



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

FINAL BASIC ASSESSMENT REPORT

And

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

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

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Date: 18 August 2019

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APPENDIX

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APPENDIX D: DETAILS OF THE EAP

1. IMPORTANT NOTICE

In terms of the National Environmental Management Act No.107 of 1998 as amended, a Basic Assessment process is required to obtain environmental authorization for the activities, as per the EIA Regulations (2014) promulgated in terms of NEMA, the Minister must grant a prospecting or mining right if among others the mining “will not result in unacceptable pollution, ecological degradation or damage to the environment”.

Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Programme report in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of section 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of section 17 (c) the competent Authority must check whether the application has considered any minimum requirements applicable or instructions or guidance provided by the competent authority to the submission of applications.

It is therefore an instruction that the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or a permit are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore, please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

2. Objective of the basic assessment process

The objective of the basic assessment process is to, through a consultative process—

- (a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
- (b) identify the alternatives considered, including the activity, location, and technology alternatives;
- (c) describe the need and desirability of the proposed alternatives,
- (d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine:
 - (i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
 - (ii) the degree to which these impacts—
 - (aa) can be reversed;
 - (bb) may cause irreplaceable loss of resources; and
 - (cc) can be managed, avoided or mitigated;
- (e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
 - (i) identify and motivate a preferred site, activity and technology alternative;
 - (ii) identify suitable measures to manage, avoid or mitigate identified impacts; and
 - (iii) Identify residual risks that need to be managed and monitored.

PART A
SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

1. CONTACT PERSON AND CORRESPONDENCE ADDRESS

1.1. Details of

1.1.1. Details of the EAP

Table 1: Details of the EAP

| | |
|------------------------------|--|
| Company | Crysol (Pty) Ltd |
| Contact Person | Mr. Thendo Nelwamondo |
| SACNASP Membership No | 400299/14 |
| Tel No | +27 (011) 038 0131 |
| Cell No | +27 (073) 227 0782 |
| Fax No | +27 (086) 710 2600 |
| E-mail address | crysol.thendo@gmail.com |
| Address | 45 Mozart Lane, Sagewood, Midrand, Johannesburg, Republic of South Africa |

a) Expertise of the EAP

The qualifications of the EAP

(With evidence).

Mr Thendo Nelwamondo has over 6 years of experience in the environmental management field. He started his career in the area of Environmental Impact Assessment (EIA) as an Environmental consultant at Kimopax Pty (Ltd). Mr Nelwamondo offer technical input for projects in the environmental management field, specialising in Strategic Environmental Advice, Environmental Impact Assessment studies, environmental permitting, public participation, Environmental Management Plans and Programmes, environmental policy, strategy and guideline formulation, and integrated environmental management.

Mr Nelwamondo Thendo place attention on integration of the specialist environmental studies, strategic assessment, and providing practical and achievable environmental management solutions and mitigation measures. Responsibilities for environmental studies include project management; review and manipulation of data; identification and assessment of potential negative environmental impacts and benefits; review of specialist studies; and the identification of mitigation measures. Compilation of the reports for environmental studies is in accordance with all relevant environmental legislation

Refer to for a copy of the EAP's Curriculum Vitae.

Table 2: Details of the Applicant

| | |
|---------------------|---|
| Company | Canton Group (Pty) Ltd |
| Name of the Project | Dundee Prospecting Project |
| Responsible Person | Mr. Mahlatji Ariel |
| Tel No. | 079 708 1848 |
| E-mail address | mahlatjiariel@gmail.com |
| Postal Address | 64 M Park Jane Furse Limpopo Province, 1085 |

1.2 LOCATION OF THE OVERALL ACTIVITY.

Table 3: Location Details

| | |
|---|---------------------------|
| Farm Name: | Dundee 4339 portion 348 |
| Application area (Ha) | 296 hectares |
| Magisterial district: | Dundee |
| Distance and direction from nearest town | 4.5km East of Dundee Town |
| 21-digit Surveyor General Code for each farm portion | N0GT00000000433900348 |

1.3 LOCALITY MAP

(Show nearest town, scale not smaller than 1:250000).

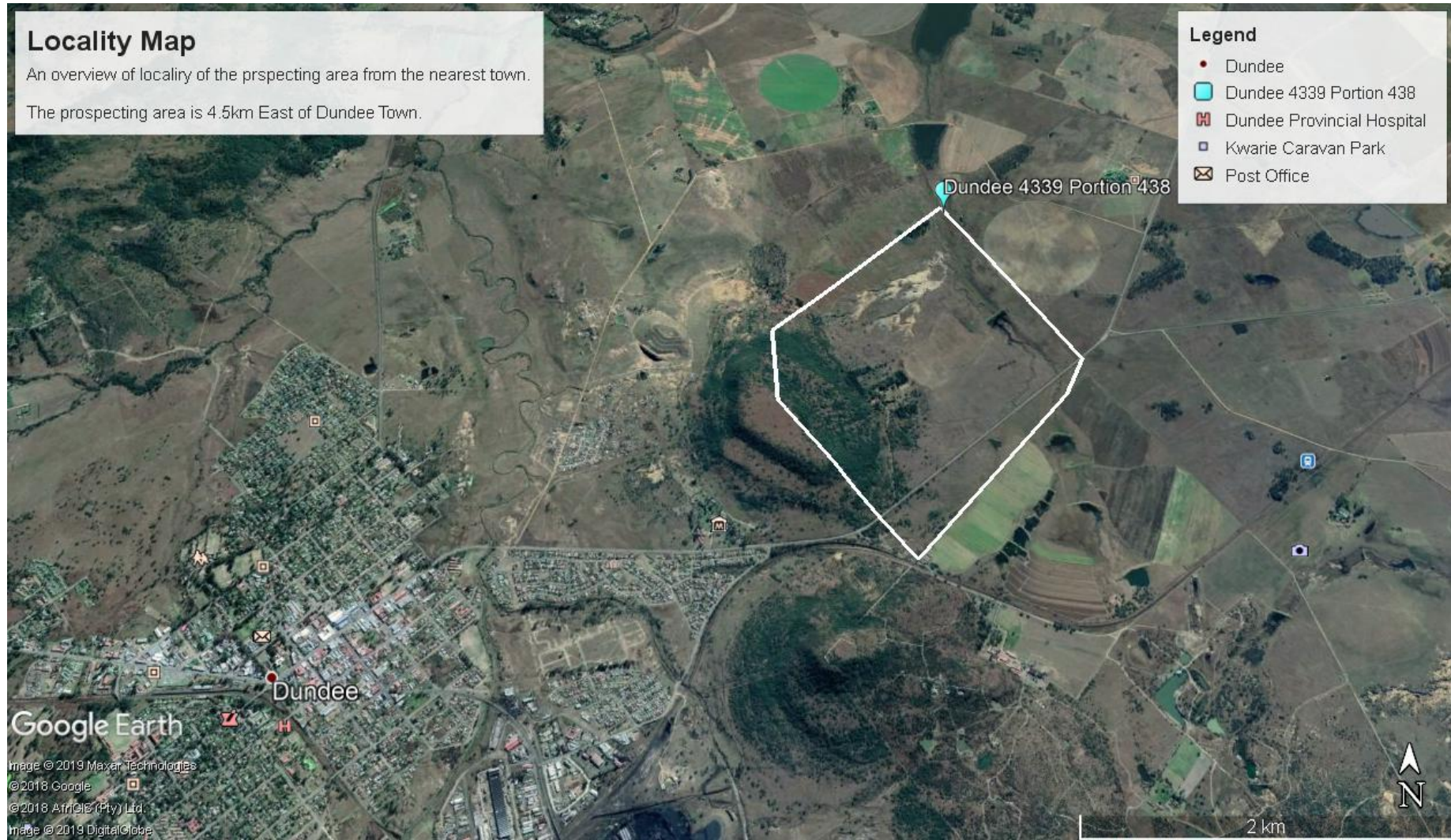


Figure 1: Locality map of Dundee 4339 portion 348

2. DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY.

Provide a plan drawn to a scale acceptable to the competent authority but not less than 1: 10 000 that shows the location, and area (hectares) of all the aforesaid main and listed activities, and infrastructure to be placed on site.



Figure 2: Location of the proposed drilling points for Dundee 4339 portion 348

Table 4: Borehole Coordinates

| BOREHOLE NUMBER | LONGITUDE (X) | LATITUDE (Y) |
|-----------------|---------------|--------------|
| BHD001 | 30.276753° | -28.148142° |
| BHD002 | 30.280126° | -28.146060° |
| BHD003 | 30.272877° | -28.144500° |
| BHD004 | 30.276270° | -28.141622° |
| BHD005 | 30.269379° | -28.140549° |
| BHD006 | 30.273254° | -28.137391° |

2.1 LISTED AND SPECIFIED ACTIVITIES

Table 5: Listed and specified activities.

| NAME OF ACTIVITY | Aerial extent of the Activity Ha or m² | LISTED ACTIVITY | APPLICABLE LISTING NOTICE |
|---|---|---|-------------------------------------|
| Prospecting Activities within the Prospecting Right Area, Using Desktop Study, Geological Mapping, Geophysical Survey, Diamond Core Drilling together with all associated infrastructure and activities. These include site establishment (access to site and campsite), pegging of drilling sites, drilling of exploration boreholes with associated sumps, logging and sampling of drilled cores and site rehabilitation. | 296 ha (Prospecting Right Area) | Activity 20 of Listing Notice 1: Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource, including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002). | GNR 327, LN 1 |

2.2 DESCRIPTION OF THE ACTIVITIES TO BE UNDERTAKEN

Canton Group (Pty) Ltd proposes to conduct prospecting activities on farm Dundee 4339 portion 348 located within Dundee municipality. The commodity of interest in this regard is coal and the prospecting will focus mainly on such a commodity.

2.2.1 Prospecting Method to be used

The prospecting activities to be undertaken include non- invasive and invasive methods, thus methods that do not cause harm to the environment and that which causes harm respectively. Non-invasive method encompasses phases such as phase 1 and yet invasive collate phases from 2 and 3. The conduction of these activities will be done in phases, with the succeeding phase depending on the results and success of preceding phase.

The planned Invasive Phase will involve the drilling of the sited drilling boreholes using a diamond core drilling technique. A sump will be constructed in each drilling borehole for the collection of water from the drilling operations. The sump will be constructed to be one (1) square meter in size and have a maximum depth of one (1) metre. Any soils removed from the sump (approximately one cubic meters) will be placed adjacent the drilling site and used for rehabilitation of the site. Boreholes will be drilled at pre-planned sites. The boreholes will be drilled to intersect the expected mineralization zone and will be logged by the geologist. The intersected mineralized zone will be sampled and sent to the laboratory for quality determination. This data will form the basis for the geological modelling and financial evaluation. The current estimated life of the proposed prospecting activities is five (5) years.

Table 6: Equipment's to be used or needed

| | |
|---|--|
| Equipment and/or Technology to be used | 1 drill rig mounted on a 10-tonne truck or trailer |
| | 2X (4X4) Bakkies |
| Materials required | Diesel |
| | Grease |
| | Hydraulic Oil |
| | One 50 kg Bag of cement/ Expansion foam per borehole |
| | Picks, shovels, |
| Spillage control | Dip trays |
| Sanitation Facility | Chemical toilets |
| Waste Management | Waste skip and Bins |
| Safety | Safety Boards |

2.2.2 Non-Invasive: Desktop Studies (Data Acquisition)

2.2.2.1 Data gathering

Applicable data concerning the potential of the proposed prospecting area will be sourced from institutions such as the Council for Geosciences, Universities and other libraries and previous explorers may be approached with a view to obtaining their results. During this phase, the photo geological and satellite interpretations will also be undertaken and the data collecting during Basic Assessment Process will be utilised.

2.2.2.2 Data Interpretation

The interpretation of data will result in compiling a preliminary potential project report. The report will give indication as to what processes can be prioritised and followed in order to complete the proposed prospecting activities.

2.2.2.3 Decision to commence with prospecting activities

Once all factors are gathered, physical inspecting of the terrain will be conducted to verify certain aspects. The important point to note is that a decision on whether or not to proceed with prospecting depends not only on the scientific and reliability of the methods under consideration, but also upon many less tangible factors, such as restrictions that might be imposed by the relevant Department when granting a prospecting right and an environmental authorisation.

2.2.3 Invasive: Construction Phase

2.2.3.1 Establishment of access to the Project site

There will be no need to establish an access road to site as an existing national road such as R33, R68 and unnamed gravel road will be preferred, including the private farm roads that link to the farm and tracks lie in close proximity to the proposed prospecting area. Where necessity arise for access to the drilling sites, tracks will be established as access to the drilling site. These tracks will be established to be more than 500 meters away from any sensitive landscapes. The tracks will also be sited away from protected areas. Vegetation clearance will be avoided during the establishment of the access tracks.

2.2.3.2 Detailed Site Survey and Investigation

Demarcation of sensitive and protected areas will be conducted by physical survey of the proposed area by a suitability qualified person. This should be done before establishment of access to the site, campsites and drilling of exploration boreholes.

2.2.3.3 Pegging of Drill Sites

All exploration borehole sites will be staked by a suitably qualified person. The sites will be plotted according to the determined borehole layout as shown in figure 2 above.

2.2.4 Operational Phase

2.2.4.1 Diamond Drilling for boreholes and sump construction

Geological boreholes will be drilled on a determined grid of 350m-1000m apart. The depth of the borehole is planned to a maximum of 100m and a diamond core of 60 mm will be used. During drilling of each borehole, a sump of approximately 1.0 x 1.0 x 1.0 m will be excavated for collecting of excess muds (water) from the drilling operation.

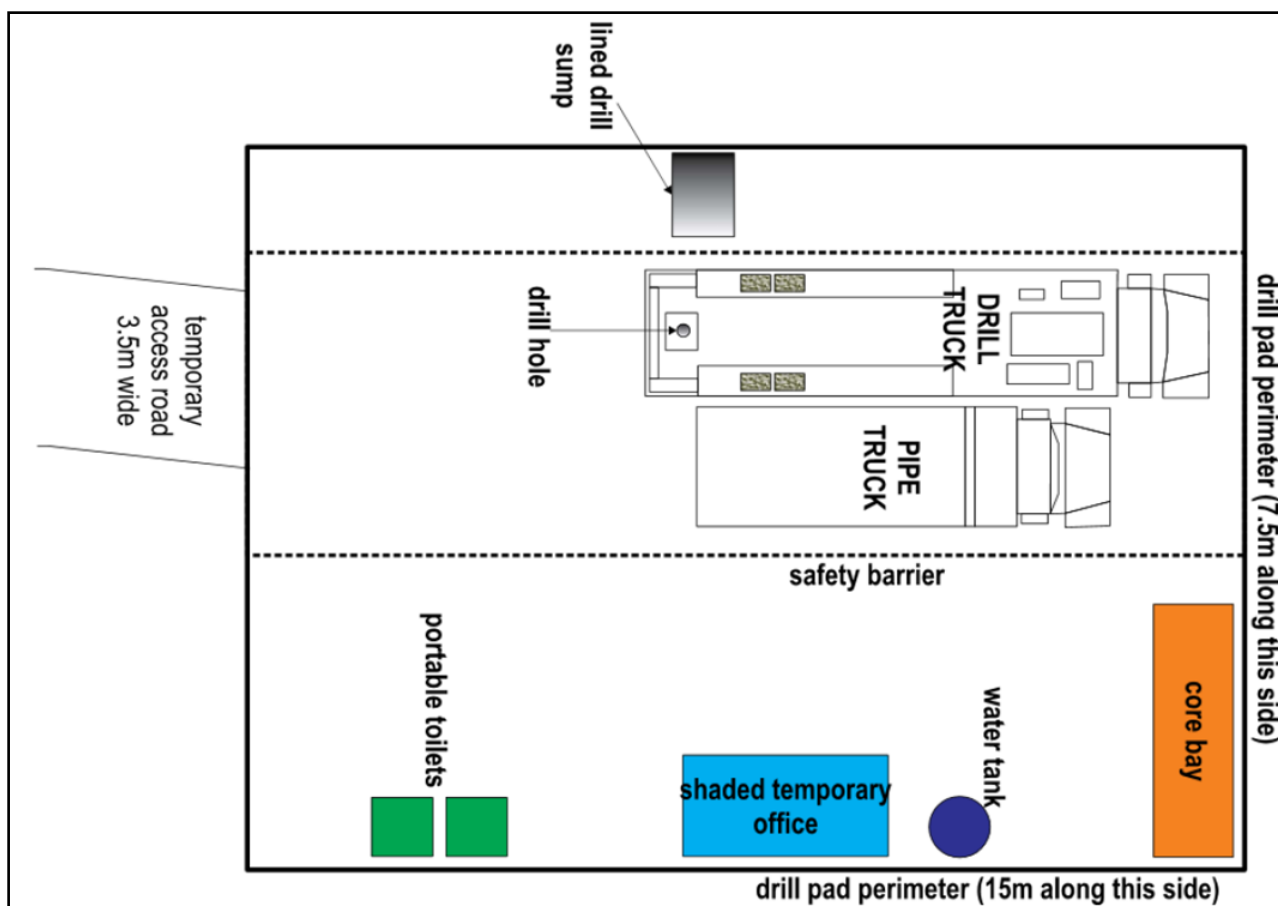


Figure 3: Schematic diagram of drilling layout



Figure 4: Typical Drilling site

2.2.4.2 Access Roads

Existing access roads and tracks will be used. Where there are no access roads tracks will be created to access the drilling site.

2.2.4.3 Campsite

The drilling team will be housed on a static camp site close that will be erected within the project area. This campsite will be temporary as it will only be on site during drilling phase of the project. The campsite will be on the area of 60m².

2.2.4.4 Ablution

Mobile ablution systems will be used. This will be located away from the drilling site to avoid any leakage that might be caused due to drilling towards the drilled boreholes. The ablution system will only occupy the total area of 20m². The water to be used will be transported to the site by water tanker and only 2200l of water will be stored on site on a tank.

2.2.4.5 Hydrocarbon storage

The hydrocarbons will be stored on site and only a maximum of 50l of diesel and oil will be stored during prospecting activities. This will be stored on a certified drum to avoid any spillage on the ground. The drums will be monitored twice a day throughout the prospecting activities.

2.2.4.6 Topsoil Storage Site

The tops and sub soils removed from the sump and drilling boreholes will be stockpiled in close proximity to the sump. The sumps will be backfilled manually by spade, immediately the drilling and sampling of boreholes is completed.

2.2.4.7 Vehicle and machinery storage

Only one rig will be utilised during prospecting activities of which will be mounted on a 10 tonne truck. This rig will be left on site throughout the prospecting activities and the space that it will utilise during storage will be 9300mm x 2500mm.

2.2.4.8 Logging and Sampling of core

This involves the physical description of the rocks intersected by the drilling process. The interpretation of these rock descriptions will assist in establishing the general stratigraphy of the area. Sampling will be taken at the desired horizons and sent to the laboratory for analyses.

2.2.4.9 Site Rehabilitation

Concurrent rehabilitation (Plugging and reseeded) of disturbed areas will be undertaken as drilling continues. Vegetation similar to that surrounding area will be used, or if necessary the opinion of an Ecologist will be sought for rehabilitation.

2.2.5 Decommissioning phase

2.2.5.1 Final Rehabilitation

Except for farm roads, no tracks and infrastructure related to the prospecting operation will remain in place after the decommissioning phase. Where tracks have resulted in more damage, such tracks will be ripped at 90° to the inherent slope, and seeded with the recommended seed mix. The sumps will be rehabilitated in such a manner to return the area to its pre-drilling environment.

Post closure, the prospecting area will consist of re-vegetated areas with vegetation cover comparable to the surrounding areas. This will be unaffected by the prospecting activities. No prospecting related infrastructure will remain on the prospecting site. The area will conform to the pre-prospecting topography. The areas affected by prospecting will be stable and erosion free.

2.2.5.2 Pre-feasibility Study

This involves the compilation of a final geological competent person's report, reserve determination and pre-feasibility studies.

2.2.5.3 Mining feasibility study

This involves the conducting of a mining feasibility study, market research, sales agreements etc.

2.2.6 After Closure Phase

The rehabilitated area will be monitored until closure of the site which is for approximately a of one (1) year. After the decommissioning of the site and if it can be determined that the site is stable, an environmental authorisation for the decommissioning of the site and a closure will be applied for in terms of the relevant laws. The borehole layout has been determined and is shown in Figure 2, and this will not be changed based on the fact that it has been determined taking into consideration of the environmental aspect within the project area.

2.3 POLICY AND LEGISLATIVE CONTEXT

Table 7: Policy and Legislative Context

| APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT | REFERENCE WHERE APPLIED | HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT? |
|--|--|--|
| National Environmental Management Act, 1998 | This entire report is prepared as part of the Application for Environmental Authorisation under the NEMA. | In terms of the National Environmental Management Act an Application for Environmental Authorisation subject to a Basic Assessment Process has been applied for. |
| National Water Act, 1998 | Due to the nature of the proposed prospecting activities, it is not anticipated that Section 21 water uses will be triggered. Therefore, there is no requirement to apply for Water Use Authorisation in terms of the NWA. | In terms of the National Water Act, no Water Use License has been applied For. |

| | | |
|---|--|--|
| Mineral and Petroleum Resources Development Act, 2002 | This entire report is prepared as part of the Prospecting Right Application under the MPRDA. | In terms of the Mineral and Petroleum Resources Development Act a Prospecting Right Application has been applied for. |
| Strategic Development Framework (SDF) | Alternatives | <p>In terms with the SDF of the Local municipality, various strategies and associated policies should be adopted to ensure effective spatial development.</p> <p>In terms of Section 5.1 of the SDF the municipality must provide alternative means of support for rural /informal population to decrease dependence on the environment and subsistence agriculture. For this purpose, the following policies are adopted:</p> <p>Maximize economic benefit from mining industrial, business, agricultural and tourism development within the area Promote a climate for economic development. Improve public and investor</p> |

| | | |
|--|------------------------|--|
| | | confidence in the region through crime reduction and Infrastructure development. |
| National Environmental Management Air Quality Act (Act No. 39 of 2004, Government Gazette No. 27318) (NEMAQA | Prospecting Activities | Standards for particulates and dust used in Impact Assessment to regulate the concentration of a substance that can be tolerated without any environmental deterioration |
| Conservation of Agricultural Resources Act, 1983 | Prospecting activities | The project should promote the conservation of soil, water and vegetation |

2.4 NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES.

In terms of the EIA Regulations the need and desirability of any development must be considered by the relevant competent authority when reviewing an application. The need and desirability must be included in the reports to be submitted during the environmental authorisation application processes. This section of the BAR and EMPr will indicate the need and desirability for the proposed prospecting project.

Assessment of the geological data available has determined that the area in question may have coal mineral reserves. In order to ascertain the above and determine the nature, location and extent of the coal mineral reserves within the proposed area, it will be necessary that prospecting activities be undertaken. The prospecting activities will also determine if there are any features that may have an impact on the economic extraction of these minerals.

The data obtained from the prospecting of coal (if is discovered) will be necessary to determine how and where these minerals will be extracted and how much economically viable reserves are available within the proposed prospecting area. Should coal mineral be found in the project area, Canton Group (Pty) Ltd will be able to use the available reserves to apply for a mining right should they prefer to continue with the project.

Canton Group (Pty) Ltd expects that substantial benefits from the project will accrue to the immediate project area, the sub-region and the province of Kwa-Zulu Natal. These benefits must be offset against the costs of the project, including the impacts to land owners.

Further to the above, it has been determined that the prospecting project activities will not have a conflict with the spatial development plans, the integrated Development Plans, the Environmental Management framework, existing industrial and commercial development of the Local Municipality.

The applicant further commits to ensure their contribution to environmental education and to their employees during the project life. The employees will be made aware of work that may be harmful to their health and the environment and of any work posing danger. This is undertaken in terms of the Mine Health and Safety Act, 1999 (Act 25 of 1999) and their regulations, which gives the employees the right to refuse work that is dangerous. The applicant will respect decisions of employees regarding the above and is committed to the protection of employees against any dangerous working environment.

3. MOTIVATION FOR THE OVERALL PREFERRED SITE, ACTIVITIES AND TECHNOLOGY ALTERNATIVE.

Preferred Site

The proposed prospecting area is targeted as, historically several Coal occurrences are known in the area. There are also various sandstone rocks within the area under application. The site therefore regarded as preferred site and alternative site is not considered.

According to the desktop studies conducted, the Klipriver Coalfield has been mined for many years. KwaZulu-Natal coal is often anthracitic and is found in relatively thin seams. The recoverable coal reserves in South Africa amount to some 66.7 billion tons, equivalent to about 7% of the world's total (DMR, 2016). The site is therefore regarded as the preferred site and alternatives are not considered. Alternative sites will be assessed in terms of the location of the drill and sampling sites, which will be aimed at avoiding sensitive environmental areas such as heritage sites, graves, and areas of cultural importance, wetlands, riparian zones, water courses and drainage lines as well as areas with vegetation with conservation importance.

3.1 CONSIDERATION OF ALTERNATIVES

Technologies Alternatives

In terms of the technologies proposed, these have been chosen based on the long-term success of the company in terms of their prospecting history. The prospecting activities proposed in the Prospecting Works Programme is dependent on the preceding phase as previously discussed, therefore no alternatives are indicated, but rather a phased approach of trusted prospecting techniques.

Core drilling is the only major methods used in exploring for deposits of this type and for resource definition and evaluation. The technology to be used cannot be replaced by any other methods thus these are the preferred activities.

Due to the nature of the proposed prospecting activities future land use alternatives will not be compromised. Once available reserve has been confirmed a comprehensive social and Environmental Impact Assessment will be required (in accordance with legislation), during which time alternative land use to mining would be investigated. All infrastructures will be temporary and/or mobile.

No Go Option

The 'no-go' alternative is the option of not undertaking prospecting activities on the project site. The no-go option assumes the site remains in its current state. The no go alternative would result in no impacts on the social and biophysical environment.

Canton Group (Pty) Ltd intends on exploring the proposed area in order to determine availability of coal minerals. Should this mineral found at the prospecting area, the proposed Prospecting Right area will therefore achieve this Company long term objective of owning and operating its own mine to benefit the local community where the operation take place. In addition to the above, the proposed prospecting project will on its own result in the creation of employment opportunities and will also result in the support of local businesses.

Accordingly, the consequences of not proceeding with the proposed project will have a detrimental impact on the potential positive impact this project may have on the current and future labour force and the labour to be used for the prospecting project. The no go alternative is therefore not considered desirable at a local, regional and national scale.

3.2 DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED AND RESULTS THEREOF

Public participation is the cornerstone of any EIA process. The principles of the NEMA govern many aspects of EIA's, including public participation. The general objectives of integrated environmental management laid down in the NEMA include to "ensuring adequate and appropriate opportunity for public participation in decisions that may affect the environment". The National Environmental Management Principles include the principle that "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 to achieve equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured", which basically means that the person responsible for the application (EAP) must ensure that provision of sufficient and transparent information on an ongoing basis to stakeholders are made to allow them to comment, and to ensure that the participation of previously disadvantaged people like women and the youth are undertaken.

In terms of the EIA Regulations, 2014, when applying for environmental authorisation, the Environmental Assessment Practitioner managing the application must conduct at least a public participation process where all potential or registered interested and affected parties, including the competent authority, are given a period of at least 30 days to submit comments on each of the basic assessment reports, EMPr, scoping report and environmental impact assessment report, and where applicable the closure plan. In this case a Basic Assessment Report (BAR) is considered.

This section of the BAR and EMPr will give an explanation of the public participation process to be taken in order to comply with the above-mentioned requirements. A number of public participation guidelines were published in a bid to assist persons responsible for the environmental authorisation applications. As much of the available guidelines were used in

determining the public participation process, in guiding the public participation process of the proposed project.

Canton Group (Pty) Ltd is applying for an environmental authorisation for the proposed Prospecting project. The application for the environmental authorisation is undertaken in terms of the process as laid out in part 2 of Chapter 4 under the NEMA EIA Regulations, 2014. The above mentioned regulations require that an applicant for an environmental authorisation submit a BAR and EMPr to the competent authority after having subjected the reports to a public participation process. In view of the above, a public participation process was initiated for the proposed prospecting project. The public participation process for the proposed project is designed to provide sufficient and accessible information to interested and affected parties (I&APs) in an objective manner to assist them to:

- raise issues of concern and make suggestions for enhanced benefits;
- contribute local knowledge and experience;
- verify that their issues have been captured;
- verify that their issues have been considered in the technical investigations; and
- Comment on the findings of the EIA.

The following have been conducted in undertaking of the public participation process for the proposed project.

Identification of Stakeholders

To ensure a proper representation of stakeholders interested in or affected by the proposed, the following identification methods were used to develop a stakeholder database:

- Conducting desktop searches in and around the project to verify landownership and obtain contact details;
- Responses received from newspaper advertisements and site notices;
- Responses from distribution of the Background Information Document (BID); and
- And one-on-one consultations with stakeholders to identify additional I&APs.

Stakeholders for the proposed project are grouped into the following categories:

- Government: National, Provincial, District and Local authorities;
- Landowners: Directly affected and adjacent landowners;
- Land occupiers: Directly affected and adjacent land occupiers;
- Communities: Surrounding communities;
- Non-Governmental Organisations (NGOs): Environmental and social organisations;

- Agriculture: associations or organisations focussed on agricultural activities; and
- Business: small medium enterprises and formal organisations.

Please refer to stakeholder database has been compiled (refer to Appendix A).

Public Participation Materials

Considering the legislative requirements and good practice, the following methods have been implemented to disseminate information to stakeholders about the proposed project. The various PP materials used during announcement of the proposed project have been included as Appendices A.

Background Information Document (BID): includes the location and a description of the proposed project, the legislative processes and requirements that will be followed, the specialist studies to be conducted, the competent authorities, and the consultation and registration process including contact details of the responsible person representing the EAP.

Newspaper Advertisement: An English newspaper advert was placed in one local newspaper. The advert included a brief project description, information about the required legislation, the competent authorities and details of the appointed EAP.

Site Notices: English site notices were put up at various places. The site notices contained a brief project description, information about the required legislation, the competent authorities and details of the EAP.

Notice Letter: a letter was sent in English which contained information about the proposed project, applicable legislation and competent authorities inviting everyone to register as interested and affected parties with regard to the project.

Comment Sheet: A Registration and Comment Sheet was also provided for stakeholders to use for formal registration as I&APs or to submit comments.

Consultation with Stakeholders

Telephonic consultations: various telephonic consultations were conducted to directly affected landowners, adjacent landowners, and departments.

Written comments: All comments received via email, mail or telephonically have been included into the Comment and Response Report (CRR) (see Appendix D). Stakeholder comments will be closely considered and addressed, where applicable, by the project team.

Registration and BAR phase

The potential Interested and affected parties (I&AP's) were given 30 days to register as interested and affected parties and to comment on the draft BAR and EMPr. In the registration

and commenting process all parties will be provided with enough time (at least 30 days) to comment on the proposed project.

3.2.1 Registered Interested and affected parties

The following **Table 6** shows the registered interested and affected parties for the Prospecting project:

Table 8: List of Registered Interested and Affected Parties

| Full Names | Farm/Organisation | Email Address | Contact Details |
|------------|-------------------|---------------|-----------------|
| | | | |
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3.2.2 Summary of issues raised by I&APs

(Complete the table summarising comments and issues raised, and reaction to those responses)

Table 9: Summary of issues raised by I&AP's

| Clarke Smith | Farm/Organization | Date Comments Received | Comment | Response by EAP |
|--------------|-------------------|------------------------|---------|-----------------|
| | | | | |
| | | | | |
| | | | | |

3.3 THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE ALTERNATIVES.

(The environmental attributed described must include socio-economic, social, heritage, cultural, geographical, physical and biological aspects)

3.3.1 BIOPHYSICAL ENVIRONMENT

3.3.1.1 Climate

In general, the area receives about 684mm of rain per year, with most rainfall occurring mainly during mid-summer. It receives the lowest rainfall (1mm) in June and the highest (134mm) in January. The monthly distribution of average daily maximum temperatures shows that the average midday temperatures for the region range from 18.6°C in June to 25.9°C in January. The region is coldest during July when the mercury drops to 2.7°C on average during the night.

3.3.1.2 Vegetation

Assessment of the project area has delineated a number of habitats for the project area. Topographic features were the primary consideration for the delineation of the various units. The above-mentioned features have an effect on the habitat type in isolation and in conjunction with each other. Consisting mainly of Sub-Escarpment Grassland of KwaZulu-Natal region which is mesic grasslands occurring at mid-altitudes (760 – 1 800 masl) at the base of the escarpment of KwaZulu-Natal and the Eastern Cape. They are made up of long-lived grasses and forbs that are adapted to frequent above-ground disturbance mostly due to fire, after which they re-sprout using carbohydrates stored in underground storage organs.

Sub-Escarpment Grassland consist of 20 national vegetation types. Out of those types, the proposed area consists of the Northern KwaZulu-Natal grassland (Gs4) and Income Sandy Grassland (Gs7).

- Northern KwaZulu-Natal grassland (Gs4)

They are distributed in the Northern and northwestern regions of the Province, where it forms a discontinuous rim around the upper Thukela Basin and is situated almost entirely within the catchment of the Thukela River.

The Northern KwaZulu-Natal grassland (Gs4) are found in a hilly and rolling landscapes supporting tall tussock grassland usually dominated by *Themeda triandra* and *Hyparrhenia hirta*. Open *Acacia sieberiana* var. *woodii* savannoid woodlands encroach up the valleys, usually on disturbed (strongly eroded) sites.

- Income Sandy Grassland (Gs7)

They are distributed in a large triangle between Newcastle, Vryheid and Dundee and larger polygon in the Wasbank area in northern KwaZulu-Natal. Altitude 880–1 340 m (mainly 1 120–1 240 m).

Income Sandy Grassland (Gs7) are found in a very flat extensive area with generally shallow, poorly drained, sandy soils supporting low, tussock-dominated sourveld forming a mosaic with wooded grasslands (with *Acacia sieberiana* var. *woodii*) and on well-drained sites with the trees *A. karroo*, *A. nilotica*, *A. caffra* and *Diospyros lycioides*. On disturbed sites *A. sieberiana* var. *woodii* can form sparse woodlands. *Aristida congesta*, *Cynodon dactylon* and *Microchloa caffra* are common on shallow soils (Camp 1999c).

These are the areas where the impacts on the natural grasslands can be seen. The Income Sandy Grassland (Gs7) area is currently being utilised for agricultural activities. areas still have remnants of natural grassland that make up their composition.

An overall site survey shows that there are no fatal flaws from an environmental perspective as to why proposed project should not be approved on condition that the proposed mitigation measures are strictly applied. See figure 5.

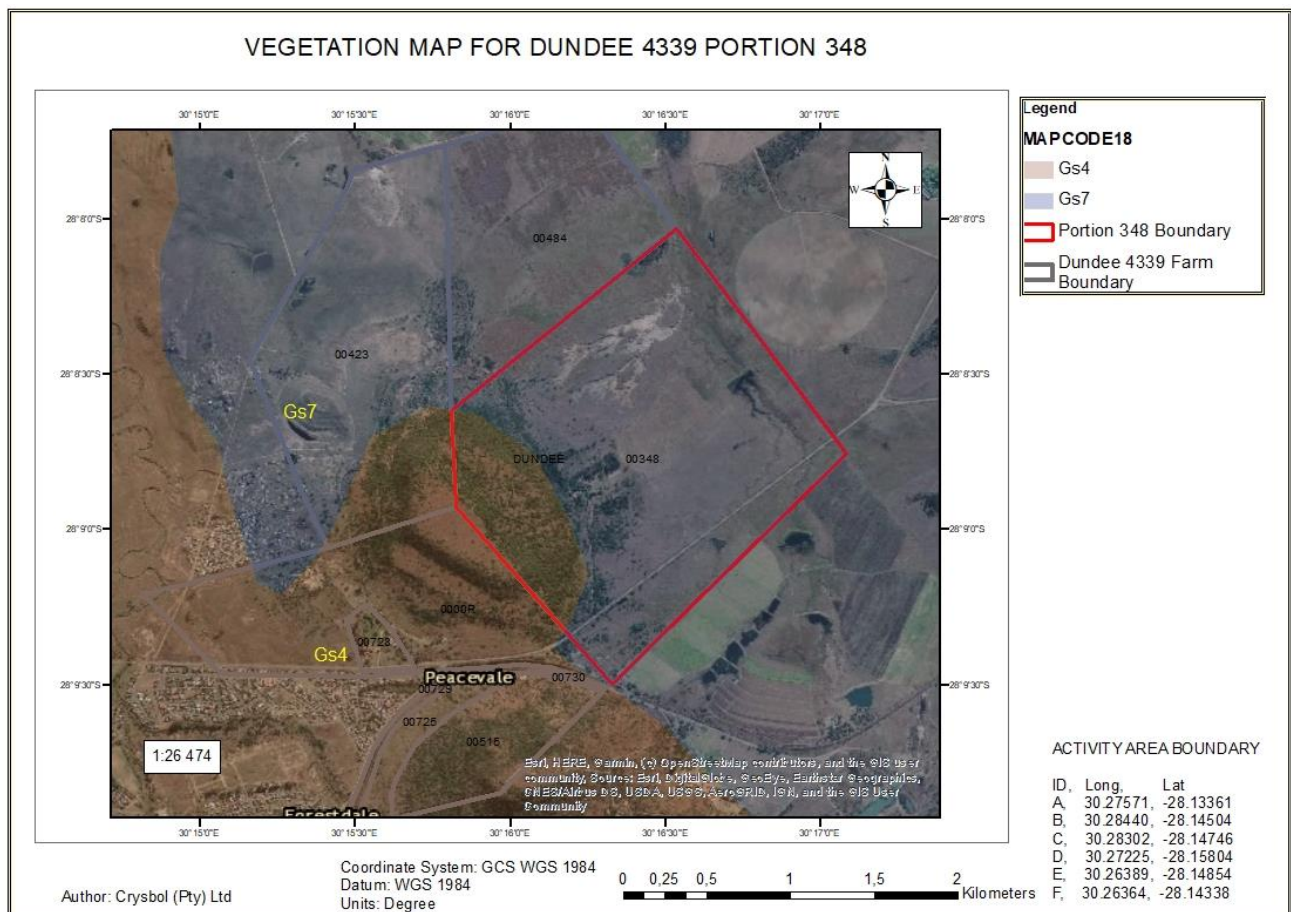


Figure 5: Vegetation map for proposed Dundee 4339 Portion 348

3.3.1.3 Mining and Biodiversity Guidelines

The Mining and Biodiversity Guidelines (2013) was developed by the Department of Mineral Resources, the Chamber of Mines, the South African National Biodiversity Institute and the South African Mining and Biodiversity Forum, with the intention to find a balance between economic growth and environmental sustainability. The Guideline is envisioned as a tool to “foster a strong relationship between biodiversity and mining which will eventually translate into best practice within the mining sector. In identifying biodiversity priority areas, which have different levels of risk against mining, the Guideline categorizes biodiversity priority areas into 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:

- Legally protected areas, where mining is prohibited.
- Areas of highest biodiversity importance, which are at the highest risk for mining.
- Areas of high biodiversity importance, which are at a high risk for mining.
- Areas of moderate biodiversity importance, which are at a moderate risk for mining.

According to the Mining and Biodiversity Guidelines (2013), the project area is not classed as being of significant biodiversity importance and does not represent a risk to mining.

3.3.1.4 Geology

The proposed prospecting area is located within Klipriver coal fields. The Klipriver Coalfield is the largest of the northern KwaZulu/Natal Coalfields and historically, the most important. It is roughly triangular in shape and the area is bounded on the west by the Drakensberg Mountain Range, the Utrecht Coalfield in the east and stretches N-S from just north of Newcastle to Ladysmith in the south.

The Coalfield contains sediments of the Dwyka Formation overlain by sediments of the Ecca and Beaufort groups of the Karoo Sequence. The area characterized by Pietermaritzburg formation with a maximum thickness of 90m conformably overlies the Dwyka shales. In the absence of Dwyka, the Pietermaritzburg Formation lies unconformable on the basement rocks.

The host rocks of the coal seams vary from fine-grained laminated and micaceous to coarse and gritty sandstones with alternating zones of shale and shaly sandstone. The total thickness of the Middle Ecca is up to 170 meters and the main coal zone within it, up to 85 meters.

Local geology of the prospecting area is comprised of a fine-to-course grained sandstone, shale and coal seams. See figure 6 below.

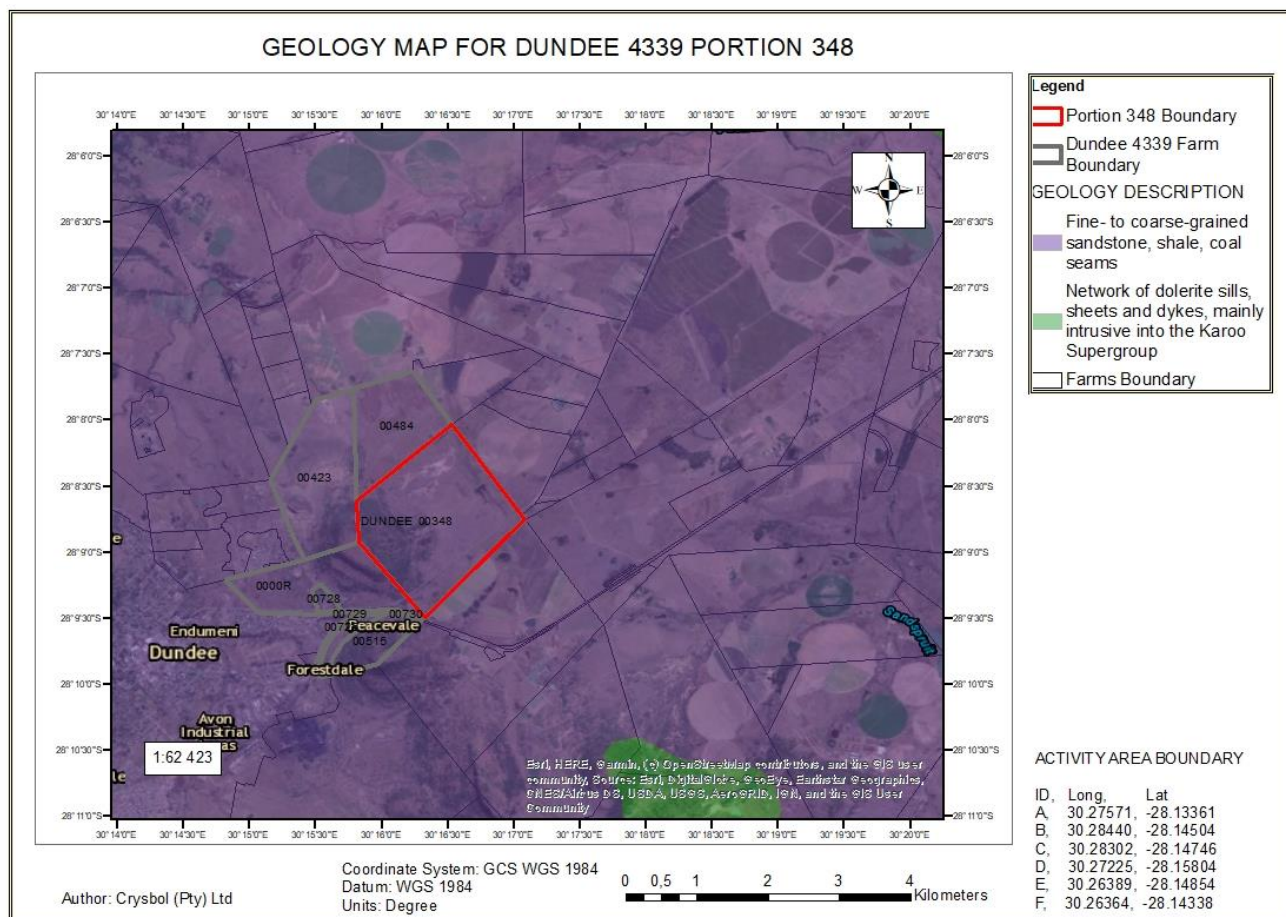


Figure 6: Geology map for proposed Dundee 4339 Portion 348.

3.3.1.5 Soil

The soil covering the farm and the surrounding areas are generally shallow, poorly drained, sandy soils. The soil is considered to be structureless since there is no structure of soil particles recognised in them. They are also defined by change of physical characteristics through exposure to the atmosphere.

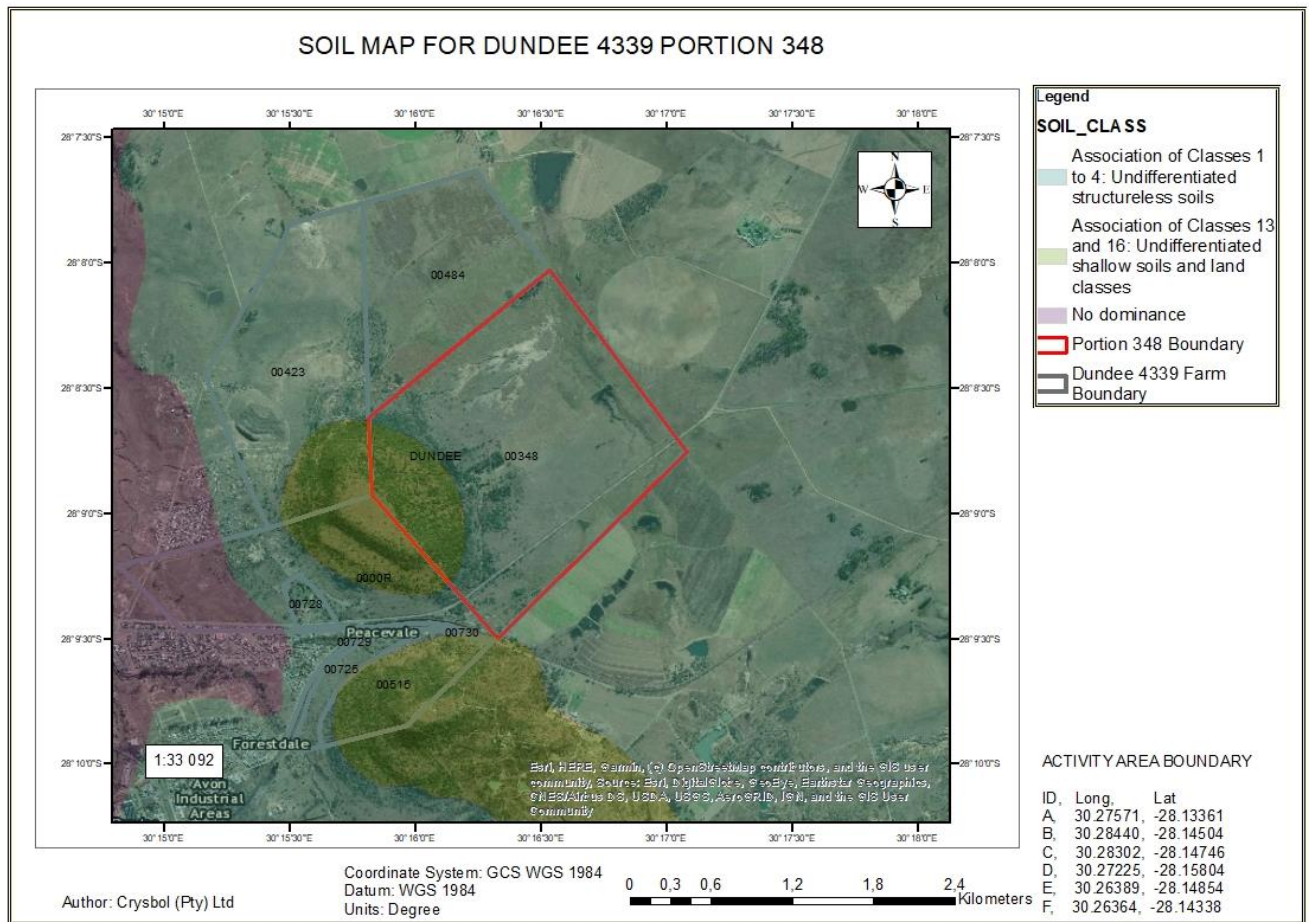


Figure 7: Soil Class Map for Dundee 4339 Portion 348

3.3.1.6 Surface water

During desktop study, wetlands patched were discovered on site and no prospecting activity will take place within the 100m buffers of the wetlands. The study area falls on Thukela River water catchment area (V32E). There is Sterkstroom river (perennial) which is situated 2.8km north-west of the prospecting area and Sandspruit river (perennial) which is situated 4.7km east of the prospecting area.



The proposed project is in an area characterized by gently to moderately undulating landscape. The elevation ranges between 1205m of a minimum level, 1280m at an average level and a maximum of 1355m.

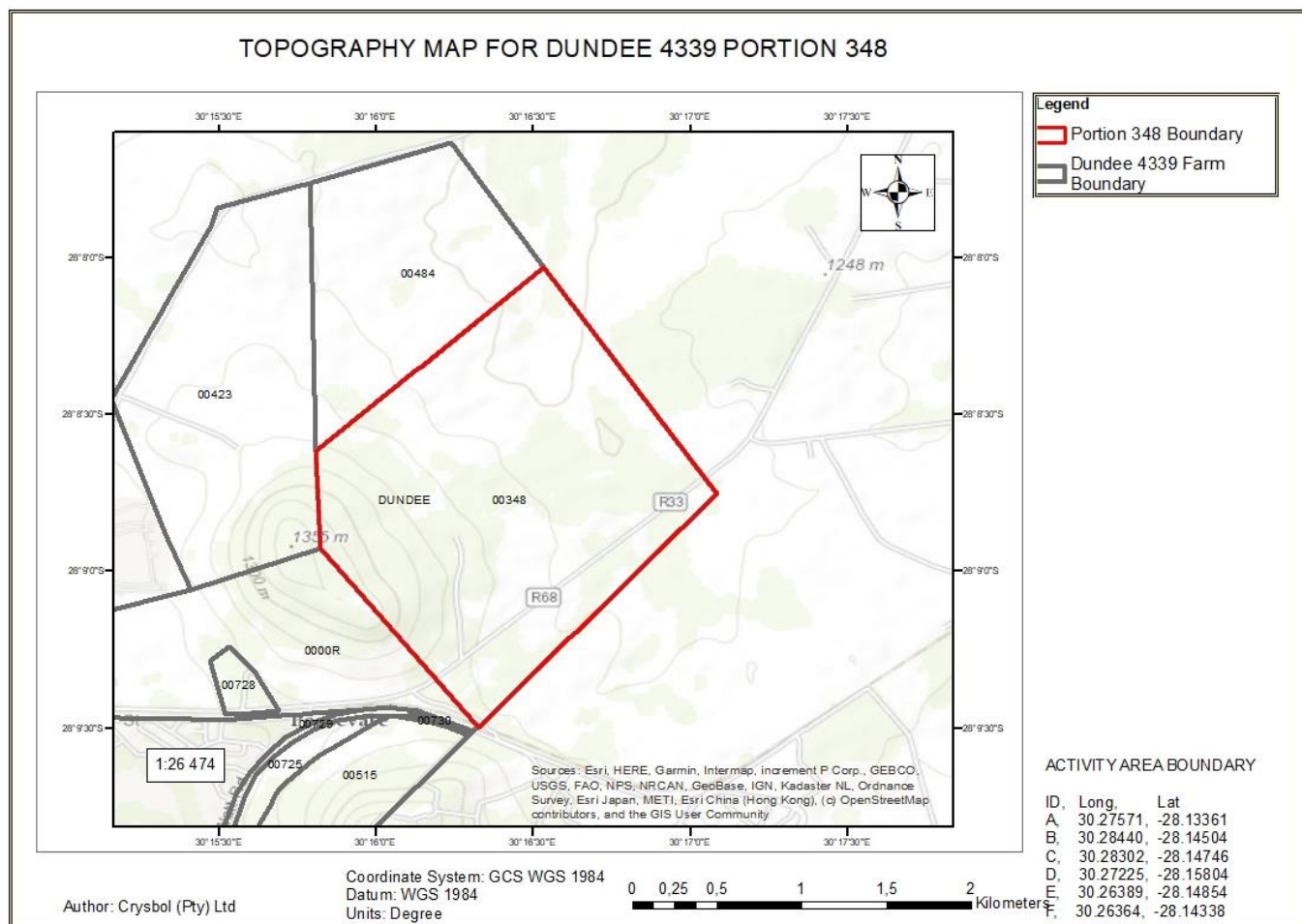


Figure 9 : The topographical map Dundee 4339 Portion 348

3.3.1.8 Socio Economic

Each community is unique as it is shaped by social networks, cultural influences, norms and values, politics, and the infrastructure in the area. The proposed prospecting area is located within Endumeni Local Municipality. The Endumeni Municipality (KZ 241) comprises the towns of Dundee, Glencoe and Wasbank, together with a number of farms astride MR 33, MR 68 and DR 602. It should be noted that no Ingonyama Trust land is located within the Municipal Area. The population of the Local Authority area, as determined in the 2011 census, was 64862 people, of which 54449 were of African origin. The gender split was relatively evenly balanced at 33225 for females to 31637 for males. The majority of the population (40206) was under the age of 29 years old, with 20543 being of school going age at between 5-19 years of age.

Despite the large percentage of very young people, the population pyramid does not indicate the normal situation of a large base with most people being in the youngest age groups (under 4 years). In this instance, there are more people in the age group between 15 and 19 years, than 0 to 4 years. It is apparent that the higher infant mortality rate can be directly related to the HIV/AIDS pandemic. 15% of

the population of Endumeni has no education. This comprises mainly those over the age of 50 years. A relatively high percentage (14%) of the population of the Municipal area has a senior certificate, tertiary or other higher education. This augurs well for the future economic development of the area. There is nonetheless a shortage of schools to serve the education needs of the area's population.

Per capita income is generally low, with 54% having no income, and 25, 55% earning less than R18 000 per annum. Over 75% of the population of Endumeni lives in formal urban housing, whilst another 10% of the community lives in informal housing in Endumeni. Thirteen Percent of the population lives on rural farms in the area. Present estimates are that an additional 1750 sites are required.

The comparative population figures by Endumeni Local Municipality for 2001 and 2011 are depicted in Table 1 below. This information indicates that the local municipality experienced a strong increase in population growth. This can be attributed to Endumeni Municipality as being one of the major economic centres of the district.

Population Size

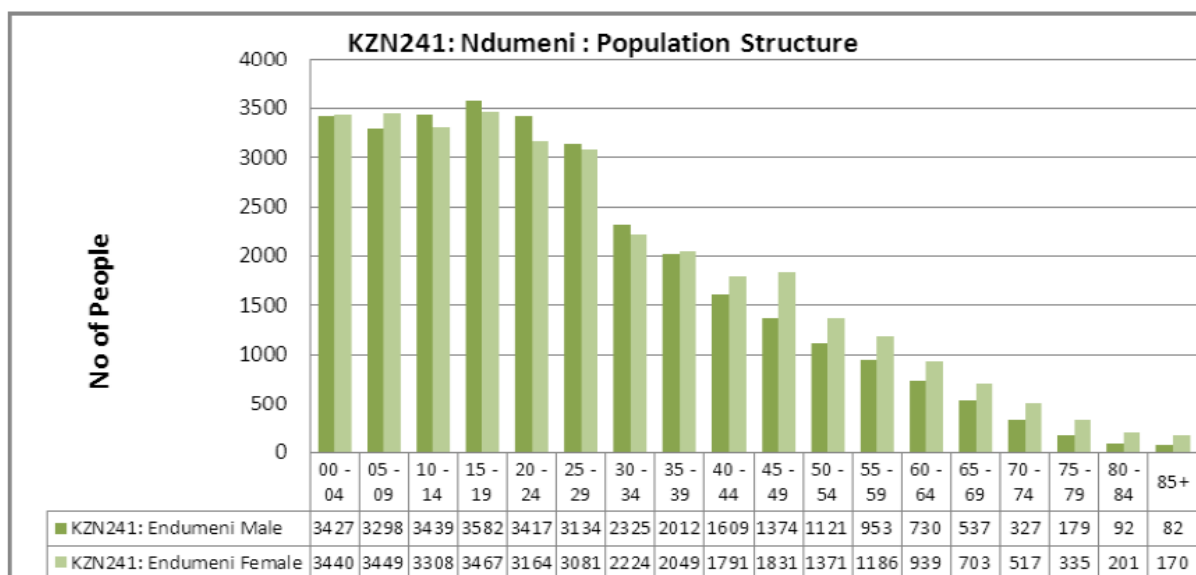


Figure 10 : Population size of Endumeni Local Municipality. (Source: census 2011)

3.3.1.9 Description of the current land uses.

This Section details the varying land uses located within and surrounding the prospecting area. Based on the available information the land portion included in the prospecting right application is currently zoned for agriculture. The area is cultivated and in the western side of cultivation area there are farm houses used for settlement. This was confirmed during a site investigation and stakeholder investigation process conducted on the 17th January and 28th June 2019.

3.3.1.10 Description of specific Environmental features and infrastructure on the site

a. Demographics and Geographic Setting

South Africa is a constitutional democracy with an independent judiciary.

Although South Africa and its neighbours have a large and experienced workforce of skilled and semi-skilled mining labour, this labour pool is ageing rapidly. In addition, the high incidence of HIV/AIDS is likely to have a marked impact on the future availability of skilled labour. Nonetheless, a high number of job-seekers, coupled with a good training infrastructure, should ensure an adequate supply of skilled mineworkers.

South Africa has sophisticated financial infrastructure, with a world-respected banking system. The country possesses an efficient transport infrastructure, which has for many years also been utilised by other countries in Africa, as far north as the Democratic Republic of the Congo and Tanzania. The rail and port system are run by a parastatal company, Transnet Limited. The rail network extends over 22,000km and seven major harbours are utilised. The national and provincial road networks consist of some 73,500km of surfaced and 288,000km of unsurfaced roads.

There are major international airports at Johannesburg, Cape Town and Durban, and a total of 727 registered airfields in South Africa. Electricity is generated mainly by parastatal company, Eskom, the country's electricity utility, and is amongst the cheapest in the world. Imaginative agreements between this utility and mineral processor in the past have seen the establishment of world-rated mineral-beneficiation projects, such as the Alusaf Hillside aluminium smelter, as well as the current development of a new deepwater port at Coega in the Eastern Cape.

South Africa possesses a modern telecommunications network, with international links including submarine cables and satellite stations. There are three cellular telephone providers.

The population of South Africa amounts to approximately 46.6 million (mid-2004 estimate), with a population growth rate of -0.31% (2005 estimate). English is widely spoken as a first and second language, with a literacy rate of 86.4%. There are 11 official languages

b. Local Resources and Infrastructure

Mining services and recruitment are readily available from Dundee which has a long history of mining with the surrounding coal mines in the area. Furthermore, drilling contractors, mining services and consultants are readily sourced within the KwaZulu-Natal area.

The high-tension power lines pass adjacent to the property. All homesteads on the various portions are served by mains electricity. Power could be readily obtained from the national grid.

Water which will be used will be brought on site by a water tank for the sole purpose of this project. The brought it water will be bought from a licenced water supplier who sells potable water or treated industrial water.

3.3.1.11 Environmental and current land use map.

(Show all environmental, and current land use features)

The farm is currently used for cultivation but also in small portions of the farm there are dense bushes. A small water body was recognised within the site and also there are wetlands within the farm.

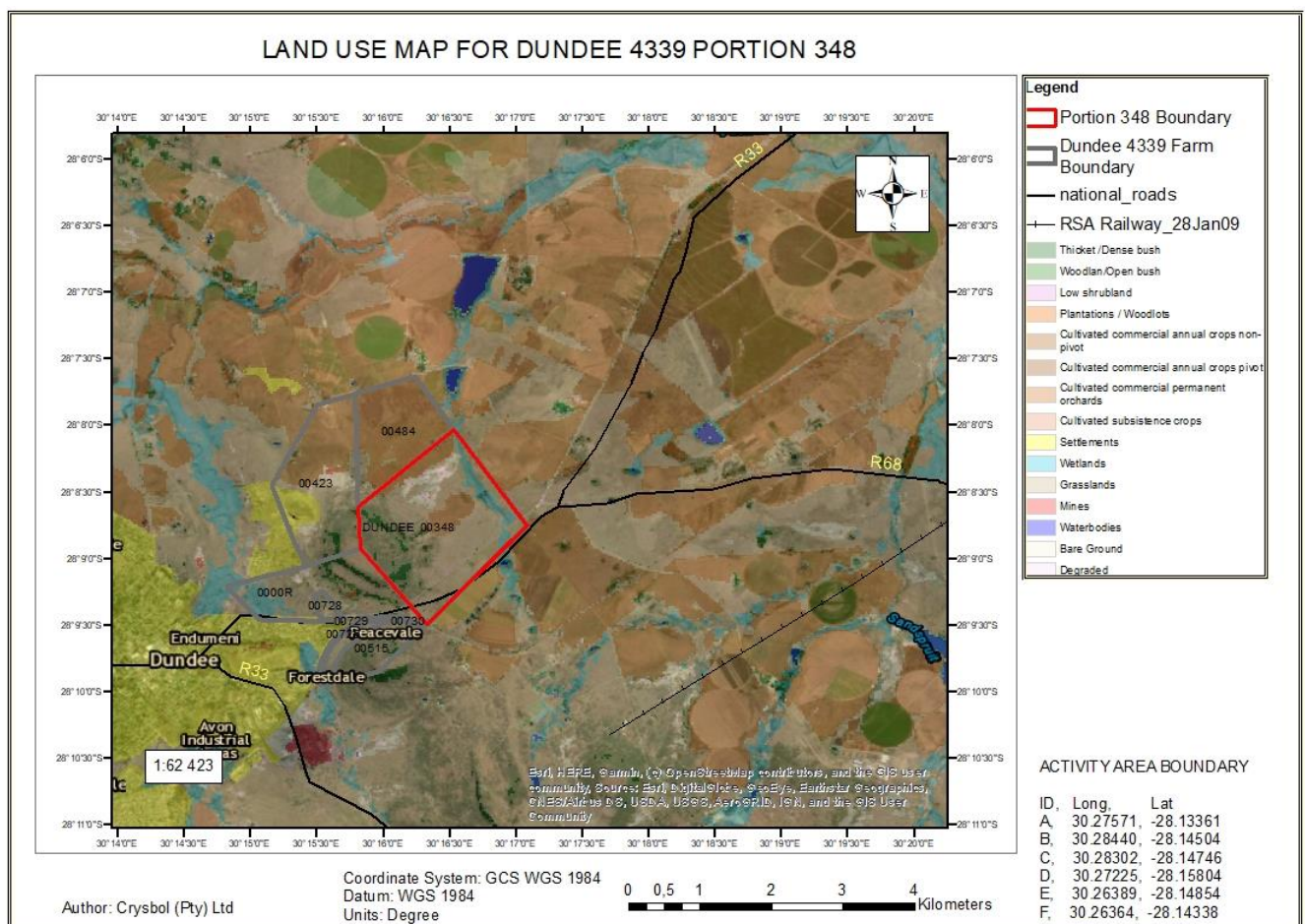


Figure 11: Land use map

3.3.1.12 Heritage

The area has a very rich history and heritage involving the Battlesfield. The heritage resources are still in existence and these include the architectural styles, historical sites and monuments. The natural assets such as the landscape also present a mouthful amount of opportunities for the area in terms of tourism market. There is a need for these assets and resources to be maintained and conserved.

The principle of natural and built environment conservation needs to be adopted for the area such as Endumeni. The built environment includes the important buildings and structures that are of conservation value within the town. This is purely because, the area has an abundance of heritage resources in the form of buildings and monuments. These should be listed with Amafa aKwaZulu-Natal as the local monuments are deserves to be adequately protected from any vandalism, demolition or decay.

The activity map on figure 2 shows the proposed boreholes to be drilled on site but the final layout plan will be dependent on the location of local heritage and archaeological resources. The siting of the boreholes and infrastructure will be in such a way as to avoid sensitive environments, which include graves and archaeological resources as far as is practicable.

It should be noted that none of the SAHRis listed sites present within the proposed project area will be touched. However, it is highly unlikely that sites will consist such phenomenon, due to the fact that approximately 40% of the site has been transformed from its natural state to agricultural land (livestock and farming), it is unlikely that any artifacts of heritage value will be found on site. In the event that any heritage artifacts including graves and human remains are uncovered during prospecting, this will immediately be reported to SAHRA as per National Legislation.

4. ENVIRONMENTAL IMPACT ASSESSMENT

4.1 ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOLLOWED

4.1.1 Approach to Environmental Impact Assessment

"The term 'environment' is used in the broadest sense in an EIA. It covers the physical, biological, social, economic, cultural, historical, institutional and political environments."

An Environmental Impact Assessment is a good planning tool. It identifies the environmental consequences of a proposed project from the beginning and helps to ensure that the project, over its life cycle, will be environmentally acceptable and integrated into the surrounding environment in a sustainable way.

4.1.2 Environmental Impact Assessment Process Followed

Under Section 24 of the National Environmental Management Act (NEMA), the Minister promulgated the regulations pertaining to environmental impact assessments (EIA Regulations, 2014) under Government Notice R982 in Government Gazette 38282 of 4 December 2014. These EIA regulations repealed the 2010 EIA regulations and therefore any process relating to environmental authorisations must be undertaken under the EIA Regulations, 2014.

Chapter 4 of the EIA Regulations, 2014 deals with the provisions for application for environmental authorisation. In view of the above, Canton Group (Pty) Ltd is obliged to comply with provisions of Chapter 4 for the intended environmental authorisation application for the activities (listed activities) within the proposed project.

Part 2 of chapter 4 of the EIA Regulations, 2014 contemplate process to be undertaken for the application for environmental authorisation for the proposed project, which is the BAR process. The process to be followed is described below.

4.1.2.1 Pre-application consultation with the Competent Authority

In terms of section 24D (1) of the National Environmental Management Act, 1998 (Act 107 of 1998), the Minister responsible for mineral resources is the competent authority for environmental matters relating to mining and associated activities. In view of the above, the application for the environmental authorisation for the proposed project was submitted to the Department of Mineral Resources (DMR), KwaZulu-Natal province Regional Office for their consideration and decision making.

4.1.3 Public Participation Process

Public participation is the cornerstone of the EIA process. The principles of the NEMA govern many aspects of EIA's, including public participation. These include provision of sufficient and transparent information on an on-going basis to stakeholders to allow them to comment. Comments received from the public participation process will be included in the impact assessment and measures will be determined on how the comments will be addressed during the life of the proposed project.

The following steps were taken during the public participation process:

- Providing an opportunity for potential interested and affected parties to register.
- Making reports compiled within the environmental impact assessment available to register and potential interested and affected parties for their comments.

- Further to the above, interested and affected parties and the public will be informed of the decision taken by the responsible authorities on the submitted application.

The above process will ensure that the BAR and EMPr is subjected to a public participation process, which ensures that the proposed project is brought to the attention of interested and affected parties, the public and relevant organs of state including the competent authority.

4.1.3.1 BAR Phase

In compliance with Regulation 19 of the EIA Regulations, 2014, the BAR and EMPr will be submitted to the competent authority within 90 days after the acknowledgement of the environmental authorisation application.

As part of the public participation, the DBAR and EMPr is made available to the competent authority, potential and registered interested and affected parties for their comment for a period of 30 days during the EIA phase.

4.1.3.2 Information Gathering

Environmental baseline data has been obtained, pertaining to surface water, geohydrological data, topographical analyses, soil surveys, vegetation surveys, wetland surveys and geological conditions. Weather data was acquired from the South African Weather Service. Historic land use was determined through available data and by visual observations made during various field studies. The data accumulated and analysed is sufficient to gain a baseline indication of the present state of the environment. The use of this baseline study for impact assessments is thus justified and reliable conclusions could be made.

4.1.3.3 Decision on the BAR application

In compliance with Regulation 19 of the EIA Regulations, 2014, the competent authority will within 107 days of receipt of the BAR and EMPr grant or refuse the environmental authorisation.

4.2 ENVIRONMENTAL IMPACT ASSESSMENT METHODOLOGY

The following prediction and evaluation of impacts is based on the proposed Prospecting project and associated activities. The evaluation distinguishes between significantly adverse and beneficial impacts and allocates significance against national regulations, standards and quality objectives governing:

- Health & Safety;
- Protection of Environmentally Sensitive Areas;
- Land use; and

- Pollution levels.

Irreversible impacts are also identified.

The significance of the impacts is determined through the consideration of the following criteria:

Probability (P): likelihood of the impact occurring

Area (A) (Extent) : the extent over which the impact will be experienced.

Duration (D) : the period over which the impact will be experienced.

Intensity (I) : the degree to which the impact affects the health and welfare of humans and the environment (includes the consideration of unknown risks, reversibility of the impact, violation of laws, precedents for future actions and cumulative effects).

The above criteria are expressed for each impact in tabular form according to the following definitions:

Table 10: Environmental impact criteria expressed for each impact in tabular form according to each definition.

| Probability | Definition |
|---------------|---|
| Low | There is a slight possibility (0 – 30%) that the impact will occur. |
| Medium | There is a 30 – 70% possibility that the impact will occur. |
| High | The impact is definitely expected to occur (70% +) or is already occurring. |
| | |
| Area (Extent) | Definition |
| | |
| Small | 0 – 40 ha |
| Medium | 40 – 200 ha |
| Large | 200 + ha |
| | |
| Duration | Definition |
| | |
| Short | 0 – 5 years |
| Medium | 5 – 50 years |
| Long | 51 – 200 years |
| Permanent | 200 + years |
| | |
| Intensity | Definition |
| | |

| | |
|---------------------------------------|---|
| Low | Does not contravene any laws. Is within environmental standards or objectives. Will not constitute a precedent for future actions. Is reversible. Will have a slight impact on the health and welfare of humans or the environment. |
| Medium | Does not contravene any laws. Is not within environmental standards or objectives. Will not constitute a precedent for future actions. Is not reversible. Will have a moderate impact on the health and welfare of humans or the environment. |
| High | Contravene laws. Is not within environmental standards or objectives. May constitute a precedent for future actions. Is irreversible. Will have significant impact on the health and welfare of humans or the environment. |
| Significance and Risk category | Definition |
| | |
| Negligible | The impact/risk is insubstantial and does not require management |
| Low | The impact/risk is of little importance, but requires management |
| Medium | The impact/risk is important; management is required to reduce negative impacts to acceptable levels |
| High | The impact/risk is of great importance, negative impacts could render options or the entire project unacceptable if they cannot be reduced or counteracted by significantly positive impacts positive impacts, and management of the impacts is essential |
| Positive (No Risk identified) | The impact, although having no significant negative impacts, may in fact contribute to environmental or economical Health |

4.3 RESULTS OF THE ENVIRONMENTAL IMPACT ASSESSMENT

4.3.1 Assessment of the Prospecting Application Area impacts/risks

Table 11: Construction Phase

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|---|----------------------|--------------------|---|---|---|---|--|
| | | E | P | D | I | S | |
| CONSTRUCTION PHASES | | | | | | | |
| Site Establishment. Establishment of the access (tracks)to the prospecting site, Establishment of the campsite, Site physical surveying and Pegging of drilling sites | | | | | | | |
| The establishment of access and the surveying with pegging of the drilling sites may result in the stripping of soils if the site establishment is not properly conducted. This may result in the loss of soils and erosion that may render the area unusable. During site establishment, Machinery and vehicles used for the prospecting operation may result in hydrocarbon leakages, which may result in the contamination of the soils within the access tracks, campsite and drilling sites. | Soil/Land capability | Without mitigation | | | | | Establishment of the site will be undertaken according to the prospecting method statement. No soil stripping will be allowed during site establishment. Ensure minimal disturbance of soil when conducting geophysical surveys and geological mapping (if necessary). Any area that may result into the disturbance of the soils must be rehabilitated immediately on discovery. Machinery to be used for the operation will be of good working conditions. Any hydrocarbon spill from the site establishment will be remediated as soon as possible. |
| | | S | L | S | M | M | |
| | | With mitigation | | | | | |
| | | S | L | S | L | L | |
| Current land use over the area to be used for site establishment will cease | Land capability | Without mitigation | | | | | Use sites that are unused and that are in the degraded state for the |

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|---|----------------------|--------------------|---|---|---|---|--|
| | | E | P | D | I | S | |
| completely. This may have an impact on the land owners' livelihood should they not be able to use the land. | | S | M | S | M | M | proposed development. This will be done in agreement with the land owner. The setting-up of the boreholes will be conducted to ensure that rocky ridges, sensitive grass lands, indigenous trees and shrubs, site of geological importance and farmlands actively used for farming are avoided |
| | | With mitigation | | | | | |
| | | S | L | S | L | L | |
| The establishment of the site (access, campsite and drilling sites) may result in the removal of vegetation cover if the establishment is not done correctly. This may render the land unusable to the land owners after completion of the project. | Natural vegetation | Without mitigation | | | | | Use sites with most disturbed vegetation cover for the development. No strip of topsoil and vegetation will be allowed during site establishment. Ensure minimal disturbance of vegetation when conducting geophysical surveys and geological mapping. Any area that may result into the disturbance of the vegetation cover must be rehabilitated immediately on discovery. |
| | | S | L | S | L | L | |
| | | With mitigation | | | | | |
| | | S | L | S | L | N | |
| Animal burrows and habitats remaining within the proposed development site may be destroyed during construction. This may result in the migration of remaining animal life away from the affected areas. Poaching of wild animals | Animal Life | Without mitigation | | | | | Establishment of the site will be undertaken according to the prospecting method statement. No soil stripping will be allowed during site establishment. Any area that may result into the disturbance of the soils |
| | | S | L | S | L | L | |
| | | With mitigation | | | | | |

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|---|--------------------------|--------------------|---|---|---|---|---|
| | | E | P | D | I | S | |
| and livestock by the Laborers will result in the loss of wild live and loss of livestock to the land owner. | | S | L | S | L | N | must be rehabilitated immediately on discovery. Use sites with most degraded environment for the site development. Poaching will be prohibited at the prospecting site |
| Exposure of soils during construction by the stripping of vegetation and soils may cause erosion, which may lead to increased silt loads in surface water runoff. This may result in the contamination of the clean water environment. Waste generated from the site may result in the contamination of surface and ground water should not management of such waste be undertaken. | Surface and Ground Water | Without mitigation | | | | | Site establishment will not be undertaken within sensitive landscapes. These areas will be avoided. A distance of 500 meters will be created between the sites and the sensitive landscapes. Avoid stripping of areas within the construction sites. Rehabilitate areas that may have been mistakenly stripped. Storm water upslope of the campsite and drill sites should be diverted around these areas. Proper waste management facilities will be put in place at the campsite and drilling site. Any hydrocarbon spill from the site establishment will be remediated as soon as possible. |
| | | S | L | S | M | M | |
| | | With mitigation | | | | | |
| | | S | L | S | L | L | |
| Construction activities during the establishment of the site will include material loading and hauling. These | Air Quality | Without mitigation | | | | | Ensure that source specific management measures for Prospecting Application Area are |
| | | S | L | S | L | L | |

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|---|----------------------|--------------------|---|---|---|---|---|
| | | E | P | D | I | S | |
| activities will result in the mobilization of particulates that will migrate away from the site to the nearby local residents. This will be a nuisance to the communities and will result in aesthetic impacts associated with fugitive dust emissions. On-site dust fall may have health and nuisance implications to employees at the existing offices. | | With mitigation | | | | | complied with. |
| | | S | L | S | L | N | |
| The noise level generated from the construction activities may exceed the SANS 10103 Levels for Residential areas and may exceed the maximum rating levels for ambient noise indoors. This may have an impact in the surrounding residents and employees using/delivering the machinery. | Noise | Without mitigation | | | | | Ensure that proper management measures as well as technical changes are undertaken to reduce the impacts on surrounding residents and employees. This include ensuring that less noisy equipment is use, that equipment is kept in good working order and that the equipment must be fitted with correct and appropriate noise abatement measures and where possible use white-noise generators instead of tonal reverse alarms on heavy vehicles operating on roads. |
| | | S | L | S | L | L | |
| | | With mitigation | | | | | |
| | | S | L | S | L | N | |
| The activities undertaken during the construction of the shaft and associated infrastructure will be visible from the | Visual Aspects | Without mitigation | | | | | Inform the land owner on the type of machinery and equipment to be used at the prospecting site. Ensure that |
| | | S | L | S | L | L | |

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|--|---|--------------------|---|---|---|---|--|
| | | E | P | D | I | S | |
| nearby roads and properties. However, due to the undulating topography, visibility for the most part will most probably be restricted to short distances | | With mitigation | | | | | lighting is conducted in manner that will reduce the impacts on visual aspects at night times. |
| | | S | L | S | L | N | |
| The site may be located in close proximity to a heritage site and may result in the destruction of the identified heritage site. | Sites of Archaeological and Cultural Importance | Without mitigation | | | | | The establishment of the boreholes will be such that the development is always away from any heritage sites. A buffer of more than fifty meters will be created between the grave yards and the proposed site development. A management plan will be drafted for the sustainable preservation of the graveyards be identified on site. Any grave must have access for descendants. |
| | | S | M | S | H | H | |
| | | With mitigation | | | | | |
| | | S | L | S | L | L | |
| The commencement of the proposed project may result in an influx of 'outsiders' seeking jobs, which may be caused by increase in local unemployment levels. This may result in the potential increase in crime. It must however be noted that prospecting activities would unlikely attract job seeker due to its small nature of its scale. | Socio economic aspects | Without mitigation | | | | | Recruitment will not be undertaken on site. Farm Labourers will not be employed unless agreed to with the farm owners. Locals residing on portion 3 of the farm will also be prioritized for employment. |
| | | S | L | S | L | L | |
| | | With mitigation | | | | | |
| | | S | L | S | L | N | |

Table 12: Operational Phase

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|--|------------------------------|--------------------|---|---|---|---|--|
| | | E | P | D | I | S | |
| OPERATIONAL PHASE | | | | | | | |
| Drilling and rehabilitation of the exploration boreholes | | | | | | | |
| Topsoil removal, storage and replacement during the excavation of the sumps will result. This will result in the disruption of the soils profile | Soils | Without mitigation | | | | | Ensure that topsoil is properly stored, away from the streams and drainage areas. The soils must be used for the backfilling and rehabilitation of the sumps. The rehabilitated sump must be seeded with recommended seed mix. |
| | | S | M | S | L | L | |
| | | With mitigation | | | | | |
| | | S | L | S | L | N | |
| The use of vehicles during the setting up, pegging and drilling of the exploration boreholes may result in the spillages of hydrocarbon liquids from the vehicles and machinery. This will | Natural Vegetation and Soils | Without mitigation | | | | | Ensure that the drilling of the exploration boreholes is done in such a manner that the environment is protected from probable spillages and contamination by carbonaceous |
| | | S | M | S | M | M | |
| | | With mitigation | | | | | |

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|--|----------------------|--------------------|---|---|---|---|---|
| | | E | P | D | I | S | |
| result in the contamination of the vegetation cover and soils. The material removed from the drilling exercises will contain carbonaceous material, which has a potential for pollution should it be allowed stay for a prolonged period at the drilling site. The above material, if not properly managed, may result in the contamination of the surrounding soils vegetation cover, which may render the land not usable after the backfilling operation. | | S | L | S | L | L | material. All boreholes and sumps will be rehabilitated to pre-drilling conditions. Tarpaulins will be placed on the ground to prevent oil, grease, hydraulic fluid and diesel spills during emergency repairs. All oil spills will be remedied using approved methodologies. The contaminated soils will be removed and disposed of at a licensed waste disposal facility. All waste generated from the drilling sites and the campsite will be collected in proper receptacles and removed to registered disposal facilities e.g., sewage treatment plant, solid waste disposal site or hydrocarbon recycling or treatment facilities |
| Animal burrows and habitats will be destroyed by the preparation of the backfilling sites. This will further result in the migration of animals away from these areas of disturbance. It must however be | Animal Life | Without mitigation | | | | | The rehabilitation of the disturbed areas must be conducted such that the rehabilitation areas will encourage the migration of animals back into the |
| | | S | L | S | L | L | |
| | | With mitigation | | | | | |

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|--|----------------------|--------------------|---|---|---|---|--|
| | | E | P | D | I | S | |
| noted that no significant amount of animal life exists due to the agricultural activities currently undertaken at the proposed prospecting sites. | | S | L | S | L | N | rehabilitated areas. Poaching of wild animals and livestock will be prohibited. |
| The drilling operation may result in the generation of surface water runoff contaminated with drilling muds and cuttings should spillages occur. The sedimentation and possible contamination with carbonaceous material will have negative impacts on the surrounding clean water environment. These will cause an increase in the turbidity and will decrease acidity of the water in the streams, which will affect the aquatic habitat of the wetland, hence important habitats may be lost. | Surface Water | Without mitigation | | | | | No prospecting operations will be undertaken within 500 metres from the nearby streams and 500 meters from the nearby wetland areas. The sumps will be excavated for the collection mud and excess water from the drilling sites. The sump will be sized such that it will be able to contain the water and mud that will be generated during the prospecting operation. Storm water generated around the drilling site will be diverted away to the clean water environment. No concrete mixing and vehicle maintenance will be allowed on site. All hydrocarbons will be stored on protected storage areas away from the streams |
| | | S | L | S | M | L | |
| | | With mitigation | | | | | |
| | | S | L | S | L | L | |
| | | | | | | | |

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|---|----------------------|--------------------|---|---|---|---|---|
| | | E | P | D | I | S | |
| | | | | | | | |
| The prospecting operations will require the drilling of boreholes. The boreholes may result in the drawdown, which may affect the yield to the surrounding groundwater users. Material used for backfilling may leach pollutants that will result in the pollution of the surrounding groundwater regime. This may even spread beyond the backfilling site via plume migration. | Groundwater | Without mitigation | | | | | Ensure that the land owners' borehole yield are observed during the drilling operation. Should it be proven that the operation is indeed affecting the quantity and quality of groundwater available to users and surrounding water resources, the affected parties must be compensated |
| | | S | L | S | L | L | |
| | | With mitigation | | | | | |
| | | S | L | S | L | N | |
| The prospecting operations will require vehicular movement. This will result in the generation of dust by movement of vehicles and due to blowing winds. Vehicles and machinery will also generate diesel or petrol fumes. Generated dust will migrate towards the predominant wind direction and may settle on surrounding properties including vegetation. | Air Quality | Without mitigation | | | | | Dust suppression must be conducted during the operational phase of the project. Correct speed will be maintained at the proposed project site. Vehicle maintenance must be conducted regularly to avoid excessive diesel fumes |
| | | S | L | S | L | L | |
| | | With mitigation | | | | | |
| | | S | L | S | L | N | |
| Noise generated from prospecting operations activities may add to the current noise levels. This may | Noise | Without mitigation | | | | | Ensure that proper management measures as well as technical changes are |
| | | S | L | S | M | L | |
| | | With mitigation | | | | | |

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|---|------------------------|--------------------|---|---|---|---|---|
| | | E | P | D | I | S | |
| have impacts on surrounding property owners and occupiers. | | S | L | S | L | L | undertaken to reduce the impacts on surrounding residents and employees. This include ensuring that less noisy equipment are use, that equipment is kept in good working order and that the equipment must be fitted with correct and appropriate noise abatement measures and where possible use white-noise generators instead of tonal reverse alarms on heavy vehicles operating on roads. Correct speed will be maintained at the proposed project site. Limit operation of machinery and vehicle movement between sunrise and sunset. |
| The drill rigs and towers used during the drilling operations will be visible from the nearby residents and properties. | Visual Aspects | Without mitigation | | | | | Ensure that the period used for the drill rigs is optimized to ensure that the drill rigs are moved from one site to another over short periods. |
| | | S | L | S | L | L | |
| | | With mitigation | | | | | |
| | | S | L | S | L | N | |
| Operation may affect the day to day operation of the land owners hence result in direct impact on | Socio economic aspects | Without mitigation | | | | | Ensure that all safety measures (EMPr) are implemented to prevent the impacts on the |
| | | S | L | S | L | L | |
| | | With mitigation | | | | | |

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|--|--|--------------------|---|---|---|---|---|
| | | E | P | D | I | S | |
| their livelihood | | S | L | S | L | N | property owners. Ensure that negotiations on compensation are undertaken before the drilling programme can commence. This will include any other conditions that the landowner may deem necessary for the prospecting operation. |
| Operation will result in the employment of locals and support on local businesses. | Socio economic aspects | POSOTIVE | | | | | The applicant will ensure that as far as possible locals will be used during the operation of the prospecting project. |
| The drilling operation may result in the destruction of graves and any other heritage sites during operational phase of the project. | Sites archaeological and cultural importance | Without mitigation | | | | | Locate exploration borehole more than five hundred meters from the identified heritage sites |
| | | S | M | S | H | H | |
| | | With mitigation | | | | | |
| | | S | S | S | L | L | |

Table 13: Decommissioning and Closure Phases

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|---|-------------------------------------|--------------------|---|---|---|---|--|
| | | E | P | D | I | S | |
| DECOMMISSIONING AND CLOSURE PHASES | | | | | | | |
| Decommissioning of prospecting site (Site Rehabilitation) | | | | | | | |
| The removal of the campsite equipment and the rehabilitation of the drilling sites and associated access infrastructure will result in the affected soil and land use being restored. This will also result in the resumption of the use of the land since the infrastructure would have been removed | Soils, Land Capability and Land Use | Positive impact | | | | | Ensure that rehabilitation is conducted in accordance with a rehabilitation method statements approved by the management. See description of the rehabilitation plan and management actions in the EMPr. Ensure that contamination of the rehabilitated area by carbonaceous material and hydrocarbon liquids are prevented. |
| Positive impacts will result due to the reduction in areas of disturbance and the return of land use of the affected areas and making available an area that was covered by the campsite drilling sites. | Land Use | Positive impact | | | | | Ensure that rehabilitation is conducted in accordance with a rehabilitation method statements approved by the management. See description of the rehabilitation plan and management actions in the EMPr. Ensure that contamination of the rehabilitated area by carbonaceous material and hydrocarbon liquids are prevented. |
| The use of vehicles/machinery during the rehabilitation of the exploration sites may result compaction of soils and in the | Soils and Natural Vegetation | Without mitigation | | | | | Ensure that the rehabilitation work is done in such a manner that the environment is protected from |
| | | S | M | S | M | M | |

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|---|----------------------|--------------------|---|---|---|---|--|
| | | E | P | D | I | S | |
| spillages of hydrocarbon liquids from the vehicles and machinery. This will result in the contamination of and destruction of the vegetation cover and soils. | | With mitigation | | | | | probable spillages and contamination by carbonaceous material. Tarpaulins will be placed on the ground to prevent oil, grease, hydraulic fluid and diesel spills during emergency repairs. All oil spills will be remedied using approved methodologies. The contaminated soils will be removed and disposed of at a licensed waste disposal facility. All waste generated from the drilling sires and the campsite will be collected in proper receptacles and removed to proper registered disposal facilities e.g., sewage treatment plant, solid waste disposal site or hydrocarbon recycling or treatment facilities. |
| | | S | L | S | L | L | |
| During the decommissioning and closure phases equipment will be removed, stockpiled soils will be used for rehabilitation, remaining sumps will be backfilled, levelled, top soiled and the area re-seeded. During the process of | Surface Water | Without mitigation | | | | | Ensure that water leaving the site do not have elevated silt load. Ensure that the rehabilitated areas are free draining and that water from these areas is clean. |
| | | S | L | S | L | L | |
| | | With mitigation | | | | | |

| NATURE OF THE IMPACT | ENVIRONMENTAL ASPECT | IMPACT ASSESSMENT | | | | | MITIGATION MEASURES |
|--|----------------------|--------------------|---|---|---|---|--|
| | | E | P | D | I | S | |
| rehabilitation surface water runoff from the rehabilitation site may have elevated silt load, which may cause pollution of the nearby water environment | | S | L | S | L | N | |
| Rehabilitation and removal of the prospecting sites and equipment will require vehicular movement. This will result in the vehicles and due to blowing winds. Vehicles and machinery will also generate diesel or petrol fumes. Generated dust will migrate towards the predominant wind direction and may settle on surrounding properties including nearby vegetation. | Air Quality | Without mitigation | | | | | Dust suppression must be conducted during the decommissioning phase of the project whenever excessive dust is generated. Correct speed will be maintained at the proposed project rehabilitation sites. Vehicle maintenance must be conducted regularly to avoid excessive diesel fumes. |
| | | S | L | S | L | L | |
| | | With mitigation | | | | | |
| | | S | L | S | L | N | |
| Noise will be generated during the removal of equipment and rehabilitation of the sites. This noise is not expected to exceed occupational noise limits and will be short lived. | Noise | Without mitigation | | | | | Where necessary, provided employees with ear plugs and employees must be instructed to use the ear plugs. Ensure that equipment is well maintained and fitted with the correct and appropriate noise abatement measures. |
| | | S | L | S | L | L | |
| | | With mitigation | | | | | |
| | | S | L | S | L | N | |

4.4 SUMMARY OF SPECIALIST REPORTS.

Based on the information collect from site including the desktop information, no specialist studies were deemed necessary to be conducted for the proposed project.

4.5 ENVIRONMENTAL IMPACT STATEMENT

Canton Group (Pty) Ltd has applied for a prospecting right on the Dundee 4339 Portion 348 Prospecting project area. The prospecting operation will involve the exploration for coal within the prospecting right area. Diamond core drilling will be used or the exploration and a campsite will be established on site. Each drilling site will have an access route in the form of a track and a sump for the collection of waste water generated during the drilling operation.

The area under investigation comprised of generally flat topography. The site falls within a semi-arid rainfall region with relative low rainfall which slightly reduced the potential impacts associated with soil erosion.

The proposed prospecting site is classified as non-arable land with a moderate to low grazing capacity with cattle farming and maize meal plantation being the predominant land use in the area.

The prospecting site is located in a semi-arid region and the protection of water quality and availability has been identified as aspects of key importance within the municipality and the general region. Mostly in the area they depend on the purified piped water but also a dependency on ground water resources has been identified; however, no Water Use License has been lodged with the Department of Water and Sanitation.

The conservation status unknown, since no ecology study was undertaken. There are no graves present within the prospecting area observed during the site visit.

4.6 FINAL SITE MAP

(Provide a map at an appropriate scale which superimposes the proposed overall activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers.)

The final maps showing the layouts of the proposed project plan are included on this report and same will be submitted to the DMR on granting of the prospecting right. The map has been developed to superimpose the proposed prospecting project together and associated infrastructure with the environmental sensitivities within the proposed project site.

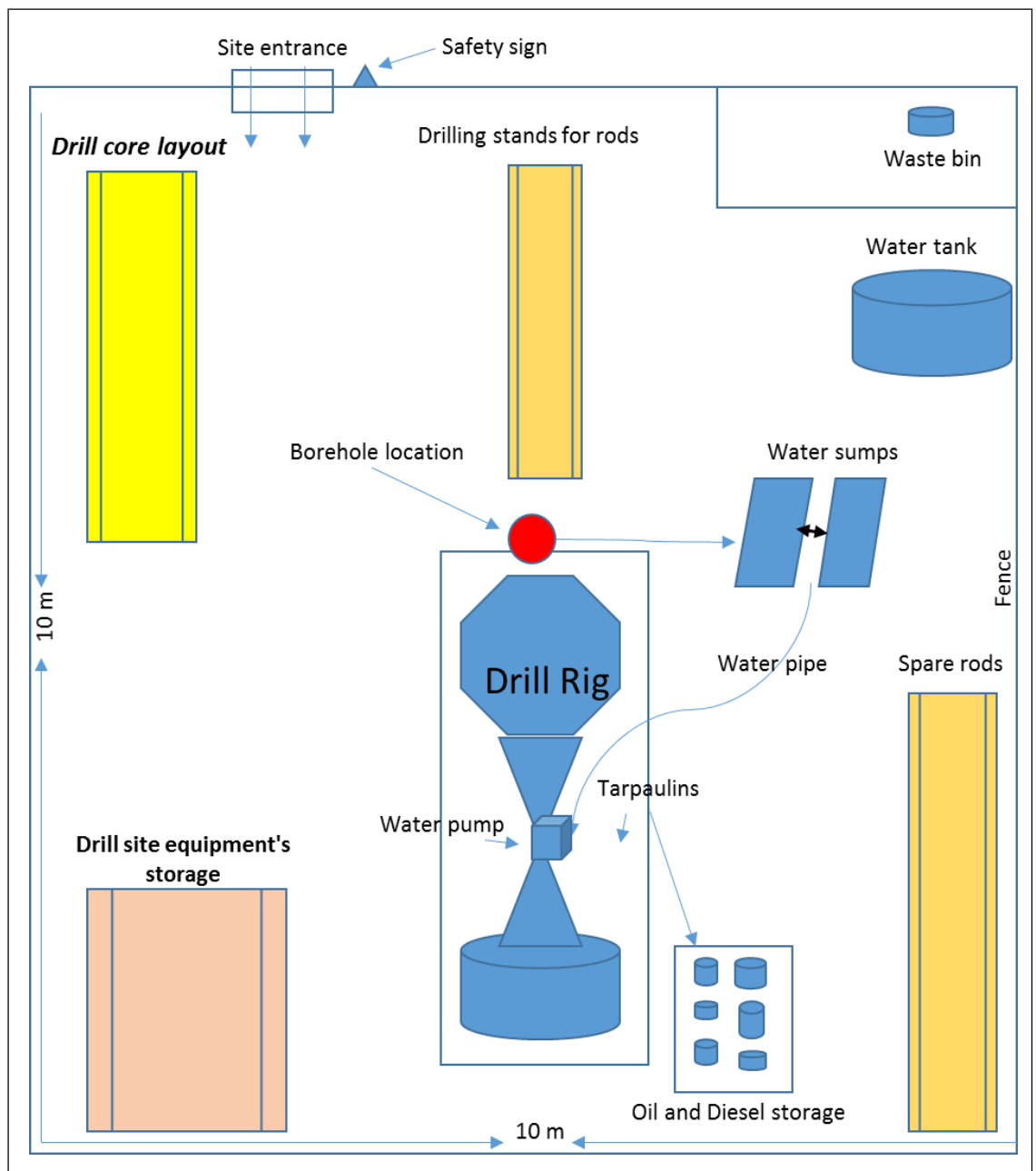


Figure 12: Drill Site Layout plan for the prospecting project area

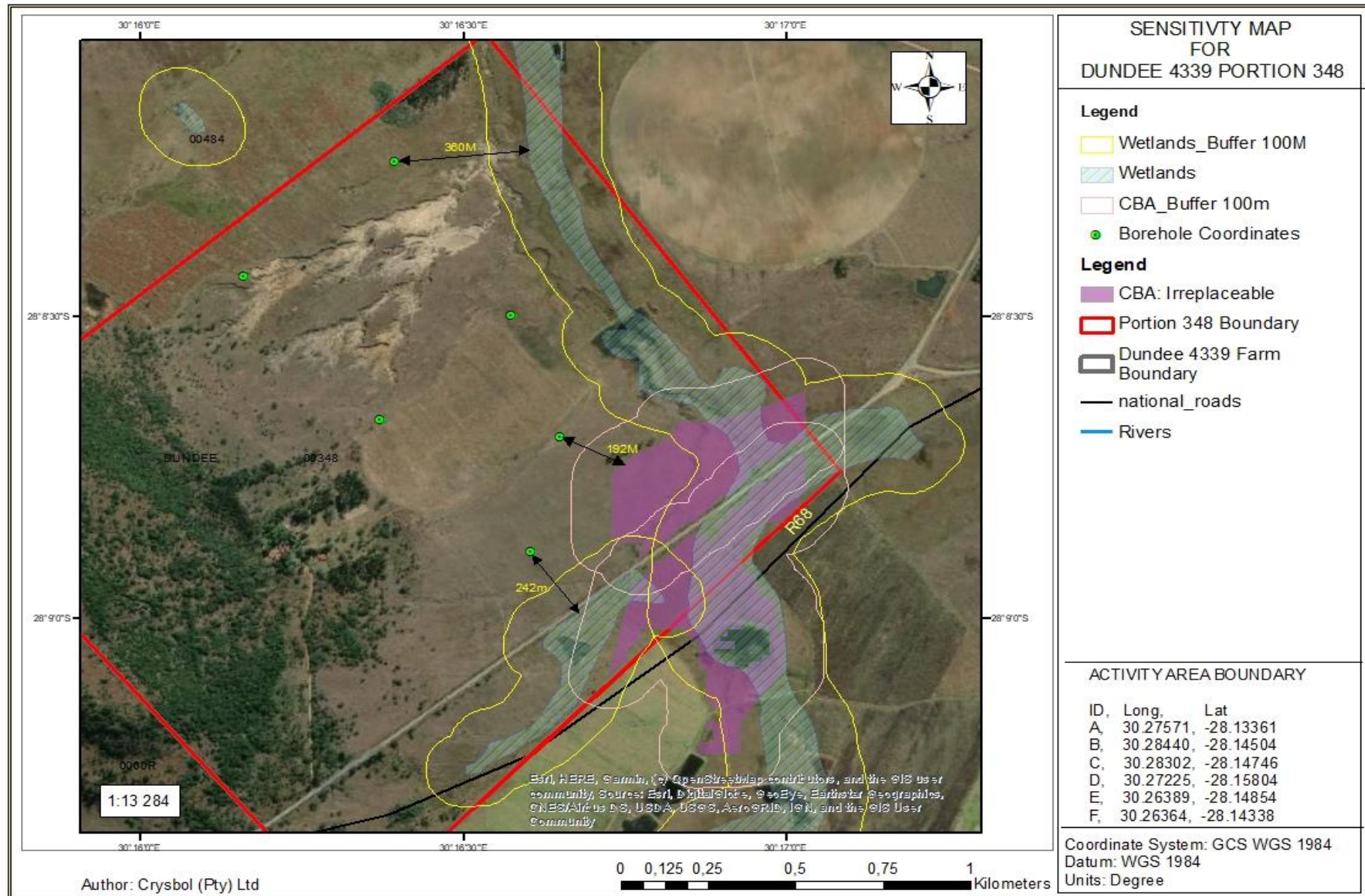


Figure 13: Borehole location layout for the prospecting area superimposed on environmental sensitivities within the proposed project site

4.7 SUMMARY OF THE POSITIVE AND NEGATIVE IMPACTS AND RISKS OF THE PROPOSED ACTIVITY AND IDENTIFIED ALTERNATIVES;

The impacts of the proposed site layout will be the same. There are no alternative sites selected however should they be a need for such to any unexpected discoveries such as graves, such alternatives site may be identified during the prospecting exercise. The alternative sites will be identified based on the location of sensitive environments such as heritage sites (graves etc.), wetlands, riparian zones, and areas with Red Data Species. Changes in the layout plan will be discussed and agreed on with the affected landowners

The nature of these projects are such that they don't create a magnitude impact on job creations, however as a positive contribution to the community and the environment, unknown geological and lithological become discovered and studied and to contribute to the knowledge of the area for future explorations. Should the prospecting activity yield positive results, mining right application will be logged which if granted will then contribute to the job creation of the surrounding community.

Negative impacts of the project have been discussed on the previously section and mitigation measures thereof that will be applied. Generally prospecting activities have low impact on the environment and such impacts can be controlled and avoided or minimised therefore the layout does not require revision.

4.8 PROPOSED IMPACT MANAGEMENT OBJECTIVES AND THE IMPACT MANAGEMENT OUTCOMES FOR INCLUSION IN THE EMPr;

Based on the assessment and where applicable the recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation.

The objectives of the EMPr will be to provide detailed information that will advise project during Construction, Operation, Decommissioning and Post Closure Phases of the proposed project in order to avoid and/or reduce impacts that may be detrimental to the environment.

The proposed project's ultimate goal with regard to the environmental management is to manage all the significant environmental aspects by addressing, managing and controlling the environmental impacts of the work, and ensuring a continuous monitoring of environmental performance, and continual improvement in environmental performance through:

- Providing sufficient information to the prospecting activities as to avoid unnecessary social and environmental impacts

- Ensuring an approach that will provide the necessary confidence in terms of environmental compliance.
- Providing a management plan that is effective and practical for implementation

The key impact management outcomes would be the efficient and environmentally responsible management of the site and rehabilitate correctly. With the successful implementation of the recommended mitigation measures and rehabilitation of bore hole site, roads and directional drilling sites, these will be converted back into productive agricultural sites or grazing areas.

4.9 ASPECTS FOR INCLUSION AS CONDITIONS OF AUTHORISATION.

(Any aspects which must be made conditions of the Environmental Authorisation)

In order to minimise potential impacts associated with the establishment and management of the site, the following measures must be implemented and therefore included as conditions of the authorisation:

- Disturbed areas must be rehabilitated to a quality that matches or replicates the surrounding area.
- The EMPr must be implemented fully at all stages of the proposed project
- No activities may take place within 50m from any river or surface water body.
- No trees or shrubs will be felled or damaged for the purpose of obtaining firewood
- The site shall be seeded with a vegetation seed mix adapted to reflect the local indigenous flora.
- Topsoil must be removed from all areas where physical disturbance of the surface will occur.
- All available topsoil must be removed prior to the commencement of any operations.
- The drilling activities should be restricted to daytime
- All wastes generated must be disposed of at an appropriate registered landfill and disposal certificate be kept on site.
- Creation of new access roads should be minimised as far as possible.
- The speed of haul trucks and other vehicles must be strictly controlled to avoid dangerous conditions; excessive dust or excessive deterioration of the road being used.

4.10 DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE.

(Which relate to the assessment and mitigation measures proposed)

This BAR is based on the following assumption(s), uncertainties and gaps:

- The information provided by the applicant is accurate, sufficient and unbiased, and that no information that could change the outcome of the authorisation process has been withheld.
- It is uncertain that all issues brought forth by the interested and affected parties during the period of public participation process (30 days) where indeed the only issues available.
- That any potential impacts on the environment associated with the proposed prospecting activities will be avoided, mitigated, or offset.
- Canton group (Pty) Ltd will follow the conditions of the EA and applicable legislation for the duration of the project.

4.11 REASONED OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED

Reasons why the activity should be authorized or not.

- The desktop studies have proven that the site is located on a mineralised zone, prospecting activities must be undertaken to confirm the ore reserves. Environmental Management Plan has been developed to ensure proper mitigation measures are implemented to elevate and or minimise and any impact.
- It has also been noted that mining sector is the pillar of South African economy and also provides employment opportunities for many therefore if the results of this prospecting work are conducive for a mining application this will benefit the country as a whole.
- The option of not approving the activities will result in a significant loss to valuable information regarding the status of the ore bodies present on these properties.
- In addition to this, should economical reserves be present and the applicant does not have the opportunity to prospect, the opportunity to utilize these reserves for future phases will be lost as well.

Conditions that must be included in the authorisation

Refer to section 6.9 above

4.12 PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED.

The Prospecting Right has been applied for a period of five (5) years. The Environmental Authorisation should therefore allow for the four (4) years of prospecting and one (1) year for decommissioning and rehabilitation.

4.13 UNDERTAKING

(Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Basic assessment report and the Environmental Management Programme report).

The undertaking is provided at the end of the EMPr and is applicable to both, this Basic Assessment Report and the EMPr in Part B, below.

4.14 FINANCIAL PROVISION

The Regulations pertaining to the Financial Provision for Prospecting, Mining and Production Operations promulgated under Section 44(A) (e), (f), (g), (h) read with sections 24(5)(b)(ix), 24(5)(d), 24N, 24P and 24R of the National Environmental Management Act, 1998 (Act 107 of 1998) (20 November 2015) have been considered and this is anticipated to result in an increase in the rehabilitation costs estimated using the above mentioned quantum.

The amount that is required to both manage and rehabilitate the environment in respect of rehabilitation is reflected in the quantum of financial provision in Section 35 (Part B) of the report.

4.15 SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

Aside from the BAR and EMPr, the competent authority also requires the proof of consultation, health and safety prospecting ability and financial ability.

4.16 IMPACT ON THE SOCIO-ECONOMIC CONDITIONS OF ANY DIRECTLY AFFECTED PERSON.

The potential impacts on the socio-economic conditions have the potential to include:

Safety and security risks to landowners and lawful occupiers:

- The potential exists for a group of unfamiliar workers to enter the project area during the prospecting activities. This impact could potentially affect the local communities. However, the impact will be minimal as people on site will be limited to the Applicant, contractors and geologists.

Interference with existing land uses:

- Access to the application area when conducting prospecting activities will be required which may interrupt the existing land uses, such as livestock grazing, residential

developments and game activities. However, this impact will be minimal as no heavy equipment will be brought on site and it is of short duration.

Perceptions and expectations:

- The proposed Prospecting Right may create interest, particularly in the potential for employment and concerns over damage to natural resources. However, the impact will be minimal as there will be on-going, open and transparent communication with affected stakeholders, communities and landowners.

Expropriation of land and displacement of landowners:

- At present this impact is not anticipated and is considered improbable. However, should it occur, negotiations with affected landowners will be undertaken and any loss of revenue caused by the prospecting works will be reasonably compensated in order to minimise this impact.

Job creation:

- Where possible, the Applicant and contractors will source local labour. This will enable the use of the local labour force and as such create employment for locals. Due to the technical skills required to undertake prospecting works, the number of jobs would not be substantial and duration thereof would be short lived. In this regard, the nature of this impact is rated as positive. However, the significance thereof is relatively low.

Discovery of economically viable minerals

- Should prospecting prove successful and a resource quantified, it would indicate a potential for a viable economic activity in the form of mining. Mining will contribute greatly for local economic stimulation through direct employment, future business opportunities, royalties and tax revenues.

The consultation process will allow directly affected parties to raise their concerns. Further to this, it must be noted that I&APs, including directly affected parties were given the opportunity to review and comment on the draft BAR+EMPR. The results of the public consultation have been included in the final report submitted to the Department for adjudication.

4.17 IMPACT ON ANY NATIONAL ESTATE REFERRED TO IN SECTION 3(2) OF THE NATIONAL HERITAGE RESOURCES ACT.

There is no significant heritage resources present on the site and significant impacts are thus not expected. However, should there be any artefacts discovered on site during any phase of the prospecting work, such discovery will be reported to SAHRA and at the mean time all the activities should cease.

4.18 OTHER MATTERS REQUIRED IN TERMS OF SECTIONS 24(4)(A) AND (B) OF THE ACT.

There are no other matters required in terms of Section 24(4)(A) and (B) of the Act.

PART B

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

5. ENVIRONMENTAL MANAGEMENT PROGRAMME.

5.1 DETAILS OF THE EAP

The details of the EAP are provided in section 1.1 of part A of this document.

5.2 DESCRIPTION OF THE ASPECTS OF THE ACTIVITY

The requirements to describe the aspects of the activity are covered by the environmental management programme and are included in PART A of the document under section 1. The reader is therefore referred to section 1 of PART A of this document.

5.3 COMPOSITE MAP

The map superimposing the proposed project, its associated structures and infrastructure on the environmental sensitivities of the preferred site has been attached on this document Figure below. Note that all areas that must be avoided due to their environmental sensitivity are indicated in the map.

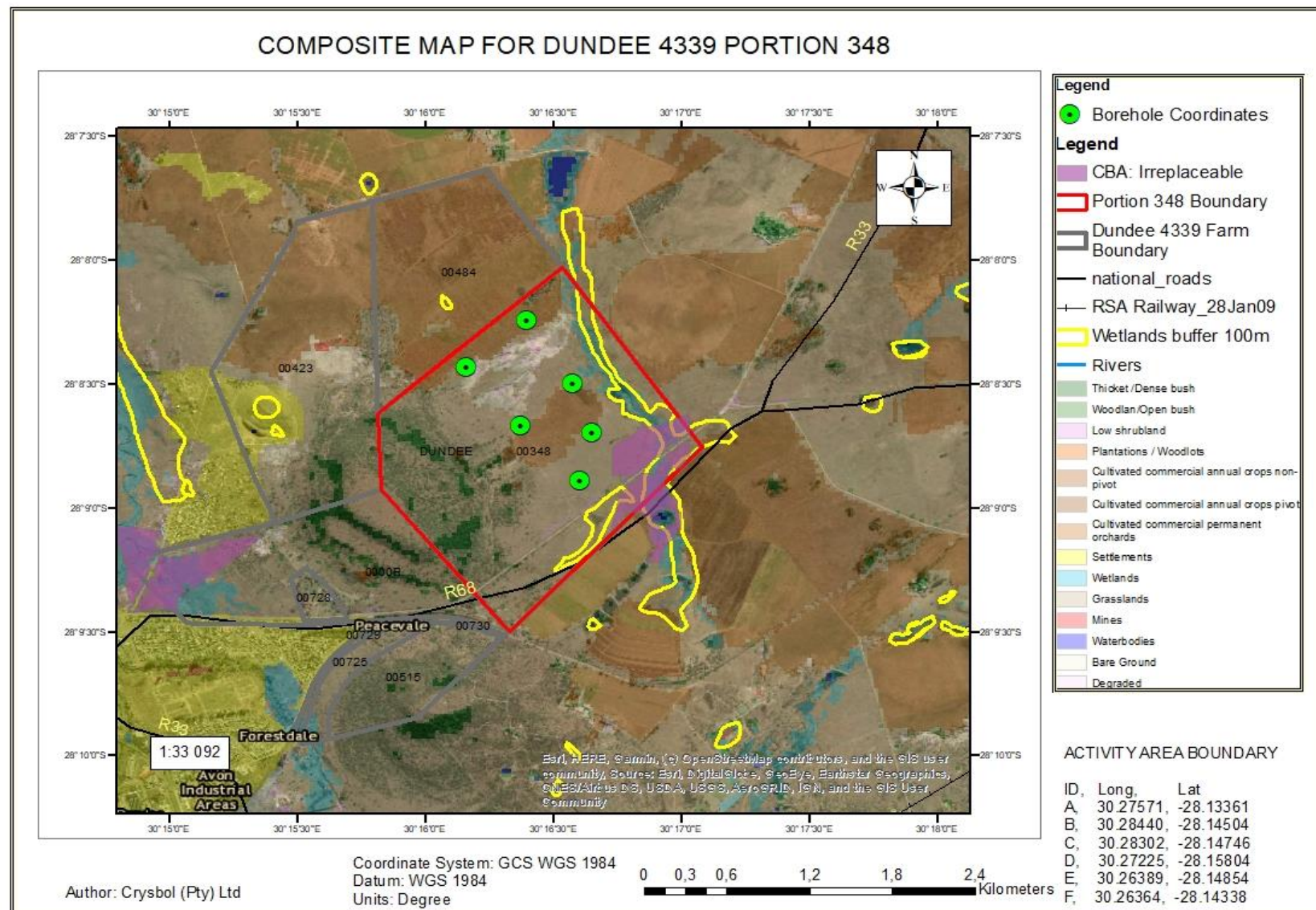


Figure 14: Composite map for the proposed prospecting right application.

5.4 DESCRIPTION OF IMPACT MANAGEMENT OBJECTIVES INCLUDING MANAGEMENT STATEMENTS

The main closure objective is to ensure that the site is left as close as possible to the pre-prospecting state after completion of the borehole drilling activities. This will be achieved through continuous management and rehabilitation of the site and this can be achieved through three stages of the prospecting lifecycle (rehabilitation, decommissioning and closure activities and remediation of residual or latent environmental impacts). The following closure sub-objectives will guide the closure plans:

- Minimise erosion in areas that are already disturbed;
- Ensure that the impacted areas are free draining;
- Ensure the areas are safe for all people;
- Protect drainage lines and watercourses;
- Ensure that no temporary infrastructure is left on-site during long periods of cessation or upon closure; and
- Ensure environmental risks are minimised.

5.5 VOLUMES AND RATE OF WATER USE REQUIRED FOR THE OPERATION.

1000L of water per day on maximum production day of drilling

5.6 HAS A WATER USE LICENCE HAS BEEN APPLIED FOR?

No-Water Use Licence has not been applied for; this is due to the fact that no water extraction & diversion will be done from any water source. All water which will be used will be brought on site by a water tank for the sole purpose of this project. The brought it water will be bought from a licenced water supplier who sells potable water or treated industrial water for which a water sale agreement will be provided before work commences and is submitted to the DMR.



Figure 15: Indicating a mobile water cart

5.7 IMPACTS TO BE MITIGATED IN THEIR RESPECTIVE PHASES

Measures to rehabilitate the environment affected by the undertaking of any listed activity

Table 14: summary of rehabilitation measures to undertake

| Impact Activity Reference | Environmental Attribute | Impact Management Objectives | Targets (Impact Management Outcomes) | Management Actions and Interventions | Responsibility for Actions/Intervention | Monitoring Action | Responsibility and Frequency for Monitoring | Time period for Management Action |
|--|-------------------------------------|--|--|---|---|--|--|-----------------------------------|
| 1. Construction Phase | | | | | | | | |
| Establishment of access, to prospecting sites, establishment of the campsite, physical surveying of the site and pegging of drilling boreholes | | | | | | | | |
| Loss of soils, erosion of the soils and impacts on owner's livelihood | Soils, Land Use and Land capability | To ensure that the activities in the development of the prospecting sites and associated infrastructure do not have detrimental impacts on the soils, land use and land capability | Ensure that the establishment of the prospecting sites is undertaken in accordance with the approved EMP | Establishment of the site will be undertaken according to the prospecting method statement | Appointed contractor and site manager | Visual monitoring through inspections. | Environmental Control Officer (ECO) during construction. | During construction phase |
| | | | | No soil stripping will be allowed during site establishment | Appointed contractor | Visual monitoring and inspections | ECO monthly | During construction phase |
| | | | | Should it be necessary to conduct geophysical surveys and geological mapping, ensure minimal disturbance of soil. | Appointed contractor | Visual monitoring and inspections. | ECO monthly | During construction phase |
| | | | | Should it be necessary to conduct geophysical surveys and geological mapping, ensure minimal disturbance of soil. | Appointed contractor | Visual monitoring and inspections | ECO monthly | During construction phase |
| | | | | Any area that may result into the disturbance of the soils must be rehabilitated immediately on discovery | Appointed contractor and the applicant site manager | Visual monitoring and inspections. | ECO monthly | During construction phase |

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| Impact Activity Reference | Environmental Attribute | Impact Management Objectives | Targets (Impact Management Outcomes) | Management Actions and Interventions | Responsibility for Actions/Intervention | Monitoring Action | Responsibility and Frequency for Monitoring | Time period for Management Action |
|--|-------------------------|---|---|---|---|------------------------------------|---|-----------------------------------|
| | | | | Machinery to be used for the operation will be of good working conditions. Any hydrocarbon spill from the site establishment will be remediated as soon as possible | Appointed contractor | Visual monitoring and inspections | ECO monthly | During construction phase |
| | | | | Use sites that are unused and that are in the degraded state for the proposed development. This must be done in agreement with the land owner. The setting up of the boreholes must be conducted such that ensure that rocky ridges, sensitive grass lands, indigenous trees and shrubs, sites of geological importance and farmlands actively used for crop farming are avoided. | Appointed contractor | Undertake regular inspections | ECO monthly | During construction phase |
| Loss of natural vegetation in the affected areas | Flora | To ensure that the establishment of the prospecting site and associated infrastructure/equipment do not have detrimental impact on the area's flora | The management of the impact will comply with the company's biodiversity management plan. | Use sites with most disturbed vegetation cover for the development. | Appointed contractor and site manager. | Visual monitoring and inspections. | ECO monthly | During construction phase |

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| Impact Activity Reference | Environmental Attribute | Impact Management Objectives | Targets (Impact Management Outcomes) | Management Actions and Interventions | Responsibility for Actions/Intervention | Monitoring Action | Responsibility and Frequency for Monitoring | Time period for Management Action |
|---------------------------|-------------------------|------------------------------|--------------------------------------|--|---|------------------------------------|---|-----------------------------------|
| | | | | No strip of topsoil and vegetation will be allowed during site establishment | Appointed contractor and site manager. | | | During construction phase |
| | | | | Ensure minimal disturbance of vegetation when conducting geophysical surveys and geological mapping | Appointed contractor and site manager. | Visual monitoring and inspections | ECO monthly | During construction phase |
| | | | | Any area that may result into the disturbance of the vegetation cover must be rehabilitated immediately on discovery | Appointed contractor and site manager. | Visual monitoring and inspections. | ECO monthly | During construction phase |

| Impact Activity Reference | Environmental Attribute | Impact Management Objectives | Targets (Impact Management Outcomes) | Management Actions and Interventions | Responsibility for Actions/Intervention | Monitoring Action | Responsibility and Frequency for Monitoring | Time period for Management Action |
|---|-------------------------|---|--|--|---|------------------------------------|---|-----------------------------------|
| Migration of animal life due to disturbance caused proposed project | Animal Life | Ensure that the animal life within in the project is not affected by the proposed project | Maintenance of the current status on animal life within the project area | Establishment of the site will be undertaken according to the prospecting method statement | Appointed contractor and site manager | Visual monitoring and inspections. | ECO monthly | During construction phase |
| | | | | No soil stripping will be allowed during site establishment. Any area that may result into the disturbance of the soils must be rehabilitated immediately on discovery | Appointed contractor and site manager. | Visual monitoring and inspections. | ECO monthly | During construction phase |
| | | | | Use sites with most degraded environment for the site development | Appointed contractor and site manager. | Visual monitoring and inspections | ECO monthly | During construction phase |

| Impact Activity Reference | Environmental Attribute | Impact Management Objectives | Targets (Impact Management Outcomes) | Management Actions and Interventions | Responsibility for Actions/Intervention | Monitoring Action | Responsibility and Frequency for Monitoring | Time period for Management Action |
|--|--------------------------|---|--|--|---|-------------------------------|---|-----------------------------------|
| | | | | Poaching will be prohibited at the prospecting site | Appointed contractor and site manager | Visual monitoring inspections | ECO monthly | During construction phase |
| Deterioration of water quality in the nearby streams and within the groundwater regime | Surface and Ground Water | Ensure that the establishment of the project and its associated infrastructure does not have detrimental impact on nearby stream and the groundwater regime | The quality of streams and groundwater within the site will comply with the target DWS target water quality objectives. Construction will be in compliance with the regulations under the GN704. | Site establishment will not be undertaken within sensitive landscapes. These areas will be avoided. A distance of 500 meters will be created between the sites and the sensitive landscapes. | Appointed contractor and site manager. | Regular inspections | ECO monthly | During construction phase |
| | | | | Avoid stripping of areas within the construction sites. | Appointed contractor and site manager | Regular inspections | ECO monthly | During construction phase |

| Impact Activity Reference | Environmental Attribute | Impact Management Objectives | Targets (Impact Management Outcomes) | Management Actions and Interventions | Responsibility for Actions/Intervention | Monitoring Action | Responsibility and Frequency for Monitoring | Time period for Management Action |
|---------------------------|-------------------------|------------------------------|--------------------------------------|---|---|---------------------|---|-----------------------------------|
| | | | | Rehabilitate areas that may have been mistakenly stripped | Appointed contractor and site manager. | Regular inspections | ECO monthly | During construction phase |
| | | | | Storm water upslope of the campsite and drill sites should be diverted around these areas | Appointed contractor and site manager. | Regular inspections | ECO monthly | During construction phase |

| Impact Activity Reference | Environmental Attribute | Impact Management Objectives | Targets (Impact Management Outcomes) | Management Actions and Interventions | Responsibility for Actions/Intervention | Monitoring Action | Responsibility and Frequency for Monitoring | Time period for Management Action |
|--|-------------------------|---|--|--|---|--|---|---|
| | | | | Proper waste management facilities will be put in place at the campsite and drilling site. Any hydrocarbon spill from the site establishment will be remediated as soon as possible. | Appointed contractor and site manager. | Regular inspections | Eco monthly | During construction phase |
| Wetland destruction and loss of habitat. | Sensitive Landscapes | Ensure that the construction activities do not have detrimental impacts on the sensitive landscapes | Maintain the current state of the sensitive landscapes within the project area (farm dams and seepage zone). | Construction activities will be limited to be more than five hundred meters from the site establishment will be remediated as soon as possible. | Appointed contractor and site manager. | Inspection to ensure compliance with the action plan will be conducted at the construction site. | Eco will conduct the inspections monthly | Whenever construction is undertaken near the sensitive landscapes |

| Impact Activity Reference | Environmental Attribute | Impact Management Objectives | Targets (Impact Management Outcomes) | Management Actions and Interventions | Responsibility for Actions/Intervention | Monitoring Action | Responsibility and Frequency for Monitoring | Time period for Management Action |
|--|-------------------------|--|--|---|---|--|---|------------------------------------|
| Air pollution through air pollutants' emissions, from the construction site. | Air quality | Ensure that the operations during the construction phase do not result in detrimental air quality impacts. | The construction will be undertaken such that the ambient air quality does not exceed the National Air Quality Standards | Wet suppression using will be conducted at areas with excessive dust emissions. | Appointed contractor and site manager | Visual inspection of areas with possible dust emissions. | ECO monthly | Throughout the construction phase |
| | | | | Traffic will be restricted to demarcated areas and traffic volumes and speeds within the construction site will be controlled | Appointed contractor and site manager | Regular inspections | ECO monthly | Throughout the construction phase. |

| Impact Activity Reference | Environmental Attribute | Impact Management Objectives | Targets (Impact Management Outcomes) | Management Actions and Interventions | Responsibility for Actions/Intervention | Monitoring Action | Responsibility and Frequency for Monitoring | Time period for Management Action |
|---------------------------|-------------------------|--|--|--|---|---------------------------------------|---|------------------------------------|
| | | | | | | | | |
| Increased noise levels. | Noise aspects | Ensure that the noise levels emanating from the construction sites will not have detrimental effects on the mine employees and surrounding communities/and owners. | The noise levels from the construction sites will be managed and measures will be taken to ensure that noise levels are below the National Noise Control Regulations, SANS10103:2008 guidelines. | Limit the maximum speed to 60 km/h or less, subject to risk assessment. Less noisy equipment will be used, the equipment will be kept in good working order and the equipment will be fitted with correct and appropriate noise abatement measures | Undertake speed checks on speed used | Undertake site checks on speeds used. | Site manager | Throughout the construction phase. |

| Impact Activity Reference | Environmental Attribute | Impact Management Objectives | Targets (Impact Management Outcomes) | Management Actions and Interventions | Responsibility for Actions/Intervention | Monitoring Action | Responsibility and Frequency for Monitoring | Time period for Management Action |
|--|-------------------------|---|---|--|---|--|--|--|
| | | | | Ensure that the employees are issued with earplugs and that they are instructed to use them. | Site manager | Speed checking will be conducted. | Site manager checking as regularly as possible | Throughout the duration of the construction phase. |
| | | | | Educate employees on the dangers of hearing loss due to mine machinery noise | Site manager | Use of earplugs will be checked and reported | Site manager will check the use of the earplugs as regularly as possible | Throughout the duration of the construction phase. |
| Visual impacts on the surrounding communities and road users from the construction | Visual aspects | Ensure that the operations during the construction phase do not result in detrimental visual impacts on surrounding properties communities and road users | Measures will be undertaken by the mine to ensure that visual aspects from the site are complying with the relevant visual standards objectives | The land owner will be informed on the type of machinery and equipment to be used at the prospecting sites | Applicant and site manager | The constructed perimeter berms will be inspected for compliance the design specifications | Mine Engineer on a monthly basis. | Throughout the construction phase. |

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| Impact Activity Reference | Environmental Attribute | Impact Management Objectives | Targets (Impact Management Outcomes) | Management Actions and Interventions | Responsibility for Actions/Intervention | Monitoring Action | Responsibility and Frequency for Monitoring | Time period for Management Action |
|---|---|---|--|---|---|--|---|--|
| | | | | Lighting will be conducted in manner that will reduce the impacts on visual aspects at night times | Appointed Contractor | Night time inspection of the site will be undertaken | The site manager once | During construction phase |
| Damage or destruction of sites with archaeological cultural significance. | Sites of archaeological and cultural importance | Ensure that the construction activities do not have detrimental impacts on the heritage sites. | The construction will be undertaken in compliance with the requirements of the National Heritage Resources Act, 1999 (Act 25 of 1999) and recommendations from the specialist. | The establishment of the sites will be away from any identified grave site or heritage sites. A buffer of five hundred meters will be created between the sites and the proposed camp and drilling sites. | Applicant and site manager | The site will be monitored for any damages on a regular basis. | ECO monthly | Throughout the construction phase when activities are in close proximity to the heritage sites |
| Impact from the influx of job seekers and employment of farm Labourers | Socio-economic aspects | Ensure that measures are taken to discourage influx of job seekers and employment of farm Labourers | Measures taken will be in line with the company's recruitment policies | Recruitment will not be undertaken on site. Farm Labourers will not be employed unless agreed to with the farm's owners | Appointed contractor and site manager | Visual monitoring | Site manager | Throughout the pre-construction a construction phase |

5.8 FINANCIAL PROVISION

Section 24 P of NEMA requires an applicant applying for an environmental authorisation related to mining to comply with the prescribed financial provision for the rehabilitation, closure and ongoing post decommissioning management of negative environmental impacts before the Minister responsible for mineral resources issues the environmental authorisation. The above-mentioned financial provision may be in the form of an insurance, bank guarantee, trust fund or cash.

Regulations pertaining to the financial provision for prospecting, exploration, mining or production operations (GNR 1147) were promulgated on the 20th of November 2015. Canton Group (Pty) Ltd has undertaken the financial provision determination in line with the requirements of section 11 of the Regulations pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations (GNR 1147). The financial provision determination for the proposed project is submitted to the Department of Mineral Resources for their consideration

5.9 DESCRIPTION OF CLOSURE OBJECTIVES AND EXTENT TO WHICH THEY HAVE BEEN ALIGNED TO THE DESCRIBED BASELINE ENVIRONMENT

The closure objectives for the proposed project as detailed under section 7.4. of the EMPr, were determined in consideration of physical (infrastructure), biophysical (environmental) and socioeconomic measures as well as alignment to the closure components provided by the Department of Mineral Resources (DMR). See section 7.4.1 for the closure objectives.

5.10 CONFIRM SPECIFICALLY THAT THE ENVIRONMENTAL OBJECTIVES IN RELATION TO CLOSURE HAVE BEEN CONSULTED WITH LANDOWNER AND INTERESTED AND AFFECTED PARTIES.

The environmental objectives in relation to closure plan have been consulted with the land owners as well as farmers and affected parties. The consultation was done through public participation process which included submission of draft BAR and EMP'r Within the document content all aspects relating to the environment and the impacts posed by the proposed projects where outlines, furthermore, mitigation measure and closure plan was also outlined for the restoration land to its original land state.

5.11 REHABILITATION PLAN FOR THE PROPOSED PROJECT

In terms of Regulation 23 of NEMA EIA Regulations, 2014, an EMPr must address the requirements as determined in the regulations, pertaining to the financial provision for the rehabilitation, closure and post closure of the proposed operations. In view of the above, a rehabilitation plan for the proposed project has been compiled and detailed below:

In order to obtain a self-sustainable and stable closure plan, the following will be done where natural grassland had been disturbed during the prospecting process.

a. Rehabilitation and Closure

The clearing of soil surface areas would be restricted to what is really necessary for prospecting purpose. During the closure of these sites, or where vegetation is lacking or compacted, the areas would be ripped or ploughed and levelled in order to re-establish a growth medium and if necessary, appropriately fertilised to ensure the regrowth of vegetation and the soil ameliorated based on a fertilizer recommendation (soil sample analysed).

As the project progresses there will be an increase in the topsoil surface area disturbed initially but also at the same time concurrent rehabilitation will take place which involves the replacement of topsoil on backfilled drilled holes.

I. Rehabilitation of access roads

- Whenever a prospecting right is suspended, cancelled or abandoned or if it lapses and the holder does not wish to renew the right, any access road or portions thereof, constructed by the holder and which will no longer be required by the landowner/tenant, shall be removed and/or rehabilitated to the satisfaction of the Regional Manager.
- Any gate or fence erected by the holder which is not required by the landowner / tenant, shall be removed and the situation restored to the pre prospecting situation.
- Roads shall be ripped or ploughed, and if necessary, appropriately fertilised (based on a soil analysis) to ensure the regrowth of vegetation. Imported road construction materials which may hamper regrowth of vegetation must be removed and disposed of in an approved manner prior to rehabilitation.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the prospecting operation, be corrected and the area be seeded with a seed mix to the Regional Manager's specification.

II. Rehabilitation of the surface prospecting site

On completion of operations, all buildings, structures or objects on the camp/office site shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002), which states:

1. When a prospecting right, mining right, retention permit or mining permit lapses, is cancelled or is abandoned or when any prospecting or mining operation comes to an end, the holder of any such right or permit may not demolish or remove any building, structure, object -
 - A & b. which may not be demolished in terms of any other law;
 - b. which has been identified in writing by the Minister for purposes of this section; or
 - c. Which is to be retained in terms of an agreement between the holder and the owner or occupier of the land, which agreement has been approved by the Minister in writing?
2. The provision of subsection (1) does not apply to bona fide mining equipment which may be removed After all the foreign matter has been removed from the sites, the excavations shall be backfilled with subsoil, compacted and levelled with previously stored topsoil. No foreign matter such as cement or other rubble shall be introduced into such backfilling.

All rescued plants should be bagged and kept on a designated on-site nursery, and should be returned to site once all prospecting is completed and rehabilitation of disturbed areas is required. Replanting should only occur in springs or early summer (September to November), once the first rains have fallen, in order to facilitate establishment.

Seed should be collected from plants earmarked for removal prior to disturbance, in order to reduce the impact on plants. If seeds are collected from nearby seedbanks, it may indirectly affect the availability of seed as a source of food for a variety of animals and birds.

On completion of the prospecting operation, the above areas shall be cleared of any contaminated soil. The surface shall then be ripped or ploughed to a depth of at least 300mm and the topsoil previously stored adjacent the site, shall be spread evenly to its original depth over the whole area. The area shall then be fertilised if necessary (based on a soil analysis). The site shall be seeded with a vegetation seed mix adapted to reflect the local indigenous flora. Where the site has been rendered devoid of vegetation/grass or where soils have been compacted owing to traffic, the surface shall be scarified or ripped.

Photographs of the camp and office sites, before and during the prospecting operation and after rehabilitation and closure, shall be taken at selected fixed points and kept on record for the information of the Regional Manager.

Photographs of the different borehole sites, before and during the prospecting activities, after rehabilitation and closure, shall be taken at selected fixed points and kept on record for the regional manager's information and annual reporting.

Rehabilitation of the new topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal (controlled) surface drainage to continue.

Implement water control systems in order to prevent erosion. Visual impact would be addressed by means of:

- Re-vegetation (grasses);
- Removal of any building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact.

III. Fertilising of Areas to be rehabilitated

If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining operation be corrected and the area be seeded with a seed mix to his or her specification.

IV. Seeding of Grass Seed Mixture and planting of Woody Species

The eventual seed mixture takes into account the availability of seed, different soil situations and the prevailing climatic conditions of the area. The following mixture will be applicable to the boreholes on prospecting site:

- *Crown grass*
- *Scotch grass*
- *Common couch*
- *Meadow grasses*
- *Panicum maximum*

a. Demolition of infrastructure/buildings

On completion of operations, all structures on the prospecting terrain shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).

b. Invasive and alien control programme

Develop and implement an invasive and alien control programme to control the spread of weeds and other invasive species. Eradicate exotic weeds and invader species if it invades the terrain. All illegal invader plants and weeds shall be eradicated as required in terms of Regulation 15 & 16 of the Act on Conservation of Agricultural Resources, 1983 (Act no. 43 of 1983) which list the plants.

c. Final Land use after rehabilitation

The land use within the proposed prospecting project area will not change after the prospecting activities. However, for the first three (3) years after the drilling of boreholes especially on the drilled rehabilitated area, the area will need to be monitored every second month and more of agriculture activities will need to be conducted to bring the land to its original state.

5.12 EXPLAIN WHY IT CAN BE CONFIRMED THAT THE REHABILITATION PLAN IS COMPATIBLE WITH THE CLOSURE OBJECTIVES

The rehabilitation plan is compatible with the closure objectives in that it seeks to ensure that negative impacts on the receiving environment that could not be prevented or mitigated during prospecting are rehabilitated. The use of indigenous species during re-vegetation will ensure that ecosystem restoration is initiated and prevent invasion by alien species. The capping of drill holes will prevent future environmental issues related to fluid leakage or lateral movement through the drill hole, as well as protect water resources. The appropriate disposal of waste will ensure that land is usable and in alignment with surrounding land uses and that no hazardous materials are left on site post-prospecting.

5.13 CALCULATE AND STATE THE QUANTUM OF THE FINANCIAL PROVISION REQUIRED FOR MANAGING AND REHABILITATING THE ENVIRONMENT IN ACCORDANCE WITH THE APPLICABLE GUIDELINE.

The table below details the quantum for financial provision for the Final Rehabilitation, Decommissioning and Closure Plan.

| CALCULATION OF THE QUANTUM | | | | | Ref No.: KZN 30/5/1/1/2/10818 PR | | |
|--|--|------|------------|-------------|----------------------------------|--------------------|----------------|
| Applicant: Canton Group (Pty) Ltd | | | 18-aug-19 | | | | |
| No. | Description | Unit | A | B | C | D | E=A*B*C*D |
| | | | Quantity | Master Rate | Multiplication factor | Weighting factor 1 | Amount (Rands) |
| 1 | Dismantling of processing plant and related structures (including overland conveyors and powerlines) | m3 | 0 | 14.05 | 1 | 1 | R - |
| 2 (A) | Demolition of steel buildings and structures | m2 | 0 | 195.76 | 1 | 1 | R - |
| 2(B) | Demolition of reinforced concrete buildings and structures | m2 | 0 | 288.49 | 1 | 1 | R - |
| 3 | Rehabilitation of access roads | m2 | 400 | 35.03 | 1 | 1 | R 14,012.00 |
| 4 (A) | Demolition and rehabilitation of electrified railway lines | m | 0 | 340.01 | 1 | 1 | R - |
| 4 (A) | Demolition and rehabilitation of non-electrified railway lines | m | 0 | 185.46 | 1 | 1 | R - |
| 5 | Demolition of housing and/or administration facilities | m2 | 0 | 391.53 | 1 | 1 | R - |
| 6 | Opencast rehabilitation including final voids and ramps | ha | 0 | 205242.16 | 1 | 1 | R - |
| 7 | Sealing of shafts adits and inclines | m3 | 0 | 105.09 | 1 | 1 | R - |
| 8 (A) | Rehabilitation of overburden and spoils | ha | 0.1 | 136828.1 | 1 | 1 | R 13,682.81 |
| 8 (B) | Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential) | ha | 0 | 170416.93 | 1 | 1 | R - |
| 8 (C) | Rehabilitation of processing waste deposits and evaporation ponds (polluting potential) | ha | 0 | 494971.55 | 1 | 1 | R - |
| 9 | Rehabilitation of subsided areas | ha | 0 | 114572.93 | 1 | 1 | R - |
| 10 | General surface rehabilitation | ha | 0.1 | 108390.94 | 1 | 1 | R 10,839.09 |
| 11 | River diversions | ha | 0 | 108390.94 | 1 | 1 | R - |
| 12 | Fencing | m | 0 | 123.64 | 1 | 1 | R - |
| 13 | Water management | ha | 0 | 41213.28 | 1 | 1 | R - |
| 14 | 2 to 3 years of maintenance and aftercare | ha | 0.2 | 14424.65 | 1 | 1 | R 2,884.93 |
| 15 (A) | Specialist study | Sum | 0 | | | 1 | R - |
| 15 (B) | Specialist study | Sum | | | | 1 | R - |
| | | | | | Sub Total 1 | | R 41,418.83 |
| 1 | Preliminary and General | | 4970.26008 | | weighting factor 2 | | R 4,970.26 |
| | | | | | 1 | | |
| 2 | Contingencies | | 4141.8834 | | | | R 4,141.88 |
| | | | | | Subtotal 2 | | R 50,530.98 |
| | | | | | VAT (15%) | | R 7,579.65 |
| | | | | | Grand Total | | R 58,110.62 |

5.14 CONFIRM THAT THE FINANCIAL PROVISION WILL BE PROVIDED AS DETERMINED.

Canton Group (Pty) Ltd will be funding this project and financial provisions will be provided as determined.

5.15 MECHANISMS FOR MONITORING COMPLIANCE WITH AND PERFORMANCE ASSESSMENT AGAINST THE ENVIRONMENTAL MANAGEMENT PROGRAMME AND REPORTING THEREON, INCLUDING

Table 15: Mechanism for monitoring compliance

| SOURCE ACTIVITY | IMPACTS REQUIRING MONITORING PROGRAMMES | FUNCTIONAL REQUIREMENTS FOR MONITORING | ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES) | MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS |
|---|--|---|--|---|
| Drilling and Sumps (Site Establishment) | The clearing of vegetation | Monitor daily | Geologist/ EAP | Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR |
| Drilling | The storage of hydrocarbon-based materials on site | Monitor daily | Geologist/ EAP | Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR |
| Drilling | On-site waste management | Monitor daily | Geologist/ EAP | Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental |

| SOURCE ACTIVITY | IMPACTS REQUIRING MONITORING PROGRAMMES | FUNCTIONAL REQUIREMENTS FOR MONITORING | ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES) | MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS |
|-----------------|---|--|---|--|
| | | | | compliance report required by the DMR |
| Drilling | The creation of roads/tracks | Monitor daily | Geologist/ EAP | Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR |
| Drilling | The removal of storage and soil | Monitor daily | Geologist/ EAP | Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR |
| Drilling | Driving activities | Monitor daily | Geologist/ EAP | Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR |

| SOURCE ACTIVITY | IMPACTS REQUIRING MONITORING PROGRAMMES | FUNCTIONAL REQUIREMENTS FOR MONITORING | ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES) | MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS |
|-----------------|---|--|---|--|
| | | | | DMR |
| Drilling | Groundwater: Monitor the water quality of the boreholes | Monitor daily | Geologist/ EAP | Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR |

5.16 INDICATE THE FREQUENCY OF THE SUBMISSION OF THE PERFORMANCE ASSESSMENT/ ENVIRONMENTAL AUDIT REPORT.

The result of environmental monitoring and compliance to the approved EMPR will be undertaken every second year and submitted to the DMR in the form of an environmental performance assessment. Included in the report will be the following relevant information:

- The period when the performance assessment was conducted.
- The scope of the assessment.
- The procedures used for conducting the assessment.
- Interpreted information gained from monitoring the EMPR.
- Evaluation criteria used during the assessment.
- Results of the assessment are to be discussed and mention must be made of any gaps in the EMPR and how it can be rectified.
- Yearly updated layout plans.

Any emergency or unforeseen impacts will be reported immediately to the DMR and other relevant government departments.

5.17 ENVIRONMENTAL AWARENESS PLAN

a) Way the applicant intends to inform his or her employees of any environmental risk which may result from their work.

All employees will be provided with environmental awareness training to inform them of any environmental risks which may result from their work and the manner in which the risks must be dealt with in order to avoid pollution or the degradation of the environment. Employees will be provided with environmental awareness training before prospecting operations start. All new employees will be inducted on environmental awareness which will be provided to all employees by a reputable trainer. Daily and weekly meetings will be held with employees to discuss all environmental issues.

b) Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment.

The above section gives an overview of the manner in which the risks will be dealt with in order to avoid pollution. Approved documents such as EA, and EMP as well as EMS will be used

as reference documents for any impacts related to the project. Training of employees in relation to environmental awareness will touch base on issues such;

- Access, including use of roads, tracks, gates, etc.
- Control measures required to manage no go areas.
- The handling, storage and disposal of waste.
- Weed control.
- Fire prevention.
- Sediment and erosion control.
- Control measures to be implemented with regards to the management of water, noise and dust.
- General Health and Safety Matters

5.18 SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

(Among others, confirm that the financial provision will be reviewed annually).

The financial provision will be reviewed on an annual basis or as requested by DMR.

5.19 UNDERTAKING

The EAP herewith confirms

- a. the correctness of the information provided in the reports;
- b. the inclusion of comments and inputs from stakeholders and I&APs;
- c. the inclusion of inputs and recommendations from the specialist reports where relevant; and

- d. that the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties are correctly reflected herein.



Signature of the environmental assessment practitioner:

Crysol (Pty) Ltd

Name of company:

18/08/2019

Date:

-END-