



# PROSPECTING WORK PROGRAMME

Name of Applicant: Dean Mark Alblas

ID No: 7004075067087

Rietfontein 464 JP  
Syferfontein 496 JP

North West



# PROSPECTING WORK PROGRAMME

SUBMITTED FOR A PROSPECTING RIGHT APPLICATION  
WITH BULK SAMPLING



**mineral resources**

Department:  
Mineral Resources  
REPUBLIC OF SOUTH AFRICA

**Name of Applicant: Dean Mark Alblas**

**ID No: 7004075067087**

**Rietfontein 464 JP  
Syferfontein 496 JP**

**North West**

**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)**

**Compiled by:**



1. **REGULATION 7.1 (a)**

**Full particulars of the applicant**

**Table 1: Applicant's Contact Details**

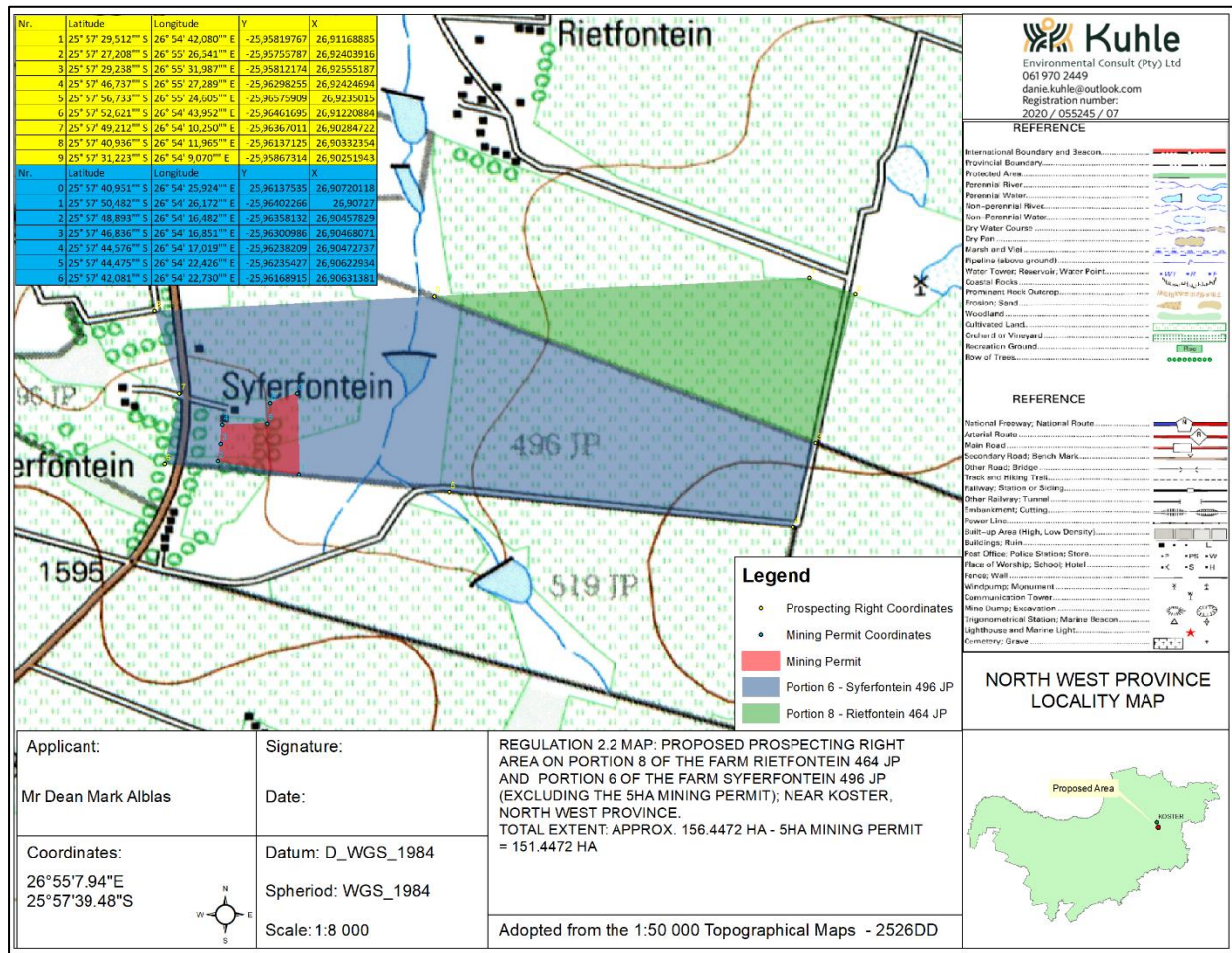
<b>ITEM</b>	<b>COMPANY CONTACT DETAILS</b>
Name	Dean Mark Alblas
Tel no	067 406 7303
Fax no	
Cellular no	067 406 7303
Email address	alblasdean1@gmail.com and/or deanmarkalb@gmail.com
Postal address	The applicant does not have a postal address. Thus use the EAP's postal address.

**Table 2: Consultant's Details**

<b>ITEM</b>	<b>CONSULTANT CONTACT DETAILS (If applicable)</b>
Name	Kuhle Environmental Consult (Pty) Ltd
Tel no	
Fax no	
Cellular no	061 970 2449
Email address	<a href="mailto:danie.kuhle@outlook.com">danie.kuhle@outlook.com</a>
Postal address	75 Schilbach Street Parys 9585

## 2. REGULATION 7(1)(b)

Plan contemplated in Regulation 2(2) showing the land to which the application relates



See Regulation 2.2 Map attached as **Annexure A**.

## 3. REGULATION 7(1)(C)

The registered description of the land to which the application relates

- Portion 8  
 Rietfontein 464  
 Registration division: JP  
 Extent: 41.6174 Ha
- Province: North West  
 A portion of Portion 6  
 Syferfontein 496  
 Registraton division: JP  
 Extent: 114.8298 Ha – 5Ha = 109.8298 Ha

**4. REGULATION 7(1)(d) and (e)**

**The mineral or minerals to be prospected for**

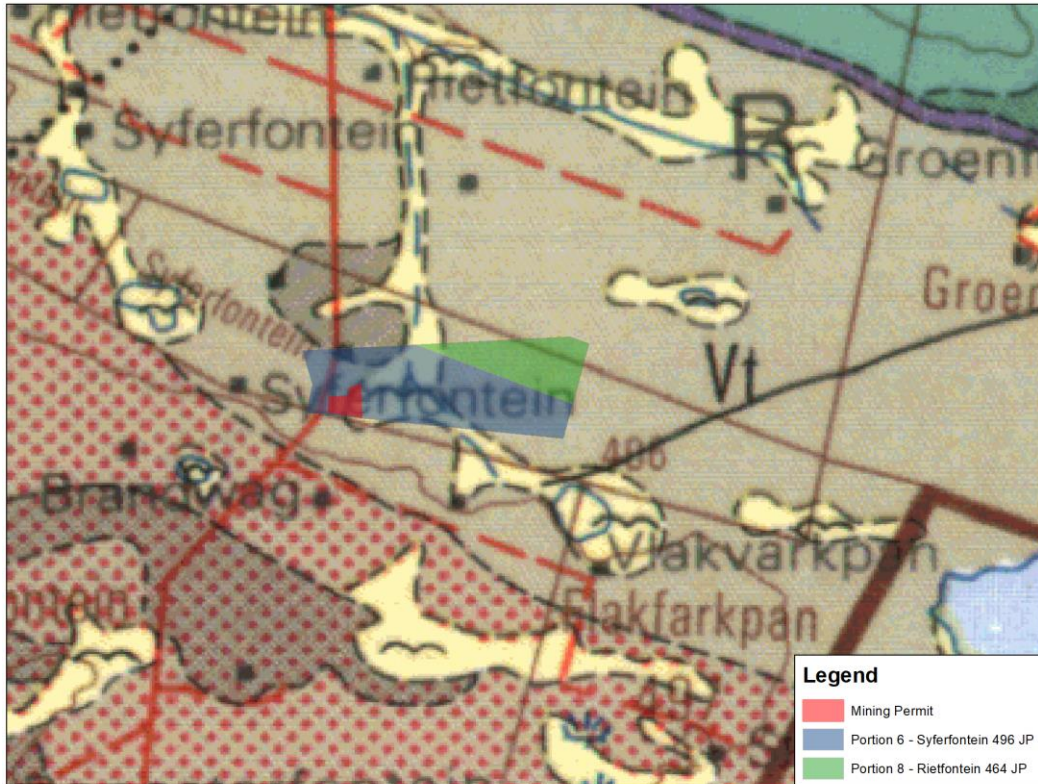
***Table 4.1: Minerals to be prospected for***

<b>ITEM</b>	<b>DETAIL</b>
Type of mineral(s)	Diamond Diamond Alluvial Diamond General Diamond in Kimberlite Gold
Locality (Direction and distance from nearest town)	The property is located approximately 10.5 Km southeast of the town Koster in the North West Province.
Extent of the area required for prospecting	Approx. 151.4472 Ha
Geological formation	The underlying geology of the application area consists of shale, slate and quartzite of the Timeball Hill Formation. The Timeball Hill Formation forms part of the Pretoria Group of which is part of the Transvaal Sequence. Some quaternary outcrops are found around the site.

**4.2 Description why the Geological formation substantiates the minerals to be prospected for (provide a justification as to why the geological formation supports the possibility that the minerals applied for could be found therein)**

There are numerous operational alluvial diamond mines in the vicinity of the proposed application area on which the application for a prospecting right is being lodged. In house information exist which confirm the reasons for this application.

**4.3 Attach a geological map that justifies the description why there is a possibility that the minerals applied for could occur on the land concerned.**



**Kuhle**  
 Environmental Consult (Pty) Ltd  
 061 970 2449  
 danie.kuhle@outlook.com  
 Registration number:  
 2020 / 055245 / 07

**REFERENCE**

International Boundary and Season	
Provincial Boundary	
Protected Area	
Perennial River	
Perennial Water	
Non-perennial River	
Non-Perennial Water	
Dry Water Course	
Dry Pan	
Marsh and Vlei	
Pipeline (above ground)	
Water Tower; Reservoir; Water Point	
Coastal Focks	
Prominent Rock Outcrop	
Frosting; Sand	
Woodland	
Cultivated Land	
Outland or Vineyard	
Recreation Ground	
Flow of Trees	

**REFERENCE**

National Freeway; National Route	
Aerial Route	
Main Road	
Secondary Road; Bench Mark	
Other Road; Bridge	
Track and Hiking Trail	
Railway; Station or Siding	
Other Railway; Tunnel	
Embankment; Cutting	
Power Line	
Built-up Area (High, Low Density)	
Buildings; Ruin	
Post Office; Police Station; Store	
Place of Worship; School; Hotel	
Fence; Wall	
Windpump; Monument	
Communication Tower	
Mine Dump; Excavation	
Trigonometrical Station; Marine Beacon	
Lighthouse and Marine Light	
Conventry; Grave	

**Legend**

- Mining Permit
- Portion 6 - Syferfontein 496 JP
- Portion 8 - Rietfontein 464 JP

**NORTH WEST PROVINCE LOCALITY MAP**



Applicant:  
Mr Dean Mark Alblas

Signature:  
Date:

GEOLOGICAL MAP: PROPOSED PROSPECTING RIGHT AREA ON PORTION 8 OF THE FARM RIETFONTEIN 464 JP AND PORTION 6 OF THE FARM SYFERFONTEIN 496 JP (EXCLUDING THE 5HA MINING PERMIT); NEAR KOSTER, NORTH WEST PROVINCE.  
 TOTAL EXTENT: APPROX. 156.4472 HA - 5HA MINING PERMIT = 151.4472 HA

Coordinates:  
26°55'7.94"E  
25°57'39.48"S

Datum: D\_WGS\_1984  
Spheriod: WGS\_1984  
Scale: 1:21 385



Adopted from the Geological Maps - 2526

# GEOLOGICAL LEGEND GEOLOGIESE LEGENDE

SEDIMENTARY AND VOLCANIC ROCKS SEDIMENTÊRE EN VULKANIESE GESTEENTES					INTRUSIVE ROCKS INTRUSIEWE GESTEENTES				
	GROUP GROEP	SUBGROUP SUBGROEP	FORMATION FORMASIE	OUTCROP DAGSOOM	SUBOUTCROP SUBDAGSOOM	SUBOUTCROP SUBDAGSOOM	OUTCROP DAGSOOM		
QUATERNARY KWARTÊR	KALAHARI		Gordonia						
				Os					
				Qw					
				Qg					
				Qa					
				Qsl					
T-Oc									
TERTIARY TERSIER									
JURASSIC JURA	KAROO SEQUENCE KAROO OPEENLOOING		Dwyka		C-Pd		Jd		
PERMIAN PERM							Mg	Mg	
CARBONIFEROUS KARBOON								Vdi	
MOKOLIUM MOKOLIUM									
VAALIAN VAALIUM	CHUNIESPOORT	MALMANI	Monte Christo	Vmm		Vm			
			Oaktree	Vmm		Vc			
			Black Reef Swartrif	Vbr	Vbr	Vd			
			Allanridge	Ra	Ra	Vb			
			Bothaville	Rbt	Rbt	Vw			
			Rietgat	Rr	Rr	Vv			
RANDIAN RANDIUM	PLATBERG	KAMEELDORNS	Makwassie	Rm	Rm				
			Goedgenoeg*	Rkb					
			Rme	Rme					
			Rka	Rka					
RANDIAN RANDIUM	KLIPRIERSBERG	HOSPITAL HILL HOSPITAALHEUWEL	Rix	Rix					
			Rh	Rh					
			Rh	Rh					
			Rh	Rh					
					GREGG AND WEST SEQUENCE GREGG AND WES OPEENLOOING				
					CAMPBELL GROUP CAMPBELL GROEP				
					Vryburg				
					Mosita Granite* Mositagraniet				

LITHOLOGY/LITOLOGIE

Mn 1	Microgranite, aplite Mikrograniet, apliet
Mn 2	Amphibolitised deuterite granite; manto ( ma ) Geamfibolitiseerde deuteriese graniet; manto ( ma )
Mn 3	Coarse-grained porphyritic granite; mineralised ( \ \ \ \ \ ); chilled margin (           ) Grofkorrelrige porfiritiese graniet; gemeneraliseerd ( \ \ \ \ \ ); kilrand (           )
Mn 4	Coarse-grained granite; mineralised ( / / / / ) Grofkorrelrige graniet; gemeneraliseerd ( / / / / )
M/V	Mixed granite and granophyre Gemengde graniet en granofier
d	Hortonolite dunite, harzburgite, pyroxenite in pipes Hortonolietduniet, harzburgiet, pirokseniet in pype
Vu	Magnetite gabbro; diorite, syenite ( ≡ ≡ ≡ ); magnetite layer ( — — — ) Magnetietgabbro; dioriet, sieniet ( ≡ ≡ ≡ ); magnetietlaag ( — — — )
Vg	Gabbro, norite; anorthosite ( : : : : : ) Gabbro, noriet; anortosiet ( : : : : : )
Vcm	Norite; anorthosite ( : : : : : ); Merensky reef ( — — — ); upper chromitite ( — — — ); middle chromitite ( — — — ) Noriet, anortosiet ( : : : : : ); Merenskyrif ( — — — ); boonste chromitiet ( — — — ); middel-chromitiet ( — — — )
Vcr	Pyroxenite; lower chromitite ( — — — ) Pirokseniet, onderste chromitiet ( — — — )
VI	Pyroxenite; dunite, harzburgite ( : : : : : ); norite ( ≡ ≡ ≡ ); locally serpentinised (           ); chromitite ( — — — ) Pirokseniet; duniet, harzburgiet ( : : : : : ); noriet ( ≡ ≡ ≡ ); plek-plek geserpentiniseerd (           ); chromitiet ( — — — )
Vn	Norite, hybrid rocks, diabase, epidiorite Noriet, hibridiese gesteentes, diabaas, epidioriet
Vrg	Granophyre, pseudogranophyre Granofier, pseudogranofier
Vrr	Acid lava; agglomerate (           ) Suurlawa; agglomeraat (           )
Vr	Quartzite, feldspathic quartzite ( / / / / / ); shale ( ≡ ≡ ≡ ); gritty quartzite ( / / / / / ) Kwarsiet; veldspatiese kwarsiet ( / / / / / ); skalie ( ≡ ≡ ≡ ); grinterige kwarsiet ( / / / / / )
Vm	Quartzite, minor hornfels (           ) Kwarsiet, ondergeskikte horingfels (           )
Vsi	Slate, shale, hornfels; graphitic ( ⚡ ⚡ ⚡ ), with andalusite ( ⚡ ⚡ ⚡ ); quartzite ( : : : : : ) Leiklip, skalie, horingfels; grafities ( ⚡ ⚡ ⚡ ), met andalusiet ( ⚡ ⚡ ⚡ ); kwarsiet ( : : : : : )
Vdq	Quartzite Kwarsiet
Vst	Slate, shale; iron-rich layer ( — — — ) Leiklip, skalie; ysterryke laag ( — — — )
Vdw	Ferruginous siltstone and sandstone Ysterhoudende slijksteen en sandsteen
Vha	Andesite, basalt; tuff, agglomerate ( △ △ △ ); shale ( ≡ ≡ ≡ ); chert ( — — — ) Andesiet, basalt; tuf, agglomeraat ( △ △ △ ); skalie ( ≡ ≡ ≡ ); chert ( — — — )
Vb	Quartzite, grit Kwarsiet, grintsteen
Vt	Shale, slate; with andalusite ( ⚡ ⚡ ⚡ ); ferruginous quartzite ( : : : : : ); quartzite, slate ( : : : : : ) Skalie, leiklip; met andalusiet ( ⚡ ⚡ ⚡ ); ysterhoudende kwarsiet ( : : : : : ); kwarsiet, leiklip ( : : : : : )

5. REGULATION 7(1) (f)

**A DESCRIPTION OF HOW THE MINERAL RESOURCE AND MINERAL DISTRIBUTION OF THE PROSPECTING AREA WILL BE DETERMINED**

During the resource estimation phase of a potential alluvial diamond project, the three main parameters to be determined are the gravel volume, diamond grade and diamond value. Combinations of ground geophysical surveys, drilling (including augering), pitting, trenching and bulk-sampling are used to increase the knowledge and confidence of the



underlying geology in order to estimate a resource as defined in any of the international resource/reserve estimation codes.

During the gold resource estimation phase, a diamond drilling programme comprising of four boreholes will be undertaken. This information will then be integrated into the geological model to further define the orebodies, which when combined with the assay information will be utilised to define a resource. Should the drilling programme prove to be successful, additional holes will be considered. This will be indicated in the form of a S102 application together with the proposed revised prospecting plan and EMP.

The following phases have been identified to assist in determining the diamond gravel /gold ore volume, diamond/gold grade, diamond/gold resource value:

#### **5.1 PHASE 1: SITE VISIT**

Mr. Dean Mark Alblas will appoint Mr. Tim Vermaakt (Guyron) as the project geologist and an Environmental Specialist/Environmental Control Officer/Environmental Manager to commence with the site visit phase. These specialists and Mr. Dean Mark Alblas will conduct a site visit together within 90 days after the execution of the proposed prospecting right. It is expected that one or more site visits will be conducted throughout this phase and the various phases that will follow hereafter.

The main purpose of the site visit is to assist Mr. Dean Mark Alblas to become familiar with the surrounding environment, the sensitive areas, the underlying soil and geology before invasive prospecting activities commence. During this process Mr. Dean Mark Alblas and its appointed specialists will also assess and review all the information available in relation to the underlying geology of the proposed prospecting area.

#### **5.2 PHASE 2: DESKTOP STUDIES**

A desktop study phase will commence after the above-mentioned site visit(s) and analysis was completed in order to determine the areas of importance that should be targeted through the proposed prospecting. This includes the identification of any infrastructure to be erected, any potential problems that may arise and that should be addressed.

The desktop phase involves reviewing various literature, interpretation of aerial photographs, GIS data (BGIS-SANBI), satellite images (Google Earth), geological

maps and ground validation of targets. A detailed preliminary study of the underlying and surrounding environment will be obtained, which will improve the efficiency of the project and cost through providing a clearer understanding of the challenges that may surface. Upon completion of this phase, Mr. Tim Vermaakt (Geologist) will compile a report that capture the results of the desktop analysis.

### **5.3 PHASE 3: PITTING**

Making use of the trial pit / test pit or inspection pit investigation method is a highly effective way to obtain data on the underlying surface soil and geological conditions of a prospecting right area. It allows the specialists to log and sample the various soils and geological layers and to make a preliminary assessment.

The trial pit / test pit or inspection pit will be excavated, logged, sampled and backfilled. To excavate these pits, Mr. Dean Mark Alblas will make use of the advised methods of Mr. Tim Vermaakt (Geologist).

Mr. Dean Mark Alblas will be in possession of the following information after completing the pitting phase: a brief description of the soil and geological layers from the surface to the base of the pits; a record of rock head and refusal depth; an indication of where trenches should be excavated in order to obtain bulk-samples; an indication of where groundwater is expected to be intersected; a general indication of the underlying geology and the associated conditions in the vicinity of the test pits.

### **5.4. PHASE 4: TRENCHES**

The only reliable method of grade estimation is through bulk-sampling and the direct measurement of carats per volume processed.

In addition, limited sampling (both numbers of samples and volume of individual samples) can result in spurious grade results. Systematic bulk-sampling are essential to the effective evaluation of alluvial diamond deposits. Since the geology can vary significantly from one alluvial diamond deposit to another, it is not possible to prescribe drill grid parameters (for the estimation of gravel volume) or the number or size of samples (for grade estimation).

By making use of the bulk-sample method, Mr. Dean Mark Alblas will be able to determine the grade of alluvial diamond deposits. The grade of a diamond deposit is the estimated number of carats contained in one hundred tonnes (cpht) or hundred cubic metres (ct/100 m<sup>3</sup>) of gravel.

During these activities Mr. Dean Mark Alblas will determine the size and value distribution of the planned trenches. Alluvial streams are highly transient environments and therefore the diamond distribution patterns of alluvial deposits vary to such a nature that there is no repeatability of sample results even from adjacent samples.

Given the extent of the area and the expected grades, Mr. Dean Mark Alblas will have to process bulk samples of approximately 20 000 tons per month.

Mr. Tim Vermaakt (Geologist), will advise Mr. Dean Mark Alblas on where the proposed trenches should be excavated. Unlike the case of drilling, bulk-samples will not be taken along a systematic grid.

After the grades (cpht) and the diamond size distribution has been determined, the diamonds will be sold in order to determine the value of the diamonds.

The method that will be used is that of the so called “plant/bulk sampling technique”, which is typical to that of the South African alluvial diamond mining industry.

The method/technique to be followed are as follow:

- Vegetation will be cleared from the planned/identified bulk-sampling area before excavation commences. This will be done as per the environmental regulations and through supervision by the appointed Environmental Specialist/Environmental Control Officer/Environmental Manager. Overburden and topsoil will then be removed and stockpiled, as per the EMP, for rehabilitation purposes.
- The bulk samples will be “box form” excavations. The dimensions of these individual “box form” excavations will approximately be 30m long x 10m wide.  
It is estimated that the depth of each bulk sample will be 4 m in depth.
- Gravel will be excavated, removed and loaded directly onto dumper trucks by excavators. The excavated gravel will then be hauled to the on-site screening plant. The material will be screened where after the screened material will be transported to the on-site processing plant, where the gravel will be processed by making use of 1 x washing pan. Concentrate will be moved to the Flowsort plant where the concentrate will be sorted.
- The oversize material and tailings recovered from the plant will be used as backfill material prior to final rehabilitation. Rehabilitation includes backfilling of trenches and rehabilitation of the tailings facility (evening the slopes and planting vegetation)

The equipment used for the bulk-sampling operation will be conventional open pit mining equipment comprising of : Dumper truck, excavator and front-end-loader. All equipment is planned to be diesel driven.

#### **5.5 PHASE 5: DRILLING**

Depending on the initial geological model established, a diamond drilling programme comprising of four boreholes will be undertaken. This information will then be integrated into the geological model to further define the orebodies, which when combined with the assay information will be utilised to define a resource. Should the drilling programme prove to be successful, additional holes will be considered. This will be indicated in the form of a S102 application together with the proposed revised prospecting plan and EMP.

#### **5.6 PHASE 6: INTERPRETATION AND CONSOLIDATION OF RESULTS & DATA**

The abovementioned prospecting activities will have to be conducted in order to determine an “Inferred Resource” and an “Indicated Resource”. It is usual for an alluvial diamond project to progress from “Exploration Results”, through “Inferred Resource” to “Indicated Resource” classification.

Unlike the “Indicated Resources” the “Inferred Resource” has a lower level of confidence. The “Inferred Resource” indication will be where the geological and or grade continuity could not be confidently interpreted. It cannot be assumed that an “Inferred Resource” will necessarily be upgraded to an “Indicated Resource”. Such a resource is normally also not sufficient to enable an evaluation of economic viability.

The industry standard for resource estimation on alluvial diamond mines is to estimate some two/three years of Indicated Resources and multiple years of Inferred Resources. As these are consumed, there is a continuous cycle of resource rollover (where continuous prospecting upgrades existing “Inferred Resources” to “Indicated Resource” status to take the place of such resources which have been mined).

Typical parameters for “Indicated Resources” classification include:

- Sufficient drilling to generate a 3D model based on well constrained geology;
- Extrapolation only within similar geological environments to distances determined by the geology of the deposit (typically, this distance may be up to 250 m, but may also be as low as 10 m in specific instances);
- Sufficient bulk-sampling to take account of all the key geological variables expected from the deposit in question (and to recover the required number of carats for valuation or sale).

- The recovery of 3,000–5,000 cts of diamonds for valuation (or sale) to estimate diamond value.

The appointed project Geologist and Environmental Specialist/Environmental Control Officer/Environmental Manager will monitor the Prospecting Work Programme, consolidate and process the data, and amend the Prospecting Work Programme depending on the results received after each phase of the Prospecting Work Programme. Any updates or amendments will be communicated to the Department of Mineral Resources and Energy.

Each invasive prospecting phase of the Prospecting Work Programme will involve a post-desktop study, which will include the interpretation and modeling of all the collected data. These results that were obtained will determine the manner in which the Prospecting Work Programme will be proceeded with in terms of the activity, quantity, resources, expenditure and duration.

A GIS Geo/File data base will be generated in order to capture all the exploration/prospected data. All data will be consolidated and processed to determine the diamond bearing resource on the property.

#### **REGULATION 7(1)(h)**

#### **ALL PLANNED PROSPECTING ACTIVITIES MUST BE CONDUCTED IN PHASES AND WITHIN SPECIFIC TIMEFRAMES**

- **PHASE 1: SITE VISIT**  
Duration: 2 Months (0-2 Months)
- **PHASE 2: DESKTOP STUDIES**  
Duration: 4 Months (3-6 Months)
- **PHASE 3: PITTING**  
Duration: 12 Months (7-18 Months)
- **PHASE 4: TRENCHES**  
Duration: 24 months (19 – 42 Months)
- **PHASE 5: DRILLING**  
Duration: 12 Months (43 – 54 Months)
- **PHASE 6: INTERPRETATION AND CONSOLIDATION OF RESULTS & DATA**  
Duration: 6 Months (55 – 60 Months)

PHASE	PROSPECTING METHOD	0 - 2	3 – 6	7 - 18	19 - 42	43 - 54	55 - 60
1	Site Visit	X					
2	Desktop Studies		X				
3	Pitting			X			
4	Trenches			X	X		
5	Drilling					X	
6	Interpretation and Consolidation of results data						X

**REGULATION 7(1)(i)**

**TECHNICAL DATA DETAILING THE PROSPECTING METHOD OR METHODS TO BE IMPLEMENTED AND THE MINE REQUIRED FOR EACH PHASE OF THE PROPOSED PROSPECTING OPERATION**

**PHASE 1 – SITE VISIT**

**General:**

A site visit will be conducted within 3 months after execution of the Prospecting Right. It is foreseen that the information obtained from the site visit, will be sufficient to commence with the rest of the identified prospecting phases.

**Timeframe:**

Month 0-2

**Costs:**

R10 000

**Technical Support:**

Geologist – Mr. Tim Vermaakt

Environmental Specialist/Environmental Control Officer/Environmental Manager

**PHASE 2– DESKTOP STUDIES**

**General:**

Desktop studies will be conducted, after the before-mentioned site visit phase is completed, in order to determine the target areas.

**Timeframe:**

Months 3-6

**Costs:**

R15 000

**Technical Support:**

Geologist – Mr. Tim Vermaakt

Environmental Specialist/Environmental Control Officer/Environmental Manager

**PHASE 3 – PITTING**

**Timeframe:**

12 months (month 7 -18)

**Number of pits:**

40 pits

**Extent:**

3m x 3m x 4m

**Costs:**

R105 000.00

**Technical Support:**

Geologist – Mr. Tim Vermaakt

Environmental Specialist/Environmental Control Officer/Environmental Manager

Excavator operator

**PHASE 4 – TRENCHES**

**Timeframe:**

24 months (month 19 - 42)

**Number of trenches:**

20 trenches

**Extent:**

30m x 10m x 4m

**Costs:**

R 300 000.00

**Technical Support:**

Environmental Specialist/Environmental Control Officer/Environmental Manager

Geologist – Mr. Tim Vermaakt

Mine Manager

Dumber Truck Operators

Screen Operators

Washingpan Operators

Excavator operator

**Tons To Be Washed:**

Approx. 20 000 tons per month

**PHASE 5 – DRILLING**

**Timeframe:**

12 months (month 43 - 54)

**Costs:**

R 20 000.00

**Technical Support:**

Environmental Specialist/Environmental Control Officer/Environmental Manager

Geologist – Mr. Tim Vermaakt

Drill Rig Operator

**PHASE 6 – CONSOLIDATION AND INTERPRETATION**

**Timeframe:**

6 months (month 55 - 60)

**Costs:**

R 20 000.00

**Technical Support:**

Environmental Specialist/Environmental Control Officer/Environmental Manager

Geologist – Mr. Tim Vermaakt



**Table 5.1 The table below incorporates the information required in respect of Regulations 7(1)(f), 7(1)(h) and 7(1)(i):**

<b>Phase</b>	<b>Activity</b>	<b>Skill(s) required</b>	<b>Timeframe</b>	<b>Outcome</b>	<b>Timeframe for outcome</b>	<b>What technical expert will sign off on the outcome?</b>
1	<b>Non-Invasive Prospecting</b> Site Visit	Environmental Consultant  Geologist	Months 0 – 2	To become familiar with the surrounding environment, the sensitive areas, the underlying soil and geology in order to determine the prospecting activities to commence with.	Month 2	Environmental Specialist/Environmental Control Officer/Environmental Manager Geologist – Mr. Tim Vermaakt
2	<b>Non-Invasive Prospecting</b> Desktop Studies	Environmental Consultant  Geologist	Months 3 - 6	To determine the areas that should be targeted through prospecting. This includes the identification of any infrastructure to be erected, any potential problems that may arise and to be addressed.  A detailed preliminary analysis of the underlying and surrounding environment will be obtained, which will improve the efficiency of the project and cost through providing a clearer	Month 6	Environmental Specialist/Environmental Control Officer/Environmental Manager

				understanding of the challenges that may surface.		
3	<b>Invasive Prospecting</b> Pitting	Environmental Consultant  Geologist	Months 7 -18	To obtain data on the underlying surface soil and geological conditions of the prospecting right area.	Month 18	Environmental Specialist/Environmental Control Officer/Environmental Manager Geologist – Mr. Tim Vermaakt
4	<b>Invasive Prospecting</b> Trenches	Environmental Consultant  Machine Operators  Washingpan Operators  Mine Health and Safety Consultant	Months 19- 42	Grade estimation through bulk-sampling and the direct measurement of carats per volume processed.	Month 42	Environmental Specialist/Environmental Control Officer/Environmental Manager Geologist – Mr. Tim Vermaakt
5	<b>Invasive Prospecting</b> Drilling	Environmental Consultant  Geologist	Months 43-54	To obtain data on the underlying surface soil and geological conditions of the prospecting right area.	Month 54	Environmental Specialist/Environmental Control Officer/Environmental Manager Geologist – Mr. Tim Vermaakt
6	<b>Non-Invasive Prospecting</b>	Environmental Consultant	Months 55-60	The extent of the resource, The life of mine	Month 60	Environmental Specialist/Environmental Control Officer/Environmental Manager Geologist – Mr. Tim Vermaakt

	Interpretation and Consolidation of results	Geologist				
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6. **REGULATION 7 (1)(g)**

**A DESCRIPTION OF THE PROSPECTING METHOD OR METHODS TO BE IMPLEMENTED**

**(i) DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES:**

(These activities do not disturb the land where prospecting will take place e.g. aerial photography, desktop studies, aeromagnetic surveys, etc)

**PHASE 1: SITE VISIT**

Mr. Dean Mark Alblas will appoint Mr. Tim Vermaakt (Guyron) as the project geologist and an Environmental Specialist/Environmental Control Officer/Environmental Manager to commence with the site visit phase. These specialists and Mr. Dean Mark Alblas will conduct a site visit together within 90 days after the execution of the proposed prospecting right. It is expected that one or more site visits will be conducted throughout this phase and the various phases that will follow hereafter.

The main purpose of the site visit is to assist Mr. Dean Mark Alblas to become familiar with the surrounding environment, the sensitive areas, the underlying soil and geology before invasive prospecting activities commence. During this process Mr. Dean Mark Alblas and its appointed specialists will also assess and review all the information available in relation to the underlying geology of the proposed prospecting area..

**PHASE 2: DESKTOP STUDIES**

A desktop study phase will commence after the above-mentioned site visit(s) and analysis was completed in order to determine the areas of importance that should be targeted through the proposed prospecting. This includes the identification of any infrastructure to be erected, any potential problems that may arise and that should be addressed.

The desktop phase involves reviewing various literature, interpretation of aerial photographs, GIS data (BGIS-SANBI), satellite images (Google Earth), geological maps and ground validation of targets. A detailed preliminary study of the underlying and surrounding environment will be obtained, which will improve the efficiency of the project and cost through providing a clearer understanding of the challenges that may surface. Upon completion of this phase, Mr. Tim Vermaakt (Geologist) will compile a report that capture the results of the desktop analysis.

## **PHASE 5: CONSOLIDATION AND INTERPRETATION OF RESULTS DATA**

The abovementioned prospecting activities will have to be conducted in order to determine an “Inferred Resource” and an “Indicated Resource”. It is usual for an alluvial diamond project to progress from “Exploration Results”, through “Inferred Resource” to “Indicated Resource” classification.

Unlike the “Indicated Resources” the “Inferred Resource” has a lower level of confidence. The “Inferred Resource” indication will be where the geological and or grade continuity could not be confidently interpreted. It cannot be assumed that an “Inferred Resource” will necessarily be upgraded to an “Indicated Resource”. Such a resource is normally also not sufficient to enable an evaluation of economic viability.

The industry standard for resource estimation on alluvial diamond mines is to estimate some two/three years of Indicated Resources and multiple years of Inferred Resources. As these are consumed, there is a continuous cycle of resource rollover (where continuous prospecting upgrades existing “Inferred Resources” to “Indicated Resource” status to take the place of such resources which have been mined).

Typical parameters for “Indicated Resources” classification include:

- Sufficient drilling to generate a 3D model based on well constrained geology;
- Extrapolation only within similar geological environments to distances determined by the geology of the deposit (typically, this distance may be up to 250 m, but may also be as low as 10 m in specific instances);
- Sufficient bulk-sampling to take account of all the key geological variables expected from the deposit in question (and to recover the required number of carats for valuation or sale).
- The recovery of 3,000–5,000 cts of diamonds for valuation (or sale) to estimate diamond value.

The appointed project Geologist and Environmental Specialist/Environmental Control Officer/Environmental Manager will monitor the Prospecting Work Programme, consolidate and process the data, and amend the Prospecting Work Programme depending on the results received after each phase of the Prospecting Work Programme. Any updates or amendments will be communicated to the Department of Mineral Resources and Energy.

Each invasive prospecting phase of the Prospecting Work Programme will involve a post-desktop study, which will include the interpretation and modeling of all the collected data. These results that were obtained will

determine the manner in which the Prospecting Work Programme will be proceeded with in terms of the activity, quantity, resources, expenditure and duration.

A GIS Geo/File data base will be generated in order to capture all the exploration/prospected data. All data will be consolidated and processed to determine the diamond bearing resource on the property.

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

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

**PHASE 3: PITTING**

Making use of the trial pit / test pit or inspection pit investigation method is a highly effective way to obtain data on the underlying surface soil and geological conditions of a prospecting right area. It allows the specialists to log and sample the various soils and geological layers and to make a preliminary assessment.

The trial pit / test pit or inspection pit will be excavated, logged, sampled and backfilled. To excavate these pits, Mr. Dean Mark Alblas will make use of the advised methods of Mr. Tim Vermaakt (Geologist).

Mr. Dean Mark Alblas will be in possession of the following information after completing the pitting phase: a brief description of the soil and geological layers from the surface to the base of the pits; a record of rock head and refusal depth; an indication of where trenches should be excavated in order to obtain bulk-samples; an indication of where groundwater is expected to be intersected; a general indication of the underlying geology and the associated conditions in the vicinity of the test pits.

**PHASE 4: TRENCHES**

The only reliable method of grade estimation is through bulk-sampling and the direct measurement of carats per volume processed.

In addition, limited sampling (both numbers of samples and volume of individual samples) can result in spurious grade results. Systematic bulk-sampling are essential to the effective evaluation of alluvial diamond deposits. Since the geology can vary significantly from one alluvial diamond deposit to another, it is not possible to prescribe drill grid parameters (for the estimation of gravel volume) or the number or size of samples (for grade estimation).

By making use of the bulk-sample method, Mr. Dean Mark Alblas will be able to determine the grade of alluvial diamond deposits. The grade of a diamond deposit is the estimated number of carats contained in one hundred tonnes (cpht) or hundred cubic metres (ct/100 m<sup>3</sup>) of gravel.

During these activities Mr. Dean Mark Alblas will determine the size and value distribution of the planned trenches. Alluvial streams are highly transient environments and therefore the diamond distribution patterns of alluvial deposits vary to such a nature that there is no repeatability of sample results even from adjacent samples.

Given the extent of the area and the expected grades, Mr. Dean Mark Alblas will have to process bulk samples of approximately 20 000 tons per month.

Mr. Tim Vermaakt (Geologist), will advise Mr. Dean Mark Alblas on where the proposed trenches should be excavated. Unlike the case of drilling, bulk-samples will not be taken along a systematic grid.

After the grades (cpht) and the diamond size distribution has been determined, the diamonds will be sold in order to determine the value of the diamonds.

The method that will be used is that of the so called “plant/bulk sampling technique”, which is typical to that of the South African alluvial diamond mining industry.

The method/technique to be followed are as follow:

- Vegetation will be cleared from the planned/identified bulk-sampling area before excavation commences. This will be done as per the environmental regulations and through supervision by the appointed Environmental Specialist/Environmental Control Officer/Environmental Manager. Overburden and topsoil will then be removed and stockpiled, as per the EMP, for rehabilitation purposes.
- The bulk samples will be “box form” excavations. The dimensions of these individual “box form” excavations will approximately be 30m long x 10m wide. It is estimated that the depth of each bulk sample will be 4 m in depth.
- Gravel will be excavated, removed and loaded directly onto dumper trucks by excavators. The excavated gravel will then be hauled to the on-site screening plant. The material will be screened where after the screened material will be transported to the on-site processing plant, where the gravel will be processed by making use of 1 x washing pan.

Concentrate will be moved to the Flowsort plant where the concentrate will be sorted.

- The oversize material and tailings recovered from the plant will be used as backfill material prior to final rehabilitation. Rehabilitation includes backfilling of trenches and rehabilitation of the tailings facility (evening the slopes and planting vegetation)

The equipment used for the bulk-sampling operation will be conventional open pit mining equipment comprising of : Dumper truck, excavator and front-end- loader. All equipment is planned to be diesel driven.

#### **PHASE 5: DRILLING**

Depending on the initial geological model established, a diamond drilling programme comprising of four boreholes will be undertaken. This information will then be integrated into the geological model to further define the orebodies, which when combined with the assay information will be utilised to define a resource. Should the drilling programme prove to be successful, additional holes will be considered. This will be indicated in the form of a S102 application together with the proposed revised prospecting plan and EMP.

#### **Commitment to provide addendums in respect of additional prospecting activities**

I herewith commit to provide the Department of Mineral Resources and Energy with an addendum in respect of both the Environmental Management Plan and Prospecting Work Program regarding any future in-fill prospecting required but not described above, prior to undertaking such activities. The addendum will cover all the Regulations as per the Prospecting Work Program.

I agree that the addendums will provide for similar activities only and if the scope changes I would be required to apply in terms of Section 102 of the MPRDA for an amendment of the Prospecting Work Program.

<b>ACCEPT</b>	<b>X</b>
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#### **(iii) DESCRIPTION OF PRE-FEASIBILITY STUDIES**

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



All data will be consolidated and processed to determine the diamond and gold bearing resources which underlies the application are. This will be a continuous process throughout the Prospecting Work Programme.

**(iv) DESCRIPTION OF BULK SAMPLING ACTIVITIES**

This activity requires that an application in terms of Section 20 of the Act is specifically included in your application for a prospecting right and cannot be proceeded with if such permission is not specifically granted.

It is foreseen that 20 000 tons of bulk sample per month will be taken.

See **Annexure B** for an application in terms of Section 20 of the Act

**Table 6.1: Bulk Sampling Activities**

ACTIVITY		DETAILS			
Number of pits/trenches planned		40 Pits ; 20 Trenches			
Dimensions of pits/trenches, per pit/trench	Number of pits/trenches	Length	Width	Depth	
	40 pits	3m	x 3m	x 4m	
	20 trenches	30m	x 10m	x 4m	
Locality		The locality of the trenches will be determined by the geologist after the evaluation and assessment of the prospecting information derived from the earliest prospecting activities			
Volume Overburden (Waste)		30m x 10m x approx.2m x 20 = 12 000 m <sup>3</sup>			
Volume Ore		30m x 10m x approx.2m x 20 = 12 000 m <sup>3</sup>			
Density Overburden		1.5			
Density Ore		2.2			
Phase(s) when bulk sampling will be required		Phase 3 and 4			
Timeframe(s)		Pits Phase: 12 months Trench Phase: 24 months Drill Phase: 12 months			

**Commitment to provide for an addendum in respect of additional bulk sampling activities**

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

<b>ACCEPT</b>	<b>X</b>
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**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**

<b>COMPETENCIES TO BE EMPLOYED</b>
Mine Manager
Safety Officer
Operators
Environmental Specialist/Environmental Control Officer/Environmental Manager
Geologist -Mr. Vermaakt
Drill Rig Manager

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

<b>CONFIRMED</b>	<b>X</b>
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**7.2 List of Appropriate equipment at your disposal (If applicable)**

**Table D: Appropriate Equipment available**

1 x 14-16ft Pans plus conveyors 1 x 20t Excavator 1 x Front End Loader 1 x Scalping Screen
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1 x Dump Trucks  
1 x 250 kva Generator  
1 x Drill Rig

### 7.3 Technical skills provided Free of Charge

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

- Environmental Specialist/Environmental Control Officer/Environmental Manager – Kuhle Environmental Consult (Pty) Ltd – Attached as **Annexure C**
- Geologist – Mr. Tim Vermaakt - Attached as **Annexure D**

#### 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

- Environmental Specialist/Environmental Control Officer/Environmental Manager – Kuhle Environmental Consult (Pty) Ltd – Attached as **Annexure C**
- Geologist – Mr. Tim Vermaakt - Attached as **Annexure D**

#### 7.3.3 All other evidence of Technical Ability CV of employees and list of equipment

## 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

As proof of the applicant's financial ability or access thereto, the following documents are annexed:

- Letter of undertaking – Attached as **Annexure E**
- Financial statements – Attached as **Annexure F**

## 9 REGULATION 7 (1)(k)

### A COST ESTIMATE OF THE EXPENDITURE TO BE INCURRED FOR EACH PHASE OF THE PROPOSED PROSPECTING OPERATION

**Table 9.1**

<b>ACTIVITY</b>	<b>EXPENDITURE YEAR 1</b>	<b>EXPENDITUR YEAR 2</b>	<b>EXPENDITURE YEAR 3</b>	<b>EXPENDITURE YEAR 4</b>	<b>EXPENDITURE YEAR 5</b>
<b>PHASE 1</b>					
<b>Site Visit</b>	R10 000.00	-	-	-	-
<b>PHASE 2</b>					
<b>Desktop Studies</b>	R15 000.00	-	-	-	-
<b>PHASE 3</b>					
<b>Pitting</b>	R75 000.00	R30 000.00	-	-	-
<b>PHASE 4</b>					
<b>Trenches</b>	-	-	R150 000.00	R150 000.00	-
<b>PHASE 5</b>					
<b>Consolidation &amp; Interpretation</b>	-	-	-	-	R20 000.00
<b>Labour</b>	R124 600.00	R124 600.00	R124 600.00	R124 600.00	-
<b>Rehabilitation</b>	R30 000.00	R20 000.00	R50 000.00	R50 000.00	R20 000.00
<b>Prospecting fees</b>	R1000.00	R1100.00	R1200.00	R1300.00	R1400.00
<b>Annual Total</b>	R255 600.00	R175 700.00	R325 800.00	R325 900.00	R41 400.00
<b>Total Budget</b>					R1 424 400.00

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

### **10.1 The amount required to finance the Work Program**

From the proposed budget calculated above, it can be assumed that the amount of R1 424 400.00 would be required to finance the Prospecting Work Programme.

## 10.2 Detail regarding the financing arrangements

Mr. Dean Mark Alblas will provide the financial resources to conduct the proposed activities of the Prospecting Work Programme. Financial Statements of Mr. Dean Mark Alblas are attached hereto as **Annexure F**.

## 10.3 Confirmation of supporting evidence appended

The Financial Statements of Mr. Dean Mark Alblas are attached hereto as **Annexure F**.

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

The Financial Statements of Mr. Dean Mark Alblas indicate that there are adequate funds to fund the proposed Prospecting Work Programme– **Annexure F**.

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

<b>CONFIRMED</b>	<b>X</b>
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## 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 authorized to act as representative of the Applicant in terms of the resolution submitted with the application, and undertake to implement this prospecting work program and adhere to the proposals set out herein.**

<b>Full Names and Surname</b>	Mr. Dean Mark Alblas
<b>Identity Number</b>	7004075067087