

### mineral resources

Department: Mineral Resources REPUBLIC OF SOUTH AFRICA

NAME OF APPLICANT: Starcrow 125 CC

Reg. No. 2007/037265/23

### **PROSPECTING WORK PROGRAMME**

### SUBMITTED FOR A PROSPECTING RIGHT APPLICATION WITH BULK SAMPLING

AS REQUIRED IN TERMS OF SECTION 16 READ TOGETHER WITH REGULATION 7(1) OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT (ACT 28 of 2002)

#### **STANDARD DIRECTIVE**

All applicants for mining rights are herewith, in terms of the provisions of Section 16 and in terms of Regulation 7(1) of the Mineral and Petroleum Resources Development Act, directed to submit a Prospecting Work Programme, strictly under the following headings and in the following format together with the application for a prospecting right.

#### 1. REGULATION 7.1.(a): FULL PARTICULARS OF THE APPLICANT Table 1: Applicant's Contact Details

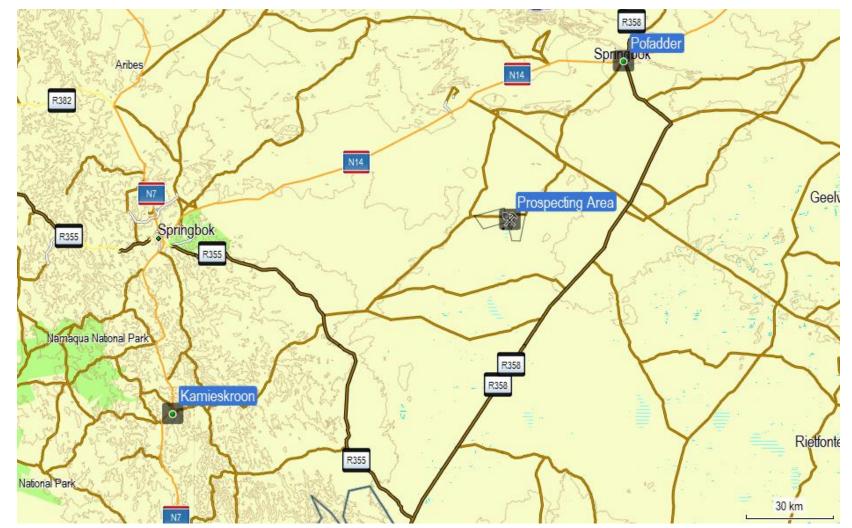
| ITEM           | COMPANY CONTACT DETAILS   |
|----------------|---------------------------|
| Name           | Johannes Christiaan Kotze |
| Tel no         | 027 2171727               |
| Fax no:        | 027 2171727               |
| Cellular no    | 083 2352729               |
| E-mail address | renay@mylan.co.za         |
| Postal address | PO. Box 226               |
|                | Lutzville, 8165           |

#### Table 2: Consultant's Details

| ITEM           | CONSULTANT CONTACT DETAILS (If applicable) |
|----------------|--|
| Name           | NA   |
| Tel no         |  |
| Fax no:        |  |
| Cellular no    |  |
| E-mail address |  |
| Postal address |  |

# 2. REGULATION 7(1)(b): PLAN CONTEMPLATED IN REGULATION 2(2) SHOWING THE LAND TO WHICH THE APPLICATION RELATE

Diagram 1: Locality of prospecting areas



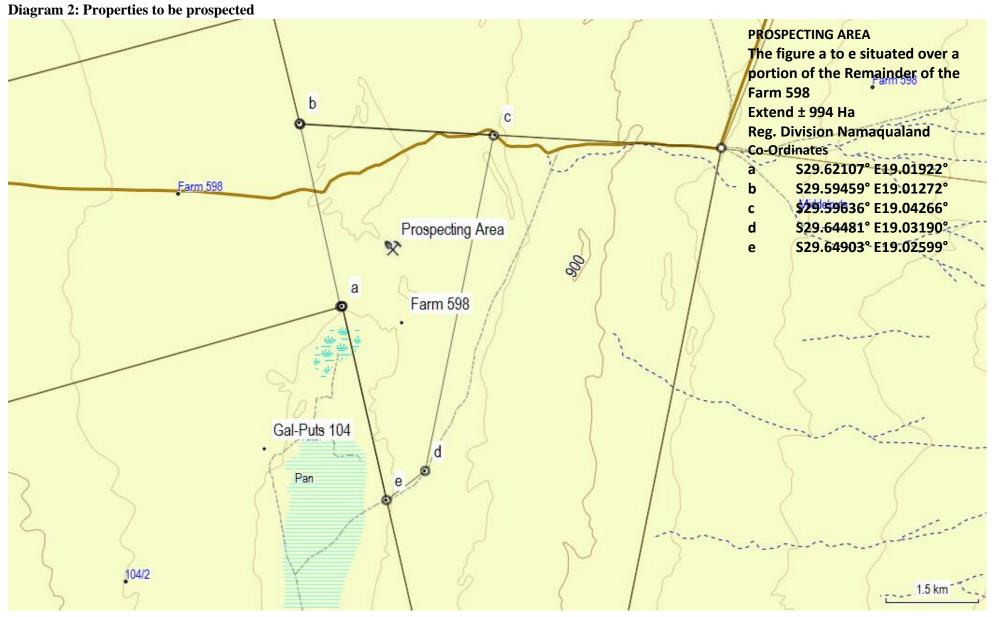
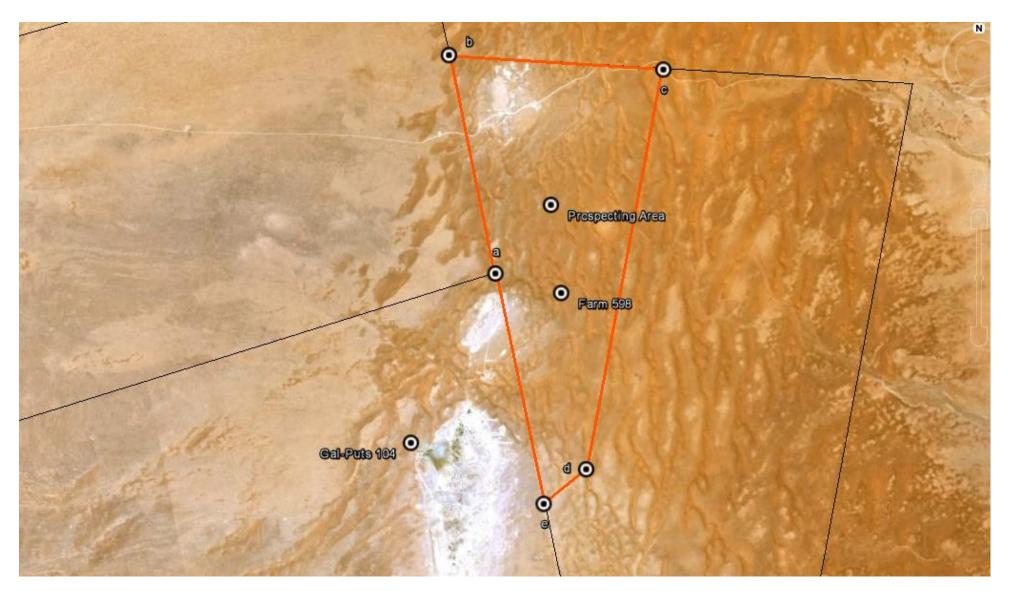


Diagram 3: Landscape of proposed prospecting area



## 3. REGULATION 7(1)(c): THE REGISTERED DESCRIPTION OF THE LAND TO WHICH THE APPLICATION RELATES

#### Property 1

Portion of Farm 598 No. 598. The property is registered in the name of Albertus Johannes van Zyl by virtue of Title deed T38484/1987.

LPI Code C05300000000059800000 Magisterial District of Namaqualand, Northern Cape

#### 4. REGULATION 7(1)(d) and (e): THE MINERAL OR MINERALS TO BE PROSPECTED FOR

#### Table 4.1: Minerals to be prospected for

| ITEM   | DETAIL   |
|--|--|
| Type of mineral(s)                             | Diamonds Alluvial  |
| Locality                                       | 108 km East of Springbok   |
| Extent of the area required for<br>prospecting | 994 Ha   |
| Geological formation                           | The area is underlain by the Namaqua Metamorphic<br>Complex which comprises hybrid migmatites,<br>granites and granodiorites, mafic intrusives with<br>granite and granitoid emplacements, and an<br>abundance of metamorphosed schists and phyllites. |

### 4.2 Description why the Geological formation substantiates the minerals to be prospected for

There are 3 pans (Galputs se Pan, Bitterputs se Pan and Bosluispan) lying roughly in a north-south orientation in the present day valley of the Koa River The river no longer flows. Diamonds have been discovered in all 3 pans and it is reasonably expected that channel gravels of the palaeo Koa River that connected the pans will also carry diamonds. However, the locality and extent of these gravels is unknown and the purpose of prospecting is to find these channels gravels as they leave Bitterputs se Pan northwards towards Galputs se Pan with the final objective being the mining of such gravels under the dunes which separate the Pans.

The ancestral Orange River and related systems exhibit a complex geological history with the first economically significant occurrence of diamonds relating to palaeo-drainage evolving in the Early to Middle Cretaceous (120-100Ma). Re-use of these fluvial conduits has occurred during the Late Miocene (Proto deposits) and again in the Plio-Pleistocene and Quaternary eras (Meso deposits), culminating in the modern Orange River. These later events exploited the 'median' channel of this remnant drainage basin, which now represents an entrenched transverse (east west trending) master stream consequent. In each case, previous valley fills have been exhumed and replaced by successive cycles of aggradation and degradation, resulting in stepped terraces of remnant older (higher elevation) Cretaceous and younger Miocene deposits (middle elevation) that are blanketed in Meso gravel bars (lowest elevation). The entrenched modern river represents the last Meso phase (of 3 recognisable phases) and is 6-8m below a set of distinctive paired terraces (second Meso phase) fringing the modern river valley.

In each instance, the base of these successive fills is floored by a basal unconformity upon which lies a fining upwards sequence of gravels, grits and coarse sands of varying maturity, terminating in an aggradational valley-flooding sequence of silts and clays.

#### 61 Q-s Ngu Khy Kld Middelputs Q-S2 Prospecting Area Kalky 8 T-c 62 KId KIG Nme Kkd Ngu SIQ-SI Nme 628 38 Khy Khy Kld 99 Kkd Kkd 66 KId Κv 104 987 Kld 5 ₩ld Ngu T-c Q-S1 Kid Kld KId atter-Puts 48 Kld Kid 50 KId Kld KId Splits

### 4.3 Geological map indicating potential mineral deposits

5. REGULATION 7(1)(f): A DESCRIPTION OF HOW THE MINERAL RESOURCE AND MINERAL DISTRIBUTION OF THE PROSPECTING AREA WILL BE DETERMINED

AND

#### REGULATION 7(1)(h): ALL PLANNED PROSPECTING ACTIVITIES MUST BE CONDUCTED IN PHASES AND WITHIN SPECIFIC TIMEFRAMES

AND

REGULATION 7(1)(i):TECHNICAL DATA DETAILING THE PROSPECTING METHOD OR METHODS TO BE IMPLEMENTED AND THE TIME REQUIRED FOR EACH PHASE OF THE PROPOSED PROSPECTING OPERATION The table below incorporates the information required in respect of Regulations 7(1)(f), 7(1)(h) and 7(1)(i): Table 5.1

| Phase | Activity  | Skill(s) required            | Timeframe   | Outcome  | Timeframe<br>for outcome | What technical<br>expert will sign<br>off on the<br>outcome? |
|-------|---|------------------------------|-------------|--|--------------------------|--|
| 1     | Non-invasive<br>Literature Study<br>Imagery Analysis<br>Geological Mapping<br>Geophysical Survey    |                              | Month 1-12  | Maps, plan & report on previous work   | Month 12                 | Geologist  |
| 2     | Invasive<br>Prospecting<br>Scout Prospecting<br>Pits  | Project Manager              | Month 13-24 | Trench logs, Map & Report  | Month 30                 | Project manager  |
| 3     | Bulk sampling<br>Box cut  | Geologist<br>Mining engineer | Month 25-48 | Diamond Ore Characterization (DOC)<br>study for metallurgical purposes and to<br>allow the sufficient recovery of diamonds<br>for evaluation and foot printing purposes. | Month 50                 | Geologist<br>Mining engineer                                 |
| 4     | Final analysis,<br>quality control,<br>database update<br>and first stage of<br>resource estimation | Geologist<br>Economist       | Month 49-54 | Feasibility study and decision making if<br>results prove negative then<br>decommissioning and closure<br>if results prove positive then continue with<br>bulk sampling  | Month 54                 | Project Manager  |
| 5     | Application for<br>mining right or<br>decommissioning<br>and closure                                | Project Manager              | Month 55-60 | Mining right or Closure certificate  | Month 60                 | Project Manager  |

#### 6. REGULATION 7(1)(g): A DESCRIPTION OF THE PROSPECTING METHOD OR METHODS TO BE IMPLEMENTED

The following factors have an important bearing on the nature of the planned prospecting:

- The pan floor is subject to periodic inundation. Recent times have been very wet and working within the pan is difficult.
- The pan is surrounded by a thin layer (±1-2m deep) of sand which is inundated under severely wet conditions.
- The aerial photo shows an east west foliation in the exposed basement granites in the northern edge of the pan. This indicates that the palaeo river flow was in a south north direction.
- Deeper overburden is located east and west of the northern extension of the pan floor.

The above factors result in invasive prospecting consisting of 2 phases:

The first is the prospecting of the shallower overburden by means of prospecting pits across the surmised palaeo river flow direction to determine the extent of the channel extending northwards from Galputs.

Once the direction of the gravels (and grade) has been determined then a bulk sample programme will be conducted to do a Diamond Ore Characterization (DOC) study for metallurgical purposes and to allow the sufficient recovery of diamonds for evaluation and foot printing purposes.

#### (i) DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES: <u>PHASE 1 Desktop studies</u>

#### Literature Study

In order to direct the exploration programme in an efficient manner, there will be a review of all information and data gathered by previous exploration in the surrounding area. A desktop study will also be undertaken of the diamond potential of the area. A site investigation of the target areas will be undertaken to identify infrastructure and determine any potential problems that may need to be addressed.

#### **Imagery Analysis**

Aerial photographs and satellite images will be studied to ascertain additional target areas for possible gravel deposits. The aerial photographs will also be used to structurally and geologically map the area.

#### **Geological Mapping**

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

#### Geophysical Survey

A 5 line kilometre magnetic survey may be undertaken using a proton-5- magnetometer. This study will result in identifying potential cross-cutting dykes where diamonds could be trapped.

Geological mapping and grab sampling will also be carried out to narrow down the area for prospecting pits. This will result in defining target areas for pitting and reduce the total number of pits to be excavated.

The model for mineralisation in the area of interest is that of diamondiferous paleo channels and traps. Samples recovered from prospecting pits in the general area have shown good prospects to host economic diamond deposits.

It was further concluded by previous operators that potential exists to discover new paleo channels and traps in the area. The company's exploration programs are aimed at (i) discovering previously unknown paleo channels and traps (ii) evaluating the economic potential of potential gravel deposits.

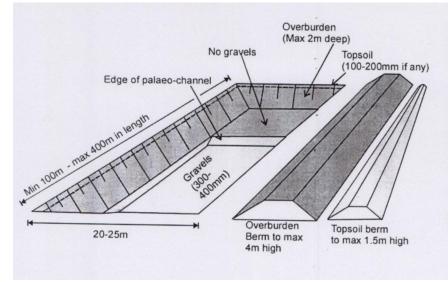
#### (ii) DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:

Invasive prospecting consists of prospecting trenches followed by a percussion drilling programme.

#### PHASE 2 Prospecting Trenches

The prospecting pitting programme will consist of approximately 6 pits to the north of the pan (Refer figure 4). The pits will be developed in an area of very shallow overburden (approximately 1 -2m deep) above the 300-400mm thick gravels. The pits will be developed to 20-25m long x 20-25m wide. Assuming an average overburden depth of 1.5m, then each pit will require the handling of some 1 000m<sup>3</sup> overburden and topsoil.

Such pit development will be the same as for trench development as shown in the diagram below but on a much smaller scale:



Step 1: Remove topsoil (100-200mm deep) from the proposed trench development and place in berm no higher than 1.5m to the sill of the trench.

Step 2: Remove overburden to on average 1.5m deep and place between trench and topsoil berm.

Step 3: Remove gravel. Use infield screen to remove 90% of gravel and backfill to trer The remaining 10% concentrate trucked to Bosluis for prospecting

Step 4: Return overburden into trench

Step 5: Return topsoil cover and allow to revegetate naturally

Apart from gravel resources calculations the information will be used to construct gravel thickness, overburden thickness and bedrock elevation contour plans. The trenches will be backfilled if results are unfavourable or left open for the purpose of continued bulk sampling by means of box cuts. The holes will be filled with overburden and covered with topsoil.

#### (iii)DESCRIPTION OF PRE-/FEASIBILITY STUDIES PHASE 4 Resource Estimation

The project manager monitors the programme, consolidates and processes the data and amends the programme depending on the results. This is a continuous process throughout the programme and continues even when no prospecting is done on the ground.

Each physical phase of prospecting is followed by desktop studies involving interpretation and modelling of all data gathered. These studies will determine the manner in which the work programme is to proceed in terms of activity, quantity, resources, expenditure and duration.

#### (iv) DESCRIPTION OF BULK SAMPLING ACTIVITIES PHASE 3

After prospecting pits has delineated alluvial traps and or paleo channels, a decision will be made whether to proceed to Bulk Sampling.

A bulk sample will consist of a box cut excavated perpendicularly to the paleo channel. The footprint of the proposed box cuts will be 70 X 70 meters (0.5Ha). There will only ever be one box cut open at any given time and it is anticipated that no more than 2 such cuts will be developed.

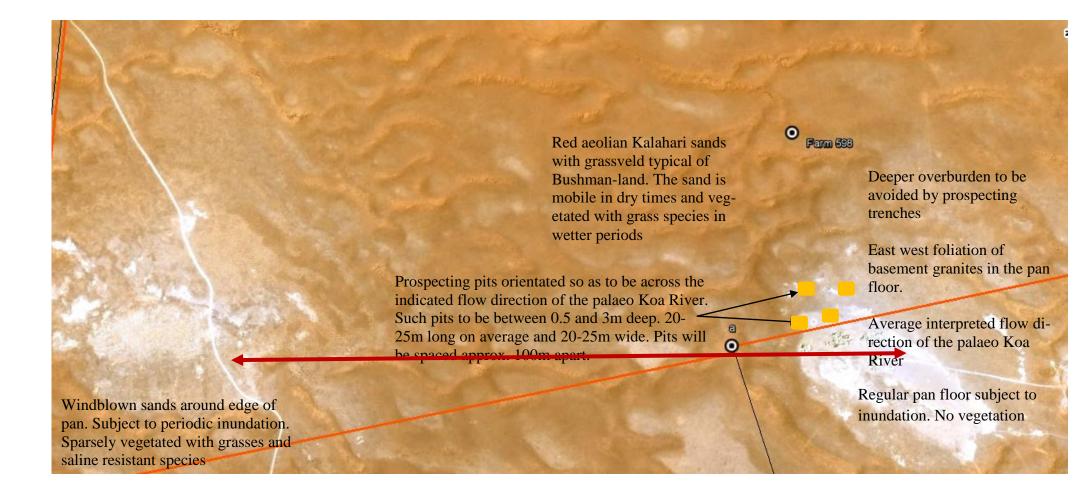
Bulk sampling will consist of the following procedures:

- Remove topsoil to either side of the eventual box cut lateral extension.
   Note that the upper 30cm will be treated as topsoil as it contains a seed bank. Say 5 000m<sup>2</sup> X.3 = 1500m<sup>3</sup>
- Then remove the overburden average 1 meter below the "topsoil" cover to a separate stockpile berm. Say 5 000m<sup>2</sup> X1m = 5 000m<sup>3</sup>
- Extract alluvial material to a depth of 1.5m. Say 5 000m<sup>2</sup> X.3m = 1500m<sup>3</sup> alluvial gravel
- From 2 pits 3000m<sup>3</sup> alluvial gravel will be extracted or 1150 tonnes at an SG of 2.6.
- An average of 500 tonnes could then be processed from each of the two potential gravel deposits.

The removed gravel will be sent through an in-field screening plant and only the concentrate will be trucked to the processing plant.

The applicant requires 250tonnes of concentrate product to obtain a representative sample for sufficient statistical analysis. 250tonnes of concentrate represents 50% of the ore therefore 50% will be backfilled through infield screening. When bulk sampling has been completed, then the entire excavation must be backfilled with the removed material in reverse order (starting with the in-field screened gravel).

Diagram 4: Landscape with positions for prospecting pits



#### Table 6.1: Bulk Sampling Activities

| ACTIVITY                                     |                | DETAILS   |              |           |  |
|--|----------------|---|--------------|-----------|--|
| Number of pits/trenches planned              |                | Maximum 2 box cuts  |              |           |  |
| Dimensions of pits/trenches,                 | Number of pits | Length  | Breadth      | Depth     |  |
| per pit                                      | 1              | 50m   | 50m          | 1.5m      |  |
|  | 2              | 50m   | 50m          | 1.5m      |  |
|  |                |   |              |           |  |
| Locality<br>Volume Overburden (Waste)        |                | Perpendicularly to any paleo channels or gravel<br>traps identified by prospecting trenches<br>Guestimate of locality<br>1 29°37'27.30"S 19° 1'13.46"E<br>2 29°35'49.57"S 19° 1'14.89"E<br>Topsoil 1500m <sup>3</sup><br>Overburden 5000 <sup>3</sup> |              |           |  |
| Volume Ore                                   |                | 1500m <sup>3</sup>  |              |           |  |
| Density Overburden                           |                | SG of 1.7   |              |           |  |
| Density Ore                                  |                | SG of 2.6   |              |           |  |
| Phase(s) when bulk sampling will be required |                | 3   |              |           |  |
| Timeframe(s)                                 |                | Month 3   | 36 to 60 Yea | ar 3 to 5 |  |

NOTE: Detailed description of the required costs MUST be indicated in the cost estimate as per Regulation 7(1) (k)

#### Commitment to provide addendums in respect of additional bulk sampling

I herewith commit to provide the Department of Mineral Resources with an addendum to the Prospecting Work Programme, and an Environmental Management programme for approval prior to undertaking any future bulk sampling activities not described above.

ACCEPT Mark with X X

#### 7. REGULATION 7(1)(j)(i):DETAILS WITH DOCUMENTARY PROOF OF THE APPLICANT'S TECHNICAL ABILITY OR ACCESS THERETO TO CONDUCT THE PROPOSED PROSPECTING OPERATION

### 7.1 Competencies to be employed in terms of the Mine Health and Safety Act

**COMPETENCIES TO BE EMPLOYED** (List the legal appointments that will be made in terms of the Mine Health and Safety Act, appropriate for the type of operation)

1. A mine health and safety consultant will be appointed to manage general administration and monitoring hazard identification and risk assessment.

2. Specialist will be appointed as consultants for compilation of any COP's required

3. Security staff will be deployed on site during the bulk sampling phase

I herewith confirm that I, in Table 9.1 have budgeted and financially provided for the required skills listed above.

**CONFIRMED** (Mark with an **X**) X

#### 7.2 List of Appropriate equipment at your disposal (If Applicable) Table D: Appropriate Equipment Available

Small tools and Excavator for earth moving

In-field screening plant

Mobile processing plant

#### 7.3 Technical skills provided Free of Charge

7.3.1 Information (CV's) in respect of skills already acquired (append)

Starcrow 125 CC is a newly established BEE company aimed at diamond prospecting and mining through labour intensive practises to promote job creation.

Project management will be overseen by Johannes Christiaan Kotze refer appendix A1 for CV.

The Geophysical work of the Project will be sub contracted to a geo-consultant the company profile is attached as part of appendix A1.

The company will also be supported by members of the local community with regard to unskilled labour.

7.3.2 Copy of the relevant contractual agreements between the service provider and the applicant relative to the duration of the planned prospecting period, where applicable (append)

Only the Geophysical work of the Project will be sub contracted to a geo-consultant the company profile is attached as part of appendix A1. Financial provision for the contractors is made as part of the operational cost.

7.3.3 ALL other evidence of Technical Ability (append) NA

#### 8. REGULATION 7(1)(j)(ii):DETAILS WITH DOCUMENTARY PROOF OF A BUDGET AND DOCUMENTARY PROOF OF THE APPLICANT'S FINANCIAL ABILITY OR ACCESS THERETO

AND

9. REGULATION 7(1)(k) A COST ESTIMATE OF THE EXPENDITURE TO BE INCURRED FOR EACH PHASE OF THE PROPOSED PROSPECTING OPERATION (remember to also include prospecting fees)

|  | YEAR 1       | YEAR 2       | YEAR 3       | YEAR 4       | YEAR 5       |
|--|--------------|--------------|--------------|--------------|--------------|
| ACTIVITY   | Expend. (R') |
| PHASE 1 (12 months)  |              |              |              |              |              |
| Prospecting fees < 1000Ha                                    | 1000         | 0            | 0            | 0            | 0            |
| Literature Study   | 5000         | 0            | 0            | 0            | 0            |
| Imagery Analysis   | 5000         | 0            | 0            | 0            | 0            |
| Geological Mapping   | 10000        | 0            | 0            | 0            | 0            |
| Geophysical Survey   | 10000        | 0            | 0            | 0            | 0            |
| Update layout plans & financial provision, Performance ass.  | 5 000        | 0            | 0            | 0            | 0            |
| PHASE 2 (24 months)  |              |              |              |              |              |
| Prospecting fees < 1000Ha                                    | 0            | 1100         | 1200         | 0            | 0            |
| Excavation of maximum 10 000 m <sup>3</sup>                  | 0            | 30000        | 30 000       | 0            | 0            |
| Geological services  | 0            | 5 000        | 5 000        |              |              |
| Rehabilitation of prospecting pits.                          | 0            | 10 000       | 10 000       | 0            | 0            |
| Update layout plans & financial provision, Performance ass.  | 0            | 10 000       | 10 000       | 0            | 0            |
| Analysis of results to determine future options              | 0            | 0            | 1 000        | 0            | 0            |
| PHASE 3 (12 months)  |              |              |              |              |              |
| Prospecting fees < 1000Ha                                    | 0            | 0            | 0            | 1300         | 0            |
| Demarcation of bulk sampling sites.                          | 0            | 0            | 0            | 700          | 0            |
| Locate and mark access routes to the bulk sample sites       | 0            | 0            | 0            | 500          | 0            |
| Educate, train staff in environmental issues                 | 0            | 0            | 0            | 500          | 0            |
| Construct mobile processing plant &associated infrastructure | 0            | 0            | 0            | 50 000       | 0            |
| Update layout plans & financial provision, Performance ass.  | 0            | 0            | 0            | 5 000        | 0            |
| Excavation of 2 pits 5000m <sup>3</sup>                      | 0            | 0            | 0            | 100 000      | 0            |
| Analyzing and treatment of gravel 1 500m <sup>3</sup>        | 0            | 0            | 0            | 50 000       | 0            |
| Geological services  | 0            | 0            | 0            | 20 000       | 0            |
| PHASE 4 (12 months)  |              |              |              |              |              |
| Prospecting fees < 1000Ha                                    | 0            | 0            | 0            | 0            | 1 400        |
| Final analysis of results to determine future options        | 0            | 0            | 0            | 0            | 5 000        |
| Application for mining right/rehabilitation and closure      | 0            | 0            | 0            | 0            | 80 000       |
| Annual Total   | 36 000       | 56 100       | 57 200       | 228 000      | 86 400       |
| Total  |              |              |              |              | 463 700      |

Total

463 700

#### 10. FINANCIAL ABILITY TO GIVE EFFECT TO THE WORK PROGRAMME

**10.1 The amount required to finance the Work Programme.** R463 700.00

#### **10.2** Detail regarding the financing arrangements

Starcrow 125 CC will be supported by Mr. Johannes Christiaan Kotze one of the members with regard to financial resources. A resolution to this regard and proof of access to the necessary funds is attached as appendix A2.

#### **10.3** Confirmation of supporting evidence appended

Proof of financial access to the necessary funds to implement the proposed prospecting work program is attached in the form of a report from a recognised financial institution as part of appendix A2.

### 11 Confirmation of the availability of funds to implement the proposed project.

Proof of financial access to the necessary funds to implement the proposed prospecting work program is attached in the form of a report from a recognised financial institution as part of appendix A2.

## 12 I herewith confirm that I have budgeted and financially provided for the total budget as identified in Regulation 7(1)(k).

Confirmed (Mark with an X) X

13 REGULATION 7(1) (m): UNDERTAKING, SIGNED BY THE APPLICANT, TO ADHERE TO THE PROPOSALS AS SET OUT IN THE PROSPECTING WORK PROGRAMME

Table: 13.1

Herewith I, the person whose name and identity number is stated below, confirm that I am the Applicant or the person authorised to act as representative of the Applicant in terms of the resolution submitted with the application, and undertake to implement this prospecting work programme and adhere to the proposals set out herein.

| Full Names and Surname | Johannes Christiaan Kotze |
|------------------------|---------------------------|
| Identity Number        | 6306055184084             |

END