case ID: 1352

mineral resources
Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

Private Bag x14, Springbok 8240, Andia Building, Voortrekker Street, Springbok 8240
Tel: 027- 712 8163. Fax 027-7121959; E-mail: deidre.williams@dmr.gov.za.
Ref: NCS 30/5/1/1/3/2/1(945PR

20 October 2010

2 trenches
30 boreholes on Orange R.
w/in TransHex mining au
(?) Need professional Assessment
V sensitive area

REGISTERED MAIL
The Director
SAHRA
P O Box 4637
CAPE TOWN
8000

CONSULTATION IN TERMS OF SECTION 40 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) FOR THE APPROVAL OF THE ENVIRONMENTAL MANAGEMENT PLAN IN RESPECT OF A PORTION OF THE REMAINDER OF LOT 226, VIOOLSDRIFT SETTLEMENT AND ERF 262 VIOOLSDRIFT SETTLEMENT ADMINISTRATIVE DISTRICT: NAMAQUALAND

APPLICANT: ZOLOSPEX (PTY)LTD

1. Attached herewith, please find a copy of the Environmental Management Plan to the received from the above-mentioned applicant, for your comments.
2. It would be appreciated if you could forward any written comments or requirements your department may have in the case in hand to this office on or before **30 November 2010.**
3. Consultation in this regard has also been initiated with other relevant Sate departments.

4. Your co-operation will be appreciated.

Yours faithfully

REGIONAL MANAGER: MINERAL REGULATION
NORTHERN CAPE REGION

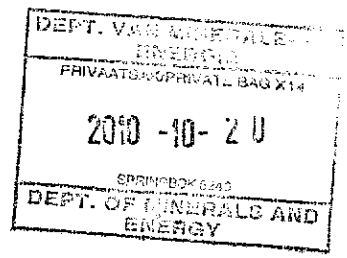
SA HERITAGE RESOURCES AGENCY
RECEIVED
26 OCT 2010

File number: NC-S30/5/1/1/2/945PR

DEPARTMENT OF MINERALS AND ENERGY

ENVIRONMENTAL MANAGEMENT PLAN

Submitted in support of application for a prospecting right or mining permit.
Section 39 and Regulation 52 of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002)



Application for a:

Prospecting Right	

Applicant: Zolospex (Pty) Ltd

Farm: Portion of Plot 226 and Plot 262 Vioolsdrift South Settlement

District: Namaqualand

Mineral: Diamonds, Stone Aggregate,Lead, Zinc, Silver and Copper

Date: 29 September 2010

A.1 INTRODUCTION

This document aims to comply with the relevant legislation and environmental regulations as apply to applications in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)(MPRDA).

A.2 SCOPE

This document is intended for use by applicants for mining permits and prospecting rights. Typically, operations in this sector of the mining industry:

- Use little or no chemicals to extract mineral from ore,
- Work on portions of land of 1,5 hectares in size or smaller,
- Disturb the topography of an area somewhat but have no significant impact on the geology

A.3 PURPOSE

This document aims to :

- Provide a national standard for the submission of Environmental Management Plans for the types of applications mentioned above.
- Ensure compliance with Regulation 52 of the MPRDA.
- Assist applicants by providing the information that the Department of Minerals and Energy (DME) requires in a simple language and in a structured, prescribed format, as contemplated in Regulation 52 (2) of the (MPRDA).
- Assist regional offices of the DME to obtain enough information about a proposed prospecting operation to assess the possible environmental impacts from that operation and to determine corrective action even before such right is granted and the operation commences.

A.4 USE OF THE DOCUMENT:

The aim is ultimately to (a) gather information from applicants themselves; (b) to assess the impact of the operation based on that information and then (c) to guide the applicant to mitigate environmental impacts to limit damage to the environment.

Section B of the document gathers demographic information about the applicant.
Section C gathers the information that will be used in the Environmental Impact Assessment. The scoring of these for the impact assessment rating in Section D.
Section F (the Environmental Management Plan) of the document is prescriptive and gives guidance to the prospector on how to limit the damage of the operation on the environment. This part may be added to by the regional manager, who has the prerogative to decide whether this Environmental Management Plan will adequately address the environmental impacts expected from the operation or whether additional requirements for proper environmental management need to be set. Where these additional requirements are set, they will appear in Section G of this document.
The Environmental Management Plan (Section F) of the document is legally binding once approved and, in the undertaking contained in Section H, the applicant effectively agrees to implement all the measures outlined in this Environmental Management Plan.

A.6 OTHER RELEVANT LEGISLATION

Compliance with the provisions of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) and its Regulations does not necessarily guarantee that the applicant is in compliance with other Regulations and legislation. Other legislation that may be immediately applicable includes, but are not limited to:

- National Monuments Act, 1969 (Act 28 of 1969).
- National Parks Act, 1976 (Act 57 of 1976)
- Environmental Conservation Act, 1989 (Act 73 of 1989)
- National Environmental Management Act, 1998 (Act No. 107 of 1998)
- Atmospheric Pollution Prevention Act, 1965 (Act 45 of 1965)
- The National Water Act, 1998 (Act 36 of 1998)
- Mine Safety and Health Act, 1996 (Act 29 of 1996)
- The Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983).

A.7 WORD DEFINITIONS

In this document, unless otherwise indicated, the following words will have the meanings as indicated here:

Act (The Act)	Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)
Borehole	A hole drilled for the purposes of prospecting i.e. extracting a sample of soil or rock chips by pneumatic, reverse air circulation percussion drilling, or any other type of probe entering the surface of the soil.
CARA	The Conservation of Agricultural Resources Act
EIA	An Environmental Impact Assessment as contemplated in Section 38(1) (b)of the Act
EMP	an Environmental Management Plan as contemplated in Section 39 of the Act
Fauna	All living biological creatures, usually capable of motion, including insects and predominantly of protein-based consistency.
Flora	All living plants, grasses, shrubs, trees, etc., usually incapable of easy natural motion and capable of photosynthesis.
Fence	A physical barrier in the form of posts and barbed wire and/or "Silex" or any other concrete construction, ("palisade"- type fencing included), constructed with the purpose of keeping humans and animals within or out of defined boundaries.
House	any residential dwelling of any type, style or description that is used as a residence by any human being
NDA	National Department of Agriculture
NWA	National Water Act, Act 36 of 1998
Pit	Any open excavation
"Porrel"	The term used for the sludge created at alluvial diamond diggings where the alluvial gravels are washed and the diamonds separated in a water-and-sand medium.
Topsoil	The layer of soil covering the earth which- (a) provides a suitable environment for the germination of seed; (b) allows the penetration of water; (c) is a source of micro-organisms, plant nutrients and in some cases seed; and (d) is not of a depth of more than 0,5 meters or such depth as the Minister may prescribe for a specific prospecting or exploration area or mining area.
Trench	A type of excavation usually made by digging in a line towards a mechanical excavator and not pivoting the boom – a large, U-shaped hole in the ground, with vertical sides and about 6 – 8 meters in length. Also a prospecting trench.
Vegetation	Any and all forms of plants, see also Fauna

B. BIOGRAPHIC DETAILS OF THE APPLICANT:

B 1.1 Full name of company applying for right	**Zolospex (Pty) Ltd**
B 1.2 Co registration number	**2010//007615/07**
B 1.3 Postal address	**P.O. Box 127**
	Port Nolloth
	8280
B 1.4 Physical address	**1804 Kampstraat**
	Mac Douglasbaai
	Port Nolloth 8280
B 1.5 Applicant's telephone number	**027 8518510**
B 1.6 Applicant's cellular phone number	**None**
B 1.7 Alternative contact's name	**J. van der Westhuizen**
B 1.8 Alternative contact's telephone numbers	**082 3544483**
B 2.1 Full name of the property on which prospecting operations will be conducted	**Lot 226 and 262 Vioolsdrift South Settlement**
B 2.2 Name of the subdivision	**None**
B 2.3 Approximate center of prospecting area:	
Latitude	**S28.71103 ° South**
Longitude	**E17.55401° East**
B 2.4 Magisterial district	**Namaqualand**
B 2.5 Name of the registered owner of the property	**State Land Department Public Works**
B 2.6 His Telephone number	
B 2.7 His Postal address	**P.Bag X5002**
	Kimberley
	8300
B 2.8 Current uses of surrounding areas	
Zoned as agricultural land use mainly small stock farming.	
B 2.9 Other, existing land uses that impact on the environment in the proposed prospecting area?	
In some areas the vegetation are intensively grazed and are consequently degraded.	
B 2.10 Name of the nearest town?	
Springbok 72 Km South	

C. ENVIRONMENTAL IMPACT ASSESSMENT:

The information provided in this section will enable officials to determine how serious the impact of the prospecting operation will be.

C.1 DESCRIPTION OF THE ENVIRONMENT LIKELY TO BE AFFECTED BY PROPOSED PROSPECTING OPERATIONS: (REGULATION 52(2)(a))

ENVIRONMENTAL ELEMENT/ IMPACTOR	VALUE	TICK	OFFICE USE
C 1.1 Description of the landscape surrounding the proposed operation.			
Bushmanland veldt with sandy grass plains and scattered rocky granite hills.			
C 1.2 Description of the type of soil found on the surface of the site			
Deep sandy to loamy sands of aeolian origin, underlain by calcrete.			
C 1.3 Depth of topsoil	0 – 300mm		8
	300 – 600mm		4
	600mm +	X	2

C 2.10 Distance of operation from open water	0 – 15m		8
	16 – 30m		6
	31 – 60m		4
	More than 60 metres	X	2
C 2.11 Estimated depth of the water table		60-100	metres
C 2.12 Water per day to be utilize for employees		200	Liters
C 2.13 Toilet facilities to be made available to	None		8
workers?	Pit latrine (longdrop)		4
	Chemical toilet	X	2
C 2.14 Construction of roads to access the operations	Yes		4
	No	X	0
C 2.15 Distance of access road(s) to be constructed	0 – 0,5 km	X	0
from a public road to the proposed operations	0,6 – 1,5 km		2
	1,6 – 3 km		4
C 2.16 Trees to be uprooted to construct these access	Yes		4
road(s)	No	X	0
C 2.17 Foreign material, other than the naturally	Yes		4
occurring topsoil be placed on the road surface?	No	X	0

C.3 TIME FACTOR

C 3.1 Time period that prospecting operations will be	0 – 6 months		2
conducted on this particular site?	6 – 12 months		4
	12 – 18 months		6
	18 – 24 months		8
	>24 months	X	10

C.4 HOW WILL THE PROPOSED OPERATION IMPACT ON THE SOCIO-ECONOMIC ENVIRONMENT? (REGULATION 52(2)(b))

ELEMENT/ IMPACTOR	VALUE	TICK	OFFICE USE
C 4.1 Number of people to be employed	• 6		
C 4.2 Number of men	• 6		
C 4.3 Number of women	• 0		
C 4.4 Where will employees be obtained?	Own		2
	Local	X	4
C 4.5 How many hours per day will employees work?	Sunrise→ Sunset		4
	Less	X	2
	More		8
C 4.6 Will operations be conducted within 1 kilometer	Yes		6
from a residential area	No	X	1
C 4.7 How far will the proposed operation be from the	0 – 50 metres		8
Nearest infrastructure?	51 – 100 metres		4
	150 or more metres	X	2

C.6.6 Soil pollution and erosion control (Regulation 70)
C.6.6.1 Topsoil
The top 300 mm of soil from the excavation trenches will be stored separate from the rest of the overburden close to the excavation site. After the waste and tailings are back filled the overburden will be replaced with the topsoil on top.
6.6.2 Description of how spills of oil, grease, diesel, acid or hydraulic fluid will be dealt with.
Fuel for the earth moving equipment and power plant will be stored in a mobile fuel tanker. Accidental spills will be cleaned up immediately by removing the spillage together with the polluted soil and by disposing of them at a recognised facility. Suitable covered receptacles will be available at all times and conveniently placed for the disposal of waste. All used oils, grease or hydraulic fluids will be placed therein and these receptacles will be removed from the site on a regular basis for disposal at a recognised facility. Equipment used in the prospecting process will be adequately maintained so that during operations it does not spill oil, diesel, fuel, or hydraulic fluid.
6.6.3 Description of the storage facilities available for the above fluids:
Non of the above fluids will be stored on site as the prospecting area is within 2 kilometres from Rooiwal where the necessary infrastructure is available.

C.7 Financial provision: (Regulation 54)

The amount that is necessary for the rehabilitation of damage caused by the operation, both sudden closure during the normal operation of the project and at final, planned closure will be estimated by the regional office of the DME, based on the information supplied in this document (Appendix 3). This amount will reflect how much will it cost the Department to rehabilitate the area disturbed in case of liquidation or abscondence.

Amount of financial provision required : R35 000.00	
Method to furnish DME with this financial provision?	
Cash deposit	
Bank guarantee	X
Trust Fund	
Other: (specify) (Note: other methods must be approved by the Minister)	

C.8 Monitoring and performance assessment.

Regulation 55 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) clearly describes the process and procedure as well as requirements for monitoring and auditing of the performance of this plan to adequately address environmental impacts from the operation.

C.8.1 Description of how the adequacy of this programme will be assessed and how any inadequacies will be addressed. (Regulations 55(1) and 52(2)(e))

I will, on a bi-monthly basis, check every aspect of my operation against the prescriptions given in Section F of this document and, if I find that certain aspects are not addressed or impacts on the environment are not mitigated properly, I will rectify the identified inadequacies immediately. Regular monitoring of all the environmental management measures and components shall be carried out to ensure that the provisions of this program are adhered to.

Inspections and monitoring shall be carried out on both the implementation of the program and the impact on plant and animal life. Visual inspections on erosion and physical pollution shall be carried out on a regular basis.

Layout plans will be updated on a regular basis and updated copies will be submitted on a annual basis to the Regional Manager

Reports confirming compliance with various points identified in the environmental management program will be submitted to the Regional Manager on a regular basis and as decided by the said manager .

Any emergency or unforeseen impact will be reported as soon as possible. An assessment of environmental impacts that were not properly addressed or were unknown when the program was compiled shall be carried out and added as a corrective action.

C.9 Closure and Environmental objectives: (Regulation 52(2)(f))

C.9.1 Intended end use for the area prospected after closing of operations.

The environment affected by the prospecting operations shall be rehabilitated, as far as is practicable, to its natural state. Land use will be the same as before prospecting with the same production with regard to small stock farming. The affected environment shall be maintained in a stable condition that will not be detrimental to the safety and health of humans and animals and that will not pollute the environment or lead to the degradation thereof.

D SCORING OF EIA

D 1.1 CALCULATION TABLE

Section C 1 Total	+	Section C 2 Total	+	Section C 4 Total	+	Section C 5 Total	=	*Subtotal*	X	Time Factor Section C 3	=	Score (Impact rating)
	+		+		+		=		X	10	=	

D 1.2 IMPACT RATING SCALE

SCORE ATTAINED	IMPACT RATING	REMARKS
46 – 300	**Low**	**No additional objectives needed – this program is sufficient**
301 - 800	Medium	Some specific additional objectives to address focal areas of concern may be set.
801 - 1160	High	Major revision of Environmental Management Plan for adequacy and full revision of objectives.

Additional Objectives:
Based on the information provided by the applicant and the regional office's assessment thereof, combined with the interpretation of the scoring and impact rating attained for the particular operation above, the Regional Manager of the regional office of the DME may now determine additional objectives/requirements for the mine owner to comply with. These measures will be specific and will address specific issues of concern that are not adequately covered in the standard version of this document. These requirements are not listed here, but are specified under Section G of this document, so as to form part of the legally binding part of this Environmental Management Plan.

E UNDERTAKING:

I, **J. van der Westhuizen** as representative for **Zolospex (Pty) Ltd**, the applicant for a prospecting right hereby declare that the above information is true, complete and correct. I undertake to implement the measures as described in Sections F and G hereof. I understand that this undertaking is legally binding and that failure to give effect hereto will render me liable for prosecution in terms of Section 98 (b) and 99 (1)(g) of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002). I am also aware that the Regional Manager may, at any time but after consultation with me, make such changes to this plan as he may deem necessary.

Signed on this 29st day of September 2010 at Springbok.

.....
J. vd Westhuizen
Zolospex (Pty) Ltd

F 1.1.3 DEMARCATING THE RIVER CHANNEL AND RIVERINE ENVIRONMENT

The following is applicable if operations are conducted within the riverine environment (See F 3.2):

- Beacons as indicated on the layout plan or as prescribed by the Regional Manager must be erected and maintained in their correct position throughout the life of the operation.
- These beacons must be of a permanent nature during the operations and must not be easily removable, especially those in a river channel. The beacons must, however, be removed at the end of the operations.
- The mining of and prospecting for any mineral shall only take place within this demarcated mining area.
- If riverine vegetation is present in the form of reeds or wetland vegetation, the presence of these areas must be entered in Part C 1.45 of the EMPlan and indicated on the layout plan.
- The holder of the prospecting right will also be required to permanently demarcate the areas as specified in F 1.2.

F 1.2 RESTRICTIONS ON PROSPECTING

- On assessment of the application, the Regional Manager may prohibit the conducting of mining or prospecting operations in vegetated areas or over portions of these areas
- In the case of areas that are excluded from mining or prospecting, no operations shall be conducted within 5 m of these areas.

F 1.3 RESPONSIBILITY

- The environment affected by the prospecting operations shall be rehabilitated by the holder, as far as is practicable, to its natural state or to a predetermined and agreed to standard or land use which conforms with the concept of sustainable development. The affected environment shall be maintained in a stable condition that will not be detrimental to the safety and health of humans and animals and that will not pollute the environment or lead to the degradation thereof.
- It is the responsibility of the holder of the prospecting right to ensure that the manager on the site and the employees are capable of complying with all the statutory requirements which must be met in order to mine, which includes the implementation of this EMP.
- **If operations are to be conducted in an area that has already been disturbed, the holder must reach specific agreement with the Regional Manager concerning the responsibilities imposed upon himself pertaining to the rehabilitation of the area and the pollution control measures to be implemented.**

F 2.2.2 Maintenance of access roads

- In the case of dual or multiple use of access roads by other users, arrangements for multiple responsibility must be made with the other users. If not, the maintenance of access roads will be the responsibility of the holder of the prospecting right.
- Newly constructed access roads shall be adequately maintained so as to minimise dust, erosion or undue surface damage.

F 2.2.3 Dust control on the access and haul roads

- The liberation of dust into the surrounding environment shall be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents. The speed of haul trucks and other vehicles must be strictly controlled to avoid dangerous conditions, excessive dust or excessive deterioration of the road being used.

F 2.2.4 Rehabilitation of access roads

- Whenever a prospecting right is suspended, cancelled or abandoned or if it lapses and the holder does not wish to renew the permit or right, any access road or portions thereof, constructed by the holder and which will no longer be required by the landowner, shall be removed and rehabilitated to the satisfaction of the Regional Manager.
- Any gate or fence erected by the holder which is not required by the landowner, shall be removed and the situation restored to the pre prospecting situation.
- Roads shall be ripped or ploughed, and if necessary, appropriately fertilised (based on a soil analysis) to ensure the regrowth of vegetation. Imported road construction materials which may hamper regrowth of vegetation must be removed and disposed of in an approved manner prior to rehabilitation.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/prospecting operation, be corrected and the area be seeded with a seed mix to the Regional Manager's specification.

F 2.3 OFFICE/CAMP SITES

F 2.3.1 Establishing office / camp sites

- Office and camp sites shall be established, as far as is practicable, outside the flood plain, above the 1 in 50 flood level mark within the boundaries of the prospecting area.
- The area chosen for these purposes shall be the minimum reasonably required and which will involve the least disturbance to vegetation. Topsoil shall be handled as described in F 2.1 above
- No camp or office site shall be located closer than 100 meters from a stream, river, spring, dam or pan.

F 2.3.3 Rehabilitation of the office/camp site

- On completion of operations, all buildings, structures or objects on the camp/office site shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002), which states:

  (1) When a prospecting right, mining right, retention permit or mining permit lapses, is cancelled or is abandoned or when any prospecting or mining operation comes to an end, the holder of any such right or permit may not demolish or remove any building, structure, object -

  (a) which may not be demolished in terms of any other law;
  (b) which has been identified in writing by the Minister for purposes of this section; or
  (c) which is to be retained in terms of an agreement between the holder and the owner or occupier of the land, which agreement has been approved by the Minister in writing.

  (2) The provision of subsection (1) does not apply to bona fide mining equipment which may be removed

- Where office/camp sites have been rendered devoid of vegetation/grass or where soils have been compacted owing to traffic, the surface shall be scarified or ripped.
- Areas containing French drains shall be compacted and covered with a final layer of topsoil to a height of 10cm above the surrounding ground surface.
- The site shall be seeded with a vegetation seed mix adapted to reflect the local indigenous flora.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/prospecting operation be corrected and the area be seeded with a vegetation seed mix to his or her specification.
- Photographs of the camp and office sites, before and during the mining/ prospecting operation and after rehabilitation, shall be taken at selected fixed points and kept on record for the information of the Regional Manager.

F 2.4 VEHICLE MAINTENANCE YARD AND SECURED STORAGE AREAS

F 2.4.1 Establishing the vehicle maintenance yard and secured storage areas

- The vehicle maintenance yard and secured storage area will be established as far as is practicable, outside the flood plain, above the 1 in 50 flood level mark within the boundaries of the prospecting area.
- The area chosen for these purposes shall be the minimum reasonably required and involve the least disturbance to tree and plant life. Topsoil shall be handled as described in F 2.1 above.
- The storage area shall be securely fenced and all hazardous substances and stocks such as diesel, oils, detergents, etc., shall be stored therein. Drip pans, a thin concrete slab or a facility with PVC lining, shall be installed in such storage areas with a view to prevent soil and water pollution.

F 3 OPERATING PROCEDURES IN THE MINING AREA

F 3.1 Limitations on prospecting

- The prospecting for precious stones shall take place only within the approved demarcated mining or prospecting area.
- Prospecting may be limited to the areas indicated by the Regional Manager on assessment of the application.
- The holder of the prospecting right shall ensure that operations take place only in the demarcated areas as described in section F 1.1.2 above.
- Operations will not be conducted closer than one and a half times the height of the bank from the edge of the river channel and in such manner that the stability of the bank of the river is effected.
- Precautions shall also be taken to ensure that the bank of the river is adequately protected from scouring or erosion. Damage to the bank of the river caused by the operations, shall be rehabilitated to a condition acceptable to the Regional Manager at the expense of the holder.
- Restrictions on the disturbance of riverine vegetation in the form of reeds or wetland vegetation must be adhered to. The presence of these areas must be entered in Part of the programme and indicated on the layout plan.

F 3.2 Prospecting operations within the riverine environment

NOTE: The Department of Water Affairs and Forestry may impose additional conditions which must be attached to this EMP. In this regard, please see the Best Practice Guideline for small scale mining developed by DWAF (BPG 2.1)

(available from http://www.dwaf.gov.za)

- The mining of or prospecting for precious stones in the river or the banks of the river will be undertaken only after the Regional Manager has consulted with the Department of Water Affairs and Forestry.
- The canalisation of a river will not be undertaken unless the necessary permission has been obtained from the Department of Water Affairs and Forestry. Over and above the conditions imposed by the said Department, which conditions shall form part of this EMPlan, the following will also apply:

    - ❖ The canalisation of the flow of the river over different parts of the river bed shall be constructed in such a manner that the following are adhered to at all times:

        - ♦ The flow of the river may not be impeded in any way and damming upstream may not occur.
        - ♦ The canalisation of the flow may not result in scouring or erosion of the river-bank.
        - ♦ Well points or extraction pumps in use by other riparian users may not be interfered with and canalisation may not impede the extraction of water at these points.

- An effective control program for the eradication of invader species and other exotic plants, shall be instituted on a regular basis over the entire prospecting area under the control of the holder of the prospecting right, both during prospecting and at the stage of final rehabilitation.

2. THE WATER USE LICENCE

The National Water Act, (Act 36 of 1998), is based on the principles of sustainability, efficiency and equity, meaning that the protection of water resources must be balanced with their development and use.
In addition to being issued with a prospecting right or mining permit a small-scale miner may also need to get a **water use licence** for the proposed water uses that will take place, except in certain cases.
NOTE: The Department of Water Affairs and Forestry (DWAF) developed specific Best Practice Guideline for small scale mining that relates to storm water management, erosion and sediment control and waste management. Copies of these guidelines can be obtained from the regional office of DME or DWAF.
Applications for a water use licence must be made in good time, such that approval can be granted before a water use activity can begin. The appropriate licence forms for each kind of expected water use should be completed together with supporting documentation. The main supporting document required is a technical report. To make the technical report easier, you can refer to sections in this EMPlan, as most of what the technical report requires has already been done in the EMPlan. If you refer to the EMPlan it must be attached to the technical report.

F 3.3 EXCAVATIONS

F 3.3.1 Establishing the excavation areas

- Whenever any excavation is undertaken for the purpose of locating and/or extracting ore bodies of all types of minerals, including precious stone-bearing gravels, the following operating procedures shall be adhered to:

  - ❖ Topsoil shall, in all cases (except when excavations are made in the river-bed), be handled as described in F 2.1 above.
  - ❖ Excavations shall take place only within the approved demarcated prospecting area.
  - ❖ Overburden rocks and coarse material shall be placed concurrently in the excavations or stored adjacent to the excavation, if practicable, to be used as backfill material once the ore or gravel has been excavated.
  - ❖ Trenches shall be backfilled immediately if no ore or precious stone-bearing gravel can be located.

F 3.4.2 Rehabilitation of processing areas

- Coarse natural material used for the construction of ramps must be removed and dumped into the excavations.
- On completion of prospecting operations, the surface of the processing areas especially if compacted due to hauling and dumping operations, shall be scarified to a depth of at least 300mm and graded to an even surface condition and the previously stored topsoil will be returned to its original depth over the area.
- Prior to replacing the topsoil the material that was removed from the processing area will be replaced in the same order as it originally occurred.
- The area shall then be fertilised if necessary to allow vegetation to establish rapidly. The site shall be seeded with a local, adapted indigenous seed mix.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/prospecting operation be corrected and the area be seeded with a seed mix to his or her specification.

F 3.5 TAILINGS DAM(S) (SLIMES DAM)

The permission of the Regional Manager must be obtained should a tailings dam be constructed for the purpose of handling the tailings of the prospecting operations. The construction, care and maintenance of tailings dams have been regulated and the relevant regulation is copied herwith , both for your information and as a guideline to the commisioning, management, operation, closing and aftercare of a tailings deposition facility.

Regulation 73 promulgated under the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) requires the following:

Management of residue stockpiles and deposits

56. *(1)* *The assessment of impacts relating to the management of residue stockpiles and deposits, where appropriate, must form part of the environmental impact assessment report and environmental management programme or the environmental management plan.*

(2) *Residue characterisation*

(a) *Mine residue must be characterised to identify any potentially significant health and safety hazard and environmental impact that may be associated with the residue when stockpiled or deposited at the site(s) under consideration.*

(b) *Residue stockpiles and deposits must be characterised in terms of its –*

(i) *physical characteristics, which may include -*

(aa) *the size distribution of the principal constituents;*

(bb) *the permeability of the compacted material;*

(cc) *void ratios of the compacted material;*

(dd) *the consolidation or settling characteristics of the material under its own weight and that of any overburden;*

(ee) *the strength of compacted material;*

(ff) *the specific gravity of the solid constituents; and*

(gg) *the water content of the material at the time of deposition, after compaction, and at other phases in the life of the deposit.*

(4) *Site selection and investigation:*

(a) *The process of investigation and selection of a site must entail -*
- (i) *the identification of a sufficient number of possible candidate sites to ensure adequate consideration of alternative sites;*
- (ii) *qualitative evaluation and ranking of all alternative sites;*
- (iii) *qualitative investigation of the top ranking sites to review the ranking done in (ii);*
- (iv) *a feasibility study to be carried out on the highest ranking site(s), involving -*
  - (aa) *a prelimenary safety classification;*
  - (bb) *an environmental classification;*
  - (cc) *geotechnical investigations; and*
  - (dd) *groundwater investigations.*

(b) *The geotechnical investigations may include-*
- (i) *the characterization of the soil profile over the entire area to be covered by the residue facility and associated infrastructure to define the spatial extent and depth of the different soil horizons;*
- (ii) *the characterization of the relevant engineering properties of foundations soils and the assessment of strength and drainage characteristics.*

(c) *The groundwater investigations may include-*
- (i) *the potential rate of seepage from the residue facility;*
- (ii) *the quality of such seepage;*
- (iii) *the geohydrological properties of the strata within the zone that could potentially be affected by the quality of seepage;*
- (iv) *the vulnerability and existing potential use of the groundwater resource within the zone that could potentially be affected by the residue facility.*

(d) *From these investigations, a preferred site must be identified.*

(e) *Further investigation on the preferred site, shall include –*
- (i) *land use;*
- (ii) *topography and surface drainage;*
- (iii) *infrastructure and man-made features;*
- (iv) *climate;*
- (v) *flora and fauna;*
- (vi) *soils;*
- (vii) *ground water morphology, flow, quality and usage; and*
- (viii) *surface water.*

(f) *The investigations, laboratory test work, interpretation of data and recommendations for the identification and selection of the most appropriate and suitable site for the disposal of all residue that have the potential to generate leachate that could have a significant impact on the environment and groundwater must be carried out by a suitably qualified person.*

(5) *Design of residue stockpile and deposit*

(a) *The design of the residue stockpile and deposit shall be undertaken by a suitably qualified person.*

(b) *An assessment of the typical soil profile on the site is required for residue stockpiles and deposits which -*
- (i) *have a low hazard potential; and*
- (ii) *have no significant impact on the environment.*

(c) *The design of the residue stockpile and deposit must take into account all phases of the life cycle of the stockpile and deposit, from construction through to closure and must include –*

(vii) *details of rehabilitation of the residue deposit be provided in the draft environmental management program or environmental management plan.*

(b) *A system of routine maintenance and repair in respect of the residue deposit must be implemented to ensure the ongoing control of pollution, the integrity of rehabilitation and health and safety maters at the site.*

(7) *Monitoring of residue stockpiles and deposits:*

(a) *A monitoring system for residue stockpiles and deposits with respect to potentially significant impacts as identified in the environmental assessment must be included in the environmental management program or environmental management plan.*

(b) *In the design of a monitoring system for a residue stockpile or deposit, consideration must be given to –*

(i) *baseline and background conditions with regard to air, surface and groundwater quality ;*
(ii) *the air, surface and groundwater quality objectives;*
(iii) *residue characteristics;*
(iv) *the degree and nature of residue containment;*
(v) *the receiving environment and specifically the climatic, local geological, hydro-geological and geo-chemical conditions;*
(vi) *potential migration pathways;*
(vii) *potential impacts of leachate;*
(viii) *the location of monitoring points and the prescribed monitoring protocols; and*
(ix) *the reporting frequency and procedures.*

(8) *Decommissioning, closure and after care:*

(a) *The decommissioning, closure and post closure management of residue deposits must be addressed in the closure plan, which must contain the following -*

(i) *the environmental classification, including assumptions on which the classification were based;*
(ii) *the closure objectives, final land use or capability;*
(iii) *conceptual description and details for closure and post closure management;*
(iv) *cost estimates and financial provision for closure and post-closure management; and*
(v) *residual impacts, monitoring and requirements to obtain mine closure in terms of the Act.*

F 3.6 FINAL REHABILITATION

- All infrastructure, equipment, plant, temporary housing and other items used during the mining period will be removed from the site (section 44 of the MPRDA)
- Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the mining area and disposed of at a recognised landfill facility. It will not be permitted to be buried or burned on the site.
- Final rehabilitation shall be completed within a period specified by the Regional Manager.

(b) *submit relevant supporting information; and/or*
(c) *appoint an independent competent person(s) to conduct the whole or part of the performance assessment and to compile the report.*

(7) *If a reasonable assessment indicates that the performance assessment cannot be executed satisfactorily by the holder or a competent person(s) appointed by the holder, the Minister may appoint an independent performance assessment person(s) to conduct such performance assessment. Such appointment and execution shall be for the cost of the holder.*

(8) *When the holder of a prospecting right, mining right or mining permit intends closing such operation, a final performance assessment shall be conducted and a report submitted to the Minister to ensure that -*
(a) *the requirements of the relevant legislation have been complied with;*
(b) *the closure objectives as described in the environmental management program or plan have been met; and*
(c) *all residual environmental impacts resulting from the holder's operations have been identified and the risks of latent impacts which may occur have been identified, quantified and arrangements for the management thereof have been assessed.*

(9) *The final performance assessment report shall either precede or accompany the application for a closure certificate in terms of the Act.*

F 4.2 Compliance reporting / submission of information

- Layout plans will be updated on a regular basis and updated copies will be submitted on a biennial basis to the Regional Manager
- Reports confirming compliance with various points identified in the environmental management program will be submitted to the Regional Manager on a regular basis and as decided by the said manager .
- Any emergency or unforeseen impact will be reported as soon as possible.
- An assessment of environmental impacts that were not properly addressed or were unknown when the program was compiled shall be carried out and added as a corrective action.

F 5 CLOSURE

When the holder of a prospecting right, mining permit or reconnaissance permission intends closing down his/her operations, an environmental risk report shall accompany the application for closure. The requirements of such a risk report is contained in Regulation 60 of the Regulations promulgated in terms of the Act and is quoted below :

F 5.1 ENVIRONMENTAL RISK REPORT

"An application for a closure certificate must be accompanied by an environmental risk report which must include-
(a) *the undertaking of a screening level environmental risk assessment where-*
(i) *all possible environmental risks are identified, including those which appear to be insignificant;*
(ii) *the process is based on the input from existing data;*
(iii) *the issues that are considered are qualitatively ranked as –*
(aa) *a potential significant risk; and/or*
(bb) *a uncertain risk; and/or*
(cc) *an insignificant risk.*
(b) *the undertaking of a second level risk assessment on issues classified as potential significant risks where-*
(i) *appropriate sampling, data collection and monitoring be carried out;*
(ii) *more realistic assumptions and actual measurements be made; and*
(iii) *a more quantitative risk assessment is undertaken, again classifying issues as posing a potential significant risk or insignificant risk.*

F 5.4 TRANSFER OF ENVIRONMENTAL LIABILITIES TO A COMPETENT PERSON

Should the holder of a prospecting right, mining permit or reconnaissance permission wish to transfer any environmental liabilities and responsibilities to another person or persons, the following will pertain:

(1) An application to transfer environmental liabilities to a competent person in terms of section 48) of the Act, must be completed on Form O as set out in Annexure 1 to the Regulations and be lodged to the Minister for consideration.

(2) The holder of a prospecting right, mining right or mining permit may transfer liabilities and responsibilities as identified in the environmental management plan and the required closure plan to a competent person as contemplated in Regulation 58.

(3) When considering the transfer of environmental liabilities and responsibilities in terms of section 48) of the Act, the Minister must consult with any State department which administers any law relating to matters affecting the environment.

(4) No transfer of environmental liabilities and responsibilities to a competent person may be made unless the Chief Inspector of Mines and the Department of Water Affairs and Forestry have confirmed in writing that the person to whom the liabilities and responsibilities is transferred to, have the necessary qualifications pertaining to health and safety and management of potential pollution of water resources.

F 5.5 NOTES ON LEGAL PROVISIONS

NOTE: The holder of a prospecting right, mining permit or reconnaissance permission must also take cognisance of the provisions of other legislation dealing with matters relating to conservation, and which include, *inter alia*, the following:

* National Monuments Act, 1969 (Act 28 of 1969).
* National Parks Act, 1976 (Act 57 of 1976)
* Environmental Conservation Act, 1989 (Act 73 of 1989)
* National Environmental Management Act, 1998 (Act No. 107 of 1998)
* Atmospheric Pollution Prevention Act, 1965 (Act 45 of 1965)
* The National Water Act, 1998 (Act 36 of 1998)
* Mine Safety and Health Act, 1996 (Act 29 of 1996)
* The Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983).

H. UNDERTAKING

I, **J. van der Westhuizen**, on behalf of **Zolospex (Pty) Ltd** have studied and understand the contents of this document in it's entirety and hereby duly undertake to adhere to the conditions as set out therein including the amendment(s) agreed to by the Regional Manager in Section G and approved on .....

Signed at Springbok this 29st day of September 2010

.....
J. vd Westhuizen
Zolospex (Pty) Ltd

J. APPROVAL

Approved in terms of Section 39(4) of the Mineral and Petroleum Resources Development Act, 2002 (Act 29 of 2002)

Signed at.....this.....day

of.....2010

.....
REGIONAL MANAGER

REGION: Northern Cape

This document has been compiled by the Directorate: Mine Environmental Management of the Department of Minerals and Energy at their Head Office in Pretoria. Any comments, suggestions or inputs will be sincerely appreciated. If you have any comments or suggestions regarding this document or its application, please forward your contribution to:

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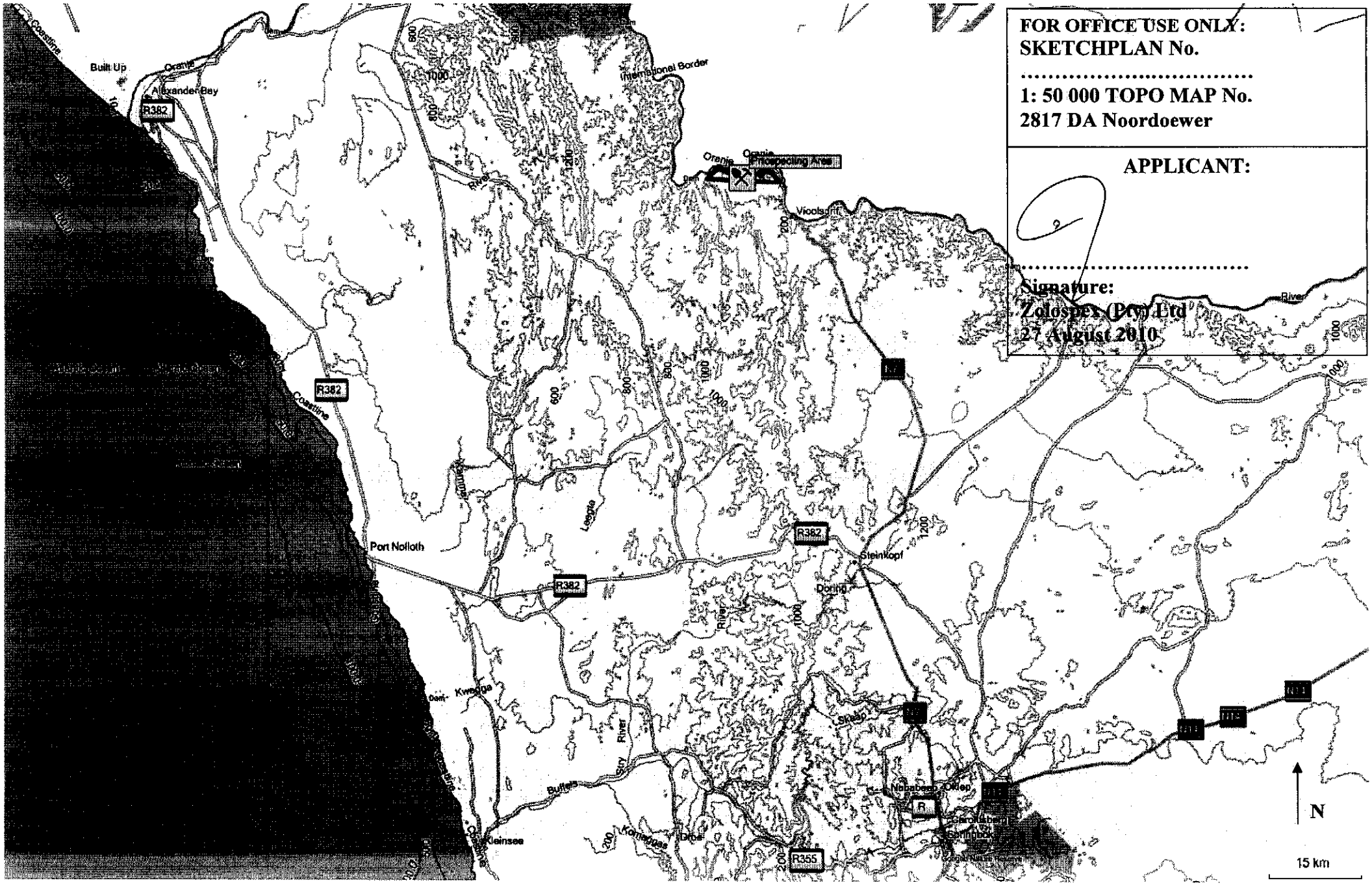
Private Bag X 59
PRETORIA
0001

Tel : 012 317 9288
Fax: 012 320 6786
E-mail: dorothy@mepta.pwv.gov.za

APPENDIX 1a Locality plan

contemplated in regulation 2(2) read with regulation 2(3) of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)



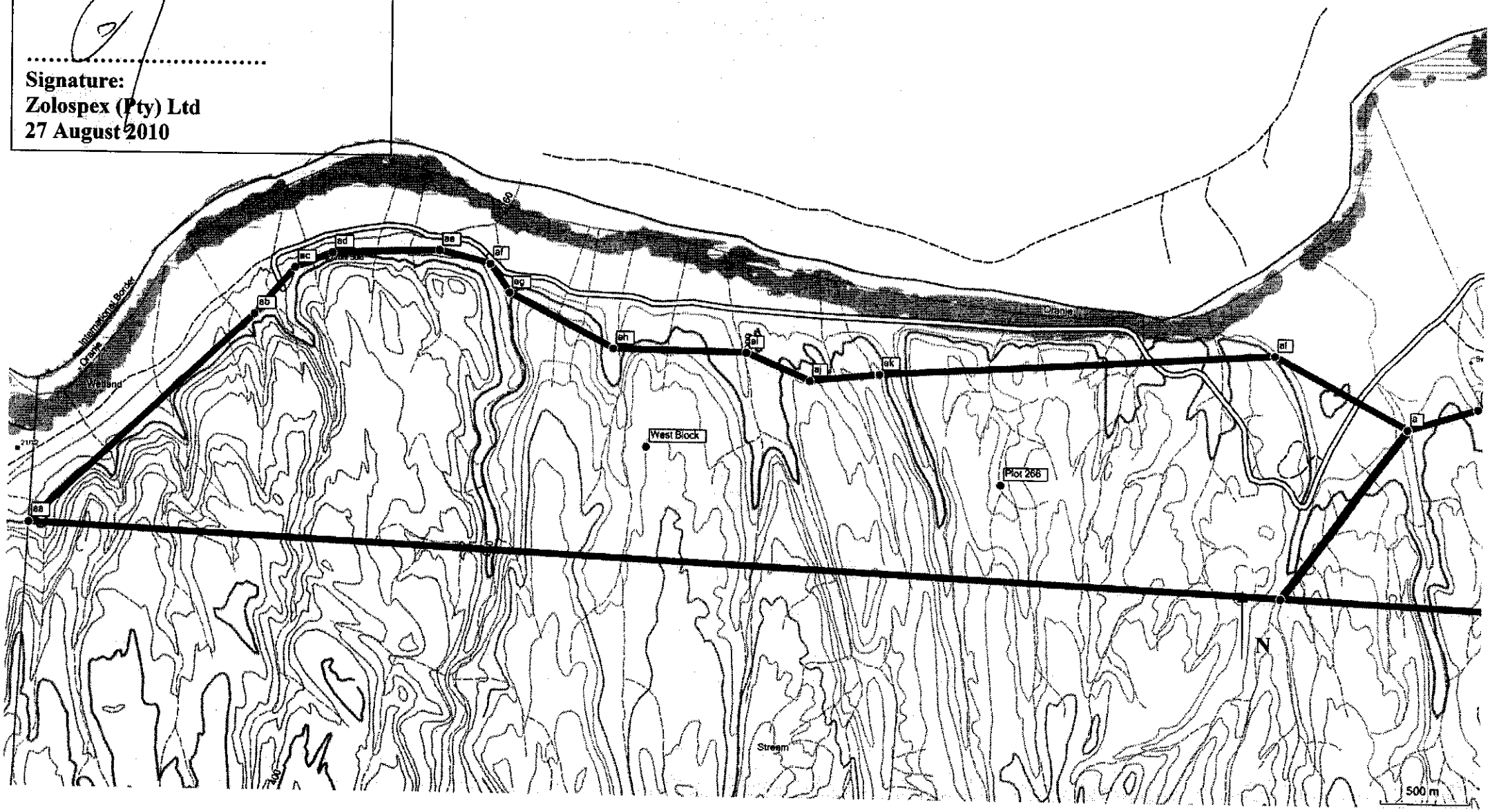
APPENDIX 1b-1 Layout plan West Block

contemplated in regulation 2(2) read with regulation 2(3) of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)

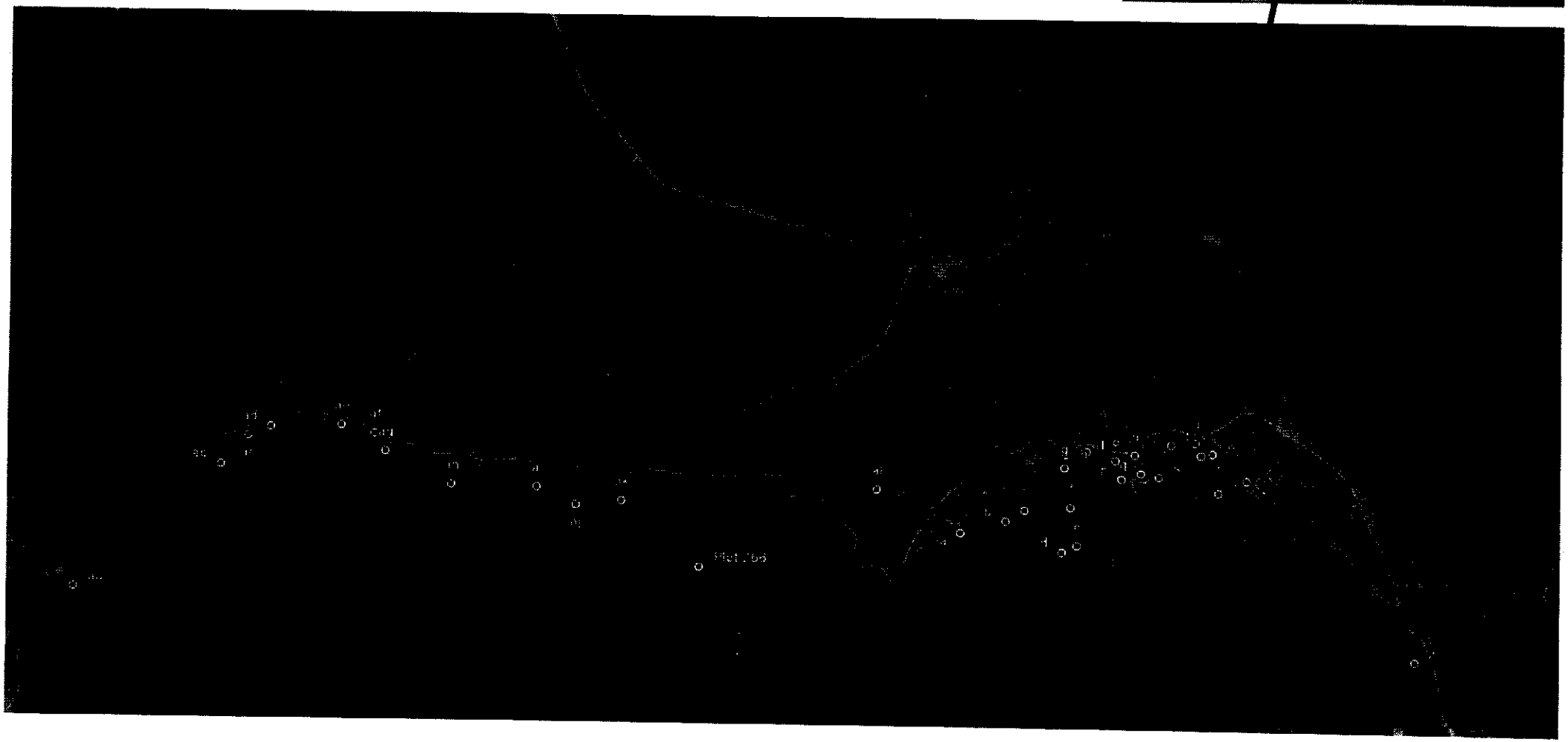
APPLICANT:

.....

Signature:
Zolospex (Pty) Ltd
27 August 2010



APPENDIX 1b-3 Landscape



Appendix 2: Prospecting work program
(as contemplated in regulation 7, of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)

Index

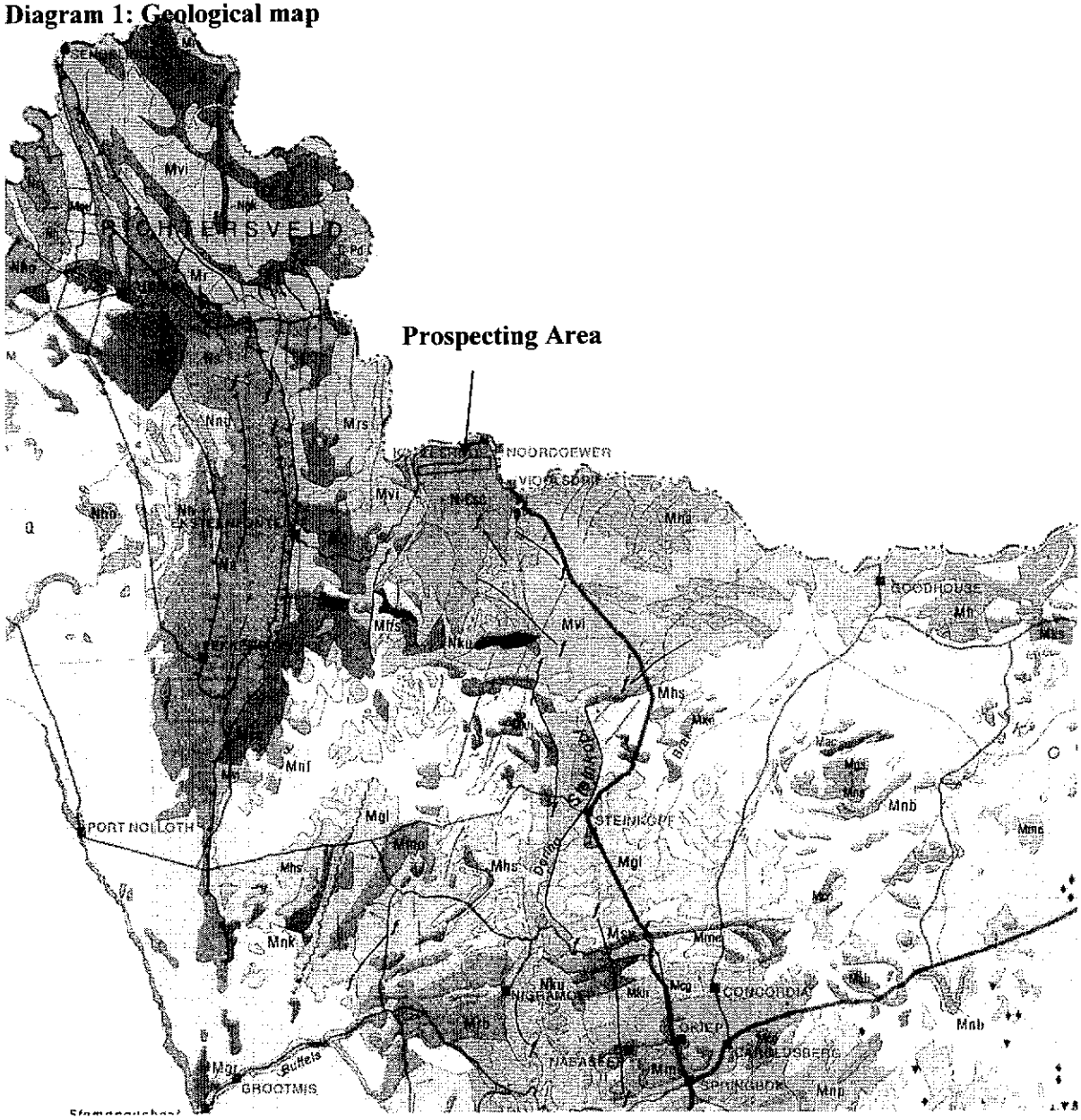
5. Geological description of the land (Reg. 7(1)(e))

The rocks are predominantly hybrid migmatites with granites/granodiorites and minor maffic intrusives such as gabbro's and diorites in the form of sills and dykes. Continuing East, granite and granitoid emplacements predominate and are then replaced by metamorphosed schists and phyllites. In all instances the grade of metamorphism shows a strong decline in intensity from West to East.

With the exception of the dykes, all these rocks are Precambrian in age and form part of the Kheis System of the Namaqua Metamorphic Complex. There are a great many lithological types, many of which grade into one another and are genetically related. It is evident that there were a number of phases of intrusion and metamorphism (diagram 1).

Pegmatite dyke swarms are stand-out features in the mafics, migmatites and older granite suites. These are largely the homogeneous, unzoned types, with occasional zoned bodies carrying classical mineralisation and sometimes radioactive minerals.

Diagram 1: Geological map



necessitate different prospecting methods. The geophysical data from the survey will be captured on a large-scale map, which can then be superimposed on the geological database.
All geological, geophysical and topographic information will be captured in electronic format. This will allow for the superimposition of the various layers of information (geology, geophysics and topography) and will form the basis for the interpretation of the information generated, resulting in the further definition of the potential 3D spatial distribution of the ore body if any. Upon completion of the data capture, a model will be generated defining the spatial distribution of the bedrock, the ore and the barren overburden. This will allow for the accurate re-calculation of the total tonnage of the potentially economic mineralisation and hence determination of resources and reserves.
As a further measure of target refinement geochemical soil sampling grids will be laid out over selected target areas. A baseline orientation survey will be initially undertaken to identify the major and minor pathfinder elements as well as the optimum soil horizon to sample. Soil samples will be taken from either the "B" or "C" soil horizon (as determined by the orientation survey) on a 200m by 200m grid straddling screened anomalies and microscopically analysed for mineralisation. Select samples maybe submitted for chemical assay.

6.2 Invasive exploration for diamonds

a) Prospecting pits

(Phase 2)

The initial geo-physical work will be followed by a sampling phase (prospecting pits on a wide-spaced grid 400 X 400m) to test for the presence of suitably developed host-sedimentary gravels on potential targets and to broadly delineate the ore-body if any.

b) Bulk sampling

(Phase 3)

Once suitable targets have been identified, a reconnaissance phase of bulk sampling is required to test the gravels for mineralisation. This will be carried out by trenching to supplement the sampling program depending on the results and where depth constraints will allow. Prospecting trenches planned to cross the entire width of possible gravel terraces therefore of variable length and up to 5 meters wide and 10m in depth may be excavated to allow a Diamond Ore Characterization (DOC) study for metallurgical purposes and to allow the sufficient recovery of diamonds for evaluation and foot printing purposes.
The number of trenches will be determined by the number of potential terraces. The layout plans will be updated together with regular performance assessments and an update of the financial provisions in place for rehabilitation as the prospecting program advances.
Trenching will be conducted by mechanical means with a 30-ton excavator. The topsoil and overburden comprising approximately 80% of the volume will be placed on the banks of the trenches in windrows and the gravel will be removed to the plant area with B30 dumpers or Articulated Dump Trucks (ADTs). The position of the plant will be determined relative to the position of the trenches.
Gravel removed from the trenches will be stockpiled near the plant area for analyses and treatment. The extent of the stockpiles will never exceed 200m^3. All material larger the 75mm will be seen as coarse waste or over-size material. Back filling of over-size material will be conducted simultaneously with the hauling of the unprocessed gravel.

using a diamond-impregnated core-cutting saw. The resultant exposed faces are again studied for additional geological information and saw cuts perpendicular; to the core are marked and cut. Sample lengths must yield sufficient sample weight for the required assay procedure. As noted above, these perpendicular cuts are arranged such that each sub-unit of the mineralized zone is represented in the same number of samples in each intersection of the same borehole (i.e. between the original hole intersection and deflections). The front-facing half of the core is submitted for assay, bagged and labeled outside and inside the bag. Sample numbers and the top and bottom depths of the samples are written on the lower half of the core with permanent marker.
Investigations into selective mining, gravity concentration and radiometric sorting will be undertaken in order to upgrade the ROM ore prior to hydrometallurgical leaching, precipitation and IX processes.

c) Feasibility study
(Phase 5)
It is natural that any program such as this culminates with an overall feasibility study and is included here as the last major section of work.
During the final year a host of additional studies will need to be completed in order for an informed decision to be made on whether or not to proceed with operations. Aside from all the information already discussed in both non-invasive and invasive prospecting, the main elements of these studies would have to include:

- reserves/resource calculations and ore body modeling
- process route and flow diagrams
- mine planning and scheduling
- plant layout and design
- services and consumables suppliers
- transport and logistics
- capital and operating cost estimation
- staffing and manpower requirements
- financial modeling and financing
- legal issues, tenders, contracts, etc.

This is a highly summarized, main points only, listing of the inputs for the main feasibility work which would need to be covered prior to any future application for a mining right. Much of this work would be carried out after the completion of all field work and would amount to office work by high skilled professionals. Consequently while others costs decline in the final year, the cost of consultants is greatly increased.
Should the feasibility study merit a continuation of prospecting then the final field investigative stage is likely to involve some trenching. This method offers the best exposure of the geology and also would provide sufficient ore for treatment. The excavations should be relatively shallow. Once an area is mined and cleaned, it would be marked off, backfilled and restored to its original state.
Any trenching phase will require the treatment of ore in some volume, which would undergo testing off site (probably a metallurgical laboratory in or around Johannesburg). The actual tonnages to be treated exclude the removal of the soil overburden, which would be set aside for later rehabilitation. Barren overburden would also be stacked at marked sites for backfilling. At this stage a contractor is expected to be appointed who will operate under the guidance of the Company's process engineer and who will carry out operations during this prospecting phase. Grade information will be generated and verify the earlier sampling results by treating samples through the smaller scale recovery circuit utilizing the same

Analyzing and treatment of gravel
Estimated expenditure: based on 1 trench

a) Direct prospecting costs– sampling and processing	
Excavation of prospecting trench 5 000m³ @ R20/m³	R100 000.00
b) Labor costs	
Part of excavation fees	R 0.00
c) Rehabilitation and management of environmental impacts	
Updating EMP and performance assessment	R 5 000.00
Rehabilitation of prospecting trench	R 10 000.00
Total	**R 115 000.00**

7.4 Phase 4 (Year 4)

Performance assessment and update of quantum of financial provision for rehabilitation.
Demarcation of drill traverses and updating of layout plans.
Transport and installation of drilling equipment
Percussion drilling 200 by 200m grids only on selected targets
Drilling average 40 meter deep
Analyzing and capturing of data.
Diamond drilling one hole per selected target
Drilling average 180 meter deep
Metallurgical test work on drill cuttings
Rehabilitation of drilling traverses.
Estimated expenditure: Based on 2 targets with 20 Percussion and one diamond holes per target:

a) Direct prospecting costs	
Drilling contractor (1960m drilling @ R130.00/m)	R254 800.00
Geo-consultants (Analyzing and capturing of data.)	R 20 000.00
b) Labor costs	
c) Rehabilitation and management of environmental impacts	
Rehabilitation of drilling traverses. (Labor only)	R 10 000.00
Updating EMP and performance assessment	R 5 000.00
Total	**R289 800.00**

7.5 Phase 5 (Year 5)

Overall feasibility study
Additional studies in order for an informed decision to be made on whether or not to proceed with operations including:

- reserves/resource calculations and ore body modeling
- process route and flow diagrams
- mine planning and scheduling
- plant layout and design
- services and consumables suppliers
- transport and logistics
- capital and operating cost estimation
- staffing and manpower requirements
- financial modeling and financing
- legal issues, tenders, contracts, etc.

9. Permission to remove and dispose of minerals

Zolospex (Pty) Ltd hereby wish to apply for written permission in terms of Section (20) to remove and dispose for its own account of bulk samples of diamonds found in the course of prospecting operations conducted pursuant to such prospecting right.

10. Undertaking

I, the undersigned **Johan van der Westhuizen** duly authorized thereto by **Zolospex (Pty) Ltd** (appendix 7) hereby undertake to adhere to the proposals as set out in this prospecting work program and to accept full responsibility for the successful completion of the prospecting program in a healthy and safe manner.

J. van der Westhuizen
Zolospex (Pty) Ltd

APPENDIX 3: ESTIMATED REHABILITATION COST

The area will be rehabilitated with the original land use namely small stock farming in mind and the productivity of the area after closure will be the same as before prospecting operations started.
Rehabilitation cost was estimated with the proposed end-state in mind and was calculated according to the categories listed in section F of the EMP. Although the applicant have his own equipment the tariffs for equipment was based on local hiring tariffs in Springbok the closest large centre.

Rehabilitation of access roads

No access roads will be constructed by the holder of the permit only existing farm roads will be used. The rehabilitation of drill lines will form part of the rehabilitation of excavation areas.
Cost of rehabilitation: **R0.00**

Rehabilitation of the office/camp site

No campsite will be establish temporary housing will be obtained on one of the plots in Rooiwal.
Cost of rehabilitation: **R0.00**

Rehabilitation of vehicle maintenance yard and secured storages areas

No vehicle maintenance yard and secured storages areas will be constructed during the drilling phase. If and when trenching is started a vehicle maintenance yard and secured storages areas will be negotiated at one of the many old unused farmsteads in Rooiwal.
Cost of rehabilitation: **R0.00**

Rehabilitation of excavation areas

The goal of rehabilitation with respect to the area is to leave the area level and even, and in a natural state to accomodate natural revegetation and containing no foreign debris or other materials.
All scrap and other foreign materials will be removed from the area and disposed of as in the case of other refuse whether these accrue directly from the prospecting operation or are brought on to the site from outside. Over burden and coarse material removed from the drill holes and/or excavation will be used to fill the excavations.
Once over burden have been backfilled the excavations will be profiled with acceptable contours and erosion control measures, the topsoil previously stored, will be returned to its original depth over the area to fasilitate natural regrowth.
<u>Rehabilitation of core drilling traverses.</u>
Rehabilitation of percussion core drilling holes will take place on a continious basis as results became available. Rehabilitation cost is calcutated for manual labour asuming that there will be 50 un-rehabilitated holes present at any given time (worst case scenario).

- Number of holes for back filling: 100
- Duration of rehabilitation: (2 holes/h) 50 hours.
- Equipment required:

Manual labour @ R50.00/h for backfilling R2 500.00

Rehabilitation of trenches.

Rehabilitation bulk sample trenches will also take place on a continious basis as results became available. Rehabilitation cost is calcutated asuming that there will be 1 un-rehabilitated trenche (100 X 8 X 4 m) present at any given time.

- Volume of earth for back filling: 3200 m^3
- Duration of rehabilitation: @200m^3/h 16 hours.
- Equipment required:

966 Front end loader for back filling 16 h X R450.00/h	R 7 500.00
Manual labour @ R50.00/h for cleanup	R 5 000.00
Lowbed for transport of equipment 200 Km @ R20./Km	R 5 000.00
Cost of rehabilitation :	**R 20 000.00**

Final rehabilitation

Existing farm roads will be used by the drill and where not possible the new road will be kept to a minimum. The roads will be rehabilitated by hand as part of final rehabilition. All infrastructure, equipment, and other items used during the prospecting period will be removed from the site.

Extent: 320Ha

- Duration of rehabilitation: 20 hours.
- Equipment require:

Manual labor for cleanup and closing of roads	R 5 000.00
Cost of rehabilitation:	**R 5 000.00**

Rehabilitation of processing areas

No processing will take place on site. If and when trenching is done the volume of concentrate will increase. Concentrate will be screened on site and rough will be backfilled. The rest will also be hauled to the plant and medium to fine residue will be hauled back on the return trip for backfilling.

Cost of rehabilitation: R0.00

Total cost of rehabilitation :

Rehabilitation of access roads	R 0.00
Rehabilitation of the office/camp site	R 0.00
Rehabilitation of vehicle maintenance yard and storages areas	R 0.00
Rehabilitation of drilling traverses	R 2 500.00
Rehabilitation of trenches	R 20 000.00
Final rehabilitation	R 5 000.00
Rehabilitation of processing areas	R 0.00
Total	**R 27 500.00**

The applicant is willing to escalate the estimated amount of R 27 500.00 that is needed for rehabilitation to **R30 000.00**. Financial provision required under Regulation 54 for the amount of **R30 000.00** that is more than is needed for the rehabilitation of damage caused by the operation, both at sudden closure during the normal operation of the project or at final, planned closure will be furnish to DME. The quantum of financial provision will be updated annually with the performance assessment and also before commencing with bulk sampling depending on the results of prospecting. If at any stage the outstanding rehabilitation is more than this estimation the quantum of financial provision will be updated.