mineral resources
Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

Private Bag X6076, Port Elizabeth, 6000
Tel: (041) 396 3934
Fax: 0865768004
Cnr.Diaz and Mount Roads
Mount Croix
Port Elizabeth, 6001

Enquiries: D. A. Watkins
E-mail: deidre.watkins@dme.gov.za

Reference: EC30/5/1/1/3/2/1/0156EM
Date: 23 July 2010

South African Heritage Resources Agency
P.O. Box 758
GRAHAMSTOWN
5200

Case ID: 2182

ATTENTION: MR. T. LUNGILE

Sir / Madam

CONSULTATION IN TERMS OF SECTION 40 OF THE MPRDA OF 2002: ENVIRONMENTAL MANAGEMENT PLAN: SAND (GENERAL) ON THE REMAINDER PORTION 2 OF FARM 723, DIVISION OF EAST LONDON, EASTERN CAPE

1. The above refers.

2. Attached, a copy of the preliminary Heritage impact document received from Amatola Quarry Products cc.

3. Any written comments or requirements your department may have in this regard, to this office no later than **14 September 2010**. Failure to do so, will lead to the assumption that your department has no objection(s) or comments with regard to the said document. Comments may be submitted at your earliest convenience e.g. 30 days from the date hereof in order to reduce the turnaround time for the application process.

4. Consultation in this regard has also been initiated with other relevant State Departments.

5. Kindly quote the relevant file reference number in all correspondence.

Yours faithfully

REGIONAL MANAGER

EASTERN CAPE

STELLENRYCK ENVIRONMENTAL SOLUTIONS

PRELIMINARY HERITAGE IMPACT DOCUMENT FOR PROSPECTING FOR SAND ON REMAINDER OF PORTION 2 OF FARM 723, CINTSA WEST

PREPARED FOR:

Amatola Quarry Products CC
P.O. Box 153
KOMGA
4950

JULY 2010

ENVIRONMENTAL MANAGEMENT PROGRAMME FOR SAND PROSPECTING AT, CINTSA WEST, EAST LONDON

INTRODUCTION & BACKGROUND

Availability of good sand sources within the greater East London area has become extremely scarce and all commercial mine owners are now investigating the few remaining sand deposits in an attempt to satisfy local demand for this construction mineral. The economic cool down has temporarily masked the critical shortage thereof but as development activities are slowly increasing, this shortage has suddenly been highlighted again, forcing many construction companies to engage in ad hoc illegal mining activities. For commercial concerns this option is not available considering the legal risk involved. In light thereof and because of the good sand resources that is obtained from the floodplain of the Colora River, Amatola Quarries has opted to investigate the remaining deposits along the lower reaches of the river.

Very few prospecting areas are still available in the East London area and most of them are either hosting vegetation with conservation value or are located close to residential areas or, in certain areas hosting very shallow sand deposits, which is not environmentally viable to develop. Currently the MPRDA renders it possible to prospect (and possibly mine) on any landowner's property, which makes it possible to focus on areas with less ecological value and hence cause less environmental degradation. The availability of suitable deposits is, however, still a problem since not all property owners are willing to make their land available for prospecting activities.

The larger sand deposits in the East London area are confined to the primary and secondary dune systems and inland aeolian deposits. The former is normally covered with indigenous or semi-indigenous vegetation or is situated near the coast, which renders it a less sustainable option. The visual impact of such operations are also considerably higher than mining inland aeolian and fluvial deposits and are much more difficult to rehabilitate due to the steep slopes that are involved. The former scenario was thus eliminated. The inland areas have become extremely scarce as most of them have been mined out. The larger river systems in the area are not viable propositions due to the sensitivity of the systems and difficulty to access them. However, the Colora River is a minor river and heavily degraded by alien vegetation and therefore not a pristine system, the reason for lodging this prospecting application. In addition the quality of the sand on the floodplain is excellent and currently rated the best in East London.

It is the opinion that prospecting and possibly the mining of portions of the remaining floodplain can be done in a sustainable manner considering the success with which other concerns were developed and rehabilitated in the immediate Cintsa area. From a financial point of view the extensive demand for construction materials will result in a financially sustainable development which, in turn, will provide adequate finances to ensure environmental and social sustainability. It is anticipated that the proposed prospecting project will be a short term venture on the property concerned hence environmental and social impacts will be limited. From a long-term perspective the proposed prospecting venture could therefore result in much needed local job creation in a period extremely affected by the economic recession which has caused unemployment to soar to an all time high. The proposed prospecting could therefore also play a significant future role in supporting the economies and staff complements of local businesses such as the Industrial Development Zone, cement brick factories, tile factories, residential developments, low cost housing projects and light industrial/business developments.

In terms of the STEP Programme the conservation status of the area concerned is categorized as least threatened and can withstand some loss of land through disturbance or development, but since the area is located close to a proposed STEP corridor, the necessary care must be exercised in the development and rehabilitation of the site to ensure continuation of ecological processes. It is therefore a prerequisite that current mining activities be adequately rehabilitated prior to developing the floodplain of the lower reaches of the Colora River. It should be noted that the riparian vegetation along the Colora River have been severely affected by clearing and invasive tree species. In terms of the guidelines provided in this Environmental Management Programme, the proposed prospecting should take place without causing any environmental

degradation. In terms of the prospecting programme the area extents to almost 19ha, but provisionally less than 100 square meters of land will be affected by invasive prospecting activities. The remainder of the area will be visually surveyed for any additional reserves. No infrastructure or residences are situated in the vicinity of the prospecting area.

TERMS OF REFERENCE

The applicant has appointed John Victor Surveys (JVS) & Stellenryck Environmental Solutions CC (*SES)* to demarcate the mine area and to complete the environmental investigation required, which will include:

- Compilation of a baseline EIA & EMP for the proposed sand prospecting project.
- The EMP would cover all biotic and abiotic components.
- A basic floral survey was conducted for the greater area and no species of value were identified accept for Red Milkwood trees.
- Additional studies required by the regulating authorities will be submitted on receipt of such request and will be funded by the applicant.

Amatola Quarry Products has conducted the public participation process prescribed in terms of section 16 of the MPRDA and submitted the outcome to the DMR. The process encompassed one on one consultations as well as written correspondence with potential affected parties. A copy of this documentation is included in the EMP.

Limitations

1. Detail information on flow regimes, animal migration and plant species occurring in spring and autumn in the study area is not available, but considering the degree of alien tree infestation and limited prospecting footprint, the latter should not be important.
2. The impact of high flows on abutting land will be assessed in terms of existing knowledge that the author has in this regard.

The findings of the EMP are based on:

- Quarry applications and EMP's submitted by SES for the East London – Cintsa area.
- Amatola Environmental Report, Buffalo City IDP, STEP report, Musina & Rutherford, EMPAT & SANBI information.

PROJECT DESCRIPTION

Applicant

Amatola Quarry Products cc
P.O. Box 153
KOMGA
4950

REG NO. 1996/000073/23

Tel No: 043-8311198

Fax No. 043-8311201

Responsible person & mine manager

Mr. R. J. Hageman
P.O. Box 153
KOMGA
4950

Surface owner

Mr. P. C. Sarakis
P.O. Box 3271
CAMBRIDGE
5206

Tel: 043 7452893 Cell: 0837773988

Holder of mineral rights

State

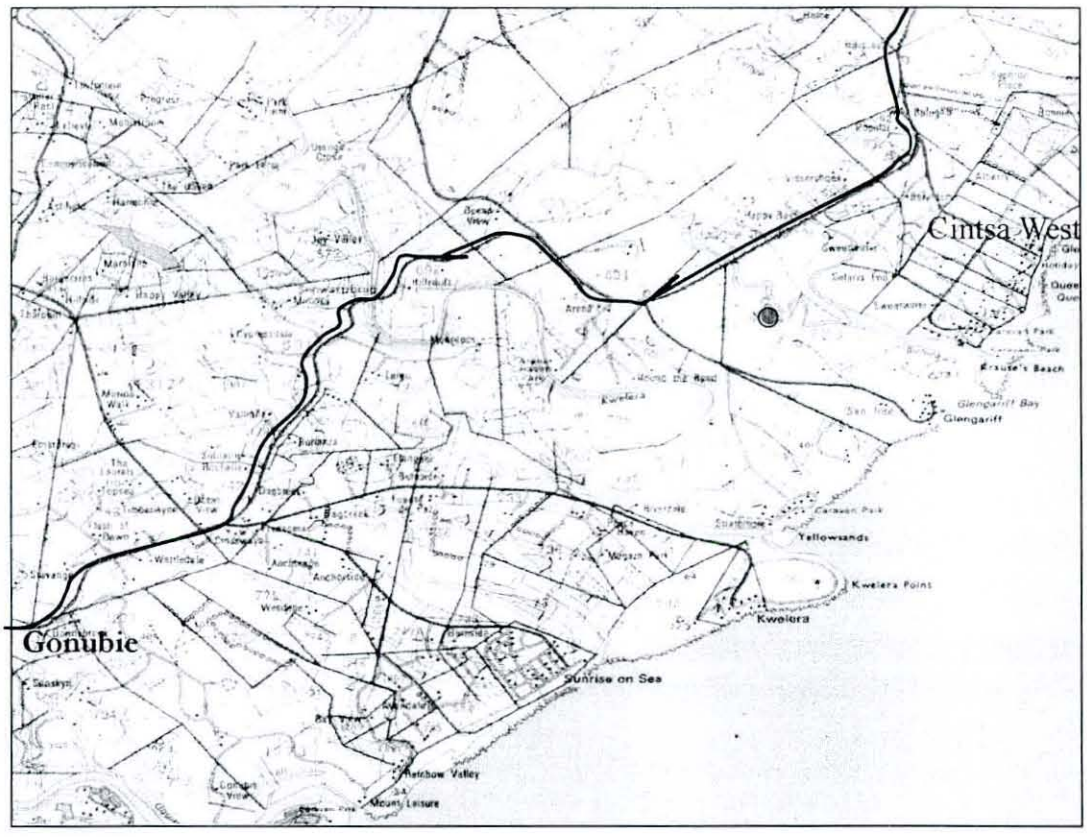
Title deed description

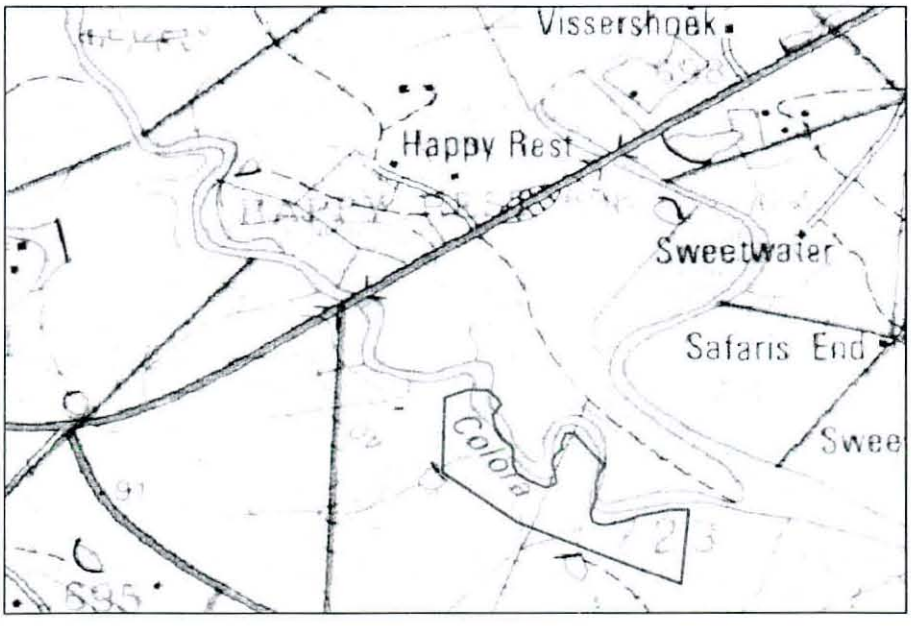
Remainder of portion 2 of farm 723.

LAND DESCRIPTION / INFORMATION

Regional setting

The proposed prospecting area is situated within the boundaries of the Great Kei Municipality and magisterial district of East London. Access to the site will be directly off the East Coast Road via the existing Amatola Quarry access, for which permission has already been obtained from the landowner. The site is located approximately 30 km north of East London when traveling to Cintsa West. The prospecting area is located on private land and constitutes a typical rural farm area with pastoral activities on the upper dune areas the main economic activity. The landowner is apparently in the process of establishing a game farm. A housing development is taking place to the north-west of the site.





Surface infrastructure

Surrounding areas

There are no power or telephone lines close to the proposed prospecting area. The East Coast Road and power lines are located approximately 600m west of the site with farm houses 80m to the north-east and 500m to the south-south-east (landowner). The Glen Gariff Resort is located 600m to the south-west.

Prospecting area

There is no current infrastructure within the proposed prospecting area. No labour accommodation or campsite will be established on site. A chemical toilet has been positioned to the north-west of the site and form fart of the existing quarry infrastructure. No mechanical methods will be used to determine the extent of the sand reserve and all excavation will be done by hand.

Details of the mineral to be prospected

The applicant Amatola Quarry Products CC intends to prospect for sand that has been deposited on the Colora River floodplain.

Prospecting will not extend to the dry river courses and Colora River channel and will mostly take place in the heavily alien invested and bare areas. No bulk sampling will be done and pits will not be developed within 10m from the Colora River bank or dry water courses and river.

Period for which right is requested

The right is requested for two years to ensure that the following phases can be completed:

1. Desktop study & consultation with consultants
2. Invasive prospecting
3. Compilation of bankable document to secure required funding
4. Compilation of an application for mining right if adequate reserves is established.

Presence of servitudes

There are no servitudes registered in the proposed prospecting area.

Land tenure and use of immediately adjacent land

- Mr. Sarakis,- residing to the south with grazing the main land use.
- Mr. Coetzer - residing to the north-east with domestic and game farming the main land use.

Existing land uses that impact on the environment in/outside the proposed prospecting area

- The Colora River floodplain was previously used for pineapple cultivation and has become totally infested with Blue Gum & Wattle trees.
- Old mining scars are located to the immediate north-west, on the opposite side of the Colora River.
- The South-Coast road to the south carries a substantial amount of traffic that causes increased air pollution, noise levels and visual interference.
- Existence of farm houses and associated outbuildings in the surrounds has a very low aesthetic impact.

Due to the low development intensity reflected by the surrounds, the area carries a medium to high ecological and aethetic status but it cannot be categorized as pristine because of the above-mentioned reasons. Certain untouched areas such as watercourses, valleys, steeper slopes and cliff faces will definitely have a higher ecological status. The immediate floodplain of the Colora River, especially the upper section of the prospecting site are heavily infested with alien trees but the lower, southern bank reveals an increasing natural floristic component and will have a high conservation status. The same applies to areas located south of the prospecting area and will pose a significant animal corridor. From a fauna & flora point of view, temporary loss of the grassland and alien trees can therefore be accommodated. However no indigenous trees and shrubs should be removed during the prospecting process. To ensure that prospecting is done in a sustainable manner the affected pit areas will be rehabilitated to a proper standard by establishing a grass cover.

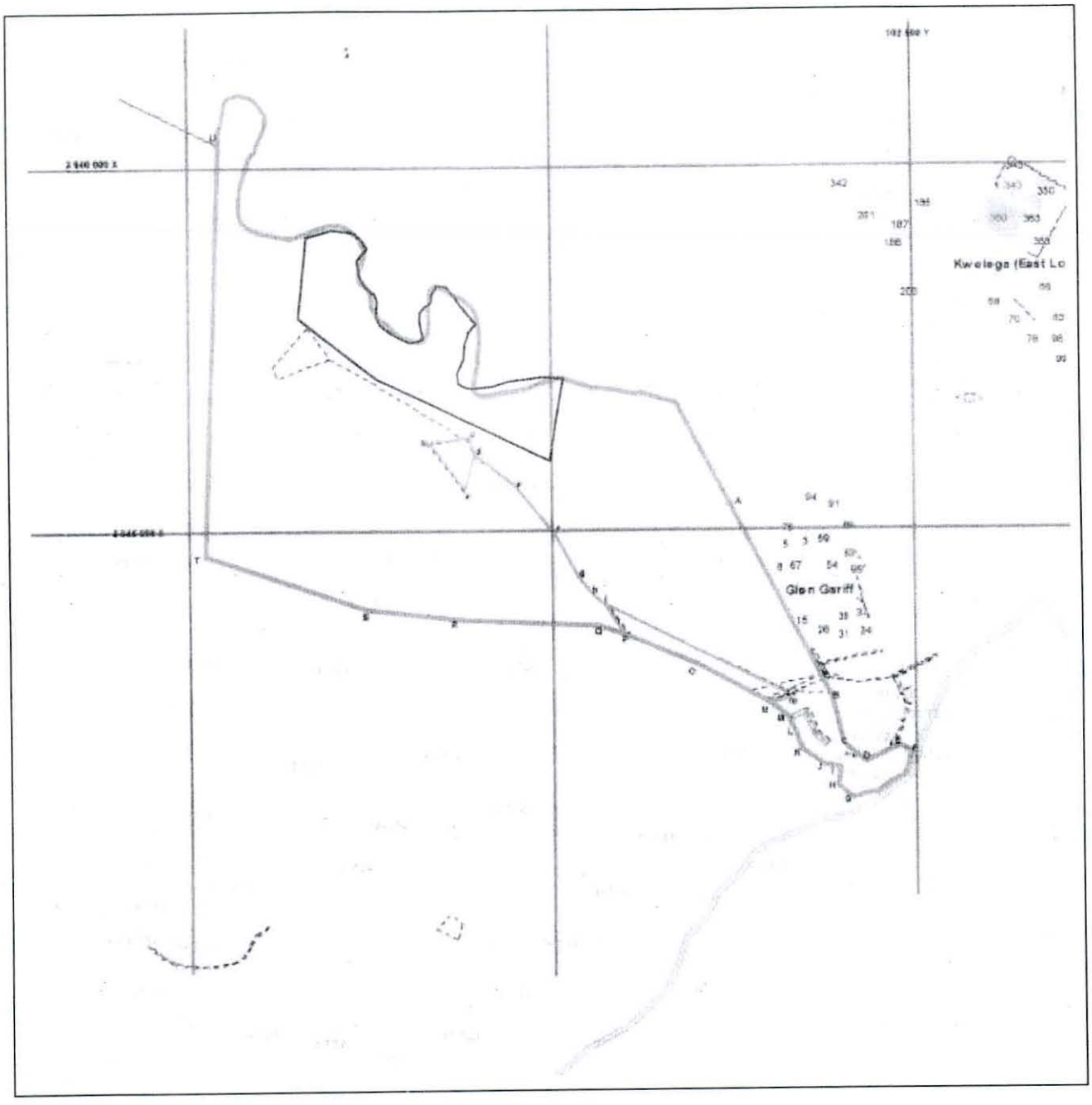
Name of the river catchment in which the prospecting site is situated

The area to the south is drained via three water courses that empties in the in the Colora River, which in turn drains into the Bulura River ±300m to the north-west. Since prospecting will not take place within any drainage line, the water quality of streams will not be affected.

Zoning

Current zoning is still agriculture, but since prospecting will constitute a temporary land use, no application for change of land use in terms of LUPO is required. In this regard, the repealed Minerals Act 50 of 1991 and the current MPRDA 28 of 2002 has replaced the provisions of the repealed Physical Planning Act. It needs to be emphasized that prospecting *per se* is not yet a listed activity and is currently not governed by NEMA, although

the broad principles and objectives need to be taken into consideration. The impact of prospecting on the river system will be assessed and the necessary mitigation measures will be included in the EMP.



BROAD PROJECT DESCRIPTION

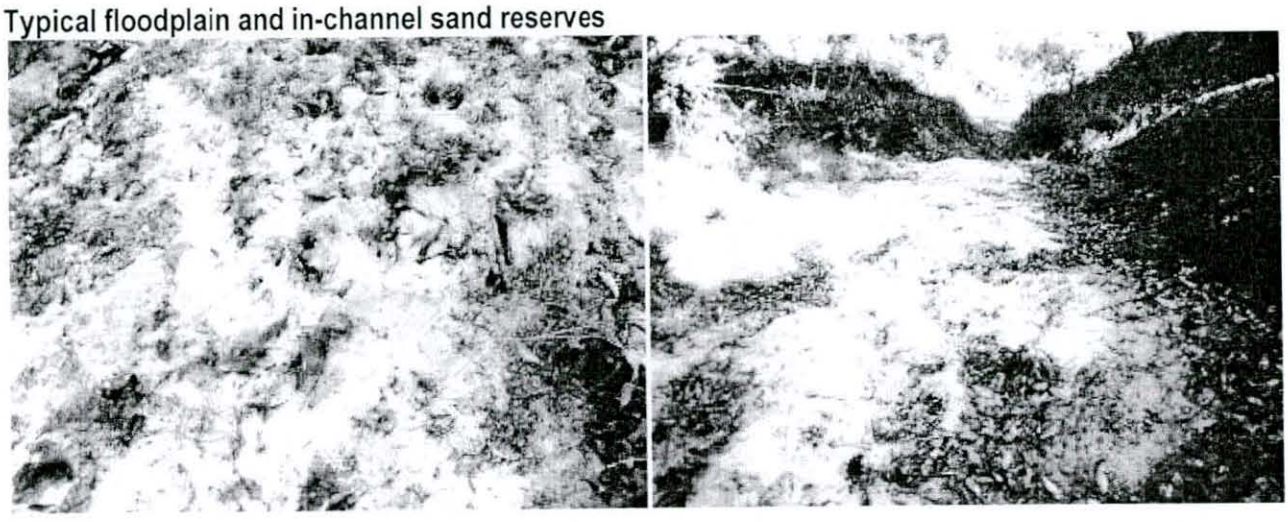
The extent of the mineral resource and mineral distribution in the prospecting area will be determined through manual pitting and onsite surface evaluation. No geochemical or geophysical surveys need to be carried out. The prospecting activities will consist of:

1. Literature survey & desktop studies
2. Manual pitting
3. Analysis of samples
4. Complete preliminary environmental feasibility study
5. Mining right application

Availability of sand reserves

Upstream of the study area the river system reveals sustainable deposits of sand at the inside of bends as depicted in the pictorial record provided. This particular area is currently mined and produces sand resources with excellent quality. The target area downstream also displays a number of bends and deposition in these areas are almost certain and constitute the target are for prospecting. Sand reserves in these areas are clearly visible.

Typical floodplain and in-channel sand reserves



Proposed prospecting method

Approximately 15 pits of 1m x1,5m will be dug manually in order to evaluate the depth of the deposit. The pits will be dug on the floodplain, which mostly reveals a flat topography, which will eliminate any potential soil erosion. The total impact area will comprise less than $50m^2$. The topsoil layer of approximately 30cm will be removed and stored alongside each pit. Approximately $4m^3$ of sand will be removed at each pit of which a sample will be sent to the laboratory for relevant tests. Pits will be filled in after samples have been taken and compacted to the original soil level, where after the topsoil will be re-instated. The topsoil will be seeded in order for natural vegetation to return and surface cover will be monitored. Where necessary, a small diversion berm could will be positioned above the pit to prevent surface runoff to scour the affected areas. As the deposit might not be continuous the prospecting exercise is geared towards establishing direction, continuity and depth of sand deposition.

Planned prospecting volumes

Approximately 4 cubic meters per pit will be removed.

Planned prospecting period

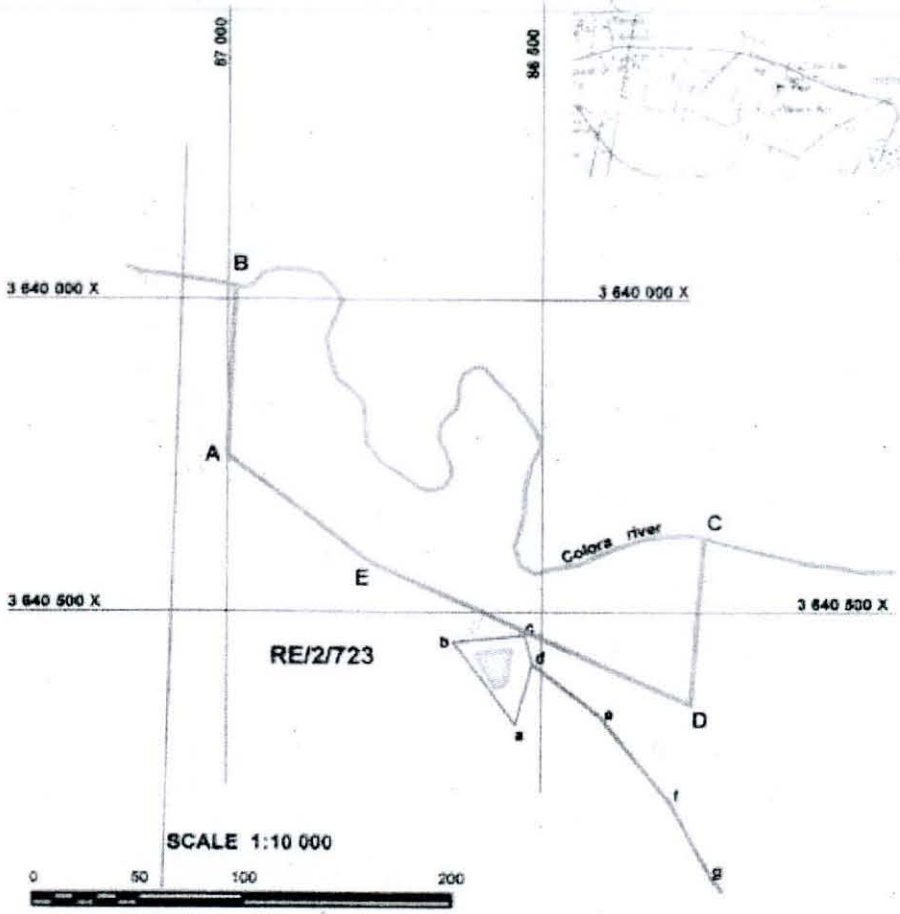
The proposed prospecting period is approximately 24 months.

3228CC GONUBIE

CO-ORDINATE SYSTEM WGS 84
EAST 29°

A	Y 87 000,0	X 3 640 250,0
B	Y 86 987,8	X 3 639 980,6
C	Y 86 242,1	X 3 640 383,5
D	Y 86 261,9	X 3 640 648,2
E	Y 86 771,6	X 3 640 420,4

AREA ±18,77 HA



SCALE 1:10 000

0 50 100 200

N

SURVEYOR _____
J. E. VICTOR

DATE _____

APPLICANT _____

DATE _____

JOHN VICTOR SURVEYS
PORT ELIZABETH
TEL/FAX (041) 5813044

OFFICE USE

_____
REGIONAL MANAGER
EASTERN CAPE

_____
DATE

The above figure lettered A,B Colora river, C,D, E represents an area of land, in extent 18,77 Ha, situated on Re/2/ o the farm 723 district of East London Eastern Cape Region, in respect of which a prospecting right has been issued to

AMATOLA QUARRY PRODUCTS cc

Reg. No 1996/000073/23

TOPOGRAPHY

The greater area falls within the Eastern Plateau Slope and can be described as strongly undulating and irregular land. The immediate surrounds display a relief of large, rolling hills with either gentle or steep slopes. In the former case the land is drained by overland surface flow and where the latter is concerned it is drained by numerous small watercourses that drain either into the Bulura or Colora river systems. To the north-west the landscape rises moderately from approximately 20m a.m.s.l. to 100m a.m.s.l. at the head of the Colora River. From the study area, the land drops very gently south-east towards the coast. To the north-north-east the landscape reflects a gentle rolling hill rising from approximately 20m a.m.s.l close to the river to approximately 60m a.m.s.l to the north-east. To the south the landscape reflects a steep topography rising from approximately 20m a.m.s.l close to the river to approximately 90m a.m.s.l at the Glengariff access road. The mine area lies at an elevation of between 10m and 20m a.m.s.l. The structural topography of the surrounding area mostly reflects the original topography. Construction of small dams and residential structures are the only alterations visible on the landscape as depicted on plan and Google images. .

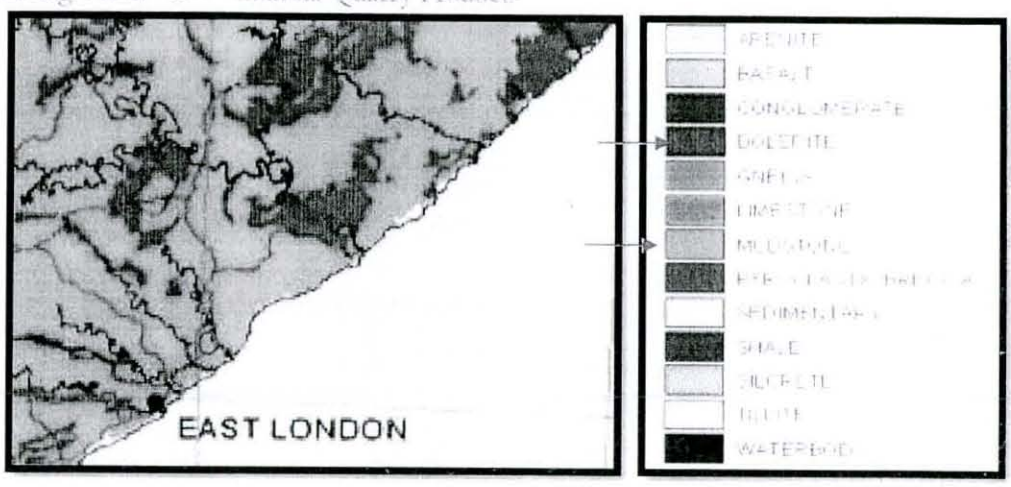
Geology

The area reflects two rock types. Firstly, the sedimentary rocks of the Karoo Sequence (Geological Survey: Sheet 3228) and in this case the Beaufort Group represented by the Adelaide Subgroup, depicted Pa on map.

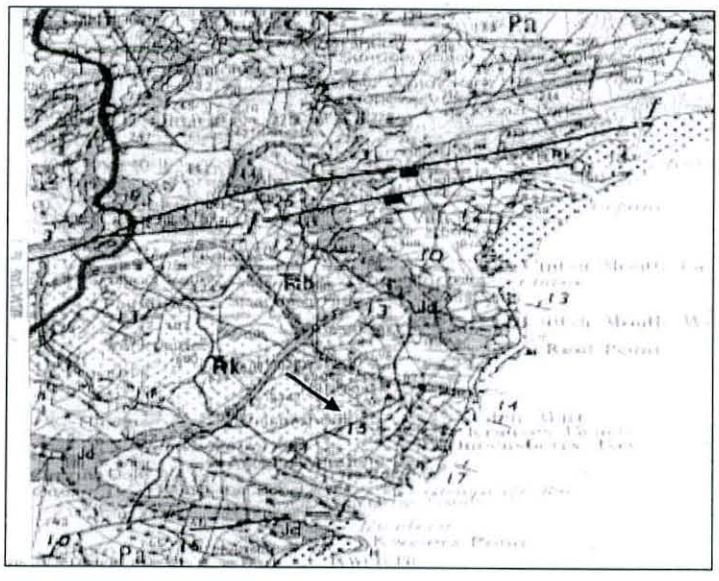
The Subgroup consists of alternating grey, moderately to well sorted, fine- to very fined-grained, ultra-lithofeldspatic sandstone and greenish-grey mudstone. Sandstones generally form 30-60% of the total thickness. Flat-bedding, trough cross-bedding and micro-cross lamination are the most abundant primary structures in the sandstones. The sandstone and mudstone litho-units normally form fining-upward cycles, each comprising of sandstone with a sharp, erosive base which grades upward into the overlying mudstone unit. These cycles vary from a few meters to a few tens of meters in thickness, with the average thickness being between 10 and 20m. The sandstone units are sub-tabular to moderately lenticular with a lateral extent of a few hundred meters, to a few kilometers. A variety of scour forms, varying from a few centimeters to a few meters in depth, are present at the base of most sandstone units. Many of the sandstone units appear to be massive but available evidence indicates that under favourable weathering conditions the sedimentary beds are characterized by various internal structures.

Secondly, brownish-red and grey mudstone (subordinate) and sandstone of the Katberg Formation (Trk on map), in turn represents the Tarkastad Subgroup. The Katberg Formation consists of a repetition of mutually truncating, trough cross-bedded channel fill sand lenses, and individually up to 1 m thick. The mudstone is poorly stratified or massive, and is relatively abundant immediately below the top of the Adelaide Subgroup. The thickness of the Adelaide Subgroup in this area is about 900m. Depositional history indicates a fluviatile environment of deposition of the Beaufort Group and to a braided stream environment the case of the Katberg Formation whilst the rest of the group was laid down by meandering streams. Palaeocurrent trends are usually north-west to north.

There are no dolerite outcrops in the area but sandstone outcrops are prominent where the land falls away to the shoreline.



The sand deposit to be prospected is of alluvial nature and derived from the sandstones and sand lenses of Tarkastad Sub-group. Historic migration of the river took place in an eastward direction resulting in more sand to be deposited on the western floodplain where gradients are less steep. As the riverbed is underlain by a thick clay layer the river does not incise into it and deposition of fluvial deposits have over time been deposited on the floodplains raising the floodplain area with approximately 1-3m.

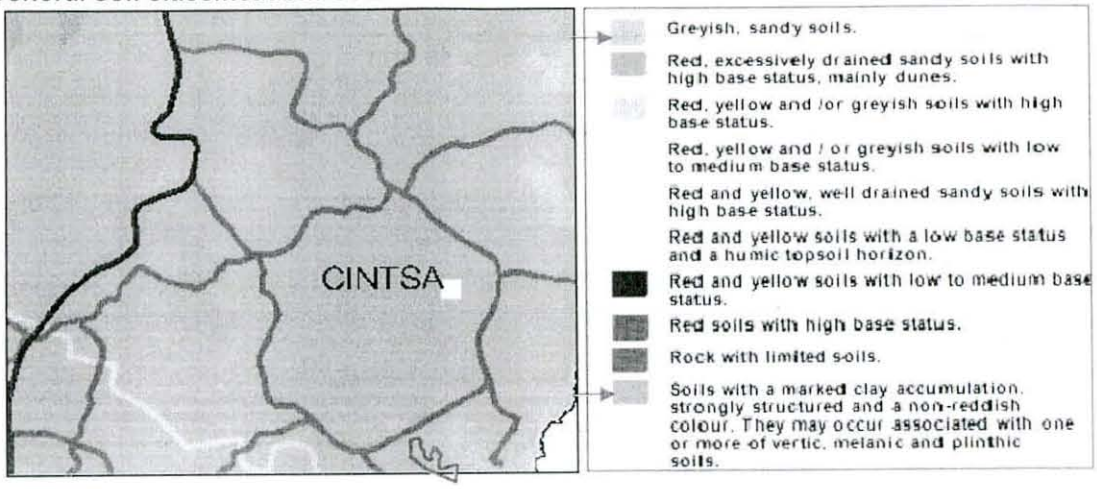


SOILS

Soil properties

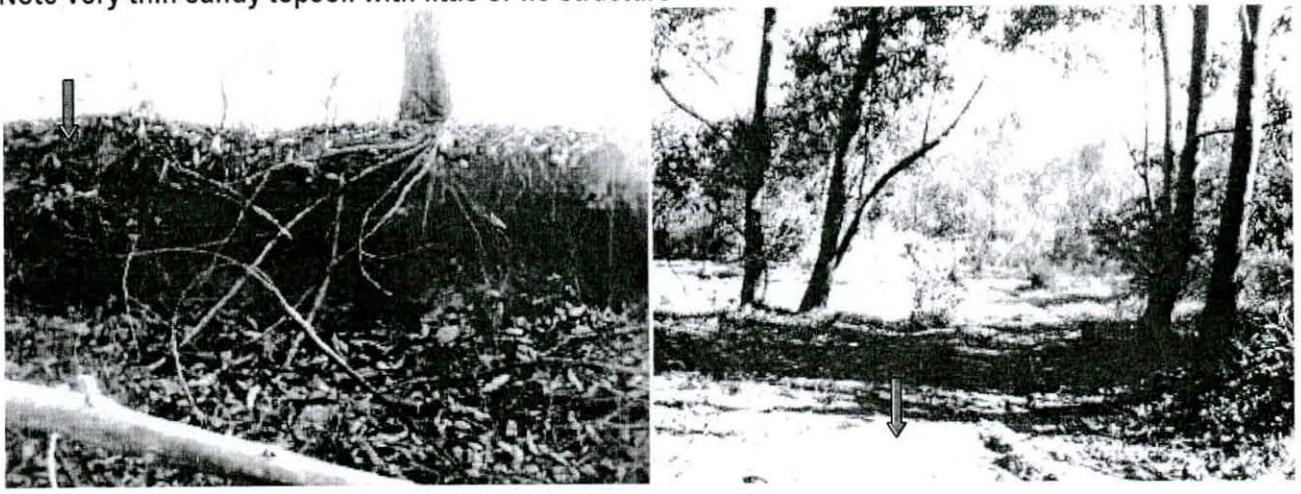
Soils of the surrounding area derived from the Karoo sediments and are geologically complex and derived from the Beaufort Group mudstones and sandstones and the most important land types include Db, Fa & Ae. Soil colour varies from light-brown to medium brown to reddish and soils are classed as rich, clayey loams and strongly structured. The soils show no specific dominance and represent characteristics of classes 13, 16, 17 & 21. From a fertility point of view it is adequate to sustain a good grass cover and thickets close to drainage lines. Soil properties have been influenced by both mudstone and sandstone parent material.

General soil classification: STEP



In the study area the soils differ significantly from soils deriving from the sedimentary deposits. It represents a sandy alluvial soil with two distinct horizons namely Orthic A horizon comprising a very sandy-loam topsoil layer (possibly Fernwood) of ±10-20cm thick underlain by a thick E-Horizon that comprises the mineral reserve. The E-horizon is underlain by the clay rich B-horizon of the surrounding soil types.

Note very thin sandy topsoil with little or no structure



Due to the type of vegetation that the area hosts, soils reveals a very low-low organic component and the percentage of carbon content would be below 1,5% but with water availability still the driving force of vegetation cover along the river. Due to short period that topsoil will be disturbed microbial activity will not be affected and the organic component will not be significantly reduced. High internal drainage capacity and low adsorption capacity due to the low clay content will cause during the dry periods that these soils will display lower field capacity values, which could have a negative effect on biomass accumulation. Considering the close proximity of the river this potential impact might not occur.

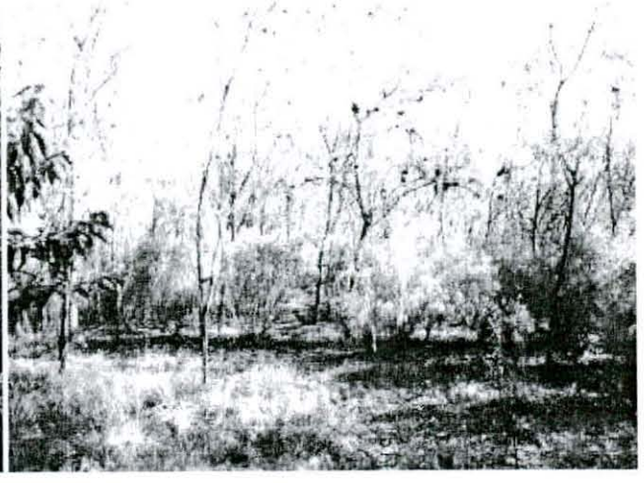












Sites and structures of archaeological and cultural interest:

Archaeological and cultural sites represent the heritage of communities and are therefore protected in terms of current legislation. In addition all structures older than 60 years are protected. The study area revealed no caves, stone features, shelters or any rock art. The East-London area and specifically the coast line, is however rich in archaeological sites and since the prospecting area includes a riparian area and is located within 1km from the shoreline the area might reveal middens, Stone Age tools and artifacts.

Since the site hosts mostly alien tree species and Estuary grass, it would have very little value to local communities as medicinal plants. Since the Khoisan and Xhosa people inhabited the study area historically and because the greater area revealed some archaeological findings of importance the following general rules will apply during the prospecting phase:

1. Labourers would be briefed regarding this aspect and a reporting channel will be developed.
2. Management will be informed when anything of interest is observed on the site and it will be reported immediately to Dr. Binneman at the Albany Museum in Grahamstown and SAHRA's office in East London. In such case all operations would be suspended immediately.
3. Any finding will be fenced off immediately.

In terms of section 38 (1)(c)(i) of the NHRA 25 of 1999 areas less than 5000 square meters do not require a formal impact assessment therefore no specialist report will be submitted since the impact footprint equals approximately 50 square meters.

UNDERTAKING

I, K. P. Hageman on behalf of Amatola Quarry Products, the undersigned, have studied and understand the contents of this document in its entirety and hereby duly undertake to adhere to the conditions as set out therein including the conditions of approval as stipulated by the Regional Manager.

Signed at ..... on this ..... day of ..... 2010.