

mineral resources

Department: Mineral Resources REPUBLIC OF SOUTH AFRICA

SCOPING REPORT

FOR LISTED ACTIVITIES ASSOCIATED WITH MINING RIGHT AND/OR BULK SAMPLING ACTIVITIES INCLUDING TRENCHING IN CASES OF ALLUVIAL DIAMOND PROSPECTING.

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).

NAME OF APPLICANT: GEJ RESOURCES (PTY) LTD ('GEJ')

TEL NO: 084 400 0096 FAX NO: 086 534 2076 POSTAL ADDRESS: 44 NORTHGATE OFFICE PARK, AUREOLE AVENUE, NORTH RIDING, 2162 PHYSICAL ADDRESS: 35 DUVENHAGE ROAD, POSTMASBURG, 8420 FILE REFERENCE NUMBER SAMRAD: (NC) 30/5/1/1/2/13183 PR

IMPORANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), 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(1)(c) the Competent Authority must check whether the application has taken into account 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 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.

OBJECTIVE OF THE SCOPING PROCESS

- 1) The objective of the scoping process is to, through a consultative process:
 - a) identify the relevant policies and legislation relevant to the activity;
 - b) motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
 - c) identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process;
 - d) identify and confirm the preferred site, through a detailed site selection process, which includes an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;
 - e) identify the key issues to be addressed in the assessment phase;
 - f) agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and
 - g) identify suitable measures to avoid, manage, or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

SCOPING REPORT

2) Contact Person and correspondence address:

a) Details of:

i) The EAP who prepared the report:

Name of the Company: M and S Consulting (Pty) Ltd Name of the Practitioner: Ms. T. Jooste Tel No: 053 861 1765 Fax No: 086 636 0731 Cell No: 084 444 4474 E-Mail address: ms.consulting@vodamail.co.za // joostetanja@gmail.com Physical Address: 36 William Street, Kestellhof, Kimberley, 8301 Postal Address: P.O. Box 2473, Kimberley, 8300

ii) Expertise of the EAP:

(1) The qualifications of the EAP: (With evidence attached as Appendix 1)

- Professional registration of EAP:

Ms. Jooste is a registered EAP with the Environmental Assessment Practitioners Association of South Africa (EAPASA) (Reg. No. 2019/1983).

- The qualifications of the EAP:

- Fourteen years professional experience, in terms of Section 15(1) of the National Environmental Management Act, 1998 (Act No. 107 of 1998), Section 24H Registration Authority Regulations as published on 22 July 2016 under Government Gazette No. 40154 (849);
 - Environmental Management Certificate; and
- BA in Environmental Management (UNISA).

(2) Summary of the EAP's past experience: (Attach the EAP's curriculum vitae as Appendix 2)

Relevant past experiences in carrying out the Environmental Impact Assessment Procedures include Environmental Impact Assessments, Environmental Management Plans / Programmes / Reports, Performance Assessments, Rehabilitation Progress Assessments, Environmental Liability Assessments, Environmental Compliance Monitoring, Scoping Reports, etc.

b) Description of the property:

Farm Name:	→ Remaining Extent of the Farm Lemoenkloof 456 → Portion 1 of the Farm Lemoenkloof 456		
	The properties will be referred to as the 'PR Area' in this document.		
Application area (Ha)	3 867.2705 Ha		
Magisterial district:	Нау		
Distance and direction	The PR Area is situated approximately 7.5km west of		
from nearest town	Daniëlskuil in the Northern Cape Province.		
	Access to the site is via the R385 linking Kimberley and		
	Postmasburg.		
21 digit Surveyor	C0310000000045600000		
General Code for	C0310000000045600001		
each farm portion			

c) Locality Map: (show nearest town, scale not smaller than 1:250 000 attached as Appendix 3)

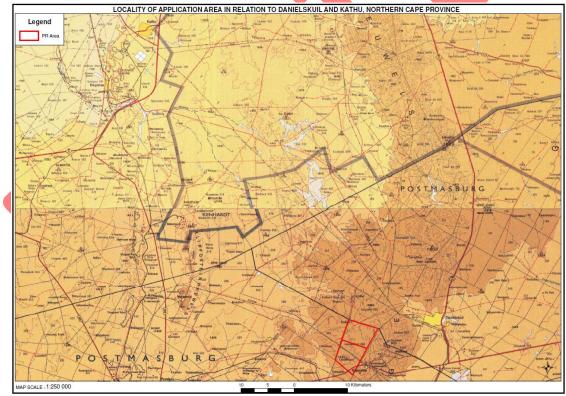


Figure 1 – Locality Map

d) Description of the scope of the proposed overall activity:

i) Listed and specified activities:

(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 and attach as Appendix 4)

A final Site Plan cannot be provided in this early stage of the application process as the locality of the proposed boreholes and trenches is dependent on the results of the following:

- \rightarrow Reconnaissance visit;
- → Desktop study;
- \rightarrow Geological mapping; and
- \rightarrow Geophysical Survey

We do; however; insert below a Conceptual Site Plan indicating proposed localities of boreholes and trenches as well as all existing infrastructures and sensitive environmental features (including relevant buffer zones around these) to assist with planning when the results of the abovementioned phases have been obtained.

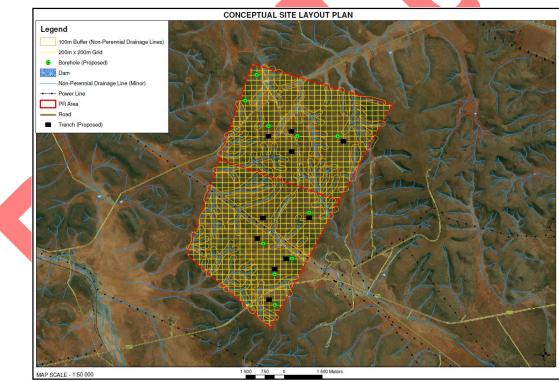


Figure 2 – Conceptual site layout plan

acco acco E.g. dam bore proc	NAME OF ACTIVITY For prospecting – drill site, site camp, ablution facility, pmmodation, equipment storage, sample storage, site office, ess route etc etc for mining, excavations, blasting, stockpiles, discard dumps or ns, loading, hauling and transport, water supply dams and eholes, accommodation, offices, ablution, stores, workshops, cessing plant, storm water control, berms, roads, pipelines, ver lines, conveyors, etc etc)	Aerial extent of the Activity Ha or m ²	LISTED ACTIVITY (Mark with an X where applicable or affected).	APPLICABLE LISTING NOTICE (GNR 983, GNR 984 OR GNR 985)	WASTE MANAGEMENT AUTHORISATION (Indicate whether an authorisation is required in terms of the Waste Management Act.) (Mark with an X.)
1	Blasting: The tons of explosives consumed per month depend completely on the number of blasts that GEJ will conduct. The size of the blasts will be directly affected by the geology of the deposit.	Various	X	MPRDA: Section 16 MPRDA: Section 20 NEMA: GNR327: Activity 20 NEMA: GNR327: Activity 27 NEMA: GNR327: Activity 30 NEMA: GNR325: Activity 15 NEMA: GNR325: Activity 15 NEMWA: GNR633: Activity 15 NWA: Section 21 NWA: GNR704	X
2	Boreholes: 10 x boreholes with a 10m x 10m surface disturbance each. Chemical toilets: Mobile chemical toilets chall be utilized	10 x 10m x 10m = 0.1Ha 2m x 3m =6m ² each	X	MPRDA: Section 16 NEMA: GNR327: Activity 19 NEMA: GNR327: Activity 20 NEMA: GNR327: Activity 27 NEMA: GNR327: Activity 30 MPRDA: Section 16	N/A N/A
4	Mobile chemical toilets shall be utilized. Diesel tanks: It is anticipated that the operation will utilize 1 x	10m x 20m = 200m ²	X	MPRDA: Section 16 MPRDA: Section 20	N/A

	24 000 litre (24m ³) diesel tank.			NEMA: GNR327: Activity 14 NEMA: GNR327: Activity 20 NEMA: GNR327: Activity 30 NEMA: GNR325: Activity 19 NWA: Section 21	
5	Excavations (Bulk sampling): Provision is made for 10 trenches during phase 5 (22 months) of the prospecting operation. 10 x 75m x 40m = 3 Ha Only two excavations will be allowed to be open at any one time.	2 x 75m x 40m = 0.6 Ha	X	MPRDA: Section 16 MPRDA: Section 20 NEMA: GNR327: Activity 19 NEMA: GNR327: Activity 20 NEMA: GNR327: Activity 20 NEMA: GNR327: Activity 24 NEMA: GNR327: Activity 27 NEMA: GNR327: Activity 30 NEMA: GNR325: Activity 15 NEMA: GNR325: Activity 15 NEMA: GNR325: Activity 27 NEMA: GNR325: Activity 15 NEMA: GNR633: Activity 15 NWA: Section 21 NWA: GNR704	X
6	Generator: It is anticipated that the operation will utilize generators for its operation.	5m x 5m = 25m ² each		MPRDA: Section 16 MPRDA: Section 20	N/A
7	Offices: Mobile containers will be utilized as offices.	3m x 6m = 18m ² each		MPRDA: Section 16 MPRDA: Section 20	N/A
8	Processing plant: Relevant processing plants, including recycling / settling dam, for the testing of the minerals applied for.	100m x 50m = 0.5Ha	Х	MPRDA: Section 16 MPRDA: Section 20 NEMA: GNR327: Activity 9 NEMA: GNR327: Activity 10	Х

				NEMA: GNR327: Activity 20 NEMA: GNR327: Activity 24 NEMA: GNR327: Activity 27 NEMA: GNR327: Activity 30 NEMA: GNR325: Activity 19 NEMA: GNR325: Activity 19 NEMWA: GNR633: Activity 15 NWA: Section 21 NWA: GNR704	
9	Roads (both access and haulage road on the site): Although it is recommended that the operation utilize existing roads as far as possible, it is anticipated that the operation will create roads. The locality of these roads will be determined by the geology of the area (excavation areas) and the locality of the infrastructure.	500m x 10m wide = 0.5Ha	X	MPRDA: Section 16 MPRDA: Section 20 NEMA: GNR327: Activity 20 NEMA: GNR327: Activity 24 NEMA: GNR327: Activity 27 NEMA: GNR327: Activity 30 NEMA: GNR325: Activity 19 NEMA: GNR325: Activity 27	N/A
10	Salvage yard (fenced)	20 <mark>m x 5</mark> 0m = 0.1Ha		MPRDA: Section 16	N/A
11	Stockpile area: Provision is made for a maximum footprint of 0.2 hectares for the stockpile area at any one time.	20m x 100m = 0.2Ha	X	MPRDA: Section 16 MPRDA: Section 20 NEMA: GNR327: Activity 20 NEMA: GNR327: Activity 24 NEMA: GNR327: Activity 27 NEMA: GNR327: Activity 30 NEMA: GNR325: Activity 19 NEMA: GNR325: Activity 19 NEMA: GNR325: Activity 15 NEMWA: GNR633: Activity 15 NWA: Section 21	X

			NWA: GNR704	
12	Wash bay	20m x 30m = 600m²	MPRDA: Section 16 MPRDA: Section 20	N/A
13	Waste rock dumps: Provision is made for a maximum footprint of 0.1 hectares for waste rock dumps at any one time.	20m x 50m = 0.1Ha X	MPRDA: Section 16 MPRDA: Section 20 NEMA: GNR327: Activity 19 NEMA: GNR327: Activity 20 NEMA: GNR327: Activity 24 NEMA: GNR327: Activity 27 NEMA: GNR327: Activity 27 NEMA: GNR325: Activity 30 NEMA: GNR325: Activity 19 NEMA: GNR325: Activity 19 NEMA: GNR325: Activity 15 NWA: GNR633: Activity 15 NWA: Section 21 NWA: GNR704	X
14	Water tank: It is anticipated that the operation will establish 2 x 10 000 litre water tanks with purifiers for potable water.	3m x 3m = 9m ² each	MPRDA: Section 16 MPRDA: Section 20	N/A
15	Weighbridge and weighbridge control room	3m x 20m = 60m ²	MPRDA: Section 16 MPRDA: Section 20	N/A
16	Workshop: It is anticipated that the operation will make use of mobile containers for their workshop facilities. This area will also include a compressor area and tyre bay.	3m x 6m = 18m ² each	MPRDA: Section 16 MPRDA: Section 20	N/A

		Full description of listed activities applied for:
MPRDA	Section 16	Application for a Prospecting Right.
MPRDA	Section 20	Permission to remove and dispose of minerals.
NEMA	GNR327	The development of infrastructure exceeding 1 000 meters in length for the bulk transportation of water or storm
	Activity 9	water:-
		i) with an internal diameter of 0.36 meters or more; or
		ii) with a peak throughput of 120 litres per second or more.
NEMA	GNR327	The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation
	Activity 10	of sewage, effluent, process water, waste water, return water, industrial discharge or slimes
		i) with an internal diameter of 0,36 meters or more; or
		ii) with a peak throughput of 120 litres per second or more.
NEMA	GNR327	The development and related operation of facilities or infrastructure, for the storage, or the storage and handling, of a
	Activity 14	dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not
		exceeding 500 cubic metres.
NEMA	GNR327	Any activity including the ope <mark>rat</mark> ion of that activity which requires a prospecting right in terms of Section 16 of the
	Activity 20	Mineral and Petroleum Res <mark>ources</mark> Developm <mark>ent</mark> Act, 2 <mark>00</mark> 2 (Act No. 28 of 2002), including-
		(a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource; or
		(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 Notice 2 applies.
NEMA	GNR327	The development of a road:-
	Activity 24	(ii) with a reserve wider than 1 <mark>3.5</mark> meters, or where no reserve exists where the road is wider than 8 meters.
	(ii)	
NEMA	GNR327	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such
	Activity 27	clearance of indigenous vegetation is required for:-
		i) the undertaking of a linear activity; or
		ii) maintenance purposes undertaken in accordance with a maintenance management plan.

NEMA	GNR327	Any process or activity identified in terms of Section 53(1) of the National Environmental Management: Biodiversity
	Activity 30	Act, 2004 (Act No. 10 of 2004).
NEMA	GNR325	The removal and disposal of minerals contemplated in terms of Section 20 of the Mineral and Petroleum Resources
	Activity 19	Development Act, 2002 (Act No. 28 of 2002), including-
		(a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource; or
		(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 this Notice applies.
NEMA	GNR325	The development of a road:-
	Activity 27	i) with a reserve wider than 30 meters; or
	Activity 27	ii) catering for more than one lane of traffic in both directions.
NEMA	GNR633	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008); Category A:
Waste Act	Activity 15	The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a
		prospecting right or mining permit in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No.
		28 of 2002).
NWA	Section 21	Water use:
		- Section 21(a): Taking water from a water resource;
		- Section 21(b): Storing water; and
		- Section 21(g): Disposing of waste in a manner which may detrimentally impact on a water resource.
NWA	GNR704	Regulations published on 4 June 1999 in terms of the National Water Act, 1998 (Act No. 36 of 1998).

ii) Description of the activities to be undertaken:

(Describe methodology or technology to be employed, and for a linear activity, a description of the route of the activity.)

Phase	Activity	Skill(s) required	Timeframe	Outcome	Timeframe for outcome	What technical expert will sign off on the outcome?
	(what are the activities that are planned to achieve optimal prospecting)	(refers to the competent personnel that will be employed to achieve the required results)	(in months) for the activity)	(What is the expected deliverable, e.g. Geological report, analytical results, feasibility study, etc.)	(deadline for the expected outcome to be delivered)	(e.g. geologist, mining engineer, surveyor, economist, etc)
1	Reconnaissance visit Desktop study Geological mapping	Geologist	Month 1	Memorandum to address any problems Geological maps	Month 2	Geologist
2	Geophysical Survey	Geophysicist	Month 2 - 6	Map & Report	Month 7	Geophysicist
3	Drilling (Percussion)	Drilling contractor	Months 7 - 12	Drill logs	Month 12	Geologist
4	Analysis of drill samples	Laboratory	Months 7 - 12	Analyses sheets Laboratory Report	Month 12	Laboratory
5	Bulk sampling	Geologist	Month 13 – 34	Bulk sampling results	Month 34	Geologist
6	Consolidation and interpretation of all results/data	Geologist	Months 35 - 36	Detailed results and pre- feasibility reports including resource statements and geological maps/plans	Month 36	Geologist

 Description of planned non-invasive activities: (These activities do not disturb the land where prospecting will take place e.g. aerial photography, desktop studies, aeromagnetic surveys, etc)

Phase 1:

In order to direct the exploration programme in an efficient manner, there will be a review of all available information and data gathered by previous exploration on the farms. A desktop study will be undertaken of the mineral potential of the area.

A site investigation of the target areas will be undertaken to identify infrastructure and determine any potential problems that may need to be addressed.

Any anomalous features identified will be mapped in detail. The various rock types and their contacts will also be mapped.

Phase 2:

A 10-line kilometer magnetic survey (or any other suitable geophysical method) will be undertaken using a proton 5 magnetometer over selected areas as identified during the desktop study. This study will result in identifying potential mineral mineralization.

Phase 4:

Drill samples will be collected in one-meter intervals and logging will be done by a qualified geologist who will record the lithology, mineralogy, degree of mineralization and structural features. Mineralized samples will be analyzed at an internationally recognized (ISO certified) laboratory.

Phase 6

All the drill- and bulk sampling data will then be modeled to obtain a final interpretation of the potential of the deposit. A detailed feasibility report, containing resource calculations, will be compiled to evaluate the economic viability of the project.

 Description of planned invasive activities: (These activities result in land disturbances e.g. sampling, drilling, bulk sampling, etc)

Phase 3: Percussion drilling

Percussion drilling will be used initially to identify the position of a suspected base metal deposit. The position of the boreholes is dependent on the results of the review of historical activities, geological mapping, desktop study and geophysical survey.

Ten boreholes, each 50m deep (can be more or less depending on results), are planned. The collar position of all boreholes will be surveyed. All drilling will be short term and undertaken by a contractor using truck-mounted equipment.

Angled percussion holes are planned to locate and intersect the mineralization. A traverse line or grid drilling is used to identify and define the extent of any mineralization. The sizes of the boreholes drilled will be determined by such factors as cost, proposed sampling, availability of drilling machines and the volume of sample required, among others.

Phase 5: Bulk sampling

Bulk sampling will be conducted during phase 5 of the prospecting period for a period of 22 months.

GEJ plans to bulk sample a total volume of 61 875m³ (220 000 tonnes) of minerals.

Commodity	Tonnes / Month	Months	Total Tonnes	S.G.	Total m ³
Iron Ore	5 000.00	22	110 000.00	4	27 500.00
Manganese Ore	5 000.00	22	110 000.00	3.2	34 375.00
Total			220 000.00		<u>61 875.00</u>
Waste					

ļ	vvaste	Tonnes / Month	Months	Total Tonnes	S.G.	Total m ³
	1:1 Stripping Ratio	Tonnes / Wonth	WORths	Total Tonnes	5.0.	Total III
	Waste Rock Material	10 000.00	22	220 000.00	2.5	88 000.00

With the 1:1 stripping ratio the total m³ excavated for the prospecting period calculates to ~149 875m³ (~440 000 tonnes).

e) Policy and Legislative Context:

Applicable Legislation and Guidelines used to compile the report (a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process.)		Reference where applied
Atmospheric Pollution Prevention Act (Act 45 of 1964) and Regulations	-	Sections 27 – 35: Dust control Sections 36 – 40: Air pollution by fumes emitted by vehicles.
Conservation of Agricultural Resources Act (Act 43 of 1983) and Regulations	-	Section 6: Implementation of control measures for alien and invasive plant species.
Constitution of South Africa (Act 108 of 1996)	-	Chapter 2: Bill of Rights Section 24: Environmental rights Section 25: Rights in Property
Environment Conservation Act (Act 73 of 1989) and Regulations	-	Section 19 and 19A: Prevention of littering by employees and sub- contractors during construction and maintenance phases of the proposed project. Sections 21, 22, 25, 26 and 28: EIA Regulations, including listed activities. Section 28A: Exemptions.
Fencing Act (Act 31 of 1963)	-	Section 17: States that any person erecting a boundary fence may clean any bush along the line of the fence up to 1.5m on each side thereof and remove any tree standing in the immediate line of the fence. However, this provision must be read in conjunction with the environmental legal provisions relevant to protection of flora.
Hazardous Substances Act (Act 15 of 1973) and Regulations	-	Definition, classification, use, operation, modification, disposal or dumping of hazardous substances.
Intergovernmental Relations Act (Act 13 of 2005)	-	This Act establishes a framework for the National, Provincial and Local Governments to promote and facilitate intergovernmental relations.
Mine, Health and Safety Act (Act 29 of 1996) and Regulations	-	The Act
Mineral and Petroleum Resources Development Act (Act 28 of 2002) and Regulations	-	The Act
Mineral and Petroleum Resources Development Act (Act	-	The Act

49 of 2008)		
National Environmental Management Act (Act 107 of 1998) as amended and Environmental Impact Assessment Regulations, 2014	- -	Section 2: Strategic environmental management goals and objectives. Section 24: Foundation for Environmental Management frameworks. Section 28: The developer has a general duty to care for the environment and to institute such measures to demonstrate such care.
National Environmental Management: Air Quality Act (Act 39 of 2004)	- - -	Section 32: Control of dust Section 34: Control of noise Section 35: Control of offensive odours
National Environmental Management: Biodiversity Act (Act 10 of 2004)	-	Sections 65 – 69: These sections deal with restricted activities involving alien species; restricted activities involving certain alien species totally prohibited; and duty of care relating to alien species. Sections 71 and 73: These sections deal with restricted activities involving listed invasive species and duty of care relating to listed invasive species.
National Environmental Management: Protected Areas Act (Act 57 of 2003)	-	The Act
National Environmental Management: Waste Management Act (Act 59 of 2008)	-	Chapter 4: Waste management activities
National Forest Act (Act 84 of 1998) and Regulations	-	Section 7: No person may cut, disturb, damage or destroy any indigenous, living tree in a natural forest, except in terms of a licence issued under Section 7(4) or Section 23; or an exemption from the provisions of this subsection published by the Minister in the Gazette. Sections 12 – 16: Deals with protected trees, with the Minister having the power to declare a particular tree, a group of trees, a particular woodland, or trees belonging to a certain species, to be a protected tree, group of trees, woodland or species. Section 15: No person may cut, disturb, damage, destroy or remove any protected tree; or collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a licence granted by the Minister.
National Heritage Resources Act (Act 25 of 1999) and Regulations	-	Section 34: No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority. Section 35: No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or

	-	otherwise disturb any archaeological or palaeontological site. Section 36: No person may, without a permit issued by SAHRA or a provincial heritage resources authority destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a forma cemetery administered by a local authority. Section 38: This section provides for HIA which are not already covered under the ECA. Where they are covered under the ECA the provincial heritage resources authorities must be notified of a proposed project and must be consulted during HIA process.
National Water Act (Act 36 of 1998) and Government	-	Section 4: Use of water and licensing.
Notice No. 704 of 1991	-	Section 19: Prevention and remedying the effects of pollution.
Noture Concernation Ordinance (Ord 10 of 1074)		Section 20: Control of emergency incidents.
Nature Conservation Ordinance (Ord 19 of 1974)		Chapters 2, 3, 4 and 6: Nature reserves, miscellaneous conservation measures, protection of wild animals other than fish, protection of Flora.
Northern Cape Nature Conservation Act (Act 9 of 2009)	-	Addresses protected species in the Northern Cape and the permit
		application process related thereto.
Occupational Health and Safety Act (Act 85 of 1993) and Regulations	-	Section 8: General duties of employers to their employees. Section 9: General duties of employers and self-employed persons to persons other than their employees.
Road Traffic Act (Act 93 of 1997) and Regulations	-	The Act
Water Services Amendment Act (Act 30 of 2007)	-	It serves to provide the right to basic water and sanitation to the citizens of South Africa.
Basic Conditions of Employment Act (Act 3 of 1997) Basic Conditions of Employment Amendment Act (Act 11	-	To control employment aspects Amendments to BCEA
of 2002)	-	
Community Development (Act 3 of 1966)	-	To promote community development
Development Facilitation (Act 67 of 1995)	-	To provide for planning and development
Development Facilitation (GN24, PG329, 24/07/1998)	-	Regulations re Northern Cape LDO's
Development Facilitation (GNR1, GG20775, 07/01/2000)	-	Regulations re application rules S26, S46, S59
Development Facilitation (GN732, GG14765, 30/04/2004)	-	Determines amount, see S7(b)(ii)
Land Survey Act (Act 8 of 1997)	-	To control land surveying, beacons etc.
Land Survey Act (GNR1130, GG18229, 29/08/1997)	-	Agriculture, land survey S10

National Veld and Forest Fire Act (Act 101 of 1998)	-	To regulate law on veld and forest fires
National Veld and Forest Fire Act (GN1775, GG22527, 01/08/2001))	-	Draft Regulations S21
Municipal Ordinance, 20/1974	-	To control pollution, sewers etc.
Municipal Ordinance, PN955, 29/08/1975	-	Nature conservation Regulations
Cape Land Use Planning Ordinance, 15/85	-	To control land use planning
Cape Land Use Planning Ordinance, PN1050, 05/12/1988	-	Land use planning Regulations
Planning and Development Act (Act 7 of 1998)	-	To control planning and development

f) Need and desirability of the proposed activities:

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location.)

Need and desirability is based on the principle of sustainability, set out in the Constitution and in NEMA. Addressing the need and desirability of a development is a way of ensuring sustainable development – in other words, that a development is ecologically sustainable and socially and economically justifiable – and ensuring the simultaneous achievement of the triple bottom-line.

- Need:

Assessment of the geological information available has determined that the area in question may have various mineral targets. In order to ascertain the above and determine the nature, locality and extent of the mineral targets within the 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 minerals.

The information that will be obtained from the prospecting to be done will be necessary to determine, should the minerals be found, how and where the minerals will be extracted and how much economically viable mineral reserves are available within the proposed prospecting area.

Should the minerals applied for be found in the application area, GEJ will be able to ensure employment opportunities and support to the local business sector for a certain period.

GEJ expects that substantial benefits from the project (should the minerals applied for be found) will accrue to the immediate project area, the sub-region and the Northern Cape Province. These benefits must be offset against the costs of the project, including the impact to the surface owners.

Desirability:

No	Description	Yes/No
1	Does the proposed land use / development fit the surrounding	Yes
	area?	
2	Does the proposed land use / development conform to the	Yes
	relevant structure plans, SDF and planning visions for the	
	area?	
3	Will the benefits of the proposed land use / development	Yes
	outweigh the negative impacts of it?	
4	Will the proposed land use / development impact on the sense	Yes
	of place?	
5	Will the proposed land use / development set a precedent?	No
6	Will any person's rights be affected by the proposed land use /	Yes
	development?	
7	Will the proposed land use / development compromise the	No
	"urban edge"?	

- Benefits:

No	Description	Yes/No
1	Will the land use / development have any benefits for society in	Yes
	general?	
2	Will the land use / development have any benefits for the local	Yes
	communities where it will be located?	

g) Period for which the environmental authorisation is required:

3 Years

h) Description of the process followed to reach the proposed preferred site:

(NB!! – This section is not about the impact assessment itself; it is about the determination of the specific site layout having taken into consideration (1) the comparison of the originally proposed site plan, the comparison of that plan with the plan of environmental features and current land uses, the issued raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout as a result.)

(i) Details of all alternatives considered:

With reference to the site plan provided as Appendix 4 and the location of the individual activities on site, provide details of the alternatives considered with respect to:

(a) The property on which or location where it is proposed to undertake the activity:

Title Deed	Property	Landowner
T38/1991	Remaining Extent of the Farm Lemoenkloof 456	Mr. G.J. Vermeulen
T1189/1988	Portion 1 of the Farm Lemoenkloof	Mr. G.J. Vermeulen

Alternatives considered:-

GEJ has considered the following:

- The Geological formation that supports the possibility that the minerals applied for could be found within the PR Area.
- The availability of farms within the area that is not already occupied by existing prospecting or mining rights.
- The availability of infrastructure, such as a road network, in the immediate surrounding area, which could be utilized to allow easy access to the site.

(b) The type of activity to be undertaken:

GEJ plans to conduct prospecting activities: Percussion drilling and bulk sampling.

Alternatives considered:-

Alternative land uses include: Livestock / Game farming and/or other agricultural farming activities.

GEJ's main economic activity is prospecting/mining and for this reason does not favour these alternative land uses.

(c) The design or layout of the activity:

GEJ plans to establish the following, amongst other, infrastructure on their site during the initial construction (bulk sampling) phase:

- Ablution facilities (chemical toilets)
- Diesel tank
- Generator
- Offices (mobile containers)
- Processing Plant and recycling/settling dam
- Roads (access & haul)
- Salvage Yard
- Security access point
- Stockpile area
- Storage facilities (mobile containers)
- Washbay
- Water tanks (drinking water)
- Weighbridge and weighbridge control room
- Workshops (mobile containers)

Alternatives considered:-

The final locality of the above infrastructure can only be determined after the first stages of the prospecting period (reconnaissance visit; desktop study; geological mapping and drilling) have been finalized.

The following features will be taken into account during the planning phase:

- Locality of any infrastructure (i.e. residential and associated buildings);
- Locality of the ore bodies;
- Topography of the area;
- Sensitive environmental features; and
- Discussions with the surface owners of the land.

(d) The technology to be used in the activity:

Both the iron ore and manganese ore processing plant will be modular. Both of these plants will consist of a Jaw Crusher, Double-Deck Screen, JIG/DMS and Dewatering Screen.

Alternatives considered:-

These types of processing plants have been proven to be the most effective technology, thus no viable alternatives have been identified.

(e) The operational aspects of the activity:

Bulk sampling will be done by the conventional opencast method. It will be designed based on the nature of the ore-bodies on the PR Area, which proposes that each resource area be treated as a separate excavation.

Alternatives considered:-

The conventional opencast drill-blast-load-haul method has been proven to be the most cost effective bulk sampling method.

To ensure a minimum impact on the natural environment, bulk sampling will be conducted only on two ore bodies at any one time.

(f) The option of not implementing the activity:

If the activity is not implemented the current land uses will continue.

Five measures of economic impacts can be used to demonstrate the potential effect of the proposed prospecting operation on the local economy:

- Employment The extent of employment can be measured as number of jobs or in terms of full time equivalents.
- Payroll income The gross remuneration of employees in terms of salaries and wages.
- Capital Expenditure (CAPEX) The total amount spent on the purchasing of fixed assets and total spent on construction.
- Operating expenditure and maintenance (OPEX) The total amount spent locally by businesses on goods and services, excluding salaries and wages as well as rents or interest.
- Revenue The total value of sales arising from business activity at the prospecting operation.

The abovementioned positive impacts will be lost if the proposed prospecting project is not developed.

(ii) Details of the Public Participation Process Followed:

(Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings. Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.)

Notification:

Identified interested and/or affected parties were notified of the proposed activity as follows:

- Notification letters were sent to all identified interested and / or affected parties (either by registered mail or by e-mail) on the 2nd of August 2022. Attached to each of these letters was a draft Scoping Report, containing information relating to the proposed project.
- A newspaper advert was placed in the 'Kathu Gazette' local newspaper on the 5th of August 2022.
- A notice board was placed at the entrance to the site.

Proof of notification is attached as Appendix '5'.

The following responses have been received to the notification letters (refer to Appendix '6'):

•

Meetings:

Minutes of all meetings held and attendance registers of these meetings are included under Appendix '7'. The outcome of the meetings has been summarized below:

• ...

(iii)

Summary of issues raised by I&AP's (Complete the table summarising comments and issues raised, and reaction to those responses.)

Interested and Affected Parties List the names of persons consulted in this column, and with an X where those who must be consulted were in consulted.		Date comments received	Issues raised	EAPs response to the issue of the I&AP
			AFFECTED PARTIES	
Landowner/s	Х			
Mr. G.J. Vermeulen			•	•
Lawful occupier/s of the land				
N/A				
Landowners or lawful occupiers on	Х			
adjacent properties				
Leslie Bothma Trust			•	•
National Government of the Republic			•	•
<mark>of South Africa</mark>				
Groenwater Communal Property			•	•
Association				
Theba Letsele CC			•	•
Daniëlskuil Plaaslike Oorgangsraad				•
Scarlet Sun 25 (Pty) Ltd			•	•
Steyn Boerdery Trust			•	•
Ms. J.M.A. Scholtz			•	•
Municipal Councillor	Х		•	•
Ms. Gloria Kgoronyane			•	•
(Executive Mayor)				
Municipality	Х			
Kgatelopele Local Municipality				
ZF Mcgawu District Municipality				
Organs of State				
(Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA, etc.)				
Eskom				
SANRAL				

Communities				
Groenwater Communal Property				
Association (Surrounding Surface				
Owner)				
Department of Land Affairs				
Department: Agriculture,				
Environmental Affairs, Rural				
Development and Land Reform				
Traditional Leaders				
Not applicable: There are no known Tra	aditiona	I Leaders in t	ne immediate vicinity of the prospecting right	application area.
Department of Environmental Affairs				
Department: Agriculture,				
Environmental Affairs, Rural				
Development and Land Reform				
Other Competent Authorities				
Department: Water Affairs				
		OTHER INT	ERESTED / AFFECTED PARTIES	
SAHRA				

* Note: The contents of this table have been recorded until

(iv) The Environmental attributes associated with the sites:

(1) Baseline Environment:

(a) Type of environment affected by the proposed activity: (its current geographical, physical, biological, socio-economic and cultural character.)

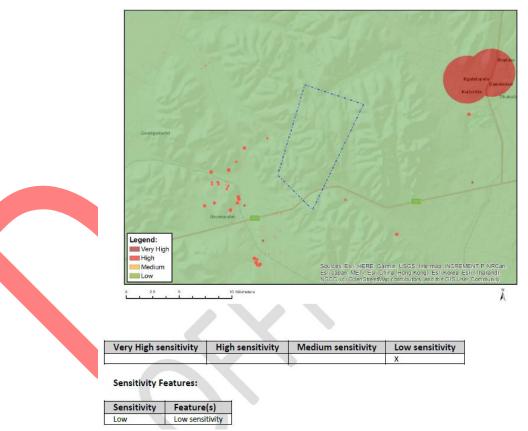
• Air quality:

The PR Area is situated in a rural area approximately 7.5km west of the town of Daniëlskuil and thus the air quality is expected to be good.

• Archaeological, cultural & heritage environment:

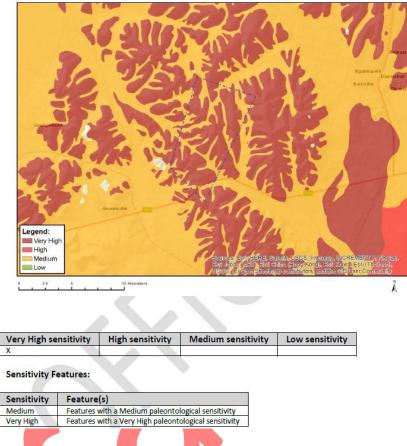
The Screening Reports, as obtained from the national web-based environmental screening tool, lists the archaeological and palaeontological sensitivities of the PR Area as follows:

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY



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MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY



A specialist shall be appointed to assess the Palaeontological features at the PR Area and the findings of this report will be included in the EIA/EMPR document.

Fauna:

Most large antelope species are absent from the area, although nomad game like Blesbok, Gemsbok, Duiker, Kudu, Steenbok and Springbok occasionally traverse the properties.

The normal array of small mammals and birds that are associated with the Kuruman Mountain Bushveld and Olifantshoek Plains Thornveld Vegetation Types might be expected.

Flora:

There are two broad vegetation types found on the PR Area:

• Kuruman Mountain Bushveld (SVk10):

Rolling hills with generally gentle to moderate slopes and hill pediment areas with an open shrubveld with *Lebeckia macrantha* prominent in places. Grass layer is well developed.

Conservation:

- \rightarrow Least threatened.
- \rightarrow Target 16%.
- \rightarrow None conserved in statutory conservation areas.

- \rightarrow Very little transformed.
- \rightarrow Erosion is very low to low.
- \rightarrow Some parts in the north are heavily utilised for grazing.
- Olifantshoek Plains Thornveld (SVk 13):

A very wide and diverse unit on plains with usually open tree and shrub layers with, for example, *Acacia luederitzii*, *Boscia albitrunca* and *Rhus tenuinervis* and with a usually sparse grass layer.

Conservation:

- \rightarrow Least threatened.
- \rightarrow Target 16%.
- \rightarrow Only 0.3% statutorily conserved in the Witsand Nature Reserve.
- \rightarrow Only about 1% of the area has been transformed.
- \rightarrow Erosion is very low.

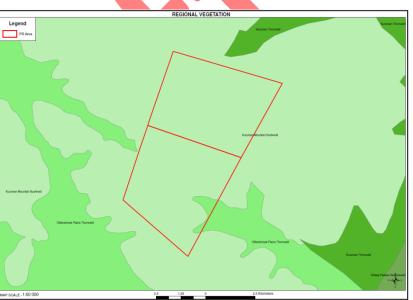


Figure 3 - Regional Vegetation Map

Geology:

The geology and soil is described per vegetation type:

Kuruman Mountain Bushveld (SVk10):

The Kuruman and Asbestos Hills consist of banded iron formation, with jaspilite, chert and riebeckite-asbestos of th Asbestos Hills Subgroup of the Griqualand West Supergroup (Vaalian).

Most common land type lb, followed by Ae, Ic and Ag. Soils are shallow sandy soils, of the Hutton form.

 Olifantshoek Plains Thornveld (SVk 13): Red Aeolian sand of Tertiary to Recent age (Kalahari Group) with silcrete and calrete and some andesitic and basaltic lava of the Griqualand West Supergroup. Hutton soil forms, deeper than 1.2m, on the overwhelmingly dominant Ae and to a far lesser extent Ah land types.

• Groundwater:

The PR Area falls over the C92A, D41J and D73A quaternary drainage regions.

These Drainage Regions form part of the Vaal Major Management Area (nr. 5 in terms of the 'Water Management Areas of South Africa' as published in Government Gazette 40279, 16 September 2016).



Figure 4 - Quaternary Catchment

Noise:

The only current anticipated source of noise at the PR Area is vehicles travelling on the secondary and farm roads transecting the PR Area and immediate surrounding area.

Sensitive landscapes:

"Sensitive environments" that have statutory protection are the following:

- Limited development areas (section 23 of the Environment Conservation Act, 1989 (Act 73 of 1989).
- Protected natural environments and national heritage sites.
- National, provincial, municipal and private nature reserves.
- Conservation areas and sites of conservation significance.
- National monuments and gardens of remembrance.
- Archaeological and palaeontological sites.
- o Graves and burial sites
- Lake areas, offshore islands and the admiralty reserve.
- Estuaries, lagoons, wetlands and lakes.
- Streams and river channels, and their banks.
- Dunes and beaches.
- Caves and sites of geological significance.
- Battle and burial sites.

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- Habitat and /or breeding sites of Red Data Book species.
- o Areas or sites of outstanding natural beauty.
- Areas or sites of special scientific interest.
- Areas or sites of special social, cultural or historical interest.
- Declared national heritage sites
- o Mountain catchment areas.
- o Areas with eco-tourism potential

The following sensitive environments have been identified within the PR Area:

- \rightarrow Streams and river channels, and their banks:
 - There are a number of non-perennial drainage lines within the PR Area.

A specialist shall be appointed to conduct a Palaeontological assessment of the PR Area to determine if there are any sites of heritage importance within the area applied for. The findings of this report will be included in the EIA/EMPR document.

Any other sensitive environments shall be identified through the public participation process with input from the surface owners and/or any other interested/affected party. These shall be included in the EIA/EMPR document.

• Socio-Economic:

The last census was held in 2022; however these results are not yet available. The following section was compiled using data from Census 2001 and 2011 for the Kgatelopele Local Municipality.

Description	Census 2001	Census 2011
Total population	14 743	18 687
Young (0 – 14)	31.8%	29.5%
Working age (15 – 64)	66.4%	66.4%
Elderly (65+)	3.5%	4.1%
Dependency ratio	54.5%	50.6%
Sex ratio	99.9	102.8
Growth rate	-178%	2.37%
	(2001-2011)	(2001-2011)
Population density	-	8 persons/km ²
Unemployment rate	31.1%	22.3%
Youth unemployment rate	43.8%	29.1%
No schooling aged 20+	20.5%	12.2%
Higher education aged	6.8%	9.1%
20+		
Matric aged 20+	19.6%	25.5%
Number of households	3 585	5 381
Number of Agricultural	-	937
households		
Average household size	3.8	3.4
Female headed	29.1%	29.7%
households		
Formal dwellings	87.8%	89.7%
Housing owned/paying off	48.6%	36.1%

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Flush toilet connected to	80.7%	89.2%
sewerage		
Weekly refuse removal	78.6%	91.7%
Piped water inside	57.8%	74.4%
dwelling		
Electricity for lighting	84.7%	91.7%

• Surface water:

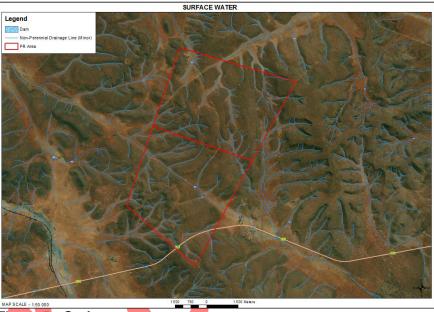


Figure 5 - Surface water

There are a number of non-perennial drainage lines within the PR Area.

(b) Description of the current land uses.

- Current land use: Agriculture (livestock farming).
- Evidence of disturbance: No previous prospecting or mining activities have taken place on the PR Area.
- (c) Description of specific environmental features and infrastructure on the site.
 - Infrastructure:

Existing infrastructure on the PR Area includes:

- Residences and associated infrastructure;
- R385 Road;
- Secondary Road;
- Farm roads;
- Farm fencing; and
- Windmills.

Environmental: •

There are a number of non-perennial drainage lines within the PR Area.

(d) Environmental and current land use map: (Show all environmental and current land use features.)

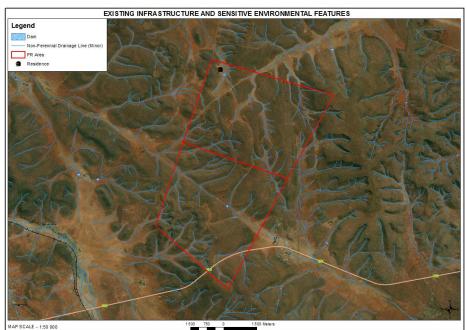


Figure 6 - Current land use and environmental map

(v) Impacts identified:

(Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultations with affected parties together with the significance, probability and duration of the impacts.)

Impact		Description	Nature	Extent	Duration	Intensity	Probability	Significance
	•	Nuisance dust on roads will be created by the excavating equipment hauling material between the open excavation areas, the plant area, stockpile areas and waste dump areas on the site.						
	•	Nuisance dust will be created by the equipment during excavation activities.						
	•	Nuisance dust will be created by the drilling and blasting activities.						
	•	Vehicle and equipment emissions in workshop, stores and office areas.						
≥	•	Nuisance dust will be created at the modular processing plants.						
Air quality	•	Nuisance dust will be created in the topsoil storage site, stockpile and waste dump areas when the material is dumped.	Negative	Regional	Long term	Low	Definite	Low
A	•	Nuisance dust will be created when new infrastructure is established.						
	•	Nuisance dust from the roads transecting the properties and surrounding area.						
	•	Dust created by surrounding prospecting and mining activities.						
	•	Fumes and noxious gases generated by blasting.						
	•	Emmissions from vehicles utilizing the road network in the area immediately surrounding the site.						

Impact		Description	Nature	Extent	Duration	Intensity	Probability	Significance
	•	Archaeological artefacts						
Archaeological, cultural & heritage	•	Burial grounds and graves	N/A	N/A	N/A	N/A	N/A	No impact
cultural & heritage	•	Buildings and structures older than sixty years						

Impact	Description	Nature	Extent	Duration	Intensity	Probability	Significance
	 Where new haulage roads will be created the natural habitat of the animals will be disturbed and/or destroyed. 						
	Road kills.						
	 Where the firebreak will be created the natural habitat of the animals will be disturbed and/or destroyed. 						
auna	 Where new excavations will be created the natural habitat of the animals will be disturbed and/or destroyed. 	Negative	Local	Long term	Medium	Definite	Medium
Ľ.	 The natural habitat of the animals will be disturbed and/or destroyed where buildings and infrastructure will be built / established. 						
	 The natural habitat of the animals will be disturbed and/or destroyed where the modular processing plant will be established. 						
	 The natural habitat of the animals will be disturbed and/or destroyed where the topsoil storage site, stockpile and waste dump areas will be established. 						

Impact		Description	Nature	Extent	Duration	Intensity	Probability	Significance
	•	Where new haulage roads will be created the vegetation will be disturbed and/or destroyed.						
	•	Where the firebreak will be created the vegetation will be disturbed and/or destroyed.	Negative	legative Site	Long term	High	Definite	High
	•	Where new excavations will be created the vegetation will be disturbed and/or destroyed.						
Flora	•	The vegetation cover will be disturbed and / or destroyed in the areas where the buildings and infrastructure will be built / established.						
	•	The vegetation cover will be disturbed and / or destroyed where the modular processing plant will be established.						
	•	The vegetation cover will be disturbed and / or destroyed where the topsoil storage site, stockpile and waste dump areas will be established.						
	•	Grazing.						
	•	Runaway veld fires.						

Impact	Description		Nature		Extent	Duration	Intensity	Probability	Significance
	٠	Possible hydrocarbon spills from vehicles and equipment.	Negative				Low	Probable	Low
Groundwater	٠	Abstraction of groundwater for the use in the prospecting operation.		R	Regional	Long term			
	٠	The utilization of groundwater for the cleaning of vehicles and equipment.							

Impact	Description	Nature	Extent	Duration	Intensity	Probability	Significance
Noise	 Noise from the vehicles and equipment on the haulage roads. 						
	• Noise from the equipment and vehicles during excavations activities.						
	Noise from drilling and blasting activities.	Negative	Regional	Long term			
	 A high noise impact is expected in the immediate vicinity of the processing plant. 				Medium	Definite	Medium
	Noise created by traffic on surrounding road network.						
	 Noise created by farming activities. 						

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Impact	Description	Nature	Extent	Duration	Intensity	Probability	Significance
	Capital Expenditure	Positive	Regional	Long term	Medium	Definite	High
	Payroll income	Positive	Regional	Long term	Medium	Definite	High
	Operating expenditure and maintenance	Positive	Regional	Long term	Medium	Definite	High
	Revenue	Positive	Regional	Long term	Medium	Definite	High
. <u>e</u>	Employment	Positive	Regional	Long term	Medium	Definite	High
шo	Employment of contractors	Positive	Regional	Long term	Medium	Definite	High
EG	Provision of skills development	Po <mark>sitiv</mark> e	Regional	Long term	Medium	Definite	High
cio-	Opportunities for local SMME's	Positive	Site	Long term	Medium	Definite	Medium
So	Community involvement	Positive	Site	Long term	Medium	Definite	Medium
	Poverty alleviation	Positive	Site	Long term	Medium	Definite	High
	Community health	Positive	Site	Long term	Medium	Definite	Medium
	Community proximity	Negative	Site	Long term	Medium	Definite	Medium
	Security risk	Negative	Regional	Long term	Medium	Probable	Low

Impact	Description	Nature	Extent	Duration	Intensity	Probability	Significance
Soii •	 Compaction of soil is expected on the roads that are used by the prospecting operation. Possible hydrocarbon spills from vehicles and equipment. Removal and disturbance of soil structure by excavation activities. Disturbance of soil structure where buildings and infrastructure will be built / established. Disturbance of soil structure where the topsoil storage sites, stockpile and waste dump sites will be created. 	Negative	Site	Long term	Medium	Definite	Medium

Impact		Description	Nature	Extent	Duration	Intensity	Probability	Significance
vater	٠	If roads are not properly maintained, water erosion after thunder storms can occur.						
rface v	٠	Possible contamination of surface water by hydrocarbon spills during a rain event.	Negative	Regional	Long term	Low	Probable	Low
Sui	•	Collection of water in open excavations during and after thunderstorms.						

Impact		Description	Nature	Extent	Duration	Intensity	Probability	Significance
	•	Changing of natural slopes will take place.						
Topography	٠	Temporary stockpiles, topsoil storage sites and waste rock dumps will be	Negative	Site	Long term	Low	Definite	Low
		created, temporarily altering the topography.						

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Impact		Description	Nature	Extent	Duration	Intensity	Probability	Significance
le	•	The prospecting activities will be visible to some extent from the immediate surroundings.						
Visua	•	Changing of natural aesthetic view of environment could take place from prospecting activities and relating infrastructure.	Negative	Site	Long term	Low	Definite	Low
	•	Breaking of natural skyline.	(
Impact		Description	Nature	Extent	Duration	Intensity	Probability	Significance
Vibrations	•	Ground vibrations due to blasting activities	Ne <mark>gative</mark>	Site	Long term	Low	Definite	Low

(vi) Methodology used in determining the significance of environmental impacts:

(Describe how the significance, probability and duration of the aforesaid identified impacts that were identified through the consultation process were determined in order to decide the extent to which the initial site layout needs revision.)

The assessment of the impacts has been conducted according to a synthesis of criteria required by the integrated environmental management procedure.

Nature of impact

This is an appraisal of the type of effect the activity would have on the affected environmental component. Its description should include what is being affected, and how.

Extent

The physical and spatial size of the impact. This is classified as follows:

- Local
 - The impacted area extends only as far as the activity, e.g. a footprint.
- Site

The impact could affect the whole, or a measurable portion of the property.

Regional

The impact could affect the area including the neighbouring farms, transport routes and the adjoining towns.

Duration

The lifetime of the impact which is measured in the context of the lifetime of the proposed phase (i.e. construction or operation).

Short term

The impact will either disappear with mitigation or will be mitigated through natural process in a short time period.

Medium term

The impact will last up to the end of the mining period, where after it will be entirely negated.

Long term

The impact will continue or last for the entire operational life of the mine, but will be mitigated by direct human action or by natural processes thereafter.

• Permanent

The only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

Intensity

This describes how destructive, or benign, the impact is. Does it destroy the impacted environment, alter its functioning, or slightly alter it. These are rated as:

• Low

This alters the affected environment in such a way that the natural processes or functions are not affected.

Medium

The affected environment is altered, but function and process continue, albeit in a modified way.

• High

Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

This will be a relative evaluation within the context of all the activities and the other impacts within the framework of the project.

Probability

This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:

Improbable

The possibility of the impact occurring is very low, due either to the circumstances, design or experience.

• Probable

There is a possibility that the impact will occur to the extent that provisions must be made therefore.

• Highly probable

It is most likely that the impacts will occur at some or other stage of the development.

• Definite

The impact will take place regardless of any preventative plans, and mitigation measures or contingency plans will have to be implemented to contain the impact.

Determination of significance

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The classes are rated as follows:

No significance

The impact is not likely to be substantial and does not require any mitigatory action.

Low

The impact is of little importance, but may require limited mitigation.

Medium

The impact is of importance and therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.

• High

The impact is of great importance. Failure to mitigate, with the objective to reduce the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.

(vii) The positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected:

(Provide a discussion in terms of advantages and disadvantages of the initial site layout compared to alternative layout options to accommodate concerns raised by affected parties.)

A final Site Plan cannot be provided in this early stage of the application process as the locality of the proposed boreholes and trenches is dependent on the results of the following:

- \rightarrow Reconnaissance visit;
- \rightarrow Desktop study;
- \rightarrow Geological mapping; and
- → Geophysical survey

The following will be taken into consideration when the site layout is planned:

- \rightarrow Existing infrastructure;
- \rightarrow Sensitive environmental features, including no-prospecting buffer zones;
- \rightarrow Topography of the PR Area;
- \rightarrow Locality of ore bodies;

The negative impacts should be avoided / minimized as far as practically possible to ensure a sustainable prospecting operation.

(viii) The possible mitigation measures that could be applied and the level of risk:

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment / discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered.)

Impact	Mitigation	Risk
Air quality	 Speed limits; Spraying of surfaces with water (where necessary); Avoidance of unnecessary removal of vegetation; Re-vegetation; Monitoring; Backfilling and rehabilitation of disturbed areas; and Controlled drilling and blasting operations, preferably on wind-free days. 	Low
Fauna	 Speed limits; Avoidance of unnecessary removal of vegetation; Continuous backfilling of open excavations; Low angle access ramp in excavations; Continuous rehabilitation of disturbed areas; Snares & traps removed and destroyed; and Maintenance of firebreaks. 	Medium
Flora	 Avoidance of unnecessary removal of vegetation; Continuous backfilling of open excavations; Continuous rehabilitation of disturbed areas; Maintenance of firebreaks; No trees felled for firewood; Obtain relevant permit before removal of protected tree or plant species; and Re-seeding where necessary. 	High

Ground water	Immediate removal of any hydrocarbon spill;	Low
	Maintenance in dedicated area;	
	Re-fuelling in dedicated area;	
	Drip pans;	
	 Storage of hydrocarbons in dedicated areas; 	
	 Monitoring of groundwater abstraction and quality; and 	
	 Clean & Dirty water system. 	
Noise	 Hearing protection; 	Medium
	 Non-metallic washers to join infrastructure; 	
	 Working hours; 	
	 Controlled drilling & blasting operations; 	
	 Silencers on equipment and vehicles; 	
	 Acoustic enclosure for generators; and 	
Soil		Medium
3011	Avoidance of unnecessary removal of vegetation; Continuous heal filling of one provide the set of the	Medium
	Continuous backfilling of open excavations;	
	Continuous rehabilitation of disturbed areas;	
	Ripping of compacted areas;	
	Replacing layer of topsoil over backfilled areas;	
	Maintenance & refuelling in dedicated areas;	
	Drip pans;	
	 Storage of hydrocarbons in dedicated areas; and 	
	 Immediate removal of any hydrocarbon spill. 	
Surface water	Storm water control;	Low
	 Immediate removal of any hydrocarbon spill; 	
	 Maintenance & re-fuelling in dedicated areas; 	
	Drip pans;	
	 Storage of hydrocarbons in dedicated areas; and 	
	Clean & dirty water plan.	
Topography	 Continuous backfilling of open excavations; 	Low
	 Replacing layer of topsoil over backfilled areas; 	
	 Sloping of rehabilitated and disturbed areas; and 	
	 Sloping of topsoil dumps, stockpiles and waste rock dumps. 	
Visual	 Continuous backfilling of open excavations; 	Low
visual		
	Replacing layer of topsoil over backfilled areas; Singled of report interview of topsoil over backfilled areas;	
	Sloping of rehabilitated and disturbed areas;	
	• Sloping of topsoil dumps, stockpiles and waste rock dumps;	
	and	
	 Removal of all infrastructure upon closure. 	

(ix) The outcome of the site selection Matrix:- Final site layout plan:

(Provide a final site layout plan as informed by the process of consultation with interested and affected parties.)

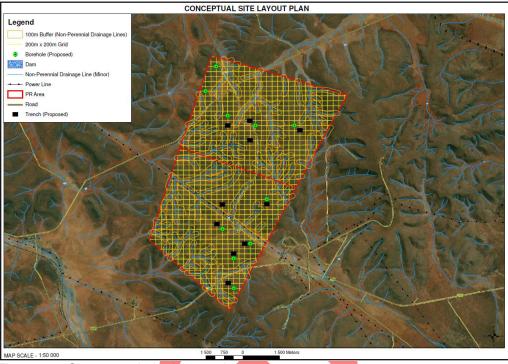


Figure 7 – Conceptual site layout plan

(x) Motivation where no alternative sites were considered:

No viable alternative sites were identified for the following reason:

A detailed Site Plan cannot be provided in this early stage of the application process as the locality of the proposed boreholes and trenches is dependent on the results of the following:

- \rightarrow Reconnaissance visit;
- \rightarrow Desktop study;
- → Geological mapping; and
- → Geophysical survey

(xi) Statement motivating the preferred site:

(Provide a statement motivating the final site layout that is proposed.)

GEJ has considered the following:

- The Geological formation that supports the possibility that the minerals applied for could be found within the PR Area.
- The availability of farms within the area that is not already occupied by existing prospecting or mining rights.
- The availability of infrastructure, such as a road network, in the immediate surrounding area, which could be utilized to allow easy access to the site.

i) Plan of study for the Environmental Impact Assessment process:

(i) Description of alternatives to be considered including the option of not going ahead with the activity:

• Land use development alternatives:

The site layout may vary, depending on the operational requirements, but the final design and layout of the infrastructure can only be decided upon by the management team after granting and execution of the Prospecting Right.

• No-go option:

The following positive impacts will be lost if the proposed project is not developed:

- Foreign income and TAX obligations to SARS
- CAPEX spent locally and regionally
- Employment
- Payroll income
- Operating expenditure and maintenance (OPEX).
- o **Revenue**

(ii) Description of the aspects to be assessed as part of the environmental impact assessment process:

(The EAP must undertake to assess the aspects affected by each individual mining activity whether listed or not, including activities such as blasting, loading, hauling and transport, and mining activities such as excavations, stockpiles, discard dumps or dams, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...)

I, T. Jooste, ID number ..., herewith undertake to assess all of the aspects affected by each individual activity whether listed or not.

Signature of EAP

Date:

(iii) Description of aspects to be assessed by specialists:

The Screening Report, as obtained from the national web-based environmental screening tool, lists the sensitivities of the PR Area as follows:

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme			Х	
Animal Species Theme				Х
Aquatic Biodiversity Theme	Х			
Archaeological and Cultural				X
Heritage Theme				
Civil Aviation Theme			Х	
Defence Theme	X			
Paleontology Theme	Х			
Plant Species Theme				Х
Terrestrial Biodiversity Theme	Х			

Sensitive environmental features, i.e. the non-perennial drainage lines, shall be avoided by the placement of a no-prospecting buffer around these.

The relevant specialists, for sensitivities higher than 'Medium' that is not covered by no-prospecting buffer zones, will be appointed to conduct a site visit and assess sensitive environmental features of the PR Area. The findings of the specialist reports shall be included in the EIA/EMPR document.

(iv) Proposed method of assessing the environmental aspects including the proposed method of assessing alternatives:

The assessment of the impacts shall been conducted according to a synthesis of criteria required by the integrated environmental management procedure.

The findings in the specialists' reports will be evaluated and measured against the identified potential impacts that could occur from the prospecting activities.

(v) The proposed method of assessing duration significance:

The lifetime of the impact will be measured in the context of the lifetime of the proposed phase or activity.

Short term

The impact will either disappear with mitigation or will be mitigated through natural process in a short time period.

• Medium term

The impact will last up to the end of the mining period, where after it will be entirely negated.

• Long term

The impact will continue or last for the entire operational life of the mine, but will be mitigated by direct human action or by natural processes thereafter.

Permanent

The only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

(vi) The stages at which the Competent Authority will be consulted:

Consultation with the Competent Authority will take place throughout the application process, however more specifically; consultation will take place before submission of the Scoping Report and again before submission of the EIA/EMPR Report.

(vii) Particulars of the public participation process with regard to the Impact Assessment process that will conducted:

1. Steps to be taken to notify interested and affected parties:

(These steps must include the steps that will be taken to ensure consultation with the affected parties identified in (h)(ii) herein.)

Registered interested and/or affected parties shall be notified of the EIA process as follows:

- Notification letters;
- Newspapers advert in one local newspaper; and
- Notice board at the entrance of the site.

2. Details of the engagement process to be followed:

(Describe the process to be undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings and record of such consultation will be required in the EIA at a later stage.)

- One-on-One meeting with surface owners (should it be possible to arrange such a meeting) and/or legal occupant.
- Public meeting with all other interested and/or affected parties, should the need arise.

3. Description of the information to be provided to Interested and Affected Parties:

(Information to be provided must include the initial site plan and sufficient detail of the intended operation and the typical impacts of each activity, to enable them to assess what impact the activities will have on them or on the use of their land.)

A draft copy of the EIA / EMPR document will be provided to the surface owners and/or legal occupant of the properties and all other registered interested and / or affected parties for comment and input.

A draft copy of the EIA / EMPR document will be placed at the local municipality for comment and input from any other interested and/or affected party. I&AP's will be notified that the EIA/EMPR is available for review by means of a newspaper advert in one local newspaper.

(viii) Description of the tasks that will be undertaken during the environmental impact assessment process:

The process shall entail the appointment of specialists, review of all available information, impact assessment, consultation and drafting of EIA/EMPR.

(ix) Measures to avoid, reverse, mitigate, or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored:

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL
Whether listed or not listed (e.g. excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water suppy dams and boreholes, accommodation, offices, ablution, stores, workshops, processing lant, storm water control, berms, roads, pipelines, power lines, conveyors, etcetcetc)	(e.g. dust, noise, drainage, surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etcetc)	modify, remedy, control or stop (e.g. noise control measures, stormwater control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etcetc) (e.g. modify through alternative method. Control through management and monitoring through rehabilitation.)	FOR RESIDUAL RISK
Blasting	 Dust Fly-rock Noise Removal and disturbance of vegetation cover and natural habitat of fauna Surface disturbance Surface water contamination 	 Dust control and monitoring Noise control and monitoring Access control. Continuous rehabilitation. Stormwater run-off control. 	Medium
Boreholes	 Dust Noise Removal and disturbance of vegetation cover and natural habitat of fauna Surface disturbance 	 Dust control and monitoring Noise control and monitoring Continuous rehabilitation 	Medium
Chemical toilets	 Soil contamination Groundwater contamination 	 Maintenance of toilets on regular basis. Monitoring of groundwater quality. Removal of toilets upon closure. 	Very low
Diesel tanks	 Groundwater contamination Removal and disturbance of vegetation cover and natural habitat of fauna Soil contamination 	 Maintenance of diesel tanks and bund walls. Oil traps. Groundwater quality monitoring. Drip tray at re-fuelling point. 	Medium

	Surface disturbance	Immediately clean hydrocarbon spill.	
Excavations	Dust	Access control Mediu	ım
	Groundwater contamination	 Dust control and monitoring 	
	Noise	Groundwater quality monitoring	
	Removal and disturbance of	Noise control and monitoring	
	vegetation cover and natural habitat	Continuous rehabilitation	
	of fauna	Stormwater run-off control	
	Soil contamination	Immediately clean hydrocarbon spill	
	Surface disturbance	Drip trays	
	Surface water contamination	Rock stability control and monitoring	
	Erosion	Erosion control	
Generator	Groundwater contamination	Access control Mediu	ım
	Noise	 Maintenance of generator and bund 	
	Removal and disturbance of	walls	
	vegetation cover and natural habitat	Noise control and monitoring	
	of fauna	Oil traps	
	Soil contamination	Groundwater quality monitoring	
	Surface disturbance	 Immediately clean hydrocarbon spill 	
Office – mobile container	Removal and disturbance of	Immediately clean hydrocarbon spill Very log	ow
	vegetation cover and natural habitat	 Rip disturbed areas to allow re-growth 	
	of fauna	of vegetation cover	
	 Soil contamination 		
	Surface disturbance		
Processing plant	Dust	Access control Mediu	ım
	Noise	 Maintenance of processing plant 	
	 Groundwater contamination and 	 Dust control and monitoring 	
	usage	Groundwater quality and level	
	 Removal and disturbance of 	monitoring	
	vegetation cover and natural habitat	 Noise control and monitoring 	
	of fauna	Drip trays	
	Soil contamination	Stormwater run-off control.	
	Surface disturbance	 Immediately clean hydrocarbon spills 	
		Rip disturbed areas to allow re-growth	

	of vegetation cover	
Roads	Dust Maintenance of roads	Low
	Groundwater contamination Dust control and monitoring	
	Noise Groundwater quality monitoring	
	Removal and disturbance of Noise control and monitoring	
	vegetation cover and natural habitat • Speed limits	
	of fauna • Stormwater run-off control.	
	Surface disturbance Erosion control	
	Immediately clean hydrocarbon spills	
	Rip disturbed areas to allow re-growth	
	of vegetation cover	
Salvage yard	Groundwater contamination Access control	Low
	Removal and disturbance of Maintenance of fence.	
	vegetation cover and natural habitat Groundwater quality monitoring 	
	of fauna	
	Soil contamination Immediately clean hydrocarbon spill	
	Surface disturbance	
Stockpile area	Dust Dust Dust	Low
	Groundwater contamination Groundwater quality monitoring	
	Noise Noise control and monitoring	
	Removal and disturbance of Drip trays	
	vegetation cover and natural habitat • Stormwater run-off control.	
	of fauna • Immediately clean hydrocarbon spills	
	Surface disturbance Rip disturbed areas to allow re-growth	
	of vegetation cover	
Washbay	Groundwater contamination and Groundwater quality and level	Low
	usage monitoring	
	Removal and disturbance of Concrete floor with oil/water separator	
	vegetation cover and natural habitat	
	of fauna Immediately clean hydrocarbon spills	
	Soil contamination	
Waste rock dumps	Dust Dust control and monitoring	Low
	Groundwater contamination Groundwater quality monitoring	

	Noise	Noise control and monitoring	
	Removal and disturbance of	Stormwater run-off control.	
	vegetation cover and natural habitat •	Rip disturbed areas to allow re-growth	
	of fauna	of vegetation cover	
	Surface disturbance		
Water tank	Groundwater abstraction and usage	Maintain water tanks and structures.	Low
	Surface disturbance	Groundwater levels and quality	
		monitoring.	
Weighbridge and weighbridge	• Dust	Access control	Low
control room	Groundwater contamination	Maintenance of weighbridge	
	Noise	Dust control and monitoring	
	Removal and disturbance of	Noise control and monitoring	
	vegetation cover and natural habitat	Groundwater levels and quality	
	of fauna	monitoring	
	Surface disturbance	Immediately clean hydrocarbon spill	
	•	Rip disturbed areas to allow re-growth	
		of vegetation cover	
Workshop – mobile containers	Groundwater contamination	Access control	Low
	Noise	Concrete floor with oil/water separator	
	Removal and disturbance of	Maintenance of mobile containers	
	• vegetation cover and natural habitat	Noise control and monitoring	
	of fauna		
	Surface disturbance	Immediately clean hydrocarbon spill	
		,	

- (x) Other information required by the Competent Authority:
 - 1. Compliance with the provisions of Sections 24(4)(a) and (b) read with Section 24(3)(a) and (7) of the National Environmental Management Act (Act 107 of 1998), the EIA report must include the:
 - a. Impact on the socio-economic conditions of any directly affected person:

(Provide the results of investigation, assessment and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as Appendix '7' and confirm that the applicable mitigation is reflected in 2.5.3, 2.11.6 and 2.12 herein.)

- Impact on landowner: Positive: Compensation of land lost to prospecting activities. Negative: Loss of agricultural land.
- Impact on other I&AP:
 - To be determined during consultation process. The results shall be included in the EIA/EMPR document.
- b. Impact on any national estate referred to in Section 3(2) of the National Heritage Resources Act:

(Provide the results of investigation, assessment and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any national estate referred to in Section 3(2) of the National Heritage Resources Act, 1999 (Act 25 of 1999) with the exception of the national estate contemplated in Section 3(2)(i)(vi) and (vii) of that Act, attach the investigation report as Appendix '8' and confirm that the applicable mitigation is reflected in 2.5.3, 2.11.6 and 2.12 herein.)

A specialist shall been appointed to conduct a palaeontological assessment. The findings of this report will be included in the EIA/EMPR document.

(xi)

Other matters required in terms of Sections 24(4)(a) and (b) of the Act:

(The EAP managing the application must provide the Competent Authority with details, written proof of an investigation as required by Section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub-regulation 22(2)(h), exist. The EAP must attach such motivation as Appendix '9'.)

No viable alternative sites were identified for the following reason:

A detailed Site Plan cannot be provided in this early stage of the application process as the locality of the proposed boreholes and trenches is dependent on the results of the following:

- \rightarrow Reconnaissance visit;
- \rightarrow Desktop study;
- \rightarrow Geological mapping; and
- \rightarrow Geophysical survey

GEJ has considered the following:

- The Geological formation that supports the possibility that the minerals applied for could be found within the PR Area.
- The availability of farms within the area that is not already occupied by existing prospecting or mining rights.
- The availability of infrastructure, such as a road network, in the immediate surrounding area, which could be utilized to allow easy access to the site.

(xii) Undertaking regarding correctness of information:

I, T. Jooste, ID number ..., herewith undertake that the information provided in the foregoing report is correct, and that the comments and inputs from stakeholders and Interested and Affected Parties have been correctly recorded in the report.

Signature of EAP

Date: _____

(xiii) Undertaking regarding level of agreement:

I, T. Jooste, ID number ..., herewith undertake that the information provided in the foregoing report is correct, and that the comments and inputs from stakeholders and Interested and Affected Parties have been correctly recorded in the report.

Signa	ature of EAP
Date:	
	-END-