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Reference: EC/30/5/1/3/3/2/1/0404 EM
Date: 04 March 2010

South African Heritage Resources Agency
P.O. Box 758
GRAHAMSTOWN
6140

ATTENTION: MR. T. LUNGILE

Case ID: 2444

Sir

CONSULTATION IN TERMS OF SECTION 40 OF THE MPRDA OF 2002: FOR MINING PERMIT OF STONE: AGGREGATE; GRAVEL MINING ON WITBANK NO. 737, DIVISION OF HUMANSDORP, EASTERN CAPE

1. Attached herewith, please find a copy of the EMP received from Mr. Mark Pledger.
2. Please forward any written comments or requirements your department may have in this regard, to this office no later than **03 May 2010.** 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

Mbotseo
REGIONAL MANAGER
EASTERN CAPE

STELLENRYCK ENVIRONMENTAL SOLUTIONS

Preliminary Heritage Impact Assessment For Stone Quarry On Farm 737, Humansdorp

PREPARED FOR:

SupaCrush (Pty) Ltd
P.O. Box 2179
North End
6056

FEBRUARY 2010

Tel. & Fax: 041-3672049 · Cell 0824140464 · 4 Josephine Avenue LORRAINE 6070
Member: J. A. van As: B.Sc (Botany & Zoology), B.Sc (Hons) (Eco-Physiology), M.Sc (Plant Physiology)

ENVIRONMENTAL MANAGEMENT PROGRAMME FOR SUPACRUSH HARD ROCK QUARRY: OYSTER BAY.

INTRODUCTION & BACKGROUND

Due to the power shortage in South Africa one of the remedies decided on was to build a number of Pebble-Bed Modular Reactors, of which the first is to be located at Thyspunt, approximately 6km south-east of Oyster Bay. The Scoping & EIA Phase for the project has been completed and it is anticipated that certain construction work will commence early in 2010.

Infrastructure related to the construction of the PBMR will require vast amounts of concrete for the foundations and housing of the plant, associated buildings, establishment of a campsite and personnel accommodation. Preliminary figures indicate that approximately 80 000 cubic meters will be required. In addition, one of the requirements for establishing a PBMR is that the access road must be a surfaced road, which will result in the surfacing of the approximately 18km of road, which will require an additional 60 000 cubic meters of stone.

Since the applicant disposes of mobile crushing units, it has concluded a surface agreement with the landowner to utilise the stone deposits for the above purposes. The applicant, however, only recently received information on the approximate date of commencement of construction activities and although the demand may justify an application for a mining right, time constraints and the possibility of not being awarded the crushing contract will only allow a permit application at this stage. If the contract is secured, the applicant will apply for a mining right in order to be able to supply the required crushed stone volumes.

There are no hard rock quarry concerns in this particular area and therefore this poses the ideal opportunity for SupaCrush to expand its presence in the Province.

The outlay of the quarry was chosen as such that it could possibly be extended in future, making use of all available reserves. Should SupaCrush manage to acquire a portion of the local aggregate market, the proposed quarry will be made permanent and be extended through an application for a mining right. Certainty on the long-term viability of the proposed quarry will be known by December 2010. If SupaCrush cannot achieve the mentioned goals, the quarry will be closed down once the road construction project has been completed.

The establishment of a small office and workshop will be the only infrastructure anticipated for the initial stages of the hard rock quarry. All topsoil on the mine area will be conserved to facilitate future rehabilitation thereof and be reintroduced to communal land as a very limited grazing unit. To reach this objective the excavation will not be used as a dumpsite, the production faces will be profiled and re-vegetated and will be protected by the required storm water control structures to prevent instability of rehabilitated areas.

TERMS OF REFERENCE

The applicant has appointed Stellenryck Environmental Solutions (SES) to legalize the application and include the following activities and submissions:

- Application for mining permit.
- Compilation of a baseline EIA & EMP for the proposed clay quarry.
- The EMP would cover all biotic and abiotic components.
- SES has conducted the public participation process prescribed in terms of section 27(5) of the MPRDA and submitted the outcome to the DME. The process comprised direct consultation with potential affected parties.
- The site visits revealed a disturbed section of land and no large mammals or small mammals were observed in the area hence no formal survey was conducted.
- A basic floral survey was conducted by SES (Adrian Odgers) and no species of value was identified.
- A Basic Heritage Assessment will be done by Dr. Johan Binneman. A layman's assessment revealed no sites or objects of significance.
- Additional studies required by the regulating authorities will be submitted on receipt of such request and will be funded by the applicant.

APPLICATION DETAILS

Applicant

SupaCrush (Pty) Ltd
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North End
6056

1969/001483/07

Tel.: 041 – 484 7211

Fax: 041 – 484 6231

Particulars of contact person, proxy & signatory

Mr. M . D. Pledger
P.O. Box 2179
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6056

ID 7508225012082

Tel: 041 – 484 7211

Fax: 041 – 484 6231

Cell: 083 7129944

Mine manager

Mr. Mark Pledger
P. O. Box 2179
NORTH END
6056

Tel: 041 – 484 7211

Fax: 041 – 484 6231

Cell: 083 7129944

Surface owners

Mountfere Trust (IT 127/95
P.O. Box 70628
Port Elizabeth
6032

Proxy & signatory

Mark Mans I. D. 6112105069089 Tel/Fax: 042–2911368 Cell: 0836536387

Holder of mineral rights

State

Title deed description

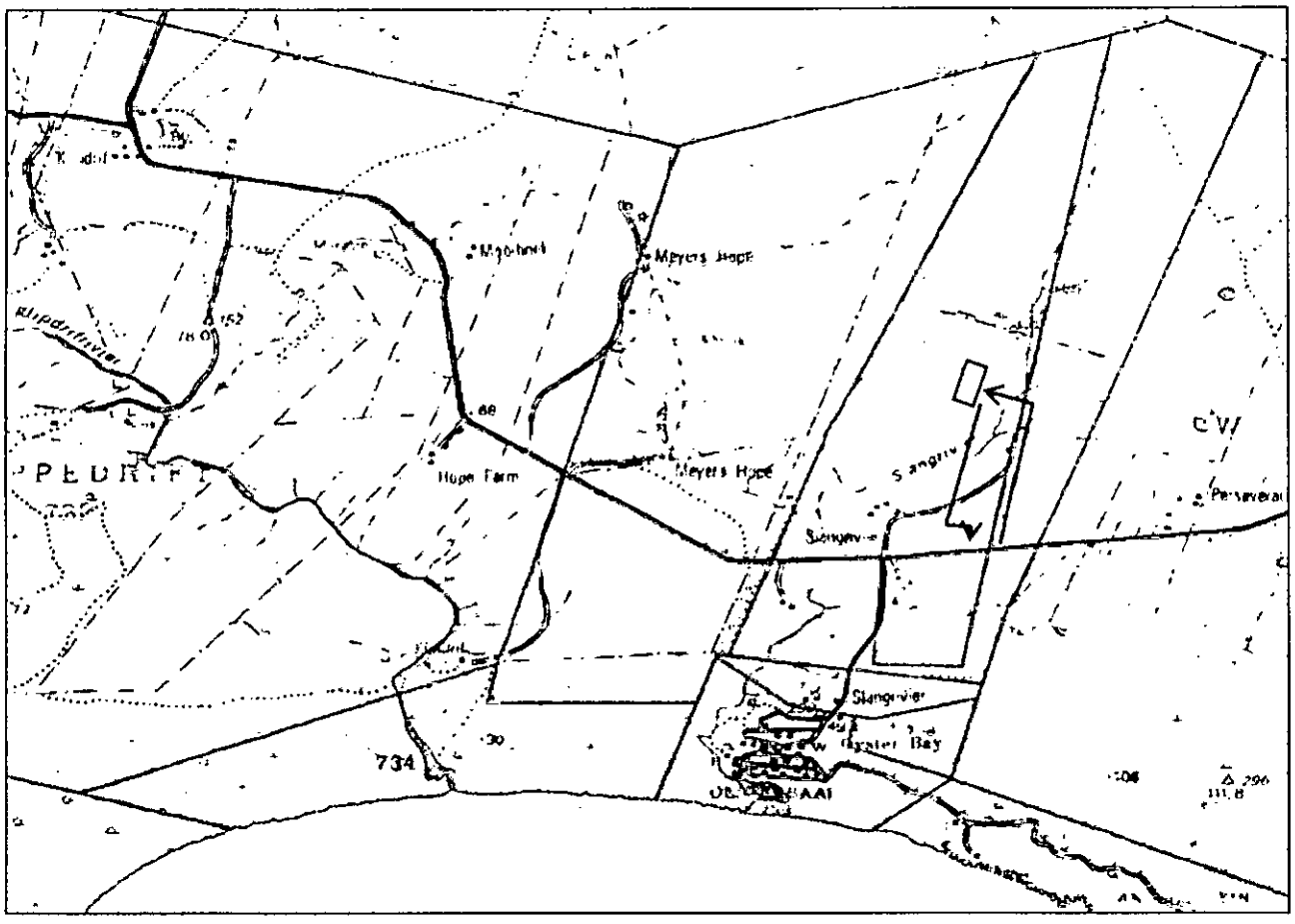
Farm 737, Witbank: T11105698

Mineral

Sandstone, gravel & aggregate

Regional setting

The proposed quarry is situated within the boundaries of the Kouga Municipality and magisterial district of Humansdorp. Access to the quarry is via a gravel road teeing off to the right from the Oyster Bay Road, approximately 200m before the turnoff to Oyster Bay. The site is located approximately 1km north of the Oyster Bay Turnoff and 2km north-north-east of the town of Oyster Bay.



Major sandstone outcrops in the study area and surrounds.

Northern outcrop in study area

Southern outcrop in study area

Quartzitic sandstone boulders within mine area

Mining methodology

The total mine area comprises about 1,5ha of which 1ha will be used for mining and the remaining 0,5ha as stockpile and crusher area as indicated on plan. Average depth of the excavation will be approximately 15 meter with production faces 7-8m high. Open cast mining would start just south of the southern outcrop by means of establishing a conventional box-cut. Once the first production face has been established, it will be advanced in a northern direction. Once adequate floor space has been created, a box cut into the floor will be established. The two production faces will then be advanced alternatively. Each bench will be approximately 15-20m wide to facilitate safe access for quarry machinery/vehicles and to facilitate final perimeter profiling. In order to access the benches. a cambered access ramp will be constructed through precision blasting. The quarry floor will show a 1% gradient towards the south to facilitate dry working conditions at the production faces.

Production blasts will be performed by a contractor, Mr. Johan Brown, which holds an opencast blasting qualification. Since certain infrastructure is within reach of fly rock as well as possible ground vibration, the necessary blasting precautionary measures will be implemented in accordance with the outcome of the blasting risk assessment. Overburden and spacing will typically be 3m x 3m with drill holes of 76mm. P101 slurry will be used as explosives and primed with pentolite boosters. Since more than one shot hole will be fired at a time shock tube assemblies of the Nonel and handidet systems will be used to ensure controlled blasting conditions and limit flyrock and PPV readings. If the outcome of the blasting risk assessment dictates, the use electronic detonators will be considered. Average stemming of 0,75-1m will be used to reduce flyrock.

The above development approach will result in an almost flat quarry floor, but steep perimeter faces. During the post development stage the sides of the quarry will be profiled through precision blasting to 1:2 slope (23 degrees).

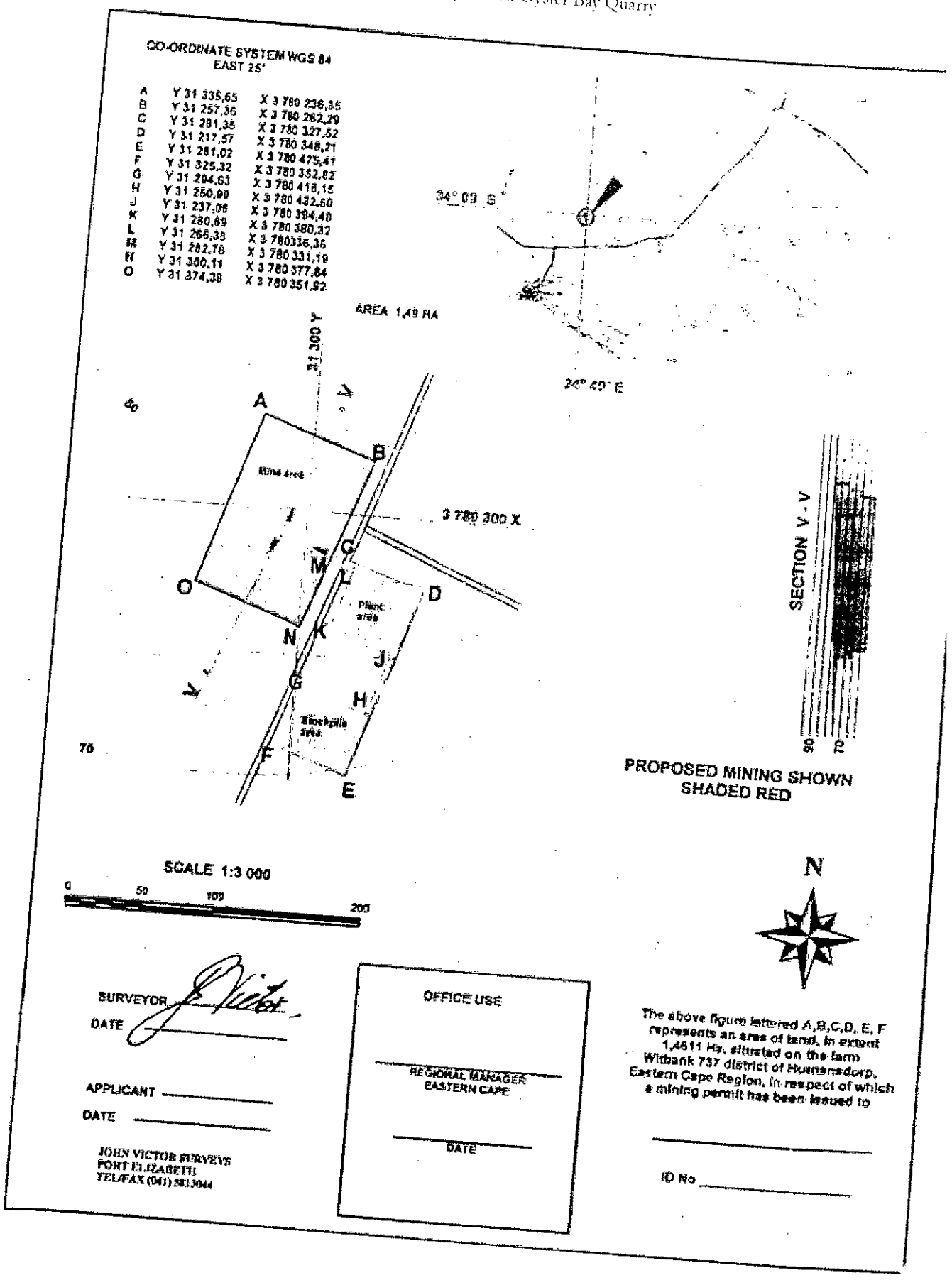
Direction of blasts will be towards the Oyster Bay Road and if necessary, the road will be secured during blasting.

Shot rock will be loaded on dumper trucks with an excavator and transported to the diesel powered mobile crusher and screening plant located on the eastern side of the mining area. It is anticipated to blast approximately 6000-10000m^3 once a month, but if both projects referred to are secured, it is anticipated to blast approximately 15000m^3 per month.

Once crushed, the material will be stockpiled and then loaded onto 12-22m^3 tipper trucks and hauled to the road construction sites or the Thyspunt construction site. All shot rock would be utilized except for oversize, which will be returned to the excavation for profiling of the sides. Alternatively, these rocks can be reduced in size by fitting a hydraulic hammer to the excavator or perform secondary blasting.

Topsoil will be removed as explained under the construction phase. The nature of this sedimentary rock will result in mining to remain above any primary or perched aquifer.

If the projects are secured, the proposed operation would be continuous for at least fifteen months and working hours from 7.00am to 5pm five days a week with cessation of activities on 1pm on Saturdays, if construction schedules require work on a Saturday.



BIOPHYSICAL ENVIRONMENT

Biodiversity of the region is under pressure from over-grazing by stock farmers, extremely frequent burning of Fynbos to increase the carrying capacity of the natural veld, establishment of pasture areas, illegal hunting and the spread of alien vegetation.

The SupaCrush prospecting area concern comprises a low sandstone ridge that protrudes above the flat lying surrounding areas and traverses the property in a north-south direction. Furthermore the site host a degraded Tsitsikamma Sandstone Fynbos, and therefore do not pose an important future seed bank for this vegetation type nor an animal corridor. The site is not a definite landmark in the landscape. Most of the surrounding area has been 900% transformed by farming activities and pasture establishment.

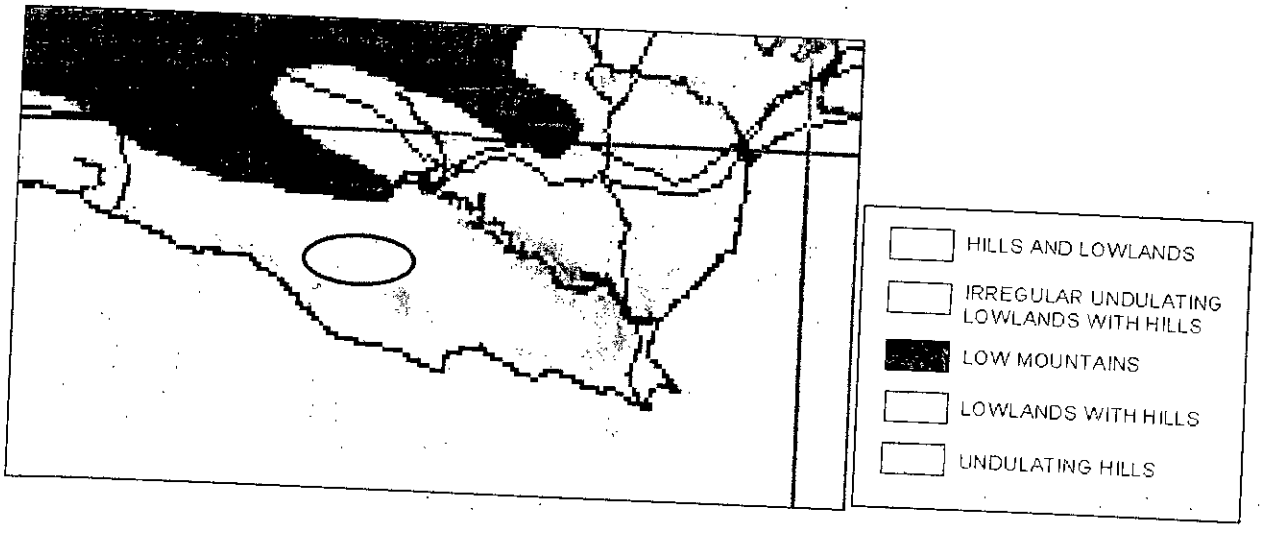
The study area comprise of a steeply dipping sandstone outcrops on lower levels and only show a distinct rise on the northern side.

A broad overview of the biophysical components within the mining area is described in the sub-headers below. The status of the faunal assemblages within the greater area has been conducted as a desk top study for the purpose of this prospecting application.

TOPOGRAPHY

The greater area occupies a palaeo (ancient) marine terrace (sea-level platform) that was formed during an inter-glacial (higher than present sea-level) during the Tertiary Period (about 60 million years ago). This higher sea-level resulted in the erosion of the bedrock material below the surf zone leaving behind the level topography (terrace) currently exposed in the Oyster Bay area. Slopes are generally flat with shallow drainage channels.

The study area is topographically formally classified as a mixture of 'Hills & Lowlands' and 'Undulating Hills' with the prospecting areas falling in the latter category. The area generally reveals elevation levels of 75m a.m.s.l. to 85m a.m.s.l.



GEOLOGY

Structural Geology

The Table Mountain Group in the vicinity of Oyster Bay consists of an anomalous thick succ of quartzite and subordinate shale, estimated in access of 3000m and represents almost the e limit of a succession deposited in an east-west-elongated basin, which extends from the W Cape to the Eastern Cape, with the axis of this basin situated just north of latitude 34°S. plane dip in the root zone varies from 200/70 to vertical. Towards Port Elizabeth the mega f interpreted as a nappe structure. Thrust faults with typical staircase geometry comprising ramp flats, complicate the earlier nappe structure. Individual thrust planes are easily recognized ar demarcated by fault gouge and thick brecciated zones, characteristic of brittle-zone deformatio

The age of the TMG is considered to range from early Ordovician to earliest Devonian.

Geomorphology

Climatic and topographical influences caused the bedrock to display various grades of weather Platform areas almost uniformly display a layer of, gravelly quartzitic sandstone of between and two meters, formed through palaeo wave action. These clastic sediments are typified b reddish-brown colour and sometimes with small purplish pebbles on the surface and are the re of deposition of iron and manganese deposition due to fluctuating perched water tables in the p sea regression era. Underneath this gravelly material, sandstones are mostly fractured to a limi depth and do not constitute competent rock for construction and road building purposes.

The geology of the study area is dominated by the Table Mountain Group, consisting of a 4500 thick succession of predominantly medium grained arenites, and subdivided into three formations the map area.

The mining area and surrounds are underlain by quartzitic sandstone of the Cederberg Formatio (Oc), Goudini Formation (Sg) and the Peninsula Formation (Op), of which the latter constitutes th target mineral for this application.

Cederberg Formation

It is mostly a shale formation and somewhat carbonaceous and black when fresh, but grey to greenish grey and even yellowish in outcrop depending upon the degree of weathering. Integrated thinly bedded, lenticular, silty and sandy beds become more evident and relatively coarser grained towards the top. In the extreme west near the Kouga River sporadically developed diamictite is present within the lower 10m of this unit. The formation is up to 55m thick and in the field it is recognised by the smooth slopes between the Peninsula and Goudini sandstones or by linear depressions when dips are high. The contact with the underlying Peninsula Formation is sharp, but the upper contact is gradual.

This formation is located very close to the southern perimeter of the mine area and may influence the quality of stone through the occurrence of thin bands of shale.

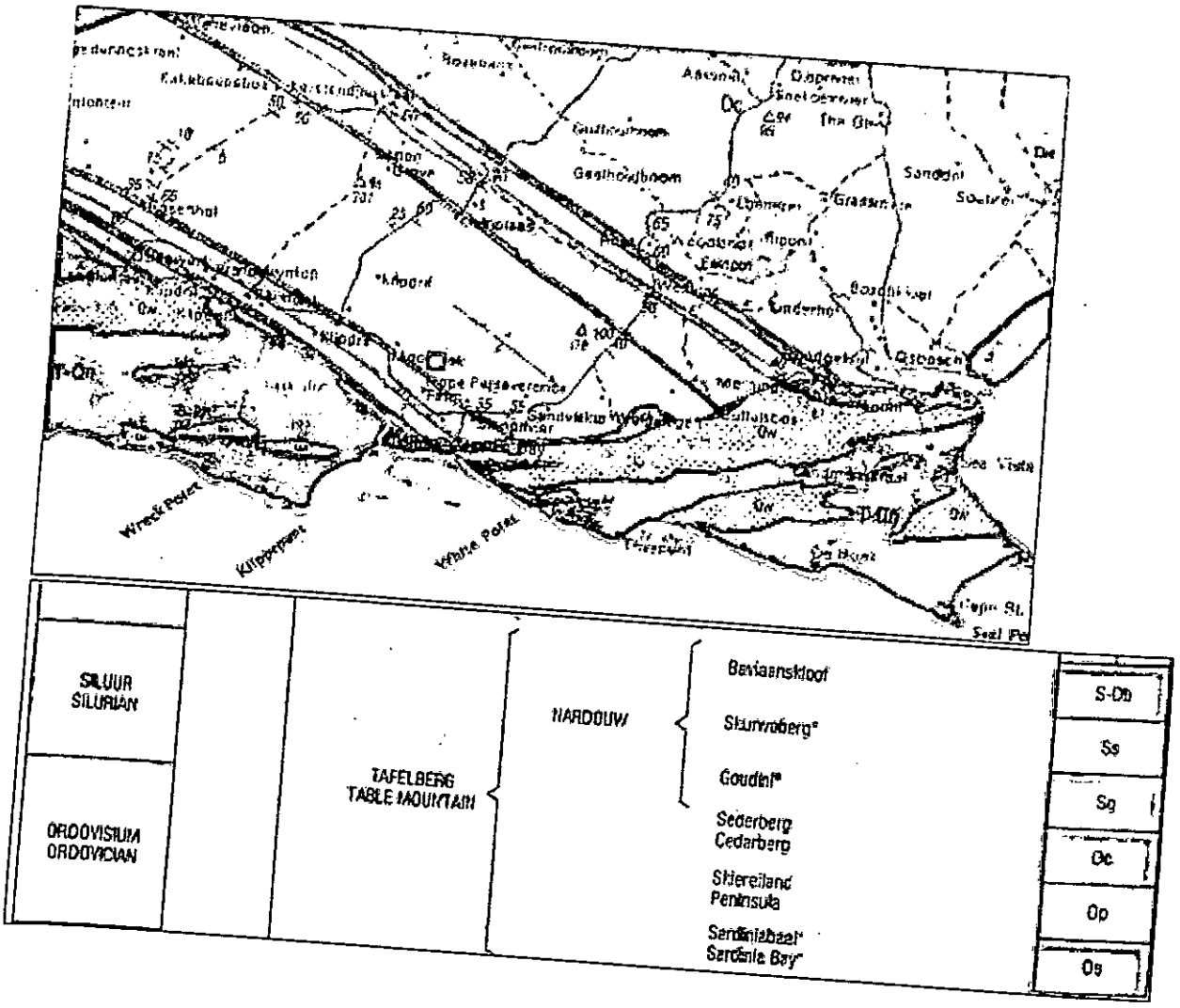
Goudini Formation

This Formation is found immediately south of the Cederberg Formation and essentially consists of medium-grained quartzose sandstone, characterised in the field by its brownish (weathered) colour. Bedding is thinner and topography less pronounced, compared with the underlying Peninsula

sandstones. Although cross-bedding is common, it is generally inconspicuous. Shale layers (v subordinate) are normally less than one meter thick.

Peninsula Formation

This Formation consists of light-grey, medium- to coarse-grained super-mature sandstone and mostly quartzitic. This Formation is spatially, stratigraphically, and topographically the m prominent formation of the Table Mountain Group. Scattered, well rounded pebbles of vein qua are locally common. Subordinate lenticular shale layers, less than 0.5m thick, may be present places. This Formation is coarser grained and gritty towards the top and localised lenses of matri supported, small-pebble conglomerate occur. Although massive in appearance, it is well bedde Flat-bedding and low-angle cross-bedding are common. The maximum thickness of the Formati is less than 3000 m.



SOILS

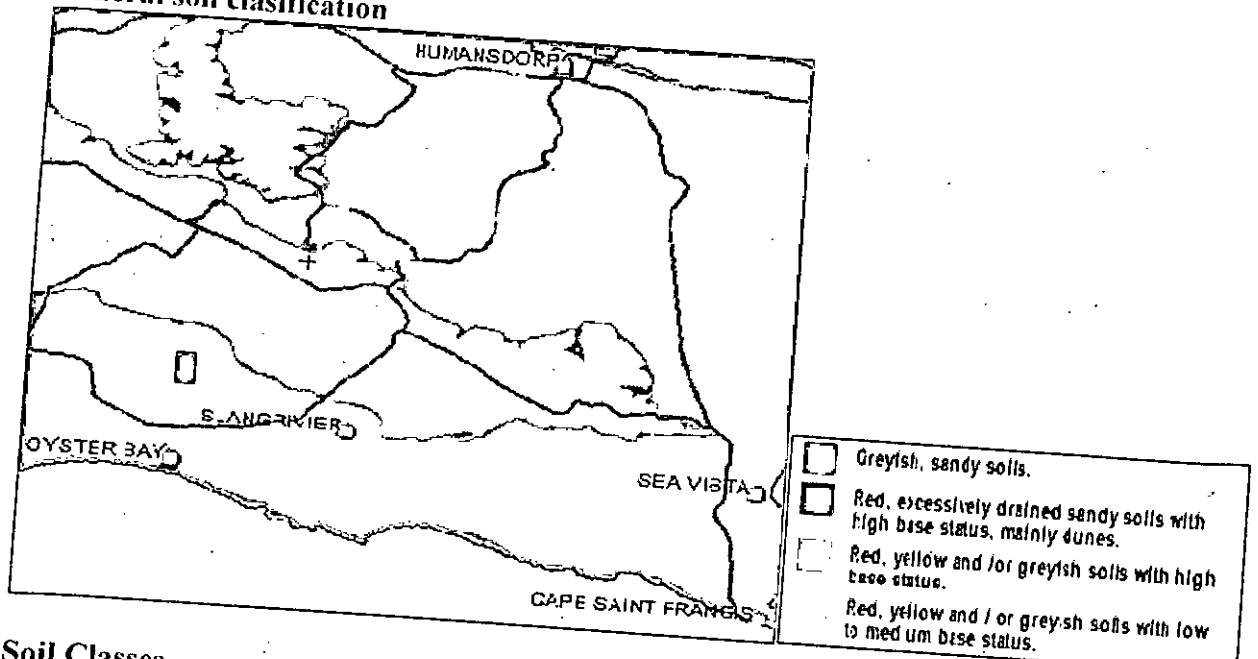
Topsoil is a very precious, non-renewable resource with high conservation importance and is necessary for the effective rehabilitation of disturbances caused by development. The potential of soils to rehabilitate disturbed areas is defined by its depth, structure, texture, and sequence of soil horizons. 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.

The soils derived from Cape Supergroup quartzitic sandstone is generally acidic, with very l structure and texture, with very low humus content and of low fertility value. Deeply weath soils are not well documented in the study area as fine-grained weathering products are ero away from the high-lying ground into the low lying areas or drainage systems. This is particul the case in the outcrop areas of the proposed mining area. In the surrounding areas, especi towards the west and east soils are slightly more developed and are used for establishing pastu Soils are positioned directly on the Saprolite horizon and no B-horizon is present.

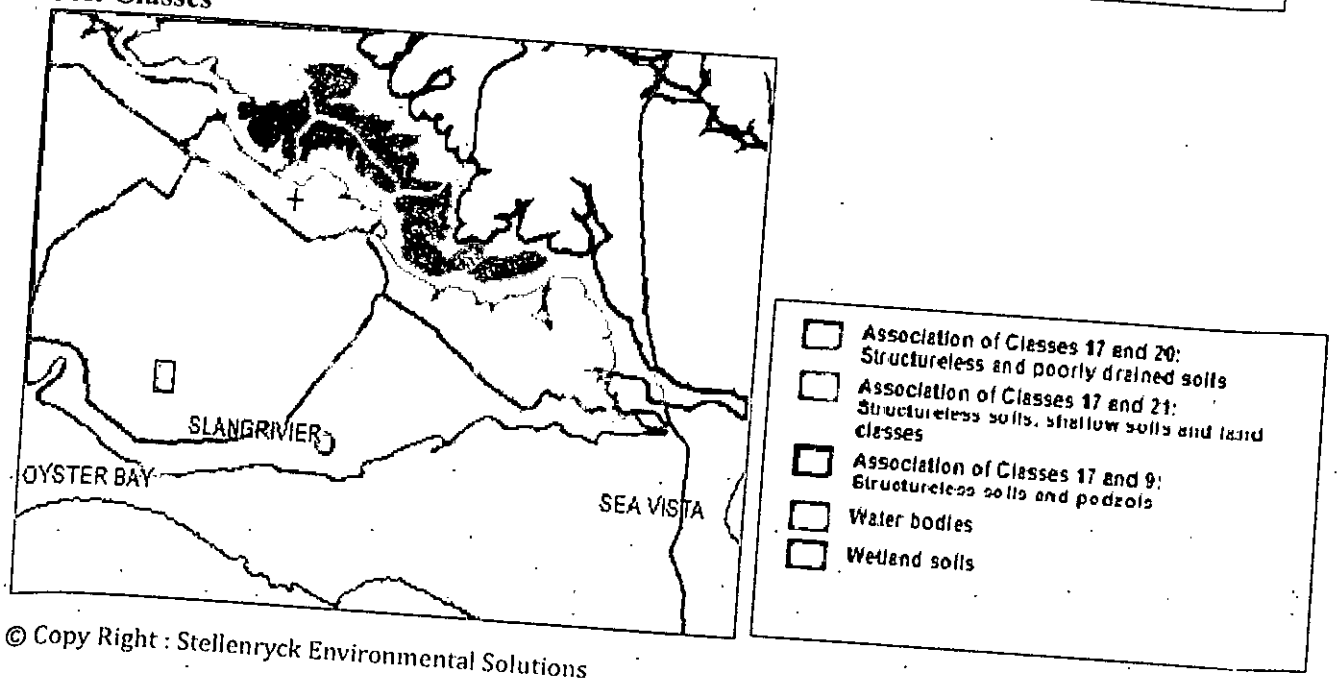
In the northern section of the farm the soil type changes completely and reveal a thin Orthic horizon (topsoil), underlain by a Pedukutanic B horizon (red gravel) followed by a Saprol horizon (solid quartzite) constituting the Swartland soil form. Where deeply weathered soils a encountered (only on lower levels) they become more clayey with depth. The clayey material ten to be gleyed (mottled), an indicator of perched water table activity after wet periods.

In terms of the soil classification system soils in the study area constitute a S24 soil and comprise a mixture of classes 17 & 20 and are generally a structureless and poorly drained soil with hig erodibility. Deeper soils surrounding the mining area has a different classification as a S15 soil an display wet conditions during certain times of the year.

General soil clasification



Soil Classes



ARCHAEOLOGY

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.

Areas underlain by quartzitic sandstone bedrock of the Cape Supergroup are not normally associated with major paleontological finds. Also, in most of the areas involved, a very thin veneer of topsoil is present on top of the solid rock, providing little possibility of any object of importance to be embedded in the topsoil or subsoil horizon. No graves or any structures older than 60 years are located within or immediately outside the study area. The possibility of affecting any object of importance is therefore extremely limited, especially since it is located outside the 1km distance from the coast

Remedial measures

- Although not anticipated, if any grave areas are discovered, the area will be appropriately fenced off and excluded from the mining areas and appropriate setback lines will be determined in conjunction with SAHRA/SAPS & Albany Museum.
- Findings of any historic tools, fossils, bone fragments, skulls and complete remains will be immediately reported to SAHRA & Albany Museum and no effort will be made retrieve any object.
- The operators of mining equipment will be informed of the applicant's obligation in the above regard and to inform management when anything of interest is noted on the site.
- If any object of importance is observed and all operations would be suspended immediately in such area.
- Dr. Binneman of the Albany Museum will be appointed to survey the area and submit a report to this effect to the DMR.
- Similar measures as discussed under the other headings will be applicable.

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