mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

NAME OF APPLICANT: ODORI INVESTMENTS (PTY) LTD

REFERENCE NUMBER: (NC) 30/5/1/1/2/10905 PR

ENVIRONMENTAL MANAGEMENT PLAN

SUBMITTED
IN TERMS OF SECTION 39 AND OF REGULATION 52 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002,
(ACT NO. 28 OF 2002) (the Act)

JULY 2013

STANDARD DIRECTIVE

Applicants for prospecting rights or mining permits, are herewith, in terms of the provisions of Section 29 (a) and in terms of section 39 (5) of the Mineral and Petroleum Resources Development Act, directed to submit an Environmental Management Plan strictly in accordance with the subject headings herein, and to compile the content according to all the sub items to the said subject headings referred to in the guideline published on the Departments website, within 60 days of notification by the Regional Manager of the acceptance of such application. This document comprises the standard format provided by the Department in terms of Regulation 52 (2), and the standard environmental management plan which was in use prior to the year 2011, will no longer be accepted.

IDENTIFICATION OF THE APPLICATION IN RESPECT OF WHICH THE ENVIRONMENTAL MANAGEMENT PLAN IS SUBMITTED.

ITEM	COMPANY CONTACT DETAILS
Name	**Odori Investments (Pty) Ltd**
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Fax no:	**086 636 0731**
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Postal address	**P.O. Box 2473** **Kimberley** **8300**

ITEM	CONSULTANT CONTACT DETAILS (If applicable)
Name	**M&S Consulting**
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Fax no:	**086 636 0731**
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E-mail address	**ms.consulting@vodamail.co.za**
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1 REGULATION 52 (2): Description of the environment likely to be affected by the proposed prospecting or mining operation

1.1 The environment on site relative to the environment in the surrounding area.

Figure 1 - Google image showing environment surrounding the application area.

It should be noted that this Google image is dated 8 July 2005 (the newest image available to date).

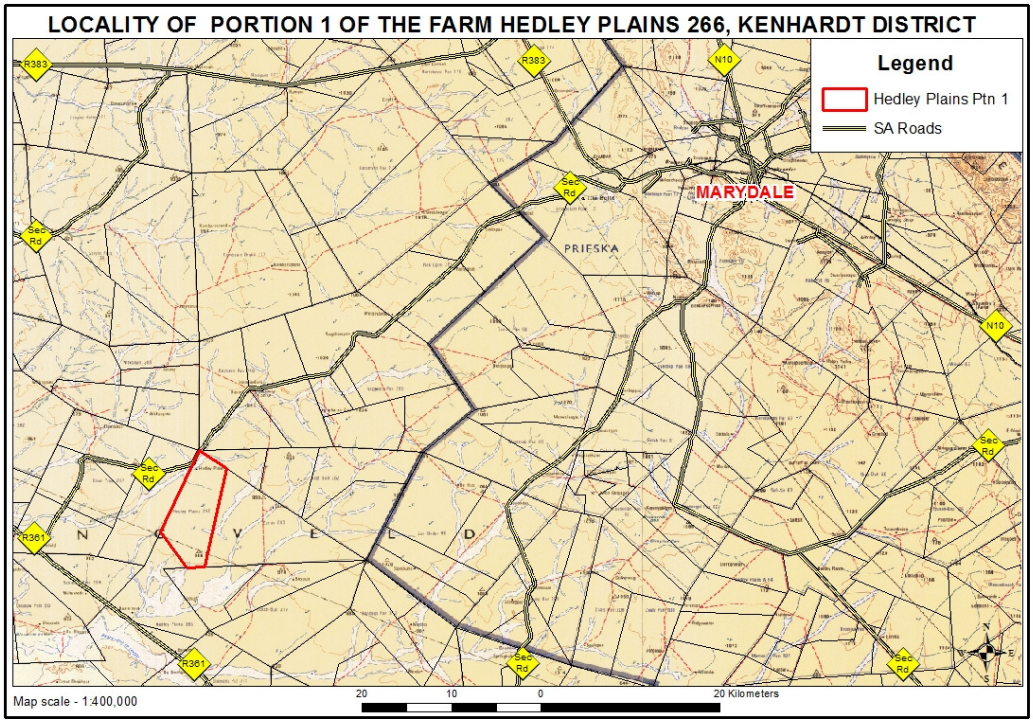


Figure 2 – Locality of the application area

- Air Quality:

  Existing source:
  Current sources of impacts on air quality are:-
  - Dust from the public gravel roads transecting the property.
  - Dust from the secondary gravel roads (farm roads) in the area utilized by farm owners for access to and on their farms.
  - Dust from whirl winds (dust devils) which are common in the area.
  - Dust induced by wind and wind gusts.

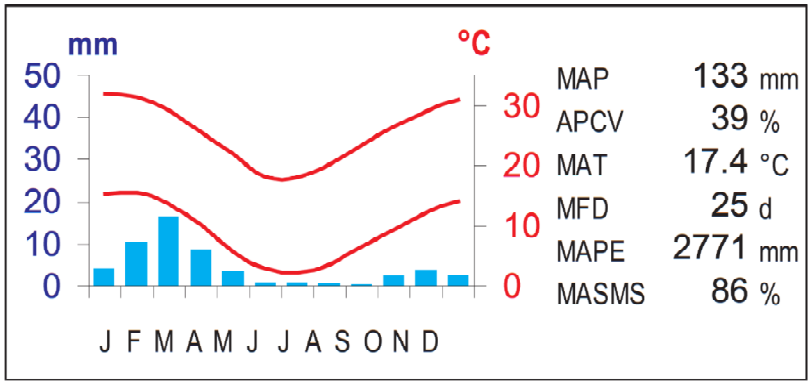
  The general air quality on the property is expected to be good.

  New source:
  The main anticipated source of additional impact on the air quality in the area will be from the drilling activities that are planned for the prospecting operation.

- Climate:

  Rainfall largely occurs in late summer / early autumn (major peak) and very variable from year to year. MAP ranges between 70mm and 200mm. Mean maximum and minimum monthly temperatures various between 40℃ for January and -4℃ for July. Frost incidence ranges from around 10 to about 35 frost days per year. Whirl winds (dust devils) are common on hot summer days.

NKb 3 Bushmanland Arid Grassland



Note: The blue bars show the median monthly precipitation. The upper and lower red lines show the mean daily maximum and minimum temperature respectively. MAP: Mean Annual Precipitation; APCV: Annual Precipitation Coefficient of Variation; MAT: Mean Annual Temperature; MFD: Mean Frost Days (days when screen temperature was below 0℃), MAPE: Mean Annual Potential Evaporation; MASMS: Mean Annual Soil Moisture Stress (% of days when evaporative demand was more than double the soil moisture supply).

- Fauna:

The following animal species can occur on the area:

Description	Scientific Name
Aardvark	*Orycteropus afer*
Black-backed Jackal	*Canis mesomelus*
Cape Hare	*Lepus capensis*
Caracal	*Felis caracal*
Chacma baboon	*Papio ursinus*
Common grey duiker	*Sylvicapra grimmia*
Kudu	*Tragelaphus strepsiceros*
Rock dassie	*procavia capensis*
Scrub monkey	*Cercopithecus aethiops*
Aardwolf	*Proteles cristatus*
Slender Mongoose	*Galerella sanguinea*
Grey mongoose	*Galerella pulverulenta*
Ground squirrel	*Xerus inauris*
Small-spotted Genet	*Genetta genetta*
Porcupine	*Hystrix aficaeaustralis*
Tortoise	*Testudinidae geochelone*

- Flora:

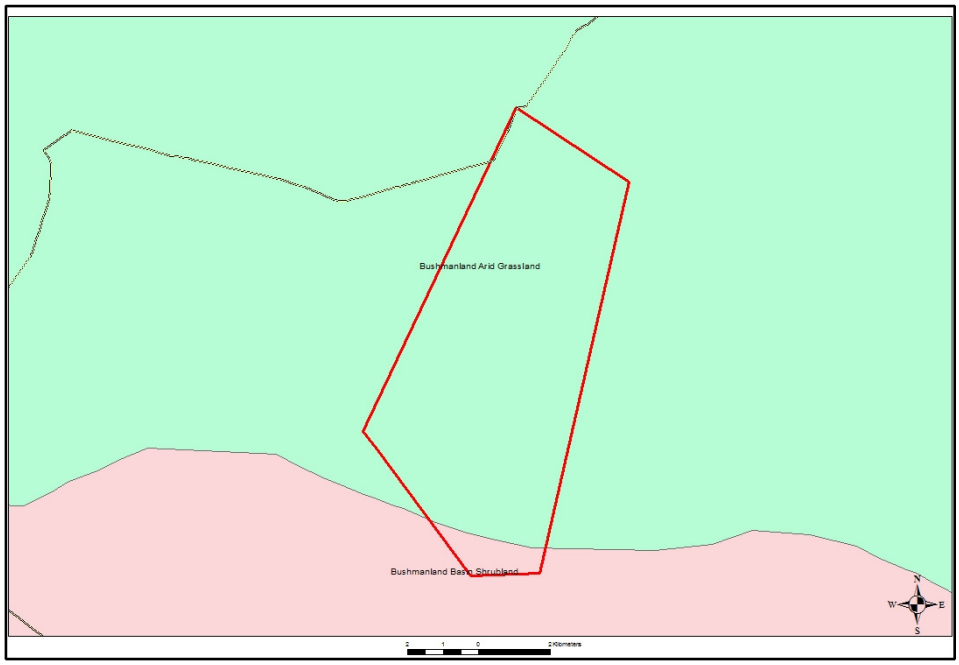


Figure 3 - Vegetation Map

The area under application falls within the Bushmanland Arid Grassland Vegetation type, part of the Nama-Karoo Biome (Nkb 3). The vegetation type consists of extensive to irregular plains on a slightly sloping plateau sparsely vegetated by grassland dominated by white grasses giving this vegetation type

the character of semi-desert 'steppe'. In places low shrubs of *Salsola* change the vegetation structure. In years of abundant rainfall rich displays of annual herbs can be expected.

This vegetation type is least threatened with erosion potential varying between 33% (low) to 60% (very low).

- Graminoids:
  Aristida adscensionis (d), *A. congesta* (d), *Enneapogon desvauxii* (d), Eragrostis nindensis (d), *Schmidtia kalahariensis* (d), *Stipagrostis ciliate* (d), *S. obtuse* (d), *Cenchrus ciliaris*, *Enneapogon scaber*, *Eragrostis annulata*[E], *E. porosa*[E], *E. procumbens*, *Panicum lanipes*[E], *Setaria verticillata*[E], *Sporobolus nervosus*, *Stipagrostis brevifolia*[W], *S. uniplumis*, *Tragus berteronianus*, *T. racemosus*[E].

- Small Trees:
  Acacia mellifera subsp. *detinens*[E], *Boscia foetida* subsp. *foetida*.

- Tall Trees:
  Boscia albitrunca

- Tall Shrubs:
  Lycium cinereum (d), *Rhigozum trichotomum* (d), *Cadaba aphylla*, *Parkinsonia Africana*.

- Low Shrubs:
  Aptosimum spinescens (d), *Hermannia spinosa* (d), *Pentzia spinescens* (d), *Aizoon asbestimum*[E], *A. schellenbergii*[E], *Aptosimum elongatum*, *A. lineare*[E], *A. marlothii*[E], *Barleria rigida*, *Berkheya annectens*, *Blepharis mitrata*, *Eriocephalus ambiguus*, *E. spinescens*, *Limeum aethiopicum*, *Lophiocarpus polystachyus*, *Monechma incanum*, *M. spartioides*, *Pentzia pinnatisecta*, *Phaeoptilum spinosum*[E], *Polygala seminuda*, *Pteronia leucoclada*, *P. mucronata*, *P. sordid*, *Rosenia humilis*, *Senecio niveus*, *Sericocoma avolans*, *Solanum capense*, *Talinum arnotii*[E], *Tetragonia arbuscula*, *Zygophyllum microphyllum*.

- Succulent Shrubs:
  Kleinia longiflora, *Lycium bosciifolium*, *Salsola tuberculata*, *S. glabrescens.*

- Herbs:
  Acanthopsis hoffmannseggiana, *Aizoon canariense*, *Amaranthus praetermissus*, *Barleria lichtensteiniana*[E], *Chamaesyce inaequilatera*, Dicoma capensis, *Indigastrum argyraeum*, *Lotonosis platycarpa*, *Sesamum capense*, *Tribulus pterophorus*, *T. terrestris*, *Vahlia capensis*.

- Succulent Herbs:
  Gisekia pharnacioides[E], *Psilocaulon coriarium*, *Trianthema parvifolia*.

- Gephytic Herb:
  Moraea venenata.

Another type of vegetation cover, the Bushmanland Basin Shrubland Vegetation Type, is found on a very small area on the southern tip of the application area.

This vegetation type consists of slightly irregular plains with dwarf shrubland dominated by a mixture of low sturdy and spiny (and sometimes also succulent) shrubs (*Rigozum*, *Salsola*, *Pentzia*, *Eriocephalus*), 'white' grasses (*Stipagrostis*) and in years of high rainfall also by abundant annuals such as species of *Gazania* and *Lysera*.

- Geology:

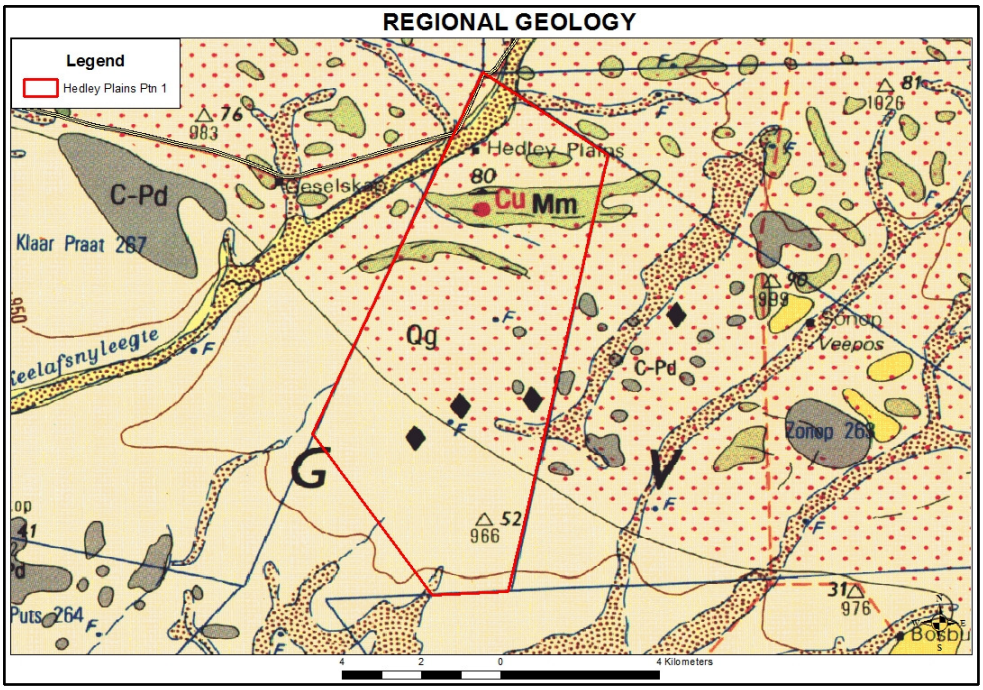


Figure 4 – Regional geology

Lithology:	
C-Pd	Dwyka Tillite
Cu	Copper
Mm	Gneiss
Qg	Surface cover - sand & calcrete

The area applied for is situated approximately 1100m above sea level. The outcrops are concealed with red wind-blown Kalahari sands, calcrete and Dwyka tillite rubble.

The project area is underlain by rocks belonging to Namaqua Metamorphic Complex. The geological map, as presented in Figure 4, indicates the occurrence of base metal-mineralization on the property (Cu - copper). Past exploration has shown that the mineralization in the surrounding areas is hosted by the Jannelspan Formation of the Areachap Group. The same formation is expected to also underlie the application area.

The Areachap Group belongs to the Namaqua-Natal Metamorphic Complex of the Northern Cape Province of South Africa. The mid-Proterozoic Areachap Group consists of various portions of amphibolites, quartzo-feldspathic gneiss, calcsilicate and politic schists (Geraghty et. al., 1996). The Areachap Group's importance lies in the base metal sulphide deposits within the 250km outcrop length, and its fossil meta-island arc character (Geringer et. al., 1994). Figure 4 indicates the location of the known mineral deposits. It is possible that the mottles River Formation that occurs on Hedley Plain 266 is somehow related to the Jannelspan Formation.

The approximately 1300 Ma old Areachap Group hosts a number of Cu–Zn type VMS deposits in different formations that display extensive polyphase deformation and upper amphibolite to granulite facies metamorphism (Theart et al., 1989). The formations in this group (Jannelspan, Boksputs and Copperton), probably formed as separate volcanic centres (Middleton, 1976; Geringer et al., 1994), but are time equivalents (Barton and Burger, 1983; Cornell et al., 1990; Rossouw, 2003). The most important VHMS deposits are Prieska (47 Mt @ 1.7% Cu and 3.8% Zn), Areachap (8.9 Mt @ 0.4% Cu and 2.24% Zn) and Kantienpan (5 Mt @ 0.49% Cu and 4.09% Zn) (Rossouw, 2003).

- <u>Ground Water:</u>

  The application area is located in the tertiary catchment area D54G. This catchment area forms part of the Lower Orange Water Management Area. The application area falls in catchment area 14.

  The application area's groundwater is a scarce resource. Odori will for this reason endeavour to obtain water from other resources as from the groundwater resource.

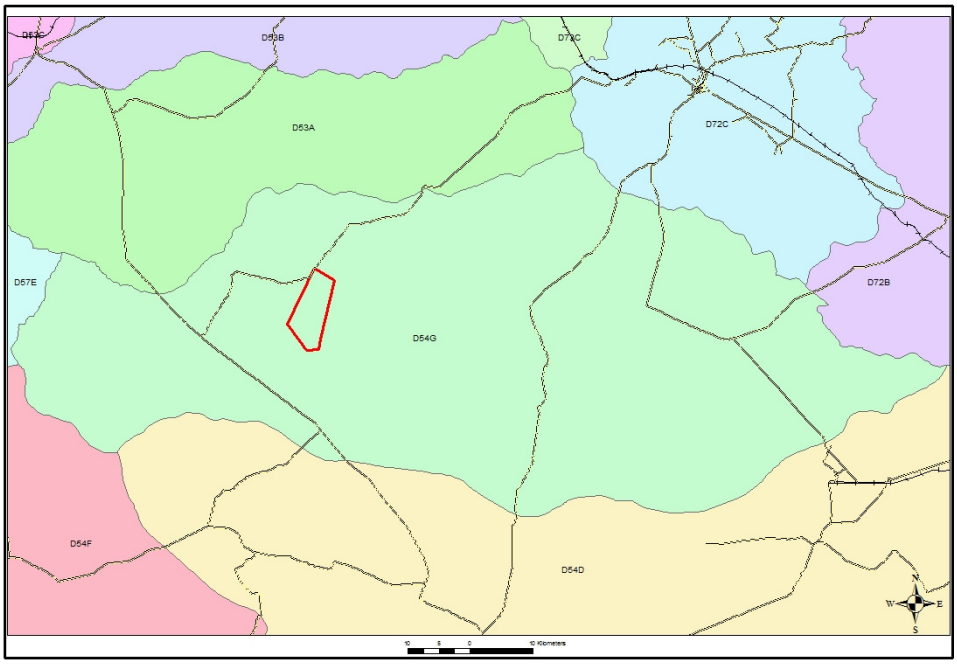


Figure 5 - Catchment Map

- Noise:

  Existing sources:
  The only current sources of noise are from:
  - Traffic on the public gravel roads transecting the property.
  - Traffic on the secondary gravel roads (farm roads) in the area utilized by farm owners for access to and on their farms.

  New source:
  The main anticipated source of additional noise in the area will be from the drilling activities that are planned for the prospecting operation.

- Soil:

  The soils of the area are red-yellow apedal soils, freely drained, with a high base status and <300mm deep, with about one fifth of the area deeper than 300mm, typical of Ag and Ae land types.

- Surface Water:

  The area includes some meandering non-perennial water courses and dry pans. The area is susceptible to single heavy showers that often result in flash flooding of small parts the area, which could result in water flowing through non-perennial water courses.

  There is no other surface water in the area surrounding the properties.

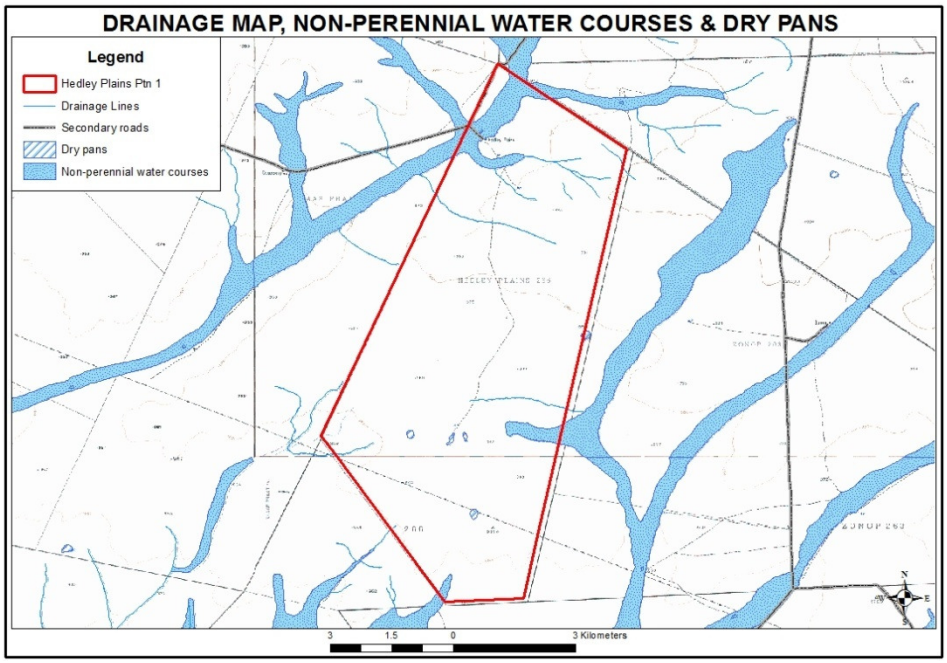


Figure 6 – Drainage Map

- Topography:

  The application area has extensive to irregular plains on a slightly sloping plateau sparsely vegetated by grassland dominated by white grasses giving this vegetation type the character of semi-desert 'steppe'. Elevations in the area are in the order of 800 – 1 200 m.a.s.l.

  The prospecting activities (drilling) will be visible from some of the farm roads transecting the application area and the secondary gravel roads in the area utilized by farm owners for access to their farms.

1.2 The specific environmental features on the site applied for which may require protection, remediation, management or avoidance.

The area includes some non-perennial water courses and some dry pans on the application area. As these natural non-perennial water courses and the dry pans need to be protected, no prospecting will be allowed within 20m of any of these features.

The following potential impacts will have to be managed / mitigated throughout the prospecting operation:

- Air quality
- Flora (re-establishment of vegetation cover in disturbed areas)
- Noise
- Surface water run-off / Erosion

1.3 Map showing the spatial locality of all environmental, cultural/heritage and current land use features identified on site.

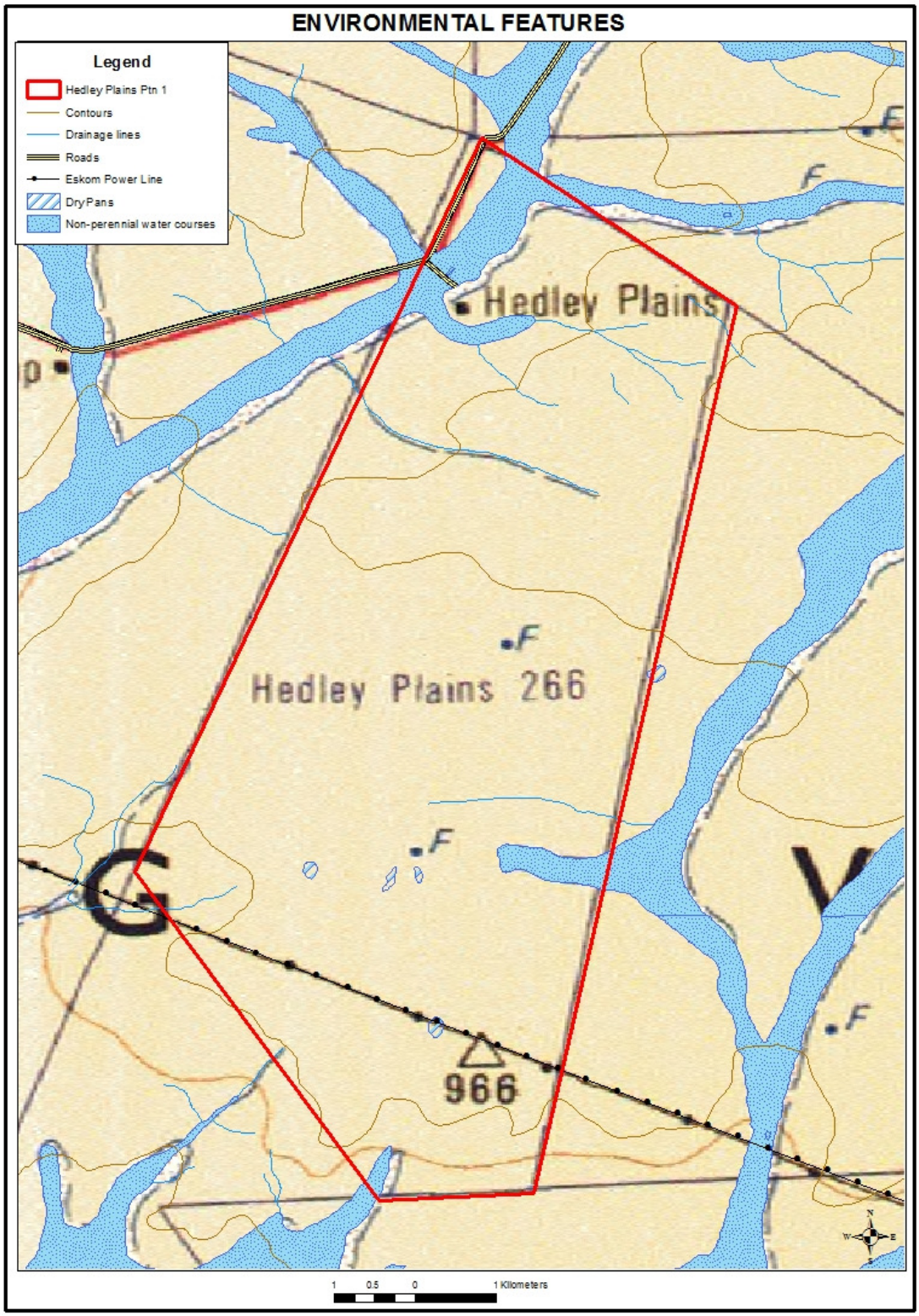


Figure 7 - Environmental features on application area and surrounding area

Environmental:
The area includes some meandering non-perennial water courses and dry pans on the application area. As these natural non-perennial

water courses and the dry pans need to be protected, no prospecting will be allowed within 20m of any of these features.

Cultural / heritage:
There are no known cultural/heritage features inside the application area.

Current land uses:
The farm is utilized for livestock farming purposes.

Infrastructure:

- The on-site gravel (farm) roads are in a good condition.
- The secondary gravel road accessing the planned prospecting operation is in a poor condition and will see a minimal increase in traffic which could have an impact on this road. There are no main tarred roads in the immediate vicinity of the application area.
- The nearest towns are Kenhardt approximately 50km north-west and Marydale, which is situated approximately 60km north-east of the application area. Contractors, and other specialists who will be contracted to conduct the prospecting activities, will reside in Kenhardt and/or Marydale while active prospecting activities are taking place on site.
- It is not anticipated that Odori's planned prospecting operation will have an impact to the power grid, as Odori will make use of generators in their operation, if needed.
- There are no railway lines in the immediate vicinity of the property. The nearest railway lines passes through the towns of Kenhardt and Marydale.
- The residential house of the surface owners will not be impacted on as no prospecting activities will be allowed within 100m from any structure.
- There is an Eskom power line on the most southern tip of the application area, which traverses the property from west to east.

1.4 Confirmation that the description of the environment has been compiled with the participation of the community, the landowner and interested and affected parties,

The surface owners of the property under application, all surrounding landowners and various other identified interested and affected parties were notified by means of registered post as well as by advertisements that were place in the Gemsbok (Local newspaper) and Volksblad (Regional newspaper). Find attached hereto as Appendix 'A' proof of this notification and consultation process.

Further consultation included a meeting that was held with the property owners on 30 May 2013 regarding the planned prospecting activities and EMP.

Property description	Owner	Description
Portion 1 of the Farm Hedley Plains 266	Mr. J.A. Lombard & Ms. S.J.D. Lombard	Surface owner
Portion 4 of the Farm Witkopjes 258	Mr. Jacobus Wilhelm Lacock Visser	Surrounding owner
Portion 1 (Johnnies Luck) of the Farm Bastards Pan 259	Klaarpraat Trust	Surrounding owner
Portion 4 (a portion of portion 2) of the Farm Jagt Bult 262	Mr. J.A. Lombard & Ms. S.J.D. Lombard	Surrounding owner
Portion 1 (Zonop) of the Farm Zonop 263	B.R. Grobler Trust	Surrounding owner
Portion 1 (Geselskap) of the Farm Klaar Praat 267	Kai Garib Municipality	Surrounding owner
Portion 5 (a portion of portion 5) of the Farm Bosch Bult 311	Ben Grobler Trust	Surrounding owner
Siyathemba Local Municipality	-	Local Municipality
Pixley Ka Seme District Municipality	-	District Municipality
ESKOM	-	Parastatal
SANRAL	-	National Agency
Transnet	-	Parastatal
Department of Rural Development and Land Reform	-	Government Department
Department of Environment and Nature Conservation	-	Government Department
Department of Agriculture and Land Reform	-	Government Department
Department of Water Affairs	-	Government Department
Department of Public Works	-	Government Department
SKA	-	Interested and Affected Party

Responses / Concerns received on the notification letters are as follows:

- Mr. J.A. Lombard & Ms. S.J.D. Lombard (surface owner):
  The planned prospecting operation was discussed in detail with the Lombards during the meeting held on 30 May 2013. Mr. and Mrs. Lombard understand what the prospecting operation will entail on their property and have no concerns or objections towards the proposed prospecting activities.

- Mr. J.W.L. Visser:
  No response has been received to date.

- Klaarpraat Trust:
  No response has been received to date.

- B.R. Grobler Trust:
  No response has been received to date.

- Kai Garib Municipality:
  No response has been received to date.

- Ben Grobler Trust:
  No response has been received to date.

- Siyathemba Local Municipality:
  No response has been received to date.

- Pixley Ka Seme District Municipality:
  No response has been received to date.

- ESKOM:
  No response has been received to date.

- SANRAL:
  No response has been received to date.

- Transnet:
  No response has been received to date.

- Department of Rural Development and Land Reform:
  No response has been received to date.

- Department of Environmental Affairs:
  No response has been received to date.

- Department of Agriculture and Land Reform:
  No response has been received to date.

- Department of Water Affairs:
  No response has been received to date.

- Department of Public Works:
  No response has been received to date.

- SKA:
  No response has been received to date.

No responses were received from the newspaper advertisements that were placed in the Volksblad and Gemsbok.

A notification letter, with the draft EMP attached, was sent to the surface owners of the application area.

To date no responses have been received regarding the EMP. All of the comments / concerns received will be submitted to DMR as and when it is received.

2 REGULATION 52 (2) (b): Assessment of the potential impacts of the proposed prospecting or mining operation on the environment, socio-economic conditions and cultural heritage.

2.1 Description of the proposed prospecting or mining operation.

2.1.1 The main prospecting activities (e.g. access roads, topsoil storage sites and any other basic prospecting design features)

Phase	Activity	Skill(s) required	Timeframe	Outcome	Timeframe for outcome	What technical expert will sign off on the outcome?
1	**Non-invasive Prospecting**					
	Literature Study	Geologist	Month 1-6	Maps, plan & report	Month 6	Geologist
	Imagery Analysis	Geologist	Month 1-6	Map & Report	Month 6	Geologist
	Geological Mapping	Geologist	Month 1-6	Map & Report	Month 6	Geologist
	Geochemical Sampling	Geologist	Month 7-12	Digital data & Report	Month 12	Geologist
	Geophysical Survey	Geophysicist	Month 7-12	Digital data & Report	Month 12	Geologist
2	**Invasive Prospecting**					
	Percussion Drilling & Analyses	Geologist & Laboratory Manager	Month 13-18	Drill logs, Map & Report including analytical results	Month 18	Geologist
3	**Invasive Prospecting**					
	Core Drilling & Analyses	Geologist & Laboratory Manager	Month 19-24	Drill logs, Map & Report including analytical results	Month 24	Geologist
4	**Invasive Prospecting**					
	Metallurgical Test Work	Geologist	Month 25-30	Metallurgical Report	Month 30	Metallurgist
5	**Non-invasive Prospecting**					
	Analytical Desktop Study	Geologist	Month 31-36	Maps, Resource statement and final report	Month 36	CEO/Geologist

The planned prospecting operation will create the following:

- A minimum of haulage roads:
  Odori's proposed prospecting activities will include a literate study (including imagery analysis, geological mapping, geochemical sampling and a geophysical survey), percussion drilling, core drilling, metallurgical test work and an analytical desktop study. Of these activities only the geophysical survey, percussion- and core drilling activities will be done on site. These activities are planned to take place during months 7 – 12, 13 – 18 and 19 – 24 of the prospecting work programme respectively.

  The vehicles to be utilized for these activities will be nominal and used over a long period of time. It will include the following:
  - One light delivery vehicle (bakkie) for the geophysical survey to be conducted by a Geologist (months 7 – 12).

- One percussion drilling rig and two light delivery vehicles (bakkie) for site foreman and Geologist overseeing the project (months 13 – 18).
- One core drilling rig and two light delivery vehicles (bakkie) for site foreman and Geologist overseeing the project (months 19 – 24).

It is not anticipated that the proposed impact will have a noticeable impact on the gravel roads, due to the small size of the proposed operation. Existing roads will be utilized as far as practical to ensure that the operation's impact on the vegetation cover is kept to a minimum.

- Percussion / Core drilling of boreholes:
  Provision is made for a 10m x 10m surface disturbance around each borehole.

  - Percussion drilling:
    Percussion drill holes will be positioned at targets identified during geological mapping and the geophysical surveys. Twenty seven angled boreholes are planned with an average depth of 40m. The position of the boreholes can be seen in figure 8 below. Initial drilling is aimed at specific targets with a grid spacing of 400 x 400m. Once mineralization is intersected grid spacing will be reduced to 100 x 100m.

  - Core drilling:
    Drill hole positions will be spaced evenly along strike with a planned total of 10 holes of 40m each.

2.1.2 Plan of the main activities with dimensions

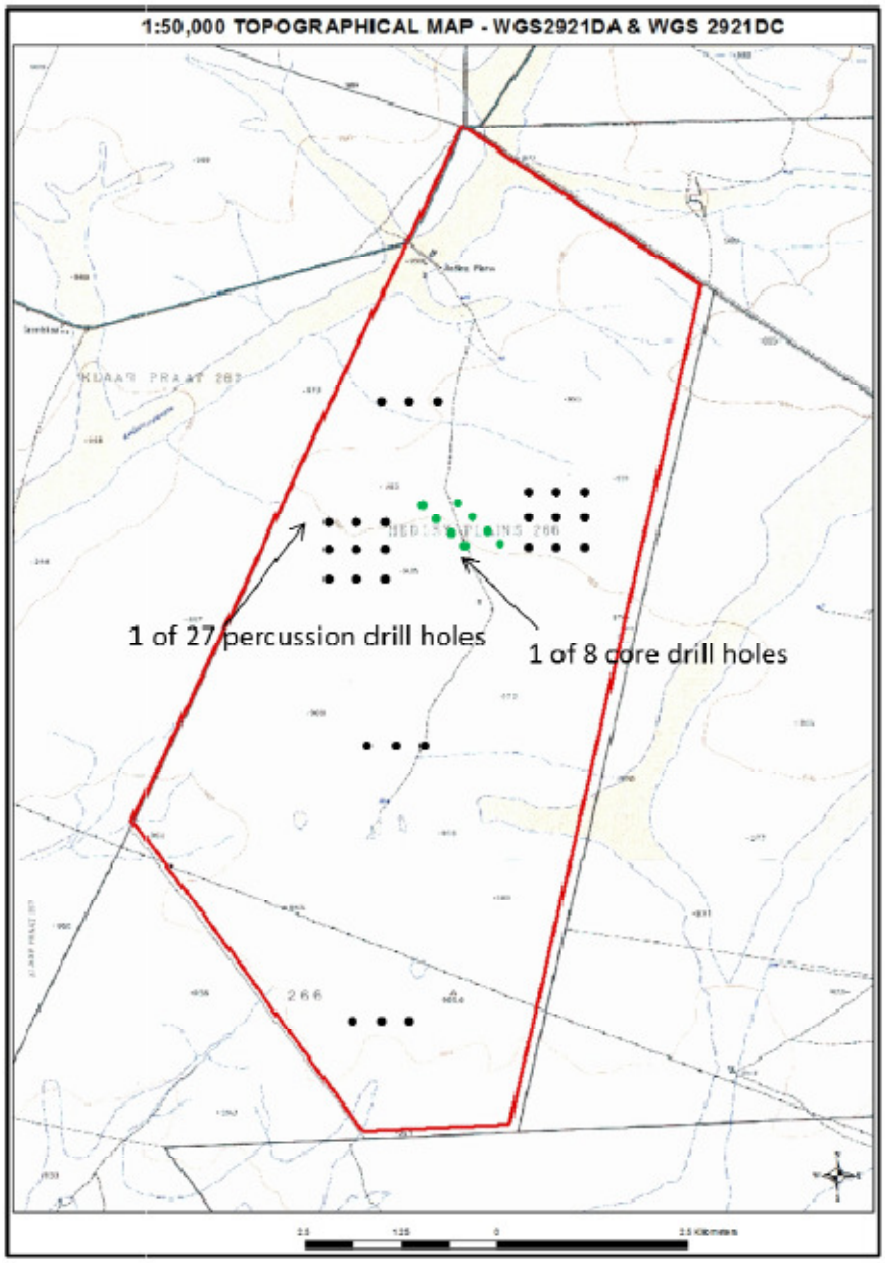


Figure 8 – Locality of planned drill holes

2.1.3 Description of construction, operational, and decommissioning phases.

- Construction phase:
  The only invasive prospecting activities planned are the percussion and core drilling activities. These activities are planned for phases 2 and 3 of the prospecting work programme. The site establishment of these two phases will entail the moving of the drill rig to the identified borehole sites. There will be no mobile office, on-site storage or workshop for this operation.

Care will be taken to utilize existing roads as far as practically possible as to minimize the impact on the vegetation cover.

- Operational phase:
  The operational phase will be conducted in five phases.

  - Phase one:
    Literature study:-
    In order to direct the exploration program in an efficient manner, there will be a review of all information and data gathered by possible previous exploration on the application area.

    A desktop study will also be undertaken to determine the base potential of the area. A site investigation of the target areas will be undertaken to identify infrastructure and determine any potential problems that may need to be addressed during the planned work programme.

    Imagery analysis:-
    Aerial photographs and satellite images will be acquired and studied to ascertain additional target areas for base metal deposits. The aerial photographs will also be used to structurally and geologically map the farms.

    Geological mapping:-
    Any anomalous features identified from the air will be mapped in detail. The various rock types and their contacts will also be mapped and the information captured in a GIS database.

    Geophysical survey:-
    A 20 line kilometre magnetic survey will be undertaken using the necessary geophysical equipment in an attempt to identify massive sulphides.

  - Phase 2:
    The second phase will consist of the percussion drilling of twenty seven angled boreholes. All drilling will be short term and equipment truck-mounted. During this drilling program samples will be collected every meter and logging will be done by a qualified geologist who will record the lithology. Selected samples will be analyzed for gold, silver, zinc, copper, molybdenum and lead.

    The drill areas will continuously be rehabilitated while drilling proceeds. The holes will be filled with drill chips

and covered with topsoil. Normally nominal drilling material, non-biodegradable liquid spills and refuse are cleared and transported to the relevant municipal dumpsite.

- Phase 3:
  The third phase will consist of the core drilling of eight holes. All drilling will be short term and equipment truck-mounted. A geologist will log the holes according to lithological composition and structural features encountered. Selected samples will be analysed for the relevant minerals.

  The drill areas will continuously be rehabilitated while drilling proceeds. The holes will be filled with drill chips and covered with topsoil. Normally nominal drilling material, non-biodegradable liquid spills and refuse are cleared and transported to the relevant municipal dumpsite.

- Phase 4:
  Metallurgical testing:-
  Representative samples will be collected from the drilling core and be sent to Mintek in Randburg for metallurgical testing. This work will result in a proposed method for the extraction of metals.

- Phase 5:
  Analytical desktop study:-
  The project geologist will monitor the work programme. Also consolidates and processes the data and amends the programme depending on the results. This is a continuous process throughout the programme and continues even when no prospecting is done on the ground.

  Each physical phase of prospecting will be followed by desktop studies involving interpretation and modelling of all data gathered. These studies will determine the manner in which the work programme is to proceed in terms of activity, quantity, resources, expenditure and duration.

  A GIS based database will be constructed capturing all exploration data.

  Pre-feasibility studies provide for a preliminary economic assessment of the resource and determine whether additional evaluation of the deposit and its characteristics is warranted to increase confidence in the resource estimation.

Mining feasibility studies are conducted by a multi-disciplinary team to determine whether the resource can be viably, safely and responsibly exploited and, thus, the results can support an application for a mining right. Supplementary drilling, sampling, geological modelling and ore dressing studies may be required during the mining feasibility study to obtain additional information in order to finalize the mining feasibility study.

- Decommissioning phase:
  The decommissioning phase will only commence once all physical prospecting activities have been completed and the site rehabilitated.

  During decommissioning all prospecting related infrastructure and equipment will be removed from the site and final backfilling and profiling rehabilitation of the disturbed areas will take place.

  Odori Investments (Pty) Ltd will apply for a Mining Right should the findings of the prospecting activities prove feasible. Should the outcome of the prospecting activities not prove feasible, Odori Investments (Pty) Ltd will apply for a closure certificate.

2.1.4 Listed activities (in terms of the NEMA EIA regulations)

According to Listing Notice 1: List of activities and competent authorities identified in terms of Sections 24(2) and 24D of the National Environmental Management Act, 1998 (Act no. 107 of 1998) of Government Gazette no 33306, No. R. 544 the following activities are applicable according to NEMA EIA regulations:

Activity 19	Any activity requiring a prospecting right or renewal thereof in terms of Section 16 and 18 respectively of the Mineral and Petroleum Resources Development Act, 2002 (Act no 28 of 2002).
Activity 23	The transformation of undeveloped, vacant or derelict land to: ~~i) residential, retail, commercial, recreational, industrial or institutional use, inside an urban area, and where the total area to be transformed is 5 hectares or more, but less than 20 hectares, or~~ ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area, and where the total area to be transformed is bigger than 1 hectare but

	less than 20 hectares; except where such transformation takes place for linear activities.

2.2 Identification of potential impacts

(Refer to the guideline)

2.2.1 Potential impacts per activity and listed activities.

Prospecting /NEMA Activity	Potential impact on:	Type of impact	Description
Roads	❖ Air quality	Negative	❖ Nuisance dust will be created by the prospecting equipment and vehicles.
	❖ Fauna	Negative	❖ Where new roads will be created the natural habitat of the animals will be disturbed and/or destroyed. ❖ Road kills
	❖ Flora	Negative	❖ Where new roads will be created the vegetation will be disturbed and/or destroyed.
	❖ Ground Water	Negative	❖ Potential hydrocarbon spills.
	❖ Noise	Negative	❖ Noise from the prospecting equipment (reverse alarms etc) and vehicles on the roads will be created.
	❖ Soil	Negative	❖ Emergency breakdowns could cause hydrocarbon spills on the soil. ❖ Compaction of soil is expected from the roads that will be used by the planned prospecting operation.
	❖ Surface Water	Not applicable	❖ No surface water in the application area.
	❖ Topography	Not applicable	❖ No impact to the topography is expected from the roads that will be used by the planned prospecting operation.
	❖ Visual	Negative	❖ The roads will be visible to some extent from the immediate surroundings.

Prospecting /NEMA Activity	Potential impact on:	Type of impact	Description
Drilling	❖ Air quality	Negative	❖ Nuisance dust will be created by the drill rigs.
	❖ Fauna	Negative	❖ Where new drill sites will be created the natural habitat of the animals will be disturbed and/or destroyed.
	❖ Flora	Negative	❖ Where new drill sites will be created the vegetation will be disturbed and/or destroyed.
	❖ Ground Water	Not applicable	❖ No impact to groundwater is expected from drilling activities.
	❖ Noise	Negative	❖ Noise from the drill rigs will be created.
	❖ Soil	Negative	❖ The drill rigs could cause hydrocarbon spills on the soil.
	❖ Surface Water	Not applicable	❖ No surface water in the application area.
	❖ Topography	Not applicable	❖ No impact to the topography is expected from the drilling activities.
	❖ Visual	Negative	❖ The drill rig will be visible to some extent from the immediate surroundings.

2.2.2 Potential cumulative impacts.

	Description
Air Quality	o Nuisance dust created by prospecting activities. o Nuisance dust created from the farm roads and gravel roads surrounding the properties.
Fauna	o Disturbance and/or destruction of habitat by prospecting activities.
Flora	o Disturbance and/or destruction of vegetation by prospecting activities.
Ground Water	o Minimal utilization of groundwater for domestic and livestock watering purposes by the surface owners of Portion 1 of the Farm Hedley Plains 266. o No impact to groundwater by prospecting activities.
Noise	o Noise created by prospecting activities. o Noise from traffic on farm roads and surrounding gravel roads.
Soil	o Removal and disturbance of soil structure by prospecting activities.
Surface Water	o No impact is expected as there is no surface water in the application area, or in the immediate vicinity thereof.
Topography	o Potential changing of natural slopes by prospecting activities.
Visual	o Changing of natural view by prospecting activities.

2.2.3 Potential impact on heritage resources

Not applicable - There are no known areas with a heritage resource on the area under application.

2.2.4 Potential impacts on communities, individuals or competing land uses in close proximity.

(If no such impacts are identified this must be specifically stated together with a clear explanation why this is not the case.)

There are no communities or individuals residing in close proximity of the area under application who could be potentially impacted on.

The only competing land use on the application area is livestock farming. The only potential impact to these activities is the temporally limited dust and noise created by some of the prospecting activities.

2.2.5 Confirmation that the list of potential impacts has been compiled with the participation of the landowner and interested and affected parties,

The surface owners of the property under application, all surrounding landowners and various other identified interested and affected parties were notified by means of registered post as well as by advertisements that were place in the Gemsbok (Local newspaper) and Volksblad (Regional newspaper). Find attached hereto as Appendix 'A' proof of this notification and consultation process.

Further consultation included a meeting that was held with the property owners on 30 May 2013 regarding the planned prospecting activities and EMP.

Property description	Owner	Description
Portion 1 of the Farm Hedley Plains 266	Mr. J.A. Lombard & Ms. S.J.D. Lombard	Surface owner
Portion 4 of the Farm Witkopjes 258	Mr. Jacobus Wilhelm Lacock Visser	Surrounding owner
Portion 1 (Johnnies Luck) of the Farm Bastards Pan 259	Klaarpraat Trust	Surrounding owner
Portion 4 (a portion of portion 2) of the Farm Jagt Bult 262	Mr. J.A. Lombard & Ms. S.J.D. Lombard	Surrounding owner
Portion 1 (Zonop) of the Farm Zonop 263	B.R. Grobler Trust	Surrounding owner
Portion 1 (Geselskap) of the Farm Klaar Praat 267	Kai Garib Municipality	Surrounding owner
Portion 5 (a portion of portion 5) of the Farm Bosch Bult 311	Ben Grobler Trust	Surrounding owner
Siyathemba Local Municipality	-	Local Municipality
Pixley Ka Seme District Municipality	-	District Municipality
ESKOM	-	Parastatal
SANRAL	-	National Agency
Transnet	-	Parastatal
Department of Rural Development and Land Reform	-	Government Department
Department of Environment and Nature Conservation	-	Government Department
Department of Agriculture and Land Reform	-	Government Department
Department of Water Affairs	-	Government Department
Department of Public Works	-	Government Department
SKA	-	Interested and Affected Party

Responses / Concerns received on the notification letters are as follows:

- Mr. J.A. Lombard & Ms. S.J.D. Lombard (surface owner):
  The planned prospecting operation was discussed in detail with the Lombards during the meeting held on 30 May 2013. Mr. and Mrs. Lombard understand what the prospecting operation will entail on their property and have

no concerns or objections towards the proposed prospecting activities.

A notification letter, with the draft EMP attached, was sent to the surface owners of the application area.

To date no responses have been received regarding the EMP. All of the comments / concerns received will be submitted to DMR as and when it is received.

No other responses were received from the notification letters that were sent.

No responses were received from the newspaper advertisements that were placed in the Volksblad and Gemsbok.

2.2.6 Confirmation of specialist report appended.

(Refer to guideline)

There are no specialist reports appended.

The following was observed on the application area during the site visit:

- Environmental
  The area includes some meandering non-perennial water courses and dry pans on the application area. As these natural non-perennial water courses and the dry pans need to be protected, no prospecting will be allowed within 20m of any of these features.

- Cultural / heritage
  There are no known cultural/heritage features inside the application area.

3 REGULATION 52 (2) (c): Summary of the assessment of the significance of the potential impacts and the proposed mitigation measures to minimise adverse impacts.

3.1 Assessment of the significance of the potential impacts

3.1.1 Criteria of assigning significance to potential impacts

ASSESSMENT CRITERIA TERMINOLOGY

The assessment of the impacts has been conducted according to a synthesis of criteria required by the integrated environmental management procedure.

Nature of impact
This is an appraisal of the type of effect the activity would have on the affected environmental component. Its description should include what is being affected, and how.

Extent
The physical and spatial size of the impact. This is classified as follows:

- **Local**
  The impacted area extends only as far as the activity, e.g. a footprint.
- **Site**
  The impact could affect the whole, or a measurable portion of the property.
- **Regional**
  The impact could affect the area including the neighbouring farms, transport routes and the adjoining towns.
- **Cumulative**
  The impact could have a cumulative effect with the surrounding land uses.

Duration
The lifetime of the impact which is measured in the context of the lifetime of the proposed phase (i.e. construction or operation).

- **Short term**
  The impact will either disappear with mitigation or will be mitigated through natural process in a short time period.
- **Medium term**
  The impact will last up to the end of the prospecting period, where after it will be entirely negated.
- **Long term**
  The impact will continue or last for the entire operational life of the operation, but will be mitigated by direct human action or by natural processes thereafter.

- **Permanent**
  The only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

Intensity
This describes how destructive, or benign, the impact is. Does it destroy the impacted environment, alter its functioning, or slightly alter it. These are rated as:

- **Low**
  This alters the affected environment in such a way that the natural processes or functions are not affected.
- **Medium**
  The affected environment is altered, but function and process continue, albeit in a modified way.
- **High**
  Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

  This will be a relative evaluation within the context of all the activities and the other impacts within the framework of the project.

Probability
This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:

- **Improbable**
  The possibility of the impact occurring is very low, due either to the circumstances, design or experience.
- **Probable**
  There is a possibility that the impact will occur to the extent that provisions must be made therefore.
- **Highly probable**
  It is most likely that the impacts will occur at some or other stage of the development.
- **Definite**
  The impact will take place regardless of any preventative plans, and mitigation measures or contingency plans will have to be implemented to contain the impact.

Determination of significance
Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The classes are rated as follows:

- **No significance**
  The impact is not likely to be substantial and does not require any mitigatory action.
- **Low**
  The impact is of little importance, but may require limited mitigation.
- **Medium**
  The impact is of importance and therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
- **High**
  The impact is of great importance. Failure to mitigate, with the objective to reduce the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.

3.1.2 Potential impact of each main activity in each phase, and corresponding significance assessment

Prospecting activity	Impact on	Extent	Duration	Intensity	Probability	Significance
Roads	Air quality	Site	Short	Medium	Definite	Low
	Fauna	Local	Long	High	Definite	Medium
	Flora	Local	Long	High	Definite	High
	Groundwater	Local	Short	Medium	Probable	Low
	Noise	Site	Short	Low	Definite	Low
	Soil	Site	Short	Medium	Probable	Low
	Surface water	N/A	N/A	N/A	N/A	N/A
	Topography	N/A	N/A	N/A	N/A	N/A
	Visual	Site	Long	Low	Probable	No significance
Drilling activities	Air quality	Site	Short	Medium	Definite	Medium
	Fauna	Local	Medium	High	Definite	Medium
	Flora	Local	Medium	High	Definite	High
	Groundwater	N/A	N/A	N/A	N/A	N/A
	Noise	Site	Medium	Medium	Definite	High
	Soil	Site	Short	Low	Probable	Low
	Surface water	N/A	N/A	N/A	N/A	N/A
	Topography	Local	Long	Medium	Definite	Low
	Visual	Site	Long	Low	Definite	Low

3.1.3 Assessment of potential cumulative impacts.

	Extent	Duration	Intensity	Probability	Significance
Air Quality	Site	Short	Medium	Definite	Low
Fauna	Local	Long	High	Definite	Medium
Flora	Local	Long	High	Definite	Medium
Ground Water	Local	Short	Low	Probable	Low
Noise	Site	Medium	Medium	Definite	Medium
Soil	Local	Long	Medium	Definite	Low
Surface Water	N/A	N/A	N/A	N/A	N/A
Topography	Site	Long	Medium	Definite	Low
Visual	Site	Long	Low	Definite	Low

3.2 Proposed mitigation measures to minimise adverse impacts.

3.2.1 List of actions, activities, or processes that have sufficiently significant impacts to require mitigation.

- Air quality
- Fauna
- Flora
- Noise
- Soil

3.2.2 Concomitant list of appropriate technical or management options

(Chosen to modify, remedy, control or stop any action, activity, or process which will cause significant impacts on the environment, socio-economic conditions and historical and cultural aspects as identified. Attach detail of each technical or management option as appendices)

- Air quality:
  To limit the creation of nuisance dust the following management guidelines will be followed:
  - Avoidance of unnecessary removal of vegetation;
  - Re-vegetation of rehabilitated areas to take place as soon as possible.

- Fauna & Flora
  - Indigenous vegetation to be used where necessary for landscaping to minimize watering requirements.
  - Any area that is rehabilitated or decommissioned will be seeded, should the need arise, with a seed mixture reflecting the natural vegetation as is currently found. If this is not found to be feasible during rehabilitation a general seed mixture of the area will be used.
  - Management will also control declared invader or exotic species on the site. The following control methods will be used:

    - "The plants will be uprooted, felled or cut off and can be destroyed completely."
    - "The plants will be treated with an herbicide that is registered for use in connection therewith and in accordance with the directions for the use of such an herbicide."

  - Valid permits from Northern Cape Nature Conservation will be obtained before any protected plant species are removed.
  - No fires will be allowed on the site.
  - Any form of poaching by workers of the prospecting operation will result in the maximum form of

punishment as allowed for by common law. Any form of snares or traps on the site is strictly prohibited.
- If any endangered species are encountered the Department of Nature Conservation will be contacted.
- The end objective of the re-vegetation program will be to achieve a stable self-sustaining habitat unit.

- Noise
  - As a minimum, ambient noise levels emanating from the prospecting activities will not exceed 82 dBA at the site boundary.
  - Odori will comply with the occupational noise Regulations of the Occupational Health and Safety Act, Act 85 of 1993.
  - Odori will comply with the measures for good practice with regard to management of noise related impacts during construction and operation.
  - The management objective will be to reduce any level of noise, shock and lighting that may have an effect on persons or animals.
  - When the equivalent noise exposure, as defined in the South African Bureau of Standards Code of Practice for the Measurement and Assessment of Occupational Noise for Hearing Conservation Purposes, SABS 083 as amended, in any place at or in any mine or works where persons may travel or work, exceeds 82 dB (A), the site manager will take the necessary steps to reduce the noise below this level.
  - Hearing protection will be available for all employees where attenuation cannot be implemented.
  - If any complaints are received from the public or state department regarding noise levels the levels will be monitored at prescribed monitoring points.

  Mechanical equipment:
  - All mechanical equipment will be in good working order and vehicles will adhere to the relevant noise requirements of the Road Traffic Act.
  - All vehicles in operation will be equipped with a silencer on their exhaust system.
  - Safety measures, which generate noise such as reverse gear alarms on large vehicles, will be appropriately calibrated/adjusted.

- Soil
  - In all places of development the first 300mm of loose or weathered material found will be classified as a growth medium.
  - In all areas where the above growth medium will be impacted on, it will be removed and stockpiled on a

dedicated area. The maximum height of stockpiles will be 2 meters.

- The growth medium/topsoil will be used during the rehabilitation of any impacted areas, after sloping in order to re-establish the same land capability.
- If any soil is contaminated during the life of the prospecting area, it will either be treated on site or be removed together with the contaminant and placed in acceptable containers to be removed with the industrial waste to a recognized facility or company.
- Erosion control in the form of re-vegetation and contouring of slopes will be implemented where necessary on disturbed areas.
- Topsoil will be kept separate from overburden and will not be used for building or maintenance of access roads.
- The stored topsoil will be adequately protected from being blown away or being eroded.

3.2.3 Review the significance of the identified impacts

(After bringing the proposed mitigation measures into consideration).

Prospecting activity	Impact on	Extent	Duration	Intensity	Probability	Significance
Roads	Air quality	Site	Short	Medium	Definite	Low
	Fauna	Local	Long	High	Definite	Medium
	Flora	Local	Long	High	Definite	High
	Groundwater	Local	Short	Medium	Probable	Low
	Noise	Site	Short	Low	Definite	Low
	Soil	Site	Short	Medium	Probable	Low
	Surface water	N/A	N/A	N/A	N/A	N/A
	Topography	N/A	N/A	N/A	N/A	N/A
	Visual	Site	Long	Low	Probable	No significance
Drilling activities	Air quality	Site	Short	Medium	Definite	Medium
	Fauna	Local	Medium	High	Definite	Medium
	Flora	Local	Medium	High	Definite	High
	Groundwater	N/A	N/A	N/A	N/A	N/A
	Noise	Site	Medium	Medium	Definite	High
	Soil	Site	Short	Low	Probable	Low
	Surface water	N/A	N/A	N/A	N/A	N/A
	Topography	Local	Long	Medium	Definite	Low
	Visual	Site	Long	Low	Definite	Low

4 REGULATION 52 (2) (d): Financial provision.The applicant is required to-

4.1 Plans for quantum calculation purposes.

(Show the location and aerial extent of the aforesaid main mining actions, activities, or processes, for each of the construction, operational and closure phases of the operation).

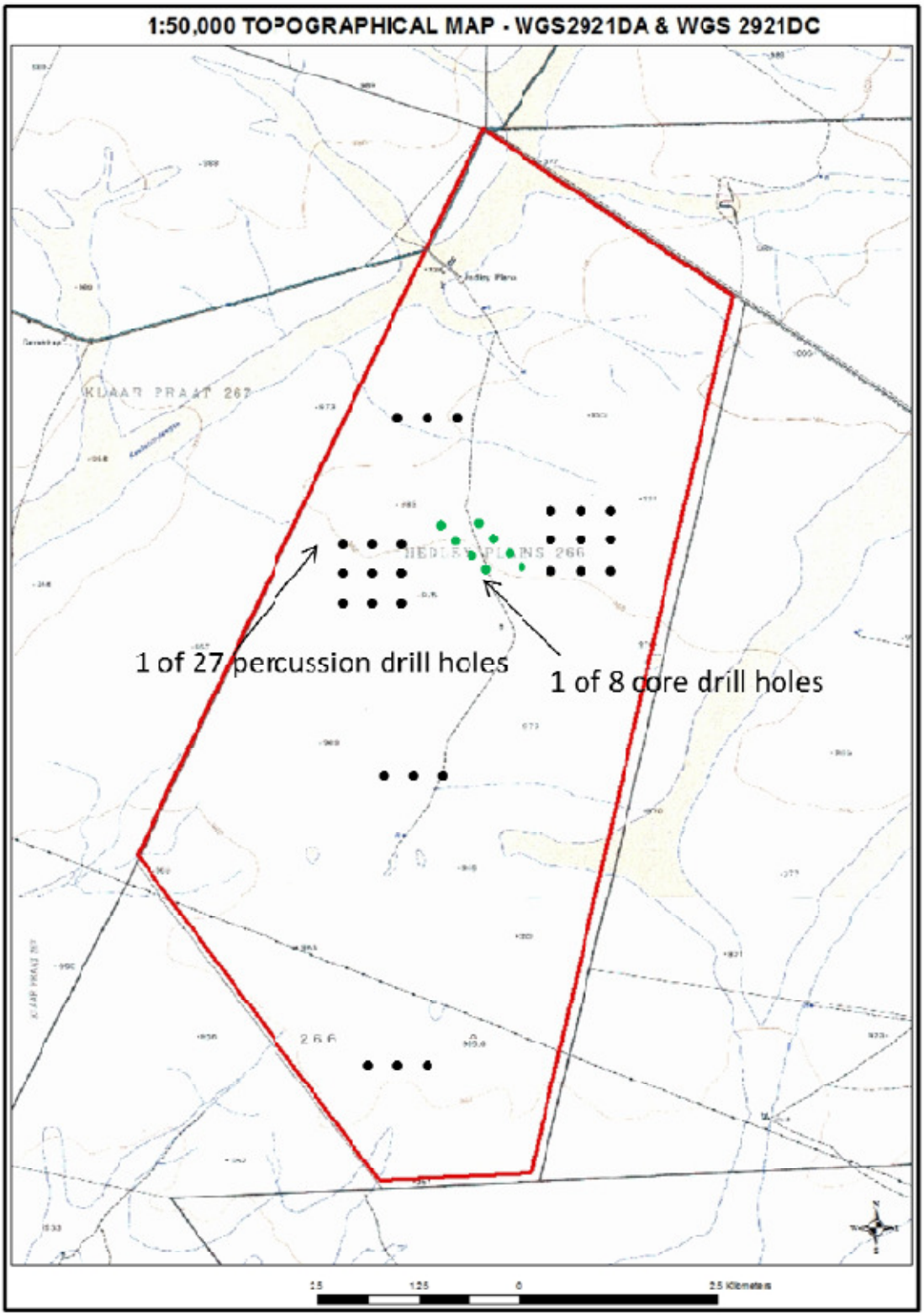


Figure 9 – Locality of planned drill holes

The following calculations were used for the financial quantum.

No.	Description (According to DMR guideline)	Calculation - Description	Calculation - area
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	Not applicable – Only drilling activities	0
2(A)	Demolition of steel buildings and structures	There will be no steel buildings and/or structures at the planned prospecting operation that will have to be demolished upon closure.	0
2(B)	Demolition of reinforced concrete buildings and structures	There will be no reinforced concrete buildings and/or structures at the planned prospecting operation that will have to be demolished upon closure.	0
3	Rehabilitation of access roads	A total of 500m of roads is anticipated to be created by the prospecting operation, which roads will not exceed 3m in width. Existing farm roads will be used as far as practical.	500m x 3m 1 500m^2
4(A)	Demolition and rehabilitation of electrified railway lines	Not applicable	0
4(B)	Demolition and rehabilitation of non-electrified railway lines	Not applicable	0
5	Demolition of housing and/or administration facilities	Not applicable – No housing and/or administration facilities will be established on the site.	0
6	Opencast rehabilitation including final voids and rams	Not applicable – only drilling activities	0
7	Sealing of shafts adits and inclines	No applicable	0
8(A)	Rehabilitation of overburden and spoils	Not applicable – only drilling activities	0
8(B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	Not applicable	0
8(C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	Not applicable	0
9	Rehabilitation of subsided areas	Not applicable	0
10	General surface rehabilitation	Boreholes - Percussion boreholes (27 boreholes x 10m x 10m) - Core boreholes (8 boreholes x 10m x 10m)	 0.27 Ha 0.08 Ha

11	River diversions	Not applicable	0
12	Fencing	Not applicable	0
13	Water management	Not applicable	0
14	2 to 3 years of maintenance and aftercare	Continuous rehabilitation by the applicant will ensure that the land use is returned to its pre-prospecting status.	0
15(A)	Specialist study	Not applicable	0
15(B)	Specialist study	Not applicable	0

4.2 Alignment of rehabilitation with the closure objectives

(Describe and ensure that the rehabilitation plan is compatible with the closure objectives determined in accordance with the baseline study as prescribed).

Closure objectives:

- The main closure objective of Odori's planned prospecting operation is to restore the site to its current land capability in a sustainable matter.
- To prevent the sterilization of any ore reserves.
- To prevent the establishment of any permanent structures or features.
- To manage and limit the impact to the surface and groundwater aquifers in such a way that an acceptable water quality and yield can still be obtained, when a closure certificate is issued.
- The prospecting operation also has the objective to establish a stable and self sustainable vegetation cover in areas affected by the prospecting activities.
- To limit and rehabilitate any erosion features caused by the prospecting activities and prevent any permanent impact to the soil capability thereof.
- To limit and manage the visual impact of the prospecting activities.
- To safeguard the safety and health of humans and animals on the site.
- To close the prospecting operation efficiently, cost effectively and in accordance with Government Policy.

Rehabilitation Plan:

- Roads

  On completion of the prospecting operation, the roads created by the prospecting operation will be rehabilitated according to general practices.

  All equipment, vehicles and other items used during the operational period will be removed from the site.

- Flora

  The drill sites will continuously be rehabilitated while drilling proceeds. The holes will be filled with drill chips and covered with topsoil. Normally nominal drilling material, non-biodegradable liquid spills and refuse are cleared and transported to the relevant municipal dumpsite.

- Submission of information

  Reports on rehabilitation and monitoring will be submitted annually to the Department of Mineral Resources - Springbok, as described in Regulation 55 of the MPRDA.

- Maintenance (Aftercare)

  Maintenance after closure will mainly concern the regular inspection and monitoring and/or completion of the rehabilitation programme.

The aim of this Environmental Management Plan is for rehabilitation to be stable and self-sufficient, so that the least possible aftercare is required.

The aim with the closure of the prospecting operation will be to create an acceptable post-prospecting environment and land-use. Therefore all agreed commitments will be implemented by Prospecting Management.

- <u>After-effects following closure</u>

  - Acid drainage:
    No potential for bad quality leach ate or acid drainage development exists.

  - Long term impact on ground water:
    No after effect on the groundwater yield or quality is expected.

  - Long-term stability of rehabilitated land:
    One of the main aims of any rehabilitated ground will be to obtain a self-sustaining and stable end result. As the boreholes will be backfilled and covered with pre-stored topsoil (where possible) these areas will have long term stability.

4.3 Quantum calculations.

(Provide a calculation of the quantum of the financial provision required to manage and rehabilitate the environment, in accordance with the guideline prescribed in terms of regulation54 (1) in respect of each of the phases referred to).

CALCULATION OF THE QUANTUM

Applicant: **ODORI INVESTMENTS (PTY) LTD**

Ref No: **NC 10905 PR**
Date: **JULY 2013**

No.	Description	Unit	A Quantity	B Master Rate	2004	102.065 January 2005	102.096 January 2006	105.181 January 2007	108.273 January 2008	108.386 January 2009	105.899 January 2010	103.562 January 2011	106.437 January 2012	105.42 January 2013	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0.00	10.79	6.82	6.96	7.11	7.47	8.09	8.77	9.29	9.62	10.24	10.79	1	1	0.00
2 (A)	Demolition of steel buildings and structures	m2	0.00	150.37	95.00	96.96	98.99	104.12	112.74	122.19	129.40	134.01	142.63	150.37	1	1	0.00
2(B)	Demolition of reinforced concrete buildings and structures	m2	0.00	221.59	140.00	142.89	145.89	153.44	166.14	180.07	190.69	197.49	210.20	221.59	1	1	0.00
3	Rehabilitation of access roads	m2	1 500.00	26.91	17.00	17.35	17.71	18.63	20.17	21.87	23.16	23.98	25.52	26.91	1	1	40 361.22
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0.00	261.16	165.00	168.41	171.94	180.85	195.81	212.23	224.75	232.75	247.73	261.16	1	1	0.00
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0.00	142.45	90.00	91.86	93.78	98.64	106.80	115.76	122.59	126.96	135.13	142.45	1	1	0.00
5	Demolition of housing and/or administration facilities	m2	0.00	300.73	190.00	193.92	197.99	208.25	225.47	244.38	258.80	268.02	285.27	300.73	1	1	0.00
6	Opencast rehabilitation including final voids and ramps	ha	0.00	153 056.09	96 700.00	98 696.86	100 765.54	105 986.20	114 754.44	124 377.75	131 714.79	136 406.47	145 186.96	153 056.09	1	1	0.00
7	Sealing of shafts adits and inclines	m3	0.00	80.72	51.00	52.05	53.14	55.90	60.52	65.60	69.47	71.94	76.57	80.72	1	1	0.00
8 (A)	Rehabilitation of overburden and spoils	ha	0.00	101 931.88	64 400.00	65 729.86	67 107.56	70 584.40	76 423.85	82 832.75	87 719.06	90 843.61	96 691.21	101 931.88	1	1	0.00
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0.00	130 896.99	82 700.00	84 407.76	86 176.94	90 641.77	98 140.56	106 370.63	112 645.43	116 657.86	124 167.13	130 896.99	1	1	0.00
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0.00	380 186.90	240 200.00	245 160.13	250 298.69	263 266.66	285 046.71	308 950.73	327 175.73	338 829.73	360 640.20	380 186.90	1	1	0.00
9	Rehabilitation of subsided areas	ha	0.00	88 003.30	55 600.00	56 748.14	57 937.58	60 939.33	65 980.84	71 513.99	75 732.60	78 430.20	83 478.75	88 003.30	1	1	0.00
10	General surface rehabilitation	ha	0.35	83 254.92	52 600.00	53 686.19	54 811.45	57 651.23	62 420.72	67 655.32	71 646.31	74 198.35	78 974.50	83 254.92	1	1	29 139.22
11	River diversions	ha	0.00	83 254.92	52 600.00	53 686.19	54 811.45	57 651.23	62 420.72	67 655.32	71 646.31	74 198.35	78 974.50	83 254.92	1	1	0.00
12	Fencing	m	0.00	94.97	60.00	61.24	62.52	65.76	71.20	77.17	81.73	84.64	90.08	94.97	1	1	0.00
13	Water management	ha	0.00	31 655.86	20 000.00	20 413.00	20 840.86	21 920.62	23 734.11	25 724.46	27 241.94	28 212.30	30 028.33	31 655.86	1	1	0.00
14	2 to 3 years of maintenance and aftercare	ha	0.00	11 079.55	7 000.00	7 144.55	7 294.30	7 672.22	8 306.94	9 003.56	9 534.68	9 874.31	10 509.91	11 079.55	1	1	0.00
15 (A)	Specialist study	Sum														1	0.00
15 (B)	Specialist study	Sum														1	0.00
															Total of 1 - 15 above		**69 500.44**

weighting factor 2
1

	Subtotal 1	**69 500.44**

1	Preliminary and General	4 170.03	4 170.03
2	Contingencies	6 950.04	6 950.04
		Subtotal 2	**80 620.52**
		VAT (14%)	11 286.87
		Grand Total	**91 907.39**

Please note that an escalation at inflation cost per annum of the master rate was calculated from 2004 to 2013 according to the Consumer Price Index as is published on the Internet.

4.4 Undertaking to provide financial provision

(Indicate that the required amount will be provided should the right be granted).

Attached as Appendix 'B' find an undertaking to provide the required amount as calculated in the financial quantum as well as proof of financial ability.

5 REGULATION 52 (2) (e): Planned monitoring and performance assessment of the environmental management plan.

5.1 List of identified impacts requiring monitoring programmes.

- Air quality will have to be monitored throughout the life of the operation to ensure that the levels are within the prescribed Legislation levels.
- Flora will have to be monitored throughout the life of the operation to ensure that the land capability returns to its current state.
- Noise will have to be monitored throughout the life of the operation to ensure that the levels are within the prescribed Legislation levels.

5.2 Functional requirements for monitoring programmes.

- Air quality
  - The National Environment Management: Air Quality Act, 2004 (Act No.39 of 2004) (All Sections of this Act, except Section 21,22,36 to 49, 51 (1)(e), 51(1)(f), 51(3), 60 and 61 have taken effect on 11 September 2005);
  - The Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965) (This Act will be repealed by the national Environment management: Air Quality Act, 2004 (Act No. 39 of 2004);
  - Regulations to the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) – Regulation 64.
  - The Mining Health and Safety Act, 1996 (Act No. 29 of 1996) as amended; and
  - The Occupational Diseases in Mines and Works Act, 1973 (Act No 78 of 1973).

- Flora
  - The Mine Health and Safety Act, 1996 (Act No. 39 of 1996) as amended;

- Noise
  - The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) – Section 7.
  - The Mine Health and Safety Act, 1996 (Act No. 39 of 1996) as amended.
  - The Road Traffic Act, 1997 (Act No. 93 of 1997);
  - The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) – Section 34. and

- Regulations of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) – Regulation 66.

5.3 Roles and responsibilities for the execution of monitoring programmes.

The Operations Manager and/or Project Geologist will be responsible for the execution of the air quality, flora and noise monitoring programmes.

5.4 Committed time frames for monitoring and reporting.

Quarterly monitoring of air quality and noise will be conducted as required by Legislation. The results of these studies will be compiled into annual reports and forwarded to the Principle Inspector of Mine Health and Safety, Department of Mineral Resources, Kimberley.

6 REGULATION 52 (2) (f): Closure and environmental objectives.

6.1 Rehabilitation plan

(Show the areas and aerial extent of the main prospecting activities, including the anticipated prospected area at the time of closure).

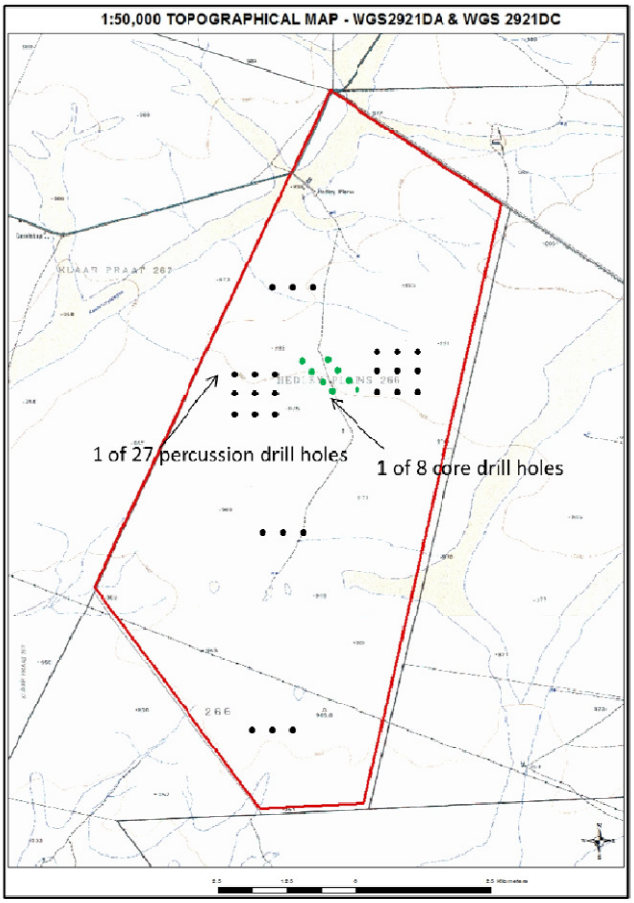


Figure 10 - Conceptual site layout map indicating the prospecting activities to be rehabilitated

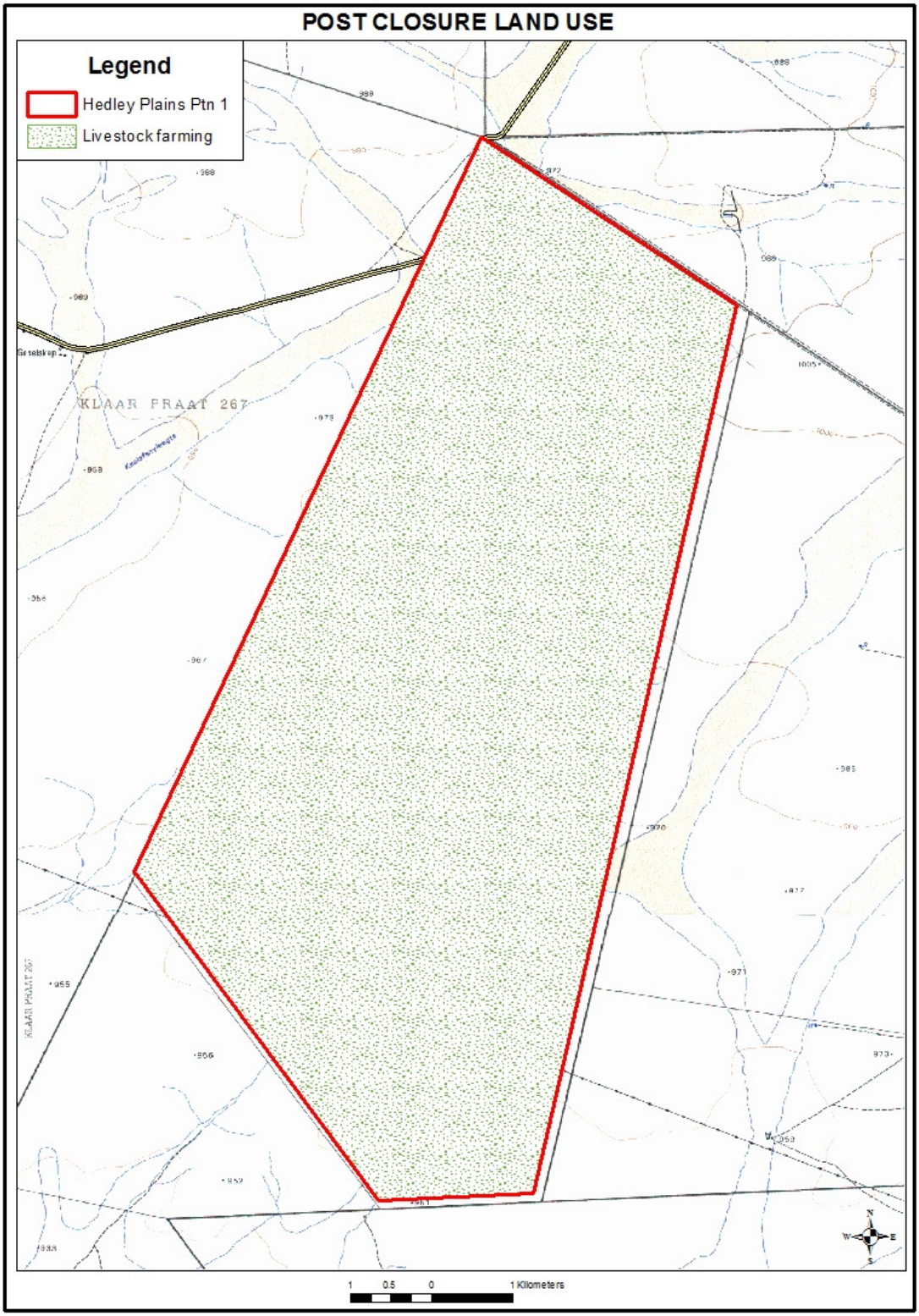


Figure 11 - Post-closure land use

Odori undertakes to rehabilitate all areas impacted on by its prospecting activities.

6.2 Closure objectives and their extent of alignment to the pre-prospecting environment.

Closure objectives

- The main closure objective of Odori's planned prospecting operation is to restore the site to its current land capability in a sustainable matter.
- To prevent the sterilization of any reserves.
- To prevent the establishment of any permanent structures or features.
- To manage and limit any impact to the surface and groundwater aquifers in such a way that an acceptable water quality and yield can still be obtained, when a closure certificate is issued.
- The prospecting operation also has the objective to re-establish the vegetation cover on affected areas.
- To limit and rehabilitate any erosion features caused by the prospecting activities and prevent any permanent impact to the soil capability thereof.
- To limit and manage the visual impact of the prospecting operation.
- To safeguard the safety and health of humans and animals on the site.
- To close the prospecting operation efficiently, cost effectively and in accordance with Government Policy.

The closure objectives are aligned in such a manner as to ensure the current land capability is achieved upon closure.

6.3 Confirmation of consultation

(Confirm specifically that the environmental objectives in relation to closure have been consulted with landowner and interested and affected parties).

Property description	Owner	Description
Portion 1 of the Farm Hedley Plains 266	Mr. J.A. Lombard & Ms. S.J.D. Lombard	Surface owner
Portion 4 of the Farm Witkopjes 258	Mr. Jacobus Wilhelm Lacock Visser	Surrounding owner
Portion 1 (Johnnies Luck) of the Farm Bastards Pan 259	Klaarpraat Trust	Surrounding owner
Portion 4 (a portion of portion 2) of the Farm Jagt Bult 262	Mr. J.A. Lombard & Ms. S.J.D. Lombard	Surrounding owner
Portion 1 (Zonop) of the Farm Zonop 263	B.R. Grobler Trust	Surrounding owner
Portion 1 (Geselskap) of the Farm Klaar Praat 267	Kai Garib Municipality	Surrounding owner
Portion 5 (a portion of portion 5) of the Farm Bosch Bult 311	Ben Grobler Trust	Surrounding owner
Siyathemba Local Municipality	-	Local Municipality
Pixley Ka Seme District Municipality	-	District Municipality
ESKOM	-	Parastatal
SANRAL	-	National Agency
Transnet	-	Parastatal
Department of Rural Development and Land Reform	-	Government Department
Department of Environment and Nature Conservation	-	Government Department
Department of Agriculture and Land Reform	-	Government Department
Department of Water Affairs	-	Government Department
Department of Public Works	-	Government Department
SKA	-	Interested and Affected Party

The surface owners of the property under application, all surrounding landowners and various other identified interested and affected parties were notified by means of registered post as well as by advertisements that were place in the Gemsbok (Local newspaper) and Volksblad (Regional newspaper). Find attached hereto as Appendix 'A' proof of this notification and consultation process.

Further consultation included a meeting that was held with the property owners on 30 May 2013 regarding the planned prospecting activities and EMP.

Responses / Concerns received on the notification letters are as follows:

- Mr. J.A. Lombard & Ms. S.J.D. Lombard (surface owner):
  The planned prospecting operation was discussed in detail with the Lombards during the meeting held on 30 May 2013. Mr. and Mrs. Lombard understand what the prospecting operation will entail on their property and have no concerns or objections towards the proposed prospecting activities.

  A notification letter, with the draft EMP attached, was sent to the surface owners of the application area.

  To date no responses have been received regarding the EMP. All of the comments / concerns received will be submitted to DMR as and when it is received.

No other responses were received from the notification letters that were sent.

No responses were received from the newspaper advertisements that were placed in the Volksblad and Gemsbok.

7 REGULATION 52 (2) (g): Record of the public participation and the results thereof.

7.1 Identification of interested and affected parties.

(Provide the information referred to in the guideline)

7.1.1. Name the community or communities identified, or explain why no such community was identified.

There are no communities residing on the properties under application. A site visit was conducted on the various portions of the application area.

7.1.2. Specifically state whether or not the Community is also the landowner.

There are no communities residing on the properties under application.

The surface owners of the farm under application are:

Farm	Owner	Title deed
Portion 1 of the Farm Hedley Plains 266	Johannes Andries Lombard & Sara Jacoba Debora Lombard	T16373/2013

7.1.3. State whether or not the Department of Land Affairs has been identified as an interested and affected party.

Yes, the Department of Rural Development and Land Reform has been identified as an interested and affected party. A notification letter, regarding the acceptance of the prospecting right application by Odori Investments (Pty) Ltd, was sent to the Department by registered post. To date no response has been received from the Department.

7.1.4. State specifically whether or not a land claim is involved.

There is no known land claim over the property under application.

7.1.5. Name the Traditional Authority identified.

Not applicable - There is no Traditional Authority on the property under application.

7.1.6. List the landowners identified by the applicant. (Traditional and Title Deed owners).

The surface owners of the farms under application are:

Farm	Owner	Title deed
Portion 1 of the Farm Hedley Plains 266	Johannes Andries Lombard & Sara Jacoba Debora Lombard	T16373/2013

7.1.7. List the lawful occupiers of the land concerned.

Mr. and Mrs. Lombard, their family and employees occupies Portion 1 of the Farm Hedley Plains 266.

7.1.8. Explain whether or not other persons' (including on adjacent and non-adjacent properties) socio-economic conditions will be directly affected by the proposed prospecting or mining operation and if not, explain why not.

Yes. Socio-economic upliftment will take place due to the creation of employment opportunities as well as economic support to the surrounding business community.

7.1.9. Name the Local Municipality identified by the applicant.

Siyathemba Local Municipality

7.1.10. Name the relevant Government Departments, agencies and institutions responsible for the various aspects of the environment, land and infrastructure which may be affected by the proposed project.

(i) Siyathemba Local Municipality
(ii) Pixley Ka Seme District Municipality
(iii) The Department of Rural Development and Land Reform
(iv) The Department of Environmental Affairs
(v) The Department of Agriculture and Land Reform
(vi) The Department of Public Works
(vii) The Department of Water Affairs
(viii) South African National Roads Agency Ltd
(ix) Eskom

7.1.11. Submit evidence that the landowner or lawful occupier of the land in question, and any other interested and affected parties including all those listed above, were notified.

The surface owners of the property under application, all surrounding landowners and various other identified interested and affected parties were notified by means of registered post as well as by advertisements that were place in the Gemsbok (Local newspaper) and Volksblad (Regional newspaper). Find attached hereto as Appendix 'A' proof of this notification and consultation process.

7.2 **The details of the engagement process**.

7.2.1 Description of the information provided to the community, landowners, and interested and affected parties.

A draft EMP was provided to the surface owners of Portion 1 of the Farm Hedley Plains 266 for comment which document includes the following (find attached hereto proof as Appendix 'C'):

- The planned prospecting operation;
- The existing status of the environment;
- The anticipated impacts of the planned prospecting operation;
- Current land uses; and
- Closure objectives

7.2.2 List of which parties indentified in 7.1 above that were in fact consulted, and which were not consulted.

All of the below parties have been notified of the prospecting right application:

Property description	Owner	Description	Notification by
Portion 1 of the Farm Hedley Plains 266	Mr. J.A. Lombard & Ms. S.J.D. Lombard	Surface owner	Registered letter + newspaper
Portion 4 of the Farm Witkopjes 258	Mr. Jacobus Wilhelm Lacock Visser	Surrounding owner	Registered letter + newspaper
Portion 1 (Johnnies Luck) of the Farm Bastards Pan 259	Klaarpraat Trust	Surrounding owner	Registered letter + newspaper
Portion 4 (a portion of portion 2) of the Farm Jagt Bult 262	Mr. J.A. Lombard & Ms. S.J.D. Lombard	Surrounding owner	Registered letter + newspaper
Portion 1 (Zonop) of the Farm Zonop 263	B.R. Grobler Trust	Surrounding owner	Registered letter + newspaper
Portion 1 (Geselskap) of the Farm Klaar Praat 267	Kai Garib Municipality	Surrounding owner	Registered letter + newspaper
Portion 5 (a portion of portion 5) of the Farm Bosch Bult 311	Ben Grobler Trust	Surrounding owner	Registered letter + newspaper
Siyathemba Local Municipality	-	Local Municipality	Registered letter + newspaper
Pixley Ka Seme District Municipality	-	District Municipality	Registered letter + newspaper
ESKOM	-	Parastatal	Registered letter + newspaper
SANRAL	-	National Agency	Registered letter + newspaper
Transnet	-	Parastatal	Registered letter + newspaper
Department of Rural Development and Land Reform	-	Government Department	Registered letter + newspaper
Department of Environment and Nature Conservation	-	Government Department	Registered letter + newspaper
Department of Agriculture and Land Reform	-	Government Department	Registered letter + newspaper
Department of Water Affairs	-	Government Department	Registered letter + newspaper
Department of Public Works	-	Government Department	Registered letter + newspaper
SKA	-	Interested and Affected Party	Registered letter + newspaper

The following parties have been consulted with:

- Mr. and Mrs. Lombard (surface owners)

No other responses were received from the notification letters and/or the adverts that were placed.

7.2.3 List of views raised by consulted parties regarding the existing cultural, socio-economic or biophysical environment.

- Mr. J.A. Lombard & Ms. S.J.D. Lombard (surface owner):
  The planned prospecting operation was discussed in detail with the Lombards during the meeting held on 30 May 2013. Mr. and Mrs. Lombard understand what the prospecting operation will entail on their property and have no concerns or objections towards the proposed prospecting activities.

  A notification letter, with the draft EMP attached, was sent to the surface owners of the application area.

  To date no responses have been received regarding the EMP. All of the comments / concerns received will be submitted to DMR as and when it is received.

No other responses were received from the notification letters that were sent.

No responses were received from the newspaper advertisements that were placed in the Volksblad and Gemsbok.

7.2.4 List of views raised by consulted parties on how their existing cultural, socio-economic or biophysical environment potentially will be impacted on by the proposed prospecting or mining operation.

- Mr. J.A. Lombard & Ms. S.J.D. Lombard (surface owner):
  The planned prospecting operation was discussed in detail with the Lombards during the meeting held on 30 May 2013. Mr. and Mrs. Lombard understand what the prospecting operation will entail on their property and have no concerns or objections towards the proposed prospecting activities.

  A notification letter, with the draft EMP attached, was sent to the surface owners of the application area.

  To date no responses have been received regarding the EMP. All of the comments / concerns received will be submitted to DMR as and when it is received.

No other responses were received from the notification letters that were sent.

No responses were received from the newspaper advertisements that were placed in the Volksblad and Gemsbok.

7.2.5 Other concerns raised by the aforesaid parties.

None

7.2.6 Confirmation that minutes and records of the consultations are appended.

Find attached hereto as Appendixes 'A' and 'C' the consultation process conducted regarding the prospecting right application of Odori.

7.2.7 Information regarding objections received.

No objections were received.

7.3 **The manner in which the issues raised were addressed**.

No issues / comments / concerns and/or objections regarding this prospecting right application have been received to date. Should any be received, Odori will address them within 14 days of receipt thereof.

Odori hereby undertake to adhere to all sections of this document throughout the life of its prospecting operation.

8 SECTION 39 (3) (c) of the Act: Environmental awareness plan.

8.1 Employee communication process

(Describe how the applicant intends to inform his or her employees of any environmental risk which may result from their work).

- An environmental, health and safety induction programme will be provided to all employees prior to commencing work, and they will sign acknowledgement of the induction.
- A monthly "toolbox talk" will be held prior to commencing work, which will include discussions on health, safety and environmental considerations. The toolbox talks should be led by the site manager.

8.2 Description of solutions to risks

(Describe the manner in which the risk must be dealt with in order to avoid pollution or degradation of the environment).

- Establish the context
  - Strategic
  - Organisational
  - Risk management
- Identify risks
- Analyse risks
  - Consequences
  - Likelihood
- Assess and prioritise risks
  - Acceptability
  - Priorities for treatment
- Treat risks
  - Eliminate
  - Reduce
  - Transfer
  - Manage
- Monitor and review

8.3 Environmental awareness training.

(Describe the general environmental awareness training and training on dealing with emergency situations and remediation measures for such emergencies).

ENVIRONMENTAL AWARENES TRAINING PROGRAMME PROCEDURE

Natural resources are limited and not always renewable and it is the responsibility of management to ensure that all employees are trained to understand the impacts of their tasks on the environment and to reduce them wherever possible.

Environmental awareness training must be given to new employees on site and any contractors who may come onto site for a short period of time. Refresher training must be given to permanent employees on an annual basis.

The objective of this procedure is to ensure that all employees on the, including contractors, are competent to perform their duties, thereby eliminating negative impacts on their safety, health and the environment.

The Environmental topics to be covered in awareness training should include the following:

- **RESOURCE MANAGEMENT**
  a. The importance of saving water
     i. South Africa is a water scarce country and rivers are polluted
     ii. Do not throw litter into river or water drains
     iii. Do not dispose of oils in sewers
  b. Air pollution - Climate change
     i. The use of fossil fuels is increasing the amount of greenhouse gases that are discharged to the atmosphere. Share transport or use public transport
     ii. Don't burn any rubbish, the smoke pollutes the air
     iii. Plant trees, they clean the air, provide us with oxygen and remove the greenhouse gas carbon dioxide from the air.
  c. Soil conservation
     i. Prevent overgrazing of farmlands, keep vegetation on the surface of the land to prevent soil erosion
     ii. Plant trees

- **HAZARDOUS SUBSTANCE USE AND STORAGE**
  a. Solvents, petrol, diesel, insecticides, chlorine, detergents, chemical fertilisers are harmful to the environment and to your health. Use them sparingly and do not let them get into the water systems. Containers must be disposed of to a licensed hazardous waste disposal facility
  b. Hazardous substances must be stored and used correctly
  c. Ensure that 16 point Material Substances Safety Data Sheets (MSDS) are available at point of store
  d. Compressed gas storage requirements
  e. Flammable substances store requirements

- **INCIDENT & EMERGENCY REPORTING**
  a. The company must have an emergency / incident reporting system whereby environmental incidents can be reported and actioned to mitigate and follow up on.

- **OIL / DIESEL/ PETROL SPILL CLEAN UP**
  a. All employees who work with machines and vehicles must be instructed how to prevent and clean up an oil or diesel spill appropriately. Spill kits must be available on site, drip trays must be used when servicing vehicles

- **CONSERVATION OF WATER**
  a. Campaign to save water on site

b. Clean water is expensive and potable water must be used carefully
c. Prevent pollution of water by preventing spills and dispose of wastes properly

- **CONSERVATION OF VEGETATION**

  Plants, grasses and trees are very important to our existence on the earth, they provide food, fuel, shelter, raw materials and they clean the air. Indigenous plants are especially important for muti and the whole ecology of life. Some human activities are destroying the natural forests of the earth. The natural forests are the "lungs" of the planet and unfortunately they are being cleared faster than they can be regenerated.

  a. EIA's are to be done before virgin bush can be cleared
  b. Vegetation cover reduces water and topsoil loss from the ground, do not clear vegetation unnecessarily
  c. Indigenous trees provide shade, attract wild birds
  d. Do not chop down indigenous trees without good reason
  e. Implement a tree planting programme
  f. Remove alien invasive trees in your area such as Prosopis, Syringa and Pepper trees, cactus plants.

- **WASTE MANAGEMENT**

  a. Employees must be instructed on how to tell the difference between hazardous waste and general waste
  b. They must know how to separate hazardous and general waste and where to dispose of these wastes in the correct way
  c. Examples of hazardous waste which must be recycled or sent to Waste Tech for disposal:
     iii. Oil, diesel, batteries, acids, paint, thinners, electronic waste
     iv. Pesticides, Jik, handy Andy
     v. Old oil, old oil filters, old paint is hazardous and must not be disposed of to a general land fill. Oilkol will collect old oil.
     vi. Mercury in fluorescent light bulbs is hazardous, fluorescent lights must be handled with great care so as not to break the glass and release the mercury vapour into the air which you breathe.
  d. Examples of general wastes which can go to the municipal landfill:
     vii. Wood, paper, plastic, glass, old PPE
  e. Recycle, Reuse, Reduce, Recover where ever possible

- **CONCLUSION**

  The management of Odori will utilize the Environmental Awareness Plan to assure that all employees and contractors are aware of the environment and know how to manage it correctly.

9 SECTION 39 (4) (a) (iii) of the Act: Capacity to rehabilitate and manage negative impacts on the environment.

9.1 The annual amount required to manage and rehabilitate the environment.

(Provide a detailed explanation as to how the amount was derived)

The total cost to manage and rehabilitate the environment was calculated to R91 907-39 in the financial quantum.

9.2 Confirmation that the stated amount correctly reflected in the Prospecting Work Programme as required.

The rehabilitation cost was included in the costing schedule contained in Table 9.1 Prospecting Work Programme as was submitted with Odori's Prospecting Right application.

10 REGULATION 52 (2) (h): Undertaking to execute the environmental management plan.

Herewith I, the person whose name and identity number is stated below, confirm that I am the person authorised to act as representative of the applicant in terms of the resolution submitted with the application, and confirm that the above report comprises EIA and EMP compiled in accordance with the guideline on the Departments official website and the directive in terms of sections 29 and 39 (5) in that regard, and the applicant undertakes to execute the Environmental management plan as proposed.	
Full Names and Surname	Johannes Nicolas Hamman
Identity Number	700727 5044 08 7

-END-