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Reference: EC30/5/1/3/3/2/1(0350)EM
Date: 13 August 2009

South African Heritage Resources Agency
P.O. Box 759
EAST LONDON
5200

ATTENTION: MR. T. LUNGILE

Sir

Case ID: 2402

CONSULTATION IN TERMS OF SECTION 40 OF THE MPRDA OF 2002: SAND MINING ON REMAINDER OF PORTION 7 (MIDDELPLAATS) (PORTION OF PORTION 1) OF THE FARM MELKHOUTE KRAAL 254, DIVISION OF HUMANSDORP, EASTERN CAPE

1. Attached herewith, please find a copy of a draft EMP, project description and Heritage Impact Plan received from Ms. H van der Watt

2. Please forward any written comments or requirements your department may have in this regard, to this office no later than **10 October 2009.** Failure to do so, will lead to the assumption that your department has no objection(s) or comments with regard to the said documents.

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

4. Please use the reference numbers as indicated in all future correspondence.

5. Your co-operation is appreciated.

Yours faithfully

REGIONAL MANAGER
EASTERN CAPE

STELLENRYCK ENVIRONMENTAL SOLUTIONS

DRAFT ENVIRONMENTAL MANAGEMENT PLAN

PROJECT DESCRIPTION & HERITAGE IMPACT

PREPARED FOR:

H. VAN DER WATT

P O BOX 1

KAREEDOUW

6400

ENVIRONMENTAL MANAGEMENT PLAN FOR SAND ON THE REMAINDER OF PORTION 7 (MIDDELPLAATS) (PTN/PTN1) OF THE FARM MELKHOUTKRAAL 254.

INTRODUCTION AND BACKGROUND

The area has been transformed by cattle farming and is mainly used for grazing purposes. The mining area is surrounded by grazing land, indigenous fynbos and a stream, but the section selected for the mining application was cleared for grazing purposes and will not disturbed the indigenous false fynbos or river system.

Mr van der Watt will contact an outside operator to handle the mining operation.

PERSONAL PARTICULARS OF APPLICANT

Applicant

Mrs. H. van der Watt
P O Box 1
Kareedouw
6400

Tel no. 042 – 288 06262 Fax no: 042 – 288 06262 Mobile: 082 415 0870

Quarry Manager

Mr. J.J.G. van der Watt
P O Box 1
Kareedouw
6400

Tel no. 042 – 288 06262 Fax no: 042 – 288 06262 Mobile: 082 415 0870

Name and Address of the Owner of the Land Concerned

Mrs. H. van der Watt
P O Box 1
Kareedouw
6400

Tel no. 042 – 288 06262 Fax no: 042 – 288 06262 Mobile: 082 415 0870

Title Deed Description

Remainder of Portion 7 (Middelplaats) of farm Melkhoute Kraal 254, district Humansdorp.

LAND DESCRIPTION / INFORMATION

Regional Setting

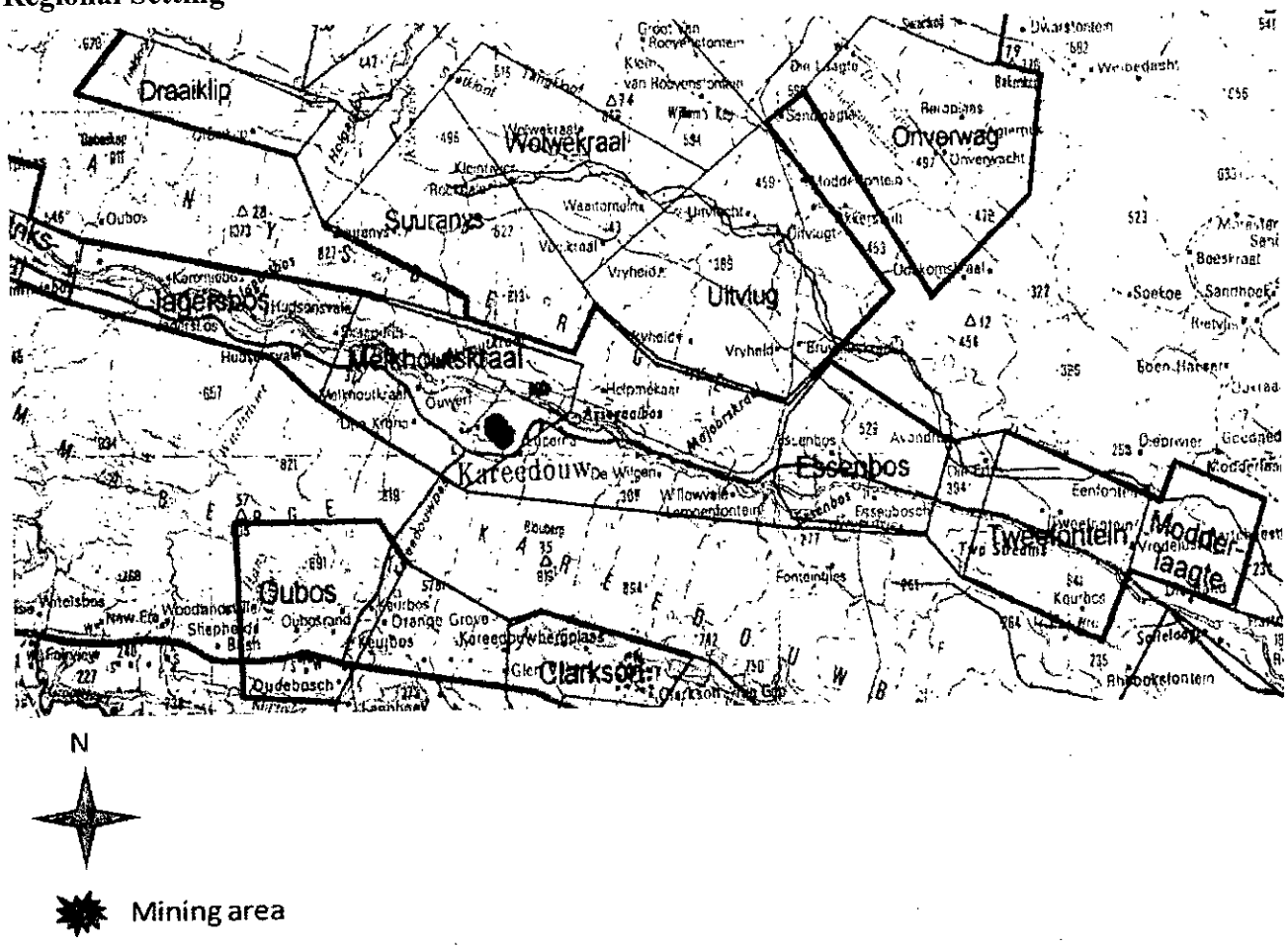


Figure 1: Locality map

The mining area is situated in the magisterial district of Humansdorp and is under control of the Kou-Kamma Local Municipality. The site is situated approximately 1.42 km north of the R62 next to the Krom River.

Surface Infrastructure

Land tenure and use of immediately adjacent land

The area surrounding the proposed site is sparsely populated and use for grazing.

The surrounding farms are owned by Mrs. Van Der Watt & Mr. De Jager

The site will be accessible via an existing gravel farm road, connecting with the town streets, which leads to the R62 road to the south. This road will be used to transport material to the relevant markets.

Mine

The haul road will lead off from the local town streets which lead to the R62. The haul road is an existing farm road and crosses the Krom River west of the proposed site. The haul road enters the site from the west leading from the previous rehabilitated mine, which was recently disturbed again. Entrance to the site will be controlled with a locked gate during non operating hours. There are no infrastructure on the quarry area.

Figure 2: Air view of surrounding area

Existing land uses around the proposed mining area

- Figure 2 clearly shows the surrounding land use next to the application site. One rehabilitated sand mine, which was recently disturbed, occurs to the west of the proposed mining site. Within the proposed mining footprint itself, two small excavations were made as prospecting sites.
- The immediate area surrounding the mining site has been completely transformed into grazing land and none of the original false fynbos occurs on site.
- The Krom River runs immediately south of the mining site, but a 20m buffer zone will be maintained between the excavation and the river bank.
- More illegal mining occurs to the south-west from the site and the Kou-Kamma Municipality built two sewage dams on Mr van der Watts property, about 750m south-west of the proposed mining site. All the previous mining sites are closed; however no rehabilitation has taken place and the area are severely disturbed. The illegal mining site to

the far south-west of the application site is currently being used as an illegal dumping site, further degrading the area.

- Severe transformation to the south-west of the site through establishment of the wood factories causing low-medium loss of terrestrial ecological integrity.

Based on the above the surrounding area of the sand quarry can be viewed as degraded. The mining site has also been severely impacted on to give way for the establishment of grass land for grazing purposes. In terms of the biodiversity and conservation potential, the land is classified as currently not vulnerable. That means the land can withstand limited loss of area through disturbances and/or development. However, through the proposed mining process, the applicant will ensure that the affected land will be rehabilitated properly and restored to the pre-mining status. The mine area will be limited to 1,5 ha.

Name of the river catchment in which the quarry is situated

The mining area lies within the broader Keurboom-, Storms-, and Krom River Catchment area (Figure 3), but more specifically within the Krom River Catchment Area (Figure 4).

The quaternary catchments of the Krom River includes the whole of primary drainage area K90 with a total surface area of 1 558 Km2.

The Krom River system arises in the easternmost part of an inter-montane valley within the Cape Fold Belt, outside the village "Tweerivieren" and flows eastwards from "The Heights" to the coastal plans near Humansdorp into the Indian Ocean at Cape St Francis.

The drainage network forms a trellis drainage pattern except for the Diep river area to the north of Kareedouw, which has a dendritic pattern.

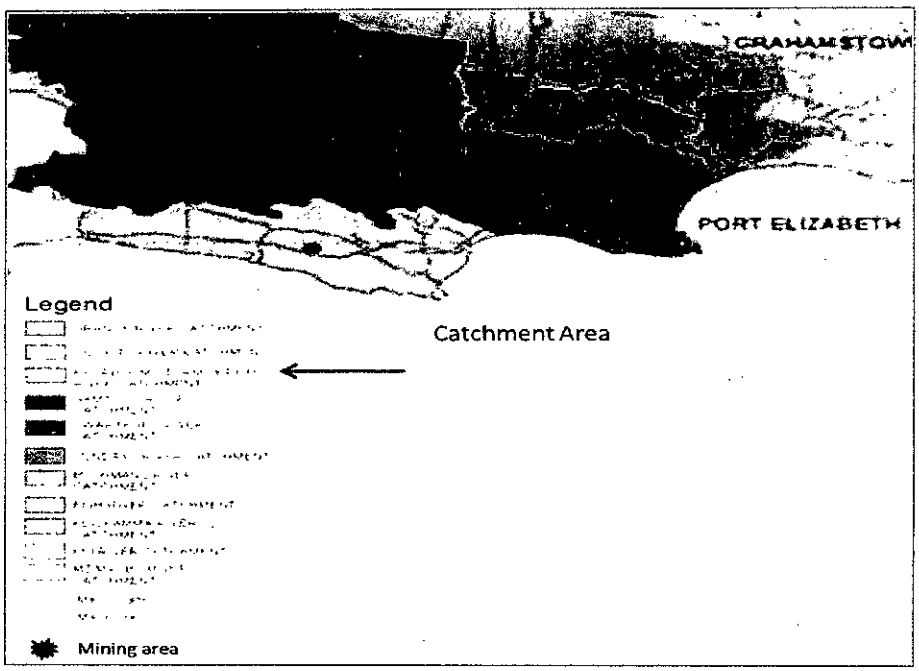


Figure 3: The broader Keurboom/ Storms / Krom River Catchment Area.

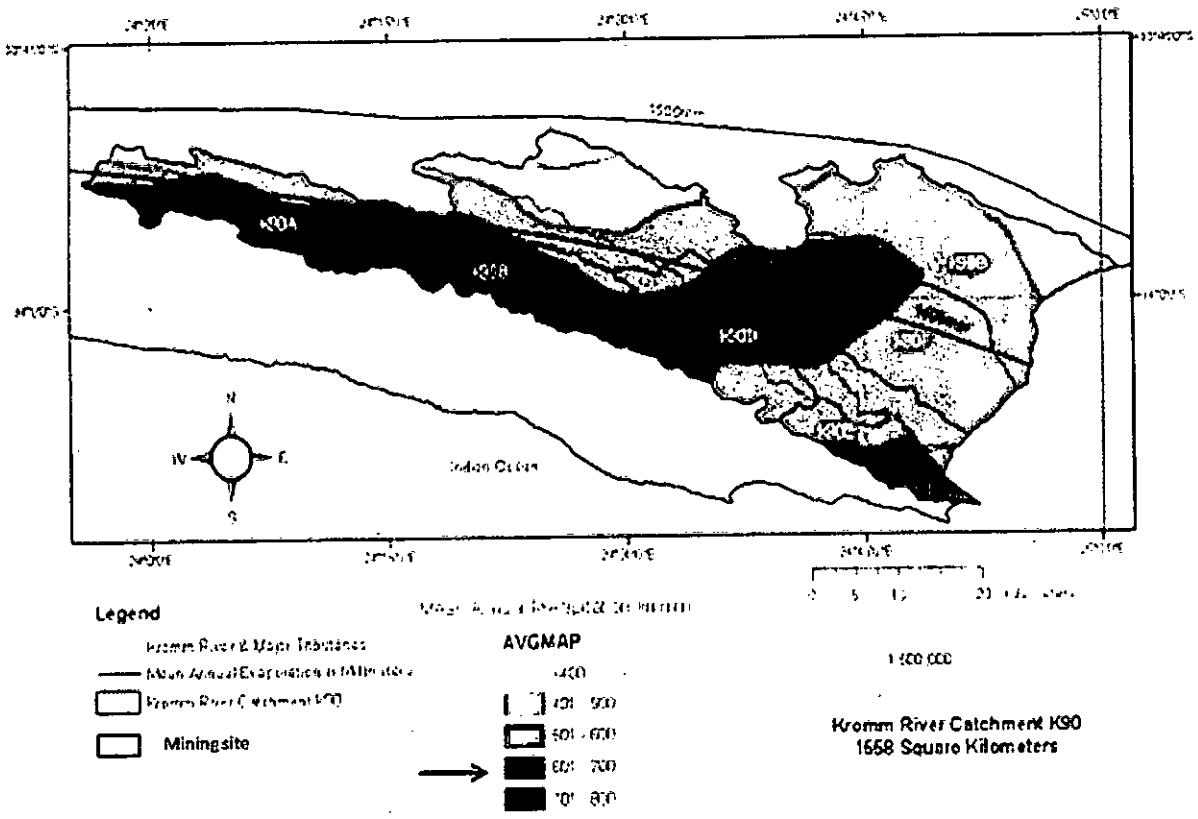


Figure 4. Quaternary catchments of the Krom River, which includes the study area showing the MAP and MAE in mm.

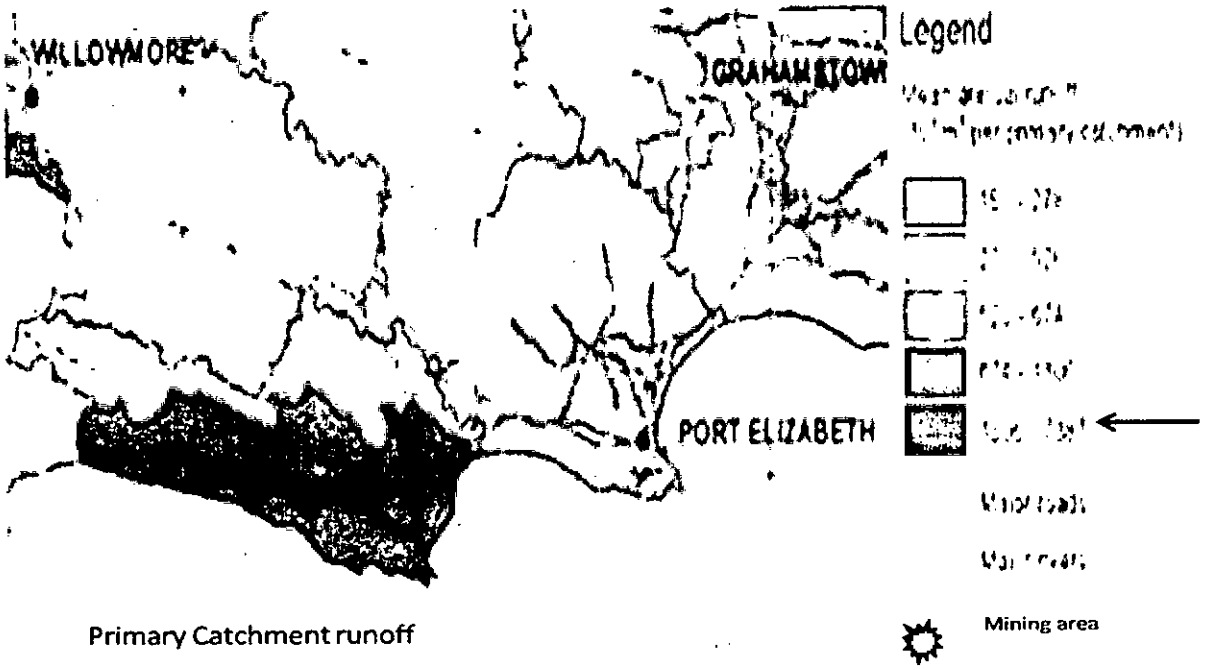


Figure 5: Primary Catchment runoff

The Krom River catchment area receives between 1306-7387 $x10^5$ m^2 mean annual runoff, see Figure 6, which is the highest in comparison with the rest of the Eastern Cape's catchment areas.

Zoning

Current zoning is agriculture and since mining is seen to be a temporary change of land use, no application for change of land use is required, the repealed Minerals Act 50 of 1991 and the current MPRDA 28 of 2002 has replaced the previous Physical Planning Act.

PROJECT DESCRIPTION

Although a contractor will be hired to perform the mining, Mr van der Watt will manage the private sand quarry and must be licensed by the Department of Minerals and Energy. Sand will be extracted from east to west and development and will take place in accordance with the mine development plan by means of a frontend loader to a depth of 2 m. Mining will be executed in 4 phases. Sand will be mined and transported to local markets.

Mineral Deposit & Mine Product

Aeolian sand deposit.

Estimate reserves

Estimated sand reserves in the current mining area are in excess of 30 000 m^3 of which will be mined within the next two years, depending on market demand.

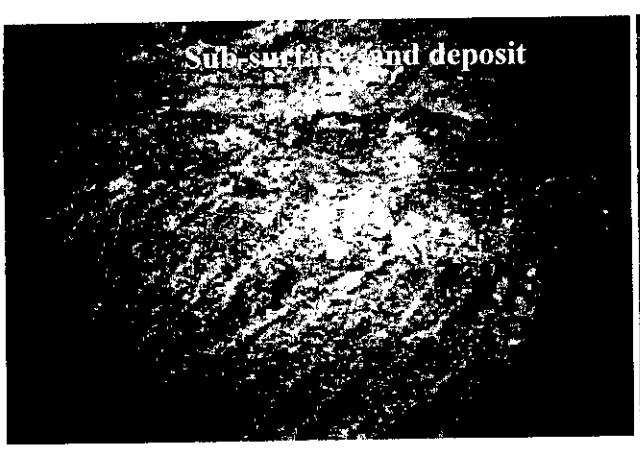
Prospecting

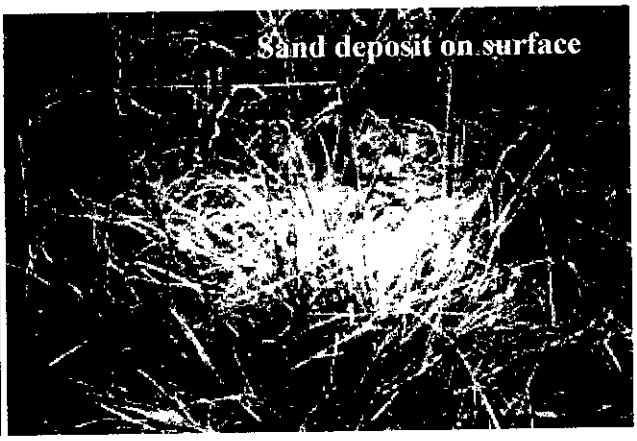
The northern bank of the Krom River disposes of a reasonable deposit of fluvial sand but is mostly thin along the straighter sections of the river and is contaminated with cobble stone. However, at the inner side of the bends reasonable depth is attained and the proposed mining area is located in such area.

To the west, most of the sand has been mined out by Mr. Van Der Watt under cover of a mining permit obtained under the Minerals act 50 of 1991. Since the topography rises steeply towards the north, sand has been deposited in a narrow band of between 100-150m along the river, but gets very shallow away from the river and is contaminated with the shales of the Gydo Formation. To the east the sand reserves are interrupted by a shale ridge extending right down to the river. This barrier has contributed to the deposition of sand reserves in the study area.

A furrow recently dug for the placement of an irrigation pipeline revealed sand reserves of approximately 2m and available sand reserves in the application area are estimated at approximate 30 000 m^3.

Sand will not be extracted down to the underlying shale layer but at least 400mm of sand will be left un-mined, to reduce potential erosion.





Proposed mining method

The total mine area comprises about 1.5 Ha and the average depth of the mine would be 2 meters. Sand will not be extracted down to the hard clay layer but at least 300mm of sand will be left un-mined, to reduce potential erosion. The potential 30 000 cubic meters of sand would be extracted over a period of 24 months with the aid of a frontend loader and dumper trucks. Material will be carted directly to the relevant markets. Only a small stockpile will be created within the excavation. All extracted material would be utilized and no residue would be generated.

Mining would start from the east and be extended to the west and the mine area will be worked in four phases of approximately 0,35 Ha each as per the appended mine plan. Mining would start in phase 1 closest to the river with a buffer zone of at least 35m between the river and the excavation to uphold safety and environmental requirements. Mining of phase 2 will only commence once phase 1 is completed and profiled. Re-vegetation of phase 1 will concurrently take place with the development of phase 2. The same scenario would apply to phases 3 & 4. Complete rehabilitation of phase 1 will be achieved prior to the development of phase 3 and similarly phase 2 will be fully rehabilitated before mining in phase 4 commences.

The topsoil storage will always be in a east-west direction on the northern side of each phase. The production faces created will be profiled to a 1:3 gradient to ensure the stability of the soil. Mining will result in an almost flat bed with a 1% slope towards the south. The access road will traverse the mining site in the middle and will prevent rehabilitated areas to be disturbed by hauling.

Mining will not affect bank stability of the Kromme River since an intact buffer zone of at least32m between the excavation and the river channel will be retained at all times. Storm water will naturally drain towards the south of each phase but ponding will not take place within the excavation due to the porosity of the fluvial sediments and water will simply percolate into the sediments and down to river level. The site will not be free draining.

Considering the small number of people on site, no waste disposal site is required. A container with a lid would be positioned on the northern boundary of every phase for the storage of any household waste. No sewage plant would be required but instead a chemical toilet will be provided. Initially

no dust suppression system will be established. In the event that dust generation becomes a consideration a sprinkler system will be installed. However, if the distance to other property owners and the dampness of the fluvial sand are taken into consideration, it is not foreseen as a potential problem.

No weighbridge will be required as bulk material will be removed to the relevant markets. A mobile screen might be established onsite to remove organic debris from sand. No hydrocarbon storage facilities will be constructed on the property. No maintenance yard will be established since all vehicles will be maintained off site at the workshops of Mr. Van der Watt.

The proposed operation would be intermittent and working hours will take place between 7 am to 5 pm five days a week with cessation of activities at 1 pm on Saturdays if market demand requires. Potable water would be obtained from the property owner or brought to site daily in a small container. The workforce would not reside on the mine, but will commute to work every day. The existing gravel access road that leads towards the farm residence and from there to town will be will be used for carting of sand.

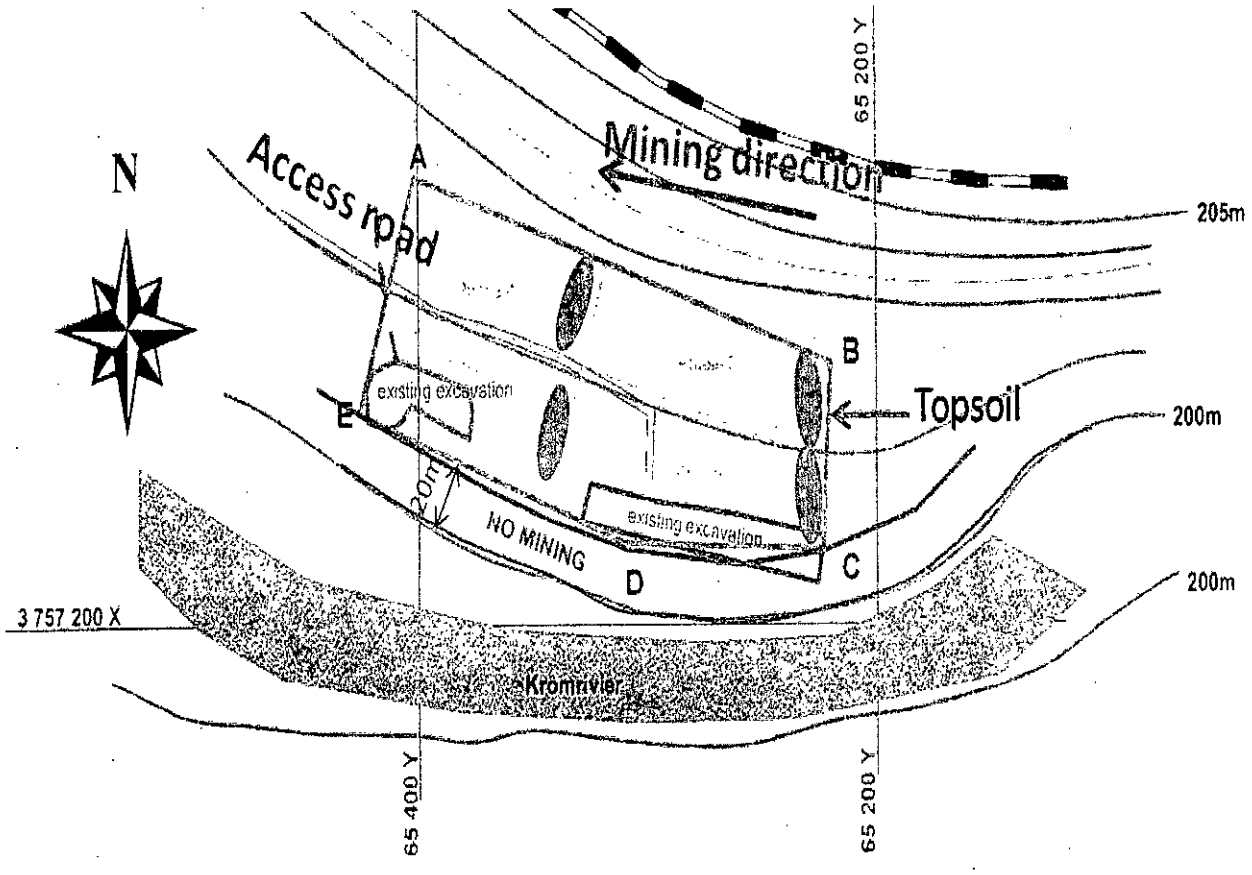


Figure 6: Schematic diagram of the proposed mining

Figure 7: Aerial view and access to the site

Planned life of mine

At the proposed production rate the life expectancy of the quarry is approximately 24 months.

Construction phase

At the quarry the only construction activity will be the removal of topsoil and the grass cover, which will be stored at the allocated areas. The excising gravel access road will be upgraded which will connect with the town street which will connect with the R62 and provide access to the mining site.

Limited noise pollution will be applicable but would be similar to that generated on surrounding farms. Due to the short length of construction phase, dust is not foreseen to be problematic.

Being so isolated negates the mining area to be fenced off, however to establish a proper grass cover, the area would need to be fenced off to keep cattle off the site. No temporary office will be positioned in the mining site.

No weighbridge will be constructed and bulk material will be removed to the relevant markets. No hydrocarbon storage facilities will be constructed on the property. No construction activities will take place that could result in littering, cement mixing and generation of building rubble. Household waste disposal will be through depositing waste in strategically positioned containers fitted with scavenger proof lids. Littering on site will be marginal. No Eskom and Telkom service points are required.

Technical competency

Mr van der Watt, the applicant has previous experience with sand mining and operated a sand mine until 2002, for a number of years and has gained adequate experience and competence with regards to extraction technique, profiling of the low production faces, stabilising soils and re-vegetation of disturbed areas. He is also a farmer and forester and has sound knowledge in establishing pastures and using heavy equipment such as front-end loaders, tractors and three-wheelers. From a mechanical competence point of view he repairs and service all vehicles used on the farm and in the wood industry.

Technical support is also provided by Mr De Jager, the contractor, who will provide the following equipment for the development of the quarry and screening of sand:

•Excavator
•TLB
•Sand screen

Tipper trucks will be hired from an earth moving company in Kareedouw for the transport of material to local markets. Mr. De Jager manages a transport company for a number of years now, mainly carting of construction materials. He also operated his father's sand quarry that was registered with the DME for many years and has approximately 15 years experience in shallow opencast mining and transport of construction material, which cause him well equipped to manage the proposed sand mine.

In order to address environmental matters and demarcating the mine area the applicant appointed Stellenryck Environmental Solutions and John Victor Surveys to compile the EMP and compile required survey plans respectively. Where needed, the required technical advice on mine development and rehabilitation will be provided during formal sire audits.

From an environmental perspective the mining area hosts mainly a secondary grass cover with a few pioneer and fynbos species hence the areas is not deemed sensitive and the applicant, with his expertise in pasture development will be able to develop the site in a sustainable manner. Due to the small area involved and shallow depth of the mine, no significant environmental impacts are anticipated and the applicant will be able to control most of the impacts listed in the EMP.

Environmental competency

It is important that the applicant disposes of adequate environmental knowledge to ensure that an environmentally friendly concern is established that complies with current legislation and poses limited post closure impacts. The proposed concern will require good housekeeping, which will be within reach of the applicant's abilities since he will be on site on a daily basis. In addition, a site foreman will be appointed. The applicant is conversant with mining methodologies which causes him to understand the pros and cons of various mining approaches.

Taken the site location into consideration, storm water control is required and curbing of silt transport is required, which could be achieved by limiting operations to inside the quarry and implementing a storm water control management plan. Since the site is so secluded no dust control needs to be exercised. Erosion of the production faces can be easily prevented by ensuring that they always at the end of day sloped to a 1:2.5 gradient and provided with topsoil and seeded when climatic conditions permits.

Re-vegetation of disturbed areas will be easily achieved by seeding the area, a practice, which is well known to the applicant, however an alien control management plan must be implemented

immediately once mining commences since the risk of aliens infesting the area is guaranteed if left unattended. Visual and social impacts will be addressed through the rehabilitation of the site.

In conclusion the environmental impacts associated with the proposed mining concern is restricted to alien vegetation infestation, limited erosion, loss of vegetation cover, and limited social impact in terms of hauling material on public roads. All of these fall within the scope of the applicants capabilities.

Since the concern will have a sustainable product turnover, the rehabilitation fund can be managed properly and the applicant will be able to effect the amendment of the guarantee as required by the MPRDA, which in turn will reduce the environmental risk.

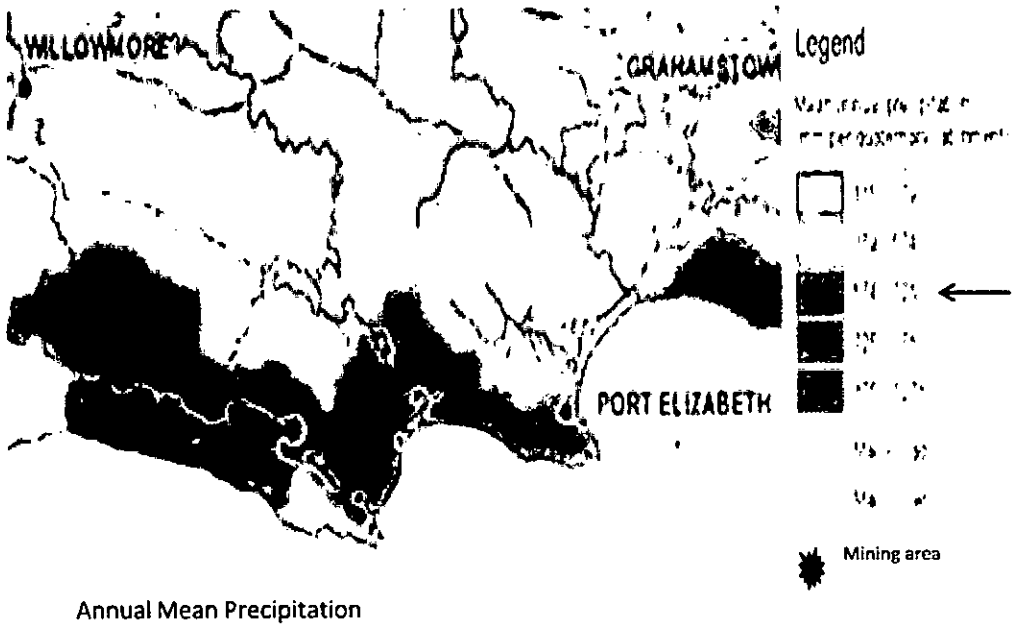
Through the conditions of this EMP, the applicant will ensure that the important environmental considerations applicable to this particular mining site are executed. The applicant will also submit an annual performance assessment reports reflecting on his ability to manage the environment. Should it be required an ECO will be appointed to oversee the project

REGIONAL CLIMATE

Climatic conditions such as temperature, rainfall and wind velocity influence for example plant growth, erosion levels of disturbed areas, dust generation and air pollution levels as well as social impact in terms of quality of life. Climatic conditions can therefore influence the significance of impacts caused by developments such as mines. It is therefore important to understand the role thereof when determining the impacts of a specific development and the remedial measures that need to be implemented.

Rainfall

The Eastern Cape Province experiences a bimodal rainfall pattern with pronounced wet seasons coinciding with spring and autumn. These rain periods are frequently associated with northeasterly winds. Spring rains may also be associated with the passage of cold fronts drifting in from the west. Thunderstorm activity is common along the coast in late summer and autumn and result in intense cycles of rain and wind. This is illustrated by the fact that the maximum rainfall recorded in a 24h period for any month is almost double the monthly average. Dry periods are coinciding with midsummer and mid winter. The average annual rainfall for the Province is approximately 873mm.



Annual Mean Precipitation

The area in which the mining area occurs, receives between 574-725 mm per annum, relatively even throughout the year with a bimodal peak in March and October-November. In this area, the Grassy Fynbos replaces Mountain Fynbos, indicating the component of summer rainfall increases. On average the climatic conditions favors lush false fynbos plant growth. Seeding must therefore coincide with early summer to ensure a successful re-vegetation process.

Temperature

The area experiences warm to hot summers with maximum temperatures in February and minimum temperatures July. Mean daily maximum and minimum temperatures 27.9 °C and 4.6 °C for January-February and July, respectively. Frost incidence 2-10 days per years. From the statistics it is essential that seeding be restricted to the warmer periods to achieved optimum germination and growth.

Wind Regimes

Wind erosion could pose a slight thread to the re-vegetation processes since the area is situated in the path of prevailing south-western and south-eastern winds but with the necessary remedial measures in place, this impact could be reduced to acceptable levels.

GEOLOGY

The mining area lies in the syntaxial region of the Cape Fold Belt. The Cape Fold Belt is a deformed sedimentary sequence consisting of the early Cape Supergroup and the later Karoo Supergroup. The Cape Fold Belt has two trends; an east-west trend along the southern Cape coast and the northerly trend parallel to the Cape west coast. The two trends converge near Worcester, forming the southwest trending syntaxial region.

The stratigraphy consists of the Peninsula, Cedarberg, Goudini, Skurweberg and Baviaanskloof Formations. The Peninsula sandstones are quartz arenites, as are the Goudini sandstones which are interbedded with shales.

One finds the shales of the Gydo Formation in the centre of the Krom River valley followed in turn by the feldspathic sandstones and subordinate shales of the Baviaanskloof Formation, quartzitic sandstones of the Skurweberg and Goudini Formations, shales of the Cedarberg Formation and lastly the quartzitic sandstones of the Peninsula Formation. All the above are part of the Table Mountain Group with the exception of the Gydo Formation which forms the base of the stratigraphically higher-lying Bokkeveld Group.

The proposed mining area falls within the Krom River Valley and the mining area is therefore mostly underlain by fluvial sediments deposited under flooding conditions or being remnants of older river meanders. The alluvium deposits are underlain by mudstone, siltstone and sandstone, which are interpreted as cyclic transgressive-regressive sequences of shallow marine and estuarine origin. The alluvium of the area grades fine-grained silty-sandy sediments on surface with coarser sediments at depth.

Mining the sand of this area will temporarily affect the geology of the area but 1:50 year floods will rework the fluvial matrix and will replenish the removed material over the long term.

Mining the sand of this area will temporarily affect the geology of the area but the annual year flood will rework sandy material and might replenish the removed material over the long term.

The impact on the geology is site specific but permanent. The portion of mineral to be removed in relation to the deposit depicted on the geological map is small. Sand deposits in the Kareedouw area are not deemed to be a strategic mineral and the mining thereof can be rated as of low significance.

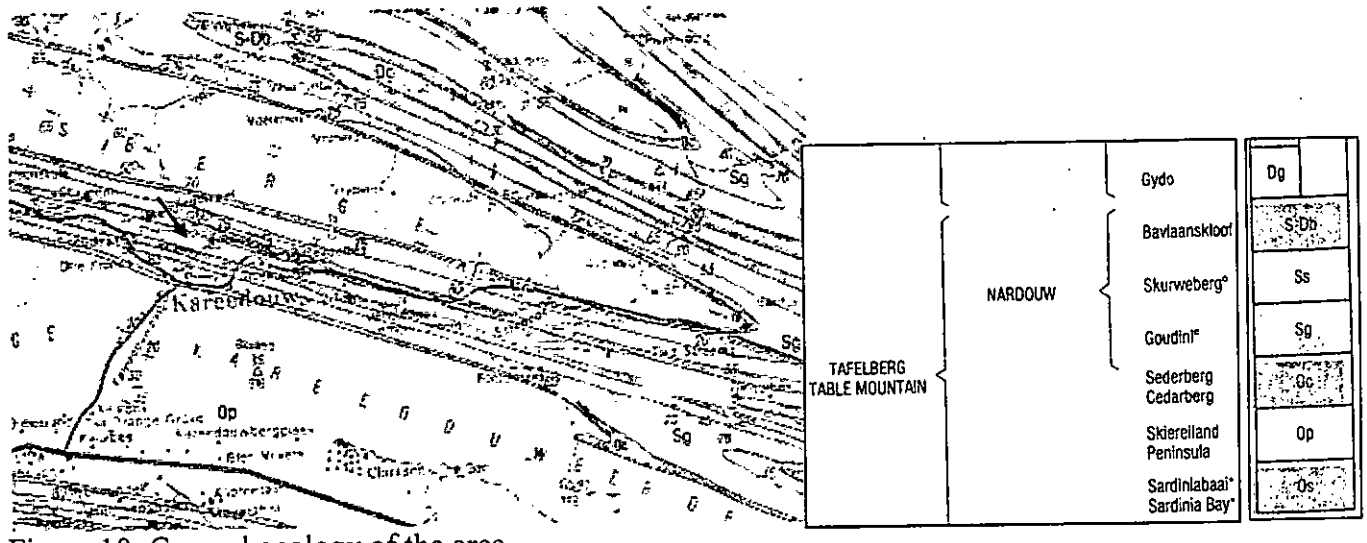


Figure 10: General geology of the area

SOILS

Soil is a complex mixture of eroded rock, mineral nutrients, decaying organic matter, water, air and billions of organisms, most of them microscopic decomposers. Soil forms when life-forms decay, when solid rock weathers and crumbles, and when sediments are deposited by erosion.
Mature soils are arranged in a series of zones called soil horizons, each with a distinct texture and composition that vary in different types of soils. A cross-sectional view of the horizon in a soil is called a "soil profile". Most mature soils have at least three horizons.

Colour indicates a lot about how useful a soil is for growing crops. For example, dark brown or black topsoil is nitrogen rich and high in organic matter. Grey, bright yellow or red topsoils are low in organic matter and will need enrichment to support most crops.

The average size of the spaces or pores in a soil determines soil permeability, i.e. the rate at which water and air move from upper to lower soil layers. Soil permeability is also influenced by soil structure: how soil particles are organized and clumped together. Soils vary in their contents of clay (very fine particles), silt (fine particles), sand (medium size particles), and gravel (course to very course particles). The proportion of the different sizes and types of mineral particles determines the soil texture. Loam soils which are comprised of roughly equal mixtures of clay, sand silt and humus, are the best soils for growing most crops.

Calcarious soils are those that contain free calcium carbonate and can also be regarded as alkaline soils. The term "dystrophic" refers to an imbalance in nutrients. Dystrophic soils are therefore soils that are rich in humus, giving them a brown colour. They have variable amounts of nutrients and are sometimes depleted of oxygen owing to the high concentration of humus. The term "leaching" refers to a process whereby various soil components are dissolved by water moving through the upper layers, carrying the dissolved material to lower layers. Highly leached soils are those where most of the nutrients, etc. have been leached from the upper layers.

Soil properties

Topsoil is a very precious, non-renewable resource with high conservation importance and is necessary for the effective rehabilitation of disturbances caused by development. The potential of soils to rehabilitate is defined by its depth, structure, texture, and sequence of soil horizons It is therefore essential that where it occurs it be preserved and protected and if necessary obtained from outside sources to effect proper rehabilitation of disturbed areas. Soil distribution determines vegetation types and the inherent agricultural potential.

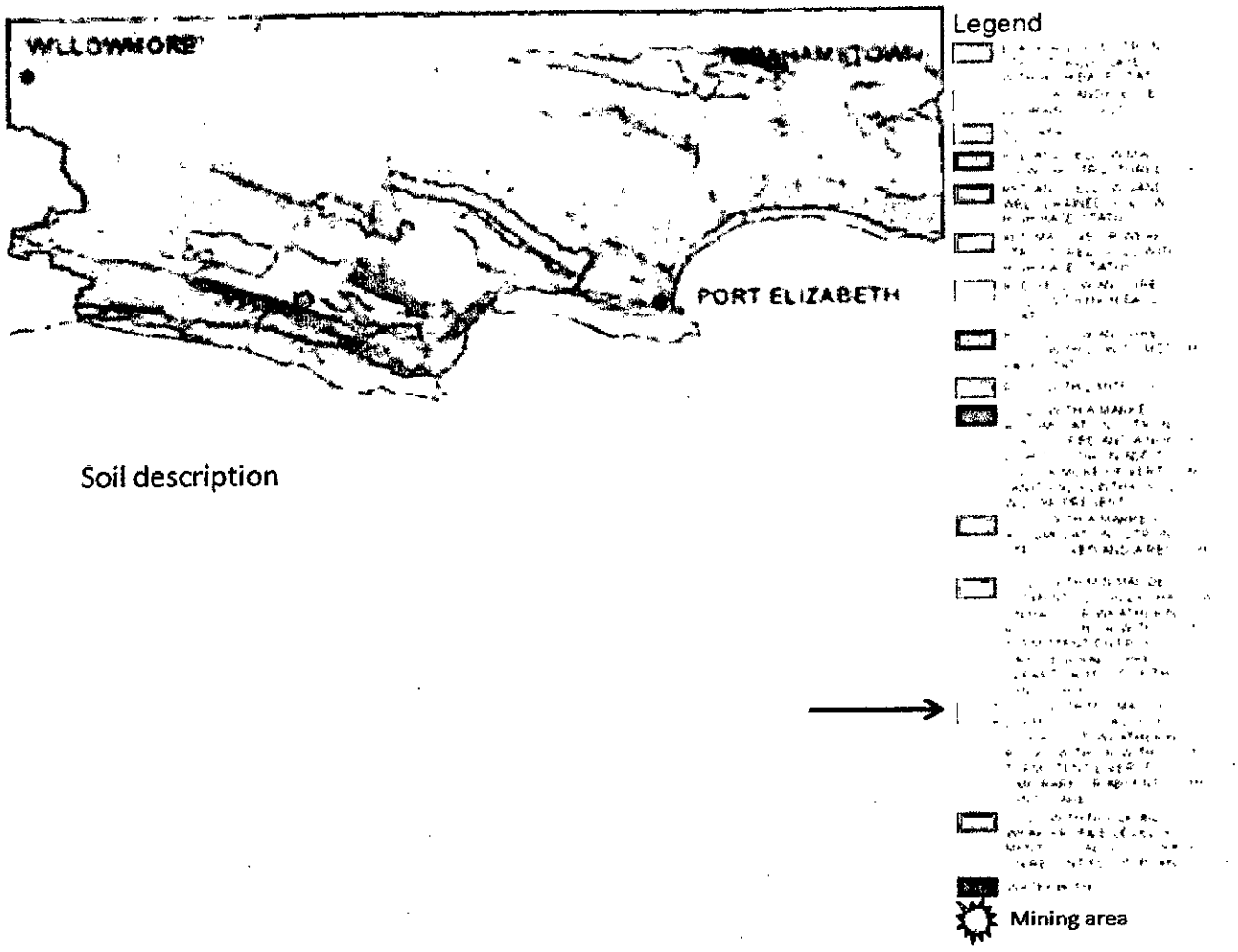


Figure 11: General soil description of the area

Generally, the mining area falls within an area that is characterized with soil with minimal development, usually shallow on hard or weathered rock; with or without intermittent diverse soils. Lime is rare or absent in the landscape. A very narrow east-west distribution of clays and loams derived from shales of the Nardouw Subgroup of the Table Mountain Groups as well as the Ceres Subgroupd of the Bokkeveld Groups. Prismacutanic and pedocutanic and Glenrosa and Mispah forms are prominent.

However, soils on the floodplain of the Krom River and the mining site consist of a poorly developed, slight acidic, orthic A-horizon of approximately 100-200mm thick. The orthic topsoil layer is classified as a sandy with a high percentage of silt since the area is often subjected to flooding conditions. This thin topsoil layer displays a low to moderate organic content. Because of the low organic and silt content, the soils have a medium to low erodibility index and low fertility and are mostly nutrient deficient. The latter is caused by excessive leaching capabilities of the soil and poor mineral releasing capabilities of the parent material. Soils would therefore easily lose its positive nutrient cycles should it be disturbed and denuded of vegetation. It is essential that mining

be done in such a manner that erosion will not occur unless reworked naturally under severe flood regimes.

Due to the intermediate percentage vegetation cover the soils show a medium organic component of less than 2,5%. Due to intermediate microbial activity and high soil temperature the organic component will be broken quickly once the system is disturbed hence topsoil storage time must be restricted to the minimum. Since the organic matter is relatively fine, it will also result in expediting the breakdown of organic matter. Soils need to be used within three months after it was removed. Due to the alteration of the physical, biological and chemical properties of the soil, a moderate reduction in soil productivity may take place during the storage period. It is anticipated that low nitrogen, phosphate and trace element levels would prevail and hence soils should be upgraded to reinstate and maintain nutrient cycles in the soil. High internal drainage capacity and low adsorption capacity due to the low clay content will cause during the summer periods that these soils will display low field capacity values, which will have a negative effect on biomass accumulation. This could require at certain stages that seeded areas be irrigated.

These soils are slightly acidic but will still support vegetation covers well and facilitate the use of inorganic fertilizers without the risk of lowering the pH beyond that what is required for mineral absorption. Soils of the study area have high leaching capabilities hence the soils will not remain fertile after clearing and prolonged heavy precipitation. It would, therefore also not re-establish its positive nutrient cycles over the short term and re-vegetation process will require the necessary attention and dedication. Even if used shortly after stripping inorganic upgrading would be necessary. Once reinstated, quarterly upgrading of soils will be necessary and light application of fertilizers will be required if rainfall permits. The impact on soil properties is rated moderate-high and it should be understood that soil fertility, humus content and the ability to sustain plant life would be affected moderately.

The potential of soils to rehabilitate is defined by its depth, structure, texture, and sequence of soil horizons. Since the *in situ* soils at hand are limited in terms of the above, mining will further impact on these characteristics, reinstated soils will have poor texture and structural features and will cause re-vegetation to be difficult. It would from a fertility point of view be pertinent that all organic matter removed from site is reintroduced to profiled areas to increase the humus component of reinstated soils.

The topsoil will be removed from the mining areas and will be temporarily stored on the inside of each phase in a north-south direction (see Schematic Diagram of Proposed Mining) and will be reinstated as mining progresses as per the mine plan. Incorrect stockpiling thereof will most definitely cause its physical properties to deteriorate and the soil will become sterile due to compaction, loss of nutrients, texture and structure and decline in biological activity. It is important to fertilize it and if possible irrigate it as soon as possible. The latter can be easily achieved by pumping from the river, for which the applicant has the necessary authorization.

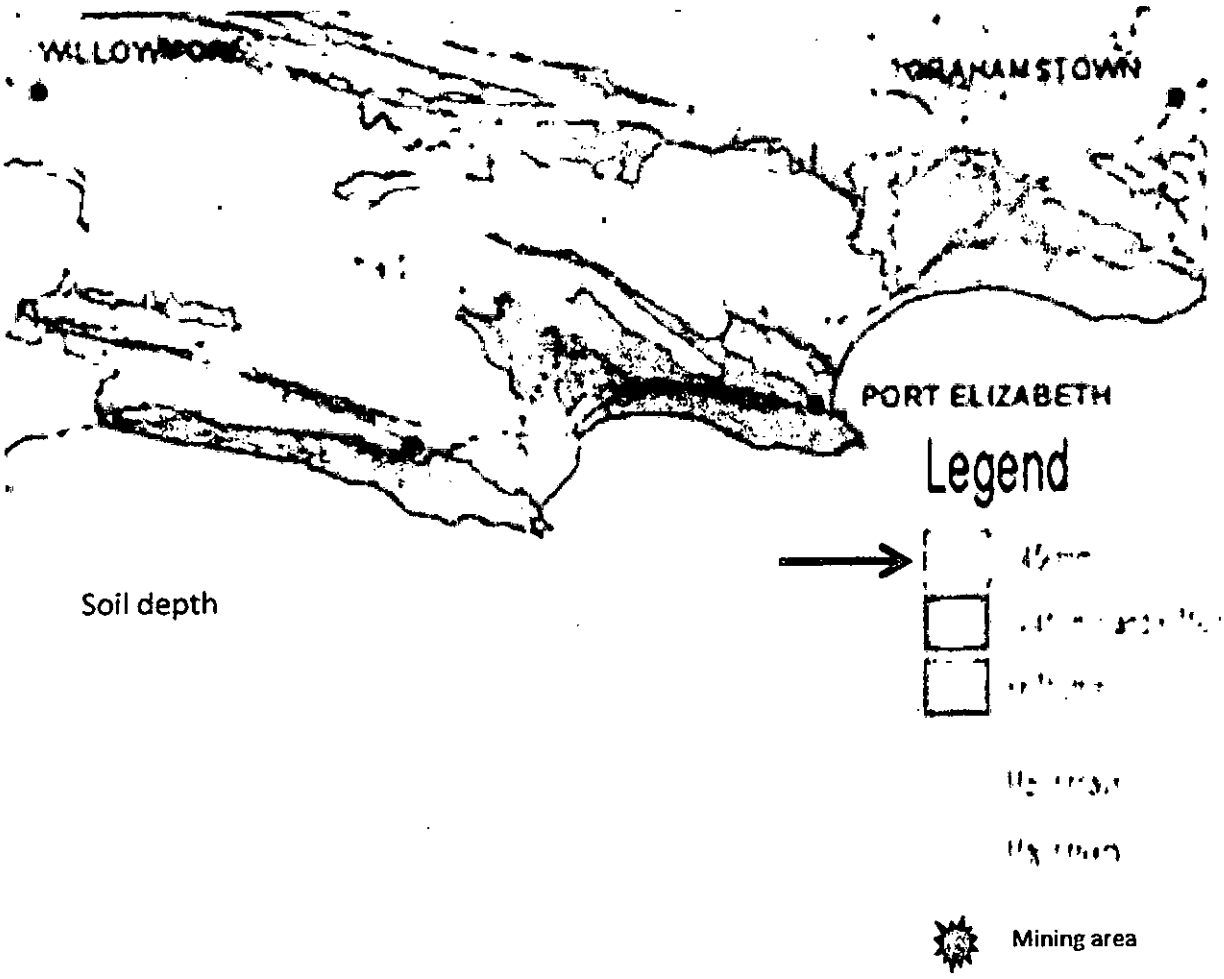


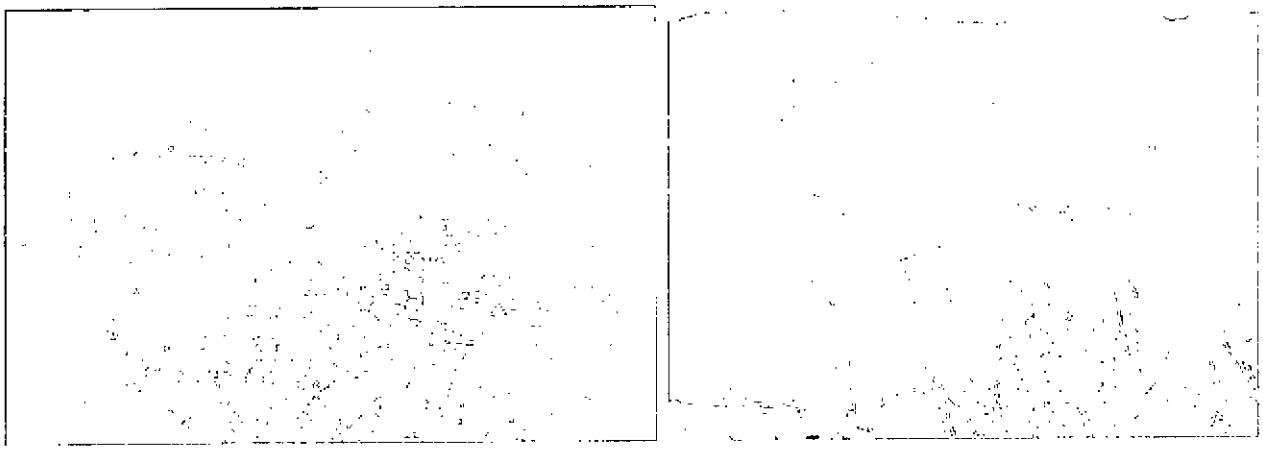
Figure 12:Soil depth of the mining area

The impact on soil properties (soil fertility, humus content and the ability to sustain plant life) is rated moderate-low.

ENVIRONMENTAL SENSITIVITY

Figure 19: Mining area is classified as currently not vulnerable

The area surrounding the mining site has been transformed due to agricultural activities and previous mining.



STRUCTURES OF ARCHAEOLOGICAL AND CULTURAL INTEREST:

Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and as they are valuable, finite, non-renewable and irreplaceable they must be carefully managed to ensure their survival. Heritage resources also form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management. Heritage resources contribute significantly to research, education and tourism and they must be developed and presented for these purposes in a way that ensures dignity and respect for cultural values.

The fluvial environment was completely transformed during vegetation clearing and ploughing during landowner's endeavours to establish pasture areas. It is therefore not anticipated that any intact archaeological will be identified. The Krom River regular bursts its banks depositing material within the proposed mine area and the reason for mining the area. Any archaeological remains will therefore be buried deep under the fluvial sediments. This process, on the other hand, might have resulted in the deposition of individual pieces of artefacts and skeletal material but should not be of significance. Since mining will be restricted to the upper and recent sand deposits no impact is anticipated.

The study area revealed in the author's opinion no stone features, shelters or any rock art. Soil development in the area is poor and subject to fluvial reworking and therefore reduces the potential of finding any sites of interest especially intact human skeletal material and shell middens. The area around the site revealed no archaeological sites and there are no known cultural heritage sites within a radius of 300m of the proposed mining footprint.
Large portions of the fluvial environment have been mined since the early nineties and no sites of archaeological interest were exposed. Production faces of old mining areas revealed no objects of interest and consist of uniform sand deposits. The site revealed no historical artefacts or features such as graves, foundations of buildings or other features that relates to domestic and military activities.

Dr. Johan Binneman has conducted an archaeological survey as part of the impact assessment and his findings are in agreement with SES's findings. Attached please find his assessment.

Considering that Kareedouw is close to the important historic Tsitsikamma and Langkloof KhoiSan areas and because the site is located alongside an important freshwater resource that could reveal archaeological findings the following basic mitigation measures will be implemented.

1. The operator of the excavator will be briefed regarding this potential impact and on the nature of findings that can be expected. A reporting channel will be established to deal effectively with any finding.
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 offices in East London. In such case all operations would be suspended immediately.
3. Any finding will be fenced off immediately and protected.
4. In the event of any significant findings, a full assessment will be completed prior to proceeding with mining activities.

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A LETTER OF RECOMMENDATION (WITH CONDITIONS) FOR THE EXEMPTION OF A FULL PHASE 1 ARCHAEOLOGICAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED SAND MINING ON THE FARM MELKHOUTKRAAL NO. 254, KAREEDOUW, HUMANSDORP DISTRICT, EASTERN CAPE

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Date: April 2009

A LETTER OF RECOMMENDATION (WITH CONDITIONS) FOR THE EXEMPTION OF A FULL PHASE 1 ARCHAEOLOGICAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED SAND MINING ON THE FARM MELKHOUTKRAAL NO. 254, KAREEDOUW, HUMANSDORP DISTRICT, EASTERN CAPE

PROJECT INFORMATION

The type of development

Development of a sand mine of 1,493 hectares in size.

The Developer

Mr J.J. van der Watt
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The Consultant

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Terms of reference

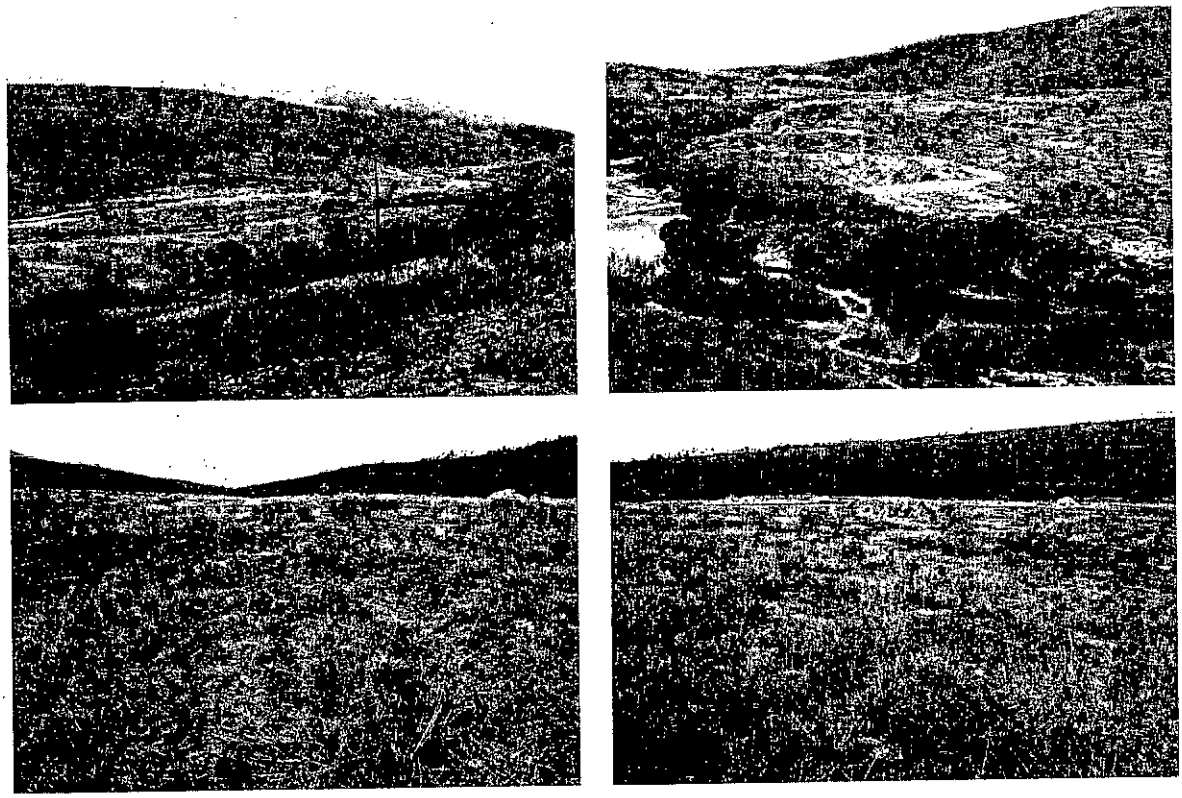
The original proposal was to conduct a Phase 1 Archaeological Heritage Impact Assessment of the proposed sand mining on the farm Melkhoutkraal No. 254, Kareedouw, Humansdorp District, Eastern Cape; to describe and evaluate the importance of possible archaeological heritage sites; the potential impact of the development and to make recommendations to minimize possible damage to these sites.

DESCRIPTION OF THE PROPERTY

Map: 1:50 000 3324CD Kareedouw

Location data

The proposed sand mine on the farm Melkhoutkraal No. 254, Kareedouw, Humansdorp District, Eastern Cape (33.56.316S; 24.03.515E) is situated some 1,5 kilometres north of Kareedouw between the Kromrivier and adjacent to the narrow gauge railway line (Maps 1& 2). The area adjacent to the proposed mine has been mined for sand in the past. Dense grass covers the surrounding area (Figs 1- 4).



Figs 1-4. Different views of the proposed sand mine next to the Kromrivier.

ARCHAEOLOGICAL INVESTIGATION

Methodology

The investigation was conducted by two people on foot. The proposed property for sand mining is located on the northern bank of the Kromrivier on an old flood plain. The area is covered by dense grass and the proposed mine is next to areas previously mined for sand. No archaeological sites/materials were found and it is highly unlikely that any archaeological heritage remains of any value will be found *in situ*, or of any contextual value will be exposed during the development.

Letter of recommendation

It is recommended that the proposed sand mining activities on the farm Melkhoutkraal No. 254, Kareedouw, Humansdorp District, Eastern Cape, is exempted from a full Phase 1 Archaeological Heritage Impact Assessment. Although it is unlikely that any archaeological heritage remains of any value will be found *in situ* or of any contextual value, there is always a possibility that human remains and/or other archaeological and historical material may be uncovered during the development. Such material must be reported to the nearest museum, archaeologist or to the South African Heritage Resources Agency if exposed, so that a systematic and professional investigation can be undertaken. Sufficient time should be allowed to remove/collect such material (See Appendix A for a list of possible archaeological sites that maybe found in the area). The property is further than five kilometres from the coast and therefore the possibility for any coastal related archaeological sites and remains on the property appeared to be low. The proposed area for development is of low cultural sensitivity and it is believed that it is unlikely that any archaeological heritage remains will be found on the property.

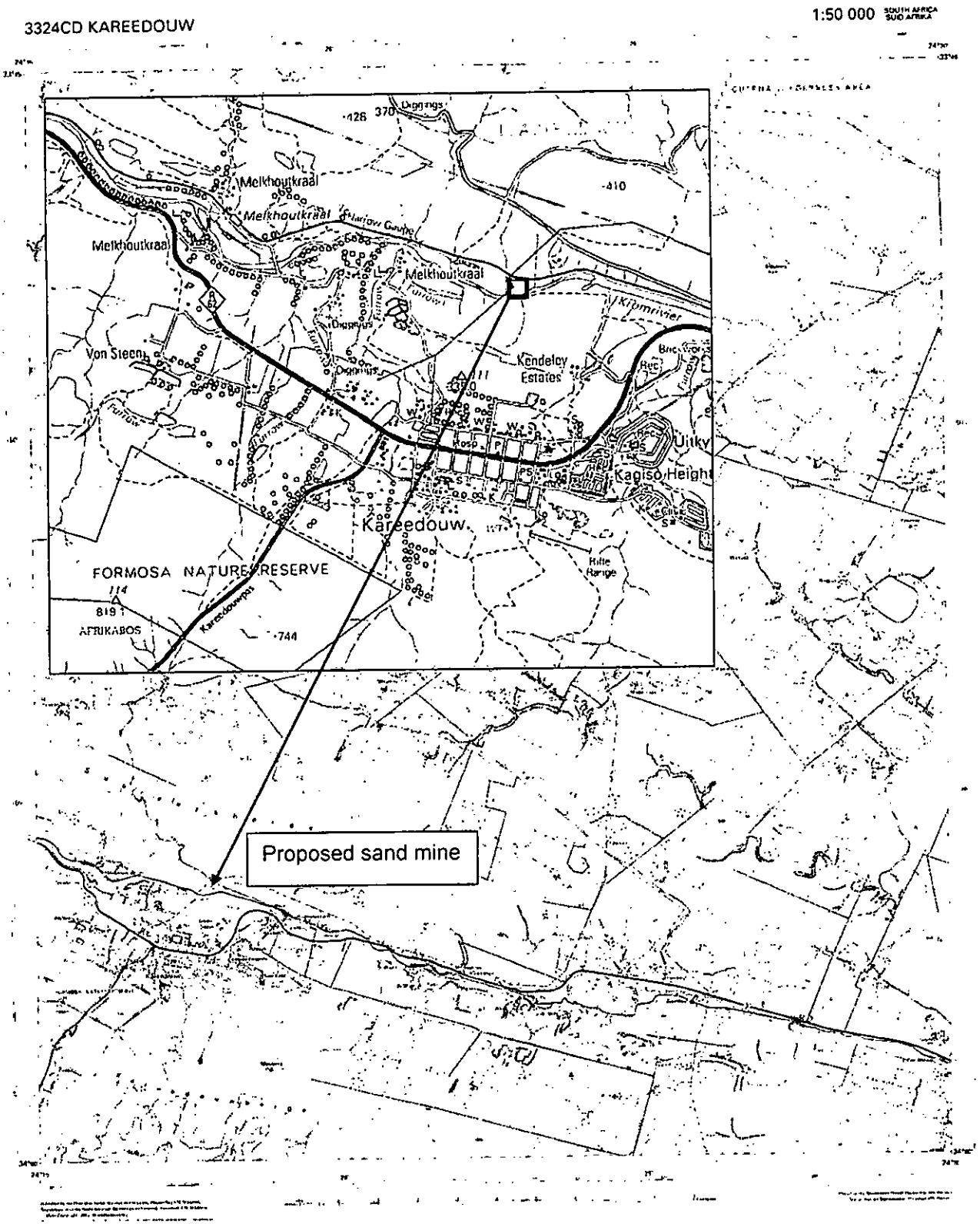
Note: This letter of recommendation **only** exempt the proposed development from a full Phase 1 Archaeological Heritage Impact Assessment, but **not** for other heritage impact assessments.

It must also be clear that this letter of recommendation for exemption of a full Phase 1 archaeological heritage impact assessment will be assessed by the relevant heritage resources authority. The final decision rests with the heritage resources authority, which should give a permit or a formal letter of permission for the destruction of any cultural sites.

The National Heritage Resources Act (Act No. 25 of 1999, section 35) requires a full Heritage Impact Assessment (HIA) in order that all heritage resources, that is, all places or objects of aesthetics, architectural, historic, scientific, social, spiritual linguistic or technological value or significance are protected. Thus any assessment should make provision for the protection of all these heritage components, including archaeology, shipwrecks, battlefields, graves, and structures older than 60 years, living heritage, historical settlements, landscapes, geological sites, palaeontological sites and objects.

GENERAL REMARKS AND CONDITIONS

It must be emphasised that this letter of recommendation for exemption of a full Phase 1 archaeological heritage impact assessment is based on the visibility of archaeological sites/material and may not therefore, reflect the true state of affairs. Sites and material may be covered by soil and vegetation and will only be located once this has been removed. In the unlikely event of such finds being uncovered, (during any phase of construction work), archaeologists must be informed immediately so that they can investigate the importance of the sites and excavate or collect material before it is destroyed (see attached list of possible archaeological sites and material). The *onus* is on the developer to ensure that this agreement is honoured in accordance with the National Heritage Act No. 25 of 1999.



Map 1. 1:50 000 map of the location of the proposed gravel quarry.