



**mineral resources**

Department:  
Mineral Resources  
**REPUBLIC OF SOUTH AFRICA**

**NAME OF APPLICANT: Summer Season Trading 41 (Pty) Ltd**

**REFERENCE NUMBER: File No. NC423PR Registered under 175-2012PR**

# **ENVIRONMENTAL MANAGEMENT PLAN**

**SUBMITTED**

**IN TERMS OF SECTION 39 AND OF  
REGULATION 52 OF THE MINERAL AND  
PETROLEUM RESOURCES DEVELOPMENT  
ACT, 2002,**

**(ACT NO. 28 OF 2002) (the Act)**

## **STANDARD DIRECTIVE**

Applicants for prospecting rights or mining permits, are herewith, in terms of the provisions of Section 29 (a) and in terms of section 39 (5) of the Mineral and Petroleum Resources Development Act, directed to submit an Environmental Management Plan strictly in accordance with the subject headings herein, and to compile the content according to all the sub items to the said subject headings referred to in the guideline published on the Departments website, within 60 days of notification by the Regional Manager of the acceptance of such application. This document comprises the standard format provided by the Department in terms of Regulation 52 (2), and the standard environmental management plan which was in use prior to the year 2011, will no longer be accepted.

**IDENTIFICATION OF THE APPLICATION IN RESPECT OF WHICH THE ENVIRONMENTAL MANAGEMENT PLAN IS SUBMITTED.**

| <b>ITEM</b>    | <b>COMPANY CONTACT DETAILS</b>                          |
|----------------|---|
|                |   |
| Name           | Summer Season Trading 41 (Pty) Ltd.                     |
| Tel no         | 073 160 7625  |
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| <b>ITEM</b>    | <b>CONSULTANT CONTACT DETAILS (If applicable)</b> |
|----------------|---|
|                |   |
| Name           | Digby Wells Environmental                         |
| Tel no         | 0117899495  |
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# 1 REGULATION 52 (2): Description of the environment likely to be affected by the proposed prospecting or mining operation

## 1.1 The environment on site relative to the environment in the surrounding area.

### Topography:

The area is characterised by a very flat topography, except for a narrow strip bordering the Orange River. The flat topography resulted from the prominent developed diamondiferous terraces developed in the past. Where these terraces were exploited in the early 1900s and due to the fact that no rehabilitation occurred during this time, a very rugged and uneven topography in the area resulted.

### Soil:

The area is largely covered with aeolian sand and calcrete. The soil in the area can be classified as a Hutton type soil when present.

### Flora:

According to Acocks (1953, p. 106), the area adjacent to the Orange River can be described as Acacia defined veld. Shrubs associated with this type of area are:

- *Acacia spirocarpoides* (Haak-en-Steek);
- *Tarchonanthus camphorates* (Vaalbos);
- *Acacia defines* (Swarthaak); and
- *Rhigozum trichotomum* (Drie doring).

Due to the low rainfall in the area, plants and grasses are well adapted to survive droughts. It is found that the Karoobossie covers the area whilst the *Aristida ciliate* (Boesmansgras) and *Stipagrostis amabilis* (Steekgras) normally appear just after the first rains.

### Fauna:

The following antelope species were found within in the study area:

- *Antdorcas marsupialis* (Springbok);
- *Raphicercus camperstris* (Steenbok); and
- *Sylvicapra grimmia* (Duiker).

The *Hysrix africae-australis* (Ystervark) and the *Orycteropus afer* (Aardvark) are known to be abundant within the area. Other species also include the *Procavia caensis* (Dassie) and the *Pedetes cafer* (Springhaas).

Three types of jackal were also found within the study area:

- *Thos mesomelas* (Red Jackal);

- *Vulpus cynalopex chama* (Silver Jackal); and
- *Otocyon megalotis megalotis* (Bakoor Jackal).

The following bird species could occur within the study area:

- *Fulica cristata*;
- *Recurvirostra avosette*;
- *Pterocles namaqua*;
- *Sagittarius serpentaris*;
- *Afrostis afra afra*;
- *Struthio camelus*; and
- Familie *falconidae*.

### **1.2 The specific environmental features on the site applied for which may require protection, remediation, management or avoidance.**

The Orange River is approximately 1km north from the study area. It is important to ensure that no prospecting or bulk sampling activities will occur within 100m from the river. Appendix A1 shows the designated buffer zone limiting prospecting activities.

### **1.3 Map showing the spatial locality of all environmental, cultural/heritage and current land use features identified on site.**

Please see Appendix A and A1 for maps showing environmental features.

### **1.4 Confirmation that the description of the environment has been compiled with the participation of the community, the landowner and interested and affected parties,**

The landowner has been consulted and furnished a written consent to the prospecting and bulk sampling activities

## **2 REGULATION 52 (2) (b): Assessment of the potential impacts of the proposed prospecting or mining operation on the environment, socio-economic conditions and cultural heritage.**

### **. Description of the proposed prospecting or mining operation.**

The existing prospecting right EMP describes the activities and environmental impacts for the prospecting without bulk sampling.

Summer Season Trading 41 (Pty) Ltd is planning to undertake bulk sampling activities on the Remaining Extent of the farm Slypsteen 41, district Hopetown, as part of its prospecting activities which were approved by the DMR under a prospecting right (Registered under 175-2012PR). The bulk sampling activities will be undertaken in two (2) phases. Phase one which is planned for the

second half of 2014 and first half of 2015 and will comprise of the removal and testing of 300 000 metric Tonnes of alluvial gravel. Phase two of the bulk sampling activities which is planned to be undertaken during second half of 2015 and first half of 2016 will comprise of the removal 800 000 metric Tonnes of alluvial gravel. All bulk sampling material will be processed through a mobile beneficiation plant which will be located on site. This process will be managed and funded by Leburu Diamonds.

On site infrastructure for the bulk sampling activities will include a small mobile beneficiation plant. All equipment maintenance and refuelling will be done at an existing farm shed with two 2m<sup>3</sup> diesel storage tanks.

### **2.1.1 The main prospecting activities (e.g. access roads, topsoil storage sites and any other basic prospecting design features )**

The existing prospecting right EMP describes the activities and environmental impacts for the prospecting without bulk sampling.

The following activities will occur during the proposed bulk sampling activities:

- Activity 1: Construction of the temporary process plant;
- Activity 2: Use of the existing farm house for food preparation and change house facilities.
- Activity 3: Maintaining and refuelling of equipment at existing farm shed onsite.
- Activity 4: Bulk Sampling

### **2.1.2 Plan of the main activities with dimensions**

A conceptual plan has been included in Appendix A. Two sketch plans (Appendix A2 and Appendix A3) show the planned boreholes and trenches as planned in the original PWP.

### **2.1.3 Description of construction, operational, and decommissioning phases.**

**Table 1: Project activities associated with the bulk sampling activities**

| <b>Activity</b>   | <b>Description</b>  | <b>Project Phase</b>   |
|---|---|--|
| Activity 1:<br>Construction of the temporary process plant      | Construction and operation of temporary beneficiation plant to test the bulk sample material. | <ul style="list-style-type: none"> <li>■ Construction</li> <li>■ Operation</li> <li>■ Decommissioning</li> </ul> |
| Activity 2: Use of the existing farm house for food preparation | Sub-contractors will make use of the existing farmhouse for cooking                           | <ul style="list-style-type: none"> <li>■ Operation</li> </ul>  |

|  |  |             |
|--|--|-------------|
| and change house facilities.   | food and as a change house facility.   |             |
| Activity 3: Maintaining and refuelling of equipment at existing farm shed. | All equipment used during the bulk sampling will be maintained and refuelled at an existing farm shed on site. | ■ Operation |
| Activity 4: Bulk Sampling  | Bulk Sampling will be done on alluvial gravel in order to determine the resource volume, grade and value       | ■ Operation |

#### 2.1.4 Listed activities (in terms of the NEMA EIA regulations)

No listed activities will be triggered.

## 2.2 Identification of potential impacts

The sections below provide a description of the potential impacts identified for the project activities during the bulk sampling.

### 2.2.1 Potential impacts per activity and listed activities.

**Table 2: Impacts identified with each project activity**

| Activity   | Impact Description  | Project Phase                 |
|--|---|-------------------------------|
| Activity 1: Construction and operation of the temporary mobile beneficiation plant | Noise will be created by the construction and operation of the beneficiation plant which could have a potential negative noise impact on the surrounding environment. | ■ Construction<br>■ Operation |
|  | Fugitive dust emissions will be generated during the beneficiation of the bulk sampling material and could have a potential negative impact on air quality.           | ■ Operation                   |
| Activity 2: Use of the existing farm house for food                                | Generation of domestic waste. Incorrectly disposal of waste could have a  | ■ Operational                 |

|   |  |                                  |
|---|--|----------------------------------|
| preparation and change house facilities.                                      | potential negative impact on the environment.  |                                  |
| Activity 3:<br>Maintaining and refuelling of equipment at existing farm shed. | Hydrocarbon spillages will have a potential negative impact on groundwater and surface water quality.  | ■ Operational                    |
|   | Incorrect disposal of wastes (hazardous and non-hazardous) will have a potential negative impact on the environment.                         | ■ Operational                    |
| Activity 4: Bulk Sampling   | Removal of alluvial gravel could have a potential impact on soils and vegetation in the area of the bulk sampling activities.                | ■ Operation<br>■ Decommissioning |
|   | Equipment used for the bulk sampling activities could have a potential noise impact on the surrounding environment.                          | ■ Operational                    |
|   | Hydrocarbon spillages from poor maintained equipment could have a potential negative impact on soils, groundwater and surface water quality. | ■ Operational                    |

### 2.2.2 Potential cumulative impacts.

Due to the activities being short term and temporary, no cumulative impacts, over and above those already described in the existing EMP are expected.

### 2.2.3 Potential impact on heritage resources

A Heritage Impact Assessment was completed in accordance with sections (ss.) 3(3) and 38(3) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999).



The Scope of Work (SoW) for this HIA complied with s. 38(3) of the NHRA and included *inter alia*:

- Identification and mapping of heritage resources in the proposed bulk sample pits within the larger bulk sample areas;
- Evaluating significance of identified heritage resources commensurate with criteria set out in s. 3(3) of the NHRA;
- Providing suggested grading of identified heritage resources commensurate with criteria set out in s. 7 of the NHRA;
- Assessing the impact of the proposed development on identified heritage resources;
- Recommending feasible mitigation and management plans to ameliorate adverse effects and enhance positive benefits that may result from the proposed development.

The table below sets out heritage sites observed on the proposed bulk sampling area. Only those sites with a value above 'negligible' were considered in the impact assessment.

| Resource ID              | Description   | Value | Designation | Recommended Mitigation   |
|--------------------------|---|-------|-------------|--|
| S.35-003                 | A single MSA blade  | 2     | Negligible  | Sufficiently recorded, no mitigation required  |
| S.35-004                 | A single MSA flake  | 4     | Negligible  | Sufficiently recorded, no mitigation required  |
| S.35-001                 | Acheulean ESA lithics   | 12    | Medium      | Mitigation of resource to include detailed recording and mapping, and limited sampling, e.g. STPs. |
| S.35-002                 | MSA / LSA Lithic scatter  | 12    | Medium      | Mitigation of resource to include detailed recording and mapping, and limited sampling, e.g. STPs. |
| S.35-005                 | Lithic scatter  | 12    | Medium      | Mitigation of resource to include detailed recording and mapping, and limited sampling, e.g. STPs. |
| S.35-006                 | Acheulean lithics   | 12    | Medium      | Mitigation of resource to include detailed recording and mapping, and limited sampling, e.g. STPs. |
| Archaeological landscape | A significant archaeological landscape with deep time depth, including potential palaeontological environment | 16    | High        | Project design must aim to avoid change to resource; Partly conserved, CMP                         |

The table below depicts the impacts on heritage resources before and after mitigation.

| Code    | Impact   | Pre-mitigation: |              |                            |                        |             |                     | Recommended mitigation  | Post-mitigation: |              |                            |                     |             |                       |
|---------|--|-----------------|--------------|----------------------------|------------------------|-------------|---------------------|---|------------------|--------------|----------------------------|---------------------|-------------|-----------------------|
|         |  | Duration        | Extent       | Intensity                  | Consequence            | Probability | Significance        |   | Duration         | Extent       | Intensity                  | Consequence         | Probability | Significance          |
| Neg_SoS | Destruction of Heritage Resources with Negligible Significance | Permanent       | Very limited | Very low - negative        | Slightly detrimental   | Certain     | Minor - negative    | - No mitigation is required based on these resources' heritage value  | Immediate        | Very limited | Very low - negative        | Negligible          | Certain     | Negligible - negative |
| Med-SoS | Destruction of Heritage Resources with Medium Significance     | Permanent       | Local        | Moderately high - negative | Highly detrimental     | Certain     | Moderate - negative | - These resources will require detailed recording, inclusive of extensive site mapping and surface collection<br>'- A watching brief by a suitably qualified archaeologist during construction and operation will enable additional information to be collected   | Permanent        | National     | Moderately high - positive | Highly beneficial   | Likely      | Moderate - positive   |
| Hi-SoS  | Change to archaeological & historical landscape                | Project Life    | Limited      | Moderately high - negative | Moderately detrimental | Certain     | Moderate - negative | - Watching briefs need to be implemented during operation in areas where the likelihood of in situ archaeological deposit is high;<br>- Outcrops of Vredefort Lava, etc. need to be avoided to reduce possible impact on potential rock art;<br>- Mining operations need to be monitored to minimise potential impacts on tangible heritage;<br>- Rehabilitation of mined areas to be done in a manner where sites will be returned to pre-mining conditions to reduce visual impacts and changes to the sense of place of the landscape;<br>- Regional and local development plans in terms of heritage management and tourism should be considered during subsequent project phases (Mining Right Application, Social and Labour Plans, etc.) | Project Life     | Very limited | Moderate - positive        | Slightly beneficial | Likely      | Minor - positive      |

#### **2.2.4 Potential impacts on communities, individuals or competing land uses in close proximity.**

There is no communities close by or that are currently living on the farm where the bulk sampling will occur, thus no impacts are anticipated on communities.

#### **2.2.5 Confirmation that the list of potential impacts has been compiled with the participation of the landowner and interested and affected parties,**

Please refer to Appendix B which is a letter from the landowner confirming that she was included and her inputs considered during the impact identification process.

#### **2.2.6 Confirmation of specialist report appended.**

Heritage Impact Assessment report and confirmation of submission to SAHRA is attached to Appendix C.

### **3 REGULATION 52 (2) (c): Summary of the assessment of the significance of the potential impacts and the proposed mitigation measures to minimise adverse impacts.**

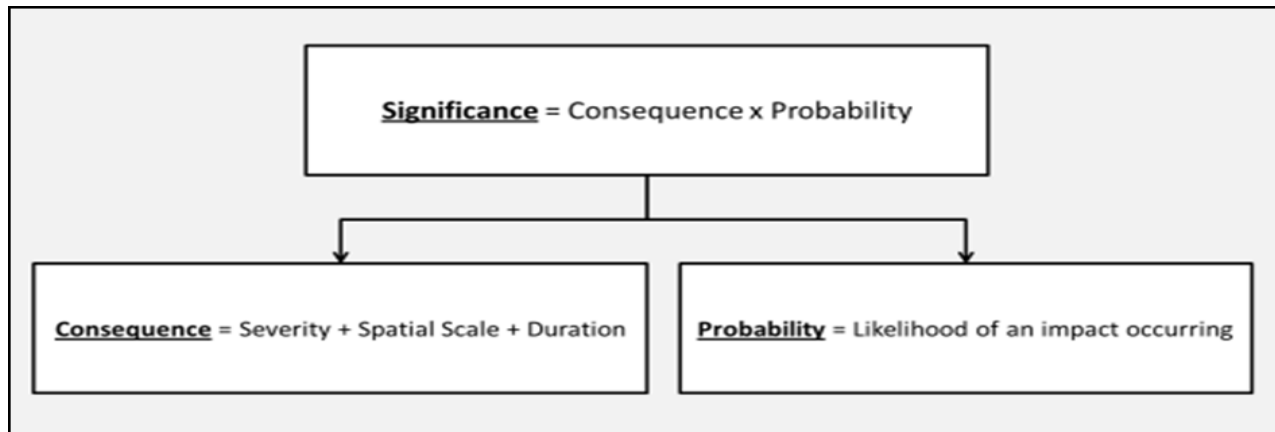
#### **3.1 Assessment of the significance of the potential impacts**

Impacts and risks will be identified based on a description of the existing and proposed future activities to be undertaken as part of the proposed bulk sampling activities. The impact associated with each of these proposed activities will be assessed and a significant rating will be determined for each of them using the flowing formula and matrix below in section 3.1.1.

The mitigation measures and impact management controls for all identified impacts and risks will be incorporated into an EMP.

#### **3.1.1 Criteria of assigning significance to potential impacts**

The significance rating process for impacts follows the established impact/risk assessment formula:



| Significance = Consequence X Probability |   |   |    |    |    |    |    |     |     |     |
|--|---|---|----|----|----|----|----|-----|-----|-----|
| Significance                             |   | Consequence (severity + scale + duration) |    |    |    |    |    |     |     |     |
|  |   | 1   | 3  | 5  | 7  | 9  | 11 | 15  | 18  | 21  |
| Probability / Likelihood                 | 1 | 1   | 3  | 5  | 7  | 9  | 11 | 15  | 18  | 21  |
|  | 2 | 2   | 6  | 10 | 14 | 18 | 22 | 30  | 36  | 42  |
|  | 3 | 3   | 9  | 15 | 21 | 27 | 33 | 45  | 54  | 63  |
|  | 4 | 4   | 12 | 20 | 28 | 36 | 44 | 60  | 72  | 84  |
|  | 5 | 5   | 15 | 25 | 35 | 45 | 55 | 75  | 90  | 105 |
|  | 6 | 6   | 18 | 30 | 42 | 54 | 66 | 90  | 108 | 126 |
|  | 7 | 7   | 21 | 35 | 49 | 63 | 77 | 105 | 126 | 147 |

| <b>Significance</b> |          |  |
|---------------------|----------|--|
| High                | 108- 147 |  |
| Medium-High         | 73 - 107 |  |
| Medium-Low          | 36 - 72  |  |
| Low                 | 0 - 35   |  |

| Rating | Severity   |   | Spatial scale    | Duration   | Probability                      |
|--------|--|---|------------------|--|----------------------------------|
|        | Environmental  | Social / Cultural Heritage  |                  |  |                                  |
| 7      | Very significant impact on the environment. Irreparable damage to highly valued species, habitat or ecosystem. Persistent severe damage.                               | Irreparable damage to highly valued items of great cultural significance or complete breakdown of social order. | International    | Permanent to mitigation  | Certain/ Definite                |
| 6      | Significant impact on highly valued species, habitat or ecosystem.   | Irreparable damage to highly valued items of cultural significance or breakdown of social order.                | National         | Permanent mitigated  | Almost certain/ High probability |
| 5      | Very serious, long- term environmental impairment of ecosystem function that may take several years to rehabilitate.   | Very serious widespread social impacts. Irreparable damage to highly valued items.                              | Province/ Region | Project life<br><br>(The impact will cease after the operational life span of the project) | Likely                           |
| 4      | Serious medium term environmental effects. Environmental damage can be reversed in less than a year.   | On-going serious social issues. Significant damage to structures / items of cultural significance               | Municipal area   | Long term<br>(6-15 years)  | Probable                         |
| 3      | Moderate, short- term effects but not affecting ecosystem function. Rehabilitation requires intervention of external specialists and can be done in less than a month. | Ongoing social issues. Damage to items of cultural significance.  | Local            | Medium term<br>(1-5 years)   | Unlikely/ Low probability        |

|   |   |   |              |                                  |                       |
|---|---|---|--------------|----------------------------------|-----------------------|
| 2 | Minor effects on biological or physical environment. Environmental damage can be rehabilitated internally with/ without help of external consultants. | Minor medium-term social impacts on local population. Mostly repairable. Cultural functions and processes not affected. | Limited      | Short term<br>(Less than 1 year) | Rare/ improbable      |
| 1 | Limited damage to minimal area of low significance, (e.g. ad hoc spills within plant area). Will have no impact on the environment                    | Low-level repairable damage to commonplace structures   | Very Limited | Immediate<br>(Less than 1 month) | Highly Unlikely/ None |



### 3.1.2 Potential impact of each main activity in each phase, and corresponding significance assessment

The table below depicts the significant ratings of all impacts identified for the bulk sampling activities before mitigations.

**Table 3: Impact significance rating before mitigation**

| Activity, Phase and Impact        |              |  |  | Impact Rating (before mitigation)      |               |          |          |             |             |              |
|-----------------------------------|--------------|--|--|--|---------------|----------|----------|-------------|-------------|--------------|
| Phase impact occurs (C, O, D, PC) | Activity No. | Activity   | Summary of Impact  | Nature of Impact (positive / Negative) | Spatial Scale | Duration | Severity | Consequence | Probability | Significance |
| C, O                              | 1            | Activity 1: Construction and operation of the temporary mobile beneficiation                 | Noise will be created by the construction and operation of the beneficiation plant which could have a potential negative noise impact on the surrounding environment | N                                      | 2             | 3        | 1        | 6           | 3           | 18           |
| O                                 |              |  | Fugitive dust emissions will be generated during the beneficiation of the bulk sampling material and could have a potential negative impact on air quality.          | N                                      | 1             | 3        | 1        | 5           | 3           | 15           |
| O                                 | 2            | Activity 2: Use of the existing farm house for food preparation and change house facilities. | Generation of domestic waste. Incorrectly disposal of waste could a have a potential negative impact on the environment.   | N                                      | 1             | 3        | 2        | 5           | 3           | 15           |
| O                                 | 3            | Activity 3: Maintaining and refuelling of equipment at existing farm shed.                   | Hydrocarbon spillages will have a potential negative impact on groundwater and surface water quality.  | N                                      | 2             | 3        | 3        | 8           | 3           | 24           |
| O                                 |              |  | Incorrect disposal of wastes (hazardous and non-hazardous) will have a potential negative impact on the environment.   | N                                      | 1             | 3        | 3        | 7           | 2           | 14           |

| Activity, Phase and Impact        |              |                           |  | Impact Rating (before mitigation)      |               |          |          |             |             |              |
|-----------------------------------|--------------|---------------------------|--|--|---------------|----------|----------|-------------|-------------|--------------|
| Phase impact occurs (C, O, D, PC) | Activity No. | Activity                  | Summary of Impact  | Nature of Impact (positive / Negative) | Spatial Scale | Duration | Severity | Consequence | Probability | Significance |
| O, D                              | 4            | Activity 4: Bulk Sampling | Removal of alluvial gravel could have a potential impact on soils and vegetation in the area of the bulk sampling activities.                | N                                      | 1             | 3        | 2        | 6           | 6           | 36           |
| O                                 |              |                           | Equipment used for the bulk sampling activities could have a potential noise impact on the surrounding environment.                          | N                                      | 2             | 3        | 1        | 6           | 2           | 12           |
| O                                 |              |                           | Hydrocarbon spillages from poor maintained equipment could have a potential negative impact on soils, groundwater and surface water quality. | N                                      |               |          |          | 0           |             | 0            |

### 3.1.3 Assessment of potential cumulative impacts.

Due to the activities being short term and temporary, no cumulative impacts, over and above those already described in the existing EMP, are expected.

### 3.2 Proposed mitigation measures to minimise adverse impacts.

**Table 4: Environmental Management Plan**

| Activity   | Impact Description  | Project Phase   | Mitigation Measure  | Responsibility   |
|--|---|---|---|--|
| Activity 1: Construction and operation of the temporary mobile beneficiation plant           | Noise will be created by the construction and operation of the beneficiation plant which could have a potential negative noise impact on the surrounding environment. | <ul style="list-style-type: none"> <li>■ Construction</li> <li>■ Operation</li> </ul> | <ul style="list-style-type: none"> <li>■ Limit construction and operational activities only to the day;</li> <li>■ Maintain equipment regularly.</li> </ul>                           | <ul style="list-style-type: none"> <li>■ Mining Contractor</li> <li>■ Site Supervisor</li> </ul> |
|  | Fugitive dust emissions will be generated during the beneficiation of the bulk sampling material and could have a potential negative impact on air quality.           | <ul style="list-style-type: none"> <li>■ Operation</li> </ul>                         | <ul style="list-style-type: none"> <li>■ Dust suppression must occur on the mining site and in areas where significant dust may be generated.</li> </ul>                              | <ul style="list-style-type: none"> <li>■ Mining Contractor</li> <li>■ Site Supervisor</li> </ul> |
| Activity 2: Use of the existing farm house for food preparation and change house facilities. | Generation of domestic waste. Incorrectly disposal of waste could have a potential negative impact on the environment.  | <ul style="list-style-type: none"> <li>■ Operational</li> </ul>                       | <ul style="list-style-type: none"> <li>■ Dedicated bins must be provided for the disposal of waste; and</li> <li>■ Dispose all waste at a register landfill site off-site.</li> </ul> | <ul style="list-style-type: none"> <li>■ Mining Contractor</li> <li>■ Site Supervisor</li> </ul> |
| Activity 3: Maintaining and refuelling of equipment at                                       | Hydrocarbon spillages will have a potential negative impact on groundwater and surface water  | <ul style="list-style-type: none"> <li>■ Operational</li> </ul>                       | <ul style="list-style-type: none"> <li>■ Vehicles and equipment should be serviced regularly, in</li> </ul>   | <ul style="list-style-type: none"> <li>■ Mining Contractor</li> <li>■ Site Supervisor</li> </ul> |

| Activity            | Impact Description | Project Phase | Mitigation Measure  | Responsibility |
|---------------------|--------------------|---------------|---|----------------|
| existing farm shed. | quality.           |               | <p>a designated area;</p> <ul style="list-style-type: none"> <li>■ Service areas must be paved with concrete paving;</li> <li>■ Vehicles and equipment should remain on designated and prepared compacted gravel roads;</li> <li>■ Areas that are used to store hydrocarbons must be bunded and be able to contain the hydrocarbons in the event of a spillage occurring;</li> <li>■ Drip trays must be used when machinery and/or vehicles are serviced; and</li> <li>■ Spill containment and clean up kits should be available onsite and clean-up from any spill must</li> </ul> |                |

| Activity                         | Impact Description   | Project Phase  | Mitigation Measure  | Responsibility   |
|----------------------------------|--|--|---|--|
|                                  |  |  | <p>be in place and executed at the time of a spillage with appropriate disposal as necessary.</p>   |  |
|                                  | <p>Incorrect disposal of wastes (hazardous and domestic) will have a potential negative impact on the environment.</p>               | <ul style="list-style-type: none"> <li>■ Operational</li> </ul>                          | <ul style="list-style-type: none"> <li>■ Dedicated bins must be provided for the disposal of hazardous and domestic wastes;</li> <li>■ Dispose domestic waste at a register landfill site off-site; and</li> <li>■ Dispose hazardous waste at a registered hazardous waste disposal facility off-site.</li> </ul> | <ul style="list-style-type: none"> <li>■ Mining Contractor</li> <li>■ Site Supervisor</li> </ul> |
| <p>Activity 4: Bulk Sampling</p> | <p>Removal of alluvial gravel could have a potential impact on soils and vegetation in the area of the bulk sampling activities.</p> | <ul style="list-style-type: none"> <li>■ Operation</li> <li>■ Decommissioning</li> </ul> | <ul style="list-style-type: none"> <li>■ Rehabilitate affected areas concurrently.</li> </ul>   | <ul style="list-style-type: none"> <li>■ Mining Contractor</li> <li>■ Site Supervisor</li> </ul> |
|                                  | <p>Equipment used for the bulk sampling activities could have a potential noise impact on the</p>                                    | <ul style="list-style-type: none"> <li>■ Operational</li> </ul>                          | <ul style="list-style-type: none"> <li>■ Limit operational activities only to the day;</li> </ul>   | <ul style="list-style-type: none"> <li>■ Mining Contractor</li> <li>■ Site Supervisor</li> </ul> |

| Activity | Impact Description   | Project Phase   | Mitigation Measure   | Responsibility   |
|----------|--|---|--|--|
|          | surrounding environment.   |   | <ul style="list-style-type: none"> <li>■ Maintain equipment regularly.</li> </ul>  |  |
|          | Hydrocarbon spillages from poor maintained equipment could have a potential negative impact on soils, groundwater and surface water quality. | <ul style="list-style-type: none"> <li>■ Operational</li> </ul> | <ul style="list-style-type: none"> <li>■ Vehicles and equipment should be serviced regularly, in a designated area; and</li> <li>■ Hydrocarbon spillages that do occur should be cleaned up immediately and the contaminated soils disposed off-site at a registered hazardous waste disposal facility.</li> </ul> | <ul style="list-style-type: none"> <li>■ Mining Contractor</li> <li>■ Site Supervisor</li> </ul> |

### 3.2.1 List of actions, activities, or processes that have sufficiently significant impacts to require mitigation.

No actions, activities or processes proposed are anticipated to have any significant impact on the environment.

### 3.2.2 Concomitant list of appropriate technical or management options

No significant impacts were identified for the proposed bulk sampling activities. All impacts identified were of low significance.

### 3.2.3 Review the significance of the identified impacts

The table below depicts the significant ratings of all impacts identified for the bulk sampling activities before mitigations.

**Table 5: Impact significance rating before mitigation**

| Activity, Phase and Impact        |              |  |  | Impact Rating (after mitigation)       |               |          |          |             |             |              |
|-----------------------------------|--------------|--|--|--|---------------|----------|----------|-------------|-------------|--------------|
| Phase impact occurs (C, O, D, PC) | Activity No. | Activity   | Summary of Impact  | Nature of Impact (positive / Negative) | Spatial Scale | Duration | Severity | Consequence | Probability | Significance |
| C, O                              | 1            | Activity 1: Construction and operation of the temporary mobile beneficiation                 | Noise will be created by the construction and operation of the beneficiation plant which could have a potential negative noise impact on the surrounding environment | N                                      | 1             | 3        | 1        | 5           | 2           | 10           |
| O                                 |              |  | Fugitive dust emissions will be generated during the beneficiation of the bulk sampling material and could have a potential negative impact on air quality.          | N                                      | 1             | 3        | 1        | 5           | 1           | 5            |
| O                                 | 2            | Activity 2: Use of the existing farm house for food preparation and change house facilities. | Generation of domestic waste. Incorrectly disposal of waste could have a potential negative impact on the environment.   | N                                      | 1             | 3        | 3        | 7           | 2           | 14           |

| Activity, Phase and Impact        |              |  |  | Impact Rating (after mitigation)       |               |          |          |             |             |              |
|-----------------------------------|--------------|--|--|--|---------------|----------|----------|-------------|-------------|--------------|
| Phase impact occurs (C, O, D, PC) | Activity No. | Activity   | Summary of Impact  | Nature of Impact (positive / Negative) | Spatial Scale | Duration | Severity | Consequence | Probability | Significance |
| O                                 | 3            | Activity 3: Maintaining and refuelling of equipment at existing farm shed. | Hydrocarbon spillages will have a potential negative impact on groundwater and surface water quality.  | N                                      | 1             | 3        | 3        | 7           | 2           | 14           |
| O                                 |              |  | Incorrect disposal of wastes (hazardous and non-hazardous) will have a potential negative impact on the environment.                         | N                                      | 1             | 3        | 1        | 5           | 1           | 5            |
| O, D                              | 4            | Activity 4: Bulk Sampling  | Removal of alluvial gravel could have a potential impact on soils and vegetation in the area of the bulk sampling activities.                | N                                      | 1             | 3        | 2        | 6           | 5           | 30           |
| O                                 |              |  | Equipment used for the bulk sampling activities could have a potential noise impact on the surrounding environment.                          | N                                      | 1             | 3        | 1        | 5           | 1           | 5            |
| O                                 |              |  | Hydrocarbon spillages from poor maintained equipment could have a potential negative impact on soils, groundwater and surface water quality. | N                                      | 1             | 3        | 3        | 7           | 1           | 7            |

#### 4 REGULATION 52 (2) (d): Financial provision. The applicant is required to-

##### 4.1 Plans for quantum calculation purposes.

The Conceptual plan in Appendix A shows the area where bulk sampling activities are planned. 3 Pits are planned covering a combined area of approximately 48 ha.

##### 4.2 Alignment of rehabilitation with the closure objectives

Concurrent rehabilitation is planned during the bulk sampling.



### 4.3 Quantum calculations.

Closure costs were calculated using the DMR guideline and rates. The estimated closure cost for the proposed bulk sampling activities are **R 548 703. 00**. Table below provides a breakdown of the calculation used to calculate the closure cost for the bulk sampling activities.

| CALCULATION OF THE QUANTAM                            |           |                                     |             |                       |                              |                  |
|---|-----------|-------------------------------------|-------------|-----------------------|------------------------------|------------------|
| Closure Costs Assessment                              | Location: | Hopetown - Bulk Sampling Activities |             |                       |                              |                  |
| Digby Wells Environmental                             | Date:     | 22-Apr-14                           |             |                       |                              |                  |
| Description:  | Unit:     | A                                   | B           | C                     | D                            | E=A*B*C*D        |
| Class C (Low Risk)                                    |           | Quantity                            | Master rate | Multiplication factor | Weighting factor 1           | Amount (Rands)   |
|   |           | Step 4.5                            | Step 4.3    | Step 4.3              | Step 4.4                     |                  |
| Opencast rehabilitation including final voids & ramps | ha        | 48.00                               | 179446.36   | 0.04                  | 1.10                         | R 378 991        |
|   |           |                                     |             |                       | <b>Sub Total 1</b>           |                  |
|   |           |                                     |             |                       | (Sum of items 1 to 15 Above) | R 378 991        |
| Weighting Factor 2 (step 4.4)                         |           |                                     |             | 1.05                  | <b>Sub Total 1</b>           | R 397 940.25     |
| Preliminary and General                               |           |                                     |             | 12% of Sub Total 1    |                              | R 45 478.89      |
| Contingency   |           |                                     |             | 10% of Sub Total 1    |                              | R 37 899.07      |
|   |           |                                     |             |                       | <b>Sub Total 2</b>           | R 481 318        |
| VAT (14%)   |           |                                     |             |                       |                              | R 67 384.55      |
|   |           |                                     |             |                       | <b>GRAND TOTAL</b>           | <b>R 548 703</b> |

### 4.4 Undertaking to provide financial provision

A bank guarantee for R200 000 has been issued in respect of the existing Prospecting Right. Since concurrent rehabilitation is planned, it is not anticipated that the liability of R200 000 will be exceeded at any one time. To the extent that any additional guarantee is requested, this will be submitted in the same format.

## 5 REGULATION 52 (2) (e): Planned monitoring and performance assessment of the environmental management plan.

### 5.1 List of identified impacts requiring monitoring programmes.

All impacts identified are of low significance and short term. No monitoring programme is required for the impacts identified.

It should be noted that a Management Plan has been developed and will be implemented.

### 5.2 Functional requirements for monitoring programmes.

N/A

### 5.3 Roles and responsibilities for the execution of monitoring programmes.

N/A

### 5.4 Committed time frames for monitoring and reporting.

N/A

## **6 REGULATION 52 (2) (f): Closure and environmental objectives.**

### **6.1 Rehabilitation plan**

The rehabilitation plan currently applicable to the existing prospecting right will continue. For the bulk sampling, a system for concurrent rehabilitation will be applied.

### **6.2 Closure objectives and their extent of alignment to the pre-mining environment.**

The rehabilitation plan currently applicable to the existing prospecting right will continue. For the bulk sampling, a system for concurrent rehabilitation will be applied.

### **6.3 Confirmation of consultation**

(Confirm specifically that the environmental objectives in relation to closure have been consulted with landowner and interested and affected parties).

## **7 REGULATION 52 (2) (g): Record of the public participation and the results thereof.**

### **7.1 Identification of interested and affected parties.**

The landowner has been identified as the only interested and affected party.

### **7.2 The details of the engagement process.**

The engagement process that was followed are described in the sections below.

#### **7.2.1 Description of the information provided to the community, landowners, and interested and affected parties.**

A meeting was held with the directly affected landowner. During the meeting, the landowner was briefed about the bulk sampling process. She was given the opportunity to ask questions and raise concerns. No objections or concerns were raised. Please see the letter from the landowner in Appendix B.

#### **7.2.2 List of which parties identified in 7.1 above that were in fact consulted, and which were not consulted.**

Due to the farm being in a remote area, no other I&As was identified. Only the directly affected landowner was consulted.

#### **7.2.3 List of views raised by consulted parties regarding the existing cultural, socio-economic or biophysical environment.**

No views were raised by the directly affected land owner.

**7.2.4 List of views raised by consulted parties on how their existing cultural, socio-economic or biophysical environment potentially will be impacted on by the proposed prospecting or mining operation.**

No views were raised by the directly affected land owner.

**7.2.5 Other concerns raised by the aforesaid parties.**

No other concerns were raised by the directly affected land owner.

**7.2.6 Confirmation that minutes and records of the consultations are appended.**

Letter from the directly affected land owner has been included in Appendix B.

**7.2.7 Information regarding objections received.**

**7.3 The manner in which the issues raised were addressed.**

No issues were raised by the directly affected land owner.

**8 SECTION 39 (3) (c ) of the Act: Environmental awareness plan.**

Please refer to the existing EMP approved for the existing prospecting right (File No. NC423PR Registered under 175-2012PR)

**8.1 Employee communication process**

Please refer to the existing EMP approved for the existing prospecting right (File No. NC423PR Registered under 175-2012PR)

**8.2 Description of solutions to risks**

Please refer to the existing EMP approved for the existing prospecting right (File No. NC423PR Registered under 175-2012PR)

**8.3 Environmental awareness training.**

Please refer to the existing EMP approved for the existing prospecting right (File No. NC423PR Registered under 175-2012PR)

**9 SECTION 39 (4) (a) (iii) of the Act: Capacity to rehabilitate and manage negative impacts on the environment.**

**9.1 The annual amount required to manage and rehabilitate the environment.**

The estimated closure cost for the proposed bulk sampling activities are R 548 703. 00.

**9.2 Confirmation that the stated amount correctly reflected in the Prospecting Work Programme as required.**

The above mentioned amount has been included in the amended prospecting works programme.

**10 REGULATION 52 (2) (h): Undertaking to execute the environmental management plan.**

|  |  |
|--|--|
| <p>Herewith I, the person whose name and identity number is stated below, confirm that I am the person authorised to act as representative of the applicant in terms of the resolution submitted with the application, and confirm that the above report comprises EIA and EMP compiled in accordance with the guideline on the Departments official website and the directive in terms of sections 29 and 39 (5) in that regard, and the applicant undertakes to execute the Environmental management plan as proposed.</p> |  |
| <p><b>Full Names and Surname</b></p>   |  |
| <p><b>Identity Number</b></p>  |  |

**-END-**

## **Appendix A: Conceptual Bulk Sampling Plan**

## **Appendix B: Letter from directly affected landowner**

## **Appendix C: Heritage Impact Assessment and proof of SAHRA Submission**