

# mineral resources & energy

Department: Mineral Resources and Energy **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: CIPLA PROJECTS (PTY) LTD ('CIPLA')

TEL NO: FAX NO: 086 534 2076 POSTAL ADDRESS: POSTNET SUITE 147, PRIVATE BAG X8, NORTH RIDING, 2162 PHYSICAL ADDRESS: 10 BEAUFIGHTER ROAD, MONAGHAN FARM, ASHANTI ROAD, LANSERIA, 1739 FILE REFERENCE NUMBER SAMRAD: (NC) 30/5/1/1/2/12276 PR // NC-00143-PR/102

# 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:

 The EAP who prepared the report: Name of the Practitioner: Ms. Tanja Jooste M and S Consulting (Pty) Ltd Tel No: 053 861 1765 Fax No: 086 636 0731 Cell No: 084 444 4474 E-Mail address: ms.consulting@vodamail.co.za

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

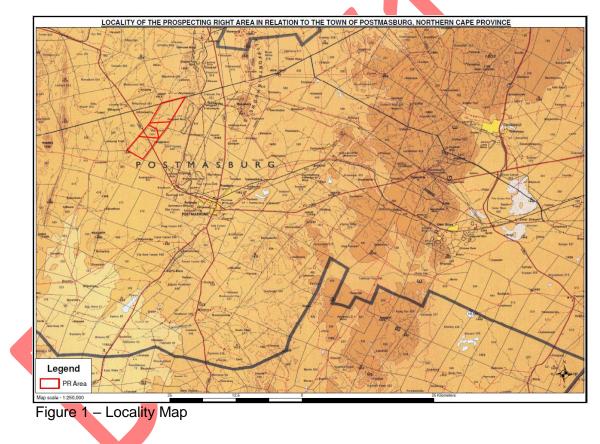
Relevant past experiences in carrying out the Environmental Impact Assessment Procedures include Environmental Impact Assessments, Environmental Management Plans / Programmes / Reports, Performance Assessments, Rehabilitation Progress Assessments, Environmental Liability Assessments, Environmental Compliance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

# b) Description of the property:

| Farm Name:            | <ul> <li>Remaining Extent of the Farm Vlakfontein 433</li> <li>Portion 1 of the Farm Vlakfontein 433</li> <li>Portion 2 of the Farm Vlakfontein 433</li> <li>Portion 3 of the Farm Vlakfontein 433</li> <li>The properties will be referred to as 'Vlakfontein' in this document.</li> </ul> |
|-----------------------|--|
| Application area (Ha) | 3661.5088 Ha   |
| Magisterial district: | Нау  |

| Distance and direction from nearest town | Vlakfontein is situated approximately 35km north-west of the town of Postmasburg in the Northern Cape Province. |
|--|---|
|  | Access to the site is via the R385 between Postmasburg and Olifantshoek.  |
| 21 digit Surveyor                        | C031000000043300000   |
| General Code for                         | C031000000043300001   |
| each farm portion                        | C0310000000043300002  |
|  | C0310000000043300003  |
|  |   |

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



#### 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 detailed Site Plan cannot be provided in this early stage of the application process as the locality of the invasive prospecting activities is dependent on the results of the non-invasive prospecting activities.

We do; however; insert below a Conceptual Site Plan indicating all existing infrastructure (i.e. roads) as well as sensitive environmental features to assist with planning when the results of the abovementioned non-invasive stages have been obtained.

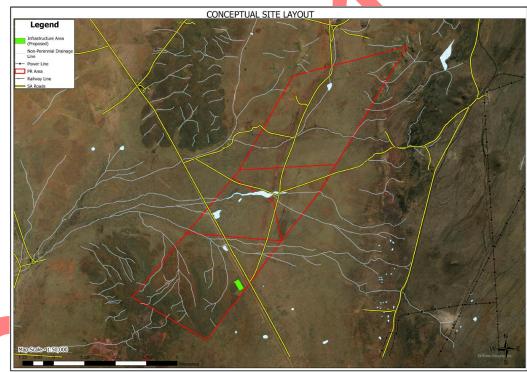


Figure 2 – Conceptual site layout plan

| facili<br>sam<br>etc<br>E.g.<br>disca<br>trans<br>acco<br>work<br>berm | NAME OF ACTIVITY<br>For prospecting – drill site, site camp, ablution<br>ty, accommodation, equipment storage,<br>ple storage, site office, access route etc<br>etc<br>for mining, excavations, blasting, stockpiles,<br>ard dumps or dams, loading, hauling and<br>sport, water supply dams and boreholes,<br>mmodation, offices, ablution, stores,<br>schops, processing plant, storm water control,<br>ns, roads, pipelines, power lines, conveyors,<br>. etc etc) | Aerial extent of the<br>Activity<br>Ha or m <sup>2</sup> | LISTED<br>ACTIVITY<br>(Mark with an<br>X where<br>applicable or<br>affected). | APPLICABLE LISTING<br>NOTICE<br>(GNR 983, GNR 984 OR GNR<br>985)   | WASTE<br>MANAGEMENT<br>AUTHORISATION<br>(Indicate whether an<br>authorisation is<br>required in terms of<br>the Waste<br>Management Act.)<br>(Mark with an X.) |
|--|---|--|---|--|--|
| 1  | Blasting:<br>The tons of explosives consumed per month<br>depend completely on the number of blasts<br>that Cipla conducts.<br>The size of the blasts will be directly affected<br>by the geology of the deposit.   | Various  | X   | MPRDA: Section 16<br>MPRDA: Section 20<br>NEMA: GNR327: Activity 20<br>NEMA: GNR327: Activity 27<br>NEMA: GNR327: Activity 30<br>NEMA: GNR325: Activity 15<br>NEMA: GNR325: Activity 15<br>NEMA: GNR633: Activity 15<br>NWA: Section 21<br>NWA: GNR704 | X  |
| 2  | Boreholes:<br>Four drilling phases are planned. Each<br>phase will have 15 boreholes.<br>60 boreholes with a 20m x 20m surface<br>disturbance each.   | 60 x 20m x 20m =<br>24 000m² / 2.4 Ha                    | X   | MPRDA: Section 16<br>NEMA: GNR327: Activity 20<br>NEMA: GNR327: Activity 27<br>NEMA: GNR327: Activity 30   |  |
| 3  | Chemical toilets:<br>Mobile chemical toilets shall be utilized.   | 2m x 3m =6m² each  | Х   | MPRDA: Section 16<br>NEMA: GNR327: Activity 20   |  |
| 4  | Diesel tanks:<br>It is anticipated that the operation will utilize 1<br>x 24 000 litre (24m <sup>3</sup> ) diesel tank.   | 5m x 10m = 50m²  | Х   | MPRDA: Section 16<br>NEMA: GNR327: Activity 12<br>NEMA: GNR327: Activity 14<br>NEMA: GNR327: Activity 20<br>NEMA: GNR327: Activity 27  |  |

|   |   |                                    |   | NEMA: GNR327: Activity 30<br>NWA: Section 21  |   |
|---|---|------------------------------------|---|---|---|
| 5 | Excavations (Bulk Sampling):<br>Provision is made for 12 trenches.  | 2 x 70m x 20m =<br>0.28 Ha         | × | MPRDA: Section 16<br>MPRDA: Section 20<br>NEMA: GNR327: Activity 20   | Х |
|   | 12 trenches x 70m x 20m = 1.68 Ha   |                                    |   | NEMA: GNR327: Activity 27<br>NEMA: GNR327: Activity 30  |   |
|   | Only two trenches will be allowed to be open at any one time.   |                                    |   | NEMA: GNR325: Activity 15<br>NEMA: GNR325: Activity 19<br>NEMA: GNR633: Activity 15   |   |
|   |   |                                    |   | NWA: Section 21<br>NWA: GNR704  |   |
| 6 | Generator:<br>It is anticipated that the operation will utilize<br>generators for its operation.  | 2m x 5m = 10m <sup>2</sup><br>each | X | MPRDA: Section 16<br>NEMA: GNR327: Activity 20  |   |
| 7 | Offices:<br>Mobile containers will be utilized as offices.  | $3m \times 6m = 18m^2$<br>each     | Х | MPRDA: Section 16<br>NEMA: GNR327: Activity 20  |   |
| 8 | Processing plant:<br>Relevant processing plants, including<br>recycling / settling dams if necessary, for the<br>testing of the minerals applied for. | 100m x 50m =<br>0.5Ha              | X | MPRDA: Section 16<br>MPRDA: Section 20<br>NEMA: GNR327: Activity 9<br>NEMA: GNR327: Activity 10<br>NEMA: GNR327: Activity 12<br>NEMA: GNR327: Activity 20<br>NEMA: GNR327: Activity 27<br>NEMA: GNR327: Activity 27<br>NEMA: GNR325: Activity 30<br>NEMA: GNR325: Activity 15<br>NEMA: GNR325: Activity 15<br>NEMA: GNR633: Activity 15<br>NWA: Section 21<br>NWA: GNR704 | X |
| 9 | Roads (both access and haulage road on the site):<br>Although it is recommended that the operation utilize existing roads as far as                   | 1 000m x 12m wide<br>= 1.2Ha       | Х | MPRDA: Section 16<br>MPRDA: Section 20<br>NEMA: GNR327: Activity 20<br>NEMA: GNR327: Activity 24  |   |
|   | possible, it is anticipated that the operation  |                                    |   | NEMA: GNR327: Activity 27   |   |

| 10 | will create roads.<br>The locality of these roads will be determined<br>by the geology of the area (excavation areas)<br>and the locality of the infrastructure.<br>Salvage yard (fenced) | 20m x 50m =<br>0.1 Ha | X | NEMA: GNR327: Activity 30<br>NEMA: GNR327: Activity 56<br>NEMA: GNR325: Activity 15<br>NEMA: GNR325: Activity 19<br>NEMA: GNR325: Activity 27<br>MPRDA: Section 16<br>NEMA: GNR327: Activity 20  |   |
|----|---|-----------------------|---|--|---|
| 11 | Stockpile area<br>Provision is made for a maximum footprint of<br>0.2 hectares for the stockpile area.  | 20m x 100m =<br>0.2Ha | X | MPRDA: Section 16<br>MPRDA: Section 20<br>NEMA: GNR327: Activity 20<br>NEMA: GNR327: Activity 27<br>NEMA: GNR327: Activity 30<br>NEMA: GNR325: Activity 15<br>NEMA: GNR325: Activity 15<br>NEMA: GNR633: Activity 15<br>NWA: Section 21<br>NWA: GNR704 | X |
| 12 | Wash bay  | 20m x 30m = 600m²     | X | MPRDA: Section 16<br>NEMA: GNR327: Activity 12<br>NEMA: GNR327: Activity 20<br>NEMA: GNR327: Activity 27<br>NEMA: GNR327: Activity 30<br>NWA: Section 21<br>NWA: GNR704  |   |
| 13 | Waste rock dumps<br>Provision is made for a maximum footprint of<br>0.2 hectares of waste rock dumps at any one<br>time.  | 20m x 100m =<br>0.2Ha | X | MPRDA: Section 16<br>MPRDA: Section 20<br>NEMA: GNR327: Activity 20<br>NEMA: GNR327: Activity 27<br>NEMA: GNR327: Activity 30<br>NEMA: GNR325: Activity 15<br>NEMA: GNR325: Activity 15<br>NEMA: GNR633: Activity 15<br>NWA: Section 21<br>NWA: GNR704 | X |

| 14 | Water ta   | ank:            |  | $3m \times 3m = 9m^2 \text{ each}$   | Х                         | MPRDA: Section 16                          |                           |  |  |  |
|----|--|-----------------|--|--|---------------------------|--|---------------------------|--|--|--|
|    | It is anticipated that the operation will  |                 |  |  | NEMA: GNR327: Activity 20 |  |                           |  |  |  |
|    | establish 2 x 10 000 litre water tanks with  |                 |  |  |                           |  |                           |  |  |  |
|    | purifiers  | s for potable w | /ater.   |  |                           |  |                           |  |  |  |
| 15 | Weighb   | ridge and wei   | ghbridge control room                            | 3m x 20m = 60m <sup>2</sup>  | Х                         | MPRDA: Section 16                          |                           |  |  |  |
|    |  |                 |  |  |                           | MPRDA: Section 20                          |                           |  |  |  |
|    |  |                 |  |  |                           | NEMA: GNR327: Activity 20                  |                           |  |  |  |
|    |  |                 |  |  |                           | NEMA: GNR325: Activity 19                  |                           |  |  |  |
| 16 | Worksh   |                 |  | 3m x 6m = 18m <sup>2</sup>   | Х                         | MPRDA: Section 16                          |                           |  |  |  |
|    |  |                 | the operation will make                          | each   |                           | NEMA: GNR327: Activity 20                  |                           |  |  |  |
|    |  |                 | iners for their workshop                         |  |                           |  |                           |  |  |  |
|    | facilities   |                 | ea will also include a                           |  |                           |  |                           |  |  |  |
|    | compre   | ssor area and   | tyre bay.  |  |                           |  |                           |  |  |  |
|    |  |                 |  | Full description of listed   | d activities applie       | d for:                                     |                           |  |  |  |
|    | PRDA   | Section 16      |  |  |                           |  |                           |  |  |  |
| MI | PRDA   | Section 20      | Permission to remove ar                          | nd dispose of minerals.  |                           |  |                           |  |  |  |
|    |  | 010007          |  |  |                           |  |                           |  |  |  |
| N  | EMA  | GNR327          |  |  |                           | igth for the bulk transportation of wa     | ter or storm water:-      |  |  |  |
|    |  | Activity 9      |  | eter of 0.36 meters or n   |                           |  |                           |  |  |  |
|    |  |                 |  | out of 120 litres per seco   |                           | die s. 4.000 versterse in law oth fair the | hulls the new exterior of |  |  |  |
| IN | EMA  | GNR327          |  |  |                           | ding 1 000 metres in length for the        | DUIK transportation of    |  |  |  |
|    |  | Activity 10     | sewage, effluent, proces                         |  |                           | strial discharge or slimes                 |                           |  |  |  |
|    |  |                 | i) with an internal diam                         |  | -                         |  |                           |  |  |  |
| N  | EMA  | GNR327          | ii) with a peak throughp<br>The development of:- | out of 120 littles per seco  | ond of more.              |  |                           |  |  |  |
|    |  | Activity 12     |  | o the dam or wair inclu  | ding infractructur        | e and water surface area, exceeds          | 100 cauara motros: or     |  |  |  |
|    |  | ACTIVITY 12     |  |  |                           | uare metres or more; where such de         |                           |  |  |  |
|    |  |                 | ,  |  |                           | uale metres of more, where such a          |                           |  |  |  |
|    |  |                 | a) within a watercourse;                         |  |                           |  |                           |  |  |  |
|    |  |                 | , ,  | <ul> <li>b) in front of a development setback; or</li> <li>c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of the watercourse.</li> </ul> |                           |  |                           |  |  |  |
| N  | EMA  | GNR327          |  |  |                           | icture, for the storage, or the stora      |                           |  |  |  |
|    |  | Activity 14     |  |  |                           | a combined capacity of 80 cubic m          |                           |  |  |  |
|    |  |                 | exceeding 500 cubic me                           |  |                           |  |                           |  |  |  |
| N  | EMA  | GNR327          | <u> </u>   |  | itv which require         | s a prospecting right in terms of Se       | ction 16 of the Mineral   |  |  |  |
|    |  | Activity 20     |  |  |                           |  |                           |  |  |  |
| L  | Activity 20 and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including- |                 |  |  |                           |  |                           |  |  |  |

|      |                       | <ul> <li>(a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource; or</li> <li>(b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing;</li> </ul> |
|------|-----------------------|--|
|      |                       | 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<br>(ii)   | (ii) with a reserve wider than 13.5 meters, or where no reserve exists where the road is wider than 8 meters.  |
| 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:-<br>i) the undertaking of a linear activity; or  |
|      |                       | ii) maintenance purposes undertaken in accordance with a maintenance management plan.  |
| NEMA | GNR327<br>Activity 30 | Any process or activity identified in terms of Section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).  |
| NEMA | GNR327                | The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre:-  |
|      | Activity 56           | i) where the existing reserve is wider than 13.5 metres; or  |
|      | (ii)                  | ii) where no reserve exists, where the existing road is wider than 8 metres.   |
|      |                       |  |
| NEMA | GNR325                | The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous   |
|      | Activity 15           | vegetation is required for:  |
|      |                       | i) the undertaking of a linear activity; or  |
|      |                       | ii) maintenance purposes undertaken in accordance with a maintenance management plan.  |
| NEMA | GNR325<br>Activity 19 | The removal and disposal of minerals contemplated in terms of Section 20 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including-   |
|      |                       | <ul> <li>(a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource; or</li> <li>(b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing;</li> </ul> |
|      |                       | 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   |
|      |                       | ii) catering for more than one lane of traffic in both directions.   |
|      |                       |  |
|      |                       | I  |

| 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.   |
|           | 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.)

|       |                                | EXPLORATION STAGES |            |            |            |            |            |  |  |
|-------|--------------------------------|--------------------|------------|------------|------------|------------|------------|--|--|
|       |                                | YE/                | AR 1       | YE/        | AR 2       | YEAR 3     |            |  |  |
| Stage | Activity                       | Semester 1         | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |  |  |
| 1     | DESKTOP STUDY                  | On-ç               | going      |            |            |            |            |  |  |
| 2     | MAPPING                        | On-going           |            |            |            |            |            |  |  |
| 3     | GEOPHYSICS                     |                    |            | Phase 1    |            |            |            |  |  |
| 4     | DRILLING                       | Phase 1            | Pha        | se 2 Pha   |            | se 3       | Phase 4    |  |  |
| 5     | BULK SAMPLING                  |                    | Phase 1    | Phas       |            | Phase 2    |            |  |  |
| 6     | CONSOLIDATION & INTERPRETATION |                    |            | On-going   |            |            |            |  |  |

#### 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)

#### Stage 1: Desktop Study – Year 1: Semester 1 & 2

A preliminary study of relevant reports and geological literature is necessary to evaluate the potential of Vlakfontein and surrounding area.

A review of all existing information including reports from previous exploration on Vlakfontein is important before any activities are planned. This activity in general is office bound with reliance to computer work, internet searching, literature studies and generation of required maps.

Ad hoc site visits to Vlakfontein form part of this stage. Here an understanding of the infrastructure is important in order to plan further activities.

#### Stage 2: Mapping – Total 3 Year span

The 1:250 000 geological map of this area lack details and accuracy. Also a large portion within Vlakfontein is shielded by younger cover. Careful surveillance of areas such as this will disclose additional geological information, which will guide further exploration.

This outdoor activity includes field reconnaissance work, mapping and rock identification. Field visits are required to cover the terrain, observe and describe geological features which is also coordinated by means of survey points.

The regional 1:250 000 geological map serve as guide and further field observance is crucial for target identification. This work is done by the exploration geologist. All mapping details are coordinated and compiled on a detailed geological map of the area.

#### Stage 3: Geophysics – Year 2: Semester 1 & 2

Deeper located geology masked by the younger cover can only be evaluated with geophysics. A fixed grid survey will be initiated over selected areas. Similar to surface mapping, fieldwork is required to measure geophysical features at coordinated points. The data is processed with computer software and the output is a geophysical contoured map. All geophysical work is done by a contractor geophysicist.

#### Description of planned invasive activities:

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

# Stage 4: Drilling – Year 1, Semester 1 to Year 3, Semester 2

In order to expand the geological understanding, drilling is crucial. Percussion drilling is the preferred means to collect geological samples at fixed intervals. Alternative methods such as reverse circulation drilling or diamond drilling can be done as follow-up techniques to verify geological and mineralization trends.

Percussion drilling is the preferred drilling method, due to equipment mobility, small footprint and fast results. Other drill technology will be considered once the exploration has matured.

Four phases of drilling is planned. Each phase will have 15 boreholes, drilled on pre-determined grids to depths between 50 and 60m. The holes will be vertically inclined and once completed the collar position of each hole will be surveyed. A contract driller will be appointed to do the drilling.

During percussion drilling, the rock chips from the holes are stacked in heaps representing fixed drill advances (usually 1m intervals). The geology of the chips are logged, and samples of the potential ore mineralization are collected for chemical analysis.

Phase 5: Bulk sampling – Year 1, Semester 2 & Year 3, Semester 1

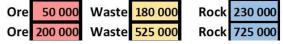
Due to the topography and limited geology, two phases of bulk sampling is planned.

A total of 50 000m<sup>3</sup> of ore is planned. The first phase is planned in the first year of the prospecting right and will be mainly for an iron ore bulk sample.

The second phase is planned in the third year as the exploration drilling has matured.

|         | Fe             | ORE     | Mn ORE |         | WASTE          |         | ROCK    |         | Strip |
|---------|----------------|---------|--------|---------|----------------|---------|---------|---------|-------|
|         | m <sup>3</sup> | Tonnes  | m³     | Tonnes  | m <sup>3</sup> | Tonnes  | m³      | Tonnes  | Ratio |
| Phase 1 | 25 000         | 100 000 |        |         | 75 000         | 210 000 | 100 000 | 310 000 | 2.1   |
| Phase 2 |                |         | 25 000 | 100 000 | 105 000        | 315 000 | 130 000 | 415 000 | 3.15  |
| Total   | 25 000         | 100 000 | 25 000 | 100 000 | 180 000        | 525 000 | 230 000 | 725 000 | 2.63  |

Total m<sup>3</sup> Total Tonnes



Parameters:

Iron Ore: 25 000m<sup>3</sup> Ore density: 4.0 Waste density: 2.8 Manganese Ore: 25 000m<sup>3</sup>
 Ore density: 4.0
 Waste density: 3.0

The bulk samples will be accessed by means of conventional surface mining methods. Typical is hanging wall waste stripping prior to ore exposure as well as removal of interstitial within the ore. The target tempo of bulk sampling is as follows:

- Phase 1: 25 000 tonnes per month
- Phase 2: 35 000 tonnes per month

# e) Policy and Legislative Context:

| Applicable Legislation and Guidelines used to compile the report<br>(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<br>Regulations  | - | Sections 27 – 35: Dust control<br>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<br>Section 24: Environmental rights<br>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-<br>contractors during construction and maintenance phases of the proposed<br>project.<br>Sections 21, 22, 25, 26 and 28: EIA Regulations, including listed<br>activities.<br>Section 28A: Exemptions.   |
| Fencing Act (Act 31 of 1963)  | - | Section 17: States that any person erecting a boundary fence may clean<br>any bush along the line of the fence up to 1.5m on each side thereof and<br>remove any tree standing in the immediate line of the fence. However,<br>this provision must be read in conjunction with the environmental legal<br>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)  | - Section 2: Strategic environmental management goals and objectives.          |
| as amended and Environmental Impact Assessment           | - Section 24: Foundation for Environmental Management frameworks.              |
| Regulations, 2014  | - 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  | - Section 32: Control of dust  |
| 39 of 2004)  | - Section 34: Control of noise   |
|  | Section 35: Control of offensive odours  |
| National Environmental Management: Biodiversity Act (Act |  |
| 10 of 2004)  | 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   | - The Act  |
| (Act 57 of 2003)   |  |
| National Environmental Management: Waste Management      | - Chapter 4: Waste management activities                                       |
| Act (Act 59 of 2008)                                     |  |
| 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        |
| National Haritage Descurres Act (Act 05 of 4000) and     | under a licence granted by the Minister.                                       |
| National Heritage Resources Act (Act 25 of 1999) and     |  |
| Regulations  | 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       |

|  | <ul> <li>otherwise disturb any archaeological or palaeontological site.</li> <li>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.</li> <li>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.</li> </ul> |
|--|--|
| National Water Act (Act 36 of 1998) and Government   |  |
| Notice No. 704 of 1991   | - Section 19: Prevention and remedying the effects of pollution.   |
|  | - 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  |
| Norment Cape Nature Conservation Act (Act 3 of 2003)   | application process related thereto.   |
| Occupational Health and Safety Act (Act 85 of 1993) and  |  |
| Regulations  | - 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)   | - To control employment aspects  |
| Basic Conditions of Employment Act (Act 3 of 1997)<br>Basic Conditions of Employment Amendment Act (Act 11 |  |
| 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   |

| -   | To regulate law on veld and forest fires |
|-----|--|
| , – | Draft Regulations S21                    |
|     |  |
| -   | To control pollution, sewers etc.        |
| -   | Nature conservation Regulations          |
| -   | To control land use planning             |
| -   | Land use planning Regulations            |
| -   | To control planning and development      |
|     | , -<br>-<br>-<br>-<br>-<br>-<br>-        |

#### 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.)

In terms of the Environmental Impact Assessment Regulations, 2014 (GG38282, Government Notice No. R. 982) the need and desirability of any development must be included in the relevant reports to be submitted to the competent authority.

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 PR Area, Cipla will be able to ensure employment opportunities and support to the local business for a certain period.

Cipla 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 owner.

• Desirability:

| No | Description   | Yes/No |  |  |  |  |
|----|---|--------|--|--|--|--|
| 1  | Does the proposed land use / development fit the surrounding    |        |  |  |  |  |
|    | area?   |        |  |  |  |  |
| 2  | Does the proposed land use / development conform to the         |        |  |  |  |  |
|    | 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    |        |  |  |  |  |
|    | of pla <mark>ce</mark> ?  |        |  |  |  |  |
| 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   | Yes    |
|    | in 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:

The registered description of the land:

| Farm Name                             | Title Deed | In Extent (Ha) |
|---------------------------------------|------------|----------------|
| Remaining Extent of the Farm          | T145/2016  | 1 462.7370     |
| Vlakfontein 433                       |            |                |
| Portion 1 of the Farm Vlakfontein 433 | T186/2022  | 1 220.5025     |
| Portion 2 of the Farm Vlakfontein 433 | T186/2022  | 511.0102       |
| Portion 3 of the Farm Vlakfontein 433 | T4411/2011 | 467.2591       |

# Alternatives considered:-

Cipla has an existing Prospecting Right over the Vlakfontein properties. The existing Prospecting Right only allows for drilling activities (invasive) to take place. Cipla plans to incorporate bulk sampling, in terms of Section 20 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) ('MPRDA') into its existing Prospecting Right.

# (b) The type of activity to be undertaken:

Cipla plans to bulk sample a total volume of 50 000m<sup>3</sup> of ore. For exploration purposes 25 000m<sup>3</sup> of iron ore will be bulk sampled and 25 000m<sup>3</sup> of manganese ore will be bulk sampled.

# Alternatives considered:-

The only alternative land use is livestock and game farming; however the applicant's main economic activity is prospecting/mining and for this reason does not favour any other alternative land use.

# (c) The design or layout of the activity:

Cipla plans to establish the following, amongst other, infrastructure on their site during the initial construction phase:

- Ablution facilities (chemical toilets)
- Diesel tank
- Generator
- Offices (mobile containers)
- Processing Plant
- Roads (access & haul)
- Salvage Yard
- Security access point
- Stockpile area

- Storage facilities (mobile containers)
- Washbay
- Water tanks (drinking water)
- Weighbridge
- Weighbridge control room (mobile container)
- Workshops (mobile containers)

# Alternatives considered:-

The final locality of the above infrastructure can only be determined after the non-invasive prospecting activities and drilling phases has been finalised. The following features will be taken into account during the planning phase:

- Locality of any residential buildings;
- Locality of the ore bodies;
- Topography of the area;
- Environmental features such as non-perennial drainage lines; and
- Discussions with the surface owner/s of the land.

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

The processing plant will be modular.

Iron Ore:

The Run of Mine (ROM) is hauled to the dry crushing and screening plant where it is stockpiled in 'A-grade' and 'B-grade' stockpiles. An excavator with a hydraulic hammer attachment is used to break down the +500mm ore.

# A-Grade process:

A-grade ore (-500mm) is fed into the VGF which then feeds the JAW crusher. The JAW crushes the ore down to -180mm. The crushed ore is then fed to a double deck screen which screens the ore into three sizes:

- +32mm (oversize);
- $\circ$  -32mm+8mm (lumpy); and
- -8mm+0mm (fines)
- Oversize:

The +32mm oversize material is fed to the Cone crusher where the ore is re-crushed to -32mm before it is fed into the double deck screen again to repeat the screening process.

Lumpy:

The -32mm +8mm lumpy ore is hauled to the shipping yard, ready for the market.

Fines:

The -8mm +0mm fines ore is hauled to the scrubber plant. The ore is washed and any material -1.0mm is removed and discarded as waste material. The -8mm +1mm ore is then hauled to the shipping yard, ready for the market.

All waste material is hauled to temporary tailings / waste rock dumps to be used for rehabilitation purposes at a later stage.

• Manganese Ore:

The Run of Mine (ROM) is hauled to the dry crushing and screening plant. An excavator with a hydraulic hammer attachment is used to break down the +500mm ore.

The ore (-500mm) is fed into the VGF which then feeds the JAW crusher. The JAW crushes the ore down to -180mm. The crushed ore is then fed to a double deck screen which screens the ore into two sizes:

- +20mm -80mm (lumpy); and
- -20mm +2mm (fines)

The resultant product is accumulated into a product stockpile and waste is loaded, hauled and dumped at waste dumps/ backfilling/road making. The final product is transported by road to the market.

#### Alternatives considered:-

The only alternative considered was the processing of ore only using a wet processing method to ensure grade, should the iron ore not meet market requirements.

#### B-Grade process (if required):

B-grade ore (-500mm) is fed into the VGF which then feeds the JAW crusher. The JAW crushes the ore down to -180mm. The crushed ore is then fed to a double deck screen which screens the ore into three sizes:

- +32mm (oversize);
- -32mm+8mm (lumpy); and
- -8mm+0mm (fines)

• Oversize:

The +32mm oversize material is fed to the Cone crusher where the ore is re-crushed to -32mm before it is fed into the double deck screen again to repeat the screening process.

# Lumpy:

The -32mm +8mm lumpy ore is hauled to the JIG/DMS plant. Water for the plant is recycled continuously through the settling / recycling dam.

The -32mm + 8mm ore is fed to the JIG/DMS Plant, where the prescreen discard all the +22mm material on a stockpile. This +22mm material is transported to the Cone crusher for secondary crushing to -22mm.

The -22mm +8mm ore is processed in the JIG/DMS Plant and impurities (floats) are removed and discarded as waste material.

The on-grade product (-22mm +8mm) ore is hauled to the shipping yard, ready for the market.

o Fines:

The -8mm +0mm fines ore is hauled to the scrubber plant. The ore is washed and any material -1.0mm is removed and discarded as waste material.

The -8mm +1mm ore is then fed to the JIG/DMS plant where it is processed. Impurities (floats) are being separated and discarded as waste, and the on-grade product is hauled to the shipping yard, ready for the market.

#### (e) The operational aspects of the activity:

Bulk sampling will be done by the conventional opencast method. It is designed based on the nature of the ore-bodies at the PR Area, which proposes that each resource area be treated as a separate pit. Bulk sampling can be done on two ore bodies at any one time.

Where present vegetated soil overlying the planned excavation area is to be stripped prior to bulk sampling and stockpiled on a dedicated (temporary) dump to be used for rehabilitation purposes at a later stage.

The bulk sampling process will be initiated by drilling, then blasting and will then be followed by loading and hauling of both ore and waste to their respective destinations on the PR Area.

A haul road network provides access to the opencast excavation areas, to the dry (modular) crushing & screening plant and/or to the wet (modular) scrubber / JIG / DMS plants (if required).

#### Alternatives considered:-

The conventional opencast drill-blast-load-haul-mining method has been proven to be the most cost effective mining method in the Northern Cape Province and for this reason no viable alternatives were identified.

# (f) The option of not implementing the activity:

Mining forms an integral part of the social and economical growth of South Africa and more specifically the Northern Cape Province.

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 (refer to Appendix '5'):

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 ..... 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 ....
- A notice board has been placed at the entrance of the site.

#### Responses (refer to Appendix '6'):

Responses have been received from the following IAPs. The responses are summarized in the table below.

#### Meetings (refer to Appendix '7'):

A meeting was held on the ... with the surface owners and other interested and/or affected parties. A draft Environmental Impact Assessment and Environmental Programme Report was provided to all attendees.

The following was discussed in this meeting:

# (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<br>List the names of persons consulted in this column, and mark<br>with an X where those who must be consulted were in fact |                  | Date<br>comments | Issues raised | EAPs response to the issue of the<br>I&AP |  |  |
|---|------------------|------------------|---------------|---|--|--|
| consulted.  | iniaci           | received         |               |   |  |  |
|   | AFFECTED PARTIES |                  |               |   |  |  |
| Landowner/s   | Х                |                  |               |   |  |  |
| CC Claassens Trust  | X                |                  |               |   |  |  |
| H2H Mining Solutions (Pty) Ltd  | X                |                  |               |   |  |  |
| Chris CLA Konstruksie CC  | X                |                  |               |   |  |  |
| Lawful occupier/s of the land   |                  |                  |               |   |  |  |
| The surface owners are the lawful occup   |                  | the land.        |               |   |  |  |
| Landowners or lawful occupiers on   | Х                |                  |               |   |  |  |
| adjacent properties   |                  |                  |               |   |  |  |
| Sishen Iron Ore Co (Pty) Ltd  | <mark>─</mark>   |                  |               |   |  |  |
| Ms. I.M. van Wyk (Viljoen)  | <mark>X</mark>   |                  |               |   |  |  |
| K2018273546 (South Africa) (Pty) Ltd  | X                |                  |               |   |  |  |
| PMG Mining (Pty) Ltd  | X                |                  |               |   |  |  |
| Maremane Communal Property  | ×                |                  |               |   |  |  |
| Association   |                  |                  |               |   |  |  |
| Assmang (Pty) Ltd   | <mark>X</mark>   |                  |               |   |  |  |
| Abraham Willem Adriaan van Wyk  | × ×              |                  |               |   |  |  |
| Testamentary Trust  |                  |                  |               |   |  |  |
| Mr. C.C. Claassens  | X                |                  |               |   |  |  |
| Ms. C.J. Claassens  |                  |                  |               |   |  |  |
| Mr. C.C. Claassens  | ×                |                  |               |   |  |  |
| Ms. A.M. Claassens  |                  |                  |               |   |  |  |
| Municipal Councillor  | X                |                  |               |   |  |  |
| Mayor: Ms. H. English   | X                |                  |               |   |  |  |
| Tsantsabane Local Municipality  |                  |                  |               |   |  |  |
| Municipality  | X                |                  |               |   |  |  |
| Tsantsabane Local Municipality  | X                |                  |               |   |  |  |
| Z.F. Mgcawu District Municipality   | X                |                  |               |   |  |  |

| Organs of State                                      |                |  |  |  |
|--|----------------|--|--|--|
| (Responsible for infrastructure that may be affected |                |  |  |  |
| Roads Department, Eskom, Telkom, DWA, etc.)          |                |  |  |  |
| Eskom  | <mark>X</mark> |  |  |  |
| SANRAL   | X              |  |  |  |
| Transnet   | X              |  |  |  |
| Communities  |                |  |  |  |
| Maremane Communal Property                           | X              |  |  |  |
| Association  |                |  |  |  |
| Department of Land Affairs                           |                |  |  |  |
| Department of Agriculture,                           | X              |  |  |  |
| Environmental Affairs, Rural                         |                |  |  |  |
| Development and Land Reform                          |                |  |  |  |
| Traditional Leaders                                  |                |  |  |  |
| Maremane Communal Property                           | X              |  |  |  |
| Association  |                |  |  |  |
| Department of Environmental Affairs                  |                |  |  |  |
| Department of Agriculture,                           | X              |  |  |  |
| Environmental Affairs, Rural                         |                |  |  |  |
| Development and Land Reform                          |                |  |  |  |
| Other Competent Authorities                          |                |  |  |  |
| Commission on Restitution of Land                    | X              |  |  |  |
| Rights   |                |  |  |  |
| Department of Roads and Public                       | X              |  |  |  |
| Works  |                |  |  |  |
| Department of Water and Sanitation                   | X              |  |  |  |
| OTHER AFFECTED PARTIES                               |                |  |  |  |
| None Identified                                      |                |  |  |  |
| INTERESTED PARTIES                                   |                |  |  |  |
| SAHRA  | X              |  |  |  |
|  |                |  |  |  |

\* 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:

Current sources of nuisance dust in the area stems mainly from:

- Mining and/or Prospecting operations in close proximity of the PR Area:
- Dust from the secondary (public) and gravel (farm) roads transecting the properties.
- Dust induced by wind and wind gusts.

While many factors affect the precipitation rate, the main factors are related to wind velocity, air humidity, particulate size and dynamic shape, and prevailing ground cover.

The wind rose for shows how many hours per year the wind blows from the indicated direction.

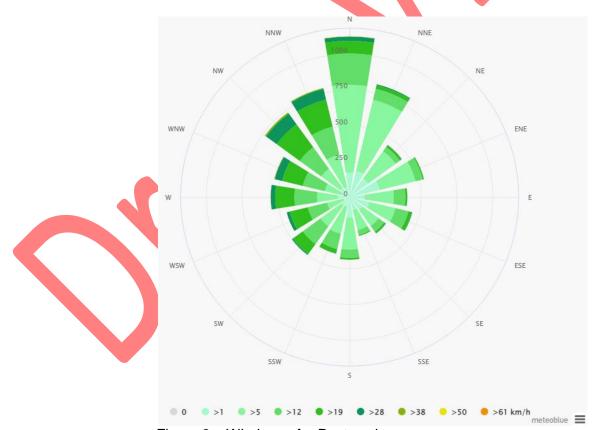


Figure 3 – Wind rose for Postmasburg area

The diagram for Postmasburg shows how many days within one month can be expected to reach certain wind speeds. Monsoons create steady strong winds from December to April, but calm winds from June to October.

#### Scoping Report – Cipla Projects (Pty) Ltd

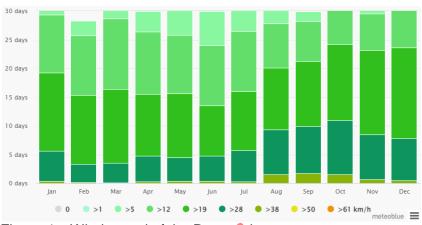


Figure 4 – Wind speed of the Postmasburg area

The general air quality on the properties is expected to be good.

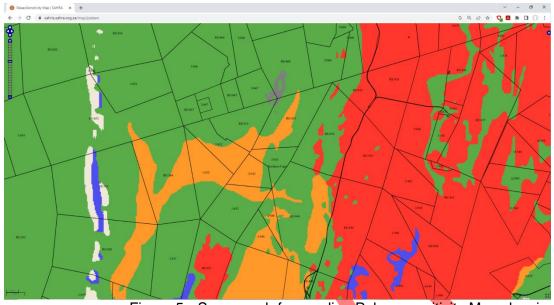
# • Archaeological, cultural & heritage environment:

Regulation 16(1)(v) of the Environmental Impact Assessment Regulations, 2014, as amended, requires that a proponent make use of the online 'National Environmental Screening Tool' to identify specific requirements, including specialist studies applicable to a proposed site based on the environmental sensitivity of the site.

M&S made use of this Screening Tool to determine the Archaeological, Cultural Heritage and Palaeontology sensitivities of the PR Area. Refer to Appendix '8' for a copy of the Screening Report.

| Property / Development | Archaeological<br>and Cultural<br>Heritage | Palaeontology |
|------------------------|--|---------------|
| PR Area                | Low  | High          |

Furthermore, the online Palaeosensitivity Map of South African Heritage Resources Agency (SAHRA) has been used to determine the palaeontological sensitivity of the application area. In terms of this map the sensitivity of the application area is rated as high and requires a desktop study and based on the outcome of the desktop study, a field assessment is likely.



# Figure 5 - Screengrab from online Palaeosensitivity Map showing PR area

#### Fossil Sensitivity Map

This map is available on the SAHRIS mapping system as a layer that can be switched on and off. The different colours on the map represent different levels of estimated palaeontological sensitivity.

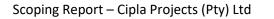
| Colour        | Sensitivity        | Required Action  |
|---------------|--------------------|--|
| RED           | VERY HIGH          | field assessment and protocol for finds is required  |
| ORANGE/YELLOW | HIGH               | desktop study is required and based on the outcome of the desktop study, a field assessment is likely                                  |
| GREEN         | MODERATE           | desktop study is required  |
| BLUE          | LOW                | no palaeontological studies are required however a protocol for finds is required  |
| GREY          | INSIGNIFICANT/ZERO | no palaeontological studies are required   |
| WHITE/CLEAR   | UNKNOWN            | these areas will require a minimum of a desktop study. As more information<br>comes to light, SAHRA will continue to populate the map. |

# Figure 6 - Legend of Palaeosensitivity Map

A specialist will be appointed to conduct a Heritage Impact Assessment and a Palaeontological Impact Assessment. The findings of these reports will be included in the EIA/EMPr document.

#### Climate:

The Northern Cape experiences typical semi-desert and desert climatic conditions. The summers are hot and dry and the winters cold and frosty.



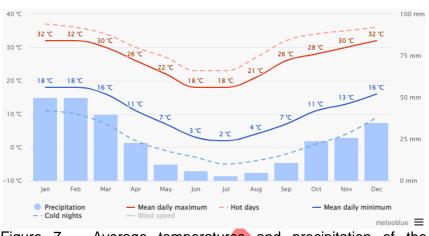
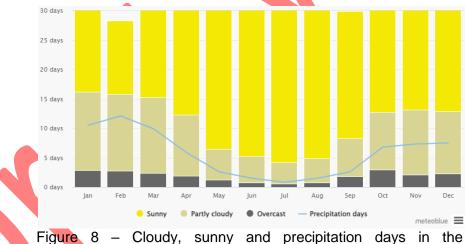


Figure 7 – Average temperatures and precipitation of the Postmasburg area

The "mean daily maximum" (solid red line) shows the maximum temperature of an average day for every month for Postmasburg. Likewise, "mean daily minimum" (solid blue line) shows the average minimum temperature. Hot days and cold nights (dashed red and blue lines) show the average of the hottest day and coldest night of each month of the last 30 years.



Postmasburg area

The graph shows the monthly number of sunny, partly cloudy, overcast and precipitation days. Days with less than 20% cloud cover are considered as sunny, with 20-80% cloud cover as partly cloudy and with more than 80% as overcast.



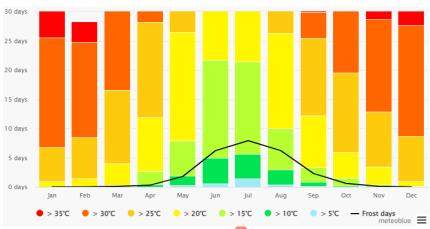


Figure 9 – Maximum temperatures in the Postmasburg area

The maximum temperature diagram for Postmasburg displays how many days per month reach certain temperatures.



Figure 10 – Precipitation of the Postmasburg area

The precipitation diagram for Postmasburg shows on how many days per month, certain precipitation amounts are reached.

# Fauna:

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

The normal array of small mammals and birds that are associated with the Kuruman Mountain Bushveld; Postmasburg Thornveld and Southern Kalahari Salt Pans Vegetation Types might be expected.

• Flora:

There are three 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.

Biogeographically Important Taxa:

- $\rightarrow$  Tall Shrub: Lebeckia macrantha (d).
- $\rightarrow$  Low Shrubs: Justicia puberula, Tarchonanthus obovatus.
- $\rightarrow$  Succulent Shrub: *Euphorbia wilmaniae*.
- $\rightarrow$  Graminoid: *Digitaria polyphylla*.
- $\rightarrow$  Herb: Sutera griquensis.

#### Conservation:

- $\rightarrow$  Least threatened.
- $\rightarrow$  Target 16%.
- $\rightarrow$  None conserved in statutory conservation areas.
- $\rightarrow$  Very little has been transformed.
- $\rightarrow$  Erosion is very low to low.

# Postmasburg Thornveld (SVk 14):

Flats surrounded by mountains supporting open, shrubby thornveld charaterised by a dense shrub layer and often lacking a tree layer; the grass layer is very sparse. Shrubs are generally low and with a karroid affinity.

#### Biogeographically Important Taxa:

- → Succulent Shrub: Euphorbia bergii
- → Graminoid: Digitaria polyphylla

# Conservation:

- $\rightarrow$  Least threatened.
- $\rightarrow$  Target 16%.
- $\rightarrow$  None conserved in statutory conservation areas.
- $\rightarrow$  Very little has been transformed.
- $\rightarrow$  Erosion is very low.

# Southern Kalahari Salt Pans (AZi 4):

Low grasslands on pan bottoms (these often devoid of vegetation) often dominated by *Sporobolus* species, with a mixture of dwarf shrubs. The low shrubland dominated by *Lycium* and/or *Rhigozum* usually forms the outer belt of the salt-pan zonation systems.

#### Important Taxa:

- → Succulent Shrubs: Zygophyllum tenue (d), Salsola scopiformis.
- $\rightarrow$  Herbs: *Hirpicium gazanioides*, *Tribulus terrestris*.
- → Succulent Herb: *Trianthema triquetra* subsp. *parvifolia*.
- → Graminoids: Enneapogon desvauxii (d), Eragrostis truncata (d), Sporobolus coromandelianus (d), S. rangei (d), Panicum impeditum.

Conservation:

- $\rightarrow$  Least threatened.
- $\rightarrow$  Target 24%.
- $\rightarrow\,$  About 8% statutorily conserved in the Kgalagadi Transfrontier Park.

→ The vegetation of the pans is subject to natural degradation / regeneration cycles controlled by concentration of grazing animals (antelopes in particular).

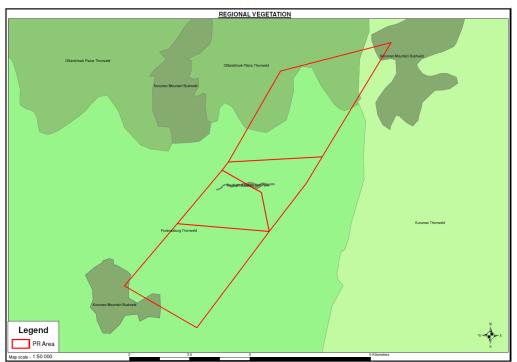


Figure 11 - Regional Vegetation Map

The total anticipated surface disturbance by Cipla calculates to approximately 10 hectares (including the proposed infrastructure area). The total extent of the PR Area is 3 661.5088 hectares, thus calculating to a 0.27% surface disturbance by Cipla.

Furthermore, all three of the Vegetation Types' conservation is listed as 'Least threatened'; thus it is not foreseen that the economic livelihood of the surface owner/s from the livestock/game farming activities will be irreversibly damaged.

# Geology:

The occurrence of the minerals is well documented in the surrounding areas. The geology of the area is the suitable host for manganese as well as iron ore. Due to younger geological events, post-dating the deposition of above minerals, younger localized deposits of barite might occur.

The geological sequence for the area mainly consist of older chemical sediments (dolomite and chert) belonging to the Campbellrand Group. This unit underlies the prospecting area. Higher up in the sequence additional chemical sediments (banded iron formations) of the Asbestos Hills Sub-Group occur. Followed on top of this, similar chemical sediments of the Koegas Sub-Group occur. Then this is followed by geology (diamictite and lava) belonging to the Postmasburg Group. The last geological unit in the prospecting area is the Gamagara Formation belonging to the Elim Group, which consist of conglomerate, quartzite and shale. The focus areas for ore mineralization are:

- The weathering zone between the Asbestos Hills Sub-Group and the underlying Campbellrand Group for manganese and iron ore.
- The base of the Gamagara Formation where iron ore and even manganese ore might oocur.
- The bases of the thrusted Koegas Sub-Group as well as thrusted Postmasburg Group are good preservation areas for iron as well as manganese ores emanating from above features. Baryte can occur within structures relating to the thrusting events.

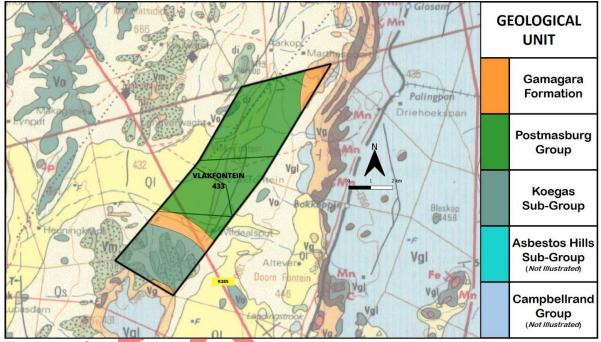


Figure 12 – Geological Map

#### Groundwater:

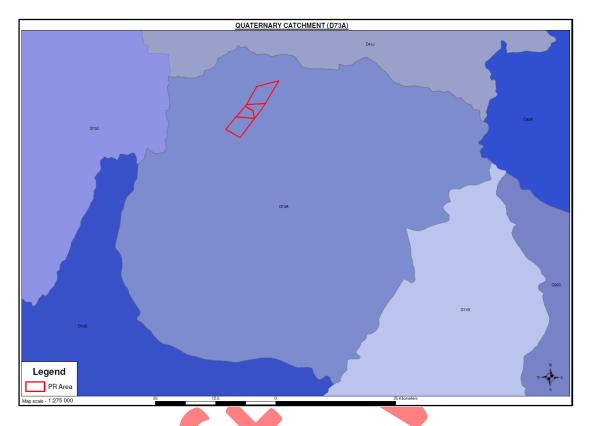
The PR Area falls over the D73A quaternary drainage region.

This drainage region forms part of the Vaal Major Management Area (nr. 5 in terms of the National Water Act, 1998 (Act no. 36 of 1998) as published in the Government Gazette 40279, Government Notice No. 1056, 16 September 2016).

There are various boreholes on the immediate surrounding properties. Groundwater abstracted from these boreholes is used for:

- o Domestic;
- Livestock and game watering; and
- Mining and/or Prospecting activities

The ground water quality is expected to be reasonable.



Noise:

0

- The main current noise sources in the area include:
- Mining and/or prospecting activities (blasting, hauling, crushing & screening) by operations situated in close proximity of the PR Area.
- Traffic noise from the surrounding road network.

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

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

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

Relevant specialists (i.e. Archaeologist) will be appointed during the EIA/EMPr phase to assess whether there are any other sensitive landscapes within the PR Area. The findings of the relevant specialists shall be included in the EIA/EMPr document.

#### • Socio-Economic:

Censuses were held in 2001, 2011 and 2022, whilst Community Surveys were held in 2007 and 2016 respectively.

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.

The PR Area falls within the Tsantsabane Local Municipality, which falls under management of the ZF Mgcawu District Municipality. Area: 18,333km<sup>2</sup>.

Tsantsabane Local Municipality is located within the northeastern parts of the Northern Cape Province, and falls within the boundaries of the Siyanda District Municipality. Tsantsabane was the original name given to the town by the Batswana because of the presence of many shiny stones (e.g. the hematite).

The nearest business centre is Kimberley, which is about 200km away. The municipality's main town is Postmasburg. Three main traffic routes provide access to other cities, namely Johannesburg via Kuruman and the Kalahari and Cape Town via Kimberley. The rest of the Tsantsabane Municipality area comprises of Boichoko, Postdene, New Town, Stasie, Groen Water, Skyfontein, Jean Heaven, the new established settlement brought about by the land redistribution called Maremane, and the well-known Lohatlha Army Battle School.

#### Scoping Report – Cipla Projects (Pty) Ltd

| Key Statistics                        | 2011                  | Key Statistics                    | 2           |
|---------------------------------------|-----------------------|-----------------------------------|-------------|
| Total population                      | 35,093                |                                   |             |
|                                       |                       | Total population                  | 27,082      |
| Young (0-14)                          | 27,9%                 | Young (0-14)                      | 31,4%       |
| Working Age (15-64)                   | 67,6%                 | Working Age (15-64)               | 67,6%       |
| Elderly (65+)                         | 4,4%                  | Elderly (65+)                     | 4,7%        |
| Dependency ratio                      | 47,8                  | Dependency ratio                  | 56,4%       |
| Sex ratio                             | 109,8                 | Dependency failo                  | 50,478      |
| Growth rate                           | 2,59% (2001-<br>2011) | Sex ratio                         | 96,1        |
| Population density                    | 2 persons/km2         | Giowiinale                        | (2001-2011) |
| Unemployment rate                     | 26,1%                 | Unemployment rate                 | 33,9%       |
| Youth unemployment rate               | 32,3%                 | Youth unemployment rate           | 43,1%       |
| No schooling aged<br>20+              | 13,7%                 | No schooling aged 20+             | 24,2%       |
| Higher education aged<br>20+          | 6,3%                  | Higher education aged 20+         | 4,1%        |
| Matric aged 20+                       | 25,3%                 | Matric aged 20+                   | 16,7%       |
| Number of households                  | 9,839                 | Number of households              | 6,800       |
| Number of Agricultural<br>households  | 1,132                 | Average household size            | 3,9         |
| Average household<br>size             | 3,5                   | Female headed<br>households       | 33,1%       |
| Female headed<br>households           | 31,3%                 | Formal dwellings                  | 81,4%       |
| Formal dwellings                      | 71,8%                 | Housing owned/paying off          | 53,9%       |
| Housing owned/paying<br>off           | 44,7%                 | Flush toilet connected to         | 61,7%       |
| Flush toilet connected<br>to sewerage | 66,7%                 | sewerage<br>Weekly refuse removal | 67,5%       |
| Weekly refuse removal                 | 57,4%                 | Piped water inside                | 35,5%       |
| Piped water inside dwelling           | 45,3%                 | dwelling                          |             |
|                                       | 00.50                 | Electricity for lighting          | 74,4%       |

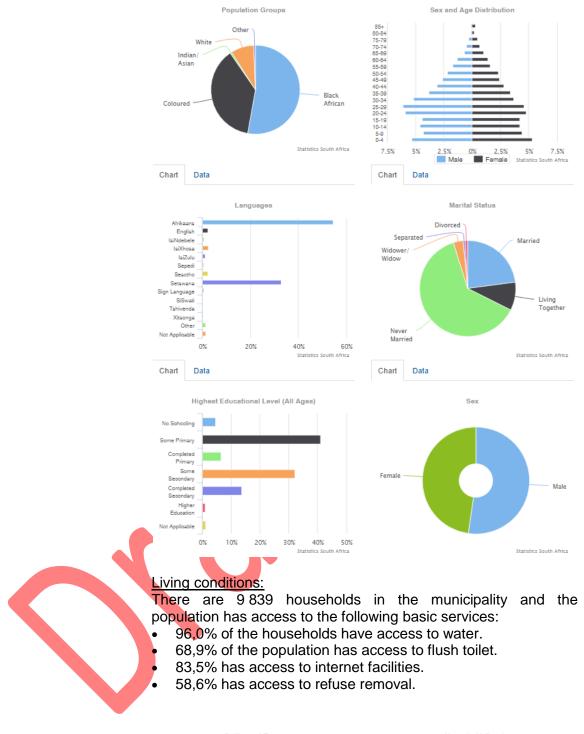
Electricity for lighting 83,5%

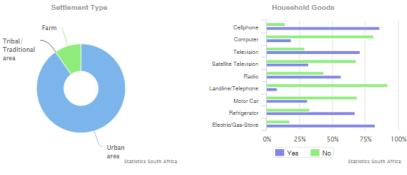
#### People:

According to census 2011, there are 35 093 people in the municipality. Of these, 52,8% are African black, 37,6% are coloured, and 8,4% are white. Other population groups make up the remaining 1,2% of the population.

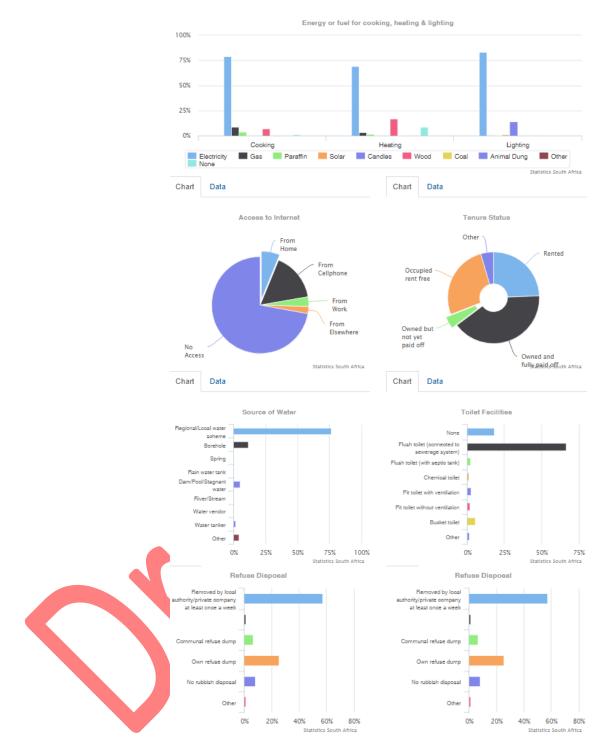
Of those aged 20 years and older, 13,9% had some primary schooling, 5,3% had completed primary, 35,4% had some secondary, and 25,4 had matric. Only 6,4% had a higher qualification, and 13,7% had no form of schooling.

#### Scoping Report – Cipla Projects (Pty) Ltd





#### Scoping Report – Cipla Projects (Pty) Ltd



#### Economy:

Economically Tsantsabane is known for being rich in minerals, and for its mining, agriculture, manufacturing and farming sectors. Tsantsabane has reinvented itself over the years as one of the leading investment hot spots in the Northern Cape. The construction of the Anglo American Kumba Iron Ore's Kolomela mine has brought an implosion of development to the area.

Kolomela mine is one of Anglo American's Big Four expansion projects alongside Barro Alto in Brazil (nickel), Minas Rio in Brazil (ferrous) and Los Bronces in Chile (copper). The mine is situated in the town of Postmasburg in the Northern Cape Province, South Africa. The name Kolomela means "to dig deeper or further", or "to persevere", and the excellent physical strength of Kolomela mine's lump ore will enable Kumba to continue to meet its customers' needs.

- Kolomela is scheduled to produce 9Mtpa of direct shipping ore once it is fully operational in 2013.
- Its total mineral resource is 373Mt at 64% Fe cut-off grade and 405Mt at 55% Fe cut-off grade..
- Total investment in social and community projects in 2011 over R30,9 million.
- R8,5 billion investment in the Northern Cape.



• Soil:

The soils of the PR Area are described per vegetation type:

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

Postmasburg Thornveld: Red Aeolian sand of the Kalahari Group overlying the volcanic and sediments of the Griqualand West Supergroup that outcrop in places. Deep soils are of the Hutton form.

Southern Kalahari Salt Pans: Extensive pan-like areas occur locally in slightly higher-lying portions of dry riverbeds (mekgacha), where they are isolated from the river course by a raised, compact calcareous sand formation – the pan-like alluvium consists of sandy loam and a fairly high content of calcium and phosphate. The pan soils consist of white (washed) sand in shallow pans, rocky soils on calcrete outcrops and most typically of clays and sandy clays very rich in Na, K, Mg and are characterised by a high pH, reaching values of 9. The pan bottoms are exposed for most of the year and carry shallow pools for a short time only after very good rains.

#### • Surface water:

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

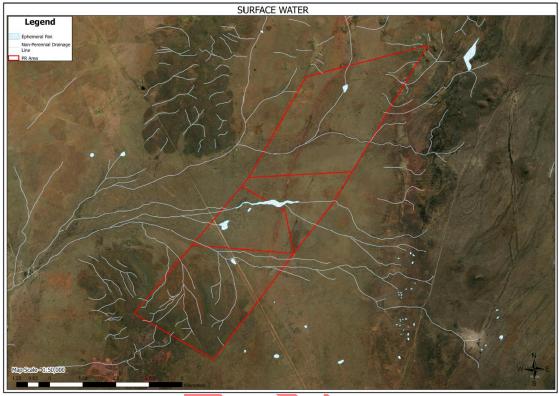


Figure 13 - Surface water map

No-prospecting buffer zones (100m: non-perennial drainage lines; 500m: ephemeral pans) should be placed around these.

### (b) Description of the current land uses.

Current land use:

The surface owners currently utilize the PR Area for livestock/game farming purposes.

Evidence of disturbance:

Historical quarry for road maintenance.

No other identified during Scoping Phase. A detailed description of any historical disturbance (if any) shall be included in the EIA/EMPr.

## (c) Description of specific environmental features and infrastructure on the site.

• Infrastructure:

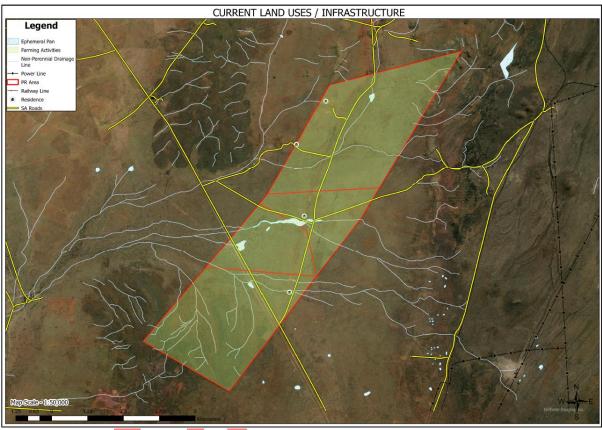
The only current infrastructure on the PR Area includes:

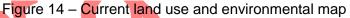
- Residence and associated infrastructure;
- Farm roads;
- Farm fencing; and
- Windmills.

Environmental: •

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

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





#### (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.)

Cumulative environmental impacts can be defined as changes to the environment caused by the combined impact of past, present and future human activities and/or natural processes.

#### Farming:

The PR Area is currently used for grazing of livestock/game. The properties are divided into a number of 'camps' and the livestock are rotated between the camps. This provides rest periods for plants while others are being grazed. Impacts associated with farming activities include overgrazing, destruction of the natural vegetation cover and soil compaction through 'trampling' if the rotational grazing method is not implemented correctly by the surface owner/s and loss of groundwater if water related infrastructure; i.e. pipelines, dams and troughs, are not adequately maintained.

#### Prospecting:

Cipla's invasive prospecting activities will entail drilling and bulk sampling. Provision has been made for the following:

- Boreholes: 60 boreholes, each with a 20m x 20m surface disturbance = 2.4 hectares
- Bulk sampling: A total of 12 trenches, each with a 70m x 20m surface disturbance = 1.68 hectares; however only two excavations will be allowed to be open at any one time, thus = 0.28 hectares.
- Infrastructure: Provision is made for an approximate footprint for the establishment of infrastructure of 2.3 hectares (including haul roads).

Existing roads and farm tracks shall be used as far as possible.

The total anticipated surface disturbance by Cipla calculates to approximately 10 hectares (including the proposed infrastructure area). The total extent of the PR Area is 3 661.5088 hectares, thus calculating to a 0.27% surface disturbance by Cipla.

Furthermore, all three of the Vegetation Types' conservation is listed as 'Least threatened'; thus it is not foreseen that the economic livelihood of the surface owner/s from the livestock/game farming activities will be irreversibly damaged.

### • Air Quality:

| Activity                             | Extent   | Duration   | Intensity | Probability | Significance<br>without mitigation |
|--------------------------------------|----------|------------|-----------|-------------|------------------------------------|
| Bulk sampling                        | Regional | Short Term | Medium    | Definite    | Medium                             |
| Blasting                             | Regional | Short Term | Low       | Probable    | Low                                |
| Drilling                             | Site     | Short Term | Low       | Definite    | Low                                |
| Processing plant                     | Regional | Long Term  | Medium    | Definite    | Medium                             |
| Vehicle emissions                    | Local    | Short Term | Low       | Probable    | Negligible / Insignificant         |
| Nuisance dust – roads                | Site     | Short Term | Low       | Probable    | Low                                |
| Nuisance dust – vegetation clearance | Local    | Long Term  | Low       | Definite    | Low                                |
| Smoke – domestic fires               | Site     | Short Term | Low       | Improbable  | Negligible / Insignificant         |
|                                      |          |            |           |             |                                    |

| Activity    | Impact summary   | Significance<br>with mitigation |
|-------------|--|---------------------------------|
| Air Quality | <ul> <li>Direct impacts (from prospecting activities):</li> <li>Nuisance dust created by equipment during bulk sampling activities.</li> <li>Nuisance dust created by blasting activities.</li> <li>Nuisance dust created by prospecting drilling.</li> <li>Nuisance dust created by hauling material between excavation areas, the plant area, stockpile areas and waste rock dump areas.</li> <li>Nuisance dust created at processing plant.</li> <li>Fumes and noxious gases generated by blasting activities.</li> <li>Vehicle emissions from vehicles and equipment utilized by the prospecting operation.</li> </ul> | Negative:<br>Low                |
| All Quality | <ul> <li>Indirect impacts (from prospecting activities):</li> <li>Nuisance dust created in areas where vegetation cover is cleared.</li> </ul>   | Negative:<br>Very Low           |
|             | <ul> <li>Cumulative impacts:</li> <li>Nuisance dust created by equipment during bulk sampling activities.</li> <li>Nuisance dust created by blasting activities.</li> <li>Nuisance dust created by prospecting drilling.</li> <li>Nuisance dust created by hauling material between excavation areas, the plant area, stockpile areas and waste rock dump areas.</li> <li>Nuisance dust created at processing plant.</li> </ul>  | Negative<br>Low                 |

| Activity | Impact summary  | Significance<br>with mitigation |
|----------|---|---------------------------------|
|          | Fumes and noxious gases generated by blasting activities.                               |                                 |
|          | Vehicle emissions from vehicles and equipment utilized by the prospecting operation.    |                                 |
|          | Vehicle emissions from vehicles utilized by farming activities.                         |                                 |
|          | Nuisance dust from the farm roads and road network in the surrounding area.             |                                 |
|          | Smoke from domestic open fires.   |                                 |
|          | Nuisance dust from other mining/prospecting activities in immediately surrounding area. |                                 |

#### • Fauna:

| Activity   | Extent | Duration  | Intensity | Probability | Significance<br>without mitigation |
|--|--------|-----------|-----------|-------------|------------------------------------|
| Disturbance of natural habitat –<br>Prospecting Activities | Local  | Long Term | Medium    | Probable    | Medium                             |
| Disturbance of natural habitat -<br>Overgrazing            | Local  | Long Term | Medium    | Improbable  | Medium                             |

V V

| Activity | Impact summary  | Significance with mitigation |
|----------|---|------------------------------|
|          | <ul> <li>Direct impacts (from prospecting activities):</li> <li>Disturbance of natural habitat of wild animals when vegetation is cleared for prospecting related activities.</li> </ul>  | Negative:<br>Low             |
|          | Indirect impacts (from prospecting activities): <ul> <li>Road kills.</li> </ul>   | Negative:<br>Very Low        |
| Fauna    | <ul> <li>Cumulative impacts:</li> <li>Disturbance of natural habitat of wild animals when vegetation is cleared for prospecting related activities.</li> <li>Disturbance of natural habitat of wild animals in the instance of overgrazing.</li> <li>Road kills.</li> <li>Veld fires.</li> <li>Hunting &amp; snaring of animals.</li> </ul> | Negative:<br>Low             |

### • Flora:

| Activity  | Extent | Duration  | Intensity | Probability | Significance<br>without mitigation |
|---|--------|-----------|-----------|-------------|------------------------------------|
| Disturbance of natural vegetation<br>cover – Prospecting activities | Local  | Long Term | Medium    | Definite    | Medium                             |
| Disturbance of natural vegetation cover - Overgrazing               | Local  | Long Term | Medium    | Improbable  | Medium                             |
|   |        | •         |           |             | ·                                  |

| Activity | Impact summary   | Significance<br>with mitigation |
|----------|--|---------------------------------|
|          | <ul> <li>Direct impacts (from prospecting activities):</li> <li>Disturbance and/or destruction of natural vegetation cover when vegetation is cleared for prospecting related activities.</li> </ul>   | Negative:<br>Low                |
|          | <ul> <li>Indirect impacts (from prospecting activities):</li> <li>Disturbance of natural habitat of wild animals when vegetation is cleared for prospecting related activities.</li> </ul>   | Negative:<br>Very Low           |
| Flora    | <ul> <li>Cumulative impacts:</li> <li>Disturbance and/or destruction of natural vegetation cover when vegetation is cleared for prospecting related activities.</li> <li>Disturbance of natural habitat of wild animals when vegetation is cleared for prospecting related activities.</li> <li>Disturbance and/or destruction of natural vegetation cover in the instance of overgrazing.</li> <li>Veld fires.</li> </ul> | Negative:<br>Low                |
| • Groun  | dwater:  |                                 |

| Activity                                  | Extent | Duration    | Intensity | Probability | Significance<br>without mitigation |
|---|--------|-------------|-----------|-------------|------------------------------------|
| Groundwater loss – Prospecting Activities | Site   | Medium Term | Medium    | Improbable  | Low                                |
| Groundwater loss –<br>Farming Activities  | Site   | Short Term  | Medium    | Improbable  | Low                                |
| Groundwater contamination                 | Site   | Medium Term | Low       | Probable    | Low                                |

| Activity    | Impact summary  | Significance with mitigation |
|-------------|---|------------------------------|
|             | <ul> <li>Direct impacts (from prospecting activities):</li> <li>Utilization of groundwater for prospecting activities could cause a drop in the groundwater table.</li> <li>Loss of groundwater if prospecting water related infrastructure; i.e. pipelines and dams, are not adequately maintained by Cipla.</li> </ul>  | Negative:<br>Very Low        |
|             | <ul> <li>Indirect impacts (from prospecting activities):</li> <li>Possible hydrocarbon spills from prospecting vehicles and equipment, which could contaminate the groundwater.</li> <li>Possible chemical spills from chemical toilets utilized by the prospecting operation, which could contaminate the groundwater.</li> </ul>  | Negative:<br>Very Low        |
| Groundwater | <ul> <li>Cumulative impacts:</li> <li>Utilization of groundwater for prospecting activities could cause a drop in the groundwater table.</li> <li>Loss of groundwater if prospecting water related infrastructure; i.e. pipelines and dams, are not adequately maintained by Cipla.</li> <li>Possible hydrocarbon spills from prospecting vehicles and equipment, which could contaminate the groundwater.</li> <li>Possible chemical spills from chemical toilets utilized by the prospecting operation, which could contaminate the groundwater.</li> <li>Loss of groundwater if water related infrastructure; i.e. pipelines, dams and troughs, are not adequately maintained by the surface owner/s.</li> <li>Utilization of groundwater by surrounding mining/prospecting activities could cause a drop in the groundwater table.</li> </ul> | Negative:<br>Low             |
| Noise:      |   |                              |

| Activity      | Extent   | Duration    | Intensity | Probability | Significance<br>without mitigation |
|---------------|----------|-------------|-----------|-------------|------------------------------------|
| Bulk sampling | Regional | Medium Term | Medium    | Definite    | Medium                             |
| Blasting      | Regional | Short Term  | Medium    | Probable    | Medium                             |
| Drilling      | Regional | Short Term  | Low       | Definite    | Low                                |

| Processing plant                   | Regional | Long Term  | Medium | Definite | Medium                     |
|------------------------------------|----------|------------|--------|----------|----------------------------|
| Prospecting vehicles and equipment | Site     | Short Term | Low    | Probable | Low                        |
| Farming vehicles                   | Site     | Short Term | Low    | Probable | Negligible / Insignificant |
|                                    |          |            |        |          |                            |

| Activity | Impact summary   | Significance<br>with mitigation |
|----------|--|---------------------------------|
|          | <ul> <li>Direct impacts (from prospecting activities):</li> <li>Noise from blasting activities.</li> <li>Noise from drilling activities.</li> <li>Noise from processing plant.</li> <li>Noise from bulk sampling activities.</li> <li>Noise from prospecting vehicles and equipment.</li> </ul>  | Negative:<br>Medium             |
|          | <ul> <li>Indirect impacts (from prospecting activities):</li> <li>None</li> </ul>  | N/A                             |
| Noise    | Cumulative impacts:         Noise from blasting activities.         Noise from drilling activities.         Noise from processing plant.         Noise from bulk sampling activities.         Noise from prospecting vehicles and equipment.         Noise from farming vehicles.         Noise from surrounding prospecting/mining activities.         Traffic noise from surrounding road network. | Negative:<br>Medium             |

| I rattic noise from                         |        |            |           |             |                            |
|---|--------|------------|-----------|-------------|----------------------------|
| • Soil:                                     |        |            |           |             |                            |
| Activity                                    | Extent | Duration   | Intensity | Probability | Significance               |
|   |        |            |           |             | without mitigation         |
| Disturbance of soil structure               | Local  | Short Term | Low       | Probable    | Low                        |
| Hydrocarbon/chemical spills                 | Local  | Short Term | Low       | Probable    | Low                        |
| Erosion                                     | Site   | Short Term | Low       | Improbable  | Negligible / Insignificant |
| Soil compaction – Prospecting<br>Activities | Local  | Short Term | Low       | Probable    | Low                        |
| Soil compaction – Overgrazing               | Local  | Short Term | Low       | Improbable  | Negligible / Insignificant |

| Activity | Impact summary  | Significance<br>with mitigation |
|----------|---|---------------------------------|
|          | <ul> <li>Direct impacts (from prospecting activities):</li> <li>Disturbance of the soil structure where prospecting activities and related infrastructure are conducted/established.</li> <li>Possible hydrocarbon spills from prospecting vehicles and equipment.</li> </ul>   | Negative:<br>Very Low           |
|          | <ul> <li>Indirect impacts (from prospecting activities):</li> <li>Compaction of soil during prospecting activities.</li> <li>Erosion in areas where vegetation has been cleared for prospecting related activities.</li> </ul>  | Negative:<br>Very Low           |
| Soil     | <ul> <li>Cumulative impacts:</li> <li>Disturbance of the soil structure where prospecting activities and related infrastructure are conducted/established.</li> <li>Possible hydrocarbon spills from prospecting vehicles and equipment.</li> <li>Compaction of soil during prospecting activities.</li> <li>Erosion in areas where vegetation has been cleared for prospecting related activities.</li> <li>Possible chemical spills from chemical toilets utilized by the prospecting operation.</li> <li>Compaction of soil during drilling activities.</li> <li>Potential hydrocarbon spills on the surrounding road network.</li> <li>Compaction of soil in the event of overgrazing.</li> <li>Potential hydrocarbon spills by surrounding prospecting / mining activities.</li> </ul> | Negative:<br>Very Low           |

• Surface water:

| Activity           | Extent | Duration   | Intensity | Probability | Significance<br>without mitigation |
|--------------------|--------|------------|-----------|-------------|------------------------------------|
| Hydrocarbon spills | Site   | Short Term | Low       | Improbable  | Negligible / Insignificant         |
| Erosion            | Site   | Short Term | Low       | Probable    | Low                                |
|                    |        | L          | L         |             |                                    |

| Activity      | Impact summary   | Significance          |
|---------------|--|-----------------------|
| Surface water | <ul> <li>Direct impacts (from prospecting activities):</li> <li>None anticipated if buffer zones around non-perennial drainage lines and ephemeral pans are adhered to.</li> </ul> | N/A                   |
|               | <ul><li>Indirect impacts (from prospecting activities):</li><li>Hydrocarbon spills could potentially flow into non-perennial drainage lines and ephemeral</li></ul>                | Negative:<br>Very Low |

| <ul> <li>pans during rain events.</li> <li>Erosion in areas where vegetation has been cleared for prospecting related activities, which could lead to soil run-off into non-perennial drainage lines and ephemeral pans during rain events.</li> </ul> |                       |
|--|-----------------------|
| <ul> <li><i>Cumulative impacts:</i></li> <li>Hydrocarbon spills could potentially flow into non-perennial drainage lines and ephemeral pans during rain events.</li> </ul>   | Negative:<br>Very Low |

• Topography:

| Activity                   | Extent | Duration  | Intensity | Probability | Significance<br>without mitigation |
|----------------------------|--------|-----------|-----------|-------------|------------------------------------|
| Changing of natural slopes | Local  | Long Term | Low       | Definite    | Low                                |

| Activity   | Impact summary   | Significance               |
|------------|--|----------------------------|
|            | Direct impacts (from prospecting activities):                                    | Negative:                  |
|            | Changing of natural slopes will take place during bulk sampling activities.      | Very Low                   |
|            | Indirect impacts (from prospecting activities):                                  | Negligible / Incignificant |
| Topography | • Temporary stockpiles / waste rock dumps will temporarily alter the topography. | Negligible / Insignificant |
|            | Cumulative impacts:  | Negotivo                   |
|            | Changing of natural slopes will take place during bulk sampling activities.      | Negative:<br>Very Low      |
|            | • Temporary stockpiles / waste rock dumps will temporarily alter the topography. | Very 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.)

Locality of infrastructure area:

- Positive:
  - Topography of the area:
    - The area where it is anticipated that the infrastructure will be established is relatively flat, which will ease the establishment of infrastructure.
    - Surface water run-off management will be minimal.
    - Rehabilitation of disturbed areas will be easier to conduct.
  - Locality of the ore bodies:

The establishment of the infrastructure area near the ore bodies, minimize the creation of haul roads and the overall area of impact.

• Environmental:

The infrastructure will be established outside all buffer zones placed around the ephemeral pans and non-perennial drainage lines.

o Residential:

The infrastructure will be established outside all buffer zones placed around the residential buildings.

- Negative:
  - Locality of the ore bodies;

The hauling distance of material will be increased as bulk sampling progresses to ore bodies situated further from the planned infrastructure area.

#### Locality of alternative sites:

- Positive:
  - Locality of the ore bodies;

The hauling distance of material could be decreased if infrastructure is established at an alternative site as bulk sampling progresses.

Negative:

Topography of the area:

- Should the area where the site will be not be flat, it could cause design problems during establishment.
- Surface water run-off management would be problematic.
- Rehabilitation of disturbed areas will be harder to conduct.
- Locality of the ore bodies;

The establishment of more haul roads and a larger overall area of impact.

## (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;  | Medium      |
|   |             | <ul> <li>Spraying of surfaces with water;</li> </ul>   |             |
|   |             | <ul> <li>Avoidance of unnecessary removal of</li> </ul>  |             |
|   |             | vegetation;  |             |
|   |             | Re-vegetation;   |             |
|   |             | Monitoring;  |             |
|   |             | <ul> <li>Backfilling and rehabilitation of disturbed</li> </ul>  |             |
|   |             | areas; and   |             |
|   |             | <ul> <li>Controlled drilling and blasting operations,</li> </ul>   |             |
|   | <b>F</b>    | preferably on wind-free days.  | NA - dia an |
|   | Fauna       | Speed limits;  | Medium      |
|   |             | <ul> <li>Continuous backfilling of open excavations;</li> </ul>  |             |
|   |             | Low angle access ramp in excavations;  |             |
|   |             | <ul> <li>Continuous rehabilitation of disturbed areas;</li> </ul>  |             |
|   |             | <ul> <li>Snares &amp; traps removed and destroyed; and</li> <li>Maintenance of firebrasks</li> </ul>                   |             |
|   | Flora       | Maintenance of firebreaks.   | Medium      |
|   | FIUIA       | <ul> <li>Continuous backfilling of open excavations;</li> <li>Continuous rehabilitation of disturbed areas;</li> </ul> | Medium      |
|   |             | Maria ta a sa a fi fina hana a la sa   |             |
|   |             | <ul> <li>Maintenance of firebreaks;</li> <li>No trees felled for firewood;</li> </ul>                                  |             |
|   |             | <ul> <li>Obtain relevant permit before removal of</li> </ul>   |             |
|   |             | protected tree or plant species; and   |             |
|   |             | <ul> <li>Re-seeding where necessary.</li> </ul>  |             |
|   | Ground      | <ul> <li>Immediate removal of any hydrocarbon spill;</li> </ul>  | Low         |
|   | water       | <ul> <li>Maintenance in dedicated area;</li> </ul>   |             |
|   |             | <ul> <li>Re-fuelling in dedicated area;</li> </ul>   |             |
|   |             | <ul> <li>Drip pans;</li> </ul>   |             |
|   |             | • Storage of hydrocarbons in dedicated areas;  |             |
|   |             | • Monitoring of groundwater abstraction and  |             |
|   |             | quality; and   |             |
|   |             | Clean & Dirty water system.  |             |
|   | Noise       | Hearing protection;  | Medium      |
|   |             | <ul> <li>Non-metallic washers to join infrastructure;</li> </ul>   |             |
|   |             | Working hours;   |             |
|   |             | <ul> <li>Controlled drilling &amp; blasting operations;</li> </ul>   |             |
|   |             | <ul> <li>Silencers on equipment and vehicles;</li> </ul>   |             |
|   |             | Acoustic enclosure for generators; and   |             |
|   | <u> </u>    | Distance from residence of surface owner.  |             |
|   | Soil        | Continuous backfilling of open excavations;  | Medium      |
|   |             | <ul> <li>Continuous rehabilitation of disturbed areas;</li> </ul>  |             |
|   |             | <ul> <li>Ripping of compacted areas;</li> <li>Deploying lower of tangeil over booldilled</li> </ul>                    |             |
|   |             | <ul> <li>Replacing layer of topsoil over backfilled<br/>areas;</li> </ul>  |             |
|   |             | <ul><li>areas;</li><li>Maintenance &amp; refuelling in dedicated areas;</li></ul>                                      |             |
|   |             | •  |             |
|   |             | Drip pans;   |             |

|            | <ul> <li>Storage of hydrocarbons in dedicated areas;<br/>and</li> </ul> |        |
|------------|---|--------|
|            | • Immediate removal of any hydrocarbon spill.                           |        |
| Surface    | Storm water control;  | Low    |
| water      | • Immediate removal of any hydrocarbon spill;                           |        |
|            | • Maintenance & re-fuelling in dedicated areas;                         |        |
|            | Drip pans;  |        |
|            | <ul> <li>Storage of hydrocarbons in dedicated areas;</li> </ul>         |        |
|            | Clean & dirty water plan.   |        |
| Topography | Continuous backfilling of open excavations;                             | Medium |
|            | Replacing layer of topsoil over backfilled                              |        |
|            | areas;  |        |
|            | <ul> <li>Sloping of rehabilitated and disturbed areas;</li> </ul>       |        |
|            | and   |        |
|            | <ul> <li>Sloping of topsoil dumps, stockpiles and</li> </ul>            |        |
|            | waste rock dumps.   | -      |
| Visual     | <ul> <li>Continuous backfilling of open excavations;</li> </ul>         | Low    |
|            | Replacing layer of topsoil over backfilled                              |        |
|            | areas;  |        |
|            | <ul> <li>Sloping of rehabilitated and disturbed areas;</li> </ul>       |        |
|            | <ul> <li>Sloping of topsoil dumps, stockpiles and</li> </ul>            |        |
|            | waste rock dumps; and   |        |
|            | <ul> <li>Removal of all infrastructure upon closure.</li> </ul>         |        |

(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.)

A detailed Site Plan cannot be provided in this early stage of the application process as the locality of the invasive prospecting activities is dependent on the results of the non-invasive prospecting activities.

We do; however; insert below a Conceptual Site Plan indicating all existing infrastructure (i.e. roads) as well as sensitive environmental features to assist with planning when the results of the abovementioned non-invasive stages have been obtained.

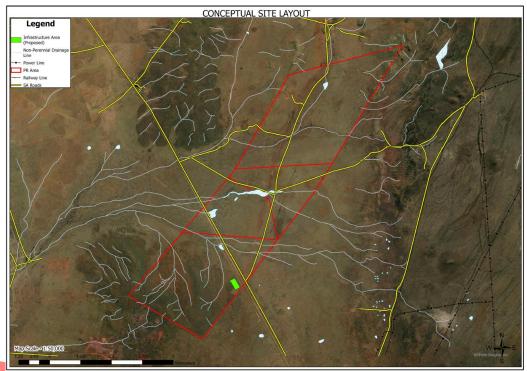


Figure 15 – Conceptual site layout plan

#### (x) Motivation where no alternative sites were considered:

No viable alternative sites were identified for the following reasons:

- Cipla holds a valid Prospecting Right over the PR Area.
- The final locality of the infrastructure area can only be decided upon after taking into account of the following:-
  - Locality of the ore bodies;
  - Topography of the area;
  - Locality of the residential buildings at the site;
  - o Environmental features; and
  - Discussions with the surface owners.

#### (xi) Statement motivating the preferred site:

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

Cipla holds a valid Prospecting Right over the PR Area.

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 Section 102 and during the construction phase.

• No-go option:

The following positive impacts will be lost if the proposed bulk sampling 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, Tanja 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:

Regulation 16(1)(v) of the Environmental Impact Assessment Regulations, 2014, as amended, requires that a proponent make use of the online 'National Environmental Screening Tool' to identify specific requirements, including specialist studies applicable to a proposed site based on the environmental sensitivity of the site.

| Agriculture | Animal Species | Aquatic<br>Biodiversity | Archaeological<br>and Cultural<br>Heritage | Civil Aviation | Defence | Palaeontology | Plant Species | Terrestrial<br>Biodiversity |
|-------------|----------------|-------------------------|--|----------------|---------|---------------|---------------|-----------------------------|
| Medium      | High           | Very High               | Low  | High           | Low     | High          | Low           | Very High                   |

• Agriculture:

The total anticipated surface disturbance by Cipla calculates to approximately 10 hectares (including the proposed infrastructure area).

The total extent of the PR Area is 3 661.5088 hectares, thus calculating to a 0.27% surface disturbance by Cipla.

Furthermore, all three of the Vegetation Types' conservation is listed as 'Least threatened'; thus it is not foreseen that the economic livelihood of the surface owner/s from the livestock/game farming activities will be irreversibly damaged.

A specialist report to assess agriculture potential is not deemed necessary.

• Animal Species:

The total anticipated surface disturbance by Cipla calculates to approximately 10 hectares (including the proposed infrastructure area). The total extent of the PR Area is 3 661.5088 hectares, thus calculating to a 0.27% surface disturbance by Cipla.

A specialist report to assess the potential negative impact to natural fauna is not deemed necessary.

• Aquatic Biodiversity:

The Screening Report lists the FEPA Subcatchment / Wetlands as very high sensitivity features.

No-prospecting buffer zones (100m: non-perennial drainage lines; 500m: ephemeral pans) should be placed around surface water resources.

No specialist report is deemed necessary if buffer zones are adhered to.

#### • Archaeological and Cultural Heritage:

A specialist will be appointed to conduct a desktop Heritage Impact Assessment. The findings of this report will be included in the EIA/EMPr document.

Civil Aviation:

The PR Area is situated within 8km of a aviation aerodome (Tommy's Airfield).

No impact to this airfield is foreseen, thus no specialist report is deemed necessary.

• Defence:

Lohatlha is situated approximately 15km north-east of the PR Area.

No impact on Lohatlha is foreseen, thus no specialist report is deemed necessary.

• Palaeontology:

The online Palaeosensitivity Map of South African Heritage Resources Agency (SAHRA) has been used to determine the palaeontological sensitivity of the application area. In terms of this map the sensitivity of the application area is rated as high and requires a desktop study and based on the outcome of the desktop study, a field assessment is likely. The findings of this report will be included in the EIA/EMPr document.

• Plant Species:

The total anticipated surface disturbance by Cipla calculates to approximately 10 hectares (including the proposed infrastructure area). The total extent of the PR Area is 3 661.5088 hectares, thus calculating to a 0.27% surface disturbance by Cipla.

Furthermore, all three of the Vegetation Types' conservation is listed as 'Least threatened'; thus it is not foreseen that the economic livelihood of the surface owner/s from the livestock/game farming activities will be irreversibly damaged.

A specialist report is not deemed necessary.

• Terrestrial Biodiversity:

The Screening Report lists the FEPA Subcatchment / Ecological Support Area as very high sensitivity features.

No-prospecting buffer zones (100m: non-perennial drainage lines; 500m: ephemeral pans) should be placed around surface water resources.

No specialist report is deemed necessary if buffer zones are adhered to.

### (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 bulk sampling 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/EMPr process as follows:

- Notification letters;
- Newspaper advert; 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 owner/s.
- 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 of the properties and all registered interested and / or affected parties, requesting this document, for comment and input.

### (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<br>(e.g. excavations, blasting, stockpiles,<br>discard dumps or dams, loading, hauling<br>and transport, water suppy dams and<br>boreholes, accommodation, offices,<br>ablution, stores, workshops, processing<br>lant, storm water control, berms, roads,<br>pipelines, power lines, conveyors,<br>etcetcetc) | (e.g. dust, noise, drainage, surface disturbance, fly rock,<br>surface water contamination, groundwater<br>contamination, air pollution etcetc)   | modify, remedy, control or stop<br>(e.g. noise control measures, stormwater control, dust<br>control, rehabilitation, design measures, blasting controls,<br>avoidance, relocation, alternative activity etcetc)<br>(e.g. modify through alternative method. Control through<br>management and monitoring through rehabilitation.) | FOR<br>RESIDUAL<br>RISK |
| Blasting  | <ul> <li>Dust</li> <li>Fly-rock</li> <li>Noise</li> <li>Removal and disturbance of vegetation cover and natural habitat of fauna</li> <li>Surface disturbance</li> <li>Surface water contamination</li> </ul> | <ul> <li>Dust control and monitoring</li> <li>Noise control and monitoring</li> <li>Access control</li> <li>Continuous rehabilitation</li> <li>Stormwater run-off control</li> </ul>   | Medium                  |
| Boreholes   | <ul> <li>Dust</li> <li>Noise</li> <li>Removal and disturbance of vegetation cover and natural habitat of fauna.</li> <li>Surface disturbance</li> </ul>   | <ul> <li>Dust control and monitoring</li> <li>Noise control and monitoring</li> <li>Continuous rehabilitation</li> </ul>   | Low                     |
| Chemical toilets  | <ul><li>Soil contamination</li><li>Groundwater contamination</li></ul>  | <ul> <li>Maintenance of toilets on regular<br/>basis.</li> <li>Removal of toilets upon closure.</li> </ul>   | Very low                |
| Clean & Dirty water system  | <ul> <li>Surface disturbance</li> <li>Groundwater contamination</li> <li>Soil contamination</li> <li>Surface water contamination</li> </ul>   | <ul> <li>Maintenance of berms and trenches.</li> <li>Groundwater levels and quality monitoring.</li> <li>Oil traps used in relevant areas.</li> <li>Drip trays used.</li> <li>Immediately clean hydrocarbon spill.</li> </ul>  | Low                     |

| Diesel tanks              | Groundwater contamination                       | Maintenance of diesel tanks and bund               | Low      |
|---------------------------|---|--|----------|
|                           | Removal and disturbance of                      | walls.   |          |
|                           | vegetation cover and natural habitat            | Oil traps.   |          |
|                           | of fauna  | Groundwater quality monitoring.                    |          |
|                           | Soil contamination                              | Drip tray at re-fuelling point.                    |          |
|                           | Surface disturbance                             | Immediately clean hydrocarbon spill.               |          |
| Excavations               | Dust  | Access control                                     | Medium   |
|                           | Groundwater contamination                       | <ul> <li>Dust control and monitoring</li> </ul>    |          |
|                           | Noise   | <ul> <li>Groundwater quality monitoring</li> </ul> |          |
|                           | Removal and disturbance of                      | Noise control and monitoring                       |          |
|                           | vegetation cover and natural habitat            | Continuous rehabilitation                          |          |
|                           | of fauna  | <ul> <li>Stormwater run-off control</li> </ul>     |          |
|                           | Soil contamination                              | Immediately clean hydrocarbon spill                |          |
|                           | Surface disturbance                             | Drip trays   |          |
|                           | <ul> <li>Surface water contamination</li> </ul> | Rock stability control and monitoring              |          |
|                           |   | Erosion control                                    |          |
| Generator                 | Groundwater contamination                       | Access control                                     | Low      |
|                           | Noise   | Maintenance of generator and bund                  |          |
|                           | Removal and disturbance of                      | walls  |          |
|                           | vegetation cover and natural habitat            | <ul> <li>Noise control and monitoring</li> </ul>   |          |
|                           | 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 low |
|                           | vegetation cover and natural habitat            | Rip disturbed areas to allow re-growth             |          |
|                           | of fauna  | of vegetation cover                                |          |
|                           | Soil contamination                              |  |          |
|                           | Surface disturbance                             |  |          |
| Parking bay               | Dust  | Dust control and monitoring                        | 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 <ul> <li>Surface disturbance</li> </ul>  | <ul> <li>Immediately clean hydrocarbon spills</li> <li>Rip disturbed areas to allow re-growth of vegetation cover</li> </ul>  |        |
|--|---|---|--------|
| Processing plant including<br>recycling / settling dam if<br>necessary | <ul> <li>Dust</li> <li>Noise</li> <li>Groundwater contamination and usage</li> <li>Removal and disturbance of vegetation cover and natural habitat of fauna</li> <li>Soil contamination</li> <li>Surface disturbance</li> </ul>       | <ul> <li>Access control</li> <li>Maintenance of processing plant</li> <li>Dust control and monitoring</li> <li>Groundwater quality and level<br/>monitoring</li> <li>Noise control and monitoring</li> <li>Drip trays</li> <li>Stormwater run-off control.</li> <li>Immediately clean hydrocarbon spills</li> <li>Rip disturbed areas to allow re-growth<br/>of vegetation cover</li> </ul> | Medium |
| Roads  | <ul> <li>Dust</li> <li>Groundwater contamination</li> <li>Noise</li> <li>Removal and disturbance of vegetation cover and natural habitat of fauna</li> <li>Surface disturbance</li> </ul>   | <ul> <li>Maintenance of roads</li> <li>Dust control and monitoring</li> <li>Groundwater quality monitoring</li> <li>Noise control and monitoring</li> <li>Speed limits</li> <li>Stormwater run-off control.</li> <li>Erosion control</li> <li>Immediately clean hydrocarbon spills</li> <li>Rip disturbed areas to allow re-growth of vegetation cover</li> </ul>                           | Low    |
| Salvage yard   | <ul> <li>Groundwater contamination</li> <li>Removal and disturbance of<br/>vegetation cover and natural habitat<br/>of fauna</li> <li>Soil contamination</li> <li>Surface disturbance</li> <li>Surface water contamination</li> </ul> | <ul> <li>Access control</li> <li>Maintenance of fence.</li> <li>Groundwater quality monitoring</li> <li>Stormwater run-off control</li> <li>Immediately clean hydrocarbon spill</li> </ul>  | Low    |
| Security access control point – mobile container                       | <ul><li>Dust</li><li>Groundwater contamination</li></ul>  | <ul><li>Access control</li><li>Maintenance of boom gates and</li></ul>  | Low    |

|                                      | <ul> <li>Noise</li> <li>Removal and disturbance of vegetation cover and natural habitat of fauna</li> <li>Surface disturbance</li> <li>Surface disturbance</li> <li>Container.</li> <li>Dust control and monitoring</li> <li>Noise control and monitoring</li> <li>Groundwater quality monitoring</li> <li>Immediately clean hydrocarbon spi</li> <li>Rip disturbed areas to allow re-grow of vegetation cover</li> </ul>           |     |
|--------------------------------------|---|-----|
| Stockpile area                       | <ul> <li>Dust</li> <li>Groundwater contamination</li> <li>Noise</li> <li>Removal and disturbance of vegetation cover and natural habitat of fauna</li> <li>Surface disturbance</li> <li>Surface disturbance</li> </ul>  |     |
| Storage facility – mobile containers | <ul> <li>Removal and disturbance of vegetation cover and natural habitat of fauna</li> <li>Soil contamination</li> <li>Surface disturbance</li> <li>Immediately clean hydrocarbon spi of vegetation cover</li> <li>Rip disturbed areas to allow re-grou of vegetation cover</li> </ul>  | -   |
| Topsoil storage area                 | <ul> <li>Dust</li> <li>Removal and disturbance of vegetation cover and natural habitat of fauna</li> <li>Soil disturbance</li> <li>Surface disturbance</li> <li>Surface disturbance</li> <li>Dust control and monitoring</li> <li>Stormwater run-off control.</li> <li>Continuous rehabilitation</li> <li>Rip disturbed areas to allow re-grou of vegetation cover</li> <li>Backfilling of topsoil during rehabilitation</li> </ul> | Low |
| Washbay                              | <ul> <li>Groundwater contamination and<br/>usage</li> <li>Removal and disturbance of<br/>vegetation cover and natural habitat<br/>of fauna</li> <li>Soil contamination</li> <li>Groundwater quality and level<br/>monitoring</li> <li>Concrete floor with oil/water separa</li> <li>Stormwater run-off control</li> <li>Immediately clean hydrocarbon spi</li> </ul>  |     |

| Waste disposal site         | Groundwater contamination                      | • 5 | Storage of waste within receptacles    | Low |
|-----------------------------|--|-----|--|-----|
|                             | Surface water contamination                    | • 5 | Storage of hazardous waste on          |     |
|                             |  | C   | concrete floor with bund wall          |     |
|                             |  | •   | emoval of waste on regular intervals.  |     |
| Waste rock dumps            | Dust   | • [ | Dust control and monitoring            | Low |
|                             | Groundwater contamination                      | • ( | Groundwater quality monitoring         |     |
|                             | Noise  | • 1 | Noise control and monitoring           |     |
|                             | Removal and disturbance of                     | • 5 | Stormwater run-off control.            |     |
|                             | vegetation cover and natural habitat           | • F | Rip disturbed areas to allow re-growth |     |
|                             | of fauna                                       | C   | of vegetation cover                    |     |
|                             | Surface disturbance                            |     |  |     |
| Water dam                   | Groundwater abstraction and usage              | • L | ine dam                                | Low |
|                             | Surface disturbance                            | •   | Maintenance of dam walls.              |     |
|                             |  | • ( | Groundwater levels and quality         |     |
|                             |  | r   | nonitoring.                            |     |
| Water distribution pipeline | Groundwater abstraction and usage              | • N | Maintenance of pipeline                | Low |
| Water tank                  | Groundwater abstraction and usage              | • N | Maintain water tanks and structures.   | Low |
|                             | Surface disturbance                            |     | Groundwater levels and quality         |     |
|                             |  |     | nonitoring.                            |     |
| Weighbridge                 | Dust   |     | Access control                         | Low |
|                             | Groundwater contamination                      |     | Maintenance of weighbridge             |     |
|                             | Noise  |     | Dust control and monitoring            |     |
|                             | <ul> <li>Removal and disturbance of</li> </ul> |     | Noise control and monitoring           |     |
|                             | vegetation cover and natural habitat           |     | Groundwater quality monitoring         |     |
|                             | of fauna                                       |     | mmediately clean hydrocarbon spill     |     |
|                             | Surface disturbance                            |     | Rip disturbed areas to allow re-growth |     |
|                             |  |     | of vegetation cover                    |     |
| Weighbridge control room –  | • Dust   |     | Access control                         | Low |
| mobile container            | Groundwater contamination                      | • N | Maintenance of weighbridge control     |     |
|                             | Noise  |     | oom                                    |     |
|                             | <ul> <li>Removal and disturbance of</li> </ul> |     | Dust control and monitoring            |     |
|                             | vegetation cover and natural habitat           |     | Noise control and monitoring           |     |
|                             | of fauna                                       | • ( | Groundwater quality 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                                | ٠ | 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                             | • | Groundwater quality monitoring                             |     |
|                              | 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 bulk sampling. Negative: Loss of grazing land
- Impact on other I&AP:
  - To be determined during consultation process. The results shall be included in the EIA/EMPr document.
  - 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.
- 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.)

The Heritage Impact Assessment Report and Palaeontological Heritage Report should list a number of recommendations relating to any archaeological or palaeontological finds.

Should these recommendations be adhered to by Xhariep, no impact on any national estate in terms of Section 3(2) of the National Heritage Resources Act is foreseen.

(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'.)

There are no viable alternatives as Cipla has a prospecting right over the properties.

#### (xii) Undertaking regarding correctness of information:

I, Tanja 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 has been correctly recorded in the report.

Signature of EAP

Date: \_\_\_\_\_

(xiii) Undertaking regarding level of agreement:

I, Tanja Jooste, ID number ..., herewith undertake that the information provided in the foregoing report is correct, and that the level of agreement with Interested and Affected Parties and stakeholders has been correctly recorded and reported herein.

-END-

Signature of EAP

Date: