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1st phase heritage assessment of Rooifontein 1722, Kimberley district Northern Cape.

Date. August 2017.



For: - Ekapa Minerals (Pty) Ltd.

Through project coordinator: -

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Report prepared by: -

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Fig. 01. Above image shows the location of Rooifontein adjacent to Kimberly. The yellow lines indicate the extent of the area investigated.

1. Some G.P.S. Coordinates of the limits of the site under assessment.

Beacon	Degrees south	Degrees east	Beacon	Degrees south	Degrees east
1	28°45'3.23"S	24°49'17.44"E	2	28°44'30.98"S	24°51'10.75"E
3	28°45'1.24"S	24°52'7.82"E	4	28°48'20.25"S	24°52'39.57"E
5	28°49'32.88"S	24°52'15.03"E	6	28°48'40.06"S	24°49'11.89"E

Fig. 02. Above table shows the G.P.S. coordinates of some of the beacons defining the property under investigation. (GPS coordinates from Google Earth.)

2. Contact Details.

2.1. Client.

Company. Ekapa Minerals (Pty) Ltd..
Postal address. P.O.Box 10191, Beaconsfield, Kimberley, 8315.
Contact person. Jahn Hohne
Telephone. (+27)53 831 1901
E-mail. jahn.hohne@kemjv.com

2.2. Consultants.

Environment. Shangoni Management Services.
Physical address. Unit C8, Block@Nature, 472 Botterklapper Street, The Willows, 0081.
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E-mail. sidneymears@gmail.com.

2.3. Type of Development.

Mining.

2.4. Zoning of Site.

Farming.

2.5 Description of the site.¹

At present it is a piece of farmland used as a game farm adjacent to the Wesselton Diamond mine in Kimberly, some 2500 hectares in extent. In the past limited exploration and mining was carried out. Water from this property was also piped and channelled to Wesselton mine.

3. Executive Summary.

3.1. Mandate of Shangoni Management services.

Shangoni's mandate is to procure a first phase heritage impact assessment of their client's proposed impact on the property described above.

3.2. Intent of Ekapa Minerals (Pty) Ltd.²

It is the intent of the client to explore the mineral potential of this property.

3.3 The project description.

Shangoni has been instructed in the following way to forward the above project.

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

Prospecting Work

Phase 1: Data Acquisition and Desktop Study: A desktop study of all available data for the area will be performed in order to accumulate as much regional and historical data around the area as possible. This includes published geological reports, infrastructure mapping, satellite

¹ See appendix 3.

² See appendix 3.

imagery and existing geophysical information if available, both primary (Kimberlite or Lamproite) and secondary (alluvial) diamond deposits will be targeted.

Phase 2: Target Generation, ground truthing and delineation: Should the initial results of the desktop study be encouraging, further data will be generated through grid loam sampling and ground or airborne geophysical work in order to determine if there are positive indications of the existence of either a primary or secondary diamondiferous deposit on the exploration area. Targets generated during the sampling and geophysical surveys will be ground-truthed and tested by drilling if deemed necessary.

Phase 3: Scout Drilling and Delineation drilling: Targets that have been prioritized through detailed anomaly-specific loam sampling and ground geophysics will be tested by initial diamond or percussion drilling. If kimberlite is intersected, one or more 10kg sample will be taken for HMA (Heavy Mineral Abundance) sampling to extract kimberlite indicator minerals (KIM) such as garnet, chromite, ilmenite and chrome diopside in representative quantities. These will be analyzed by electron microprobe for major and selected minor elements, and the results will be interpreted to assess diamond potential.

Dependent on HMA results, further delineation drilling and micro-diamond (MiDA) sampling of drilled core material would be carried out to further define the deposit and give a better indication of grade.

Positive results from MiDA would be followed by more detailed delineation diamond drilling and geological modeling to assess potential resource tonnage and diamond content. Information gathered during this phase would be used in the decision to embark on additional prospecting and evaluation activities not covered in the scope of this prospecting works programme. Additional work would only be carried out once appropriate amendments to the prospecting works programme have been made.

3.4. Historical milieu.³

A. The general area is known to contain both Early as well as Later Stone Age sites as well as engraving sites. No major sites were revealed during the study on Rooifontein. A small number of Later Stone Age artefacts were observed, all apparently in disturbed areas. No engravings were observed.

B. The area investigated revealed no indication of Iron Age settlement.

C. There are no sites of cultural/spiritual significance located on or near the property under investigation.

D. There are no sites connected to slavery located on or near the property under investigation.

E. There are no people of importance connected to the history of Rooifontein as such. Only to the adjacent mines of Kimberly.

F. There is no special technological or scientific advancement of standing that can be linked to the property under investigation.

G. Work was started on the Premier (Wesselton) mine in the late nineteenth century. Impact of this work can be observed through the (now environmentally rehabilitated) Wesselton mining town, older prospecting sites, a stock-post, and features pertaining to water supply to the mine. Remains of a military fortification associated with the Second South African War were observed.

³ For full description see chapter 8.

3.5. Environmental milieu.⁴

Geology. The geology of Kimberly is possibly the of best known in the world owing to its diamondiferous nature. The project of prospecting will add to this understanding of the areas geology.

Vegetation. Kimberly is located on the veldt type zone 17. It has been described as Kalahari Thornveld invaded by Karoo. According to Acocks in this region one finds the grassveld constituent of the Thornveld being replaced by Karoo, where it has been reduced by grazing mismanagement. Apparently this invasion takes on various forms. The prospect drilling will only be marginally impacted upon

3.6. Summary of findings.

The archaeological remains encountered appear to be frugal and scattered in the landscape. From the general aspect of the farm the expectancy to encounter any major sites is low.

The historical remains encountered, such as the military fortification, the stock and farming post and the water related features are of medium importance as much of Kimberly's mines own history has been destroyed purely in the 'development process' of mining dynamics.

3.7. Recommendation.

It is advised that the historical features are documented in a second phase study as soon as possible.

It is advised that once the scout drilling sites are determined that these sites are inspected by a heritage specialist.



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⁴ For full description see chapter 7.

4. Definitions.

The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of paleontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

5. Protected Sites in Terms of the National Heritage Act, Act. no. 25 of 1999.

The following are the most important sites and objects protected by the National Heritage Act:

- a. Structures or parts of structures older than 60 years
- b. Archaeological sites and objects
- c. Paleontological sites
- d. Meteorites
- e. Ship wrecks
- f. Burial grounds
- g. Graves of victims of conflict
- h. Public monuments and memorials
- i. Structures, places and objects protected through the publication of notices in the Gazette and Provincial Gazette
- j. Any other places or object which are considered to be of interest or of historical or cultural significance
- k. Geological sites of scientific or cultural importance
- l. Sites of significance relating to the history of slavery in South Africa
- m. Objects to which oral traditions are attached
- n. Sites of cultural significance or other value to a community or pattern of South African history

6. Methodology.

6.1. Rooifontein was visited on the 26th of August 2017. The routes taken during the vehicle and on-foot inspection was recorded in the Google Earth Image (Fig. 01 black lines) above.

6.2. The site was traversed in a manner to collect appropriate data for the evaluation of the heritage remains on the farm.

6.3. It was clear that the farm was impacted upon during the mining operations at Wesselton mine, but not seriously.

6.4. Finds were recorded by GPS readings and photography.

6.5. The above information was recorded and collated in section 9 of this report.

6.6. Background information concerning the geology and vegetation of the region was collected from reliable resources and is presented in section 7 of this report.

6.7. Background information concerning the archaeology and historical milieu of the region was collected from reliable resources and is presented in section 8 of this report.

6.8. In sections 10 and 11 field ratings (SAHRA minimum standards May 2007) and statements of significance (SAHRA minimum standards May 2007) were attributed as necessitated by situation.

6.9. Section 12 contains a summary of the research results with a recommendation in section 13.

6.10. The collective gist of the information collated in the report is summarised in the executive summary in section 3.

7. Environment.

7.1. Geology.⁵

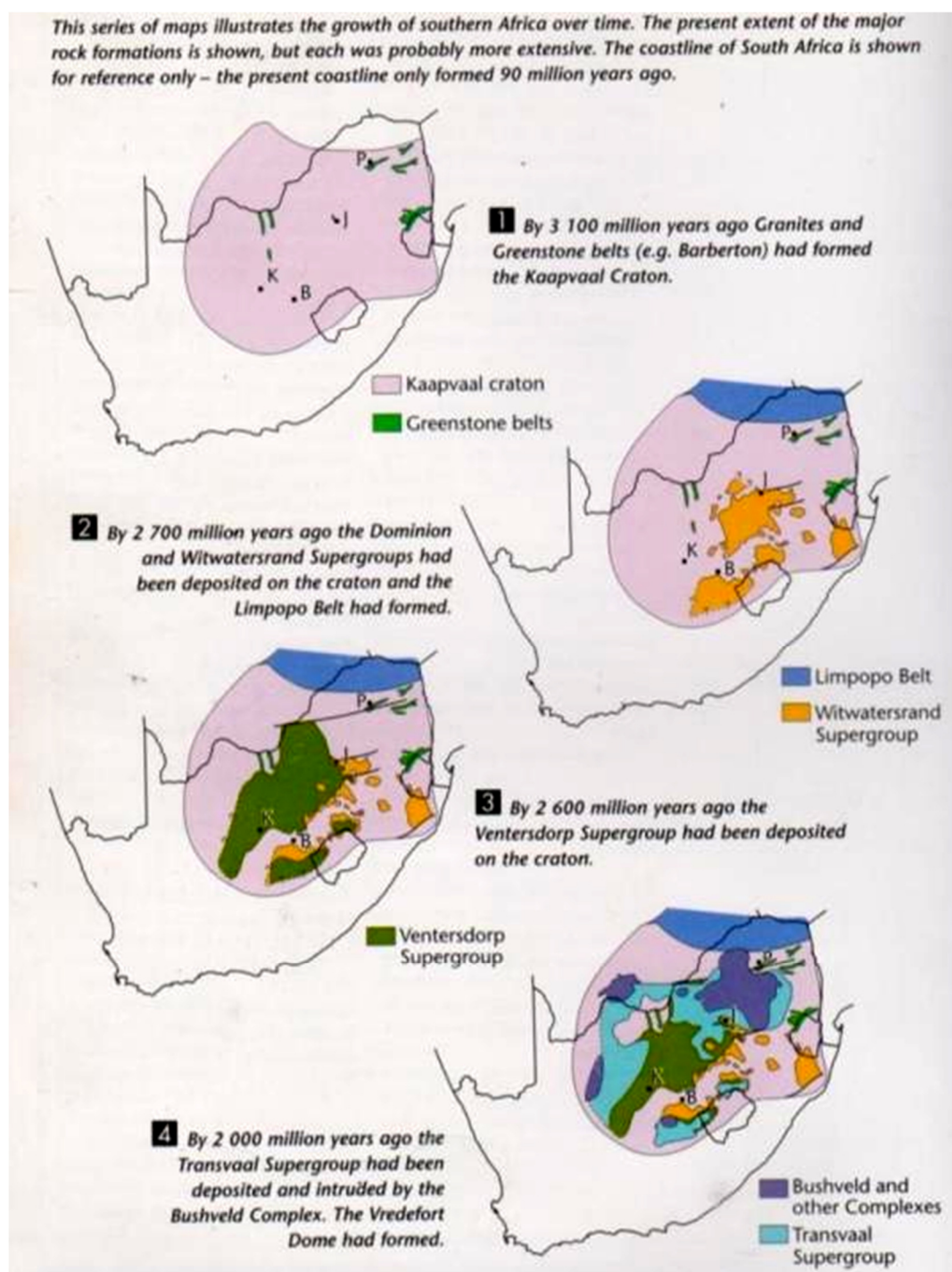


Fig. 03. Above is illustrated the formation of the South African geological substructure between 3100 million years ago and 2000 million years ago. In our present study area the Kaapvaal Craton had formed and the Transvaal Supergroup had been deposited. The Bushveld Complex had appeared and the Vredefort meteorite impact had occurred. K in the illustrations marks Kimberly, adjacent to the study area. (McCarthy & Rubidge: 334.)

⁵ See McCarthy & Rubidge 2005 and Haughton 1940 for full description.

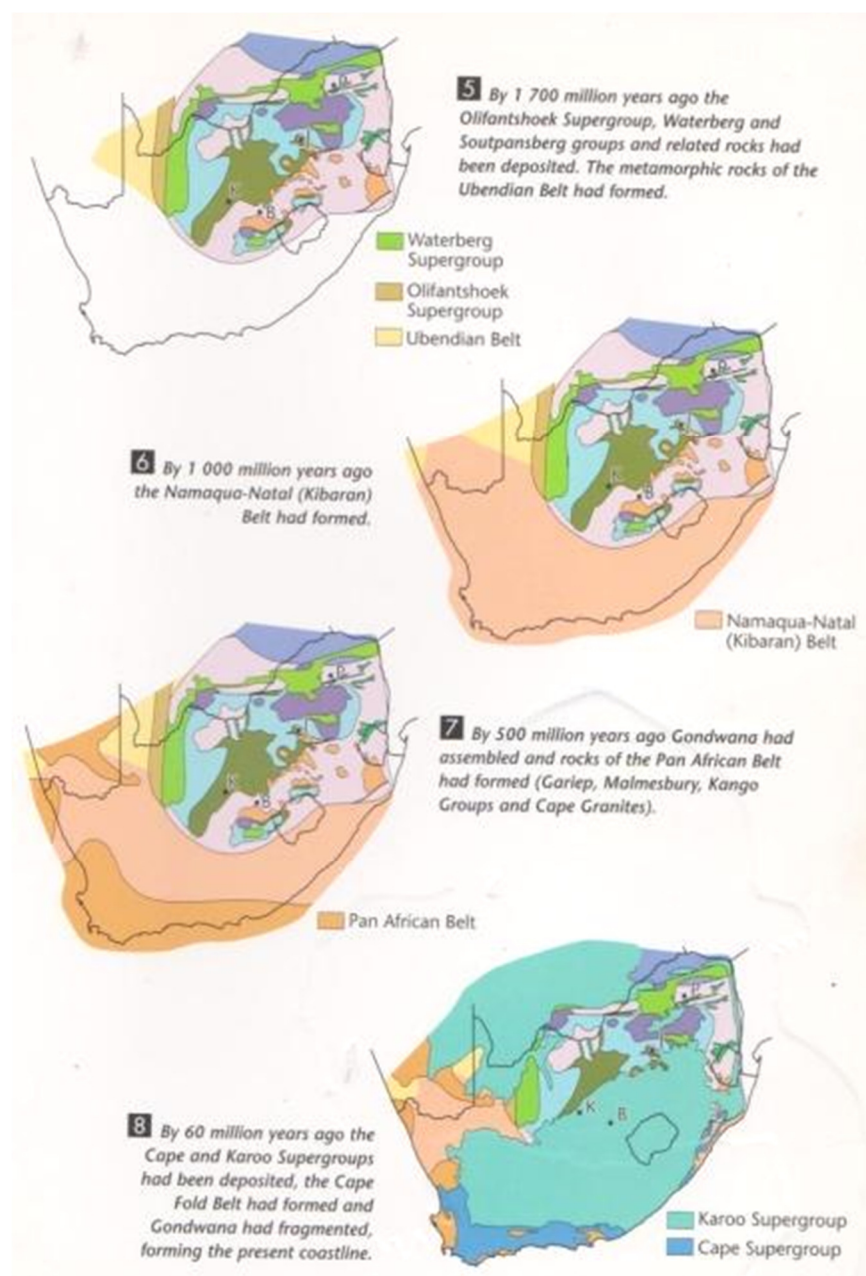


Fig. 04. Above is illustrated the formation of the South African geological substructure between 2000 million years ago and 60 million years ago. As can be seen above it is only the Karoo Supergroup that had any further significant impact on the study area. K, in the illustrations, marks Kimberly. (McCarthy & Rubidge: 335.)

The property under investigation is located only a few kilometres to the East of Kimberly along, and south of the Kimberly – Boshof road. The geological under build of the region is part of the Kaap-Vaal croton and the Witwatersrand basin and the impact of several Kimberlite intrusions. As the geological description of these phenomena has sufficiently been described, in scientific geological terms through time, owing to the importance of the rich diamondiferous nature, it is not necessary to elaborate on in this document. For a full description see McCarthy and Rubidge, 2005 and Haughton, 1940.

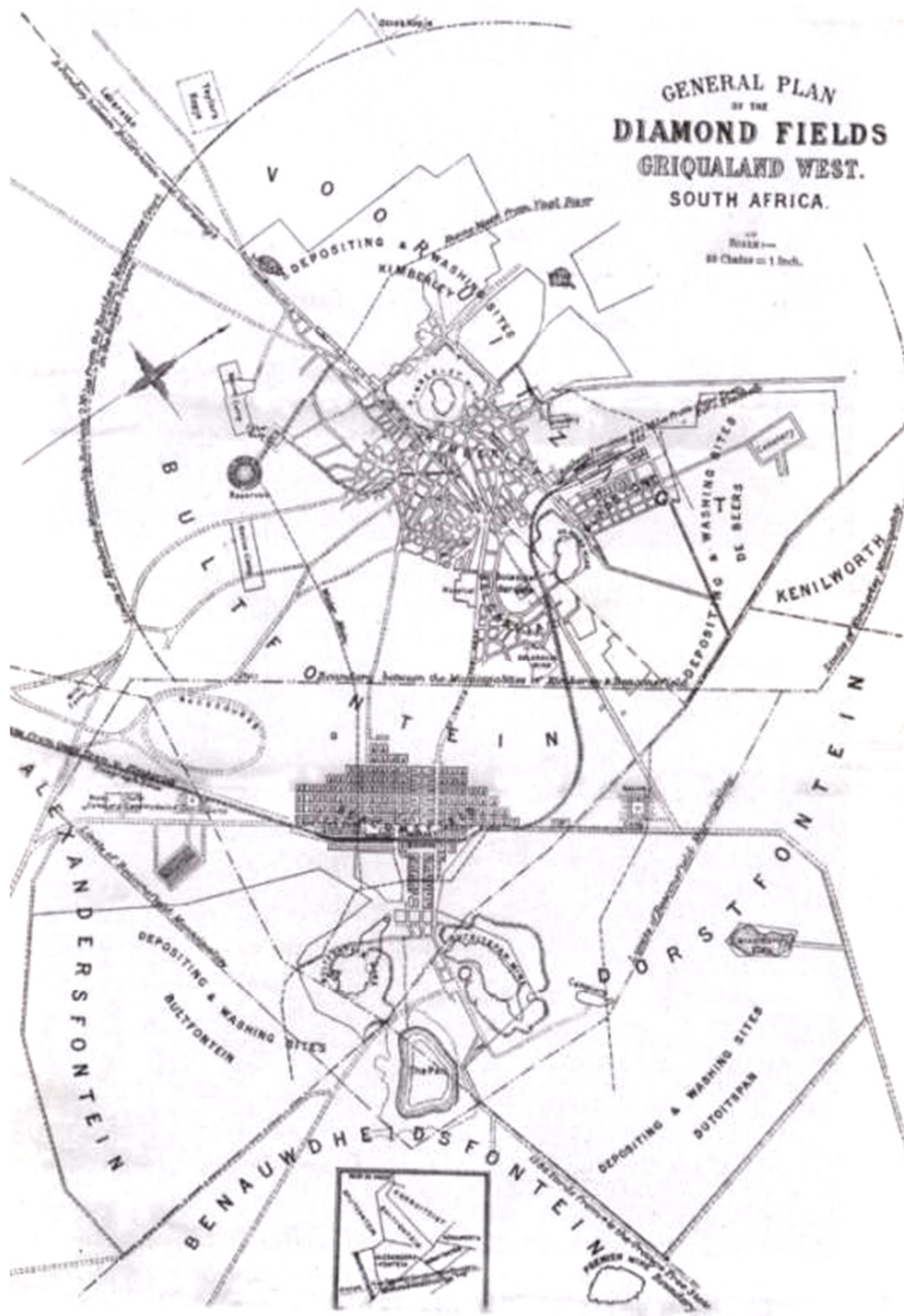
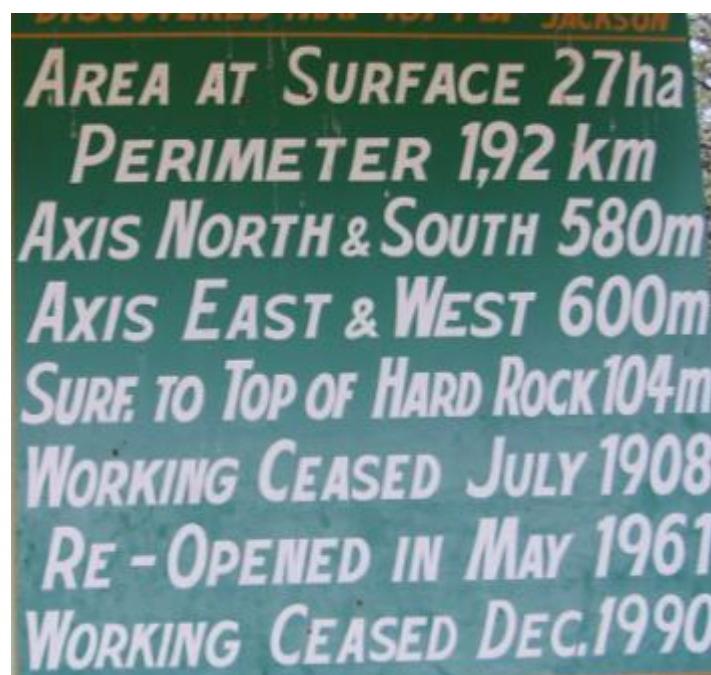
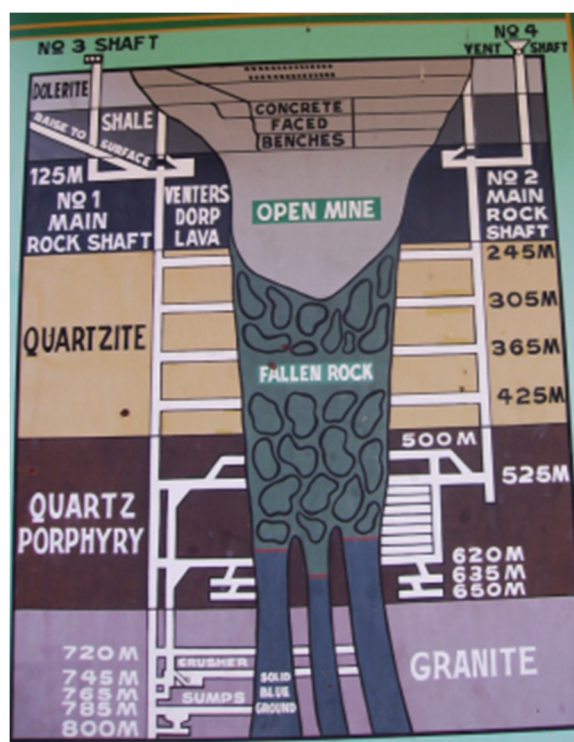


Fig. 05. The geological impact of diamond mines in and around Kimberly and Beaconsfield late in the nineteenth century is demonstrated by this drawing in "The Big Five Mines" It shows the Kimberly mine, the De Beers mine, the Bultfontein mine and the Dutoitspan mine. Premier⁶ mine (Wesselton) in the bottom right was purchased by de Beers in 1891. (Lunderstedt: 3 and 47.)The area under investigation is located to the bottom right in the illustration.

⁶ The name was changed to Wesselton to avoid confusion with the Cullinan Premier mine.



7.2. Vegetation.⁷



Fig. 08. Kimberley is located on the veldt type zone 17. It has been described as Kalahari Thornveld invaded by Karoo. According to Acocks in this region one finds the grassveld constituent of the Thornveld being replaced by Karoo, where it has been reduced by grazing mismanagement. Apparently this invasion takes on various forms.
(Acocks, 1988.)⁸

1. On the deep sand of the western form of the Kalahari Thornveld, *Eriocephalus ericoides* invades and *Geigeria brevifolia*, *G obtusifolia* and *Salvia radula* thickens up.
2. On the rocky hills and on calcareous tufa, a fully mixed Karoo flora invades. The species recorded by Acocks includes 27 species that can be viewed on page 49 of his publication. It is

⁷ For a full and accurate description of the vegetation see Mucina & Rutherford, 2006.

⁸ The author is aware of the updated version of Acocks's work by Mucina & Rutherford, 2010, but for the purposes of this investigation Acocks version is preferred by the present author.

a fairly comprehensive list, including elements of the central Upper Karoo, the Arid Karoo and the Orange River Broken Veld.

3. On the hard red sandy loam of the Kimberly area, *Chrysocoma ciliate* is the principal invader, while the local *Chrysocoma sp*(Acocks 6812H) thickens up.

4. On the sandy calcareous tufa, besides the Karoo bushes listed, *Hertia pallens*, *Euryops asparagoides*, *Gnidia polycephala* and sometimes *Psilocaulon absimile* also becomes common.



Figs. 09 and 10. Typical views of the veld on the property under investigation. (Photos S.M. Miller 2017.)

8. Archaeological and Historical Background.

8.1. Stone Age.

In a Phase 1 Archaeological Impact Assessment⁹ in August 2005 Morris wrote: -

....The archaeology of the Northern Cape is rich and varied, covering long spans of human history. Concerning Stone Age sites here, C.G. Sampson has observed: "It is a great and spectacular history when compared to any other place in the world" (Sampson 1985). Some areas are richer than others, and not all sites are equally significant. (In the present case, Stone Age traces of any significance were noted only on Dorstfontein/Rietpan, as reported by Morris 1992).....

Early human presence in the region is captured at Taung to the north but no major Early Stone Age site is present around Kimberley itself. Along the Vaal River numbers of Early Stone Age artifacts may be found in numerous sites, but seldom in stratified deposits that assist archaeologists in adding to dated data. In the direct Kimberley area there are no recorded major sites of significance.

From a geological point of view there exist numerous pans around Kimberley. The farm names given by the European settlers also reflect the situation regarding water sources in the area during the near distant past. Dorstfontein, Alexandersfontein, Benaauwehdsfontein, Rooifontein Ofontein and Olifantsfontein are but a few that illustrates the presence of water in this relatively dry area. This would have brought animals to the area, on which the Later Stone Age peoples could prey and exist. The rock-art sites of Driekopseiland and Wildebeestfontein show places of ceremony associated with Later Stone Age people. This reality is then also reflected in the presence of numbers of stone tools from that period in the general region. Owing to the vigorous mining and other related activities associated with the Kimberley industry none of this survives in disturbed areas. Rooifontein is relatively undisturbed and may yield small windows of opportunity to record.

Regarding Rooifontein it is expected that some Later Stone Age remains may be encountered.

8.2. Iron Age.¹⁰

The nature of Iron Age settlement in southern Africa is well understood and well documented. Iron Age settlers were not only users of the natural environment's resources, but they were essentially farmers. They raised stock and also planted crops that needed specific environmental conditions such as summer rainfall and soils suited for cultivation. Owing to the large tracts of "suitable environmental conditions" land available to the north, northeast and southeast of this region during their migrations, they seldom utilized this region. No sites of importance are known in the Kimberley area.

Regarding Rooifontein it is expected that no Iron Age remains may be encountered.

8.3. Historical Period.

The arrival of Europeans in the region was possibly heralded by the notorious Coenraad Buis early in the nineteenth century amongst the Basotho and Batswana to the east and the Northeast. This was soon followed up by missionaries such as Burchell in 1811, Campbell in the 1820's and a little later and the explorer Smith in 1834. Soon the Great Trek followed in 1836 to 1838 and Natal, the Freestate and the Transvaal were settled in with various levels of success for the Europeans from the Cape Colony.

In 1866 the *Hopetown Diamond* was found by one Schalk Van Niekerk on the farm of the Boer family named Jacobs, a prospective buyer for Van Niekerks farm, *De Kalk*. In March

⁹ See Appendix 2

¹⁰ See Hufmann 2007.

1869 Van Niekerk had acquired an 83.5 carats stone from a man named *Swartboo* that became the *Star of South Africa*.¹¹ These events set in motion the first “Diamond Rush” of 1870 in search of alluvial diamonds in the region with attention being focussed on the drainage lines of the major rivers.

The rest is also well known history.

Regarding the property under investigation the impact of the Premier mine (the Wesselton mine) is the one to consider. The discovery of the fifth big mine on Benaauwheidsfontein came some 21 years after Dutoitspan Mine saw diggers rush to the dry diggings; and two years after the great amalgamation of the Kimberly mines under Rhodes’ newly formed De Beers Consolidated Mines. For the full story of the Wesselton mine see *The big Five Mines*. (Lunderstedt: 40.)

Then in 1899 came the Second South African War. The hotly disputed *Uitlander* issue on voting rights on the Johannesburg Goldfields spilled over in declaration of war by the Boer Republic on England. This resulted in the sieges of Laydysmith, Kimberly and Mafeking, as these towns were key-pins in the movement of war material to the Transvaal by the British. Kimberley soon came under shell-fire from the Boers, with no effective reply from the inhabitants. Apart from the ongoing disputes between Rhodes and colonel Kekewich, that raised many problems, an American engineer George Labram managed to build an 28-pounder cannon in the Kimberly workshops. This took the Boers by surprise at first, but they soon increased the shelling of Kimberly.

As a result many women and children were lowered into the De Beers mineshaft for safety each day, which caused much confusion and disorder. Ironically very few of Kimberly’s inhabitants were killed in this bombardment. The strange exception being Labram, that was killed by a Boer shell in his room in the top floor of the Grand Hotel on Market square. After four months, on the 14th of February 1900, the siege came to an end.

The mining continued in Kimberly until the late twentieth century when actual mining ceased and the recycling of the old dumps became vogue. Today the diamond industry has declined, possibly owing over supply of diamonds and modern mining problems including staff.



Figs. 11 and 12. Women and children were being evacuated down the de Beers mine shaft and the cheque that changed the profile of diamond mining in South Africa. (De Beers Archives 2006.)

Regarding Rooifontein it is expected that historical period remains may be encountered.

¹¹ See Roberts 1984

9. Documentation of Data on the Premises under Investigation.



Fig. 13. Google Earth image of Rooifontein. The investigation area is outlined in yellow. Trenches are marked in white and green. Finds are marked with yellow pins. Route followed in vehicle and on foot is marked in black.



Fig. 14. Looking north over the rehabilitated area where the old Wesselson village used to exist. See fig 12, northern section. Very little visible cultural material remain, except the footprint of the village that can still be seen on Google Earth. (Photo S.M. Miller 2017.)



Figs. 15 and 16. Drainage trench in old village and typical small remains that was not cleared up during rehabilitation. (Photos S.M. Miller 2017.)



Figs. 17 and 18. Two views from the southern corner of the old Wesselton village. The first one is looking east over the plain and the second looking west towards the existing decommissioned Wesselton mining complex. (Photos S.M. Miller 2017.)



Figs. 19 and 20. This large pepper tree marks the spot of an old borehole and mounting block for engine and possibly fuel tank. (Photos S.M. Miller 2017.)



Figs. 21 and 22. Meerkat scrapes occur in places where geology allows it. This iron tripod for cooking was but one on a number of such abandoned artefacts found. It is on such a scrape that it is rumoured that Gerhardus Fabricius discovered the diamond that led to the founding of Wesselton mine. (Lunderstedt: 42-43.) (Photos S.M. Miller 2017.)



Fig. 23. Modern slime dam footings looking northwest from the turnoff to the Rooifontein Ecco centre. (Photo S.M. Miller 2017.)



Figs. 24 and 25. The pepper and eucalyptus trees at the Ecco centre suggest that this site was a farmyard before the development of the Ecco centre. (Possibly the original Rooifontein farmyard?) An ox-drawn plough is also exhibited at the entrance to the Ecco centre, but it is unknown if it was found on site. (Photos S.M. Miller 2017.)



Fig. 26. Directly north of the Ecco centre there exist the remains of an old pit with mixed weathered Kimberlite and midden material. A large number of LSA stone tools occur here (Photo S.M. Miller 2017.)



Figs. 27 to 29. To the east of the Ecco centre there is a lookout point over a small dam. The material the wall was built from appears to be weathered Kimberlite. Numbers of LSA stone tools occur here. (Photos S.M. Miller 2017.)



Figs. 30 to 35. Along the road from the Ecco centre to the Olifantsfontein hotel there occurs a feature in the landscape. From other observations it was a support structure for a water pipeline from the region where the steel reservoir is situated on the hill to the Wesselton mine. Culverts were built from dressed stone and period tools occur along the feature. (Photos S.M. Miller 2017.)



Fig. 36. Location of Midden 3 on Google Earth. 28°47'44.58"S 24°51'40.18"E.



Fig. 37. Midden three appears to be a recent dump from a locality unknown. The large number of historical artefacts that it contains show a variety of electrical ware, glass, ceramics and De Beers Con. Mines bricks amongst others. The reason for its existence is cloudy, as the early miners would not have moved such an amount of material so far from the mining areas. Roughly 25 000 cubic meters of material make up the midden. However, this midden may contain valuable information and should be sampled in a second phase study . (Photo S.M. Miller 2017.)



Fig. 38. One of the interesting finds in midden 3 was this Keating Powder tin. In 1895 it was advertised in England as good for killing all insects and bugs. (Photo S.M. Miller 2017.)



Fig. 39. Location of the hill on Google Earth. On and around this hill several historical features exist. As most of these are water related the possibility exists that this may be the original location of the spring named Rooifontein. (See the iron-rich soils surrounding the hill.)

V. Bill gn	28°47'44.23"S	24°52'1.70"E
Iron water reservoir	28°47'51.41"S	24°52'1.88"E
Military fortification 1899	28°47'44.79"S	24°52'1.92"E
Cleared living areas	28°47'46.77"S	24°52'6.37"E
Old stock pen	28°47'49.11"S	24°51'55.16"
Dwelling and well	28°47'47.33"S	24°51'57.52"E
Dwelling and well	28°47'44.99"S	24°51'55.45"E
Living area	28°47'41.12"S	24°51'58.51"E
Disturbed area	28°47'59.82"S	24°51'49.36"E



Fig. 40. A section of the pipeline that survived in the veld that was exposed in the road to the stock-pen. (Photo S.M. Miller 2017.)



Figs. 41 and 42. A section of the stone foundation, slab and lintel of a dwelling to the left and what appears to be a well near the assumed old fountain-bed. (Photos S.M. Miller 2017.)



Fig. 43. This natural hollow is suspected to be the original Rooifontein fountain. Look at the pioneer specie encroachment to the right on the open savannah which may be the footprint of a stock-pen. Also see fig (Photo S.M. Miller 2017.)



*Figs. 44 to 47. **Boskia Albitrunka** near fountain, a second dwelling of corrugated iron a second well and the remains of a brick structure. (Photos S.M. Miller 2017.)*



Figs. 48 and 49. General aspect of the veld away from the encroached area that is suspected to be a stock-pen and a cog-wheel presumably from a bicycle (Photos S.M. Miller 2017.)



Figs. 50 and 51. Unknown exotic and prickly pear on north side of the hill. (Photos S.M. Miller 2017.)



Fig. 52. The iron reservoir on the south side of the hill that is presumably linked to the pipeline that runs to the northwest. (Photo S.M. Miller 2017.)



Fig. 53. Wesselton mine and Dutoitspan mine is seen in the distance from the fortification, only 5, 5 kilometres away. (Photo S.M. Miller 2017.)



Figs. 54 and 55. The walls and platforms of the fortification can best be seen near the survey beacon on the hill. (Photos S.M. Miller 2017.)



Figs. 56 and 57. Near the beacon a name is engraved that appears to be V. Bill gn and the date 1899. This gives weight to the argument that the stone walls was used as a fortification. (Photos S.M. Miller 2017.)



Figs. 58 and 59. To the northeast of the reservoir cleared areas and “living floors” was observed. In one of these a piece of shrapnel was found. This needs to be examined by an explosives expert. (Photos S.M. Miller 2017.)



Fig. 60. Old pit and dump located at 28°48'15.67"S 24°52'13.24"E (Photo S.M. Miller 2017.)



Figs. 61 and 62. Old pit and dump that will need second phase investigation. (Photos S.M. Miller 2017.)



Fig. 63. White line marks a trench that appears to have carried water from a reservoir to the east of Rooifontein to Wesselon mine over a distance of about 10 kilometres. It varies in depth but are constructed on an incline of about 1 : 1000 (Google Earth 2017.)



Figs. 64 and 65. The collapsed nature of the trench indicates a period of no-use. At present it appears to be a death-trap for the game on the farm as the bones of this eland testifies. (Photos S.M. Miller 2017.)

Discussion of finds.

1. Old Wesselton mine village.

At present it is assumed that the rehabilitation of the Wesselton village was documented during the process. As such it will then be clear for new impact as described by Ekapa's exploration application.

2. General.

As the pepper tree and meerkat scrape sites indicate there are still other small historical remains present on the farm. These are of low heritage value.

3. Midden 1.

Midden 1 at the Ecco centre is indicative of the presence of important stone tool remains on the farm. Even though it occurs in a disturbed area it is advised that it is sampled in a second phase survey through selective excavation methods.

4. Midden 2.

Midden two is in fact a dam wall made up of decomposed Kimberlite. As numbers of stone tools were observed it is advised that it is sampled in a second phase survey through selective excavation methods.

5. Midden 3.

Midden 3 is a recent dump site that contains large numbers of cultural remains that is related to the early days of Kimberley straddling 1900 AD. It is advised that it is sampled in a second phase survey through selective excavation methods.

6. The Hill.

6.1. Rooifontein fountain.

The depression (not excavated) hollow associated with the "stock-pen" and dwellings may well be the original Rooifontein. This is in need of further investigation.

6.2. Pipeline feature.

The water supply to Wesselton mine through this feature and the associated iron reservoir on the hill is in need of documentation in a second phase investigation.

6.3. Iron Reservoir.

The reservoir appears to be still in use in modern days. Its origin, old use and modern use should be established in a second phase investigation.

6.4. Second South African War Fortification.

This is the most important heritage remains found on the Rooifontein. It is known that Boer forces laid siege to Kimberly over a period of four months during the Second South African War. Exactly where they were located during the siege is not well documented according to the author's knowledge. It should be documented in a second phase study.

6.5. Stockpen, wells and dwellings.

7. Pit and Dump.

This pit and dump appears to be a modern feature, but its origin should be established in a second phase study.

8. Trenches.

Apart from the 10 kilometre trench that appears to have been associated with water supply, others also exist. Their functions and dates must be established in a second phase survey.

10. Field Rating. (SAHRA minimum standards May 2007.)

No.	Description	Rating according to minimum standards May 07
1	Old Wesselton mine village.	‘General’ Protection C. (Field Rating IV C): This site has sufficiently been recorded. (During the rehabilitation process.) It requires no further recording before exploration.
2	General.	‘General’ Protection B. (Field Rating IV B): These sites should be recorded before exploration. (Medium significance.)
3	Midden 1.	‘General’ Protection A. (Field Rating IV A): This site should be mitigated before exploration. (High/Medium significance.)
4	Midden 2.	‘General’ Protection A. (Field Rating IV A): This site should be mitigated before exploration. (High/Medium significance.)
5	Midden 3.	‘General’ Protection A. (Field Rating IV A): This site should be mitigated before exploration. (High/Medium significance.)
6.1	Rooifontein fountain, wells , stock pen and dwellings.	‘General’ Protection A. (Field Rating IV A): This site should be mitigated before exploration. (High/Medium significance.)
6.2	Pipeline feature.	‘General’ Protection A. (Field Rating IV A): This site should be mitigated before exploration. (High/Medium significance.)
6.3	Iron reservoir.	Field Rating Grade IIIA. This site should be retained as a heritage register site and so mitigation is not advised.
6.4	Second South African War Fortification.	Field Rating Grade II and should be nominated as such.
7	Pit and Dump.	‘General’ Protection A. (Field Rating IV A): This site should be mitigated before exploration. (High/Medium significance.)
8	Trenches.	‘General’ Protection A. (Field Rating IV A): These sites should be mitigated before exploration. (High/Medium significance.)

11. Statements of Significance. (SAHRA minimum standards May 2007.)

No.	Description	Rating according to minimum standards May 07
1	Old Wesselton mine village.	a. its importance in the community, or pattern of South African History; d. its importance in demonstrating the principle characteristics of a particular class of South Africa’s natural or cultural places or objects;
2	General.	a. its importance in the community, or pattern of South African History; c. its importance to yield information that will contribute to an understanding of South Africa’s natural or cultural heritage; d. its importance in demonstrating the principle characteristics of a particular class of South Africa’s natural or cultural places or objects;

3	Midden 1.	<p>a. its importance in the community, or pattern of South African History;</p> <p>c. its importance to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;</p> <p>d. its importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects;</p>
4	Midden 2.	<p>a. its importance in the community, or pattern of South African History;</p> <p>c. its importance to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;</p> <p>d. its importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects;</p>
5	Midden 3.	<p>a. its importance in the community, or pattern of South African History;</p> <p>c. its importance to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;</p> <p>d. its importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects;</p>
6.1	Rooifontein fountain, wells , stock pen and dwellings.	<p>a. its importance in the community, or pattern of South African History;</p> <p>c. its importance to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;</p> <p>d. its importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects;</p>
6.2	Pipeline feature.	<p>a. its importance in the community, or pattern of South African History;</p> <p>c. its importance to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;</p> <p>d. its importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects;</p>
6.3	Iron Reservoir.	<p>a. its importance in the community, or pattern of South African History;</p> <p>c. its importance to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;</p> <p>d. its importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects;</p>
6.4	Second South African War Fortification.	<p>a. its importance in the community, or pattern of South African History;</p> <p>c. its importance to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;</p> <p>d. its importance in demonstrating the principle</p>

		characteristics of a particular class of South Africa's natural or cultural places or objects;
7	Pit and Dump.	a. its importance in the community, or pattern of South African History; c. its importance to yield information that will contribute to an understanding of South Africa's natural or cultural heritage; d. its importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects;
8	Trenches.	a. its importance in the community, or pattern of South African History; c. its importance to yield information that will contribute to an understanding of South Africa's natural or cultural heritage; d. its importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects;

12. Summary

12.1. Intent of Ekapa Minerals (Pty) Ltd.¹²

It is the intent of the client to explore the mineral potential of this property.

12.2. Intent of The Brown Group Limited.¹³

12.3 The project description.

Shangoni has been instructed in the following way to forward the above project.

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

Prospecting Work

Phase 1: Data Acquisition and Desktop Study: A desktop study of all available data for the area will be performed in order to accumulate as much regional and historical data around the area as possible. This includes published geological reports, infrastructure mapping, satellite imagery and existing geophysical information if available, both primary (Kimberlite or Lamproite) and secondary (alluvial) diamond deposits will be targeted.

Phase 2: Target Generation, ground truthing and delineation: Should the initial results of the desktop study be encouraging, further data will be generated through grid loam sampling and ground or airborne geophysical work in order to determine if there are positive indications of the existence of either a primary or secondary diamondiferous deposit on the exploration area. Targets generated during the sampling and geophysical surveys will be ground-truthed and tested by drilling if deemed necessary.

Phase 3: Scout Drilling and Delineation drilling: Targets that have been prioritized through detailed anomaly-specific loam sampling and ground geophysics will be tested by initial diamond or percussion drilling. If kimberlite is intersected, one or more 10kg sample will be taken for HMA (Heavy Mineral Abundance) sampling to extract kimberlite indicator minerals (KIM) such as garnet, chromite, ilmenite and chrome diopside in representative quantities.

¹²See appendix 3.

¹³ Information supplied by GAPP architects / urban designers.

These will be analyzed by electron microprobe for major and selected minor elements, and the results will be interpreted to assess diamond potential.

Dependent on HMA results, further delineation drilling and micro-diamond (MiDA) sampling of drilled core material would be carried out to further define the deposit and give a better indication of grade.

Positive results from MiDA would be followed by more detailed delineation diamond drilling and geological modeling to assess potential resource tonnage and diamond content. Information gathered during this phase would be used in the decision to embark on additional prospecting and evaluation activities not covered in the scope of this prospecting works programme. Additional work would only be carried out once appropriate amendments to the prospecting works programme have been made.

12.4. Historical milieu.¹⁴

A. The general area is known to contain both Early as well as Later Stone Age sites as well as engraving sites. No major sites were revealed during the study on Rooifontein. A small number of Later Stone Age artefacts were observed, all apparently in disturbed areas. No engravings were observed.

B. The area investigated revealed no indication of Iron Age settlement.

C. There are no sites of cultural/spiritual significance located on or near the property under investigation.

D. There are no sites connected to slavery located on or near the property under investigation.

E. There are no people of importance connected to the history of Rooifontein as such. Only to the adjacent mines of Kimberly.

F. There is no special technological or scientific advancement of standing that can be linked to the property under investigation.

G. Work was started on the Premier (Wesselton) mine in the late nineteenth century. Impact of this work can be observed through the (now environmentally rehabilitated) Wesselton mining town, older prospecting sites, a stock-post, and features pertaining to water supply to the mine. Remains of a military fortification associated with the Second South African War were observed.

12.5. Environmental milieu.¹⁵

Geology. The geology of Kimberly is possibly the of best known in the world owing to its diamondiferous nature. The project of prospecting will add to this understanding of the areas geology.

Vegetation. Kimberley is located on the veldt type zone 17. It has been described as Kalahari Thornveld invaded by Karoo. According to Acocks in this region one finds the grassveld constituent of the Thornveld being replaced by Karoo, where it has been reduced by grazing mismanagement. Apparently this invasion takes on various forms. The prospect drilling will only be marginally impacted upon.

¹⁴ For full description see chapter 8.

¹⁵ For full description see chapter 7.

13. Summary of findings and Recommendation.

13.1. Summary of findings.

The archaeological remains encountered appear to be frugal and scattered in the landscape. From the general aspect of the farm the expectancy to encounter any major sites is low.

The historical remains encountered, such as the military fortification, the stock and farming post and the water related features are of medium importance as much of Kimberly's mines own history has been destroyed purely in the 'development process' of mining dynamics.

13. 2. Recommendation.

It is advised that the historical features are documented in a second phase study as soon as possible.

It is advised that once the scout drilling sites are determined that these sites are inspected by a heritage specialist.



Sidney Miller

B.Sc. (Engineering) Civil, M. (Architecture) Conservation. Asapa no 087.

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Appendix 1: Declaration of Independence.

I, Sidney Mears Miller (ID 5412135029082) declare that:

I act as an independent environmental practitioner in this application;

I will perform the work relating to the application in an objective manner, even if this result in views and findings that is not favourable to the applicant;

I declare that there are no circumstances that may compromise my objectivity in performing such work;

I have expertise in conducting environmental impact assessments, including knowledge of the National Heritage Resources Act (No 25 of 1999) and any guidelines that have relevance to the proposed activity;

I will comply with the Act, regulations and all other applicable legislation;

I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;

I have no, and will not engage in, conflicting interests in the undertaking of the activity;

I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;

I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;

I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;

I will keep a register of all interested and affected parties that participated in a public participation process;

I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not;

all the particulars furnished by me in this form are true and correct;

will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations;

I realize that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest

I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity AND OR proceeding other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations.



SIDNEY MEARS MILLER.

Appendix 2: Morris 1st Phase H.I.A.

**Phase 1 Archaeological Impact Assessment for De Beers Consolidated Mines Ltd
(Contract 0616-AC-244-05)**

David Morris

Kimberley: August 2005

Appendix 3: Prospecting application.



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

NAME OF APPLICANT: Ekapa Minerals (Pty) Ltd

PROSPECTING WORK PROGRAMME

SUBMITTED FOR A PROSPECTING RIGHT APPLICATION WITHOUT 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.