 that runs between Colenso, Mooi River, Howick and Pietermaritzburg from the north western section to the south eastern section of the proposed exploration area
- R622 that runs from Mooi River to Greytown in the central section of the proposed exploration area
- The R624 that runs from Richmond to Pinetown
- R617 from Howick to Bulwer located in the south western section of the proposed exploration area
- R56 between Pietermaritzburg and Richmond located in the southern section of the proposed exploration area.
- R33 that runs between Greytown and Tugela Ferry to the north of the proposed exploration area
- R74 that runs between Weenen and Greytown and Kranskop in the central section of the proposed exploration area
- The R68 between Dundee and Melmoth traverses the north eastern section of the proposed exploration area
- The R34 that runs between Melmoth and Vryheid traverses the north eastern section of the proposed exploration area

Rail Network

The main railway line between Durban and Johannesburg traverses the proposed exploration area through the towns of Mooi River, Howick and Pietermaritzburg, exiting near to Camperdown.

Existing Mineral Rights

Rhino Oil and Gas will shortly submit a request to the Regional office of the DMR for information on properties on which there are existing prospecting or mining rights (for non-petroleum minerals), and/or for which applications for prospecting or mining rights have been submitted. Rhino Oil and Gas's proposed exploration does not necessarily affect existing prospecting or mining right holders since the methods and the legislation provide for simultaneous exploitation of resources. This information and the results of consultation with the rights holders will be submitted in the EIA phase.

Land Claims

Rhino Oil and gas will shortly submit a request to the provincial office of the Commission on Restitution of Land Rights for information on properties with the exploration right area on which there are existing Land Claims. This information and the results of consultation with the claimants will be submitted in the EIA phase.

Core Astronomy Areas

To date no Core or Central Astronomy Advantage Areas have been declared within the exploration right application area.

5.5.6 HYDROLOGY

Introduction

Surface water resources include drainage lines and paths of preferential flow of storm water runoff, rivers, wetlands and dams. Project-related activities have the potential to alter the drainage of surface water through the establishment of infrastructure and/or result in the contamination of the surface water resources through seepage and/or spillage of potentially polluting materials and non-mineralised waste (general and hazardous). This section provides a brief description of surface water resources in the exploration area. More detailed information will be provided in the EIA report.

Data sources

Information in this section was sourced through the review of available literature. In this regard, information pertaining to water management areas was sourced from the National Water Resource Strategy (NWRS, September 2003) and catchment information was sourced from the Water Resources of South Africa Manual 2005 (WR, 2005).

Results/Conclusion

Catchments and river systems

The proposed exploration area is located within the Mvoti to Umzimkulu, Thukela and Usutu to Mhlatuze water management areas. Refer to Figure 5-5 for the distribution of the various water management areas within the proposed exploration area.

The Thukela water management area corresponds fully to the catchment area of the Thukela River and lies predominantly in the KwaZulu-Natal province. This water management area comprises several tributaries which originate in the Drakensberg Mountains and flow together with the Thukela River, the primary river in the catchment, to discharge into the Indian Ocean on the eastern side of the water management area. Main tributaries to the Thukela River include the Buffalo and Sundays Rivers which drain the northern part of the catchment, and the Bushmans and Mooi Rivers flowing from a southerly direction. The mean annual runoff for the Thukela catchment is approximately 3 799 million m³/annum. The total water requirements for the Thukela water management area is 840 million m³/annum of which 60% is for irrigation, 17% is for urban purposes, 14% for mining and industry and 9% for rural domestic use for livestock watering (NWRS, September 2003).

The Usutu to Mhlatuze water management areas consist of two major rivers, namely the Usutu and the Pongola River. The tributaries within this catchment flow eastwards, crossing the Zululand coastal plain and discharging into the Indian Ocean. The Usutu to Mhlatuze water management area has a mean annual runoff of 4 780 million m³/annum. The total water requirements for the Usutu to Mhlatuze water management area is 954 million m³/annum of which 54% is used for irrigation, 7% for urban purposes, 4% for rural purposes, 10% for mining and industry, 11% for afforestation and 14% is transferred out (NWRS, September 2003).

The Mvoti to Umzimkulu water management area is drained by several parallel rivers which all flow in a south-easterly direction to discharge into the Indian Ocean. The main rivers in this water management area include the Mvoti, Mgeni, Mkomazi, Umzimkulu and Mtamvuna Rivers, with several smaller coastal rivers in between. The border with Lesotho is demarcated by the divide between the Orange River basin and the catchments of the Mkomazi and Umzimkulu Rivers, which also corresponds with the rim of the Drakensberg escarpment. The Mvoti to Umzimkulu has a total mean annual runoff of 4 798 million m³/annum. The total water requirement for this water management area is 797 million m³/annum of which 60% is used for urban and industrial use, 25% for irrigation, 5% for rural water supply and 10% for afforestation (NWRS, September 2003).

The water management areas located within the proposed exploration area, comprise numerous quaternary catchments. The characteristics of the quaternary catchments located within the exploration area are included in Table 5-3 below. Refer to Figure 5-5 for the distribution of the quaternary catchments within the exploration area (WR, 20015).

TABLE 5-3: QUATERNARY CATCHMENT CHARACTERISTICS (WR, 2005)

Water management area	Quaternary catchment	Mean annual Runoff (mcm)	Catchment area (km ²)
Mvoti to Umzimkulu	U20B	71.00	353
	U20A	85.10	293

Water management area	Quaternary catchment	Mean annual Runoff (mcm)	Catchment area (km ²)
	U20D	78.40	338
	U20E	74.20	390
	U20C	51.20	279
	U20F	83.20	435
	U20G	70.30	494
	U20J	63.70	678
	U20H	43.50	220
	U40A	59.50	317
	U40B	42.90	388
	U40F	28.80	290
	U40D	31.90	267
	U40C	33.30	264
	U40G	30.40	253
	U60A	16.90	105
	U60B	27.80	316
	U10G	88.10	353
	U10H	104.80	458
	U10J	67.40	505
	U10K	34.30	364
	U10L	20.60	307
	U70A	22.30	114
	U70B	26.60	272
	U70C	36.10	350
	U80J	36.50	371
Thukela	V11M	14.70	154
	V12G	38.20	506
	V12F	24.80	333
	V13E	24.60	281
	V14A	20.40	224
	V14D	44.70	632
	V14B	11.30	170
	V14E	23.90	287
	V20E	53.10	599
	V20F	27.10	154
	V20G	22.90	254
	V20H	41.20	603

Water management area	Quaternary catchment	Mean annual Runoff (mcm)	Catchment area (km ²)
	V20D	51.40	299
	V20J	18.90	314
	V32E	63.80	783
	V33B	27.80	557
	V33C	34.40	630
	V33D	33.60	590
	V40C	45.50	455
	V40D	31.80	333
	V40B	23.10	292
	V40E	21.60	301
	V40A	48.60	372
	V60D	38.40	308
	V60E	42.40	747
	V60C	21.50	361
	V60K	15.20	228
	V60J	21.30	186
	V60H	22.80	355
	V60G	28.10	461
	V70G	28.10	505
V70F	35.60	365	
Usutu to Mhlatuze	W12A	80.58	623
	W21B	61.90	580
	W21G	38.10	563
	W21H	36.50	433
	W21F	14.90	243
	W21J	53.10	530
	W22B	34	332
	W22D	15.80	197
	W22C	23.90	186

Wetlands

Numerous wetlands are located within the proposed exploration area. For further information regarding the conservational status of these wetlands refer to Section 5.5.8. The location of the wetlands associated with the proposed exploration area is illustrated in in Figure 5-9.

Major dams

Major dams located within the proposed exploration area include the Midmar Dam, Albert Falls and the Craigieburn Dam (Figure 5-5).

The Midmar Dam is a combined gravity and earth-fill type dam and recreation area located near Howick and Pietermaritzburg.

The Albert Falls Dam is on the Umgeni River, just outside Pietermaritzburg. It was established in 1976. It has a gross capacity of 290.1 million cubic meters and a surface area of 23.521 square kilometres, the dam wall is 33 metres high.

The Craigie Burn Dam is an arch/earth-fill type dam located on the Mnyamvubu River, near Greytown. It was established in 1963.

Numerous other small dams, mostly private farm dams, are located within the proposed exploration area.

Surface water users

Surface water use consists of a combination of domestic, livestock use and irrigation for crop production on farms. Boating, swimming, water-skiing, picnicking, and fishing are popular recreational activities at Midmar Dam. Each year, the Midmar Mile swimming race is held at the dam. A key user of water from Midmar Dam is Umgeni Water which is the primary supplier of water to Pietermaritzburg and eThekweni. The Craige Burn Dam is primarily used for irrigation purposes. The Albert Falls dam is also used for recreational purposes such as boating, water sports, fishing, picnicking and trails.

5.5.7 GROUNDWATER

Introduction

Groundwater is a valuable resource and is defined as water which is located beneath the surface in rock pore spaces and in the fractures of lithologic formations. Understanding the geology of the area (See Section 5.5.2) provides a basis from which to understand the occurrence of groundwater resources. Exploration related activities have the potential to impact on groundwater resources, both to the environment and third party users through pollution. As a baseline, this section provides a brief description of the existing groundwater conditions. More detailed information will be provided in the EIA report.

Data sources

Information in this section was sourced from the review of available literature.

Results/Conclusion

Aquifer Classification

The exploration area is 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. Although borehole yields in the deeper aquifer are generally, considered low, structural features such as faults and fractures can produce higher yielding boreholes. Majority of the proposed exploration areas is underlain by a fractured and intergranular aquifer with yields in the range of 0.5 to 2 L/s.

Aquifer vulnerability indicates the tendency or likelihood for contamination to reach a specified position in the groundwater system after introduction at some location above the uppermost aquifer. In terms of the exploration area, the aquifer vulnerability in accordance to the Aquifer Vulnerability Map of South Africa (Conrad et al. 1999c), varies between 'least' and 'moderate' vulnerability. The areas of 'least' vulnerability are areas that are only vulnerable to conservative pollutants in the long term when continuously discharged or leached. The areas of 'moderate' vulnerability are areas which are vulnerable to some pollutants, but only when continuously discharged or leached.

Aquifer susceptibility indicates the qualitative measure of the relative ease with which a groundwater body can be potentially contaminated by anthropogenic activities and includes both aquifer vulnerability and the relative importance of the aquifer in terms of its classification. In terms of the Aquifer Susceptibility Map of South Africa (Conrad et al, 1999b), the exploration area is associated with a 'low' to 'medium' susceptibility aquifer.

Groundwater Quality

The Groundwater Quality Map of South Africa (Conrad et al, 1999b) indicates that the groundwater quality that can be expected within the exploration area has electrical conductivity concentrations from low (0 – 70 mS/m) to 150 – 370 mS/m where the water will have a noticeable salty taste.

Groundwater use

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.

5.5.8 BIODIVERSITY

Introduction

Biodiversity refers to the flora (plants) and fauna (animals). According to the International Union for Conservation of Nature (IUCN) (2011), biodiversity is crucial for the functioning of ecosystems which provide us with products and services which sustain human life. Healthy ecosystems provide us with oxygen, food, fresh water, fertile soil, medicines, shelter, protection from storms and floods, stable climate and recreation.

Exploration related activities have the potential to result in a loss of habitat through the destruction/disturbance of vegetation and/or contamination of soil and/or water resources, thereby reducing the occurrence of fauna and flora on site and in the surrounding areas.

The baseline information on biodiversity in the exploration area will be used to identify sensitive areas, to guide the project planning in order to avoid sensitive areas where possible, to determine how best to conserve the fauna and flora in the area and allow for proper rehabilitation of the site once exploration ceases. A brief description of fauna and flora located within the exploration area is provided below. More detailed information will be provided in the EIA report.

Data sources

Information pertaining to vegetation units provided in this section was sourced from Mucina and Rutherford, 2006. Information regarding conservational importance was sourced from existing databases from the South African National Botanical Institute (SANBI), the National Freshwater Ecosystem Priority Areas, the KwaZulu-Natal Nature Conservation Management Act (Act No 5 of 1999), the mining and biodiversity guidelines and IUCN.

Results/Conclusion

Flora

The proposed project area is located within the Grassland Biome and Savannah Biome. The Grassland Biome comprises the Sub-Escarpment Grassland, the Inland Azonal Vegetation area and the Afrotropical subtropical and Azonal forest area bioregions. The Savannah Biome comprises the Sub-escarpment Savanna and Lowveld bioregions. These bioregions are comprised of various vegetation types. For detail pertaining to the various vegetation types located within the proposed exploration area refer to Table 5-2. The distribution of the various vegetation units within the exploration area are illustrated in Figure 5-6 (Mucina and Rutherford, 2006).

TABLE 5-4: BIOMES AND VEGETATION TYPES LOCATED WITHIN THE PROPOSED EXPLORATION AREA (MUCINA AND RUTHERFORD, 2006)

BIOME	BIOREGION/AZONAL AREAS	VEGETATION UNIT	CHARACTERISTICS	
			VEGETATION AND LANDSCAPE FEATURES	LEVEL OF TRANSFORMATION
Grassland Biome	Sub-Escarpment Grassland	Drakensberg Foothill Moist Grassland	<ul style="list-style-type: none"> Characterised by moderately rolling and mountainous terrain, incised by river gorges of drier vegetation types and by forest, and covered in forb-rich grassland dominated by short bunch grasses including <i>Themeda triandra</i> and <i>Tristachya leucothrix</i>. Biogeographically important geophytic herbs include <i>Schizochilus bulbinella</i> Biogeographically important graminoids include <i>Schoenoxiphium burttii</i> Endemic herbs include <i>Alchemilla incurvata</i> <i>Argyrolobium sericosemium</i>, <i>Diascia esterhuyseniae</i>, <i>Stachys rivularis</i> Endemic geophytic herbs include <i>Brachystelma molaventi</i>, <i>Dioscorea brownie</i>, <i>Ornithogalum baurii</i>. Endemic succulent shrubs include <i>Delosperma wiunii</i> 	Almost 20% already transformed for cultivation, plantations and by urban sprawl.
		Income Sandy Grassland	<ul style="list-style-type: none"> Characterised by very flat extensive areas with generally shallow, poorly drained, sandy soils supporting low, tussock dominated sourveld forming a mosaic with wooded grasslands (with <i>Acacia sieberiana</i> var. <i>woodii</i>) and on well-drained sites with the trees <i>A. karroo</i>, <i>A. nilotica</i>, <i>A. caffra</i> and <i>Diospyros lyciodes</i>. On disturbed sites, <i>A. sieberiana</i> var. <i>woodii</i> can form sparse woodlands. 	Some 27% has been transformed for cultivation, plantations and urban sprawl. Small portion of the area has been lost to the building of dams (Klipfontein, Mvunyane). No serious invasions of aliens have been observed, probably due to low nutrient status of soils.
		Ithala Quartzite Sourveld	<ul style="list-style-type: none"> Characterised by low mountain ranges and undulating hills with rocky lowlands. The general pattern is a mosaic of woody shrubs and small trees in rocky areas, interspersed in the grass layer. Vegetation structures vary according to altitude and rockiness, but the basal density of the grass sward is relatively low. Biogeographically important trees include the <i>Protea comptonii</i> Biogeographically important tall shrub includes the <i>Tricalysia capensis</i> var. <i>galpini</i> Biogeographically important low shrub includes the <i>Hemizygia macrophylla</i> Biogeographically important succulent shrub includes the <i>Aloe suprafoliata</i> Biogeographically important herbs include the <i>Melanospermum italaie</i>, <i>Thorncroftia longiflora</i> 	Land use pressures on this unit are low. Approximately 5% of this vegetation unit is under plantations and a further 5% has been transformed into conservation land.

BIOME	BIOREGION/AZONAL AREAS	VEGETATION UNIT	CHARACTERISTICS	
			VEGETATION AND LANDSCAPE FEATURES	LEVEL OF TRANSFORMATION
			<ul style="list-style-type: none"> • Biogeographically important geophytic herb includes the <i>Gladiolus vernus</i> • Endemic tall shrubs include <i>Euclea natalensis subs. Magutensis</i> • Endemic succulent shrubs include <i>Aloe deweti</i> • Endemic graminoids include <i>Danthoniopsis scopulorum</i> • Endemic geophytic herbs include <i>Gladiolus scabridus</i> 	
		KwaZulu-Natal Highland Thornveld	<ul style="list-style-type: none"> • Characterised by hilly, undulating landscapes and broad valleys supporting tall tussock grassland usually dominated by <i>Hyparrhenia hirta</i>, with occasional savannoid woodlands with scattered <i>Acacia sieberiana var. woodii</i> and in small pockets also with <i>A. karroo</i> and <i>A. nilotica</i>. • Endemic low shrubs include <i>Barleria greenii</i> • Endemic succulent shrubs include <i>Aloe gerstneri</i> • Endemic succulent herbs include <i>Aloe inconspicua</i> 	More than 16% has been transformed for cultivation, and by urban sprawl as well as by building dams (<i>Craigie Burne, Spioenkop, Wagendrift and Windsor</i>). The greatest threat to the remaining natural areas of this unit are bush encroachment.
		Low Escarpment Moist Grassland	<ul style="list-style-type: none"> • Characterised by complex mountain topography which is steep, generally dominated by east and south-facing slopes with a large altitudinal range. This supports tall, closed grassland with <i>Hyparrhenia hirta</i> and <i>Themeda triandra</i> occurring as dominant species. • Biogeographically important low shrubs include <i>Heteromma krookii</i> • Endemic geophytic herbs include <i>Holothrix majubensis</i> 	Approximately 6% has been transformed by plantations or cultivated land.
		Midlands Mistbelt Grassland	<ul style="list-style-type: none"> • Characterised by hilly and rolling landscape mainly associated with a discontinuous east-facing scarp formed by dolerite intrusions (south of the Thukela River). • Dominated by forb-rich, tall, sour <i>Themeda triandra</i> grasslands transformed by the invasion of native "Ngongoni grass" (<i>Aristida junciformis</i> subsp. <i>Junciformis</i>). Only a few patches of the original species-rich grasslands remain. • Biogeographically important herbs include <i>Anisopappus smutsii</i> (southern distribution limited) • Biogeographically important succulent herbs include <i>Aloe kniphofioides</i> (southern distribution limited) • Endemic herbs include <i>Acalypha entumenica, Selago longiflora</i> • Endemic geophytic herbs include <i>Asclepias woodii, Albuca xanthocodon, Dierama luteoalbidum, Kniphofia latifolia, Pachycarpus rostratus, Watsonia canaliculata</i> 	This vegetation type is considered endangered, and is one of the most threatened in Kwazulu-Natal. More than half of this vegetation type has already been transformed for plantations, cultivated land of by urban sprawl. Uncontrolled fires and poorly regulated grazing by livestock add to threats to this unique grassland. Some aliens are of concern in places.

BIOME	BIOREGION/AZONAL AREAS	VEGETATION UNIT	CHARACTERISTICS	
			VEGETATION AND LANDSCAPE FEATURES	LEVEL OF TRANSFORMATION
			<ul style="list-style-type: none"> Endemic low shrubs include <i>Helichrysum citricephalum</i>, <i>Syncolostemon latidens</i> 	
		Mooi River Highland Grassland	<ul style="list-style-type: none"> Dominated mainly by rolling and partly broken landscape, covered in grassland, dominated by short bunch grasses. <i>Heteropogon contortus</i>, <i>Themeda triandra</i> and <i>Tristachya leucothrix</i> are dominant in well-managed veld. 	Almost 25% of this area has been transformed for cultivation or plantations. Alien woody plants are invaders in some areas.
		Northern KwaZulu-Natal Moist Grassland	<ul style="list-style-type: none"> Characterised by hilly and rolling landscapes supporting tall tussock grasslands usually dominated by <i>Themeda triandra</i> and <i>Hyparrhenia hirta</i>. Open <i>Acacia siberiana</i> var. <i>woodii</i> savannoid woodlands encroach up the valleys, usually on disturbed (strongly eroded) sites. Biogeographically important succulent herbs include <i>Aloe Modesta</i> (low escarpment endemic) Biogeographically important low shrubs include <i>Bowkeria citrina</i> (low escarpment endemic) 	More than 25% has already been transformed either for cultivation, plantations and urban sprawl of by building dams (Chelmsford, Driel, Kilburn, Mtoti, Wagensdrift, Widsor and Woodstock). Bush encroachment is common and there is evidence of alien invasives.
		Northern KwaZulu-Natal Shrubland	<ul style="list-style-type: none"> Characterised by small dolerite koppies and steeper slopes of ridges with sparse grass cover and typical occurrence of scattered shrubland pockets (and locally also thickets). Biogeographically important herbs include <i>Cissus cussonioides</i> (endemic to Northern Kwazulu-Natal) Endemic tall shrubs include <i>Calpurnia woodii</i> 	About 3% of this vegetation unit has been transformed by cultivation.
		Northern Zululand Mistbelt Grassland	<ul style="list-style-type: none"> Gentle to steep upper slopes of mountains formed by hard dolerite dykes dominated by relatively forb rich, tall sour <i>Themeda triandra</i> grasslands. Biogeographically important species include the herb <i>Melanospermum italaie</i>. 	Approximately 22% of this vegetation unit has been transformed for plantations or cultivated lands. Threats to the remaining grassland are heavy selective grazing by livestock and extensive annual burning.
		Southern KwaZulu-Natal Moist Grassland	<ul style="list-style-type: none"> Characterised by gently sloping valley bottoms of tall mixed veld dominated by <i>Hyparrhenia hirta</i> and sparsely scattered <i>Acacia sieberiana</i>. <i>Themeda triandra</i> is the dominant grass on veld that has been well managed and many species of Gs 10 Drakensberg Foothill Moist Grassland are well represented and include <i>Diheteropogon fillifolius</i>, <i>Harpochoaefalx</i> and <i>Trachypogon spicatus</i>. Overgrazed areas become dominated by "mtshiki" species such as <i>Eragrostis curvula</i>, <i>E. plana</i>, <i>Sporobolus africanus</i> and <i>S. pyramidalis</i>. Selective overgrazing causes certain wiregrass species to become abundant. Endemic low shrubs include <i>Erica psittacina</i> 	More than 33% has already been transformed for cultivation, plantations, by urban sprawl and building of dams (Midmar). Several woody aliens occur in these grasslands, but their impact is only of local importance.
Afrotemperate, subtropical and Azonal forests (Zonal)	Southern Mistbelt Forest	<ul style="list-style-type: none"> On the Great Escarpment (Amathole, Transkei Escarpment) and in the Kwazulu-Natal Midlands these forests are tall (15- 	Approximately 5% has been transformed for plantations. Uncontrolled harvesting of	

BIOME	BIOREGION/AZONAL AREAS	VEGETATION UNIT	CHARACTERISTICS	
			VEGETATION AND LANDSCAPE FEATURES	LEVEL OF TRANSFORMATION
	and intrazonal units)		<p>20m tall) and multi-layered (having two layers of trees, a dense shrubby understorey and a well developed herb-layer) The forests found on low-altitude scarps are low (in places having the character of a scrub forest) and although still less structured into different tree layers, they are still species rich. The tall forests show a mix of coarse-grained, canopy gap/disturbance-driven dynamics and fine-grained regeneration characteristics. The Amatole mistbelt forests are dominated by emergent trees of <i>Afrocarpus falcatus</i> and a range of deciduous and semi-deciduous species such as <i>Celtis Africana</i>, <i>Calodendrum capense</i>, <i>Vepris lanceolate</i> and <i>Zantoxylum davyi</i>. Further east (Transkei, Kwazulu-Natal Midlands) <i>Podocarpus henkelii</i> becomes prominent in the canopy layer. Deciduous elements play an important role.</p> <ul style="list-style-type: none"> • Endemic tall shrubs include <i>Eugenia zuluensis</i> • Endemic herbs include <i>Plectranthus elegantulus</i>, <i>P. rehmannii</i>, <i>Pyrrosia Africana</i>, <i>Streptocarpus bolusii</i>, <i>S. candidus</i>, <i>S. fanniniae</i>, <i>S. silvaticus</i> 	timber, poles and firewood, overexploitation of non-timber forest products and mismanagement of fire and burning regimes in surrounding grasslands are considered as major threats.
	Inland Azonal Vegetation (Freshwater wetlands)	Eastern Temperate Freshwater Wetlands	<ul style="list-style-type: none"> • Characterised by flat landscape or shallow depressions filled with (temporary) water bodies and supporting zoned systems of aquatic and hygrophilous vegetation of temporarily flooded grasslands and ephemeral herblands. • Biogeographically important herbs include <i>Rorippa fluviatilis</i> var. <i>caledonica</i> (Highveld endemic) • Endemic (Marshes) geophytic herbs include <i>Disa zuluensis</i>, <i>Kniphofia flammula</i> (northern Kwazulu-Natal), <i>Nerine platypetala</i> • Endemic (Marshes) succulent herbs <i>Crassula tuberella</i> 	Approximately 15% has been transformed to cultivated land, urban areas or plantations. In places intensive grazing and use of lakes and freshwater pans as drinking pools for cattle or sheep cause major damage to the wetland vegetation. Several alien species are encountered in this type of vegetation.
Savannah Biome	Sub-Escarpment Savanna	Eastern Valley Bushveld	<ul style="list-style-type: none"> • Semideciduous savanna woodlands in a mosaic with thickets, often succulent and dominated by species of <i>Euphorbia</i> and <i>Aloe</i>. Most of the river valleys run along a northwest-southeast axis which results in unequal distribution of rainfall on respective north-facing and south-facing slopes since the rain-bearing winds blow from the south. The steep north-facing slopes are sheltered from the rain and also receive greater amounts of insolation adding to xerophilous conditions on these slopes. • Endemic tall shrubs include <i>Bauhinia natalensis</i> • Endemic succulent herbs include <i>Huernia pendula</i> 	Approximately 15% of has been transformed to cultivation. Alien plant invasions are a serious threat.
		KwaZulu-Natal Hinterland	<ul style="list-style-type: none"> • Characterised by open thornveld dominated by <i>Acacia</i> 	Approximately 22% has been transformed by

BIOME	BIOREGION/AZONAL AREAS	VEGETATION UNIT	CHARACTERISTICS	
			VEGETATION AND LANDSCAPE FEATURES	LEVEL OF TRANSFORMATION
		Thornveld	<ul style="list-style-type: none"> species on undulating plains found on upper margins of river valleys. Biogeographically important low shrubs include <i>Barleria elegans</i> (Southern distribution limit) Biogeographically important succulent herbs include <i>Aloe pruinosa</i> 	cultivation and some urban or built up areas.
		KwaZulu-Natal Sandstone Sourveld	<ul style="list-style-type: none"> Characterised by short, species-rich grassland with scattered low shrubs and geophytic suffrutices, Proteaceae trees and shrubs can be locally common. The dominating landscape features are flat (or rolling) plateau tops and steep slopes commonly forming table mountains. Endemic low shrubs include <i>Helichrysum woodii</i>, <i>Tephrosia inandensis</i> Endemic succulent herbaceous climbers include <i>Crassula inandensis</i> Endemic herbs include <i>Eriosema populifolium</i> subsp. <i>Populifolium</i>, <i>E. rossii</i>, <i>Phymaspermum pinnatifidum</i> Endemic geophytic herbs include <i>Brachystelma modestum</i>, <i>B. natalense</i>, <i>B. Pulchellum</i>, <i>Cynorki compacta</i>, <i>Gladiolus cruentus</i>, <i>Hesperantha gracilis</i>. 	Approximately 68% has been transformed for cultivation, plantations, urban development or road building. This highly transformed vegetation type is prime agricultural area with mainly sugar cane and timber plantations. Densely populated subsistence farming has accounted for much of this transformation.
		Ngongoni Veld	<ul style="list-style-type: none"> Characterised by dense, tall grassland overwhelmingly dominated by unpalatable, wiry Ngongoni grass (<i>Aristida junciformis</i>), with this monodominance associated with low species diversity. Wooded areas (thornveld) are found in valleys at lower altitudes. 	Approximately 39% of this vegetation type has been transformed for cultivation, plantations and urban development.
		Thukela Thornveld	<ul style="list-style-type: none"> Dominant landscape features are valley slopes to undulating hills. Vegetation is <i>Acacia</i> dominated bushveld of variable density (ranging from wooded grasslands to dense thickets) with dense grassy undergrowth. Biogeographically important small trees include <i>Vitellariopsis dispar</i>. (Thukela Basin endemic) Biogeographically important succulent herbs include <i>Aloe Prinsloo</i>, <i>Orbea woodii</i> (Thukela Basin endemic) Endemic small trees include <i>Encephalartos msinganus</i>. 	Approximately 5% has been transformed, mainly by cultivation.
		Thukela Valley Bushveld	<ul style="list-style-type: none"> Characterised by often rugged slopes and terraces mainly with deciduous trees of short to medium height (and many large shrubs) including <i>Acacia tortilis</i>, <i>A nilotica</i> and <i>A. natalitia</i> and prominent evergreen species such as <i>Olea europaea</i> subsp. <i>Africana</i>, <i>Boscia albitrunca</i> and <i>Euclea crispa</i> and places. Succulent plants, mainly species of 	This vegetation unit has undergone considerable degradation over almost its entire area. In the many eroded areas, prolonged continuous overgrazing has led to the complete destruction of grass cover. Often the only ground cover is found under

BIOME	BIOREGION/AZONAL AREAS	VEGETATION UNIT	CHARACTERISTICS	
			VEGETATION AND LANDSCAPE FEATURES	LEVEL OF TRANSFORMATION
			<p><i>Euphorbia</i> and <i>Aloe</i> occur on shallow and eroded soils.</p> <ul style="list-style-type: none"> • Biogeographically important small trees include <i>Vitellariopsis dispar</i> (Thukela Basin endemics) • Biogeographically important succulent herbs include <i>Aloe prinslooii</i>, <i>Orbea woodii</i> (Thukela Basin endemics) • Endemic small trees include <i>Encephalartos cerinus</i> • Endemic tall shrubs include <i>Gymnosporia macrocarpa</i> • Endemic low shrubs include <i>Blepharis natalensis</i> (d), <i>Barleria argillicola</i> • Endemic succulent shrubs include <i>Euphorbia pseudocactus</i> (d) • Endemic succulent herbs include <i>Gasteria tukhelensis</i> • Endemic succulent herbaceous climbers include <i>ceropegia cynniflora</i> 	<p><i>Acacia tortilis</i> trees where their root systems retain soil, the trees act as nutrient pumps and provide shade.</p>
	Lowveld	Northern Zululand Sourveld	<ul style="list-style-type: none"> • Dominated by wooded grassland, in places pure sour grasslands and rarely also dense bushveld thickets. Terrain is mainly low, undulating mountains, sometimes highly dissected, and also moderately undulating plains and hills. 	Approximately 22% has been transformed, mainly by cultivation and plantations.
		Zululand Lowveld	<ul style="list-style-type: none"> • Characterised by extensive flat or only slightly undulating landscapes supporting complex of various bushveld units ranging from dense thickets, through park-like savanna to tree-dominated woodland with broad-leaved open bushveld. Tall grassveld types with sparsely scattered solitary trees and shrubs form a mosaic with the typical savanna thornveld, bushveld and thicket patches. • Biogeographically important small trees include <i>acacia theronii</i> • Biogeographically important tall shrubs include <i>Lycium shawii</i> 	Approximately 26% of this area has been transformed, mostly by cultivation.
	Afrotropical, subtropical and Azonal forests (Zonal and intrazonal units)	Scarp Forest	<ul style="list-style-type: none"> • Characterised by tall (15-25m), species rich and structurally diverse, multi-layered forests, with well developed canopy and understorey tree layers, but a poorly developed herb layer. Buttressed stems are common in Scarp Forest. • Biogeographically important tall shrubs include <i>Pseudoscolopia polyantha</i>. • Endemic tall trees include <i>Millettia grandis</i> (d), <i>Orcia bachmannii</i> (d), <i>Philenoptera sutherlandii</i> (d), <i>Umtiza listeriana</i> (d), <i>Celtis mildbraedii</i>, <i>Colubrina nicholsonii</i>, <i>Cryptocarya myrtifolia</i>, <i>C wyliei</i>, <i>Dahlgrenodendron natalense</i>, <i>jubaeopsis caffra</i>, <i>Manilkara nicholsonii</i>, 	Approximately 5% has been transformed for cultivation or plantations. Bark stripping, muthi collection, deadwood extraction, and land claims may become other major sources of threat to the existence of forest patches.

BIOME	BIOREGION/AZONAL AREAS	VEGETATION UNIT	CHARACTERISTICS	
			VEGETATION AND LANDSCAPE FEATURES	LEVEL OF TRANSFORMATION
			<p><i>Maytenus oleosa</i>, <i>Pseudosalacia streyi</i>, <i>Rinorea domatiosa</i></p> <ul style="list-style-type: none"> • Endemic small trees include <i>Alberta magna</i>, <i>Albizia suluensis</i>, <i>Apodytes abbottii</i>, <i>Canthium vanwykii</i>, <i>Encephalartos woodii</i> (extinct in the wild), <i>Gerrardanthus tomentosus</i>, <i>Rhynchocalyx lawsonioides</i>, <i>Tarchonanthus trilobus</i> var. <i>trilobus</i>. • Endemic woody climbers include <i>Podranea ricasoliana</i> (d) • Endemic epiphytic herbs include <i>Bolusiella maudiae</i> • Endemic epiphytic shrubs include <i>Dermatobotrys saundersii</i> • Endemic epiphytic parasitic shrubs include <i>Actinanthella wyliei</i>, <i>helixanthera woodii</i> • Endemic tall shrubs include <i>Eugenia simii</i>, <i>E. verdoorniae</i>, <i>Gymnosporia bachmannii</i>, <i>Justicia bolusii</i>, <i>J. petiolaris</i> subsp. <i>Bowiei</i>, <i>Oxyanthus pyriformis</i>, <i>Putterlickia retrospinosa</i> • Endemic soft shrubs include <i>Heterosamara galpinii</i>, <i>Metarungia galpinii</i> • Endemic herbs include <i>Impatiens flanaganiae</i>, <i>Plectranthus oribiensis</i>, <i>P. praetermissus</i>, <i>Streptocarpus fasciatus</i>, <i>S. kentaniensis</i>, <i>S. lupatanus</i>, <i>S. pophyrostachys</i>, <i>S.primulifolius</i> subsp. <i>Formosus</i> • Endemic geophytic herbs include <i>Clivia robusta</i> (d), <i>C. gardenia</i> • Endemic succulent herbs include <i>Plectranthus ernestii</i>, <i>P. hilliardiae</i> subsp. <i>Australis</i>, <i>P. hilliardiae</i> subsp. <i>Hilliardiae</i>, <i>P. oertendahlii</i>, <i>P. saccatus</i> var. <i>longitubus</i> 	

Fauna

Numerous faunal species such as birds, amphibians, reptiles, mammals, fish and insects are associated with the various vegetation types located in the proposed exploration area. Species of concern that area likely to occur within the proposed exploration area according to the Kwazulu-Natal Nature Conservation Management Act (ACT NO 5 OF 1999) and the IUCN are included in Table 5-5 and Table 5-6 below.

TABLE 5-5: SPECIALLY PROTECTED INDIGENOUS ANIMALS LISTED IN SCHEDULE 4 OF THE KWAZULU-NATAL NATURE CONSERVATION MANAGEMENT ACT (ACT NO 5 OF 1999)

Scientific name	Common name	IUCN status
Mammals		
<i>Amblysomus marleyi</i>	Marley's golden mole	Endangered
<i>Chrysospalax villosus</i>	Rough haired golden mole	Vulnerable
<i>Cloetis percivali</i>	Short eared trident bat	Least concern
<i>Scotoecus albofuscus</i>	Thomas's house bat	Data deficit
<i>Otomops martiensseni</i>	Large eared free tailed bat	Near threatened
<i>Chaerephon ansorgei</i>	Ansorge's free tailed bat	Least concern
<i>Proteles cristatus</i>	Aardwolf	Least concern
<i>Lycaon pictus</i>	Wild dog	Endangered
<i>Mellivora capensis</i>	Ratel	Least concern
<i>Poecilogale albinucha</i>	Striped weasel	Least concern
<i>Aonyx capensis</i>	Clawless otter	Near threatened
<i>Lutra maculicollis</i>	Spotted necked otter	Near threatened
<i>Felis serval</i>	Serval	Not yet assessed
<i>Felis lybica</i>	African wildcat	Not yet assessed
<i>Diceros bicornis</i>	Black rhinoceros	Endangered
<i>Orycteropus afer</i>	Antbear	Least concern
<i>Ourebia ourebia</i>	Oribi	Least concern
<i>Neotragus moschatus</i>	Suni	Least concern
<i>Manis temminckii</i>	Pangolin	Not yet assessed
Birds		
<i>Botaurus stellaris</i>	Bittern	Least concern
<i>Ciconiidae</i>	All species of Storks	-
<i>Ciconia boyciana</i>	Oriental stork	Endangered
<i>Ciconia stormi</i>	Storms' stork	Endangered
<i>Leptoptilos dubius</i>	Greater adjutant	Endangered
<i>Mycteria cinerea</i>	Milky story	Endangered
<i>Chippiorhynchus asiaticus</i>	Black-necked stork	Near threatened
<i>Mycteria leucocephala</i>	Painted stork	Near threatened
<i>Ciconia episcopus</i>	Asian wollyneck	Vulnerable
<i>Leptoptilos Javanicus</i>	Lesser adjutant	Vulnerable
<i>Geronticus calvus</i>	Bald ibis	Vulnerable
<i>Polemaetus bellicosus</i>	Martial eagle	Vulnerable
<i>Terathopius ecaudatus</i>	Bateleur	Near threatened
<i>Torgos tracheliotus</i>	Lappetfaced vulture	Vulnerable
<i>Trigonoceps occipitalis</i>	White-headed vulture	Vulnerable
<i>Gyps coprotheres</i>	Cape vulture	Vulnerable
<i>Gyps africanus</i>	White-baked vulture	Endangered
<i>Gypaetus barbatus</i>	Bearded vulture	Near threatened
<i>Gypohierax angolensis</i>	Palmnut vulture	Least concern

Scientific name	Common name	IUCN status
<i>Necrosyrtes monachus</i>	Hooded vulture	Endangered
<i>Sarothrura ayresi</i>	White-winged flufftail	Critically endangered
<i>Gruidae</i>	All species all Cranes	-
<i>Anthropoides paradiseus</i>	Blue crane	Vulnerable
<i>Antigone Antigone</i>	Sarus crane	Vulnerable
<i>Antigone vipio</i>	White naped crane	Vulnerable
<i>Balearica pavonina</i>	Black crowned crane	Vulnerable
<i>Bugeranus carunculatus</i>	Wattled crane	Vulnerable
<i>Arus monacho</i>	Hooded crane	Vulnerable
<i>Arus migricollis</i>	Black necked crane	Vulnerable
<i>balearia regulorum</i>	Grey crowned crane	Endangered
<i>Arus americana</i>	Whooping crane	Endangered
<i>Arus Japonensis</i>	Red-crowned crane	Endangered
<i>Leucogeranus Leucogernaus</i>	Siberian crane	Critically endangered
<i>Neotis denhami</i>	Stanley's bustard	Near threatened
<i>Columba delegorguei</i>	Delegorgue's pigeon	Least concern
<i>Poicephalus robustus</i>	Cape parrot	Least concern
<i>Scotopelia peli</i>	Pel's fishing owl	Least concern
<i>Bucorvus leadbeateri</i>	Ground hornbill	Least concern (northern hornbill) Vulnerable (southern hornbill)
<i>Stactolaema olivacea</i>	Green barbet	Least concern
<i>Mirafra ruddi</i>	Rudd's barbet	Not assessed yet
<i>Hirundo atrocaerulea</i>	Blue swallow	Vulnerable
<i>Zoothera guttata</i>	Spotted thrush	Endangered
<i>Buphagidae</i>	all species all Oxpeckers	Least concern (yellow and red billed)
<i>Spermestes fringilloides</i>	Pied mannikin	Not yet assessed
Reptiles		
<i>Dermochelys coriacea</i>	Leatherback turtle	Vulnerable
<i>Pelusios rhodesianus</i>	Black bellied terrapin	Least concern
<i>Pelusios castanoides</i>	Yellow bellied terrapin	Least concern
<i>Python sebae</i>	African rock python	Not yet assessed
<i>Bitis gabonica</i>	Gaboon viper	Not yet assessed
<i>Scelotes guentheri</i>	Gunther's burrowing skink	Vulnerable
<i>Cryptoblepharus boutonii</i>	Bouton's coral rag skink	Not yet assessed
<i>Tetradactylus breyeri</i>	Breyer's longtailed seps	Vulnerable
<i>Cordylus giganteus</i>	Giant sungazer	Vulnerable
<i>Pseudocordylus spinosus</i>	Spiny crag lizard	Least concern
<i>Pseudocordylus langi</i>	Lang's crag lizard	Vulnerable
All <i>Bradypodion</i> species	All dwarf Chamaeleon's	-
<i>Bradypodion nemorale</i>	Quendeni dwarf chameleon	Vulnerable
<i>Kinyongia adolfifrideric</i>	Ituri chameleon	Vulnerable
<i>Kinyonigia oxyrhina</i>	Eastern arc sharp-nosed chameleon	Vulnerable
<i>Triceros schubotzi</i>	Mount kenya dwarf chameleon	Vulnerable
Amphibians		
<i>Hyperolius pickersgilli</i>	Pickersgill's reed frog	Critically endangered
<i>Leptopelis xenodactylus</i>	Long toed tree frog	Endangered
<i>Arthroleptella ngongoniensis</i>	Mist belt chirping frog	Endangered
<i>Cacosternum poyntoni</i>	Poynton's caco	Data deficit
Butterfly and moths		

Scientific name	Common name	IUCN status
<i>Stygionympha wichgrafi grisea</i>	Greyish wichgraf's brown	Not yet assessed
<i>Ornipholidotos peucitia penningtoni</i>	Pennington's white mimic	Not yet assessed
<i>Durbania amalosa albescens</i>	Amakosa rocksitter	Not yet assessed
<i>Lolaus lulua</i>	White spotted sapphire	Not yet assessed
<i>Lepidocrysops ketsi leucomacula</i>	White blotched ketsi blue	Not yet assessed
<i>Orahrysops Ariadne</i>	Karkloof blue	Not yet assessed
<i>Hrysoritis orientalis</i>	Eastern opal	Not yet assessed
<i>Callioratis maillari</i>	Millar's tiger mouth	Not yet assessed
Dragonfly		
<i>Pseudagrion umsingaziense</i>	Umsingazi sprite	Not yet assessed
<i>Syncordulia gracilis</i>	Yellow synordulia	Vulnerable
<i>Urothemis Luciana</i>	St Lucia basker	Data deficit
Fruit Chafers		
<i>Ichneustoma nasula</i>	-	Not yet assessed
<i>Lamellothyrea descarpentriesi</i>	-	Not yet assessed
<i>Elsphinis pumila</i>	-	Not yet assessed
<i>Acrothyrea rufofemorata</i>	-	Not yet assessed
<i>Eudicella trimeni</i>	-	Not yet assessed
Molluscs		
<i>Laevicaulis haroldi</i>	-	Endangered
Onycophorans		
<i>Opisthopatus roseus</i>	-	Not yet assessed

TABLE 5-6: PROTECTED INDIGENOUS ANIMALS LISTED IN SCHEDULE 5 OF THE KWAZULU-NATAL NATURE CONSERVATION MANAGEMENT ACT (ACT NO 5 OF 1999)

Scientific name	Common name	IUCN
Mammals		
<i>Crociodura maquassiensis</i>	Makwassie musk shrew	Least concern
<i>Suncus lixus</i>	Greater dwarf shrew	Least concern
<i>Suncus infinitesimus</i>	Lesser dwarf shrew	Least concern
<i>Chlorotalpa sclateri</i>	Sclater's golden mole	Least concern
<i>Eidolon helvum</i>	Straw-coloured fruit bat	Near threatened
<i>Nycteris hispida</i>	Hairy slit faced bat	Least concern
<i>Rhinolophus darling</i>	Darling's horseshoe bat	Least concern
<i>Rhinolophus lasii</i>	Swinny's horseshoes bat	Least concern
<i>Myotis welwitschi</i>	Welwitsch's hairy bat	Least concern
<i>Myotis tricolor</i>	Anchieta's pipistrelle	Least concern
<i>Chalinolobus variegatus</i>	Butterfly bat	Not yet assessed
<i>Laephotis wintoni</i>	Winton's long-eared bat	Least concern
<i>Aptesicus rendalli</i>	Rendall's serotine bat	Least concern
<i>Eptesicus hottentotus</i>	Long-tailed serotine bat	Least concern
<i>Eptesicus zuluensis</i>	Somali serotine bat	Not yet assessed
<i>Nycticeicus schlieffenii</i>	Schlieffen's bat	Not yet assessed
<i>Kerivoula argentata</i>	Damara woolly bat	Least concern
<i>Kerivoula lanosa</i>	Lesser woolly bat	Least concern
<i>Ceropthecus mitis</i>	Samango monkey	Not assessed yet
<i>Vulpes chama</i>	Cape fox	Least concern

Scientific name	Common name	IUCN
<i>Civettictis civetta</i>	Civet	Least concern
<i>Paracynictis selousi</i>	Selousis mongoose	Least concern
<i>Helogae parvula</i>	Dwarf mongoose	Least concern
<i>Htaena brunnea</i>	Brown hyena	Near threatened
<i>Acinonyx jubatus</i>	Cheetah	Vulnerable
<i>Panther pardus</i>	Leopard	Near threatened
<i>Panhera leo</i>	Lion	Vulnerable
<i>Felis nigripes</i>	Small spotted cat	Vulnerable
<i>Oxodonta</i>	<i>Africana</i> Elephant	Vulnerable
<i>Ceratotherium simum</i>	White rhinoceros	Near threatened
<i>Dendrohyrax arboreus</i>	Tree dassie	Least concern
<i>Giraffe camelopardalis</i>	Giraffe	Least concern
<i>Connochaetus gnou</i>	Black wildebeest	Least concern
<i>Alcelaphis buselaphus</i>	Red hartebeest	Least concern
<i>Damaliscus lunatus</i>	Tsessebe	Least concern
<i>Philantomba monticola</i>	Blue duiker	Least concern
<i>Cephalophus natalensis</i>	Red duiker	Least concern
<i>Oreotragus oreotragus</i>	Klipspringer	Least concern
<i>Syncerus caffer</i>	Buffalo	Least concern
<i>Kobus ellipsiprymnus</i>	Waterbuck	Least concern
<i>Hippopotamus amphibious</i>	Hippopotamus	Vulnerable
<i>Parazerus pallitus</i>	Red squirrel	Least concern
<i>Pedetes capensis</i>	Springhare	Least concern
<i>Georchuss capensis</i>	Cape molerat	Least concern
<i>Otomys lamitus</i>	Laminate vlei rat	Least concern
<i>Otomys sloggetti</i>	Sloggetti's rat	Least concern
<i>Tatera leucogaster</i>	Bushveld gerbil	Least concern
<i>Mystromys albicaudatus</i> White tailed mouse	White tailed mouse	Endangered
<i>Steatomys pratensis</i>	Fat mouse	Least concern
<i>Steatomys krebsii</i>	Krebs's fat mouse	Least concern
<i>Dasymys incomtus</i>	Water rat	Least concern
<i>Grammomys cometes</i>	Mozambique woodland mouse	Least concern
<i>Pronolagus rupestris</i>	Smith's rock hare	Least concern
<i>Petrodromus tetradactylus</i>	Four-toed elephant shrew	Least concern
Birds		
<i>Ardeidae</i>	All herons, egrets and bitterns (except <i>Botaurus stellaris</i> listed in the Fourth Schedule)	-
<i>Agamia agami</i>	Agami Heron	Vulnerable
<i>Egretta eulophotes</i>	Chinese Egret	Vulnerable
<i>Egrett vinaceiqula</i>	Slaty egret	Vulnerable
<i>Ardea humbloti</i>	Madagascar heron	Endangered
<i>Ardeola idea</i>	Madagascar pond heron	Endangered
<i>Botaurus policiloptilus</i>	Australasian bittern	Endangered
<i>Gorsachius gorsagi</i>	Japanese night heron	Endangered
<i>Gorsachius magnificus</i>	White eared night	Endangered
<i>Ardea insignis</i>	White bellied heron	Critically endangered
<i>Egretta rufescense</i>	Reddish egret	Near threatened

Scientific name	Common name	IUCN
<i>Zebrilus undulatus</i>	Zigzag heron	Near threatened
<i>Zaherodius heliosylus</i>	Forrest bittern	Near threatened
<i>Lxobrychus simensis</i>	Yellow bittern	Extinct
<i>Nyctanassa carcino catactes</i>	Berumuda Night Heron	Extinct
<i>Nycticorax duboisi</i>	Reunion night heron	Extinct
<i>Nycticorax mauritanus</i>	Mauritius night heron	Extinct
<i>Nycticorax megacephalus</i>	Rodrigues nigh heron	Extinct
<i>Scopus umbretta</i>	Hamerkop	Least concern
<i>Threskiornithidea</i>	-	-
-	All species not in the Fourth Schedule All ibises and spoonbills (except Bald Ibis <i>Geronticus calvus</i> listed in the Fourth Schedule)	-
<i>Bostrychia bocagei</i>	Dwarf Ibis	Critically endangered
<i>Geronticus eremita</i>	Northern Bald Ibis	Critically endangered
<i>Pseudibis davisoni</i>	White shouldered Ibis	Critically endangered
<i>Thaumatibis gigantea</i>	Giant Ibis	Critically endangered
<i>Geronticus calvus</i>	Southern bald ibis	Vulnerable
<i>Lophotibis cristata</i>	Madagascar Crested Ibis	Near threatened
<i>Theristicus branickii</i>	Andean Ibis	Near threatened
<i>Threskiomis melanocephalus</i>	Black Hooded Ibis	Near threatened
<i>Nipponia Nippon</i>	Asian crested Ibis	Endangered
<i>Threaskimis barnieri</i>	Madagascar sacred Ibis	Endangered
<i>Platalea minot</i>	Black faced spoonbill	Endangered
<i>Phoenicopteridae</i>	All Flamingos	-
<i>Phoeniconaias minor</i>	Lesser flamingo	Near threatened
<i>Phoenicapporus jamesi</i>	Puna flamingo	Near threatened
<i>Phoenicopterus chilensis</i>	Chilean flamingo	Near threatened
<i>Phoeniconaias andinus</i>	Andean flamingo	Vulnerable
<i>Nettapus auritus</i>	Pygmy Goose	Least concern
<i>Accipitridae</i>	All species not in the Fourth Schedule All diurnal birds of prey (except all vultures listed in the Fourth Schedule)	-
<i>Cirus macronus</i>	Palled Harrier	Near threatened
<i>Cirus maurus</i>	Black harrier	Vulnerable
<i>Gyps africanus</i>	White-backed vulture	Endangered
<i>Necrosyrtes manachus</i>	Hooded vulture	Endangered
<i>Neophron percnopterus</i>	Egyptian vulture	Endangered
<i>Polemaetus bellicosus</i>	Martial eagle	Vulnerable
<i>Stephanoaetus</i>	Crowned eagle	Near threatened
<i>Pandion haliaetus</i>	Osprey	Least concern
<i>Turnix hottentotta</i>	Blackrumped Buttonquail	Endangered
<i>Sarothrura</i>	All species not in the Fourth Schedule. All flufftails (except Whitewinged Flufftail <i>Sarothrura ayresi</i> listed in the Fourth Schedule)	-
<i>Sarothrura ayresi</i>	-	Critically endangered
<i>Sarothrura watersi</i>	Slender billed flufftail	Endangered
<i>Podica senegalensis</i>	African Finfoot	Least concern
<i>Otididae</i>	All species not in the Fourth Schedule All bustards and korhaans (except Stanley's	-

Scientific name	Common name	IUCN
	Bustard <i>Neotis denhami</i> listed in the Fourth Schedule	
<i>Afrotis afra</i>	Southern black bustard	Vulnerable
<i>Chlamydotis macqueenii</i>	Asian houbara	Vulnerable
<i>Otis tarda</i>	Great bustard	Vulnerable
<i>Chlamydotis undulata</i>	African houbara	Vulnerable
<i>Ardeotis arabs</i>	Arabian bustard	Near Threatened
<i>Ardeotis kori</i>	Kori bustard	Near Threatened
<i>Eupodotis caerulescens</i>	Blue bustard	Near Threatened
<i>Heterotera humilis</i>	Little Brown bustard	Near Threatened
<i>Neotis denhawi</i>	Denhaws bustard	Near Threatened
<i>Neotis huba</i>	Nubian bustard	Near Threatened
<i>Tetrax tetrax</i>	Little bustard	Near Threatened
<i>Ardeotis nigriceps</i>	Great Indian Bustard	Critically endangered
<i>Houbaropsis</i>	Bengal Florican	Critically endangered
<i>Neotis lugwigi</i>	Ludwigs bustard	Endangered
<i>Sypheotioes indicus</i>	-	Endangered
<i>Jacanidae</i>	All species All jacanas	-
<i>Actophilornis albinucha</i>	Madagascar Jacana	Near Threatened
<i>Glareola pratinola</i>	Red-winged Pratincole	Least concern
<i>Hydroprohne caspia</i>	Caspian Tern	Least concern
<i>Poicephalus cryptoxanthus</i>	Brown headed Parrot	Least concern
<i>Musophagidae</i>	All species All louries	-
<i>Tauraco bannermani</i>	Bannermans Turaco	Endangered
<i>Tauraco fischeri</i>	Fischer's Tauraco	Near Threatened
<i>Tauraco vuspolii</i>	Ruspolis tauraco	Vulnerable
<i>Tytonidae and Strigidae</i>	All species All owls	-
<i>Asio capensis</i>	March owl	Least concern
<i>Bubo africanus</i>	Spotted eagle owl	Least concern
<i>Bubo lacteus</i>	Verreaux's eagle owl	Least concern
<i>Glaucopteryx perlatum</i>	Pearl-spotted owlet	Least concern
<i>Ptilopsis granti</i>	Southern white-faced owl	Least concern
<i>Strix woodfordii</i>	African Wood owl	Least concern
<i>Caprimulgus natalensis</i>	Natal Nightjar	Least concern
<i>Halcyon senegaloides</i>	Mangrove Kingfisher	Least concern
<i>Smithornis capensis</i>	African Broadbill	Least concern
<i>Zoothera gurneyi</i>	Orange Thrush	Least concern
<i>Batis fratrum</i>	Woodwards Batis	Least concern
<i>Anthus brachyurus</i>	Shorttailed Pipit	Least concern
<i>Hemimacronyx chloris</i>	Yellowbreasted Pipit	Vulnerable
<i>Macronyx ameliae</i>	Pinkthroated Longclaw	Least concern
<i>Nectarinia neergaardi</i>	Neegaar's Sunbird	Near threatened
<i>Mandingoa nitidula</i>	Green Twinspot	Least concern
<i>Hypargos mararitatus</i>	Pinkthroated Twinspot	Least concern
Reptiles		
<i>Kinixys spekei</i>	Savanna hinged tortoise	Not yet assessed
<i>Kinixys natalensis</i>	Natal hinged tortoise	Near threatened
<i>Chelonia mydas</i>	Green turtle	Endangered
<i>Eretmochelys imbricata</i>	Hawksbill turtle	Critically endangered
<i>Caretta caretta</i>	Loggerhead turtle	Endangered

Scientific name	Common name	IUCN
<i>Leptotyphlops sylvicolus</i>	Forest thread snake	Not yet assessed
<i>Lycodonomorphus laevis</i> <i>Lycodonomorphus natalensis</i>	Natal dusky-bellied water snake	Not yet assessed
<i>Lycodonomorphus whytei</i>	Whyte's water snake	Least concern
<i>Lamprophis fuscus</i>	Yellow-bellied house snake	Least concern
<i>Lycophidion variegatum</i>	Variegated wolf snake	Not yet assessed
<i>Lycophidion pygmaeum</i>	Pygmy wolf snake	Not yet assessed
<i>Natriciteres variegata</i>	Forest marsh snake	Not yet assessed
<i>Prosymna janii</i>	Mozambique shovelnout	Not yet assessed
<i>Amblyodipsas concolor</i>	Natal purple-glossed snake	Least concern
<i>Amblyodipsas microphthalma</i>	White-lipped snake	Least concern
<i>Homoroselaps dorsalis</i>	Striped harlequin snake	Near threatened
<i>Xenocalamus transvaalensis</i>	Transvaal quill-snouted snake	Data deficit
<i>Meizodon semiornatus</i>	Semiornate snake	Not yet assessed
<i>Philothamnus angolensis</i>	Angola green snake	Not yet assessed
<i>Dasypeltis medici</i>	East African egg-eater	Not yet assessed
<i>Montaspis gilvomaculata</i>	Cream-spotted mountain snake	Not yet assessed
<i>Scelotes inornatus</i>	Smith's burrowing skink	Endangered
<i>Scelotes bourquini</i>	Bourquin's burrowing skink	Not yet assessed
<i>Scelotes fitzimonsi</i>	Fitzimon's burrowing skink	Not yet assessed
<i>Mabuya homalocephala smithii</i>	Smith's red-sided skink	Not yet assessed
<i>Pedioplanis lineocellata lineocellata</i>	Ocellated sand lizard	Not yet assessed
<i>Tropidosaura cottrelli</i>	Cottrell's mountain lizard	Near threatened
<i>Tropidosaura montana natalensis</i>	Natal mountain lizard	Not yet assessed
<i>Cordylus warreni warren</i>	Warren's girdled lizard	Not yet assessed
<i>Cordylus barbertonensis</i>	Barberton girdled lizard	Not yet assessed
<i>Crocodylus niloticus</i>	Nile crocodile	Least concern
Amphibians		
<i>Bufo fenoulheti fenoulheti</i>	Northern pygmy toad	Not yet assessed
<i>Bufo gariensis nubicolus</i>	Karoo toad	Least concern
<i>Bufo pardalis</i>	Leopard toad	Least concern
<i>Bufo pusillus</i>	Little toad	Least concern
<i>Hemisis guttatus</i>	Spotted shovel-nosed frog	Vulnerable
<i>Hyperolius marmoratus verrucosus</i>	Warty painted reed frog	Not yet assessed
<i>Afrivalus spinifrons</i>	Natal leaf-folding frog	Near threatened
<i>Strongylopus hymenopus</i>	Berg stream frog	Least concern
<i>Leptopelis mossambicus</i>	Brown-backed tree frog	Least concern
<i>Breviceps maculatus</i>	Spotted rain frog	Least concern
<i>Breviceps verrucosus typanifer</i>	Plaintive rain frog	Not yet assessed
<i>Arthroleptella hewitti</i>	Natal chirping frog	Least concern
<i>Cacosternum striatum</i> Line	Lined caco	Not yet assessed
<i>Cacosternum nanum parvum</i>	Little bronze caco	Not yet assessed
<i>Natalobatrachus bonebergi</i>	Kloof frog	Endangered
<i>Phrynobatrachus acridoides</i>	East African puddle frog	Least concern
<i>Hildebrandtia ornata ornata</i>	Ornate frog	Least concern

Scientific name	Common name	IUCN
<i>Pyxicephalus adspersus</i>	Giant bullfrog	Least concern
<i>Rana dracomontana</i>	Drakenberg river frog	Least concern
<i>Rana vertebralis</i>	Aquatic river frog	Not yet assessed
<i>Tomopterna marmorata</i>	Russet-backed sand frog	Least concern
<i>Cacosternum nanum</i>	Little bronze caco	Least concern
Fresh water fish		
<i>Opsaridium peringueyi</i>	Barred minnow	Least concern
<i>Silhouettea sibayi</i>	Barebreast goby	Endangered
<i>Oreochromis placidus</i>	Black tilapia	Least concern
<i>Ctenopoma intermedium</i>	Blackspot climbing perch	Least concern
<i>Eleotris melanosoma</i>	Broadhead sleeper	Least concern
<i>Croilia mossambica</i>	Burrowing goby	Least concern
<i>Redigobius dewaali</i>	Checked goby	Least concern
<i>Myxus capensis</i>	Freshwater mullet	Least concern
<i>Hypseleotris dayi</i>	Golden sleeper	Data deficit
<i>Serranochromis meridianus</i>	Lowveld largemouth	Endangered
<i>Chiloglanis emarginatus</i>	Pongolo suckermouth	Least concern
<i>Clarias theodora</i>	Snake catfish	Least concern
<i>Nothobranchius orthonotus</i>	Spotted killfish	Least concern
<i>Brycinus lateralis</i>	Striped robber	Least concern
Butterflies		
<i>Dingana alaedeus</i>	Wakkerstroom widow	Not yet assessed
<i>Dingana dingana</i>	Dingaan's widow	Not yet assessed
<i>Acraea rabbaiae</i>	Clear-wing acraea	Not yet assessed
<i>Acraea satis</i>	East Coast acraea	Not yet assessed
<i>Euryphura achlys</i>	Mottled green nymph	Least concern
<i>Durbania amakosa flavida</i>	Amakosa rocksitter	Not yet assessed
<i>Aslauga australis</i>	Southern purple	Vulnerable
<i>Lolaua diametra natalica</i>	Natal Yellow-banded sapphire	Not yet assessed
<i>Hypolycaena lochmophila</i>	Coastal hairstreak	Not yet assessed
<i>Capys penningtoni</i>	Pennington's protea-butterfly	Vulnerable
<i>Aloeides merces</i>	Wakkerstroom copper	Vulnerable
<i>Chrysothrix oreas</i>	Drakensberg daisy copper	Near threatened
<i>Chrysothrix phosphor borealis</i>	Scarce scarlet	Not yet assessed
<i>Anthene minima</i>	Little hairtail	Not yet assessed
<i>Lepidochrysops pephredo</i>	Estcourt blue	Vulnerable
<i>Papilio euphranor</i>	Forest swallowtail	Not yet assessed
<i>Spialia confusa confua</i>	Confusing sandman	Not yet assessed
<i>Abantis bicolor</i>	Bicoloured skipper	Not yet assessed
<i>Metisella meninx</i>	Marsh sylph	Not yet assessed
<i>Metisella syrix</i>	Bamboo sylph	Not yet assessed
<i>Borbo ferruginea dondo</i>	Ferrous skipper	Not yet assessed
<i>Fresna nyassae</i>	Variegated acraea hopper	Not yet assessed
Dragonflies		
<i>Chlorolestes draconicus</i>	Drakensberg sylph	Least concern
<i>Pseudagrion newtoni</i>	Newton's sprite	Not yet assessed
<i>Enallagma rotundipenne</i>	Scarce blue	Not yet assessed
<i>Enallagma sinuatum</i>	Mysterious blue	Least concern
<i>Agriocnemis falcifera falcifera</i>	Sickle wisp	Not yet assessed

Scientific name	Common name	IUCN
<i>Agriocnemis gratiosa</i>	Zanzibar wisp	Least concern
<i>Agriocnemis pinheyi</i>	Pinhey's wisp	Least concern
<i>Agriocnemis ruberrima</i>	Red wisp	Not yet assessed
<i>Onychogomphus supinus</i>	Scarce hooktail	Least concern
<i>Gynacantha zuluensis</i>	Zulu darner	Least concern
<i>Hemicordulia asiatica</i>	Asian hemicordulia	Least concern
<i>Orthetrum robustum</i>	Robust orthetrum	Least concern
<i>Diplacodes deminuta</i>	Tiny percher	Least concern
<i>Trithemis pluvialis Riv</i>	River dropwing	Not yet assessed
<i>Zygomma atlanticum</i>	Cryptic zygomma	Least concern
<i>Parazygomma flavicans</i>	Scarce zygomma	Least concern
<i>Aethriamanta rezia</i> Rezia	Rezia	Least concern
Fruit chafers		
<i>Pachnoda discolor</i>	-	Not yet assessed
<i>Uloptera planate</i>	-	Not yet assessed
<i>Cytothyrea rubriceps</i> <i>ichthyurus</i>	-	Not yet assessed
<i>Trichocephala brincki</i>	-	Not yet assessed
<i>Caelorrhina relucens</i>	-	Not yet assessed
<i>Lonchothyrea mozambica</i>	-	Not yet assessed
<i>Heteroclita raeuperi</i>	-	Not yet assessed
<i>Anoplocheilus globosus</i>	-	Not yet assessed
<i>Phoxomeloides laticincta</i>	-	Not yet assessed
<i>Taurhina splendens</i>	-	Not yet assessed
<i>Anisorrhina serripes</i>	-	Not yet assessed
<i>Raceloma jansoni</i>	-	Not yet assessed
<i>Raceloma natalensis</i>	-	Not yet assessed
<i>Diplognatha striata</i>	-	Not yet assessed
<i>Rhinoceota cornuta</i>	-	Not yet assessed
<i>Xeloma aspersa</i>	-	Not yet assessed
<i>Xeloma leprosa</i>	-	Not yet assessed
<i>Cosmiophaenia rubescens</i>	-	Not yet assessed
<i>Rhabdotis semipunctata</i>	-	Not yet assessed
<i>Rhabdotis sobrina</i>	-	Not yet assessed
<i>Polystalactica furfurosa</i>	-	Not yet assessed
<i>Discopeltis bellula</i>	-	Not yet assessed
<i>Discopeltis tricolor tricolor</i>	-	Not yet assessed
<i>Pseudoclintheria cincticollis</i>	-	Not yet assessed
Molluscs		
<i>Chlamydephorus burnupi</i>	-	Vulnerable
<i>Chlamydephorus dimidius</i>	-	Vulnerable

Sites of conservation importance

Protected areas

All areas with protected status under the National Environmental Management: Protected Areas Act, 2003 (No. 57 of 2003); Biodiversity Act, 2004 (Act 10 of 2004); National Forests Act, 1998 (No. 84 of 1998) and Mountain Catchment Areas Act, 1970 (No. 63 of 1970) are excluded from the extent of the

exploration right application area. Numerous protected areas are located within the boundary of the proposed exploration area but the properties are excluded from the application area (see Figure 1-2). These include the following:

- Mpushini Protected Environment
- Karkloof Nature Reserve
- Doreen Clark Nature Reserve
- Midmar Public Resort Nature Reserve
- Weenen Nature Reserve
- Queen Elizabeth Park Nature Reserve
- Umvoti Vlei Nature Reserve
- Hlatikulu Nature Reserve
- Qudeni Forest Reserve
- Tugela Drift Nature Reserve
- Albert Falls Public Resort Nature Reserve
- Bill Barnes Crane and Oribi Nature Reserve
- Blue Crane Nature Reserve
- Craigie Burn Public Resort Nature Reserve
- Gelijkwater Mistbelt Nature Reserve
- Hilton College Nature Reserve
- Mbona Private Nature Reserve
- Mt Gilboa Nature Reserve
- Roselands Nature Reserve

As advised by WWF, there are further protected areas (some recently proclaimed) within the exploration right application area. These will need to be identified during the EIA and formally excluded from the exploration right application area, if not already excluded. The EIA will also aim to identify those properties under application for protected area status.

Stewardship areas

Stewardship refers to the wise use, management and protection of that which has been entrusted to a landowner. Biodiversity stewardship is therefore the practice of effectively managing land-use outside the existing state-managed protected area system to ensure that natural systems, biodiversity and the ecosystem services they provide are maintained and enhanced for present and future generations. With reference to Figure 1-2 and Figure 5-7, a number of stewardship areas are located within the proposed exploration area. With the status granted under the National Environmental Management: Protected Areas Act, 2003 such properties are excluded from the extent of the exploration right application area.

The EIA will also aim to identify those properties under application for stewardship status.

Conservancies and Game Farms

There are various properties in the region managed for conservation, game breeding and ecotourism purposes (e.g. game farms, conservancies etc). These areas do not have official protected area status. The properties are thus included within the exploration right application area. If exploration activities are deemed to be incompatible with these uses then restrictions may be considered.

National protected areas expansion strategy

The aim of the National Protected Area Expansion Strategy (NPAES) is to achieve cost effective protected area expansion for ecological sustainability and adaptation to climate change. The NPAES sets targets for protected area expansion, provides maps of the most important areas for protected area expansion, and makes recommendations on mechanisms for protected area expansion. It deals with land-based and marine protected areas across all of South Africa's territory (SANBI BGIS).

With reference to Figure 5-8 certain areas of the proposed exploration area is located in a NPAES focus area. Focus areas are important for the land-based protected area expansion network as these areas are large, intact and unfragmented areas which are suitable for creation or expansion of large protected areas. If exploration activities are deemed to be incompatible with these uses then restrictions may be considered.

National Threatened ecosystems

Section 52 of the National Environmental Management: Biodiversity Act, 2004 (No. 10 of 2004) (NEM:BA) provides for the listing of threatened ecosystems at both national and provincial level. Threatened ecosystems are listed in order to reduce the rate of ecosystem and species extinction by preventing further degradation and loss of structure, function and composition of threatened ecosystems. The purpose of listing protected ecosystems is primarily to conserve sites of exceptionally high conservation value (SANBI, BGIS). The table below outlines the status of each of the vegetation units located within the proposed exploration area.

TABLE 5-7: CONSERVATION STATUS OF VEGETATION UNITS LOCATED WITHIN THE PROPOSED PROJECT AREA

Vegetation unit	Conservational status in terms of NEMBA
Drakensberg Foothill Moist Grassland	Least Threatened
Income Sandy Grassland	Vulnerable
Ithala Quartzite Sourveld	Least Threatened
KwaZulu-Natal Highland Thornveld	Least Threatened
Low Escarpment Moist Grassland	Least Threatened
Midlands Mistbelt Grassland	Endangered
Mooi River Highland Grassland	Vulnerable
Northern KwaZulu-Natal Moist Grassland	Vulnerable

Vegetation unit	Conservational status in terms of NEMBA
Northern KwaZulu-Natal Shrubland	Least threatened
Northern Zululand Mistbelt Grassland	Vulnerable
Southern KwaZulu-Natal Moist Grassland	Vulnerable
Southern Mistbelt Forest	Least Threatened
Eastern Temperate Freshwater Wetlands	Vulnerable
Eastern Valley Bushveld	Least threatened
KwaZulu-Natal Hinterland Thornveld	Vulnerable
KwaZulu-Natal Sandstone Sourveld	Endangered
Ngongoni Veld	Vulnerable
Thukela Thornveld	Least Threatened
Thukela Valley Bushveld	Least Threatened
Northern Zululand Sourveld	Vulnerable
Zululand Lowveld	Vulnerable
Scarp Forest	Least threatened

No critically endangered ecosystems are located within the proposed exploration area (Mucina and Rutherford, 2006).

Critically endangered and endangered ecosystems are afforded protection through the NEMA whereby environmental authorisation is required from a competent authority prior to the clearance of more than 300 m² of vegetation (Activity 12 of Listing Notice 3 GN R 985). The application by Rhino Oil and Gas does not include approval for this listed activity as there is no intent to clear vegetative cover in natural habitat.

Maputaland-Pondoland-Albany Hotspot

The Maputaland-Pondoland-Albany Hotspot is a Biodiversity hotspot situated in the south eastern South African coast below the Great Escarpment. It stretches from the Albany Centre of Plant Endemism in the Eastern Cape Province of South Africa, through the Pondoland Centre of Plant Endemism and KwaZulu-Natal Province, the eastern side of Swaziland and into southern Mozambique and Mpumalanga. The Maputaland Centre of Plant Endemism is contained in northern KwaZulu-Natal and southern Mozambique. The hotspot is the second-richest floristic region in southern Africa (after the Cape Floristic Region) and also the second-richest floristic region in Africa for its size.

These areas do not have official protected area status. The related properties are thus included within the exploration right application area. If exploration activities are deemed to be incompatible with these uses then restrictions may be considered.

Important Bird Areas

Important Bird Areas (IBAs) were initiated by BirdLife International to conserve a network of specific sites that are critical in the long-term survival avifaunal species. The following criteria was used in selecting the IBA's:

- Globally threatened species;
- Restricted range;
- Restricted to specific vegetation types or biomes; and
- Significant population numbers for a specific area.

IBA's associated with the proposed project area located in the southern section of the proposed exploration area as illustrated in Figure 5-8.

The KwaZulu-Natal Mistbelt Grassland IBA consists of a series of patches and covers an area of approximately 29 410ha. This grassland IBA is classified as an IBA on a national (SA 078) and global (A1) level and is considered to be unprotected (www.birdlife.org.za).

The KwaZulu-Natal Mistbelt Forest IBA consists of a series of patches and covers an area of approximately 31 760ha. This IBA is classified as an IBA on a national (SA 071) and global (A1, A2 and A3) level and is considered to be partially protected (www.birdlife.org.za).

The Umvoti Vlei IBA covers an area of approximately 4 240ha. This IBA is classified as a IBA on a national (SA 069) and global (A1) level and is considered to be partially protected (www.birdlife.org.za).

The Karkloof IBA covers an area of approximately 27 680ha. This IBA is classified as an IBA on a national (SA 129) and global (A1, A2 and A3) level and is considered to be partially protected (www.birdlife.org.za).

The Midmar Nature Reserve IBA covers an area of approximately 2 830ha. This IBA is classified as an IBA on a national (SA 076) and global (C1) level and is considered to be fully protected (www.birdlife.org.za).

These IBAs do not have official protected area status (except for where the IBA overlaps with protected areas). The related properties are thus included within the exploration right application area. If exploration activities are deemed to be incompatible with these uses then restrictions may be considered.

Critical biodiversity areas

According to the KwaZulu-Natal Terrestrial Conservation Plan the proposed exploration area contains sites specified as Biodiversity Priority Areas 1 (Critical Biodiversity Areas (CBAs) 1 Mandatory),

Biodiversity Priority Areas 2 (CBA 2 Mandatory) and Biodiversity Priority Areas 3 (CBA 3 Optimal). Refer to Figure 5-8 for the location of the various CBA's within the proposed exploration area.

The CBA 1 and CBA 2 Mandatory areas are based on the C-Plan Irreplaceability analyses. Identified as having an Irreplaceability value of 1 and >0.8 and <1 respectively, these planning units represent the only areas for which the conservation targets for one or more of the biodiversity features contained within can be achieved.

CBA 3 Optimal areas reflect the negotiable sites with a C-Plan Irreplaceability analyses of <0.8. Even though these areas may display a lower Irreplaceability value it must be noted that these areas, together with CBA 1s and CBA 2s, collectively reflect the minimal reserve design required to meet the Systematic Conservation Plans targets and as such, they are also regarded as CBA areas.

Areas not highlighted in the plan are not necessarily open for wholesale development. Important species or habitats may still be located within them and should be accounted.

Environmental authorisation is required from a competent authority prior to the clearance of more than 300 m² of vegetation (Activity 12 of Listing Notice 3 GN R 985) located in CBA's. The application by Rhino Oil and Gas does not include approval for this listed activity as there is no intent to clear vegetative cover in natural habitat.

Freshwater ecosystems

The Water Research Commission and partners undertook the National Freshwater Ecosystem Priority Areas project (NFEPAs). The project produced several outcomes including the Atlas of Freshwater Ecosystem Priority Areas in South Africa, which provides strategic spatial priorities for conserving South Africa's freshwater ecosystems and supporting sustainable use of water resources. The NFEPAs is supported by an implementation manual that provides guidance on the use of FEPA maps when planning and decision-making impacts on freshwater ecosystems. The manual provides ecosystem management guidelines for river FEPAs, wetland FEPAs, sub-quaternary catchments associated with river FEPAs, and Upstream Management Areas. The purpose of freshwater ecosystem management is to conserve biodiversity patterns and ecological processes and to maintain natural variability. Management should aim to prevent the occurrence of large-scale damaging events, as well as the repeated, chronic, persistent, subtle events.

There are numerous NFEPAs Rivers and wetlands located within the proposed exploration area (Figure 5-9). The present ecological state of the NFEPAs Rivers located within the proposed exploration area are either classified as Class A (Unmodified, Natural), Class B (Largely Natural), Class C (Moderately modified), Class D (Largely modified).

The wetlands located within the proposed exploration area considered to have a present ecological state of either, natural or good, moderately modified or heavily to critically modified. The wetlands located within the proposed exploration area include a combination of channelled valley-bottom wetlands, depressions, flat, floodplain wetland, seeps, unchannelled valley-bottom wetland and valleyhead seep wetlands.

According to the NFEPA implementation manual, mining in any form (including prospecting/exploration) should not be permitted in wetland FEPAs or within 1km of a wetland FEPA buffer, or within 1km of a riverine buffer (including all associated wetland systems and tributaries) within a FEPA catchment. However, it should be noted that there is no legislation regarding buffers around rivers or wetlands in the National Water Act, 1998. The width of a buffer required around a river or wetland depends on many factors such as the risk the proposed development poses to the water resources, the sensitivity of receiving environment and the proposed mitigation measures. A water use licence is currently required for activities within 500 m of a wetland. The application by Rhino Oil and Gas does not include an application for a water use licence as there is no intent to undertake activities within 500m of a watercourse.

Mining biodiversity guidelines

The Mining Biodiversity Guideline (2012) provides explicit direction in terms of where mining-related impacts are legally prohibited, where biodiversity priority areas may present high risks for mining projects, and where biodiversity may limit the potential for mining. The Guideline distinguishes between four categories of biodiversity priority areas in relation to their importance from a biodiversity and ecosystem service point of view as well as the implications for mining. These categories include: Legally Protected Areas, Highest Biodiversity Importance, High Biodiversity Importance and Moderate Biodiversity Importance.

According to the Mining and Biodiversity guidelines the proposed exploration area falls within areas considered to be legally protected and has highest, high and moderate biodiversity importance (Figure 5-10). No mining related activities may take place in legally protected areas. Highest Biodiversity Importance areas include areas where mining is not legally prohibited, but where there is a very high risk that due to their potential biodiversity significance and importance to ecosystem services water flow regulation and water provisioning there will be significant constraints or proposed activities may not receive necessary authorisations. High Biodiversity Importance areas are areas where mining should be tightly controlled as these areas are important for conserving biodiversity, for supporting or buffering the biodiversity priority areas, for maintaining important ecosystem services for particular communities or the country as a whole. Moderate Biodiversity Importance areas are typically associated with ecological support areas and vulnerable ecosystems. These areas pose a moderate risk to mining. Authorisations may set limits and specify biodiversity offsets that would be written into license agreements and/or authorisations.

5.5.9 AIR QUALITY

Introduction

A change in ambient air quality can result in a range of impacts, which in turn, may cause a disturbance to nearby receptors. As a baseline, this section provides a brief description of pre-mining conditions in the area from which to measure changes as a result of the proposed project. More detailed information will be provided in the EIA report.

Data sources

Information in this section was sourced through the review of available information.

Results/Conclusion

Majority of the proposed exploration area is rural in nature and is comprised mostly of small towns, isolated farmsteads, (Refer to Section 5.5.5), scattered communities and agricultural activities such as livestock grazing and crop cultivation. It follows that the air quality associated with majority of the exploration area is expected to be good. The quality of air within and near to major towns such as Pietermaritzburg is expected to be reduced due to various factors such as vehicle emissions and industrial operations. Existing emission sources within the proposed exploration area 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.

5.5.10 HERITAGE/CULTURAL AND PALEONTOLOGICAL RESOURCES

Introduction

This section describes the existing status of the heritage and cultural environment that may be affected by the proposed project. Heritage (and cultural) resources include all human-made phenomena and intangible products that are the result of the human mind. Natural, technological or industrial features may also be part of heritage resources as places that have made an outstanding contribution to the cultures, traditions and lifestyles of the people or groups of people of South Africa.

Paleontological resources are fossils, the remains or traces of prehistoric life preserved in the geological (rock stratigraphic) record. They range from the well-known and well publicized (such as dinosaur and mammoth bones) to the more obscure but nevertheless scientifically important fossils (such as palaeobotanical remains, trace fossils, and microfossils). Paleontological resources include the casts or impressions of ancient animals and plants, their trace remains (for example, burrows and trackways), microfossils (for example, fossil pollen, ostracodes, and diatoms), and unmineralised remains (for example, bones of Ice Age mammals).

Data sources

Information in this section was sourced through the review of available literature and existing databases (South African Heritage Resource Information System (SAHRIS)).

Results/Conclusion

Heritage/cultural resources

No World Heritage Site sites as recognised by the South African Heritage Resource Agency (SAHRA) are located within the exploration area. The national and provincial heritage sites as recognised by the SAHRA that area located within or national heritage the proposed exploration area are included in Table 5-8.

TABLE 5-8: PROVINCIAL HERITAGE SITES LOCATED WITHIN THE PROPOSED PROJECT AREA

Site name	Town	Details
National heritage site		
Mr J.T. Gumede	Pietermaritzburg	Burial Grounds & Graves
Provincial heritage sites		
Mgungundlovu, Farm Moordplaats 193, Babanango District	Babanango	A oval kraal within which huts were located.
Bulwer Bridge and Old Toll House, Colenso, Estcourt District	Colenso	The Bulwer Bridge is the oldest stone and steel structure in the Republic, while the Toll House is the oldest building in Colenso and also the only surviving toll house in Natal.
Howick Waterfall, Falls View Drive, Howick	Howick	The Umgeni River plunges more than 95m to form the Howick falls.
Tweedie Hall, Farm Tweedie Hall 11880, Lions River District	Tweedie	Double-storey Victorian red brick house; front and side verandas and upper floor balcony; bay window Built by James Morton 1893 and passed down through the family to the present day
Howick Clinic, 24 Morling Street, Howick	Howick	Hipped roof, gabled projections symmetrical about the recessed veranda. Apparently built for George Ford, builder/owner of the Falls Hotel. Served as local museum. This house, built during the late nineteenth century, is one of the oldest buildings in the Natal Colonial style still in existence in this area.
Helen Bridge, Weston, Mooi River District	Mooi River	The first bridge built north of Pietermaritzburg, situated at the old Voortrekker and pioneer crossing
St Theresa's Roman Catholic Church, Westacre Road, Mooi River	Mooi River	Church which is currently in use.
Garden of Remembrance, MacFarlane Street, Mooi River	Mooi River	A military hospital was established in Mooi River in 1900.
Weston Agricultural College, Farm Weston Training School 13981, Mooi River District: Old Medical Officers and Nurses Residences	Mooi River	Wood-and-iron houses, which were erected in 1900 and are relics of the British Military which are currently used as a school.
Weston Agricultural College, Farm Weston Training School 13981, Mooi River District: Old Commanding Officer's Quarters	Richmond	These two wood-and-iron houses, which were erected in 1900, are relics of the British Military Remount Depot that was established at Weston near Mooi River shortly before the outbreak of the Anglo-Boer War (1899–1902) and is currently used as a school.
Blarney, Farm Dunbar Estate 1478, Richmond District	Richmond	The Blarney Cottage, a wattle-and daub hut and a wooden barn. This cottage was built by Fred McCleod, who was one of the children of George and Ellen McCleod. They were from the original Byrne Settlers, one of the most important English immigrant schemes that took place in Natal in the middle of the nineteenth century.
Carnarvon Masonic Lodge, 57 Russel Street, Richmond	Richmond	Rectangular brick building with its Victorian embellishments was erected in 1883 to accommodate the local Freemasons' Lodge. This Lodge was established in 1876 and named after the Architectural style: Victorian lodge.

Site name	Town	Details
Richmond and Byrne District Museum, 46 Victoria (Cnr Chiley) Street, Richmond	Richmond	L-shaped villa of medium pitched roof flared over veranda and projecting side gable of steeper pitch Acquired by local authority 1982 for institution of museum.
Baynes House, Farm Nel's Rust 849, Richmond District	Richmond	Single storey with basement, T-shaped plan. Walls are of Pietermaritzburg red-brick. Hipped corrugate built for Joseph Baynes and his second wife, Sarah Baynes.
First Cattle Dip, Farm Meyershoek 847, Richmond District	Richmond	Built of bricks and mortar; roof of curved corrugated iron sheets supported by gum poles. This cattle dip was the first ever erected in South Africa.
Old Nel's Rust Dairy, Farm Nel's Rust 849, Richmond District	Richmond	Double storey building of square form; shale walls with brick quoining, used for commercial butter making in Natal. P
Joseph Baynes Mausoleum, Farm Nel's Rust 849, Richmond District	Richmond	This aesthetically significant site is the burial place of Joseph Baynes.
Lynmouth Glacial Pavement, Farm Hopewell 881, Richmond District	Richmond	This unspoiled site is one of geological significance, exhibiting fine evidence of the glacial activity.
Town Hall, 37-47 Bell (Cnr Pine) Street, Greytown	Greytown	This building with its high tower, the cornerstone of which was laid on 22 June 1897, was only completed in 1903.
General Louis Botha's Birthplace, Greytown, Umvoti District	Greytown	The property consists of a portion of land on which a memorial cairn is erected.
Balmoral Farmhouse and Stables, near Rietvlei, Umvoti District	Greytown	Farmhouse with thick shale walls built in 1865.
Greytown Museum, 68 Scott (Cnr Durban) Street, Greytown	Greytown	J. E. Fannin, a prominent local figure of the time, used the historic building of the Greytown Museum as a house from 1889.
Hermannsburg Lutheran Church, Hermannsburg	Hermannsburg	Architecturally, the Church is a Gothic Revival church based on the parish church form so common in Northern Europe. The foundation stone of this church was laid on 1 April 1868. The building, designed in the Gothic Revival style, was consecrated on 23 February 1870. This church is closely associated with the history and founding of the Hermannsburg Mission Society.
Hermannsburg Mission Houses, Hermannsburg School, Hermannsburg	Hermannsburg	The historic mission house at Hermannsburg was erected around 1862 in the German-Saxon style, in order to provide housing for the staff of the Hermannsburg Mission Station.
Ruins of Fort Ahrens, Farm Perseverance 1324, Hermannsburg	Hermannsburg	These ruins are the remains of Fort Ahrens or Fort Perseverance, better known locally as Esikanisweni Lager. Fort Ahrens was erected in the sixties or seventies of the nineteenth century, not for military purposes, but as a refuge for the civilian population.

These historical buildings are all located in towns and would not be impacted on by the proposed exploration activities.

Paleontological

According to the SAHRIS database the exploration area is located in an area that is regarded to have a very high to high and moderate paleontological sensitivity. It follows that there is a high likelihood of fossil occurrence within the exploration area.

5.5.11 SOCIO-ECONOMIC

Introduction

The proposed project has the potential to contribute both negatively and positively to existing socio-economic conditions. The positive contributions are usually economic in nature with exploration projects contributing directly towards employment, procurement, skills development and taxes on a local, regional and national scale. In addition, the proposed project would indirectly contribute to economic growth in the national, local and regional economies by strengthening the national economy and because the increase in the number of income earning people has a multiplying effect on the trade of other goods and services in other sectors. Negative contributions that can be associated with the proposed project include an influx of people seeking jobs, which can lead to increased pressure on basic infrastructure and services, informal settlement development, increased crime, introduction of diseases and disruption to the existing social structures within established communities. To understand the basis of these potential impacts, a brief baseline situational analysis is described below. More detailed information will be provided in the EIA report.

Data sources

Information in the section below was obtained from the following sources:

- The Sisonke District Municipality Integrated Development Plan – 2012/2017.
- The uMgungundlovu District Municipality Integrated Development Plan – 2015/2016
- The uMzinyathi District Municipality Integrated Development Plan 2013
- The Uthukela District Municipality Integrated Development Plan 2014/2015
- The Uthungulu District Municipality Integrated Development Plan 201/2013 – 2016/2017
- The Zululand District Municipality Integrated Development Plan 2014

Results/Conclusion

The proposed exploration area is located within six District Municipalities, which include the following (see Figure 5-11):

- Harry Gwala (Sisonke) District Municipality;
- Umgungundlovu District Municipality;
- Umzinyathi District Municipality;

- Uthukela District Municipality;
- Uthungulu District Municipality; and
- Zululand District Municipality.

Details pertaining to the district municipalities located within the proposed exploration area are provided in the section below.

Population

Table 5-9 below summarises the total population for each of the district municipalities located within the proposed exploration area including the population gender distribution. It is interesting to note that the female population within the proposed exploration area outnumbers the male population.

TABLE 5-9: DEMOGRAPHICS - POPULATION

District municipality	Population number	Population gender distribution
Harry Gwala (Sisonke) District Municipality	461 41	Male (46.5%) and Female (53.5%)
Umgungundlovu District Municipality	101 7763	Male (47.7%) and Female (52.4%)
Umzinyathi District Municipality	510 838	Male (45%) and Female (55%)
Uthukela District Municipality	668 848	Male (42%) and Female (58%)
Uthungulu District Municipality	907 519	Male (47.1%) and Female (52.9%)
Zululand District Municipality	803 575	Male (46.32%) and Female (53.68%)

Employment

With reference to Table 5-10, unemployment rates within the proposed exploration area are high. The main sectors contributing to economic growth within the proposed exploration area include agriculture and manufacturing.

TABLE 5-10: DEMOGRAPHICS – UNEMPLOYMENT RATE

District municipality	Unemployment rate	Dominant sector
Harry Gwala (Sisonke) District Municipality	44.4%	Agriculture
Umgungundlovu District Municipality	63.7%	Manufacturing and agriculture
Umzinyathi District Municipality	36.6%	Community services and agriculture
Uthukela District Municipality	22%	Wholesale and retail trade catering and accommodation
Uthungulu District Municipality	34.7%	Manufacturing and mining
Zululand District Municipality	33.50%	Manufacturing and wholesale and retail

Households

Information regarding the total households of each of the district municipalities within the proposed exploration area is included in Table 5-11 below. These households comprise formal and informal housing. Formal housing includes houses, flats, town houses, and clusters, while informal housing includes a combination of traditional dwellings, huts, shacks and caravans.

TABLE 5-11: DEMOGRAPHICS – HOUSING

District municipality	Total households
Harry Gwala (Sisonke) District Municipality	112 057
Umgungundlovu District Municipality	272 666
Umzinyathi District Municipality	510 838
Uthukela District Municipality	139 638
Uthungulu District Municipality	202 976
Zululand District Municipality	157 749

Basic services

The percentage of households located within each of the district municipalities within the proposed exploration area that have access to drinking water, sanitation and power is included in Table 5-12 below. Where access to sanitation is not available, alternative sources include pit toilets. The bucket system has been eradicated in majority of the district municipalities within the proposed exploration area with the exception of the Umgungundlovu, Umzinyathi and uThungulu District Municipalities. Where access to power is not available, alternative sources such as wood, gas and paraffin are used.

TABLE 5-12: DEMOGRAPHICS – BASIC SERVICES

District municipality	Access to drinking water	Access to sanitation	Access to power
Harry Gwala (Sisonke) District Municipality	59.17%	74%	-
Umgungundlovu District Municipality	91.1%	96%	64.6%
Umzinyathi District Municipality	17.5%	86.5%	51.1%
Uthukela District Municipality	72%	77.15%	74.5%
Uthungulu District Municipality	83.8%	81%	75.8%
Zululand District Municipality	69%	76%	50.4%

Education

Education information for each district municipality located within the proposed exploration areas is included in Table 5-13 below.

TABLE 5-13: DEMOGRAPHICS – EDUCATION

District municipality	No education	Completed grade 12	Higher education
Harry Gwala (Sisonke) District Municipality	9.7%	91.2%	-
Umgungundlovu District Municipality	8.3%	-	-
Umzinyathi District Municipality	27%	58%	15%
Uthukela District Municipality	14%	10.9%	1%
Uthungulu District Municipality	15.7%	29.5%	4.2%
Zululand District Municipality	10%	14.3%	2.6%

5.6 ENVIRONMENTAL AND CURRENT LAND USE MAPS

This section includes a series of maps that show the spatial locality and aerial extent of all environmental, and land use features associated with the exploration area.

(Separate electronic file)

FIGURE 5-5: SURFACE WATER RESOURCES

(Separate electronic file)

FIGURE 5-6: VEGETATION TYPES

(Separate electronic file)

FIGURE 5-7: PROTECTED AND STEWARDSHIP AREAS

(Separate electronic file)

FIGURE 5-8: ASSESSMENT OF BIODIVERSITY STATUS

(Separate electronic file)

FIGURE 5-9: WETLANDS AND NFEPA RIVERS

(Separate electronic file)

FIGURE 5-10: MINING AND BIODIVERSITY GUIDELINES

(Separate electronic file)

FIGURE 5-11: LAND USE/LAND COVER

5.7 METHODOLOGY USED IN DETERMINING THE SIGNIFICANCE OF ENVIRONMENTAL IMPACTS

The SLR method for the assessment of environmental impacts is set out in Table 7-2. This methodology was loosely applied for the purpose of comparing alternatives and in light of the level of information available at this point in the assessment.

5.8 IMPACTS IDENTIFIED FOR EACH ALTERNATIVE

The aim of this Section is solely to compare the environmental impacts and risks of the potential alternatives of the project for the purpose of selecting the preferred alternative(s). Only those impacts which differentiate between the alternatives are documented. The reader is advised that this Section does not aim to identify all environmental impacts of the project nor does it provide a conclusive assessment of the impacts. The environmental impact assessment of the project will be presented in detail in the EIA report.

Table 5-14 identifies the potential impacts of the project alternatives, in relation to the local environment. The preliminary assessment ratings provided in this table are for the unmitigated scenario only which assumes that limited consideration is given to the prevention or reduction of environmental and social impacts. In most cases the alternative would be the mitigation. Furthermore, a conservative approach has been applied to these ratings in the absence of site specific studies. A discussion of each of the impacts and the advantages and disadvantages identified is provided in Section 5.9. Once all the investigations and studies have been completed the assessment and related ratings may change. Moreover, once the mitigation/management measures have been incorporated into the assessment as part of the EIA a determination of residual impact will be provided. The final ratings will be included in the EIA report.

TABLE 5-14: POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS IDENTIFIED FOR THE PROPOSED ALTERNATIVES

ALTERNATIVE	IMPACT	CONSEQUENCE			PROBABILITY	SIGNIFICANCE	DEGREE TO WHICH IMPACT:		
		INTENSITY	EXTENT	DURATION			Can be reversed	Causes irreplaceable loss	Can be avoided/ managed/ mitigated
Desktop and Remote Sensing methods									
No Desktop and Remote Sensing	No impacts are anticipated	0	0	0	0	0	NA	none	NA
Desktop and Remote Sensing as proposed	No significant impacts are anticipated	0	0	0	0	0	NA	none	NA
Borehole Drilling									
No corehole drilling	No impacts would occur, but there would be no advancement in information on the potential petroleum resource.	0	0	0	0	0	NA	none	NA
Future exploration <u>without</u> guidance and planning from stratigraphic coreholes	As will be discussed in this EIA (and future), but to a much greater extent as more work would be required in order to acquire the same of level data on the resource.	0	0	0	0	0	Mostly	Very limited	To a large degree
The different methods of corehole drilling are so similar as to have no significant or determining differences	-								
Seismic Surveys									
No seismic survey	No impacts would occur, but there would be no advancement in information on the potential	0	0	0	0	0	NA	none	NA

ALTERNATIVE	IMPACT	CONSEQUENCE			PROBABILITY	SIGNIFICANCE	DEGREE TO WHICH IMPACT:		
		INTENSITY	EXTENT	DURATION			Can be reversed	Causes irreplaceable loss	Can be avoided/ managed/ mitigated
	petroleum resource.								
Future drilling without guidance and planning from Seismic surveys	As will be discussed in EIA, but to a greater extent as more drilling would be required in order to acquire the same of level data on the resource.	-	-	-	-	-	-	-	-
Land use									
Vibratory truck survey	Access to private land and the associated inconvenience, damage to infrastructure, interference with land use, safety and security risk.	L	VL	VL	L	L	Almost always	Very unlikely	Yes
Explosive-shot survey		VL	VL	VL	L	VL	Almost always	Very unlikely	Yes
Vibratory truck survey	The disturbance of productive ground for extended periods or long-term damage to the productivity of that ground.	L	VL	VL	L	L	Almost always	Very unlikely	Yes
Explosive-shot survey		L	VL	VL	L	L	Almost always	Very unlikely	Yes
Vibratory truck survey	Risk of exploration starting a veld fire that causes significant loss and damage to assets	VL	M	VL	L	VL	Mostly	Possible	Yes
Explosive-shot survey		L	M	VL	L	L	Mostly	Possible	Yes
Vibratory truck survey	Risk of injury to public	VL	VL	VL	VL	VL	Almost always	Very unlikely	Yes
Explosive-shot survey		L	VL	VL	VL	VL	Almost always	Very unlikely	Yes
Soils									
Vibratory truck survey	Vehicles driving and activities on soils damaging	L	VL	VL	L	L	Almost	Very unlikely	Yes

ALTERNATIVE	IMPACT	CONSEQUENCE			PROBABILITY	SIGNIFICANCE	DEGREE TO WHICH IMPACT:		
		INTENSITY	EXTENT	DURATION			Can be reversed	Causes irreplaceable loss	Can be avoided/ managed/ mitigated
	soil structure and/or causing compaction or erosion						always		
Explosive-shot survey		VL	VL	VL	L	VL	Almost always	Very unlikely	Yes
Vibratory truck survey	Contamination of soils	VL	VL	VL	VL	VL	Almost always	Very unlikely	Yes
Explosive-shot survey		L	VL	VL	VL	VL	Almost always	Very unlikely	Yes
Noise and Vibration									
Vibratory truck survey	Structural damage as result of use of vibrations/explosives	L	VL	VL	VL	VL	Almost always	Very unlikely	Yes
Explosive-shot survey		L	VL	VL	VL	VL	Almost always	Very unlikely	Yes
Groundwater									
Vibratory truck survey	Contamination of groundwater by drilling fluids	-	-	-	-	-	NA	none	NA
Explosive-shot survey		VL	VL	VL	VL	VL	Mostly	Very unlikely	Yes
Surface Water									
Vibratory truck survey	Contamination of surface water	VL	VL	VL	L	VL	Mostly	Very unlikely	Yes
Explosive-shot survey		L	VL	VL	L	L	Mostly	Very unlikely	Yes
Vibratory truck survey	Damages to beds and banks of watercourses	M	L	VL	L	L	Mostly	Very unlikely	Yes
Explosive-shot survey		L	L	VL	VL	VL	Mostly	Very unlikely	Yes

ALTERNATIVE	IMPACT	CONSEQUENCE			PROBABILITY	SIGNIFICANCE	DEGREE TO WHICH IMPACT:		
		INTENSITY	EXTENT	DURATION			Can be reversed	Causes irreplaceable loss	Can be avoided/ managed/ mitigated
Ecology and Biodiversity									
Vibratory truck survey	Damage or destruction of the vegetation, habitat and the disturbance or loss of species of conservation concern	M	L	VL	L	L	Mostly	Very unlikely	Yes
Explosive-shot survey		L	L	VL	VL	VL	Mostly	Very unlikely	Yes
Heritage									
Vibratory truck survey	Disturbance of heritage resources by exploration	M	VL	VL	L	L	Mostly	Very unlikely	Yes
Explosive-shot survey		M	VL	VL	L	L	Mostly	Very unlikely	Yes
Air Quality									
Vibratory truck survey	Increase in dustfall levels from disturbed area and vehicle traffic.	L	VL	VL	L	L	Almost always	Very unlikely	Yes
Explosive-shot survey		L	VL	VL	L	L	Almost always	Very unlikely	Yes

5.9 POSITIVE AND NEGATIVE IMPACTS OF THE PROPOSED ACTIVITY AND ALTERNATIVES

This section presents a discussion of **advantages** and **disadvantages** of the different alternatives that are identified in Table 5-14. These discussions should be read with the corresponding descriptions of the baseline environment in Section 5.4 and the alternatives in Section 5.1. The reader is reminded that the aim of this Section is to compare the environmental impacts and risks of the potential alternatives of the project for the purpose of selecting the preferred alternative(s). Only those impacts which differentiate the alternatives are documented.

5.9.1 DESKTOP AND REMOTE SENSING METHODS

Advantages and Disadvantages:

The Desktop and Remote Sensing are not anticipated to have any detectable environmental impacts. The flying of light aircraft for the FTG surveys would result in some noise and the emission of fuel combustion products. Due to the sparse distribution and temporal nature of this activity, the impacts are not considered material.

If exploration is to be undertaken it is in fact essential that the Desktop and Remote Sensing proposed for year 1 and 2 of the exploration work programme take to place inform the core hole drilling and seismic survey. Only with the information derived from these methods would it be feasible to undertake the limited drilling programmes and seismic surveys (as is proposed) and still achieve an exploration result of value. Thus the Desktop and Remote Sensing is a vital part of the proposed exploration with negligible impacts.

5.9.2 CORE HOLES

The proposed exploration would only use stratigraphic core holes, with no permeability or pressure testing wells being considered for this approval. Stratigraphic core holes are drilled only for the purpose of obtaining information pertaining to specific geological, structural and stratigraphic information that might lead towards the discovery of petroleum. No production would be allowed from the stratigraphic core holes and could not physically be undertaken due to the narrow diameter. Thousands of such boreholes have been drilled across South Africa during mineral prospecting in the past hundred years. The majority of water boreholes on farms have been drilled with the same type of equipment and very similar methods.

Rotary core drilling and percussion/reverse circulation drilling are the two most commonly used methods for stratigraphic core holes in prospecting/exploration drilling. Both produce a relatively narrow diameter hole which can be used to run an electrical log (Gamma Ray, Spontaneous Potential, Resistivity, etc). The methods both result in a similar outcome and are therefore alternatives that can reasonably be used to achieve the required results. The primary difference from a functional perspective is that the Rotary core drilling produces a cylindrical core of rock for examination. The percussion/reverse circulation drilling

delivers the drillings to surface in a chip form. Having an intact core sample allows for better interpretation of stratigraphy and in-situ parameters and is therefore preferred. The depth of percussion/reverse circulation drilling is limited by the air compressor capacity.

Advantages and Disadvantages

From an environmental perspective there are no significant advantages or disadvantages of the one technique over the other. Thus in most cases the choice of method would be informed by the information requirements, availability of the equipment, the practicality of implementation and the cost. In hydrocarbon exploration it is necessary to have the rock core intact and be able to drill to significant depths, thus rotary core drilling is preferred.

5.9.3 SEISMIC SURVEYS

Vibratory truck (Vibroseis) and explosive-shot are the two most commonly used methods for onshore, 2D seismic surveys. The methods both result in a similar outcome and are therefore alternatives that can reasonably be used to achieve the required results. The choice of method is informed by the availability of the equipment, the practicality of implementation, the environmental sensitivity of the survey terrain and the cost. The section below compares the advantages and disadvantages of the two methods from an environmental perspective.

Issue: Access to private land and the associated inconvenience, damage to infrastructure, safety and security risk.

Seismic surveying requires the teams and equipment to access the defined survey lines to plan and prepare the route; to layout the equipment; to implement the survey and recording; to then remove the equipment and to potentially rehabilitate any disturbances. Access is thus required to private property and sometimes where an orientation in which access routes do not exist. Access may be required multiple times and includes a wide range of equipment and vehicles. The vibrations caused could damage built infrastructure.

Advantages and Disadvantages

Both the Vibratory truck survey and Explosive-shot survey method would result in the same issues, each method having some advantages and disadvantages. Both methods generate controlled vibrations which are not generally known to cause structural damage. The Vibroseis method can be cheaper and more efficient to implement and would have less and shorter duration point-source impact than the explosive method. The vehicles are also larger and heavier. It is, however less flexible and requires a wider operating footprint. Thus the potential for damage to soils, vegetation and infrastructure would be marginally greater.

The Explosive-shot method requires smaller equipment which is more portable, only requires point-source disturbances and does not require direct linear access to be implemented. That being said, the disturbance at each shot-hole point is likely to be of large extent and require more rehabilitation. As explosives are being used a safety zone is required at the time of detonation. Overall the greater flexibility and more isolated (point-source type) impact of the explosive-shot method probably has less impact.

Issue: The disturbance of productive ground (interference with land use) for a period or long-term damage to the productivity of that ground.

Seismic surveying across lands which are in use may result in conflict and possibly loss of income. Also the access by heavy equipment and the application of the vibrating source may compact soils, thereby damaging the productivity of the soil.

Advantages and Disadvantages

Both the Vibratory truck survey and Explosive-shot survey method would result in the issue, each method having some advantages and disadvantages. The disturbance to land use is of very short duration and can generally be timed not result in direct conflict with income generating use. The heavier vehicles, wider area of disturbance and possible surface compaction of the Vibroseis trucks are disadvantages of the Vibratory truck method. The smaller, more portable equipment, limited point-source disturbance and flexible access probably renders the Explosive-shot method preferable.

Issue: Risk of exploration starting a veld fire that causes significant loss and damage to assets

Seismic surveying requires the teams and equipment to access the defined survey lines. The people and equipment on the land could pose a fire hazard, particularly in the drier winter months. In certain areas an uncontrolled veld fire could be damaging.

Advantages and Disadvantages

Both methods pose a small, but real risk. The Explosive-shot method may have slighter greater risk as the drilling requires a longer-period of on-site activity. The blast is unlikely to pose a fire risk as it takes place underground.

Issue: Risk of injury to public.

Seismic surveying requires the use of heavy machinery and some activities which could pose a health and safety risk to the land users and public. Travel during mobilisation, often on smaller district and country roads, can result in risk.

Advantages and Disadvantages

Both methods pose a small, but real risk. The Vibratory truck method uses bigger vehicles that may have slighter greater risk, although they would travel slowly. The vibratory action itself poses no real risk,

except directly adjacent to the vehicle. During drilling of the shot hole and explosion of the charge there would be safety risks but these are effectively managed through access control. There is no significant difference between the methods.

Issue: Contamination of soils.

Seismic surveying requires the use of heavy machinery and vehicles which operate with fuels and hydraulic fluids. Spillages could occur either from equipment failure or during refuelling.

Advantages and Disadvantages

The risk of soil contamination is generally small as the machinery does not carry large volumes of fuels or hydraulic fluid. The Vibratory truck method has more vehicles moving slowly across the landscape but they are seldom static for long periods. Drilling of the shot holes requires intensive activity at a fixed point for a short period. Overall the two methods carry a similar risk although the Explosive-shot method has a higher risk at the shot-hole sites.

Issue: Structural damage and nuisance as result of use of seismic vibrations

Seismic surveys are undertaken with the express purpose of generating and recording seismic vibrations. Significant energy is applied to generate the vibrations however, the vibrations are specifically generated as low frequency, long-wave length and directed into the earth. Generally the application of the energy does not cause significant vibration or noise away from the vibration source. There could be risk that the vibration energy results in damage to structure or infrastructure. There is a remote possibility that the vibrations could also cause damage to the geology in areas where caverns and sinkhole are prevalent.

Advantages and Disadvantages

Both the Vibratory truck and Explosive-shot methods generate vibrations to enable the seismic survey. The energy from both methods is applied very specifically and in a controlled manner to generate seismic vibrations in the earth. Monitoring from around the world of the vibrations generated generally indicate that structural damage is very unlikely at horizontal distances of even greater than 1 m from the source. The annoyance risk from vibrations could be present at greater distances, but not much further than 20m from the source. For both methods it is common practice to maintain a reasonable buffer between the vibrating source and infrastructure. There is no significant difference between the methods except for the fact that explosives should not be detonated in residential areas.

Issue: Contamination of groundwater by drilling fluids

The Explosive-shot method requires the drilling of holes for the placement of the explosive shot. These holes are generally shallow (depths from a few to 70m below surface). During drilling there may be drilling fluids used and potential for down-hole spillage of hydrocarbons which could impact groundwater.

The detonation of explosives would also release nitrates and other chemicals, possibly in the aquifer zone.

Advantages and Disadvantages

The Explosive-shot method has slightly higher risks to groundwater when compared to the Vibratory truck method. These risks comprise very small point sources which are transient in nature and unlikely to have a real impact on groundwater.

Issue: Contamination of surface water

Seismic surveying requires the use of heavy machinery and vehicles which operate with fuels and hydraulic fluids. Spillages could occur either from equipment failure or during refuelling. If the spillages were to happen in close proximity to surface water resources this could result in contamination.

Advantages and Disadvantages

The risk of soil contamination is generally small as the machinery does not carry large volumes of fuels or hydraulic fluid. Drilling of the shot holes requires intensive activity at a fixed point for a short period. The application of buffers from water resources is used to negate the risk. Water may be used during drilling of shot-holes and release of the dirty water could pose a risk to surface water resources. Overall the two methods carry a similar risk to surface water although drilling activity could increase the risk if undertaken near to surface water resources.

Issue: Damages to beds and banks of watercourses

Seismic surveying requires the teams and equipment to access the defined survey lines. Such survey lines are likely to cross watercourses, sometimes where access routes do not exist. Access may be required multiple times and includes a wide range of equipment and vehicles. The activity could damage the beds and banks of watercourses.

Advantages and Disadvantages

Both seismic survey methods could result in damages to beds and banks of watercourse. The Vibroseis method uses large and heavier vehicles and has less route flexibility (i.e. required to operate linearly). The Explosive-shot method requires smaller equipment which is more portable, only requires point-source disturbances and does not require direct linear access to be implemented. Thus the potential for damage to the beds and banks of watercourses is slightly greater with the Vibratory truck method.

Issue: Damage or destruction of the vegetation, habitat and the disturbance or loss of species of conservation concern

Seismic surveying requires the teams and equipment to access the defined survey lines to plan and prepare the route; to layout equipment; to implement the survey and recording; to then remove the

equipment and to potentially remediate any disturbances. Access would be required to cross land which may be of ecological or biodiversity value, and sometimes where there are no access routes. Access may be required multiple times and includes a wide range of equipment and vehicles. In general it would not be necessary to clear vegetation from the survey lines, although in forested and bushy areas some vegetation removal maybe required for vehicular access and to enable the vibratory source to be in contact with the ground.

Advantages and Disadvantages

Both methods generate controlled vibrations which are not generally known to cause significant disturbance to ecological function. The Vibroseis method is less flexible in routing, requires a wider operating footprint and needs linear access. The vehicles are also larger and heavier. Thus the potential for damage to vegetation and ecology is greater.

The Explosive-shot method requires smaller equipment which is more portable, only requires point-source disturbances and does not require direct linear access to be implemented. That being said, the disturbance at each shot-hole point is likely to be of greater intensity and require additional rehabilitation. Overall the greater flexibility and more isolated (point-source type) impact of the explosive-shot method probably has a lower impact.

Issue: Disturbance of heritage resources by exploration

The access, physical disturbance to surface and vibrations of seismic surveys could result in risks to heritage resources. In general the risk would only arise if the seismic survey took place directly on or at a heritage resource.

Advantages and Disadvantages

Both methods generate controlled vibrations which are not generally known to cause significant disturbance to structures provided they are further than 1m from the source. The Vibroseis method is less flexible in routing and requires a wider operating footprint with larger and heavier vehicles. The disturbance at each shot-hole point is likely to be of greater intensity. Overall the greater flexibility and more isolated (point-source type) impact of the explosive-shot method would probably have a lower impact than the Vibratory truck survey.

Issue: Increase in dustfall levels from disturbed area and vehicle traffic.

The seismic survey requires the teams and equipment to access the defined survey lines. A variety of machinery and vehicles would be involved. In many areas the access would be via gravel roads and farms tracks. Dust would be generated.

Advantages and Disadvantages

Both the Vibratory truck survey and Explosive-shot survey method may result in dust generation with no significant difference between the methods.

5.10 POSSIBLE MITIGATION MEASURES AND THE LEVEL OF RESIDUAL RISK

The primary mitigation applied to the early-phase exploration would be to use non-invasive, remote sensing techniques as much as possible to refine the information on where to conduct field exploration. This would reduce the level of invasive activity required and improve the accuracy of the planned locations for the physical exploration activity, thereby further reducing the requirement for physical exploration activity. Rhino Oil and Gas' exploration work programme is structured to include the use of non-invasive, remote sensing techniques in year 1 and year 2.

Where physical, on-site exploration activity is proposed, environmental impacts and risks could result. Such impacts are generally expected to be of low significance as the proposed early-phase exploration activities are small in total extent and of short duration. Nevertheless they could result in impacts if exploration used inappropriate methods; was undertaken at sensitive sites; or operations were poorly executed. The primary mitigation to limit environmental impacts and risks would be the appropriate siting of any exploration activity at a locality that is of low sensitivity. This would be achieved through desktop GIS-based screening and then a site assessment by a suitably qualified scientist to confirm the conditions of the proposed location. The final site location should, if necessary, be adjusted to avoid identified sensitivities and the final site plan should be submitted to PASA for approval. These specific requirements for such detailed site assessments would be identified in the EIA phase and included in the EMP. Given that the precise location of exploration sites is reasonably flexible, it should always be possible to locate the activity at a site of low sensitivity, thereby mitigating the majority of impacts.

Secondarily, mitigation would be achieved by the use of the most appropriate methods to undertake exploration. To a large degree exploration techniques across the world have developed to minimise environmental risks. Thus current techniques and equipment available results in lower risk than exploration did a decade ago. Finally, when physical exploration activity is undertaken, mitigation to reduce environmental impacts and risks can be applied through operational management and the adoption of environmental best practice. There is much that can be applied in this regard (e.g. using above-surface rather than excavated sumps for drilling fluids) and this would be documented in the EIA and EMP.

The level of residual risk from the proposed early-phase exploration, undertaken with the necessary management and mitigation is likely to be low. This assessment would be refined during the EIA phase with specialist input as appropriate.

5.11 OUTCOME OF THE SITE SELECTION MATRIX

It is not yet possible to select routes or sites for any of the on the ground activities that would be required. The specific locality of on-the-ground activities (e.g. core hole drilling and seismic surveys) can only be identified once the initial phases of exploration have been undertaken and the targets identified.

The nature of early-phase exploration activities is such that the target sites are not bound to fixed locations but can be adjusted as required. This provides the operator with flexibility to move the on-the-ground activities to avoid local sensitivities. The operator would commit, through the environmental management programme, to avoid all areas with specific sensitivities (e.g. residences, wetlands, watercourses etc), with buffers where required. Thus a GIS-based site selection and physical site inspection exercise would be required for each proposed site or route. The specific requirements for such detailed site assessments would be identified in the EIA phase and included in the EMP.

5.12 MOTIVATION WHERE NO ALTERNATIVE WERE CONSIDERED

Not applicable.

5.13 THE PREFERRED ALTERNATIVES

It is anticipated that the Rotary (diamond) core method would be the preferred technology for core borehole drilling. However the use of Percussion/reverse circulation drilling cannot be eliminated entirely as this may be a better method in particular circumstances. For the proposed seismic surveys each of the Explosive shot-hole method and Vibroseis method may be employed, depending on the local circumstances.

6 ANTICIPATED ISSUES AND IMPACTS

A scoping-level identification of environmental impacts (physical, biological, social and economic) associated with the proposed early-phase exploration has been undertaken. The full range of issues, concerns and comments are presented in Table 5-1, while all of the submissions received by SLR are included in Appendix 6. A number of key issues have been identified to date with the SLR project team having taken cognisance of input from I&APs. These are presented, together with responses by the SLR project team, in detail in Section 5.4.

Impacts that may result and which will be assessed during the EIA phase are summarised below. No importance is to be assigned to the order in which these are presented. These impacts will be assessed in detail during the EIA phase using the methodology described in Section 7.3. Management and mitigation measures for all of the significant impacts identified will be included in the draft EMP, which will be presented with the EIA Report.

6.1 PHYSICAL IMPACTS

6.1.1 EFFECT ON GEOLOGY

There is a remote risk that during exploration the drilling or seismic survey could damage the geology. The vibrations generated during seismic surveys could destabilise certain geologies and pose risks to faults, underground caverns or mine workings. The potential impact on the geology is described further in Section 5.4.10.

The potential impact on the geology and the issue related to faults and seismic sensitivity will be further investigated and assessed in the next phase of the EIA. The aim will be to provide an overview of the expected geology in the region, with details on the geological profile and structural features as well as information on the physical and chemical properties of relevant formations. Complete details of the seismic outputs will be sourced from service providers. The investigation will draw on literature from local and international experience of similar seismic survey methods. If necessary a vibration specialist and or seismologist will be consulted. The outcome will be to identify areas which may have specific properties that render them sensitive to disturbance and to determine exclusion criteria (including buffers / no-go areas) that should be applied when identifying and assessing sites for physical exploration. The determination of the buffers or areas to avoid will draw on literature from local and international experience of similar seismic survey methods.

6.1.2 EFFECT ON SOILS

The physical disturbance of exposed soil surfaces may increase the risk of erosion (by wind and water), while the repetitive movement of vehicles and machinery over such surfaces could compact soils. These impacts may collectively affect the surface hydrology, damage soil structure, decrease infiltration rates

and water retention capacity, and retard the regeneration of vegetation or soil productivity. Seismic vibrations could alter soil structure with similar effects. Leaks and spills from vehicles, machinery and handling of potential pollutants (e.g. fuel and lubricants) during on-site activities may also potentially contaminate the soil. The potential impact on soils is described further in Section 5.4.11.

The potential impact on soils will be further investigated and assessed in the next phase of the EIA, with opinion from a specialist (see Section 7.5.4 for the terms of reference). The goal will be to provide an understanding of the regional soil types and their specific properties. The soils will be mapped at a regional scale and the key features of these described to identify soil types which may be incompatible with the proposed exploration. Complete details of the seismic outputs will be sourced from service providers. The effects of the proposed seismic surveys on soil properties will be researched from local and international literature on seismic surveys. If necessary a vibration specialist and or seismologist will be consulted. The outcome will be to identify any soils which have specific properties that render them sensitive to disturbance and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration.

6.1.3 EFFECT ON WATER RESOURCES

6.1.3.1 Altered hydrogeological regime and groundwater availability

Most agricultural activities in the region use groundwater and may be partly or wholly dependent of groundwater. Any changes to the quality or quantity of groundwater in near surface aquifers may affect adjacent users who rely on groundwater for domestic and agricultural use. Activities during exploration, including shot hole preparation and core hole drilling, might result in some interaction with groundwater that could impact groundwater availability and quality. The potential impact on groundwater availability and quality is described further in Section 5.4.8.

The impact on groundwater will be assessed based on the findings of the specialist groundwater assessment. The aim will be to identify the key features of the groundwater resources within the application area and to understand the extent, nature, status and use of these. The outcome will be to define which regions are incompatible with the proposed exploration activities related to the groundwater resources and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration. The full terms of reference for the groundwater assessment are presented in Section 7.5.2.

6.1.3.2 Altered surface water hydrological regime

The region comprises the headwaters of a number of very important river systems which supply large quantities of water for human consumption, agricultural and industrial use. Thus potential changes to the surface water hydrological regime (surface flow, drainage patterns, sediment load and availability) could have secondary impacts on water users and the terrestrial and aquatic environment. The potential impact on surface water resources is described further in Section 5.4.9.

The impact on surface water will be further investigated and assessed in the next phase of the EIA. The aim of this assessment will be to identify the different surface water features within the application area and to understand the extent, status, quality and use of these features. The assessment will detail, at a broad scale, the various water resources, the use and sensitivity thereof. The impacts will be considered in terms of the risks posed by the exploration activities. The outcome will be to define which water resources and uses are incompatible with the proposed exploration and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration.

6.1.3.3 Contamination of surface and groundwater resources

Contamination of surface or groundwater could occur as a result of the use of drilling fluids during drilling, and accidental spillages and leaks of fuels, hydraulic fluids and chemicals. The potential impact on water resources is described further in Sections 5.4.8.2 and 5.4.9.2.

The impact relating to contamination will be assessed based on the findings of the surface water study and specialist groundwater assessment (see section 7.5.2 for the terms of reference). The aim will be to identify features of the resource that are sensitive to contamination. In addition to determining exclusion criteria, the outcome will be to define rules and methods that should be applied during physical exploration.

6.1.3.4 Water Consumption

Water would be required for the drilling operations. The water could be acquired commercially or abstracted from a local surface water resource such as a river or dam. This could impact water availability to the environment and other user. In some catchments in the region the water resource is fully allocated. The potential impact of water consumption is described further in Section 5.4.8.3.

The impact relating to the consumption of water will be assessed based on the findings of the surface water study and specialist groundwater assessment (see section 7.5.2 for the terms of reference). In addition to determining exclusion criteria, the outcome will be to define rules and methods that should be applied during physical exploration.

6.1.4 EFFECT ON INFRASTRUCTURE

6.1.4.1 Vibrations

Air blasts (airborne shock waves), air overpressure and ground vibration generated by during seismic data acquisition (underground detonation of explosives or Vibroseis) may cause structural damage to infrastructure, including buildings, groundwater boreholes or affect the stability thereof. The potential impact of these vibrations is described further in Section 5.4.15.1.

The potential impacts of the energy generated during a seismic survey will be further investigated and assessed in the next phase of the EIA. The risks from vibrations will considered with input from a

specialist (see Section 7.5.5 for the terms of reference). The goal will be to ascertain the risks of the seismic energy generated on different structure and the safe stand-off/buffer distances. The risks of seismic surveys to infrastructure will be researched from local and international literature. The outcome will be to define the acceptable stand-off/buffer distances and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration.

6.1.4.2 Physical damage

The proposed exploration activities could result in damage (accidental or deliberate) to infrastructure such as fences, gates, culverts, pipes and roads. The potential impact related to damage is described further in Section 5.4.15. Issues relating to compensation are discussed in Section 5.4.20.

This impact will be further investigated and assessed in the next phase of the EIA. The aim will be to provide an improved understanding of any damage that could occur during exploration and to provide for mechanisms to prevent these. The outcome will be to determine rules and methods that should be applied during physical exploration and to detail how compensation would be managed.

6.2 BIOLOGICAL IMPACTS

6.2.1 EFFECT ON VEGETATION

Vegetation would be cleared or disturbed as a result of the proposed exploration activities, including creation of new access routes / tracks, establishment of work platforms, etc. Vegetation disturbance could also promote the establishment of alien invasive plant species on site, which may out-compete the natural indigenous vegetation. The potential impact on the vegetation is described further in Sections 5.4.7.1 and 5.4.7.3.

The impact on the vegetation will be assessed based on the findings of the specialist biodiversity assessment (see Section 7.5.1 for the terms of reference). The aim of this assessment will be to identify the different biodiversity features within the application area and to understand the extent, nature and conservation value of these features. The assessment will map, at a broad scale, sensitive vegetation types, sensitive habitat types (such as ridges, wetlands and rivers), threatened ecosystems, areas of conservation importance (protected areas, Ramsar sites, CBAs, etc.) and other features of high sensitivity. The outcome will be to define which biodiversity units are incompatible with the proposed exploration techniques and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration. The full terms of reference for the biodiversity assessment are presented in Section 7.5.1.

6.2.2 EFFECT ON FAUNA

6.2.2.1 Loss of or disturbance to faunal habitats

An indirect impact related to the clearance or disturbance of vegetation (see Section 6.2.1 above) is the loss or disturbance of habitats of faunal significance. Some of the natural habitats within the region hosts a wide variety of faunal species with a number of these species being protected or of conservation importance. The loss of habitat could affect conservation targets as well as fauna. The potential impact on faunal habitat is described further in Section 5.4.7.1.

This impact will be assessed based on the findings of the biodiversity assessment (see Section 7.5.1 for the terms of reference). The aim of this assessment will be to identify the habitats within the application area and to understand the extent and status of these. The assessment will map, at a broad scale, sensitive habitat types, threatened ecosystems and areas of conservation importance (protected areas, Ramsar sites, CBAs, etc.). The outcome will be to define which habitats are incompatible with the proposed exploration techniques and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration. The full terms of reference for the biodiversity assessment are presented in Section 7.5.1.

6.2.2.2 Disturbance to and mortality of fauna

In addition to the indirect impact on fauna as a result of loss or damage to natural vegetation (faunal habitat), animals in the vicinity of the proposed exploration activities may be affected by increased human presence/activity, and noise and vibration generated by vehicles, shot hole drilling and the use of explosives. In addition to the general disturbance of fauna, those species that cannot effectively vacate the area by themselves may suffer direct mortality due to increased traffic on-site or site clearing. The potential impact relating to disturbance to and mortality of fauna is described further in Section 5.4.7.2.

The impact on terrestrial fauna will be assessed based on the findings of the specialist biodiversity assessment (see Section 7.5.1 for the terms of reference). The aim of this assessment will be to determine which species, particularly those of conservation concern, would be sensitive to the impacts of the exploration activities. The known distribution and key habitats/sites for such species within the application area will be mapped at a broad scale. The outcome will be to define which species don't tolerate disturbances such as are likely during exploration and to determine the preferred habitats/sites for these species. Exclusion criteria that should be applied when identifying and assessing sites for physical exploration will be determined. The full terms of reference for the biodiversity assessment are presented in Section 7.5.1.

6.3 SOCIO-ECONOMIC IMPACTS

6.3.1.1 Heritage

The proposed exploration activities could result in the loss of or damage to heritage resources (including archaeological, palaeontology and cultural heritage sites). The potential impact on heritage resources is described further in Section 5.4.12.

The impact on heritage resources will be assessed based on the findings of the heritage assessment. The aim of this assessment will be provide an understanding of the heritage resources that are known or which have the potential to occur in the region. This assessment will consider, amongst others: rock art; war sites; Late Iron Age and Historical Period settlements (stone walling and graves); Early, Middle and Late Stone Age sites; Historical buildings, transport routes and tree borders; sites related to oral history and living heritage. Heritage and palaeontological resources will be mapped at a regional scale and the key features of these described. The outcome will be to describe and map heritage and palaeontological resources at a regional scale and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration. The full terms of reference for the heritage assessment are presented in Section 7.5.3.

6.3.1.2 Effect on existing land uses

Exploration activities would occupy land area, which could have an impact on current land uses, e.g. farming, forestry plantation, mining, etc. Exploration activities would preclude other land uses for the duration of each exploration period. Potential impacts include:

- Prevention or disruption of current land use activities;
- Impacts to crops, plantations and livestock/game;
- Potential change in land use value and loss of productivity; and
- Related loss of income.

These potential impacts are described further in Sections 5.4.13 (land tenure and access) and 5.4.14 (land use). Issues relating to compensation are discussed in Section 5.4.15.

Although the proposed exploration activities, which would be localised and of short duration, are not expected to have a significant effect on any existing land uses, this impact will be further investigated and assessed in the next phase of the EIA. The inputs of a specialist on the land uses must at risk will be considered (see Section 7.5.4 for the terms of reference). The aim will be to identify the current land uses within the application area in order to get an understanding of the extent, nature and duration of the different uses. Land uses will be mapped, at a broad scale, to the greatest degree possible using available ground cover and other GIS data. The outcome will be to identify specific land uses that render them sensitive to disturbance and to determine exclusion criteria (including buffers / no-go areas) that should be applied when identifying and assessing sites for physical exploration. Further outcomes would

be to determine rules and methods that should be applied during physical exploration and to detail how compensation will be managed (see Section 5.4.20).

6.3.1.3 Effect on ambient noise levels

Various activities (e.g. vehicles, detonation of seismic shots, drilling, etc.) would increase noise levels in the immediate vicinity, which may disturb or be a nuisance to landowners or adjacent residents. The region generally has low ambient noise levels and increased exploration activity could change this, albeit for short durations. The potential impact related to increased noise levels is described further in Section 5.4.16.

This impact will be further investigated and assessed in the next phase of the EIA. The noise risks on receptors will be considered with input from a specialist (see Section 7.5.5 for the terms of reference). The aim will be to provide an improved understanding of the levels of noise that could be generated during exploration and to relate these to potential impacts on receptors. This will be undertaken using local and international literature. The outcome will be to determine exclusion criteria (including buffers) that should be applied when identifying and assessing sites for physical exploration. Management measures to prevent or minimise noise generation will also be investigated.

6.3.1.4 Effect on air quality

Ambient air quality may be affected by:

- Dust fallout resulting from the movement of vehicles to and from exploration sites on unsurfaced roads, which would contribute to elevated particulate matter levels in the air on a local scale;
- Emissions generated by vehicles and other combustion-driven equipment (e.g. generators) that release nitrogen oxides (NO_x), carbon dioxide (CO₂), carbon monoxide (CO) and volatile organic compounds (VOC); and
- The escape or release of gas from stratigraphic core holes.

The potential impact on ambient air quality is described further in Section 5.4.17.

This impact will be further investigated and assessed in the next phase of the EIA. The risks to air quality will be considered with input from a specialist (see Section 7.5.6 for the terms of reference). The aim will be to provide an improved understanding of the levels of emissions that could be generated during exploration and to relate these to potential sensitive receptors. This will be undertaken using local and international literature. The outcome will be to determine key management measures that should be applied to prevent or minimise emissions. If the assessment concludes that significant emissions (by volume or risk) are likely then consideration will be given to investigate health risks.

6.3.1.5 Effect on safety and security

Public / landowner safety and security could be compromised or impacted by the following:

- Activities at exploration sites are potentially dangerous due to, *inter alia*, increased traffic volumes, heavy machinery and detonation of explosives. Thus members of the public could be injured if access to exploration sites is not controlled;
- The increased number of people in the area could result in increased crime in the vicinity of the proposed exploration activities, either through direct theft by contractors and staff or through undeterred access onto private land through gates that are left open or fences that are removed / damaged; and
- Accidental veld fires. The extensive natural vegetation of the region provides high fuel loads for veld fires, which can have a devastating effect on landowners with risks to human life and livestock, damages to infrastructure and loss of winter grazing.

These potential impacts are described further in Section 5.4.18.

The impacts on safety and security will be further investigated and assessed in the next phase of the EIA. The aim will be to provide an improved understanding of those activities that could compromise public and landowner safety and security, and to determine management criteria that should be applied during the proposed onsite exploration activities to separate receptors from the risk.

6.3.1.6 Effect on local economy due to job creation and direct revenues

Contribution to the local economy could occur through the creation of direct employment opportunities and generation of direct revenues as a result of using local businesses for support services and supplies. Alternatively, if exploration detracts from or compromises the main attractions of the region then it could result in a reduction in external inputs to the local economy. KZN has many well developed industries (agriculture, eco-tourism, forestry etc) which are dependent on the environmental assets of the region. The eco-tourism industry of the KZN Midlands is particularly dependent on the local environmental assets. Any significant impacts on the environmental assets of the region (as well as perceived impact) could have negative impacts on the industries that rely on these. These potential impacts are described further in Sections 5.4.19.

The impact on the local economy will be further investigated and assessed in the next phase of the EIA. The aim will be to provide an improved understanding of the main socio-economic activities, indicators and issues within the region, and then relate these to potential economic opportunities and costs provided by the proposed project. An economic specialist may be consulted for inputs.

6.3.1.7 Financial implications for land owners

Farmers expressed concern that exploration activities could impact their use of land or resources and thereby affect their income. Farmers requested information on how compensation would be made for

access and loss of income. Exploration activity on farms could result in damages that may cause a loss of income or which require rehabilitation in order to prevent long term environmental degradation. Who would be responsible for rehabilitation post any exploration activity and how would the rehabilitation be funded? See Sections 5.4.20 (Compensation) and 5.4.21 (rehabilitation and liability) for further discussion on the impacts.

The impacts on natural resources (vegetation, groundwater and surface water are discussed in preceding sections). The potential for loss of income by agricultural users will be considered in the EIA. The requirements and methods for compensation for access and loss of income will be further investigated and assessed in the next phase of the EIA. The quantum of the necessary financial provision for rehabilitation, closure and on-going post decommissioning management of negative environmental impacts will be assessed in terms of the Regulations Pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations, (GN R 1147). The method of providing the provision will be detailed in the EIA report.

6.4 LOCAL LIMITATIONS TO EXPLORATION

6.4.1.1 Regulatory restrictions

As identified by many I&APs, there are numerous instances where legislation, regulation, guidelines and best practice prohibit (or recommend against) particular activities from taking place due to the risks that those activities are likely to pose to the environment. Such constraints are generally applicable over much of KZN and are specifically applicable to certain exploration and production activities. As a result of these restriction or constraints there may be very little area in KZN available for exploration or production activities.

The EIA will investigate the relevant constraints which would influence the area where the early-phase exploration could take place. These constraints would be documented and a set of criteria produced to delineate all of the areas where the proposed exploration would not be allowed or not be appropriate. Each of the restriction criteria will be set out in the EMPr and the applicant informed thereof.

6.4.1.2 Lack of available water

It has been indicated that many of the catchments in which the exploration is proposed are effectively closed with regards the allocation of water to users. The effect of this is that there is no water available for use for exploration activities that require water.

Rhino Oil and Gas would need to be aware of such constraints for their planning as the lack of water could influence where exploration activities are undertaken. The EIA would investigate the relevant water constraints and restrictions and confirm how these would influence the undertaking of the early-phase exploration.

6.4.1.3 Public opposition

As documented in this report, there is strong public opposition in KZN to gas exploration in general and this project in particular. The result of this is that Rhino Oil and Gas does not have (and appears unlikely to get) a social licence to operate. While there is no legal bearing to a 'social licence' Rhino Oil and Gas must be aware that the undertaking of any activities for the project could well be hampered by the public opposition. Such opposition could take many forms including negative publicity, public protests, refusal to provide services, vandalism and damage to property.

In a similar vein, many landowners consulted during the EIA process have indicated that they would deny Rhino Oil and Gas access to their properties. Rhino Oil and Gas must be aware that in spite of holding an exploration right (if granted) which has legal bearing, without access to the land it is not possible to access their right. Significant negotiation and possible legal action in light of the Sections 54 and 55 of the MPRDA may be required.

Public opposition and the reasons therefore will be documented in the EIA in an attempt to provide Rhino Oil and Gas with an indication of the challenges that they would face in implementing their exploration right.

7 PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT

This chapter describes the nature and extent of further investigations to be conducted by SLR and the specialists in the EIA, and sets out the proposed approach to the EIA process.

The main objectives of the EIA process, as set out in Appendix 3 to the EIA Regulations 2014, will be to, through a consultative process -

- a) determine the policy and legislative context of the proposed exploration activities and record how the proposed activity complies with and responds to the policy and legislative context;
- b) describe the need and desirability of the proposed exploration activities, including the need and desirability of the activity in the context of the preferred location(s);
- c) identify the location of the development footprint within the preferred site(s) based on an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment ;
- d) determine the
 - (i) nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and the
 - (ii) degree to which these impacts -
 - (aa) can be reversed;
 - (bb) may cause irreplaceable loss of resources, and
 - (cc) can be avoided, managed or mitigated;
- e) identify the most ideal location for the proposed exploration activities based on the lowest level of environmental sensitivity identified during the assessment ;
- f) identify, assess, and rank the impacts the proposed exploration activities will impose on the site(s) through the life of the activity ;
- g) identify suitable measures to avoid, manage or mitigate identified impacts; and
- h) identify residual risks that need to be managed and monitored.

7.1 ALTERNATIVES TO BE CONSIDERED

The project scope to be considered and assessed in the EIA is the 3-year exploration work programme as proposed by the applicant (see Section 2.3.1). The no-go alternative will also be considered in the EIA. No further alternatives are to be considered beyond the scoping report.

The location of the on-the-ground activities (e.g. core holes and seismic surveys) cannot be defined as these will be dependent firstly, on the outcomes of the initial exploration phases, and secondly on a site assessment, the methodology of which is to be defined in the EMPr.

7.2 EIA PROCESS

The EIA process for this project has been developed to ensure that it complies with Section 23 of GNR 982 and in particular Appendices 4 and 5 to the EIA Regulations 2014. The proposed EIA process and public consultation activities that will be undertaken during the EIA are provided below in Table 7-2.

TABLE 7-1: EIA TASKS AND TIMING

Phase	EAP activity	Opportunities for Consultation and Participation		SCHEDULE
		Competent Authorities	I&APs, State Departments and Organs of State	
Scoping	Submit Final scoping report to authority by 20 April 2016	Authority to Accept scoping report OR Refuse environmental authorisation (43 days of receipt)	Advise I&APs of authority decision on Scoping report	Nov 2015 to May 2016
Specialist Assessments and Input	EAP to manage specialist activities and receive inputs for EIA.		Ongoing consultation, particularly with key stakeholders and traditional Authorities	April to August 2016
EIA Phase	Assess environmental impacts and identify management measures. Compile draft EIA and EMP report			April to August 2016
	Submit draft EIA report to I&APs & authorities.	Review of draft EIA report (30 days). Comments to EAP	Review of draft EIA report (30 days). Comments to EAP	August/ September 2016
	Arrange meetings and consultations	Meetings with authorities during EIA if required.	Public Feedback Meeting/Open days. Focused consultation with I&APs or commenting authorities if required.	September 2016
	Address public comment and finalise EIA and EMP reports			September 2016
Authority review and Authorisation Phase	Final EIA report to Authority (106 days from acceptance of scoping).	Authority Acknowledge Receipt of EIA report (10 days).		September 2016
		Environmental Authorisation Granted / Refused (107 days).	Notifications to I&APs regarding environmental authorisation (granted or refused).	December 2016
Appeal Phase	EAP to provide guidance regarding the appeal process as and when required.	Consultation during processing of appeal if relevant.	Submit appeal in terms of National Appeal Regulations	variable

7.3 METHOD OF ASSESSING IMPACT SIGNIFICANCE

The identification and assessment of environmental impacts is a multi-faceted process, using a combination of quantitative and qualitative descriptions and evaluations. It involves applying scientific measurements and professional judgement to determine the significance of environmental impacts associated with the proposed project. The process involves consideration of, *inter alia*: the purpose and need for the project; views and concerns of I&APs; social and political norms, and general public interest.

7.3.1 IDENTIFICATION AND DESCRIPTION OF IMPACTS

Identified impacts will be described in terms of the nature of the impact, compliance with legislation and accepted standards, receptor sensitivity and the significance of the predicted environmental change (before and after mitigation).

7.3.1.1 Limitations to this Assessment

A key constraint of the impact assessment is that the applicant cannot, at this stage, define the location of the on-the-ground activities (e.g. core holes and seismic surveys) as are dependent on the outcomes of the initial exploration phases. Refer to Sections 2.3.5 and 2.3.6.

Thus the approach proposed for this impact assessment is to define the risks of the proposed exploration activities based on the known parameters of the activity/technology/equipment and to identify the relevant environmental aspects or features of the region. The potential impacts of the proposed activities to these key environmental aspects or features would be assessed to determine where exploration would likely result in significant impacts.

To prevent and or mitigate the potential impacts, the proposed exploration activities would be prohibited from taking place at localities where such environmental aspects or features occurred. This would be achieved by defining the types and or classes of environmental aspects or features of the region that are incompatible with the proposed exploration and defining commitments to prohibit their disturbance

To ensure the implementation of this and the ground-truthing of a sites features' at the time of planning the field-based exploration activity, an environmental site assessment by a suitably qualified environmental scientist would be required to be undertaken. The final site plan would require to be approved by the environmental scientist, land owner and PASA. Such requirements will be specified in the EMP.

7.3.2 EVALUATION OF IMPACTS AND MITIGATION MEASURES

The significance of environmental impacts will be rated before and after the implementation of mitigation measures. These mitigation measures may be existing measures or additional measures that may arise

from the impact assessment and associated specialist input. The impact rating system considers the confidence level that can be placed on the successful implementation of mitigation. The proposed method for the assessment of environmental impacts is set out in the table below. This assessment methodology considers the following rating scales when assessing potential impacts (before and after mitigation):

- Consequence, which is a function of:
 - > the intensity of impacts (including the nature of impacts and the degree to which impacts may cause irreplaceable loss of resources);
 - > the extent of the impact;
 - > the duration of the impact;
- probability of the impact occurring;
- reversibility of the impact; and
- the degree to which the impact can be mitigated.

TABLE 7-2: CRITERIA FOR ASSESSING IMPACTS

Note: Part A provides the definition for determining impact consequence (combining intensity, spatial scale and duration) and impact significance (the overall rating of the impact). Impact consequence and significance are determined from Part B and C. The interpretation of the impact significance is given in Part D.

PART A: DEFINITION AND CRITERIA*		
Definition of SIGNIFICANCE		Significance = consequence x probability
Definition of CONSEQUENCE		Consequence is a function of intensity, spatial extent and duration
Criteria for ranking of the INTENSITY of environmental impacts	VH	Severe change, disturbance or degradation. Associated with severe consequences. May result in severe illness, injury or death. Targets, limits and thresholds of concern continually exceeded. Substantial intervention will be required. Vigorous/widespread community mobilization against project can be expected. May result in legal action if impact occurs.
	H	Prominent change, disturbance or degradation. Associated with real and substantial consequences. May result in illness or injury. Targets, limits and thresholds of concern regularly exceeded. Will definitely require intervention. Threats of community action. Regular complaints can be expected when the impact takes place.
	M	Moderate change, disturbance or discomfort. Associated with real but not substantial consequences. Targets, limits and thresholds of concern may occasionally be exceeded. Likely to require some intervention. Occasional complaints can be expected.
	L	Minor (Slight) change, disturbance or nuisance. Associated with minor consequences or deterioration. Targets, limits and thresholds of concern rarely exceeded. Require only minor interventions or clean-up actions. Sporadic complaints could be expected.
	VL	Negligible change, disturbance or nuisance. Associated with very minor consequences or deterioration. Targets, limits and thresholds of concern never exceeded. No interventions or clean-up actions required. No complaints anticipated.
	VL+	Negligible change or improvement. Almost no benefits. Change not measurable/will remain in the current range.
	L+	Minor change or improvement. Minor benefits. Change not measurable/will remain in the current range. Few people will experience benefits.
	M+	Moderate change or improvement. Real but not substantial benefits. Will be within or marginally better than the current conditions. Small number of people will experience benefits.
	H+	Prominent change or improvement. Real and substantial benefits. Will be better than current conditions. Many people will experience benefits. General community support.
	VH+	Substantial, large-scale change or improvement. Considerable and widespread benefit. Will be much better than the current conditions. Favourable publicity and/or widespread support expected.
Criteria for ranking the DURATION of impacts	VL	Very short, always less than a year.
	L	Short-term, occurs for more than 1 but less than 5 years.
	M	Medium-term, 5 to 10 years.
	H	Long term, between 10 and 20 years. (Likely to cease at the end of the operational life of the activity)
	VH	Very long, permanent, +20 years (Irreversible. Beyond closure)
Criteria for ranking the EXTENT of impacts	VL	A portion of the site.
	L	Whole site.
	M	Beyond the site boundary, affecting immediate neighbours

	H	Local area, extending far beyond site boundary.
	VH	Regional/National

PART B: DETERMINING CONSEQUENCE

INTENSITY = VL

DURATION	Very long	VH	Medium	Medium	Medium	High	High
	Long term	H	Low	Medium	Medium	Medium	High
	Medium term	M	Low	Low	Medium	Medium	Medium
	Short term	L	Very low	Low	Low	Medium	Medium
	Very short	VL	Very low	Low	Low	Low	Medium

INTENSITY = L

DURATION	Very long	VH	Medium	Medium	High	High	High
	Long term	H	Medium	Medium	Medium	High	High
	Medium term	M	Low	Medium	Medium	Medium	High
	Short term	L	Low	Low	Medium	Medium	Medium
	Very short	VL	Very low	Low	Low	Medium	Medium

INTENSITY = M

DURATION	Very long	VH	Medium	High	High	High	Very High
	Long term	H	Medium	Medium	High	High	High
	Medium term	M	Medium	Medium	Medium	High	High
	Short term	L	Low	Medium	Medium	Medium	High
	Very short	VL	Very low	Low	Medium	Medium	Medium

INTENSITY = H

DURATION	Very long	VH	High	High	High	Very High	Very High
	Long term	H	Medium	High	High	High	Very High
	Medium term	M	Medium	Medium	High	High	High
	Short term	L	Medium	Medium	Medium	High	High
	Very short	VL	Low	Medium	Medium	Medium	High

INTENSITY = VH

DURATION	Very long	VH	High	High	Very High	Very High	Very High
	Long term	H	High	High	High	Very High	Very High
	Medium term	M	Medium	High	High	High	Very High
	Short term	L	Medium	Medium	High	High	High
	Very short	VL	Low	Medium	Medium	High	High

	VL	L	M	H	VH
	A portion of the site	Whole site	Beyond the site boundary, affecting immediate neighbours	Local area, extending far beyond site boundary.	Regional/National
	EXTENT				

PART C: DETERMINING SIGNIFICANCE

PROBABILITY (of exposure to)	Definite/Continuous	VH	Medium	High	High	Very High	Very High
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impacts)	Probable	H	Medium	Medium	High	High	Very High
	Possible/ frequent	M	Low	Medium	Medium	High	High
	Conceivable	L	Low	Low	Medium	Medium	High
	Unlikely/ improbable	VL	Very low	Low	Low	Medium	Medium
			VL	L	M	H	VH
CONSEQUENCE							

PART D: INTERPRETATION OF SIGNIFICANCE	
Significance	Decision guideline
Very High	Potential fatal flaw unless mitigated to lower significance.
High	It must have an influence on the decision. Substantial mitigation will be required.
Medium	It should have an influence on the decision. Mitigation will be required.
Low	Unlikely that it will have a real influence on the decision. Limited mitigation is likely to be required.
Very Low	It will not have an influence on the decision. Does not require any mitigation

*VH = very high, H = high, M= medium, L= low and VL= very low and + denotes a positive impact.

7.4 ASPECTS TO BE ASSESSED

The environmental aspects relevant to the anticipated impacts as described in Section 6 will be considered and investigated in the EIA phase.

7.5 PROPOSED SPECIALIST STUDIES

The following sections outline the terms of reference for the specialist studies that will be undertaken. These are based on the outcomes of the scoping study. Specialist reports will be structured in terms of Appendix 6 of the EIA Regulations 2014. It must be noted that although the work described in the following sections will be undertaken by specialists, the extent of the study area means that a desktop approach is the only feasible method for the work. Each specialist will be tasked to identify the features and categories of their environmental field which must be understood when planning core hole sites and of seismic survey routes. Site specific assessments to implement the specialist recommendations will be undertaken when the locality of drill sites and the routing of seismic survey lines are being finalised. The requirement for this approach will be presented in the EMPr.

Should it be deemed necessary that additional specialist studies are required; terms of reference will be drawn up and these will be included in the EIA report.

7.5.1 BIODIVERSITY

A desktop analysis of the receiving environment which may be affected by the proposed exploration activities will be undertaken by an ecologist in order to understand the extent, nature and status of biodiversity features. All relevant databases will be utilised to ensure that all environmental policies are considered. In this regard specific mention is made of the SANBI databases (such as relevant provincial databases and the NFEPA database) or any available fine scale plans for the region. The desktop study will also include the assessment of sensitive habitat types (such as ridges, wetlands and rivers), threatened ecosystems, protected areas and other sensitive biophysical areas. Necessary background information will also be sourced from the relevant nature conservation authorities regarding threatened plants and animals recorded for the area. Biodiversity units (vegetation, habitat), areas of conservation importance (protected areas, Ramsar sites, CBAs) and features of high sensitivity to disturbance (species occurrence etc) will be mapped, at a broad scale, to the greatest degree possible using available ground cover and other GIS data.

A sensitivity plan will be developed based on the findings of the desktop ecological assessment to indicate sensitive areas in the study area. The results of the study will lead to a sensitivity report describing any potential ecological constraints and presenting management and mitigation measures for inclusion into the EMP.

The outcome will be to define which biodiversity units and uses are incompatible with the proposed exploration and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration.

The specific terms of reference for the biodiversity assessment are as follows:

- Identify, map and describe the extent, nature and status of biodiversity features (including geology, soil, vegetation and surface water resources), sensitive habitat types (such as ridges, wetlands and rivers), threatened ecosystems, protected areas and other sensitive biophysical areas in the exploration right area, based on available literature, existing databases (e.g. SANBI, NFEPA and other provincial databases) and any fine scale plans for the region;
- Identify any species of special concern (vegetation and fauna) viz. species with conservation status, endemic to the area or threatened species that exist or may exist on site;
- Identify and investigate ecological / biodiversity processes that could be affected (positively and/or negatively) by the proposed project;
- Develop a sensitivity plan (low, medium and high significance) based on the findings of the desktop review and describe any potential ecological constraints relating to identified sensitive areas;
- Determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration during the detailed site assessment;

- Identify other practicable mitigation measures to reduce any potential negative impacts and indicate how these could be implemented and managed during exploration; and
- Provide guidance for the requirement of any permits or licences.

7.5.2 GROUNDWATER

A desktop analysis of the receiving groundwater environment which may be affected by the proposed exploration activities will be undertaken by a geohydrologist in order to provide understanding of the key groundwater features. The aim will be to identify the groundwater resources within the application area and to understand the extent, nature, status and use of these. Taking into consideration the extent of the study area, a desktop groundwater assessment study will be undertaken by a geohydrologist to establish:

- General distribution of groundwater levels in the delineated area,
- Seasonal fluctuation of groundwater levels;
- Classification of groundwater potential for the area, aquifer types and depths;
- Presence of major catchment areas and possible interaction between surface and groundwater
- Current (baseline) regional conditions for groundwater ;
- Recommendations for later phase groundwater work that should be done if exploration proceeds.

The proposed methodology for achieving the objectives of the desktop study consists of:

- Interrogation of the National Groundwater Database (DWS) to determine presence of water supply and monitoring boreholes within the delineated study area.
- Extraction of water level records and determination of the approximate groundwater levels.
- Extraction of groundwater quality records and delineation of possible zones of higher concentration for various groundwater constituents.
- Spatial processing of national groundwater maps
- Spatial geo-processing for groundwater resources in the study area.

Aquifers and water use will be mapped to the greatest degree possible using available ground cover and other GIS data. The outcome will be to define the levels of compatibility of the proposed exploration activities with the groundwater resources and to determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration.

The specific terms of reference for the groundwater assessment are as follows:

- Identify, map and describe groundwater resources / aquifers in the exploration right area, based on available literature, existing databases and any fine scale plans for the region;
- Describe the ecological condition, sensitivity, ecological importance and conservation value of all identified groundwater resources / aquifers;
- Develop a sensitivity plan (low, medium and high significance) based on the findings of the desktop review and describe any potential ecological constraints relating to identified sensitive areas;

- Determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration during the detailed site assessment;
- Identify other practicable mitigation measures to reduce any potential negative impacts and indicate how these could be implemented and managed during exploration; and
- Provide guidance for the requirement of any authorisation, permits or licences (e.g. General Authorisation or Water Use Licence).

7.5.3 HERITAGE

Taking into consideration the extent of the study area, a desktop heritage study will be undertaken by a registered archaeologist / heritage consultant. The goal will be provide an understanding of the heritage resources that are known or which have the potential to occur in the region. This will consider, amongst others: rock art; war sites; Late Iron Age and Historical Period settlements (stone walling and graves); Early, Middle and Late Stone Age sites; Historical buildings, transport routes and tree borders; sites related to oral history and living heritage. Heritage and palaeontological resources will be mapped at a regional scale and the key features of these described. The method for heritage assessment consists of several steps. The first step will be a desktop assessment with the specialist consulting their own database, built-up over several years and includes, and is not exclusive or complete:

- Previous heritage surveys (pre-2013);
- Archaeological sites;
- Palaeontological sites;
- Listed provincial and national monuments;
- Listed historical cemeteries;
- Listed general heritage sites;
- Sites from 1st edition topographical maps; and
- Sites from 1st edition aerial photographs (when available).

Consultation with the relevant authorities to address battlefields and historical sites. The work may include consultation with an historical architect, a palaeontologist, and an historian where necessary. The more recent addition of SAHRIS allows one to see if an area has recorded sites or has been surveyed. SAHRIS also allows for a brief palaeontological assessment.

The desktop study will use various historical maps (1st edition topographical and aerial photographs) that can pinpoint human settlements that occurred before increased urbanisation and commercial industry. Aerial photographs from 1937 and 1942 topographical maps will be used to indicate older buildings and human settlements. This is important as the maps will indicate the potential for human graves, regardless of the current land use.

Identified sites will be grouped according to low, medium and high significance for the purpose of reporting. Where heritage sites of medium and high significance are identified a management plan would be developed. This might be specific to a site or as a general management plan for the area. Guidance on how to manage chance finds of heritage resources will also be detailed.

The specific terms of reference for the heritage assessment are as follows:

- Identify, map and describe heritage resources (including archaeology, palaeontology and cultural heritage) in the exploration right area, based on available literature, existing databases and any fine scale plans for the region;
- Determine the sensitivity and conservation significance of any sites of archaeological, palaeontology or cultural heritage significance affected by the proposed project;
- Develop a sensitivity plan (low, medium and high significance) based on the findings of the desktop review and describe any potential heritage constraints relating to identified sensitive areas;
- Determine the need to undertake initial archaeological surveys (i.e. fieldwork) of specific and selected sites to confirm sensitivity plan;
- Determine exclusion criteria that should be applied when identifying and assessing sites for physical exploration during the detailed site assessment;
- Identify other practicable mitigation measures to reduce any potential negative impacts and indicate how these could be implemented and managed during exploration; and
- Provide guidance for the requirement of any heritage permits or licences.

7.5.4 SOILS AND LAND COVER

Taking into consideration the extent of the study area, a desktop soils and land cover study will be undertaken by a specialist. The aim will be to identify the different land uses and regional soil types within the application area and to understand the extent, nature and status of these. Soils and land uses will be mapped, at a broad scale, to the greatest degree possible using available ground cover and other GIS data.

The outcome will be to identify soil types or properties and land uses within the area which are incompatible with the proposed exploration. Exclusion criteria that should be applied when identifying and assessing sites for physical exploration will be defined.

The specific terms of reference for the soils and land cover assessment are as follows:

- Identify, map and describe soil resources / land use in the exploration right area, based on available literature, existing databases and any fine scale plans for the region;
- Describe the condition, value, importance and sensitivity of the identified soils and land uses resources / aquifers;

- Develop a sensitivity plan (low, medium and high significance) based on the findings of the desktop review and describe any potential constraints relating to identified sensitive areas;
- Determine exclusion criteria for soils and land use that should be applied when identifying and assessing sites for physical exploration during the detailed site assessment; and
- Identify other practicable mitigation measures to reduce any potential negative impacts and indicate how these could be implemented and managed during exploration.

7.5.5 NOISE AND VIBRATION

A specialist will be appointed to undertake a literature review of the noise and vibration that could be expected from the proposed exploration activities. The goal will be provide an understanding of the noise and vibration levels that such activities generate in order to enable the interpretation of risk to receptors and infrastructure. The specialist would also be tasked with identifying receptors that would be sensitive to the noise and or vibration that the proposed exploration activities could generate. The outcome would be to determine exclusion criteria/buffers that should be applied when identifying and assessing sites for physical exploration during the detailed site assessment. Other practicable mitigation measures to reduce any potential negative impacts would be identified.

7.5.6 AIR QUALITY

A specialist will be appointed to undertake a literature review of the gaseous emissions that could be expected from the proposed exploration activities. The aim will be to provide an understanding of the volumes and types of emissions that could be generated during exploration and to relate these to potential sensitive receptors. The specialist would also be tasked with identifying receptors that would be sensitive to the gaseous emissions that the proposed exploration activities could generate. The outcome would be to determine practicable mitigation measures to reduce any potential negative impacts.

If the risk requires, the specialist will contribute to determining exclusion criteria/buffers that should be applied when identifying and assessing sites for physical exploration during the detailed site assessment.

7.6 INTEGRATION AND ASSESSMENT

The specialist findings, recommendations and other relevant information will be integrated into the EIA Report by SLR. The full specialist studies will be included as appendices to the EIA Report.

7.7 MEASURES TO AVOID, REVERSE, MITIGATE, OR MANAGE IDENTIFIED IMPACTS

A draft EMPr will be compiled and included as an appendix to the EIA Report. The EMPr will be structured in terms of Appendix 5 to the EIA Regulations 2014. The EMPr will provide recommendations on how to select, establish, operate, maintain and close the exploration activities through all relevant

phases of the project life. The aim of the EMPr will be to ensure that the project activities are managed to avoid or reduce potential negative environmental impacts, and enhance potential positive environmental impacts. The EMPr will detail the impact management objectives, outcomes and actions as required, the responsibility for implementation and the schedule and timeframe. Requirements for monitoring of environmental aspects as well as compliance monitoring and reporting will also be detailed. The EMPr will also include the required environmental awareness plan.

If approved by the relevant authorities, the provisions of the EMPr are legally binding on the project applicant and all its contractors and suppliers.

7.8 CONSULTATION PROCESS IN EIA

7.8.1 WITH THE COMPETENT AUTHORITY

Any conditions of the approval of the Scoping report from the competent authority will be implemented in the EIA process. If requested, a site visit and meeting with the competent authority shall be held.

PASA will be invited to all public feedback meetings that will be held. The EIA / EMP reports will be submitted to PASA in both draft and final formats. The opportunities for consultation and participation of the Competent Authority are shown in Table 7-1.

7.8.2 PUBLIC PARTICIPATION PROCESS

A description of the tasks that will be undertaken during the EIA, with specific reference to the opportunities for consultation and participation for I&APs, relevant State Departments Organs of State and commenting authorities is detailed below and shown in Table 7-1.

7.8.2.1 Notification of interested and affected parties

I&APs registered on the project database will notified of relevant events in the EIA process via electronic mail, post and bulk SMS. This will include when the EIA/EMP reports are available for public review; invitations to a public feedback meeting/open day(s); and notification of the authority decision.

7.8.2.2 Information to be provided to i&aps

During the EIA phase a series of public feedback meeting/open day(s) will be held to present and discuss the findings of the EIA with I&APs. These meetings will include a presentation by the EAP.

The EIA / EMPr report will be subjected to public review for a period of 30 days. A summary of the findings of the EIA report will be provided in English and isiZulu.

Once PASA has issued a decision on the application, I&APs on the project database will be informed accordingly of the decision, the reasons therefor and the fact that an appeal may be lodged in terms of the National Appeals Regulations, 2014.

7.8.2.3 Details of the engagement process

The stakeholder engagement process in the EIA Phase will include the following:

- On-going identification and notification of landowners and stakeholders;
- Registration of parties as I&APs;
- Collation of issues and concerns into a report for inclusion in the EIA;
- Public meeting/open days to provide feedback on the findings of the EIA;
- Circulation of the EIA and EMP report for public review:
 - draft (and final if there are material changes made to the draft report);
 - summaries in local languages.
- Notification of I&APs on the database on the PASA decision and appeal process.

7.9 OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

7.9.1 FINANCIAL PROVISION

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.

Rhino Oil and Gas would put in place the required financial provision for the proposed exploration activities. Rhino Oil and Gas will discuss the nature and quantum of the financial provision with PASA during the next phase of the EIA. The proposed nature and quantum of the financial provision will be presented in the EIA Report.

7.9.2 IMPACT ON THE SOCIO-ECONOMIC CONDITIONS OF ANY DIRECTLY AFFECTED PERSON

Exploration as proposed is not expected to have a significant effect on any landowner or occupier. This can be ensured by negotiating access with landowners and siting activities at agreed locations. Where necessary, compensation will be agreed with landowners for any economic loss.

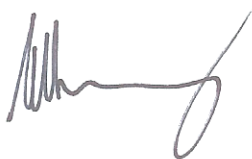
7.9.3 OTHER MATTERS REQUIRED IN TERMS OF SECTIONS 24(4)(A) AND (B) OF THE ACT

None.

8 UNDERTAKINGS BY THE EAP

I, Matthew Hemming, the Environmental Assessment Practitioner responsible for compiling this report, undertake that:

- the information provided herein is correct;
- the comments and inputs from stakeholders and I&APs has been correctly recorded;
- information and responses provided to stakeholders and I&APs by the EAP is correct; and
- the I&APs and stakeholders have reviewed and commented on the Plan of Study for EIA and the level of agreement therewith has been correctly documented.



Signature of the EAP

Date: 25 April 2016



Signature of the Reviewer

Date: 25 April 2016

9 REFERENCES

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APPENDIX 1: PROOF OF EAP REGISTRATION

APPENDIX 2: CURRICULUM VITAE OF EAP

APPENDIX 3: INCLUDED PROPERTIES

List of included Properties
(Separate electronic file)

APPENDIX 4: SITE PLAN

Locality plans for the boreholes sites are not yet available.

Route plans for the seismic surveys are not yet available.

APPENDIX 5: STAKEHOLDER ENGAGEMENT DOCUMENTS

- 5.1 Authority Correspondence
- 5.2 Land Owner Database
- 5.3 Stakeholder/I&AP Database
- 5.4 Copies and Proof of Adverts and Site Notices
- 5.5 Public Documents (BID, Letters, Presentations)
- 5.6 Press Coverage
- 5.7 Public meetings
- 5.8 Information distributed to I&APs in March 2016 (Draft Scoping Report)

APPENDIX 6: I&AP SUBMISSIONS

- 6.1 I&APs submissions during initial Consultation period
- 6.2 Comments from review of Draft Scoping Report (dated March 2016)

