



# **TSHIKOVHA GREEN & CLIMATE CHANGE ADVOCATES (PTY) LTD**

*We Advocate For Environmental Compliance Throughout Business Value Chain*

## **BASIC ASSESSMENT PROCESS FOR AN APPLICATION FOR A PROSPECTING RIGHT**

**BACKGROUND INFORMATION DOCUMENT FOR THE PROSPECTING OF  
CHROME, COBALT, GOLD, IRON, NICKEL, PGM, SILVER AND VANADIUM ON  
FARM KROMDRAAI 265 KR SITUATED WITHIN MOGALAKWENA LOCAL  
MUNICIPALITY, WATERBERG DISTRICT MUNICIPALITY LIMPOPO PROVINCE**

**DECEMBER 2018**

**PROPONENT: DLAMINI FAMILY TRUST**

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## 1 Project Background

Dlamini Family Trust proposes to conduct prospecting activities for Chrome, Cobalt, Gold, Iron, Nickel, Platinum Group Metals (PGM), Silver and Vanadium on farm Kromdraai 265 KR situated within Mogalakwena Local Municipality, Waterberg District Municipality, Limpopo Province. Dlamini Family Trust has lodged an application with the Department of Mineral Recourses, which was accepted on the 1<sup>st</sup> of May 2018, and was given the following reference; LP30/5/1/1/2/13277.

In terms of the Minerals and Petroleum Resources Development Act (Act No. 28 of 2002) and National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), it is required that prior the commencement of any prospecting activities an Environmental Impact Assessment should be undertaken in line with NEMA Environmental Impact Assessment Regulations (Government Notice (GN) No. R 327) as amended on the 07<sup>th</sup> April 2017.

## 2 Project Location

The proposed prospecting activities will be undertaken on Farm Kromdraai 265 KR covering an aerial extent of 3140.0959 ha. The proposed activities will include both invasive and non-invasive phases that will take place within a period of 5 years.

The Geographical Positioning System Coordinates are as follows:

Table 1: Site Coordinates

FARM KROMDRAAI 265 KR		
Point	Latitude	Longitude
1	-24,17165	28,91418
2	-24,18352	28,92146
3	-24,20033	28,91668
4	-24,21557	28,91008
5	-24,2154	28,88747
6	-24,21298	28,88527
7	-24,1862	28,87013
8	-24,16952	28,86065
9	-24,16203	28,85622
10	-24,14267	28,87921

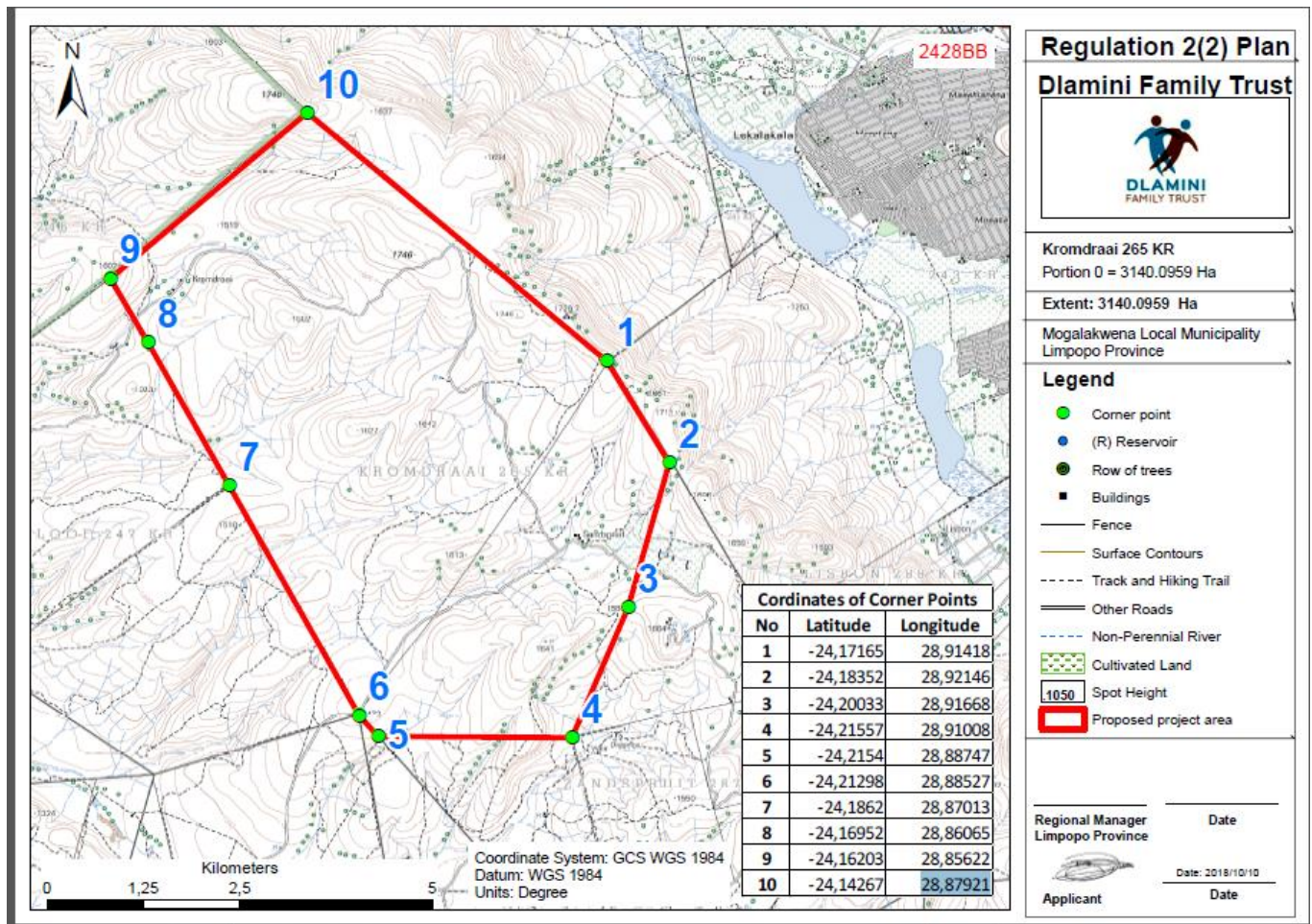


Figure 1: Locality map of proposed prospecting area

### 3 Project Description

Dlamini Family Trust intends to prospect for Chrome, Cobalt, Gold, Iron, Nickel, PGM, Silver and Vanadium for a period of 5 years. These activities will take place on Farm Kromdraai 265 KR within Mogalakwena Local Municipality, Waterberg District Municipality, Limpopo Province

The description of the prospecting method to be implemented is as follows.

#### 3.1 Description of planned non-invasive activities:

(These activities do not disturb the land where prospecting will take place (e.g.: Aerial photography, desktop studies, aero magnetic surveys, etc.)

##### 3.1.1 Geophysical Exploration Techniques

Geophysical prospecting and exploration is the geophysics applied to the location of mineral deposits or geological structures concealed beneath the surface of the earth. In general a hidden ore body or geological structure associated with it must possess one (or more) physical property that is different from surroundings in order to cause a measurable



affect or anomaly in a geophysical survey. The main physical properties exploited during geophysical physical prospecting are

- Electrical Properties
- Magnetic Properties
- Nuclear Properties
- Gravity Properties

The main instrument types used for geophysical exploration are discussed below:

(a) Magnetic Methods

Certain types of ore, especially magnetite, ilmenite and pyrrhotite bearing sulphide deposits, produce distortions in the earth's magnetic fields. Some iron rich manganese and chromium may also yield magnetic anomalies. The ferro-magnetic minerals have 2 (two) distinct magnetic properties. One is that the earth's magnetic field turns the ore body into a large magnet which in turn wraps the normal field, thus producing anomaly. The other is that the ferro-magnetic materials often have a residual magnetism due to their original formation and this residual magnetism may act at an angle to the earth's magnetic field, thus strengthening or weakening the original field and thus forming anomalies. A magnetic survey may be established or at ground level.

(b) Electro-magnetic Methods

When a transmitted electro-magnetic field is propagated through the ground it induces an electrical current in any conductor in its path. These secondary currents in turn produce the own alternating electro-magnetic field, which opposes the primary field. The lower the resistance of the conductor then the stronger the opposing current will be. Thus, if the induced field is passed through a good conductor, such as ore body containing graphite, pyrrhotite, pyrite, chalcopyrite or magnetite a strong secondary field is setup.

(c) Electrical Methods

Three forms of electrical geophysical prospecting methods are used self-potential, resistivity and induced polarisation. The self-potential method is useful as an indicator of near surface anomalies because it is cheap and simple to operate. If two non-polarisable electrodes are driven anywhere into the ground and connected to terminals of a sensitive voltmeter, a small voltage is found to exist between the terminals. In the resistivity method, an electric current is sent into the ground and the pair of electrodes and a sensitive voltmeter measures the resulting distribution of potentials. When an electrical current is passed into the earth, its theoretical paths through homogenous ground are known.

(d) Other Geophysical Techniques

Several other techniques are available for geophysical prospecting such as seismic and gravity techniques, which are suitable for structural mapping although they have some application to specific types of ore body. Gravity techniques are based on small changes in the earth's surface gravitational effect caused by a pool of rocks lying up to several thousand meters below surface. It is used to locate faults, anticlines and other structures and may also be used to detect high density ore bodies. Seismic methods are based upon physical characteristics by which large differences occur in the velocity of sound waves in geological strata

### 3.1.2 Geochemical Technique

It is used to determine values of elements that are higher than the normal background value.

Samples that should be analysed include

- Rock samples from surface outcrop
- Soil samples from surface pits
- Steam sediments
- Leaves and roots of predominant vegetation

## 3.2 Description of planned invasive activities:

These activities result in land disturbances (e.g. sampling, drilling, bulk sampling, etc.)

### 3.2.1 Drilling and Sampling

The principal prospecting activity will be diamond core drilling. One drill rig will be utilised to drill NQ – 60mm diameter of core size. This core size provides sufficient sample mass for laboratory analysis.

A minimum of 5 samples of chromium intersection will be taken, although it may be necessary to take additional samples in transitional zones. A total of 12 boreholes will be drilled and the approximate depth of each borehole will be 150m, the boreholes will cover the potential chromium bearing area. Additional 2 boreholes will be drilled in phase two (2) of drilling with the estimated depth of 300 meters.

## 3.3 Description of pre- feasibility Studies

(Activities in this section includes but are not limited to: initial, geological modelling, resource determination, possible future funding models, etc)

In this stage the core logs will be sent to the consultant geologist to be analysed, evaluated, modelled and calculated. This calculation will be done in two (2) different types which will be Inferred Resource Calculation and also in terms of Measured Resource Calculation. It also involves the measurement of depth of the deposit. In this stage we can be able to decide whether the deposit is minable or not.

#### **4 Need and Desirability of the Project**

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

A prospecting right allows a company to survey or investigate the area of land for the purpose of identifying an actual or probable mineral deposit. The data that will be obtained from the prospecting of the minerals being applied for will be necessary to determine how and where the minerals will be extracted and how much economically viable mineral reserves are available within the proposed prospecting area.

Currently South Africa is faced with an outbreak of illegal mining at a national scale which is associated with death of illegal miners as a result of conflict, thus mining prospecting activities reduces the probability of these incidents and on other hand promoting the sustainable and regulated exploration of natural resources in an environmental friendly manner

Additionally, the mineral prospecting activities will stimulate an income for the local minority that will be involved in the activity from site clearance, excavation to testing. The result will provide a gateway for the stimulation of sustainable income for local community at the operational stage of chrome mining.

#### **5 Purpose of this Document**

This document, the Background Information Document (BID), is intended to provide information about the Environmental Impact Assessment (EIA) being undertaken for the proposed activities and provides:

- An overview of the project;
- An overview of the legislative context and a description of the manner in which the EIA will be undertaken;
- An indication of how Interested and Affected Parties (I&APs) may become involved in the project; and
- Contact details of the person to whom I&APs may submit their issues and concerns associated with the projects.



## 6 Anticipated Project Activities in relations to Listed Actives

In terms of EIA Regulations 2014, published in Government Notice R324, R325, R326 and R327 as amended in 7 April 2017 under Section 24 (5) of the National Environmental Management (NEMA), the application for a Prospecting is subjected to an Application for Environmental Authorization. Government Notice R325, R326 and R327 schedules listed activities which require environmental authorization. The proposed Prospecting activities trigger the following activity(s) under GNR 327 which is subject to a Basic Assessment Report:

Table 2: Triggered activities

Activity	Description
GNR 327, activity 20, 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— (a) Associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource. (b) The primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing: But excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in listing 2 applies.
GNR 327 Activity 22	The decommissioning of any activity requiring – (i) a closure certificate); or (ii) a prospecting right, where the throughput of the activity has reduced by 90% or more over a period of 5 years

## 7 Environmental Impact Assessment (Basic Assessment Process)

**Step 1:** Apply for prospecting right with the Competent Authority which is the Limpopo Province Department of Mineral Resources.

**Step 2:** Notify I&APs and identify issues. The BA process will be announced through an advert in the Bosvelder Newspaper. The advert is to inform Interested & Affected Parties of the proposed project and invite them to register on the database for the Basic Assessment (BA) process. Letters will be sent to Interested and Affected Parties (I&AP) to register and this database will be updated through-out the BA process. I&APs will be provided with a BID of the project, including a locality map and a comment form. I&APs will be provided with opportunity to raise any issues of concern related to the project, for inclusion in the Draft Basic Assessment Report.

**Step 3:** Prepare a Consultation Basic Assessment Report and release for I&AP review. All issues raised will be investigated and responded to by the BA team, with findings provided in the Consultation Basic Assessment Report. This report will include an issues trail and will be released for a 30 day comment period. All I&APs on the project database will be notified in writing of the opportunity to comment on the report, and provided with a concise summary of the Draft Basic Assessment Report.

**Step 4:** Compile a Final Basic Assessment Report and submit to authorities. The Final Basic Assessment Report, Comments and Responses Trail, will be compiled for submission to the authorities for decision making. All I&APs on the project database will be notified in writing of the outcome of the application, including reasons for the decision and the appeal process.

#### 7.1 The objectives of the EIA Process

- Determine the policy and legislative context within which the activity is located and note how the proposed activity complies with and responds to the policy and legislative context;
- Describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
- Identify the location of the development footprint within the preferred site based on an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment;
- Determine the nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and the degree to which these impacts (a) can be reversed; (b) may cause irreplaceable loss of resources, and (c) can be avoided, managed or mitigated;
- Identify the most ideal location for the activity within the preferred site based on the lowest level of environmental sensitivity identified during the assessment
- Identify, assess, and rank the impacts the activity will impose on the preferred location through the life of the activity;
- Identify suitable measures to avoid, manage or mitigate identified impacts; and
- Identify residual risks that need to be managed and monitored.

Table 3: Basic Assessment Process Flow

Phase	Task	Timeframe
Application	Submit application and supporting documents (with application fee)	10 DAYS

	Receive acknowledgment of receipt of application (within 10 days)	
Basic Assessment	Submit Basic Assessment Report for Public Review (at least 30 days)	90 DAYS
	Submit Basic Assessment Report to Authorities that reflects incorporation of comments received (within 90 days after submitting application)	
Environmental Authorization	Authorities to grant or refuse environmental authorization (within 107 days of receiving the Basic Assessment Report)	107 DAYS
	Applicant to notify IAPs of EA (within 14 days)	14 DAYS

## 8 Public Participation Process

The process of public participation seeks to ensure inclusion of stakeholders and interested and affected parties during the process of Environmental Impact Assessment.

Chapter 6, Regulations 40 – 44 of the EIA Regulations, 2014 (amended April 2017), the applicant is required to consult with interested and Affected Parties (I&APs). Comments received from the I&APs will be recorded and included in the Public Consultation and Disclosure Report which will be submitted to the Department of Mineral Resources (DMR) in the Limpopo Province. The public participation aims to ensure that:

- Information that contains all the relevant facts in respect of an application is made available to I&APs for review.
- I&AP participation is facilitated in such a manner that stakeholders are provided with a reasonable opportunity to comment on a proposed project.
- An adequate review period is provided for I&APs to comment on the findings of the draft Basic Assessment Report, and draft EMPr

### 8.1 Your responsibilities as an I&AP and how to become involved

Your attention is drawn to your responsibilities as an I&AP:

- In order to participate in this process, you must register yourself on the project database.

- You must ensure that any comments/queries regarding the proposed project are submitted within the stipulated timeframes.
- In terms of the EIA Regulations, 2014 (amended April 2017) you are required to disclose any direct business, financial, personal or other interest which that you may have in the approval or refusal of the application for the proposed project.

On-going communication with registered parties will ensure that you will be kept informed of the progress of the environmental assessment process. You will be advised when documentation is available for review and comment. As an I&AP, your input is considered an important part of this process, and we urge you to become involved.

## 8.2 How to comment

- By responding by phone, fax, post or e-mail to the invitation for your involvement/ registration.
- By returning the attached Comments and Registration Sheet to the relevant contact person.
- By contacting the public participation consultants with queries or comments.
- By reviewing and commenting on the draft Basic Assessment Report within the stipulated 30-day public review period.

Your input forms a key element of the process. If you consider yourself an I&AP for this proposed project, we urge you to make use of the opportunities created by the public participation process to provide comment, raise issues and concerns which affect and/or interest you or request further information

Tshikovha Green and Climate Change Advocates Public Participation Team:

Table 4: Contact Details

Contact Person	Contact Number	Email Address
Gregory Netshilindi	073 4392 144	<a href="mailto:Gregory.netshilindi@tshikovha.co.za">Gregory.netshilindi@tshikovha.co.za</a>
Basetsana Motha	0715507696	<a href="mailto:Basetsana.motha@tshikovha.co.za">Basetsana.motha@tshikovha.co.za</a>
Office Number	012 111 1912	<a href="mailto:Thulisile@tshikovhacom.co.za">Thulisile@tshikovhacom.co.za</a>
Moudy Mudzielwana	076 431 1016	<a href="mailto:Moudy@tshikovhacom.co.za">Moudy@tshikovhacom.co.za</a>

**Tshikovha Green and Climate Change Advocates (Pty) Ltd**

The company exists to assist companies, organs of state and individuals whose activities may impact the environment, to comply with the required environmental authorizations through applicable studies within regulations. We advocate for compliance throughout the project and we believe in sharing information within context of the legal framework and the objective of the environmental studies. We are guided by science and we drive technology into our work. We always act independent from the client at every opportunity and we adhere to the code of ethics of Natural Scientists

[www.climateadvocates.co.za](http://www.climateadvocates.co.za)

**Moudy Mudzielwana: 076 431 1016**

## Registration and Comment Sheet

Title\_\_\_\_\_Initials\_\_\_\_\_

First name and Surname

\_\_\_\_\_

Organization: \_\_\_\_\_

Capacity (e.g. Chairperson, member, etc.): \_\_\_\_\_

E-mail: \_\_\_\_\_

Telephone (work): \_\_\_\_\_

Telephone (Home):\_\_\_\_\_

Cellular Phone: \_\_\_\_\_Fax:\_\_\_\_\_

Physical Address): \_\_\_\_\_

Town (or nearest town: \_\_\_\_\_Code: \_\_\_\_\_

Postal Address: \_\_\_\_\_

Town: \_\_\_\_\_Code: \_\_\_\_\_

What is your main area of interest with regards to the proposed project?

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Please outline any issues you wish the EIA for the project should consider.

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Do you have any issues, comments and/or concerns regarding the proposed project?

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YES/NO If “yes”, please list your main areas of concern in point form:

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Please add any views regarding the project?

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You wish to receive the Basic Assessment Report?

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(Please add more pages if necessary)