mineral resources

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Sub Directorate: Mine Environmental Management **Ref:** NC30/5/1/3/2/5029 MP

The Director
South African Heritage Resources Agency
PO Box 4637
CAPE TOWN
8000

Case ID: 3617

Attention: Nonofho Ndobochani

CONSULTATION IN TERMS OF SECTION 40 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT 2002, (ACT 28 OF 2002) IN RESPECT OF AGGREGATE STONES FOR THE APPROVAL OF AN ENVIRONMENTAL MANAGEMENT PLAN FOR A BORROW PIT ON DWAAL FOUNTAIN NO.29 SITUATED IN THE MAGISTERIAL DISTRICT OF HANOVER, NORTHERN CAPE REGION.

APPLICANT: TRANSNET (SOC) LTD

Attached herewith, please find a copy of an EMP received from the above-mentioned applicant, for your comments.

It would be appreciated if you could forward any comments or requirements your Department may have to this office and to the applicant before **17 October 2013** as required by the Act.

Consultation in this regard has also been initiated with other relevant State Departments. In an attempt to expedite the consultation process please contact **Mr Livhuwani Malatjie** of this office to make arrangements for a site inspection or for any other enquiries with regard to this application.

Your co-operation will be appreciated.

pp.....
ACTING REGIONAL MANAGER: MINERAL REGULATION
NORTHERN CAPE REGION

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5029BP

mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

NAME OF APPLICANT: Transnet (SOC) Ltd

REFERENCE NUMBER:

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)

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
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ITEM	CONSULTANT CONTACT DETAILS (If applicable)
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Transnet (SOC) Ltd (hereafter referred to as 'Transnet') is a Parastatal organisation and is deemed an "Organ of State" as stipulated in Government Notice R762 (25 June 2004) (See Appendix A). Based on this and discussions with the Department of Mineral Resources (DMR) in Kimberley, Transnet is therefore exempted from certain provisions of the Act (Sections 16, 20, 22 and 27) and will have to follow an abbreviated authorisation process for new/dormant borrow pits. This abbreviated process involves the completion of an Environmental Management Plan (EMP) (this document) for the Linde borrow pit. The Linde borrow pit is an existing borrow pit (requiring re commissioning) located on the Farm Dwaal Fountain 29 (See Appendix 2 for the landowner consent forms). Transnet are currently undertaking an amendment process, a basic assessment process and an environmental process in terms of the National Environmental Management Act (NEMA) (Act 107 of 1998), as amended for the Proposed Upgrade of the Transnet Railway Line between Hotazel and the Port of Ngqura. The process of relevance to the Linde borrow pit is the Amendment Process. The report has been appended to this EMP (Appendix C).

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

The Linde borrow pit is located on the Farm Dwaal Fountain, approximately 1 km south west of the Linde Station and the existing servitude for the manganese ore railway line which runs from Hotazel in the Northern Cape to the Port of Ngqura in the Eastern Cape (Figure 1). This is an existing borrow pit which needs to be re commissioned and is situated on privately owned land. A summary of the description of the environment in terms of the biophysical, social and cultural heritage aspects has been given below for this section of the railway line. More detail can be obtained from the amendment report (Appendix C) as well as relevant specialist reports (Appendix D) and the Linde borrow pit site visit report (Appendix 1).

The Biophysical Environment

Geology, Topography and Palaeontology (Refer to Appendix 1, Appendix D4 and Appendix D7 for additional detail)

The borrow pit site is located south west of the railway servitude. The area in and around the site has an elevation of 1411 mamsl, with a rolling to flat landscape terrain. The vegetation is dominated by the typical Eastern Upper Karoo (Nku4) (Mucina & Rutherford, 2006) vegetation type within the Nama Karoo Ecoregion within a landscape composed of flat and gently sloping plains interspersed with small hills, some with large rocky outcrops. The soils are mostly shallow and drain well. Vegetation associated with aquatic systems were thus limited possibly due to the sandy soils (underplayed by mudstone and sandstone) couple to a low annual rainfall (ca. 180 mm/a).

Access to the site is from the east via a regional access road linking to the railway servitude to the north.

Surface and Groundwater (Refer to Appendix 1 and Appendix D7 for additional detail

The Linde section is located in Quaternary Catchment D32F which drains in a northern direction towards the Seekoei River (Figure 2). The proposed Linde section contained a unique type of

"river-wash" areas that could only be described as alluvial plain depressions. These are almost sinusoidal in shape (Figure 3) and would only contain water for short periods of time and thus don't contain any hydrophilic species. Three small drainage line areas were also observed. None of these systems are, however, connected to the Seekoei River lower in the catchment, thus the study area systems would be considered endorheic (inward draining).

Flora (Refer to Appendix C for additional detail)

The study site coincided with the Nama-Karoo Biome and comprised of open grassy plains dominated by a basal cover of secondary graminoid taxa pertaining to the genera Aristida and Eragrostis. The floristic composition comprised of dwarf, microphyllous forbs reflecting past disturbance regimes. Although the Linde borrow pit is characterised with vegetation from the Nama-Karoo biome, anthropogenic influences (namely the existing railway line and associated loops) have modified he affected environments significantly.

Fauna

The proposed loop expansion site is located in open disturbed karoo veld. Faunal activity in the area was low. During the field investigations 10 bird species and four mammal species were observed, or evidence of their presence was observed. A Lanner Falcon (*Falco biarmicus*), which is listed as a Near Threatened species, was observed foraging in the vicinity of the site. However, the excavation of the borrow pit at Linde is unlikely to cause any major disturbance to fauna in the area.

Noise (Refer to Appendix C for additional detail)

Noise and vibrations during the construction phase (which includes borrow pit activities) will result from the use of heavy machinery and vehicles, blasting, drilling and general noise from workers. While the noise emitted from construction activities is likely to be highly variable, noise and vibrations could be experienced by some social receptors, such as human settlements, located in proximity to the railway line. The Linde borrow pit is however, not located in close proximity to sensitive receptors.

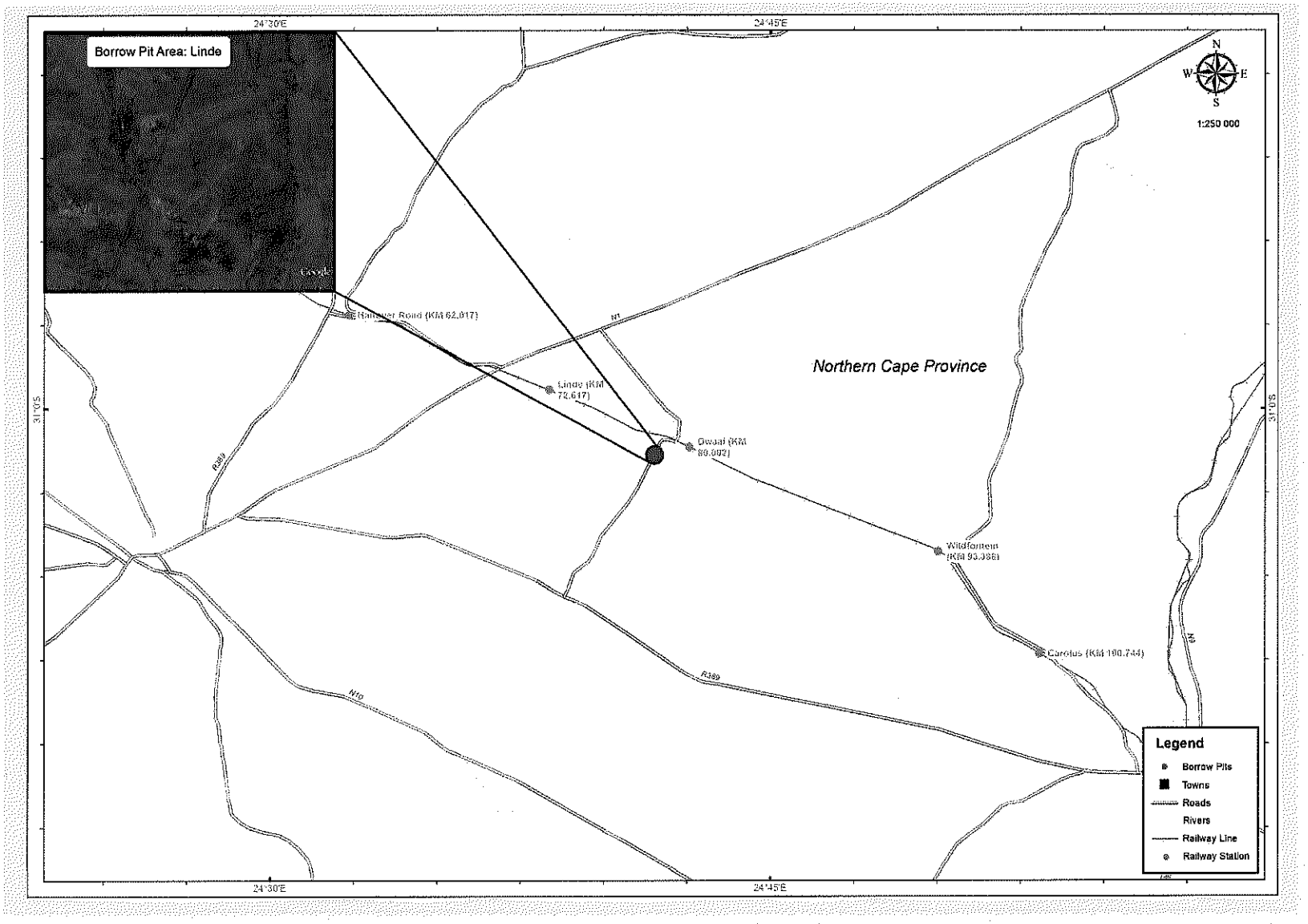


Figure 1: Locality map of the Linde borrow pit

Ambient Air Quality (Refer to Appendix D1 for additional detail)

The manganese freight line runs from the mines at Hotazel to the Port of Ngqura. It passes mostly through sparsely populated rural areas consisting of agricultural lands and natural vegetation. It also passes through a number of urban centres of varying sizes. Industrial activity in all of these is relatively limited consisting of small manufacturing concerns with limited emissions of pollutants to the atmosphere.

In un-electrified homes in residential areas along the route, wood and other fuels are burnt for cooking and space heating. In winter typically more fuel is burnt than in summer because of the colder temperatures. Pollutants associated with wood burning include CO, NO_X and particulates. Vegetation burning for agricultural purposes and other forms of land management are also sources of gaseous and particulate pollutants.

In the urbanised centres along the freight route, ambient air quality is expected to be generally good and possibly only impacted on by emissions from sources such as small industrial boilers and motor vehicles. In residential areas that the freight line runs close to, where wood and other biomass fuels are used for heating and cooking, air quality may to be poor. In the evenings and early mornings when fires are made, especially in winter air quality in these areas will be most impacted. Elsewhere along the route ambient air quality is expected to be very good.

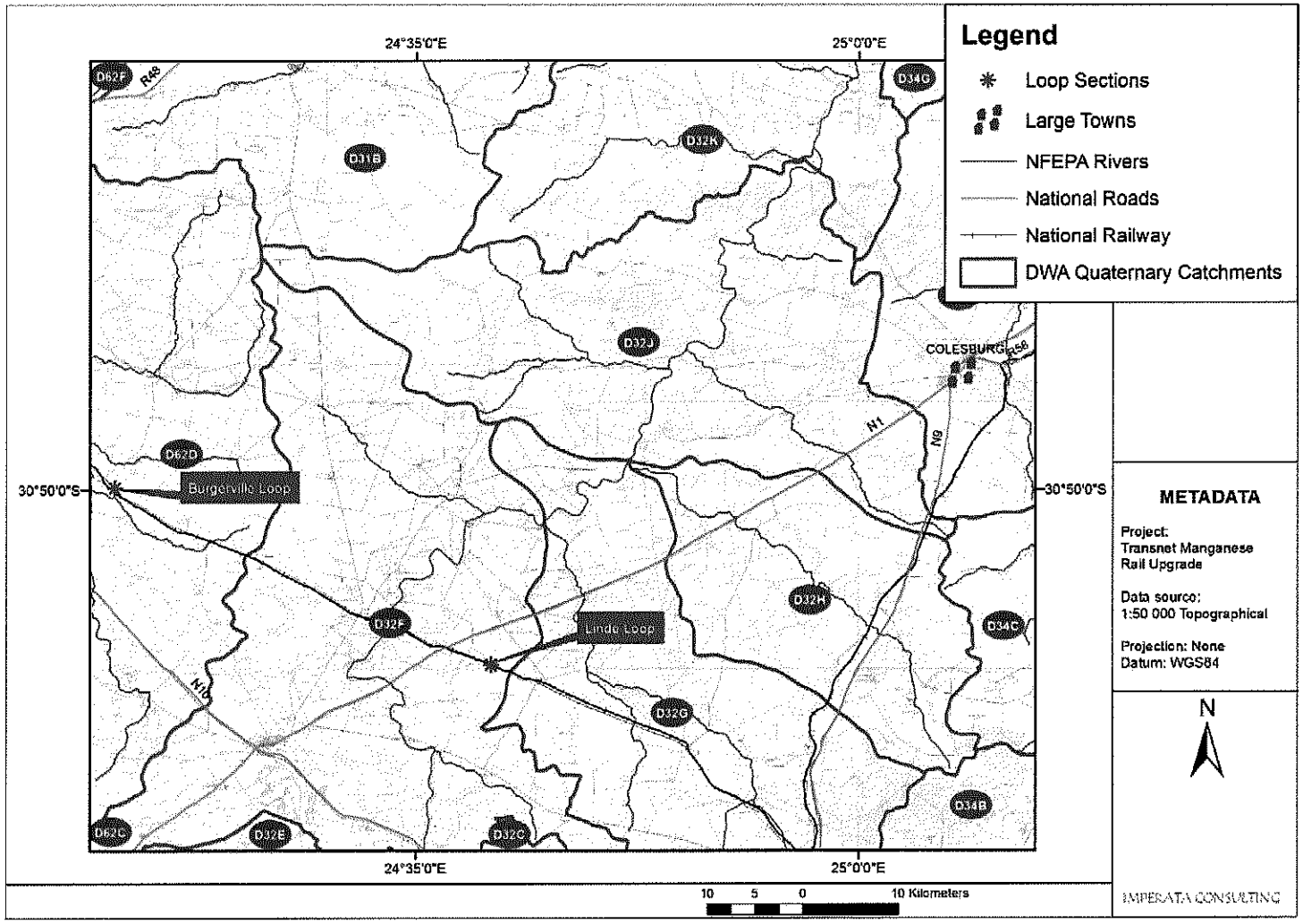


Figure 2: The Burgervilleweg and Linde study areas in relation to the Brakrivier Quaternary Catchment D62D and D32F respectively (Source DWA, NFEPA & Hatch)

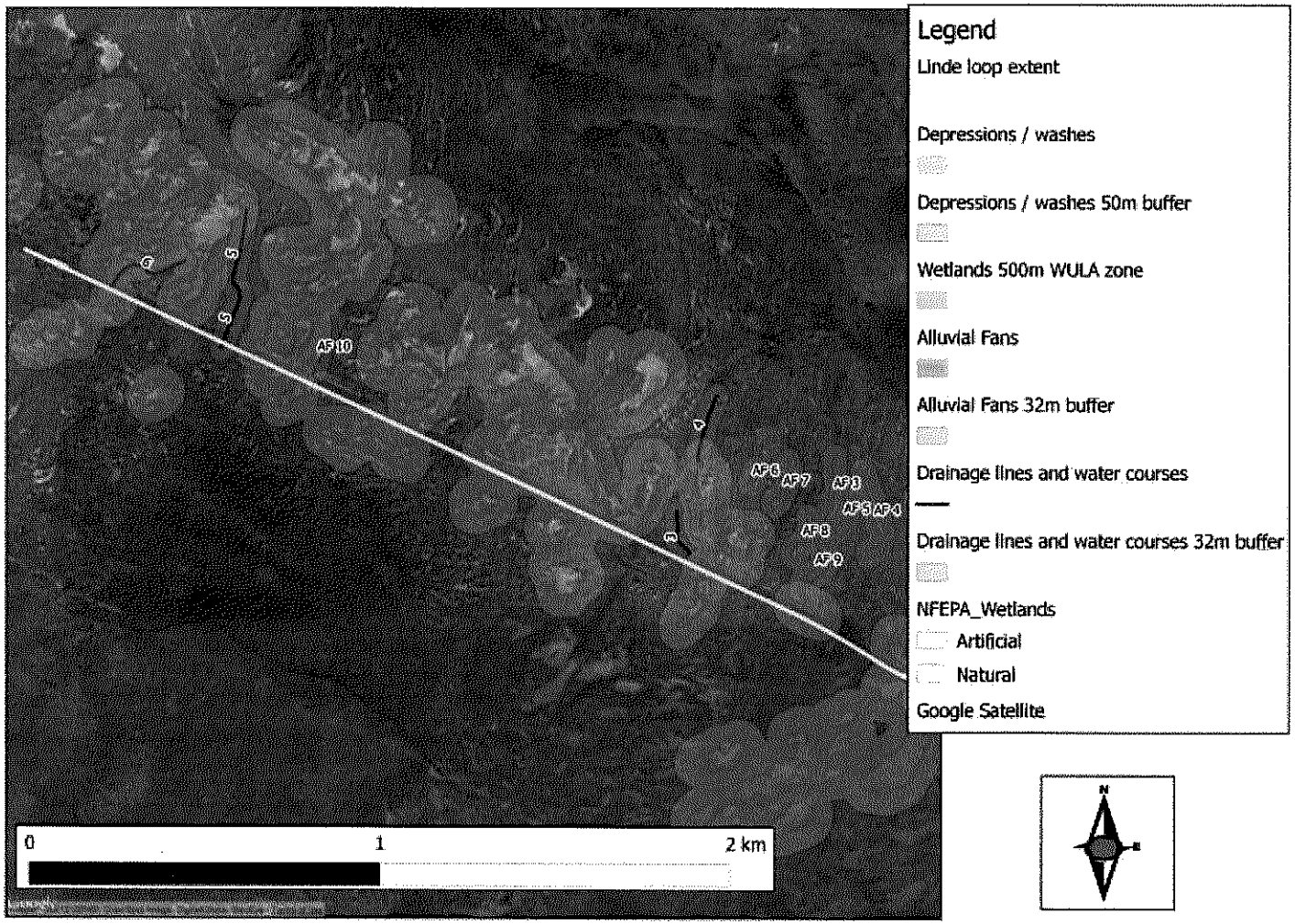


Figure 3: Delineated drainage systems and watercourses within the Linde study area indicating the proposed wetland buffers. (Source: Watercourse Assessment Report Appendix D7)

The Socio-Economic Environment (Refer to Appendix C for additional detail)

The proposed borrow pit area is located in the Emthanjeni Local Municipality in the Northern Cape. The closest town to the Project site is Hanover (21 km away). According to a community survey conducted in 2007 for the local municipality, the majority of the population are classified as Coloured (63 percent), 26 percent are Black and 11 percent are White.

Within the Linde borrow pit area there is one project affected farm (Dwaal Fountain 29) which is situated in the administrative district of Hanover, Northern Cape Province. The farm is privately owned by Mr Naude. There are no pending land claims on it. Cattle and sheep farming is the primary land use.

The Cultural/Heritage Environment (Refer to Appendix D3 for additional detail)

The Linde borrow pit is an existing borrow pit located on privately owned land. The Linde area is known for the occurrence of Middle Stone Age artefacts and scattered Later Stone Age material. Only one Middle Stone Age hand axe was observed at the borrow pit site. As a result of artefacts being displaced because of erosion, the site is of low archaeological significance. Figure 2 below indicates the heritage sites located in the vicinity of the borrow pit. These will not be affected by the re-commissioning of the borrow pit however, it is possible that heritage objects may be uncovered during earthmoving activities. A heritage management plan is available (Appendix E2) that provides guidance in terms of the steps that should be taken if heritage objects are uncovered during the borrow pit's operation.

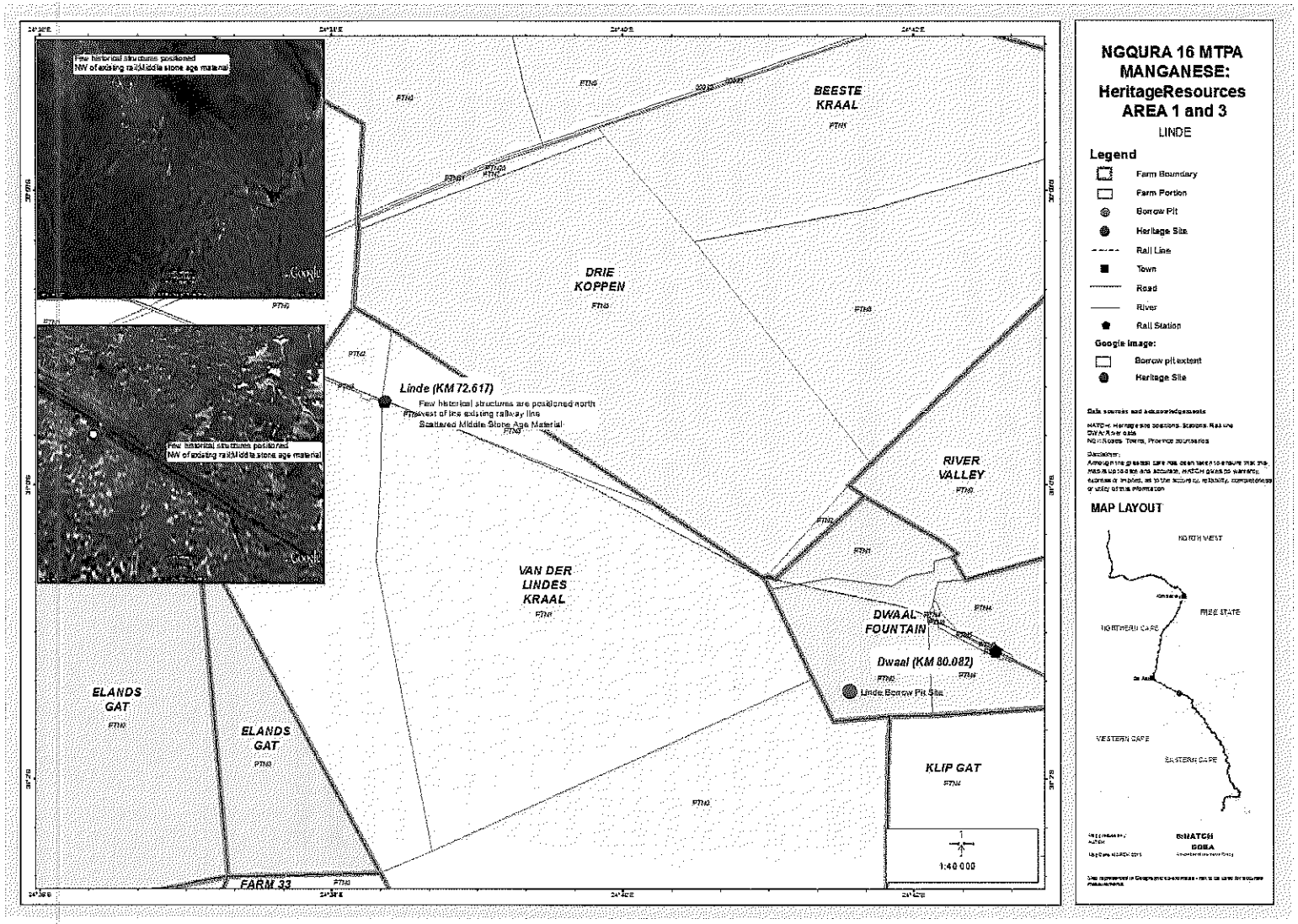


Figure 4: Heritage sites located in the vicinity of the Linde borrow pit area

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

No specific environmental features have been identified which may require protection, remediation, management or avoidance within the borrow pit area. The area within which the existing Linde borrow pit is located is not situated in a critical biodiversity area, a protect area, or planned expansion area of an existing protect area.

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

The sensitivity map is shown in Figure 5 and the Heritage map is shown in Figure 4.

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

A public participation process was carried out as part of the Amendment Process conducted in 2012/2013 (Appendix C). The borrow pits in general have been discussed in this assessment and the public were made aware during the process that the project would require several borrow pits along the length of the railway line. Since the Linde borrow pit area is located on privately owned land, consultation with the affected landowner was undertaken (See Appendix 3 for the minutes of the meeting). The general landscape was included in the Amendment process and therefore communities and affected parties along the length of the railway line had the opportunity to provide input into the classification of the surrounding environment.

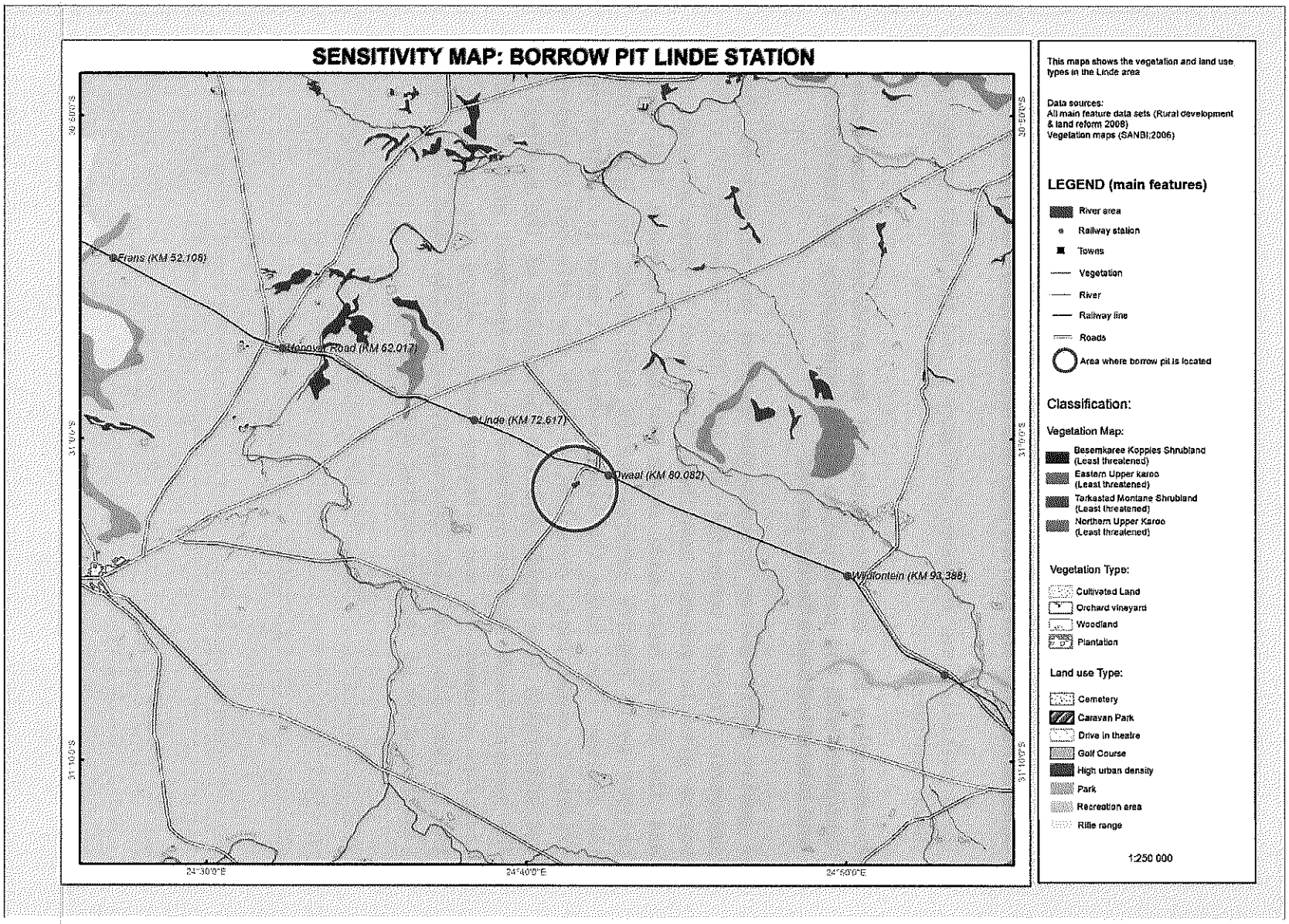


Figure 5: Sensitivity map of the area in and around the Linde borrow pit

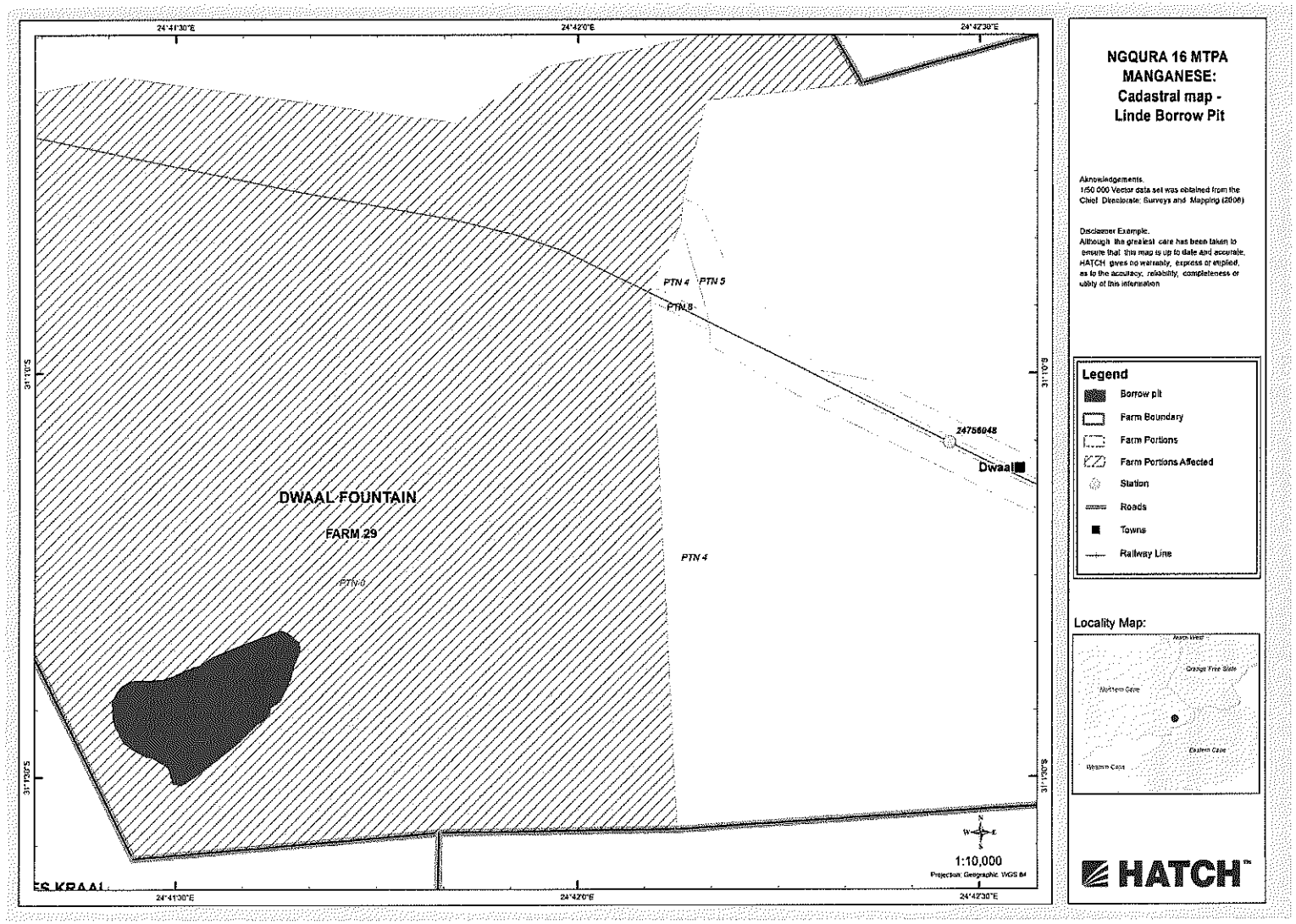


Figure 6: Farm portions adjacent to the Linde borrow pit site

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)

The material from the borrow pit will be used for earthworks material for construction of railway formations, construction of level crossing ramps and use in the formation subsidence repair. The main equipment that will be used to achieve this will be a 22 ton excavator, a backactor and a $10m^3$ tipper. The main activities involved in the re-commissioning of the Linde borrow pit include:

- Staking out of the borrow pit area prior to vegetation clearing following which, the vegetation would be cleared from the site.
- Topsoil, where possible, will be stripped to a depth of 200 mm and stockpiled separately from the other soil layers.
- Excavation of materials by ripping and loading with the excavator directly onto the haul vehicle. The material will be transported along the existing gravel road which runs adjacent to the railway line.
- Any material which is not suitable for borrow material will be stockpiled separately and used for in the rehabilitation of the site.

2.1.2 Plan of the main activities with dimensions

The borrow pit dimensions are as follows:

- Footprint (in hectares): Estimated at 2.2 ha
- Maximum depth (in meters): 5 m
- Anticipated volume (in cubic meters): 89 000 m3

The borrow pit layout plan is shown in Figure 7.

2.1.3 Description of construction, operational, and decommissioning phases

The main phases associated with borrow pit development include construction, operation, rehabilitation and closure. A brief description of each one of these phases is given below:

Construction:

The borrow pit area will be staked out prior to vegetation clearing after which, the vegetation will be cleared from the site. Where topsoil is present, this will be stripped to a depth of 200 mm and stockpiled separately in piles.

Operation:

The borrow pit material will be excavated by means of ripping and loading with an excavator and then stockpiled before being loaded onto haul vehicles. The material will be transported along the existing gravel access road which runs adjacent to the railway line within the Transnet rail reserve.

Rehabilitation and Closure:

The objective of this phase is to restore the disturbed area as closely as possible to its original state through rehabilitation. The material which cannot be used for the repair of the rail track formation will be used in the reshaping of the site during rehabilitation. Drainage outputs would also be provided to ensure that there are no water pools within the borrow pit excavations. The stockpiled topsoil will be spread evenly over the disturbed area to a depth of 100 mm where possible. The borrow pit sites would then be re-vegetated with suitable indigenous grass species.

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

It is not anticipated that the re-commissioning of this borrow pit will trigger any activities in terms of NEMA however, in order to satisfy this section of the EMP, a list of potential listed activities which could be triggered for normal borrow pit scenarios have been

highlighted in the table below together with an explanation of why they are not applicable in this case.

In addition to this, the activities listed in the table below are listed in terms of GN R544 and GN R546 as per the new NEMA EIA Regulations updated in 2010. They are an update to the activities which were approved in terms of the previous NEMA Regulations (GN R386 and GN R387) for the EIA which was conducted in November 2009. The environmental authorisation process which was carried out for the Linde area (among others) in 2012/2013 is an amendment process to the EIA which was conducted in 2009.

Potential Triggered Activity No. and Description	Relevance
GN R544	
13. The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.	Not relevant. The contractor will provide temporary tanks on stands with a capacity of 2 cubic meters each for storage of diesel at the site in a bunded area. The combined capacity of these temporary tanks will not exceed 80 cubic meters.
19. Any activity which requires 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).	Not relevant. Transnet is an Organ of State and therefore, in terms of GN R762, is exempted from these activities for borrow pits.
20. Any activity requiring a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) or renewal thereof.	Not relevant. Transnet is an Organ of State and therefore, in terms of GN R762, is exempted from these activities.
GN R546	
4. Construction of a road wider than 4 m with a reserve less than 13.5 m. (a) Northern Cape (ii) Outside urban areas....	Not relevant. A gravel access road already exists. This will be used for transport of the borrow material from the pit to the section of the line where it is needed. No lengthening or

	widening of this road is anticipated.
10. The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres. (a) Northern Cape; (ii) Outside urban areas.	Not relevant. The contractor will provide temporary tanks on stands with a capacity of 2 cubic meters each for storage of diesel at the site in a bunded area. The combined capacity of these temporary tanks will not exceed 30 cubic meters. This activity will also not take place within or near any protected area or within 100 m of a watercourse.
12. The clearance of an area of 300 square meters or more of vegetation where 75% or more of the vegetative cover constitutes indigenous. vegetation. a) Within any critically endangered or endangered ecosystem listed in terms of section 52 of NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; b) Within critical biodiversity areas identified in bioregional plans.	Not relevant. The existing borrow pit area has been significantly disturbed and would not require substantial clearing of indigenous vegetation. In addition to this, there are no protected areas within a 5 km radius of the site.
13. The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetation cover constitutes indigenous vegetation. (c) Northern Cape; (ii) Outside urban areas.	Not relevant. The existing borrow pit area has been significantly disturbed and would not require substantial clearing of indigenous vegetation. In addition to this, there are no protected areas within a 5 km radius of the site.

2.2 Identification of potential impacts

(Refer to the guideline)

As mentioned in section 2.1.4 above, the re commissioning of the Linde borrow pit is not likely to trigger any activities in terms of NEMA. Sections 2.2.1 to 2.2.4 below have therefore been completed to only consider the impacts relating to the main activities (identified in section 2.1.1 above) revolving around the borrow pit during the construction, operation, rehabilitation and closure phases.

The impacts associated with the borrow pit development were assessed through the original EIA process in 2009 and in the Amendment to this (conducted between 2012 and 2013) in terms of the National Environmental Management Act 107 of 1998 as amended (See Appendix C).

2.2.1 Potential impacts per activity and listed activities

The impacts identified to be associated with the excavation of the borrow pits are dust, noise, loss of vegetation, archaeological and faunal impacts. The table below highlights the potential impacts which may occur per activity for each of the phases of the borrow pit's development:

Phase	Borrow pit activity	Impact	Impact Description
Construction	Clearing of vegetation	Impact on vegetation and protected plant species	Some loss of vegetation is an inevitable consequence of the borrow pit development.
		Alien plant invasion risk	The disturbance created during construction will leave the disturbed areas vulnerable to alien plant invasion.

		Loss of faunal diversity and richness	Clearing of vegetation will result in some habitat loss for species likely to occur in the borrow pit area. In addition to this, sensitive and shy fauna would move away from the area during construction activities. Some slow moving species would not be able to avoid the construction activities and might be killed.
		Dust nuisance	The generation of dust through site clearance and earthworks could pose a nuisance to social receptors in proximity to the borrow pit site.
		Soil erosion	Increased erosion risk would result from soil disturbance and the loss of plant cover within the cleared and disturbed areas.
		Noise disturbance	Noise disturbance could result from the use of machinery during vegetation clearing.
		Contamination of soil and groundwater resources	Contamination of soil and groundwater due to potential major fuel spillage from construction machinery.
		Paleontological fossil disturbance	Excavation of the borrow pit could result in the disturbance of fossil

			vertebrate remains, invertebrates, trace fossils, plant fossils and microfossils.
	Stockpiling of topsoil	Soil erosion	Soil erosion (predominately by wind erosion) may occur if the topsoil stockpiles are not shaped and re-vegetated appropriately.
		Dust nuisance	The generation of dust during stockpiling could pose a nuisance to social receptors in proximity to the borrow pit site.
		Noise disturbance	Noise disturbance could result from the use of machinery during stockpiling.
		Contamination of soil and groundwater resources	Contamination of soil and groundwater due to potential fuel spillage from machinery used to stockpile the topsoil.
Operation	Excavation of borrow material	Dust nuisance	The generation of dust through the excavation of the borrow material and transport on the access road could pose a nuisance to social receptors in proximity to the borrow pit site.
		Noise disturbance	Noise disturbance could result from the use of machinery during excavation.
		Contamination of soil and groundwater resources	Contamination of soil and groundwater due to potential fuel spillage from excavation machinery

			and haul vehicles.
Rehabilitation and closure	Rehabilitation	Alien plant invasion risk	Patches of disturbed soil can be vulnerable to colonisation by weeds which can prohibit natural succession of the local indigenous vegetation during rehabilitation.
		Dust nuisance	The generation of dust through spreading of the topsoil during rehabilitation.
		Contamination of soil and groundwater resources	Contamination of soil and groundwater due to potential fuel spillage from machinery used for rehabilitation.

2.2.2Potential cumulative impacts

The following potential cumulative impacts have been identified:

Cumulative Impact	Impact Description
Habitat loss and faunal disturbance	Due to the number of borrow pits envisaged along the length of the railway line, there will be some cumulative impact in terms of habitat loss and faunal disturbance. However, since the extent of the development is limited, this would not be significant.
Cumulative transformation of the area	Due to the number of borrow pits envisaged along the length of the railway line as well as certain proposed Photovoltaic Solar Power projects proposed in the vicinity together with other activities, there will be some cumulative impact in terms of the transformation of the area. However, since the extent of the development is limited, this would not

	be significant.
Incremental noise from a number of separate developments	Both the activities taking place on the railway line between Hotazel and Ngqura (upgrade of the line) and the excavation of the borrow pits will generate noise which together would result in an increased noise impact.
Combined effect of the individual impacts on surrounding receptors	The noise, dust and visual impacts from the borrow pit activities will collectively have a greater impact on surrounding receptors than they would in isolation.

2.2.3Potential impact on heritage resources

The heritage impact assessment undertaken as part of the Amendment process identified archaeological material of low significance. The impacts on these are likely to be confined to the construction phase only. A Phase 1 Heritage Impact Assessment (HIA) has been included in Appendix D3.

Phase	Activity	Impact	Impact Description
Construction	Clearing of vegetation	Loss of or disturbance to archaeological or cultural sites	Construction activities may result in the disturbance, damage or destruction of sites of low archaeological significance (as defined in the National Heritage Resource Act 25 of 1999).

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

The Linde borrow pit is relatively isolated and is therefore not expected to result in significant impacts on sensitive receptors (communities or individuals). In addition to this, the borrow pit will be excavated within the existing footprint and will therefore have no impact on competing land uses.

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

A public participation process was carried out as part of the Amendment process conducted in 2012 (Appendix C). Borrow pits in general have been discussed in this assessment as well as in the public information documents (BIDs, presentations etc) and the public were made aware during the Amendment process that the project would require several borrow pits along the length of the railway line. Since the Linde borrow pit area is located on privately owned land, specific consultation with the affected landowner was conducted.

The general landscape was included in the Amendment process and therefore communities and affected parties along the length of the railway line had the opportunity to provide input into the classification of the surrounding environment. The issues and concerns of the interested and affected parties have been captured in the Comments and Responses report which has been appended to the Amendment report in Appendix C.

Potential issues and impacts highlighted by the landowner have been appended in Appendix 3.

2.2.6Confirmation of specialist report appended

(Refer to guideline)

The following relevant specialist reports, which are in line with the baseline information and proposed activities, have been included as appendices to this EMP:

- Paleontological Specialist Study: Appendix D4
- Phase I Heritage Impact Assessment: Appendix D3
- Air Quality Baseline: Appendix D1
- Watercourse Assessment: Appendix D7

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

3.1.1Criteria of assigning significance to potential impacts

The impact assessment methodology for assigning significance to potential impacts was included in the Amendment Report (Appendix C) and is shown below:

Assessment Methodology

The scale of a potential impact is assessed according to the significance of the impact on an affected party or the environment. Specialists will aid the project team in assigning significance ratings to potential impacts before and after the implementation of mitigation measures or management actions.

Introduction and definitions

The purpose of impact assessment and mitigation is to identify and evaluate the likely extent and significance of potential impacts on identified receptors and resources according to defined assessment criteria. Furthermore, the impact assessment aims to develop and describe measures that will be taken to avoid, minimise, mitigate/ compensate for any potential adverse effects and to report the significance of the residual impacts that remain following mitigation/compensation.

There are a number of ways that impacts may be described and quantified. An impact is essentially any change to a resource or receptor brought about by the presence of the project component or by the execution of a project related activity.

The types of impacts and terminology used in this assessment are outlined in *Table* 3.2 Impact assessment terminology
7.3.

Impact assessment terminology

Term	Definition
Impact nature	
Positive	An impact that is considered to represent an improvement on the baseline or introduces a positive change.
Negative	An impact that is considered to represent an adverse change from the baseline, or introduces a new undesirable factor.
Grouping of impact	

Assessing significance

There is no statutory definition of '*significance*' and its determination is, therefore, somewhat subjective. However, it is generally accepted that significance is a function of the magnitude of the impact and the likelihood of the impact occurring. The criteria used to determine significance are summarised in *Table 7.4*.

Significance criteria

Impact magnitude	
Extent	*On-site* – impacts that are limited to the boundaries of the rail reserve. *Local* – impacts that affect an area in a radius of 20km around the development site. *Regional* – impacts that affect regionally important environmental resources or are experienced at a regional scale as determined by administrative boundaries, habitat type/ ecosystem. *National* – impacts that affect nationally important environmental resources or affect an area that is nationally important/ or have macro-economic consequences.
Duration	*Temporary* – impacts are predicted to be of short duration and intermittent/ occasional. *Short-term* – impacts that are predicted to last only for the duration of the construction period. *Long-term* – impacts that will continue for the life of the project, but ceases when the project stops operating. *Permanent* – impacts that cause a permanent change in the affected receptor or resource (e.g. removal or destruction of ecological habitat) that endures substantially beyond the project lifetime.
	Negligible – the impact on the environment is not detectable. *Low* – impact affects the environment in such a way that natural functions and processes are not affected. *Medium* – where the affected environment is altered but natural functions and processes continue, albeit in a modified way.

Table 3.4 *Example of significance rating matrix*

		Likelihood		
		Low	Medium	High
Magnitude	Negligible	Minor	Minor	Minor
	Low	Minor	Moderate	Moderate
	Medium	Moderate	Moderate	Major
	High	Major	Major	Major

In *Table 7.6*, the various definitions for significance of an impact are given.

Table 3.5 *Significance definitions*

Significance definitions	
Negligible impact	Negligible impact (or insignificant impact) is where a resource or receptor (including people) will not be affected in any way by a particular activity, or the predicted effect is deemed to be 'negligible' or 'imperceptible' or is indistinguishable from natural background variations.
Minor impact	An impact of minor significance is one where an effect will be experienced, but the impact magnitude is sufficiently small (with and without mitigation) and well within accepted standards, and/or the receptor is of low sensitivity/value.
Moderate impact	An impact of moderate significance is one within accepted limits and standards. The emphasis for moderate impacts is on demonstrating that the impact has been reduced to a level that is as low as reasonably practicable (ALARP). This does not necessarily mean that 'moderate' impacts have to be reduced to 'minor' impacts, but that moderate impacts are being managed effectively and efficiently.
Major impact	An impact of major significance is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued/sensitive resource/receptors. A goal of the assessment process is to get to a position where the project does not have any major residual impacts, certainly not ones that would endure into the long term or extend over a large area. However, for some aspects there may be major residual impacts after all practicable mitigation options have been exhausted (i.e. ALARP has been applied). An example might be the visual impact of a development. It is then the function of regulators and

The impact assessment methodology for assigning significance to potential heritage impacts was included in the Heritage Impact Assessment Report (Appendix D3) and is shown below:

The determination of archaeological and historical significance ratings depend on the type, density and context of the cultural landscape. For example if one hand axe is discovered at a site with no archaeological context, it is of low significance. If a hand axe is discovered at an area listed as a site of national, provincial or local significance, the finding is of high to medium importance. Research has been undertaken to determine the best option to provide an explainable significance table. Natal Museum has provided significant data in terms of a proposed methodology to rate heritage resources of significance (Whitelaw G, 1997). In addition to this a table was developed to assess archaeological and historical sites of significance at the areas where borrow pits will be excavated.

Class	Characteristic	Group 1	Group 2	Group 3
1	Context	Historical structures out of context and	Limited context. Historical structures in	Well defined context. Historical structures well

		poorly preserved. Scattered historical objects in vicinity of the ruins and surrounding landscape. No oral history available. Scattered stone tools noted on the surface.	acceptable condition. Medium concentration of historical objects in vicinity of the ruins and surrounding landscape. Limited oral history available. Medium density stone tools have been identified on the surface.	preserved. High concentration of historical objects in vicinity of the ruins and surrounding area. Significant oral history available. High density stone tools have been identified on the surface.
2	Rarity of historical or archaeological Items	Absent	Present	Highly visible
3	Need for future investigation	Absent	Present	Highly visible
4	Potential for future public display	Low	Medium	High
5	Visual value	Low	Medium	High
6	Need for a heritage management plan	Low	Medium	High
7	Need for monitoring	Low	Medium	High

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

The potential impacts of each main activity associated with the various phases of the borrow pit's development have been assessed in accordance with the methodology above. The results of the significance assessment have been included in the impact table below:

Phase	Activity	Impact	Significance Rating	Explanation of Significance Rating
Construction	Clearing of vegetation	**Impact on vegetation and protected plant species:** Some loss of vegetation is an inevitable consequence of the borrow pit development.	Moderate	The area to be impacted on is an existing borrow pit and has already been disturbed. The study area as a whole showed signs of frequent anthropogenic disturbances.
		Alien plant invasion risk: The disturbance created during construction will leave the disturbed areas vulnerable to alien plant invasion.	Negligible	Once vegetation clearing has occurred, the borrow pit will be excavated continuously until it is closed and rehabilitated. This continual use will prevent any alien plants from invading the disturbed area.

		Loss of faunal diversity and richness: Clearing of vegetation will result in some habitat loss for species likely to occur in the borrow pit area. In addition to this, sensitive and shy fauna would move away from the area during construction activities. Some slow moving species would not be able to avoid the construction activities and might be killed.	Minor	The area to be impacted on is an existing borrow pit and has already been disturbed. The site is located in open disturbed karoo veld. Faunal activity at the site was low. However, three Red Data species were identified in the general study area (Lanner Falcon, Blue Crane and Ludwig's Bustard). These species have large habitat ranges and are mobile. Therefore, the construction activities are unlikely to cause significant disturbance to these species.
		Dust nuisance: The generation of dust through site clearance and earthworks could pose a nuisance to social receptors in proximity to the borrow pit site.	Minor	The area to be disturbed is not in close proximity to any sensitive receptors. Any dust generated by the activities would therefore have a minor to negligible impact on potential social receptors.

		Soil erosion: Increased erosion risk would result from soil disturbance and the loss of plant cover within the cleared and disturbed area.	Minor	The area to be cleared has already been disturbed. Additional clearing is unlikely to cause significant soil erosion as all soil and material which will be cleared will be stockpiled correctly.
		Noise disturbance: Noise disturbance could result from the use of machinery during vegetation clearing.	Moderate	The area to be disturbed is not in close proximity to any sensitive receptors.
		Paleontological fossil disturbance: Excavation of the borrow pit could result in the disturbance of fossil vertebrate remains, invertebrates, trace fossils, plant fossils and microfossils.	Minor	This area contains a wide spectrum of vertebrate remains, invertebrates, trace fossils, plant fossils and microfossils however, these are of low paleontological sensitivity and of considerable lateral extent therefore impacts on fossil heritage from the borrow pit excavation are likely to be of minor significance.
		Loss of or disturbance	Low	One item of archaeological

		to archaeological or cultural sites: Construction activities may result in the disturbance, damage or destruction of sites of cultural significance or sites of archaeological importance.		significance were identified by the heritage specialist at the borrow pit site. In addition to this, materials of archaeological or cultural value may be further exposed during the excavation of the borrow pit.
		Contamination of soil and groundwater resources: Contamination of soil and groundwater due to potential fuel spillage from construction machinery.	Moderate	Fuel spillage as a result of oil spills from poorly maintained machinery can seep into the newly exposed ground and eventually into the groundwater. This impact is moderate as it is can be managed effectively and efficiently to minimise or prevent the impact on the contamination of soil and groundwater.
	Stockpiling of topsoil	**Soil erosion:** Soil erosion (predominately by wind erosion) may occur if the topsoil stockpiles	Minor	Newly stockpiled topsoil is vulnerable to erosion by flash floods and winds. Although the likelihood is low, this will impact on the

		are not shaped and re-vegetated appropriately.		amount of topsoil which will be available for rehabilitation if this is not managed correctly.
		Contamination of soil and groundwater resources: Contamination of soil and groundwater due to potential fuel spillage from excavation machinery and haul vehicles.	Moderate	Fuel spillage as a result of oil spills from poorly maintained machinery can seep into the newly exposed ground and eventually into the groundwater. This impact is moderate as it is can be managed effectively and efficiently to minimise or prevent the impact on the contamination of soil and groundwater.
		Dust nuisance: The generation of dust During stockpiling could pose a nuisance to social receptors in proximity to the borrow pit site.	Minor	The area to be disturbed is not in close proximity to any sensitive receptors. Any dust generated by the activities would therefore have a minor to negligible impact on potential social receptors.
		Noise disturbance: Noise disturbance could	Moderate	The area to be disturbed is not in close proximity to

		result from the use of machinery during vegetation clearing.		any sensitive receptors.
Operation	Excavation of borrow material	**Dust nuisance:** The generation of dust through the excavation of the borrow material and transport on the access road could pose a nuisance to social receptors in proximity to the borrow pit site.	Minor	The area to be disturbed is not in close proximity to any sensitive receptors. Any dust generated by the activities would therefore have a minor to negligible impact on potential social receptors.
		Noise disturbance: Noise disturbance could result from the use of machinery during vegetation clearing.	Moderate	The area to be disturbed is not in close proximity to any sensitive receptors.
		Contamination of soil and groundwater resources: Contamination of soil and groundwater due to potential fuel spillage from machinery used for excavation.	Moderate	Fuel spillage as a result of oil spills from poorly maintained machinery can seep into the newly exposed ground and eventually into the groundwater. This impact is moderate as it is can be managed effectively and efficiently to minimise or prevent the impact on the

				contamination of soil and groundwater.
Rehabilitation and closure	Rehabilitation	**Alien plant invasion risk:** Patches of disturbed soil can be vulnerable to colonisation by weeds which can prohibit natural succession of the local indigenous vegetation during rehabilitation.	Minor	The area which is to be disturbed will be used continuously. Therefore, there will not be sufficient time for weeds and other plants to colonise the area.
		Dust nuisance: The generation of dust through spreading of the topsoil during rehabilitation.	Minor	The area to be disturbed is not in close proximity to any sensitive receptors.
		Contamination of soil and groundwater resources: Contamination of soil and groundwater due to potential fuel spillage from machinery used for rehabilitation.	Moderate	Fuel spillage as a result of oil spills from poorly maintained machinery can seep into the newly exposed ground and eventually into the groundwater. This impact is moderate as it is can be managed effectively and efficiently to minimise or prevent the impact on the

				contamination of soil and groundwater.

3.1.3Assessment of potential cumulative impacts

The potential impacts of the possible cumulative impacts identified in Section 2.2.2 above have been assessed in accordance with the methodology in section 3.1.1. The results of the significance assessment have been included in the impact table below:

Cumulative Impact	Impact Description	Significance Rating
Habitat loss and faunal disturbance	Due to the number of borrow pits envisaged along the length of the railway line, there will be some cumulative impact in terms of habitat loss and faunal disturbance. However, since the extent of the development is limited, this would not be significant.	Minor
Cumulative transformation of the area	Due to the number of borrow pits envisaged along the length of the railway line, there will be some cumulative impact in terms of the transformation of the area. However, since the extent of the development is limited, this would not be significant.	Minor
Incremental noise from a number of separate developments	Both the activities taking place on the railway line between Hotazel and Ngqura (upgrade of the line) and the excavation of the borrow pits will generate noise which together would result in an increased noise	Moderate

	impact.	
Combined effect of the individual impacts on surrounding receptors	The noise, dust and visual impacts from the borrow pit activities will collectively have a greater impact on surrounding receptors than they would in isolation.	Moderate

3.2 Proposed mitigation measures to minimise adverse impacts

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

According to the definitions for significance ratings in section 3.1.1, any activity with anything greater than and including a significance rating of 'Minor' should require mitigation. Based on this, the activities requiring mitigation for each phase are:

1) Construction:
   - Clearing of vegetation
   - Stockpiling of topsoil
2) Operation:
   - Excavation of borrow material
3) Decommissioning and closure:
   - Rehabilitation

3.2.2Concomitant 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)

The table below includes the activity as well as the significant impacts associated with it as well as how it will be mitigated or managed. This information has been sourced from the environmental management plan in the **Amendment Report** (Appendix C), **Transnet's Standard Environmental Specification** (Appendix E3) and **Transnet's Construction Environmental Management Plan** (Appendix E1) as well as the **Heritage Management Plan** (Appendix E2):

Phase	Activities	Impact	Mitigation/Management
Construction	Clearing of vegetation Stockpiling of topsoil	**Loss of vegetation communities:** Some loss of vegetation is an inevitable consequence of the borrow pit development.	- The footprint of the vegetation removal will be limited to that absolutely necessary for the excavation of the borrow material. - The available topsoil will be appropriately stockpiled (in mounds not exceeding 2m in height) and reused in the rehabilitation process to facilitate re growth of the vegetation after the operation is complete.
		Loss of faunal diversity and richness: Clearing of vegetation will result in some habitat loss for species likely to occur	- The footprint of the vegetation removal will be limited to that absolutely necessary for the operation. The footprint of the area to be lost is already minimal. - Construction vehicles will be restricted

		in the borrow pit area. In addition to this, sensitive and shy fauna would move away from the area during construction activities. Some slow moving species would not be able to avoid the construction activities and might be killed.	to operate during daylight hours only. This will increase the likelihood that faunal species will be seen and avoided by the machine operators.
		Dust nuisance: The generation of dust through site clearance and earthworks could pose a nuisance to social receptors in proximity to the borrow pit site.	- The movement of vehicles and machinery will be restricted to the authorised access roads and vehicles will be limited to travel at speeds not exceeding 20 km/h. - Dust suppression with environmentally friendly soil stabilisers and additional measures will be used if dust becomes a nuisance. - Construction and operations personnel will be trained to report excessive dust conditions so that these can be managed quickly and effectively.
		Soil erosion: Increased erosion risk	- The footprint of the vegetation removal will be limited to that absolutely

		would result from soil disturbance and the loss of plant cover within the cleared and disturbed area.	necessary for the operation. Rehabilitation will commence soonest after the completion of the activities.
		Noise disturbance: Noise disturbance could result from the use of machinery during vegetation clearing.	- Operations will be limited to daylight hours. - Vehicles will be maintained in accordance with the manufacturer's specifications to reduce the noise impacts from the equipment. The Contractor will be required to demonstrate that the maintenance record of the vehicles he/she intends to use (including noise reduction measures such as exhaust silencers) is up to date prior to accessing the site.
		Paleontological fossil disturbance: Excavation of the borrow pit could result in the disturbance of fossil vertebrate remains, invertebrates, trace fossils, plant fossils and microfossils.	- If a fossil is uncovered during the borrow pit excavation, all work will be stopped immediately and the EO will be informed of the discovery. The EO will contact SAHRA and work will only recommence once clearance has been given in writing by the palaeontologist. The procedures as specified in the HMP will be followed (Appendix E2).
		Loss of or disturbance	- If an artefact on site is uncovered

		to archaeological or cultural sites: Construction activities may result in the disturbance, damage or destruction of sites of cultural significance or sites of archaeological importance.	during the operations, all work will be stopped immediately and the EO as well as the professional archaeologist will be informed of the discovery. SAHRA will be contacted and work will only recommence once clearance has been given in writing by the archaeologist. The procedures as specified in the HMP will be followed (Appendix E2).
		Contamination of soil and groundwater resources: Contamination of soil and groundwater due to potential fuel spillage from excavation machinery and haul vehicles.	- Limited quantities of fuel and oils will be stored on site. Storage will be done within adequately bunded areas to prevent soil and water contamination. - Servicing and refuelling of vehicles will take place only at designated servicing or refuelling locations. - Vehicles will be maintained in accordance with the manufacturer's specifications. The Contractor will be required to demonstrate that the maintenance record of the vehicles he/she intends using is up to date prior to accessing the site. - Any spillage will be immediately attended to, reported and recorded. - A spill response kit will be available on site at all times and contractors'

			employees will be trained in the use of the kit.
Operation	Excavation of borrow material	**Dust nuisance:** The generation of dust through the excavation of the borrow material and transport on the access road could pose a nuisance to social receptors in proximity to the borrow pit site.	- The movement of vehicles and machinery will be restricted to the authorised access roads and vehicles will be limited to travel at speeds not exceeding 20 km/h. - Dust suppression with environmentally friendly soil stabilisers and additional measures will be used if dust becomes a nuisance. - Construction and operations personnel will be trained to report excessive dust conditions so that these can be managed quickly and effectively.
		Noise disturbance: Noise disturbance could result from the use of machinery during excavation.	- Operations will be limited to daylight hours. - Vehicles will be maintained in accordance with the manufacturer's specifications to reduce the noise impacts from the equipment. - The Contractor will be required to demonstrate that maintenance records of the vehicles intended for use (including noise reduction measures such as exhaust silencers) are up to date prior to accessing the site.

		Contamination of soil and groundwater resources: Contamination of soil and groundwater due to potential fuel spillage from machinery used for excavation.	- Limited quantities of fuel and oils will be stored on site. Storage will be done within adequately bunded areas to prevent soil and water contamination. - Servicing and refuelling of vehicles will take place only at designated servicing or refuelling locations. - Vehicles will be maintained in accordance with the manufacturer's specifications. The Contractor will be required to demonstrate that the maintenance record of the vehicles he/she intends using is up to date prior to accessing the site. - Any spillage will be immediately attended to, reported and recorded. - A spill response kit will be available on site at all times and contractors' employees will be trained in the use of the kit.
Rehabilitation and closure	Rehabilitation	**Alien plant invasion risk:** Patches of disturbed soil can be vulnerable to colonisation by weeds which can prohibit natural succession of the local indigenous	- Regular monitoring of vegetation growth especially on the topsoil stockpile and areas surrounding the access roads and proposed borrow site will be undertaken by the EO. - Procedures for the prevention of the establishment and spread of alien invasive species will be included in the

		vegetation during rehabilitation.	rehabilitation plan which will be submitted to the EO for approval six weeks before completion.
		Dust nuisance: The generation of dust through spreading of the topsoil during rehabilitation.	- Dust suppression with environmentally friendly soil stabilisers and additional measures will be used if dust becomes a nuisance. - Rehabilitation personnel will be trained to report excessive dust conditions so that these can be managed quickly and effectively.
		Contamination of soil and groundwater resources: Contamination of soil and groundwater due to potential fuel spillage from machinery used for rehabilitation.	- Vehicles will be maintained in accordance with the manufacturer' s specifications. - The Contractor must demonstrate that the maintenance record of the vehicles is up to date prior to accessing the site. - Any spillage will be immediately attended to, reported and recorded. - A spill response kit will be available on site at all times and contractors' employees will be trained in the use of the kit.

3.2.3Review the significance of the identified impacts

(After bringing the proposed mitigation measures into consideration).

The significance of the identified impacts post-mitigation has been included in the table below:

Phase	Activity	Impact	Significance Rating
Construction	Clearing of vegetation	**Loss of vegetation communities:** Some loss of vegetation is an inevitable consequence of the borrow pit development.	Minor
		Loss of faunal diversity and richness: Clearing of vegetation will result in some habitat loss for species likely to occur in the borrow pit area. In addition to this, sensitive and shy fauna would move away from the area during construction activities. Some slow moving species would not be able to avoid the construction activities and might be killed.	Minor
		Dust nuisance: The generation of dust through site clearance and earthworks could pose a nuisance to social receptors in proximity to the borrow pit site.	Negligible
		Soil erosion: Increased erosion risk would result from soil disturbance and the loss of plant cover	Negligible

		within the cleared and disturbed area.	
		Noise disturbance: Noise disturbance could result from the use of machinery during vegetation clearing.	Minor
		Paleontological fossil disturbance: Excavation of the borrow pit could result in the disturbance of fossil vertebrate remains, invertebrates, trace fossils, plant fossils and microfossils.	Negligible
		Loss of or disturbance to archaeological or cultural sites: Construction activities may result in the disturbance, damage or destruction of sites of cultural significance or sites of archaeological importance.	Negligible
		Contamination of soil and groundwater resources: Contamination of soil and groundwater due to potential fuel spillage from construction machinery.	Minor
	Stockpiling of topsoil	**Soil erosion:** Soil erosion (predominately by wind erosion) may occur if the topsoil stockpiles are not shaped and re-vegetated appropriately.	Minor
		Contamination of soil	Minor

		and groundwater resources: Contamination of soil and groundwater due to potential fuel spillage from excavation machinery and haul vehicles.	
		Dust nuisance: The generation of dust During stockpiling could pose a nuisance to social receptors in proximity to the borrow pit site.	Negligible
		Noise disturbance: Noise disturbance could result from the use of machinery during stockpiling.	Minor
Operation	Excavation of borrow material	**Dust nuisance:** The generation of dust through the excavation of the borrow material and transport on the access road could pose a nuisance to social receptors in proximity to the borrow pit site.	Negligible
		Noise disturbance: Noise disturbance could result from the use of machinery during excavation.	Minor
		Contamination of soil and groundwater resources: Contamination of soil and groundwater due to potential fuel spillage from machinery used for excavation.	Minor
Rehabilitation and closure	Rehabilitation	**Alien plant invasion risk:** Patches of disturbed soil can be	Negligible

		vulnerable to colonisation by weeds which can prohibit natural succession of the local indigenous vegetation during rehabilitation.	
		Dust nuisance: The generation of dust through spreading of the topsoil during rehabilitation.	Negligible
		Contamination of soil and groundwater resources: Contamination of soil and groundwater due to potential fuel spillage from machinery used for rehabilitation.	Minor

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).

This plan is shown in Figure 7.

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).

The closure objectives for the borrow pits include:

1) Rehabilitation of access roads
2) Rehabilitation of the pit including final voids and ramps
3) General surface rehabilitation (laying and spreading of topsoil and reseeding)
4) Fencing
5) Maintenance and aftercare of the rehabilitated area

Costing for the closure objectives has been provided in Section 4.3 below and these objectives are in line with the rehabilitation plan as discussed in **Transnet's Standard Environmental Specification** (Appendix E3) and **Transnet's Construction Environmental Management Plan** (Appendix E1).

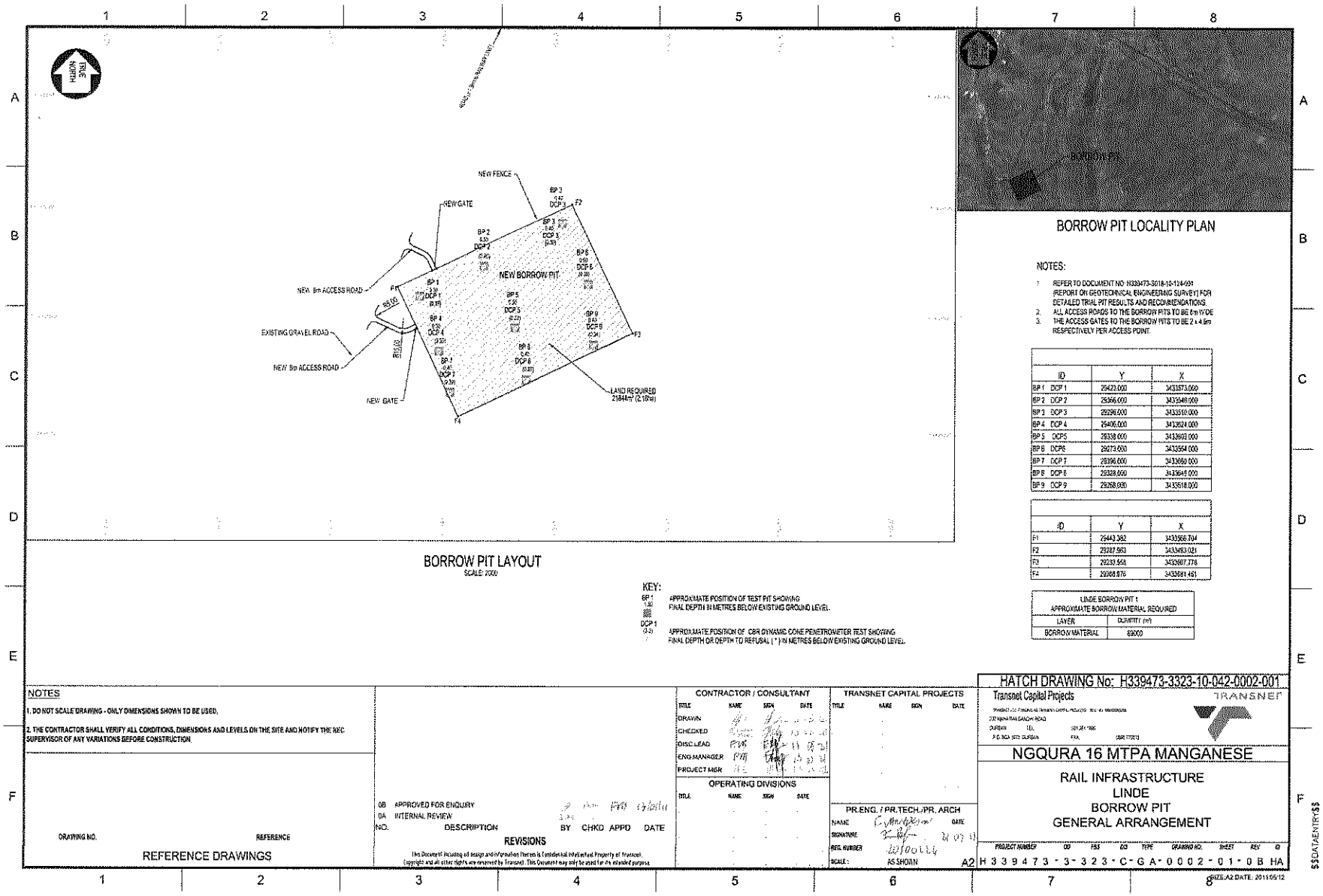


Figure 7: Linde borrow pit layout

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).

Linde Borrow Pit

As part of the license application for the opening of a borrow pit, an evaluation of the Quantum of closure-related financial provision has to be carried out. The Department of Minerals and Energy (DME) must be provided with sufficient financial provision to cover the environmental liability for rehabilitation and closure requirements of mining operations, at that specific time.

The calculation of the Quantum is based on the *Guideline Document for the Evaluation of the Quantum of Closure-Related Financial Provision provided By a Mine, Jan 2005.*

Calculation of Quantum for Linde Borrow Pit

The procedure adopted below is the procedure recommended by the *Guideline Document,* for the procedure to determine the quantum for financial provision.

Step 1 – Determine mineral being mined

According to the geotechnical investigations (refer to document H339473-S018-10-124-0001), the anticipated materials to be found in the location of the proposed borrow pit, is residual mudstone.

Step 2A – Determine primary risk class

Class C (Low Risk), from Table B.13 in the *Guideline Document.*

Step 2B – Revise primary risk class based on saleable products

Not Applicable

Step 3 – Sensitivity of mine are

Biophysical	Social	Economic
Medium	Medium	Low

Step 4.1 – Determine level of information available

Extensive - Option 3: Follow rules-based approach and proceed to step 4.2

Step 4.2 – Identify closure components

It should be noted that the Guidelines have been written to mainly focus on mining related activities, and the opening of a borrow pit mainly relates to the quarrying of certain materials, to be used for the earthworks construction. Therefore, when identifying the relevant closure components required for rehabilitation and closure of this borrow pit, not all of the components set-out by the Guidelines are relevant.

The table below gives the list of components as set-out by the guidelines, and the relevant closure/rehabilitation components are highlighted in blue.

1	Dismantling of processing plant and related structures (including overland conveyors and power lines)	No
2 (A)	Demolition of steel buildings and structures	No
2(B)	Demolition of reinforced concrete buildings and structures	No
3	Rehabilitation of access roads	Yes
4 (A)	Demolition and rehabilitation of electrified railway lines	No
4 (A)	Demolition and rehabilitation of non-electrified railway lines	No
5	Demolition of housing and/or administration facilities	No
6	Opencast rehabilitation including final voids and ramps	Yes
7	Sealing of shafts adits and inclines	No

8 (A)	Rehabilitation of overburden and spoils	No
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	No
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	No
9	Rehabilitation of subsided areas	No
10	General surface rehabilitation	Yes
11	River diversions	No
12	Fencing	Yes
13	Water management	No
14	2 to 3 years of maintenance and aftercare	Yes
15 (A)	Specialist study	No
15 (B)	Specialist study	No

Step 4.3 – Identify unit rates for closure components

Master rates as received from DMR

Step 4.4 – Identify and apply waiting factors

Weighting Factor 1 - 1,00 (Nature of Terrain = Flat)

Weighting Factor 2 - 1,05 (proximity to urban area = Peri-urban [as per guidelines])

Step 4.5 – Identify areas of disturbance

Quantities were calculated based on the Borrow pit drawing.

Step 4.6 – Identify closure costs from specialist studies

No specialist studies required.

Step 4.7 – Calculate closure costs

Refer to calculation of quantum.

The table below is a calculation of the quantum of the financial provision required to manage and rehabilitate the environment:

CALCULATION OF THE QUANTUM

Mine: LINDE BORROW PIT (TRANSNET LIMITED)

Location: Linde, Northern Cape
Date: 05/03/2013

Risk Class: C
Area Sensitivity: Med

No.	Description	Unit	A	B	C	D	E=A*B*C*D
			Quantity	Master Rate	Multiplication Factor	Weighting Factor 1	Amount (rands)
1	Dismantling of **processing plant and related structures** (including overland conveyors and powerlines)	m^3		10.87	0.00	0.00	R -
2(A)	Demolition of **steel buildings and structures**	m^2		151.42	0.00	0.00	R -
2(B)	Demolition of **reinforced concrete buildings and structures**	m^2		223.14	0.00	0.00	R -
3	Rehabilitation of **access roads**	m^2	608	27.10	1.00	1.00	R 16 476.80
4(A)	Demolition and rehabilitation of **electrified railway lines**	m		262.98	0.00	0.00	R -
4(B)	Demolition and rehabilitation of **non-electrified railway lines**	m		143.45	0.00	0.00	R -
5	Demolition of **housing and/or administration facilities**	m^2		302.83	0.00	0.00	R -
6	**Opencast rehabilitation** including final voids and ramps	ha	2.18	158 747.30	0.52	1.00	R 180 319.15
7	Sealing of **shafts, adits and inclines**	m^3		81.29	0.00	0.00	R -
8(A)	Rehabilitation of **overburden and spoils**	ha		105 831.50	0.00	0.00	R -
8(B)	Rehabilitation of processing waste **deposits and evaporation ponds (basic salt-producing waste)**	ha		131 811.20	0.00	0.00	R -
8(C)	Rehabilitation of processing waste **deposits and evaporation ponds (acidic, metal-rich waste)**	ha		382 842.30	0.00	0.00	R -
9	Rehabilitation of **subsided areas**	ha		85 617.95	0.00	0.00	R -
10	**General surface rehabilitation**	ha	2.18	83 836.41	1.00	1.00	R 183 132.25
11	**River diversions**	ha		83 836.41	0.00	0.00	R -
12	**Fencing**	m	596	95.63	1.00	1.00	R 56 995.48
13	**Water management**	ha		31 876.96	0.00	0.00	R -
14	2 to 3 years of **maintenance and aftercare**	ha	2.18	11 156.92	1.00	1.00	R 24 371.18
15A	Specialist study	Sum		0.00	0.00	0.00	R -
15B	Specialist studies (soil remediation)	ha		0.00	0.00	0.00	R -
						(Sum of items 1 to 15 above)	**R 481 294.86**
						Weighting Factor 2	1.05
						Subtotal 1	**R 484 359.61**
1	Preliminary and General	6.0% if Subtotal 1 > 100 000 000 12.0% if Subtotal 1 < 100 000 000					R 58 123.15
2	Contingency	10.0% of Subtotal 1					R 48 435.96
						SubTotal 2	**R 590 918.72**
						(Subtotal 1 plus sum of management and contingency)	
						Add Vat (14%)	R 82 728.62
						GRAND TOTAL	**R 673 647.34**
						(Subtotal 2 plus VAT)	

4.4 Undertaking to provide financial provision

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

The undertaking to provide financial provision is attached below:

TRANSNET

UNDERTAKING TO PROVIDE FINANCIAL PROVISION

Linde Borrow Pit on the farm Dwaal Fountain 29, south of the existing Hotazel to Ngqura railway line and south-east of the Linde Station

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. On behalf of the applicant, I agree to undertake and provide the financial resources for a sum of **R 673 647. 34** intended for the rehabilitation of the area affected by the Linde Borrow Pit operations at the time when this operation ceases.

Full Name and Surname: Velile Sikhosana

Identity Number: 7410175430085

Date: 14 · 08 · 2013

Signature:

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

5.1 List of identified impacts requiring monitoring programmes

The main impacts requiring monitoring programmes will occur during the construction phase and the rehabilitation and closure phase. The impacts and the associated monitoring plans have been tabulated below:

Phase	Impact	Management/Monitoring Plan
Construction	Loss of vegetation communities	CEMP (Appendix E1) and SES (Appendix E3) and HMP (Appendix E2)
	Loss of faunal diversity and richness	
	Dust nuisance	
	Soil erosion	
	Noise disturbance	
	Paleontological fossil disturbance	
	Loss of or disturbance to archaeological or cultural sites	
	Contamination of soil and groundwater resources	
Rehabilitation and closure	Alien plant invasion risk	Vegetation monitoring plan as part of the rehabilitation plan (to be developed at closure) and SES (Appendix E3)
	Dust nuisance	SES (Appendix E3)
	Contamination of soil and Groundwater resources	SES (Appendix E3)

5.2 Functional requirements for monitoring programmes

Where relevant either a Transnet Capital Projects (TCP) or the Contractor's Environmental Officer (EO) will be required to implement the monitoring programmes for the construction, operation, rehabilitation and closure phases.

An allowance has been made in the Calculation of the Quantum (Section 4.3 of this document) for the rehabilitation monitoring plan to implemented for three years after the borrow pit has been rehabilitated.

5.3 Roles and responsibilities for the execution of monitoring programmes

The roles and responsibilities for execution of the monitoring programmes are detailed in the CEMP (Appendix E1) and explained briefly below:

Role	Responsibility
Transnet Capital Projects Environmental Manager	Approval of monitoring programmes and environmental training and awareness programmes.
Transnet Capital Projects Environmental Officer	Ensures that all environmental monitoring programmes are carried out in accordance to protocols and schedules.
Contractor's Environmental Officer	Ensures the contractors compliance with the CEMP and SES.
Environmental Auditor	An environmental auditor will be appointed to ensure, among other things, that the monitoring plans have been implemented correctly.

5.4 Committed time frames for monitoring and reporting

The committed times frames for monitoring and reporting during the construction and post closure phases are:

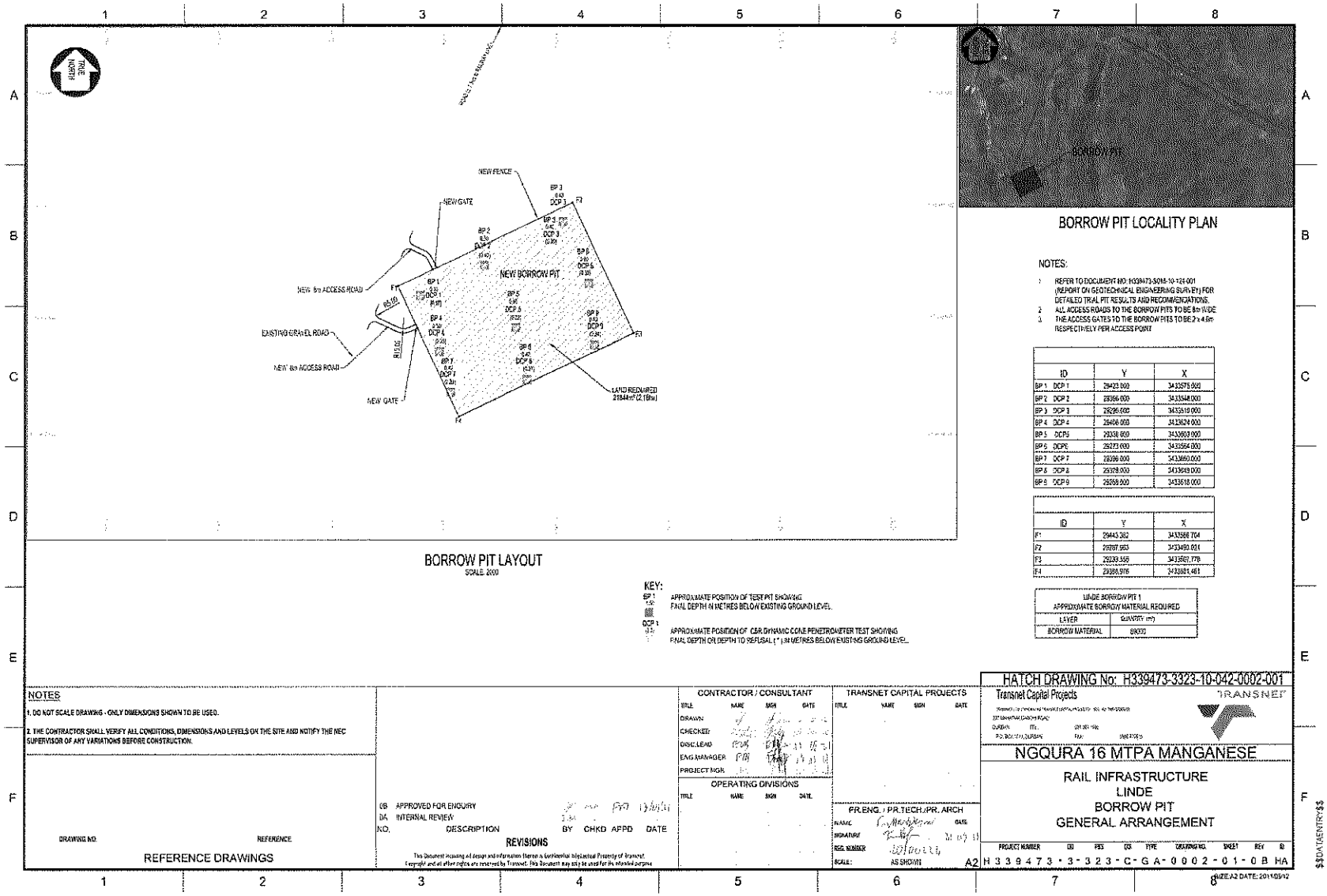
- **Construction:** 12 months from the start of construction.
- **Vegetation monitoring (Post closure):** Three years post closure.
- **Heritage monitoring:** Duration of the construction phase and throughout rehabilitation.

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).

The area to be affected is shown in the plan below.



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

The closure objectives for the borrow pits include:

1) Rehabilitation of access roads.
2) Rehabilitation of the pit including final voids and ramps.
3) General surface rehabilitation (laying and spreading of topsoil and reseeding).
4) Fencing
5) Maintenance and aftercare of the rehabilitated area.

The vegetation in the borrow pit area is dominated by the Eastern Upper Karoo which has an ecological status of least threatened in terms of the National Spatial Biodiversity Assessment (NSBA). The area in and around the proposed borrow pit is of low ecological importance. The area is degraded and highly disturbed/transformed with little ecological function and generally very poor in species diversity (most species are exotic or weeds). Rehabilitation of this area will in most likelihood, restore it to a better state than that at pre-construction.

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).

A public participation process was carried out as part of the Amendment Process for the proposed expansion of the Transnet Manganese Ore Export Railway Line between Hotazel and the Port of Ngqura (See Appendix C for a copy of this report). Borrow pits in general have been discussed in this assessment as well as in the public information documents (BIDs etc) and the public were made aware that the project would require several borrow pits along the length of the line as part of the process. The CEMP and SES (Appendix E) were discussed in the Amendment report. The CEMP and SES make reference to closure and site cleanup.

The Linde borrow pit area is located on privately owned land. The environmental objectives relating to closure and rehabilitation were discussed with the landowner and described in the BID (See Appendix 3).
Transnet have agreed to the closure objectives (See Undertaking to provide financial provision in Section 4.4). Specific

consultation with the affected landowner was conducted. The general landscape was included in the Amendment process and therefore communities and affected parties along the length of the railway line had the opportunity to provide input into the classification of the surrounding environment.

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

7.1 Identification of interested and affected parties

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

The farm (Dwaal Fountain) is privately owned. No community resides on the borrow pit land itself as observed from the field visit as well as in information obtained from the landowner.

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

The Community is not the landowner. The land is owned by Mr Naude.

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

As part of the Public Participation process, the Northern Cape Provincial Department of Agriculture and Land Affairs were identified as an interested and affected party and were consulted with specifically.

7.1.4 State specifically whether or not a land claim is involved

No land claims are involved.

7.1.5 Name the Traditional Authority identified

No Traditional Authorities have jurisdiction over the Dwaal Fountain Farm.

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

The land is owned by Mr Naude. The landowner consent forms are attached in Appendix 2.

7.1.7List the lawful occupiers of the land concerned

Mr Naude.

7.1.8Explain 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

The directly impacted area is farm land. Due to the small scale of this operation and the fact that this is an existing borrow pit, it is not anticipated that the operations will have an effect on the socio-economic conditions of the people residing on adjacent and non-adjacent properties.

7.1.9Name the Local Municipality

Emthanjeni Municipality.

7.1.10 Name the relevant Governmental Departments, agencies and institutions responsible for the various aspects of the environment and for infrastructure which may be affected by the proposed project. The relevant authorities which would be affected by the borrow pit's development include:

- National Department of Environmental Affairs
- Provincial Government of Environmental Affairs & Nature Conservation
- Northern Cape Department of Mineral Resources
- South African Heritage Resources Agency (SAHRA)
- Ngwao Boswa Kapa Bokoni (Northern Cape Provincial Heritage Resources Agency)
- National Department of Agriculture, Forestry and Fisheries
- Northern Cape Provincial Department of Agriculture and Land Affairs
- Provincial Government of Agriculture, Land Reforms and Rural Development
- National Government Department of Roads and Transport
- Pixley Ka-Seme District Municipality

- Emthanjeni Local Municipality

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

All public documentation, including letters from the relevant Authorities, interested and affected parties proving that they were notified about the project has been appended to this EMP (See Appendix C and Appendix 3).

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

The information provided included:

- A description of the proposed project activities
- The project location
- A description of the process as well as the various phases within this process
- A description of the borrow pits required as part of the project

The following activities were conducted as part of the public participation process. These have been split up according to the project as a whole as well as those specific to the borrow pit development. Public participation activities for the Amendment process included:

- Distribution of proposed project announcement letter and Background Information Document (BID)
- Placing of adverts
- Putting up of site notices
- Identification of stakeholders
- Consultation with relevant stakeholders

All public participation documentation relevant to the Amendment process has been included in Appendix C. The

public participation process specific to the Linde borrow pit development has been tabulated below:

Public participation specific to the borrow pit development		
Activity	**Details**	**Reference**
Field visit to the Linde borrow pit	Field visit during 1-15 April 2013 to obtain information, consult with affected landowners and put up site notices specifically for the borrow pits. Field trip reports were compiled for each borrow pit site.	Appendix 1 Field trip report
Distribution of BID	The BIDs for the borrow pits were distributed during the field visit (1-15 April 2013).	Appendix 3 BID
Placing of site notices	Site notices were placed at each borrow pit location during the field visit.	Appendix 3 Site notice
Identification of stakeholders	A list of affected landowners (where applicable) was provided by the team which undertook the geotechnical drilling for the test pits.	Appendix 3 Stakeholder database
Consultation with relevant stakeholders	Consultations with key stakeholders and directly affected landowners were conducted between 1-	Appendix 2 and 3 Landowner consent forms Minutes of meetings

	15 April.	

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

All of the parties identified in 7.1 were consulted with as part of the Amendment Process which was conducted for the Project:

- National Department of Environmental Affairs
- Provincial Government of Environmental Affairs & Nature Conservation
- Northern Cape Department of Mineral Resources
- South African Heritage Resources Agency (SAHRA)
- Ngwao Boswa Kapa Bokoni (Northern Cape Provincial Heritage Resources Agency)
- National Department of Agriculture, Forestry and Fisheries
- Northern Cape Provincial Department of Agriculture and Land Affairs
- Provincial Government of Agriculture, Land Reforms and Rural Development
- National Government Department of Roads and Transport
- Pixley Ka-Seme District Municipality
- Emthanjeni Local Municipality

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

Comments raised by the various parties have been included as an annex to the Amendment Report in Appendix C. These views are once again, based on the project as a whole and not specifically on the borrow pits. A summarised list of the views has been listed below:

<u>Views on the current Socio-Economic Environment:</u>

- Air quality issues including but not limited to the release of asbestos, and health issues related to dust generation.

- Socio-economic issues including but not limited to potential housing relocations; job opportunities for local communities, disabled people and women; opportunities and benefits for local businesses and communities; creation of a skills database and skills development; increased crime and stock theft; safety issues at level crossings; train collisions with live stock and people; housing for construction workers; locking of gates by construction crews; land ownership; purchasing of land from Transnet; transfer of land ownership from Transnet to the municipality at Rosmead; the use of decommissioned material; the proposed use of land reserved for other projects; public participation; the development of housing specifically at Postmasburg; illegal mining specifically at Gong Gong; the development of a social and labour plan; transportation of commodities other than manganese ore; assessment of HIV/AIDS; and project description related issues (including timeframes, public participation)
- Noise and vibration issues including but not limited to the number of trains that will pass the Groenwater Community and vibration damage to houses at Rosmead
- Visual issues including but not limited to the creation of light pollution.

Views on the Current Biophysical Environment:

- Vegetation issues including but not limited to veld fires
- Faunal issues including but not limited to small animals being trapped within fencing; the use of jackal proof fencing, and the potential impact on Shamwari Game Reserve
- Agricultural issues including but not limited to the impacts on existing irrigation activities and impacts on land with high agricultural potential.

7.2.4List 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

Comments raised by the various parties have been included as an annex to the Amendment Report in Appendix C and Appendix 3. Relevant views pertained to how the existing environment will be impacted on by the borrow pits include:

Views on the current Socio-Economic Environment:

- General issues including but not limited to conflicting land uses intended for certain farms; and the development of new railway crossings for access purposes.

Views on the current Biophysical Environment:

- Faunal issues including but not limited to animals crossing the railway line.

Views on the Cultural Environment:

- No views on the current cultural environment were received.

7.2.5Other concerns raised by the aforesaid parties

No other concerns pertaining specifically to borrow pits were raised by the aforesaid parties.

7.2.6Confirmation that minutes and records of the consultations are appended

The minutes and records of the consultations have been included in Appendix C and Appendix 3.

7.2.7Information regarding objections received

No objections were received for this project.

7.3The manner in which the issues raised were addressed

All responses to the issues raised by the various parties have been addressed in the Comments and Responses Report which has included in Appendix C and Appendix 3. All issues raised in e-mails and phone calls have also been captured in this report and addressed here.

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

8.1Employee communication process

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

This will be achieved through Environmental Awareness Training presented in section 4.13 of the SES document (Appendix E3). In addition to this, all site personnel should be given a copy of the SES which describes the minimum standards for environmental management to which they must comply. The SES must be read in conjunction with the CEMP (Appendix E1).

All contractors will be required to adhere to the Method statement which has been developed for the Linde borrow pit (See Appendix E4).

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).

Transnet' s solution is to anticipate the risk and then compile a management guideline in order to minimise the risk from occurring. Various management guidelines have been included in the SES (Appendix E3) including those for:

- Waste management
- Refuelling
- Dust management
- Storm water management
- Noise management
- Protection of heritage resources

If however, and environmental incident does occur, the CEMP (in Appendix E1) details how these incidences are categorised and how they are dealt with in order to prevent further damage to the environment. These procedures are managed through the construction manager who is assisted by the environmental manager and environmental officer.

8.3 Environmental awareness training.

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

Before the commencement of any work on site through an induction process, the Contractor' s site management staff shall attend an environmental awareness-training course presented by TCP' s Environmental Officer (EO). Training of the appropriate personnel will help ensure that all environmental regulations and requirements are followed and are defined in the relevant Method Statement to be prepared by the Contractor. The training should be conducted, as far as it is possible, in the employees' language of choice and shall include as a minimum:

- Explanation of how to protect the environment from the effects of construction by making the personnel aware of the sensitive environmental resources.
- Employees' roles and responsibilities, including emergency preparedness.
- Explanation of the mitigation measures that must be implemented when carrying out their activities.

- Training of personnel to recognise potential environmental problems, (i.e. spills), and communicate the problem to the correct person for solution.

All individuals on the Project site will need to have a minimum awareness of environmental requirements and responsibilities. However, not all need to have the same degree of awareness. The required degree of knowledge is greatest for personnel in the Safety, Health and Environmental Sections and the least for manual personnel. Environmental issues that occur on site will be included in toolbox talks.

The Contractor shall keep a record of all the environmental related training of the personnel.

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)

Due to the nature and scale of this activity (constant use of the borrow pit area), rehabilitation does not take place on an annual basis but rather once the activity is completed. The amount which has been calculated is the amount which has been committed to the effective rehabilitation of the borrow pit area at a time where it is no longer needed.

The table below shows the various activities which will be required as part of the borrow pit's rehabilitation. The amounts for each activity have been calculated separately:

CALCULATION OF THE QUANTUM

Mine: LINDE BORROW PIT (TRANSNET LIMITED)

Location: Linde, Northern Cape
Date: 05/03/2013

Risk Class: C
Area Sensitivity: Med

No.	Description	Unit	A	B	C	D	E=A*B*C*D	
			Quantity	**Master Rate**	**Multiplication Factor**	**Weighting Factor 1**	**Amount (rands)**	
3	Rehabilitation of **access roads**	m^2	608	27.10	1.00	1.00	R	16 476.80
6	**Opencast rehabilitation** including final voids and ramps	ha	2.18	158 747.30	0.52	1.00	R	180 319.15
10	**General surface rehabilitation**	ha	2.18	83 836.41	1.00	1.00	R	183 132.25
12	**Fencing**	m	596	95.63	1.00	1.00	R	56 995.48
14	2 to 3 years of **maintenance and aftercare**	ha	2.18	11 156.92	1.00	1.00	R	24 371.18
						(Sum of items 1 to 15 above)	R	**461 294.86**
						Weighting Factor 2		1.05
						Subtotal 1	R	**484 359.61**
1	Preliminary and General	6.0% if Subtotal 1 > 100 000 000 12.0% if Subtotal 1 < 100 000 000					R	58 123.15
2	Contingency	10.0% of Subtotal 1					R	48 435.96
						SubTotal 2	R	**590 918.72**
						(Subtotal 1 plus sum of management and contingency)		
						Add Vat (14%)	R	82 728.62
						GRAND TOTAL	R	**673 647.34**
						(Subtotal 2 plus VAT)		

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

(Specifically confirm that the stated amount has been adequately provided for in the corresponding budget reflected in the Prospecting Work Programme as required in Accordance with Regulation 7 (1) (j) (ii)).

This has been included in section 9.1 above.

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	Velile Sikhosana
Identity Number	7410175430085

-END-

APPENDIX 1

SITE VISIT REPORT

HATCH

Field Report for Ngqura 16 Mtpa Manganese: Borrow Pits

Date: 12 April 2013

Borrow pit: Linde (Existing borrow pit)

Coordinates from the centre of the borrow pit:

	Degrees (DD)	Minutes (MM)	Seconds (SS.ss)		Degrees (DD)	Minutes (MM)	Seconds (SS.ss)
E	24	41	36.22	**S**	31	01	21.80

Environmental Aspects

Site description of the area surrounding the borrow pit:

Elevation of 1,411 mamsl, with a rolling to flat landscape. Moderate clay content in the topsoil profile, and typical shallow to moderate soil depths (150-500 mm). Exposed outcrop displaying calcrete and Karoo Sediments. Evidence of evaporative calcrete material. Evidence of highly erosive conditions through loss of topsoils etc., with a highly evaporative environment. A north-south doleritic ridge bounds the site to the east.

Fauna and flora species and biodiversity observed in and around the borrow pit:

Small animal and cattle spoor was noted. Sour-leaf and shrub vegetation (less than 1 m high), indicative of the region. Sparsely distributed trees. Evidence of limited disturbance to the vegetation growth by grazing. Ground cover is sparse to moderate with a conglomerate and very course gravel topsoil coverage.

Water sources or prominent drainage line/features observed in and around the borrow pit (rivers, wetlands, boreholes etc :

No clear watercourses or wetlands were noted; however sheet erosion was evident and standing water was noted on site after recent rainfall. The area however, has a very developed groundwater system, with structurally driven (dolerite dyke/ sill) perched water tables and natural daylighting springs.

Issues to consider in and around the borrow pit:

Depending on the geohydrological conditions in the area, the depth of excavation of the borrow pit, could impact on the local water levels. The very shallow rocky topsoils are very susceptible to erosion and this must be considered during excavation activities to preserve the seedbed and topsoil materials.

180° panoramic photos of the borrow pit (encompassing eight compass directions):

***NORTH facing**- from the south-west of the site*

***SOUTH facing**- from the south-west of the site*

Social Aspects

General description of the social environment surrounding the borrow pit:

Scattered historical structures are located on the property. No schools or farm housing have been noticed in the close vicinity of the borrow pit area. Access is from the east, via a regional access road, linking to the railway servitude to the north. The site is located east of an existing borrow pit excavation.

Description of the land use(s) on the farm on which the borrow pit is located (game farming/ tourism/ agriculture etc.):

Linde is located south of the town De Aar and is mostly farm land. A solar farm is proposed to be constructed west of the existing rail line. The land use is primarily cattle and sheep farming.

Details on the lawful occupiers of the land on which the borrow pit is located:

Mr. Naude owns the affected land portion(s).

Stakeholder Engagement and Site Visit

	Y	N
Has the borrow pit EMP process been explained to the affected landowner?	X	
Has the BID been distributed to the landowner?	X	
Was the letter of consent signed by the landowner?	X	
Have detailed minutes from the discussion with the landowner been recorded?	X	
Have contact details (phone number and e-mail address) of the landowner been obtained?	X	
Have the site notices been placed?	X	

ENGLISH SITE NOTICE – ZOOMED IN

ENGLISH SITE NOTICE – ZOOMED OUT

AFRIKAANS SITE NOTICE -ZOOMED IN

AFRIKAANS SITE NOTICE -ZOOMED OUT

Archaeology and Cultural Heritage Aspects

General description of the area surrounding the borrow pit from a cultural heritage perspective:

The site shows evidence of scattered stone tool material.

Description of artefacts/ graves/ materials found at or near the borrow pit site (indicate whether these have been disturbed or not)

The scattered stone tools are of low density and occur on the surface of the site. Historical structures are located north of the proposed borrow pit.

Photos of Interest

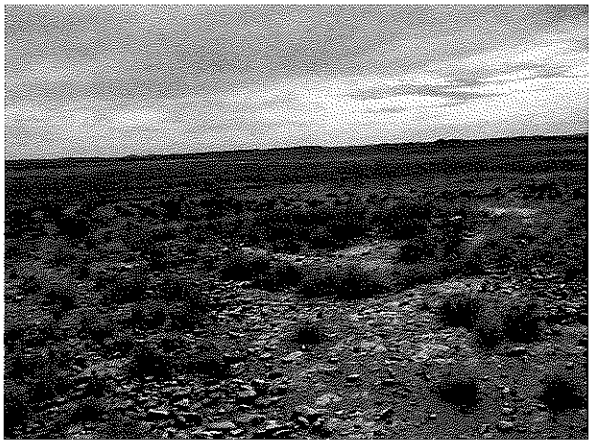
Scattered old farm housing. The rail line is located right of the historical structures.

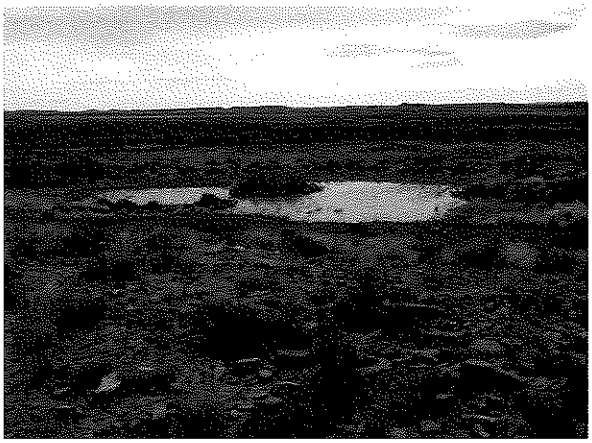
Scattered stone tool material.

A view of the landscape.

The access road to the borrow pit.

Desert flowers





The existing borrow pit.

Typical geological sequence.

Scattered stone tools in close proximity to the borrow pit.

Aardwolf activity.

Mudstone , displaying fossil tracks (bioturbation).

A homestead, to the north of the site.

APPENDIX 2

LANDOWNER CONSENT FORM

NGQURA 16 MTPA MANGANESE RAIL

LANDOWNER CONSENT: OPERATION OF BORROW PITS

I, Claude, owner of the property _____, herewith give written confirmation that I have no objection to Transnet SOC Limited operating a borrow pit/s on the above-mentioned property.

An appropriate agreement in this regard will be entered into between Transnet SOC and myself.

Property owner's signature: _____

Date: 2015/04/09

For enquiries you are welcome to contact:

Evert Jacobs
Hatch
Tel:+27 (0)11-844 1508
Cell:+27 (0)82 326 9325
Email: ejacobs@hatch.co.za
Private Bag X4, Gallo Manor, 2052
Building 11, Harrowdene Office Park, Western Service Rd, Woodmead, JHB

NGQURA 16 MTPA MANGANESE RAIL

LANDOWNER CONSENT: HERITAGE ACTIVITIES

I, I Taude, owner of the property _____, herewith give written confirmation that I have no objection to the appointed professional archaeologist _____, entering my property to undertake the following activity:

- Removal of heritage objects from the site/property to be documented and transported to the local archaeological depository or museum for the purpose of sampling and monitoring.

Property owner's signature: _____

Date: 2015/04/04

For enquiries you are welcome to contact:

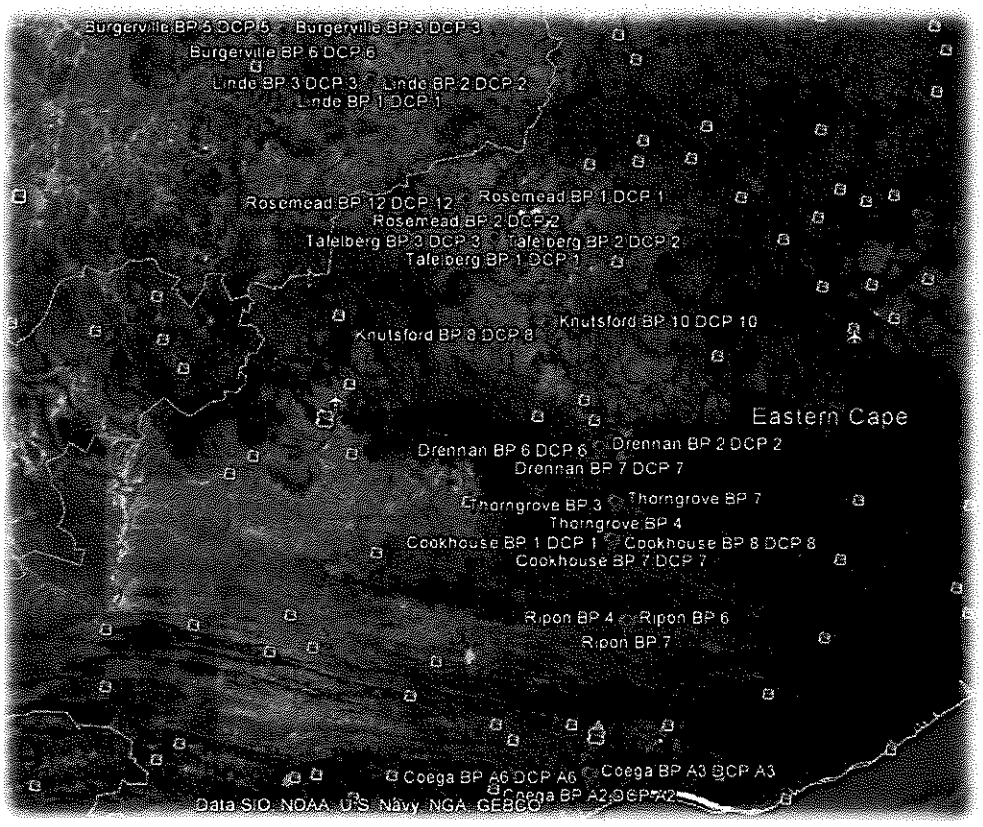
Evert Jacobs
Hatch
Tel:+27 (0)11-844 1508
Cell:+27 (0)82 326 9325
Email: ejacobs@hatch.co.za
Private Bag X4, Gallo Manor, 2052
Building 11, Harrowdene Office Park, Western Service Rd, Woodmead, JHB

APPENDIX 3

BORROW PIT SPECIFIC PUBLIC PARTICIPATION DOCUMENTATION

Transnet Capital Projects
Ngqura 16 Mtpa Manganese Project

Background Information Document for the Borrow Pits required from De Aar to the Port of Ngqura



TRANSNET

HATCH

Project background

Transnet (SOC) Limited (hereafter referred to as Transnet) is proposing to expand the existing manganese ore railway line from Hotazel in the Northern Cape to the Port of Ngqura in the Eastern Cape (Figure 1). The growing demand for manganese ore has resulted in the need to expand the capacity of the export corridor to 16 million tons per annum (Mtpa). The proposed expansion includes the following:

- Extension of several existing rail loops in the Northern and Eastern Cape;
- The installation of two new rail loops in the Northern Cape; and
- The construction of a new compilation yard near Hotazel in the Northern Cape.

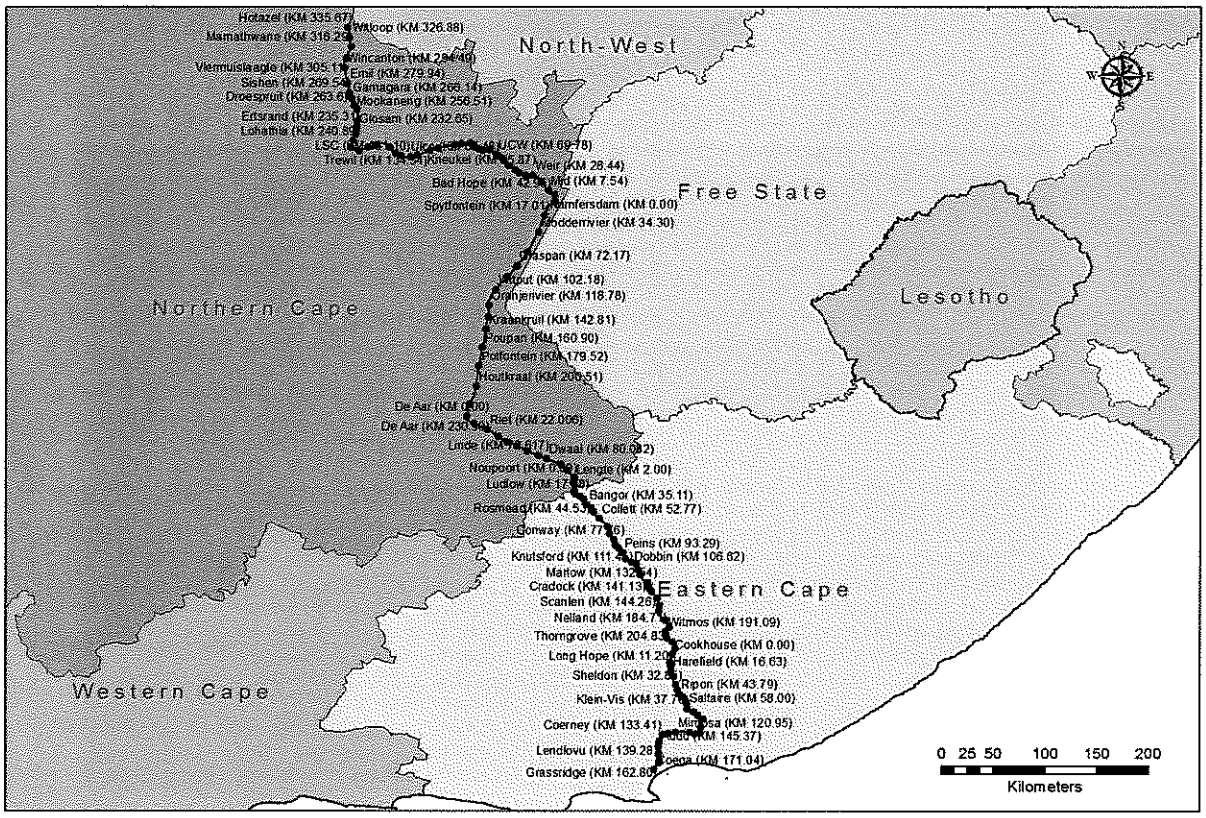


Figure 1: Railway line route from Hotazel in the Northern Cape to Coega in the Eastern Cape

As part of this project, borrow material for various civil and structural activities is required. Several borrow pit sites have been identified along the length of the line but for the purposes of this document, only the borrow pits required for the De Aar to Ngqura section of the railway line will be discussed.

The De Aar to Ngqura borrow pits

Background

Eleven borrow pits will be required for the De Aar to Ngqura section of the railway line and specific details of these have been included in the table below:

Borrow pit	Status	Farm name	Land Owner
Burgervilleweg	Existing borrow pit to be re-commissioned	Riet Fountain 39	Privately owned
Linde	Existing borrow pit to be re-commissioned	Dwaal Fountain 29	Privately owned
Rosmead	Existing borrow pit to be re-commissioned	Leuwe Fontyn 119	Privately owned
Tafelberg	Existing borrow pit to be re-commissioned	Tafelberg 176	Privately owned
Knutsford	Existing borrow pit to be re-commissioned	Het Fortuin 66	Privately owned
Drennan	Existing borrow pit to be re-commissioned	Het Fortuin 66	Privately owned
Thorngrove	Existing borrow pit to be re-commissioned		Privately owned
Cookhouse-Golden Valley	Existing borrow pit to be re-commissioned	Jagers Drift 121	Privately owned
Golden Valley	Existing borrow pit to be re-commissioned	Altona 340	Privately owned
Ripon-Kommadagga	Existing borrow pit to be re-commissioned	Driefontein 259	Privately owned
Barkley Bridge	Existing borrow pit to be re-commissioned	Steins Valley 202	Privately owned
Coega 1	Existing borrow pit to be re-commissioned	Farm 643	Privately owned
Coega 2	Existing borrow pit to be re-commissioned	Farm 643	Privately owned

Locality maps of the proposed borrow pits are shown in figures 2 to 11. These maps also indicate the relevant farm portions which will be affected by the proposed borrow pit development.

Phases of the borrow pit's development

The main phases associated with borrow pit development include construction, operation, rehabilitation and closure. A brief description of each one of these phases is given below

Construction:

The borrow pit area will be staked out prior to vegetation clearing after which, the vegetation will be cleared from the site. Where topsoil is present, this will be stripped to a depth of 200 mm and stockpiled separately in piles.

Operation:

The borrow pit material will be excavated by means of ripping and loading with an excavator and then stockpiled before being loaded onto haul vehicles. The material will be transported along the existing gravel access road which runs adjacent to the railway line within the Transnet rail reserve.

Rehabilitation and Closure:

The objective of this phase is to restore the disturbed area as closely as possible to its original state through rehabilitation. The material which cannot be used for the repair of the rail track formation will be used in the reshaping of the site during rehabilitation. Drainage outputs would also be provided to ensure that no water pools within the borrow pit excavations. The stockpiled topsoil will be spread evenly over the disturbed area to a depth of 100 mm where possible. The borrow pit sites would then be revegetated with suitable indigenous grass species.

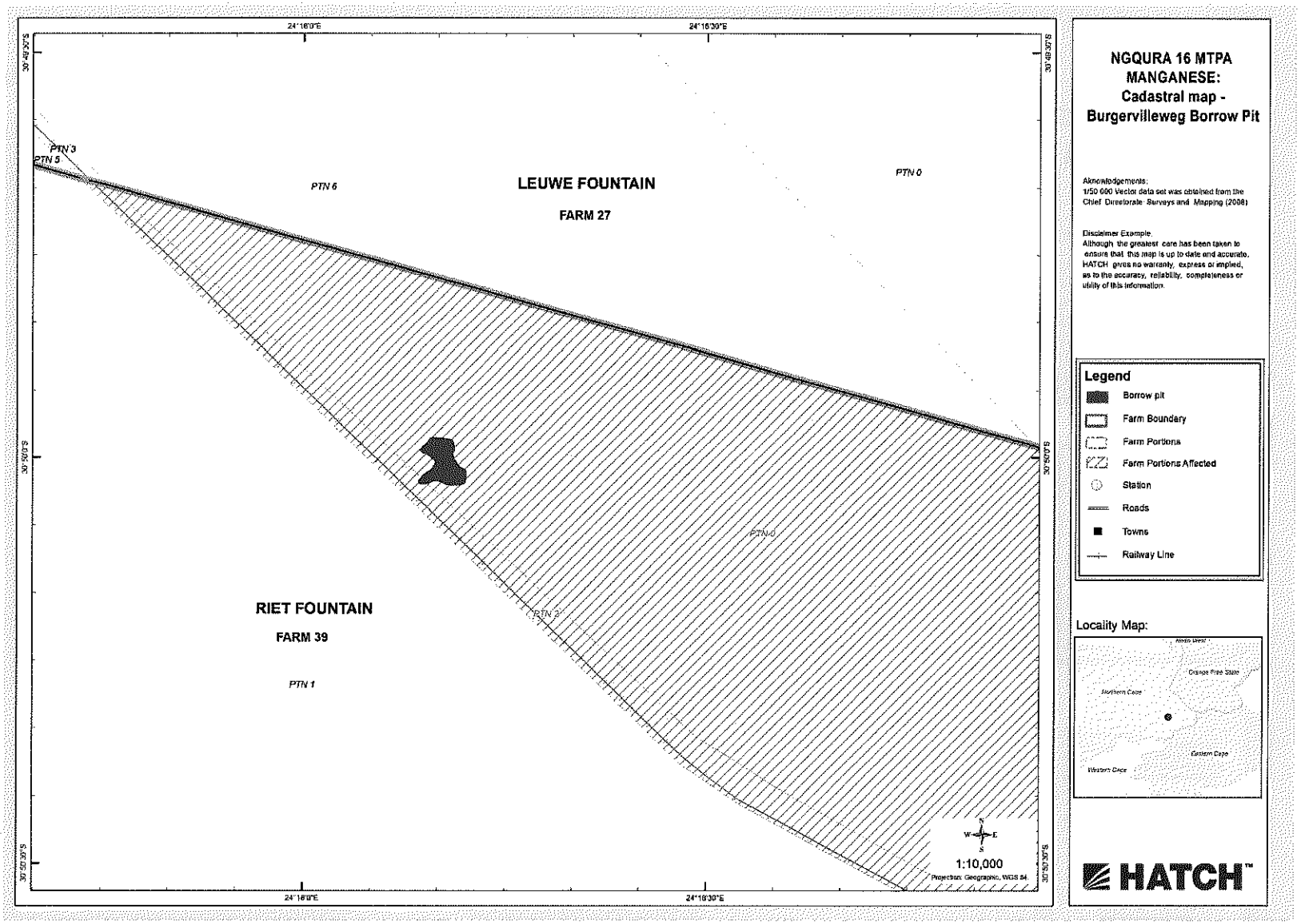


Figure 2: Locality of the Burgervilleweg borrow pit

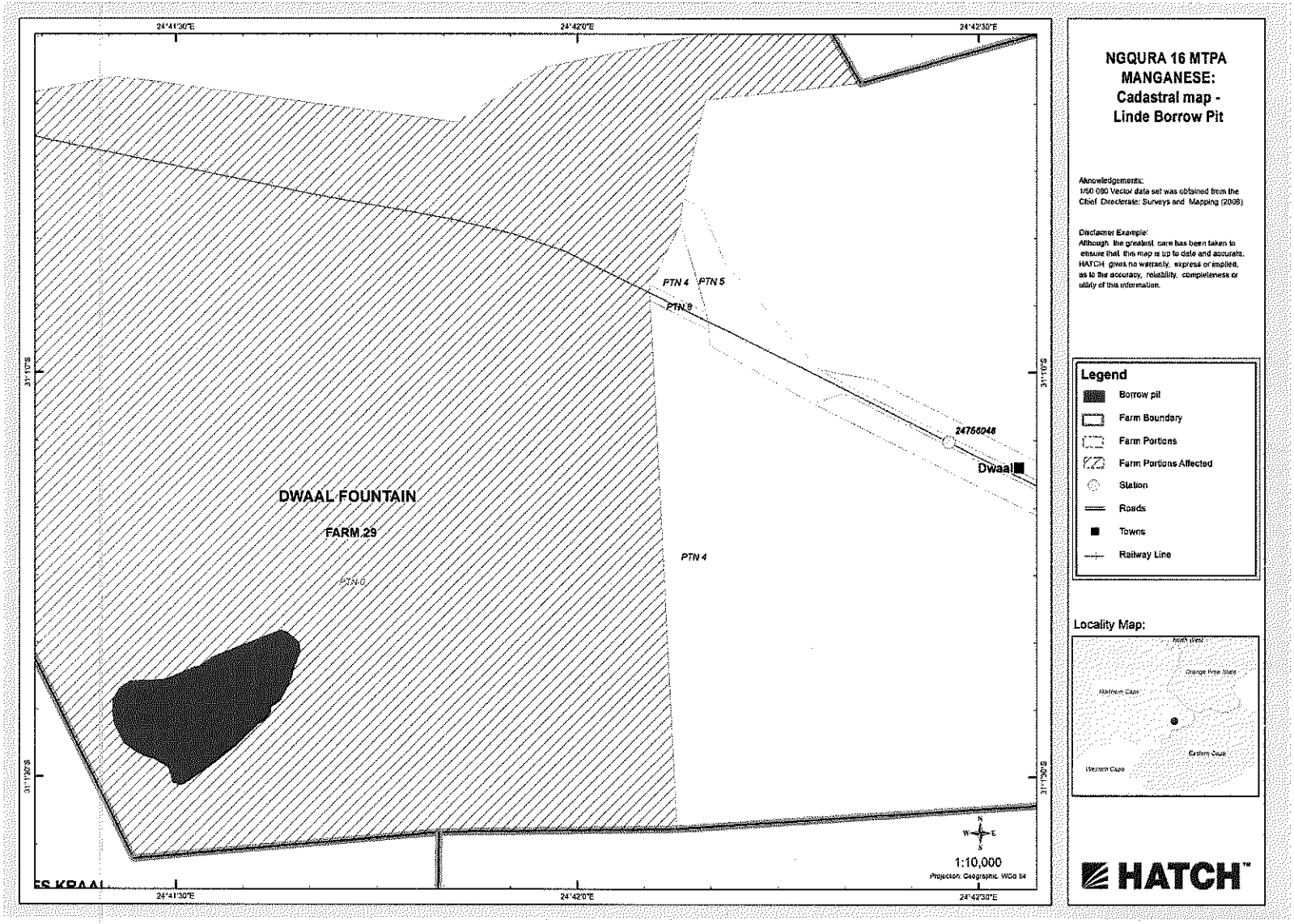


Figure 3: Locality of the Linde borrow pit

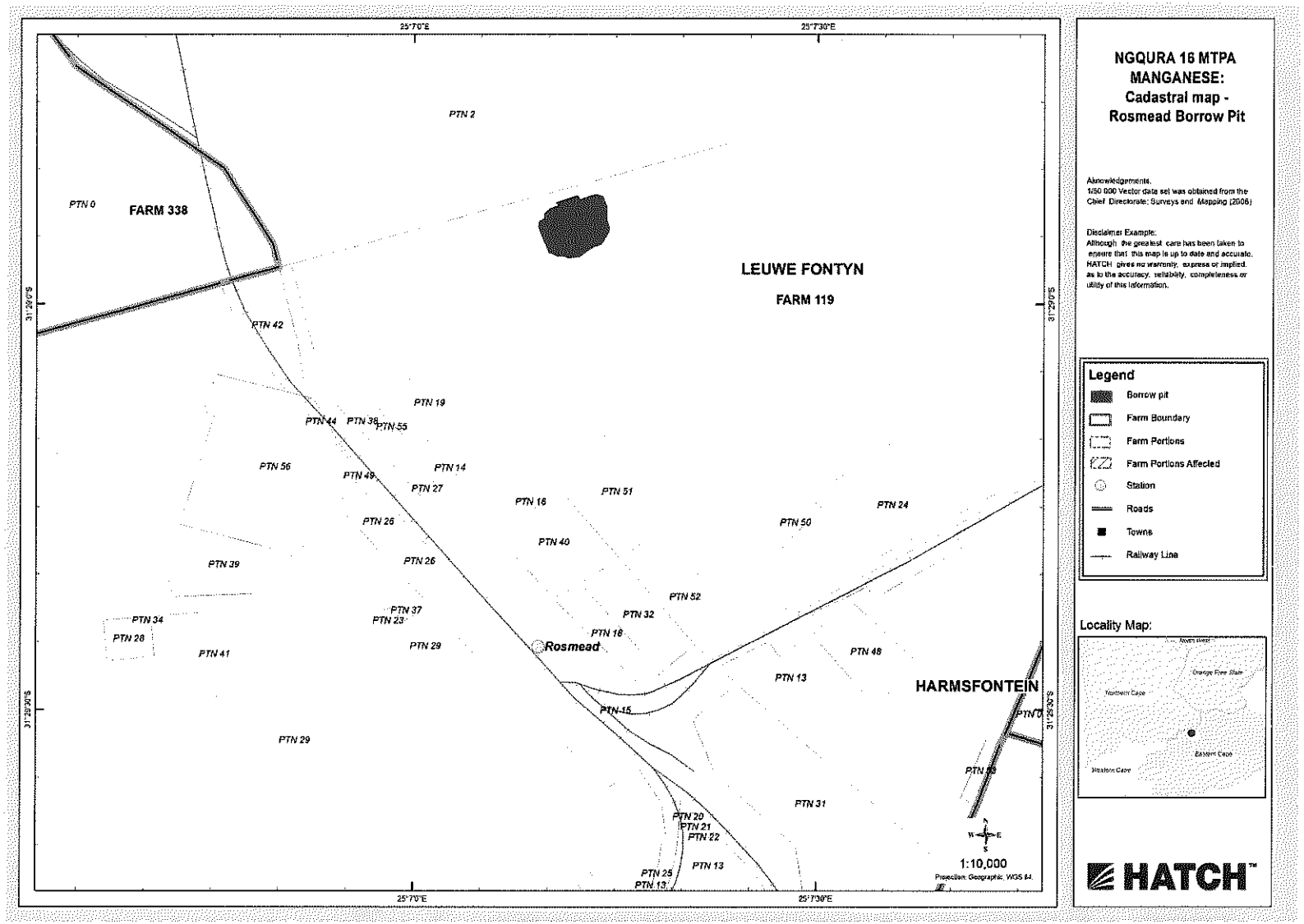


Figure 4: Locality of the Rosmead borrow pit

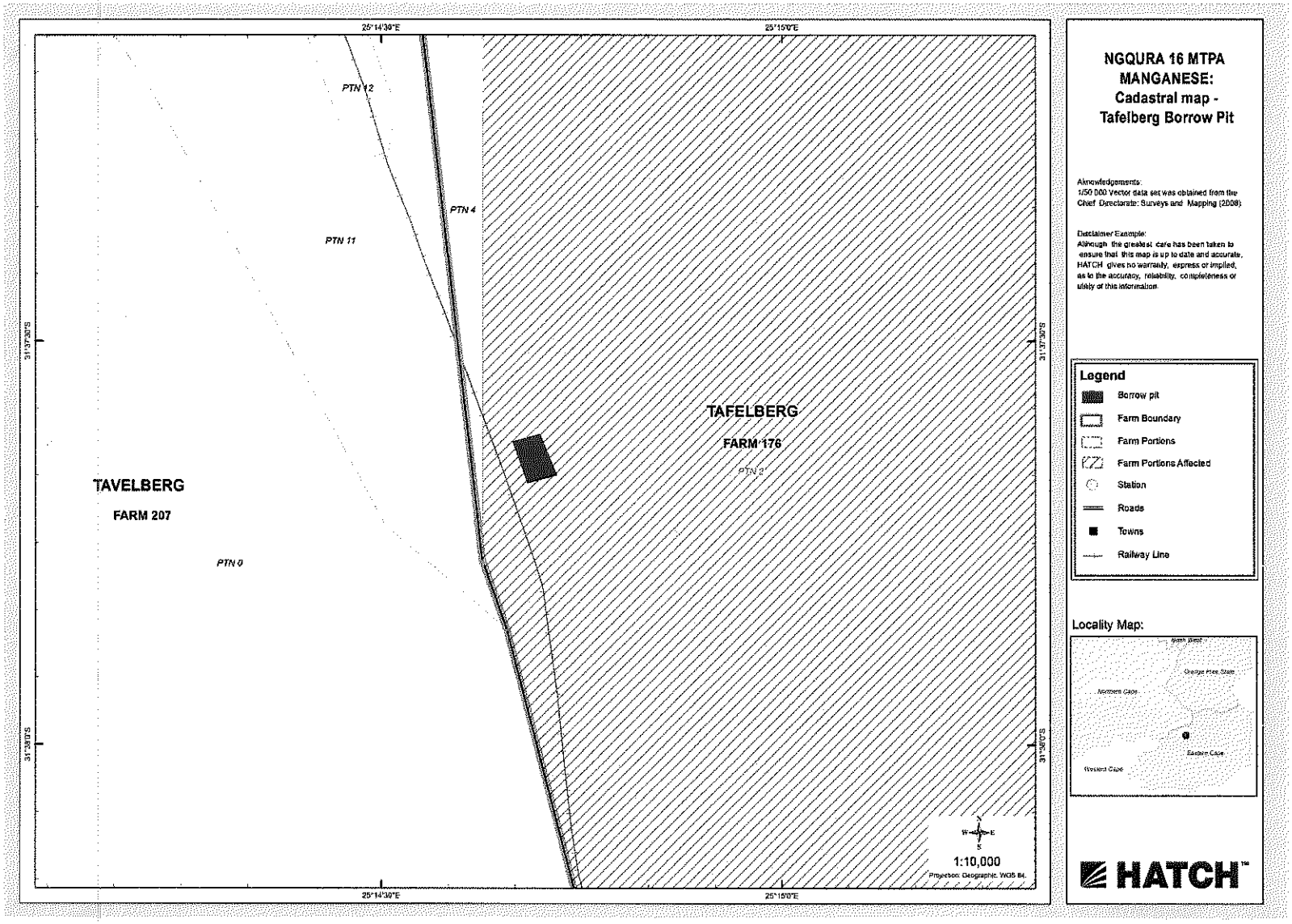


Figure 5: Locality of the Tafelberg borrow pit

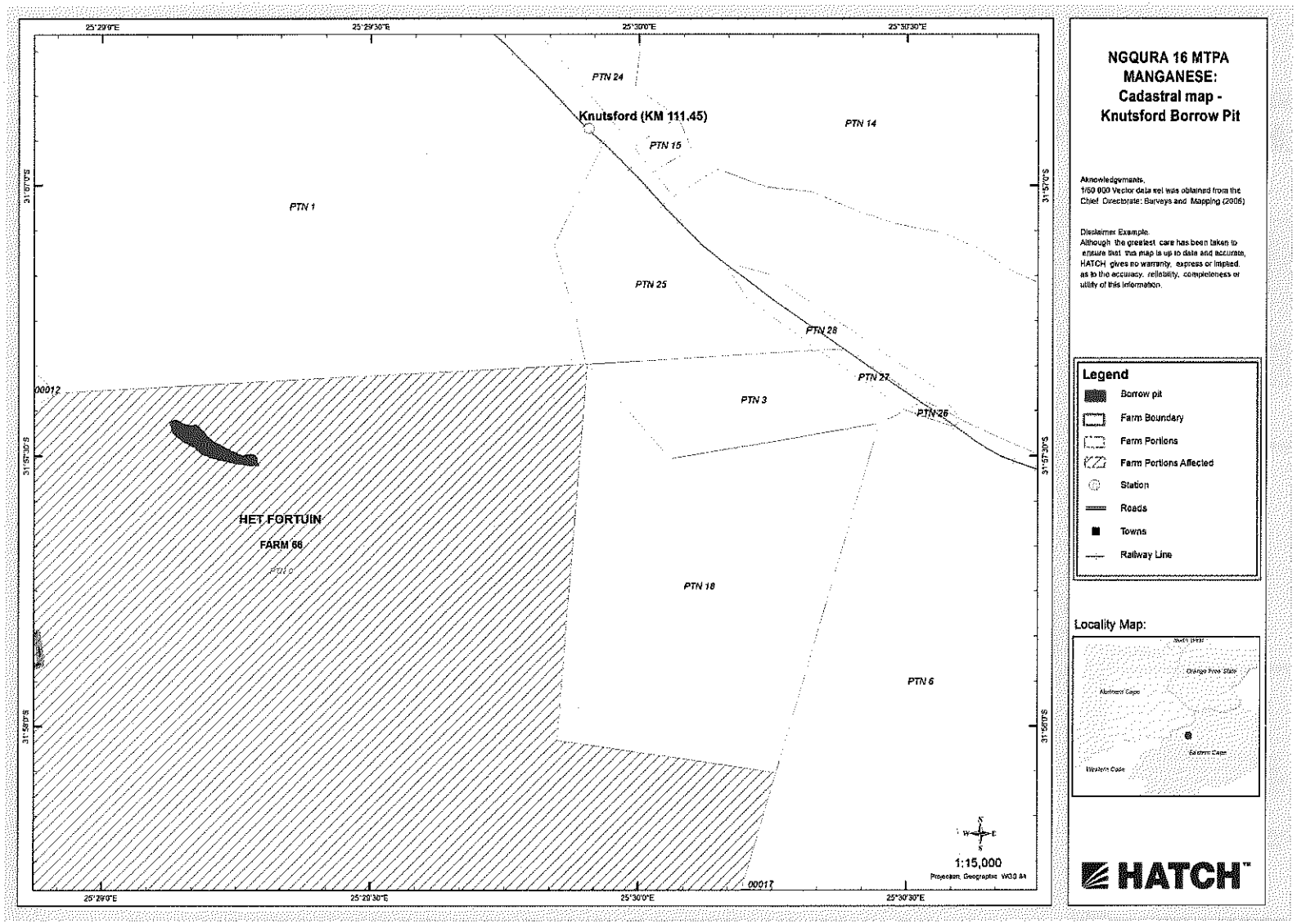


Figure 6: Locality of the Knutsford borrow pit

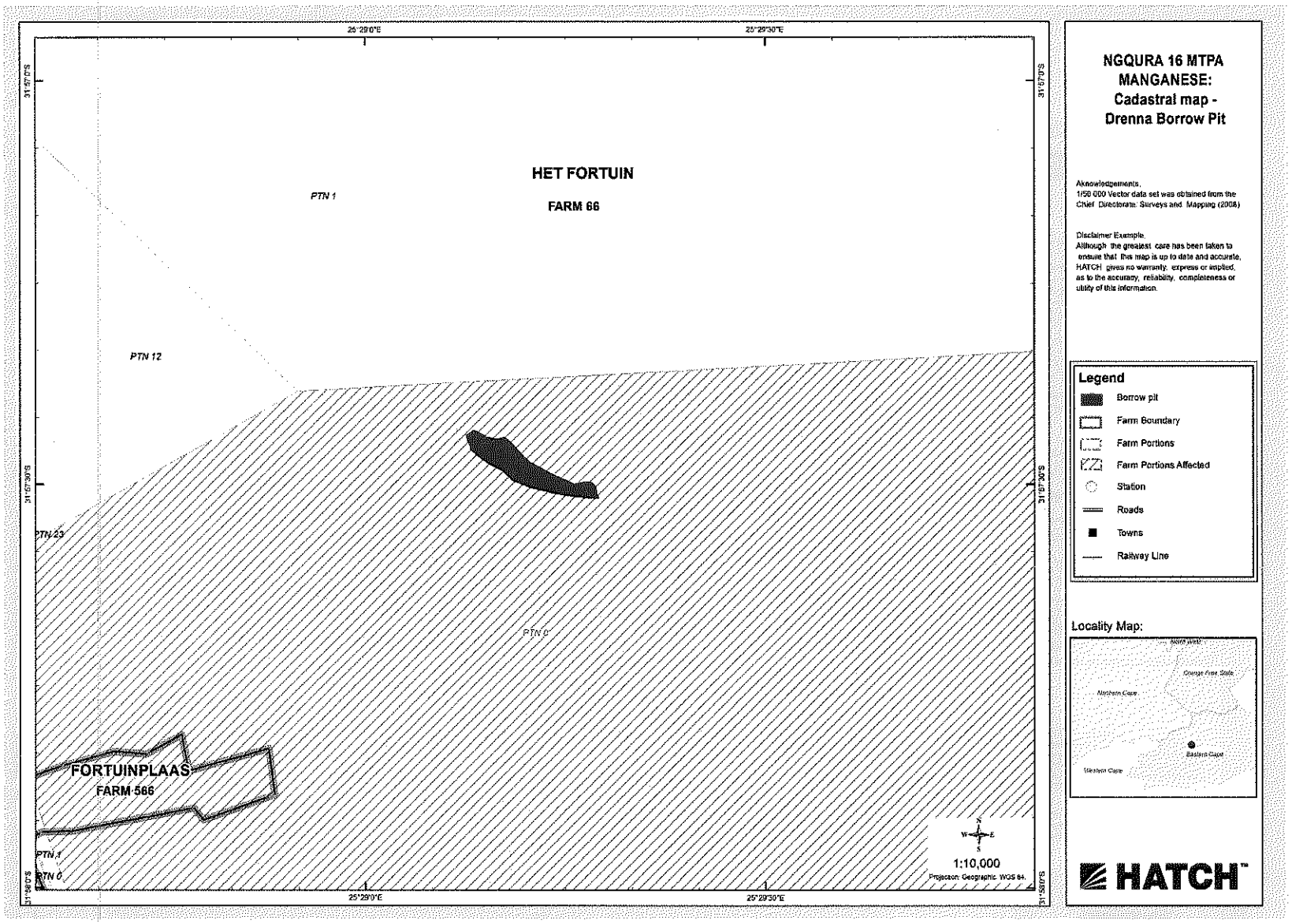


Figure 7: Locality of the Drennan borrow pit

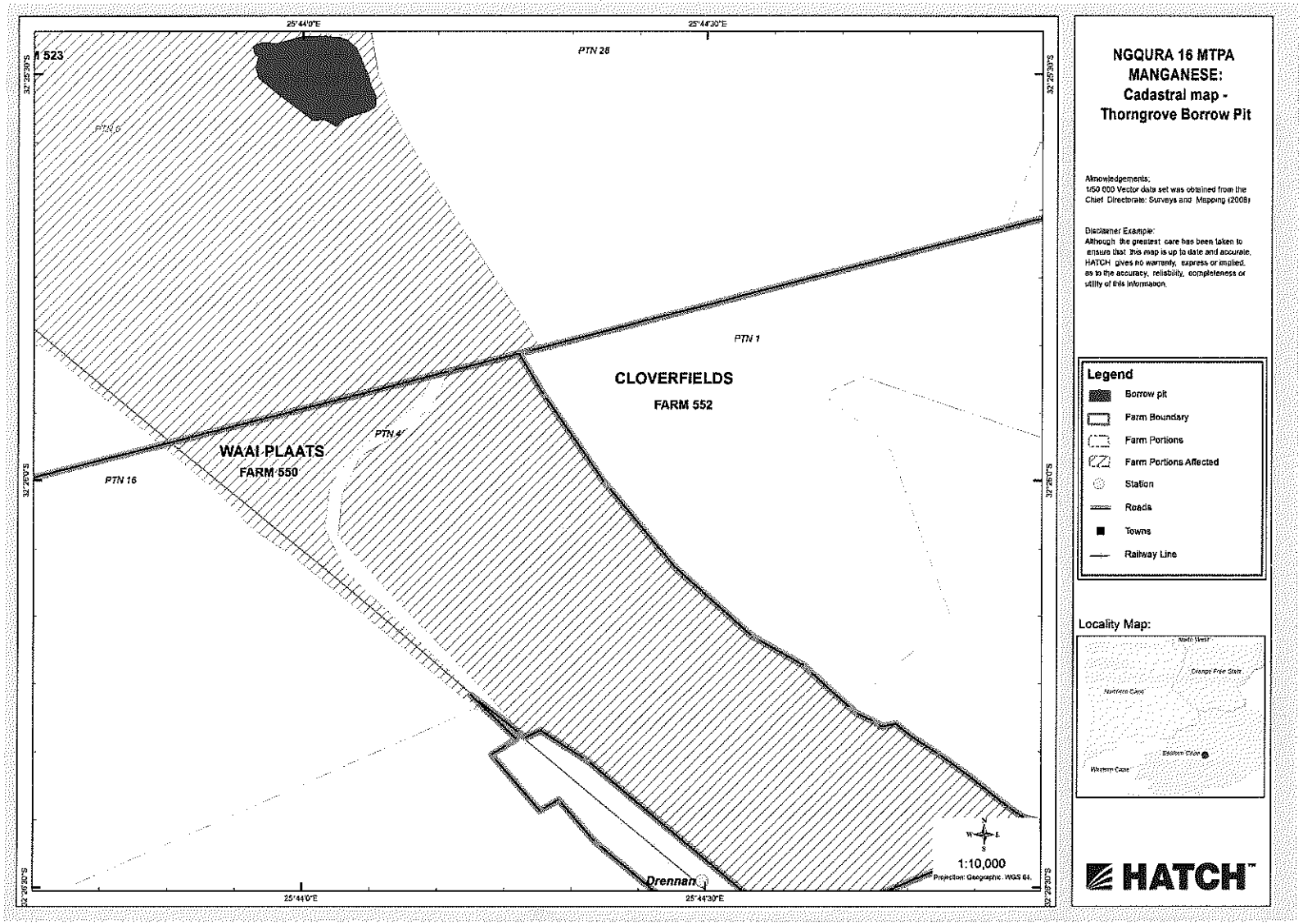


Figure 8: Locality of the Thorngrove borrow pit

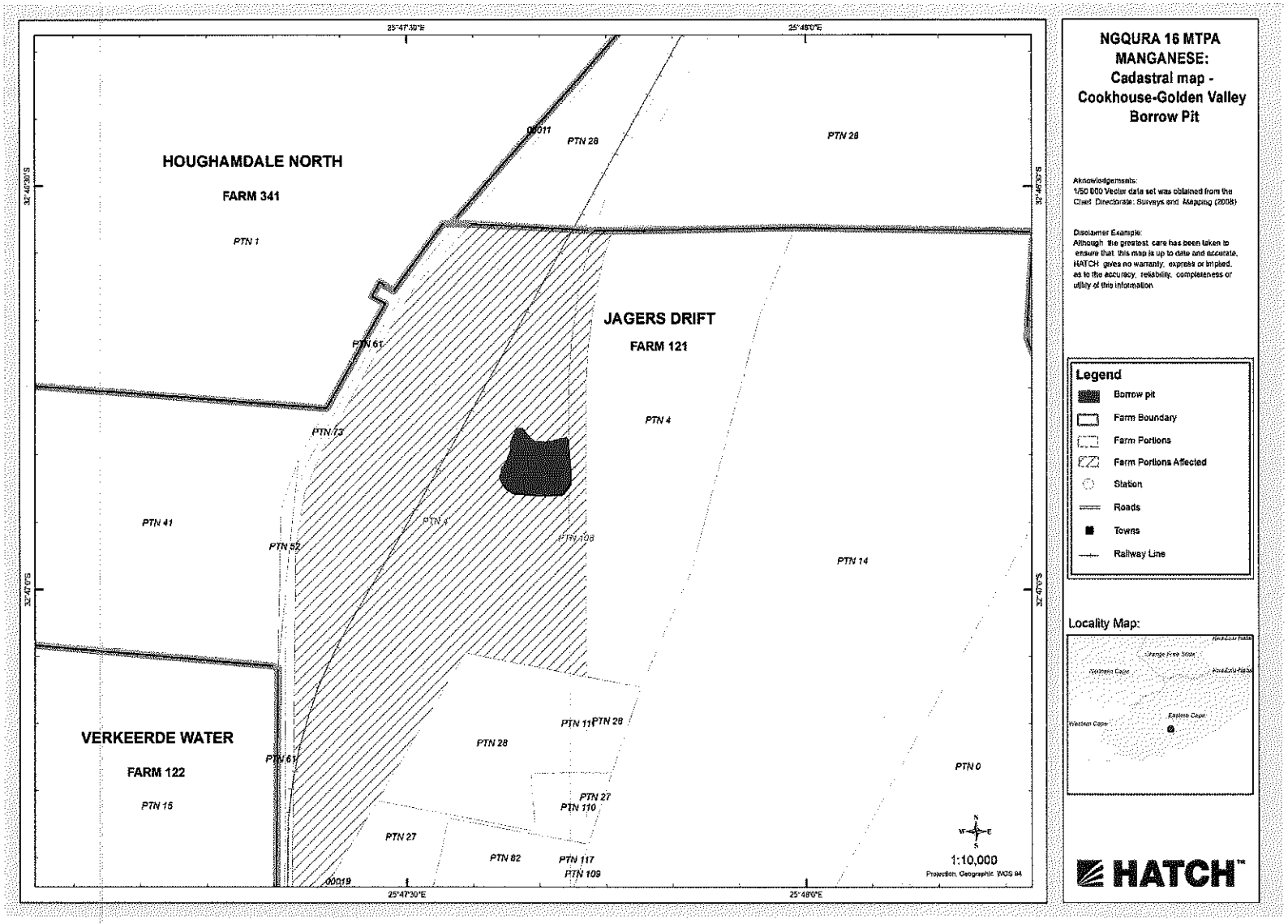


Figure 9: Locality of the Cookhouse-Golden Valley borrow pit

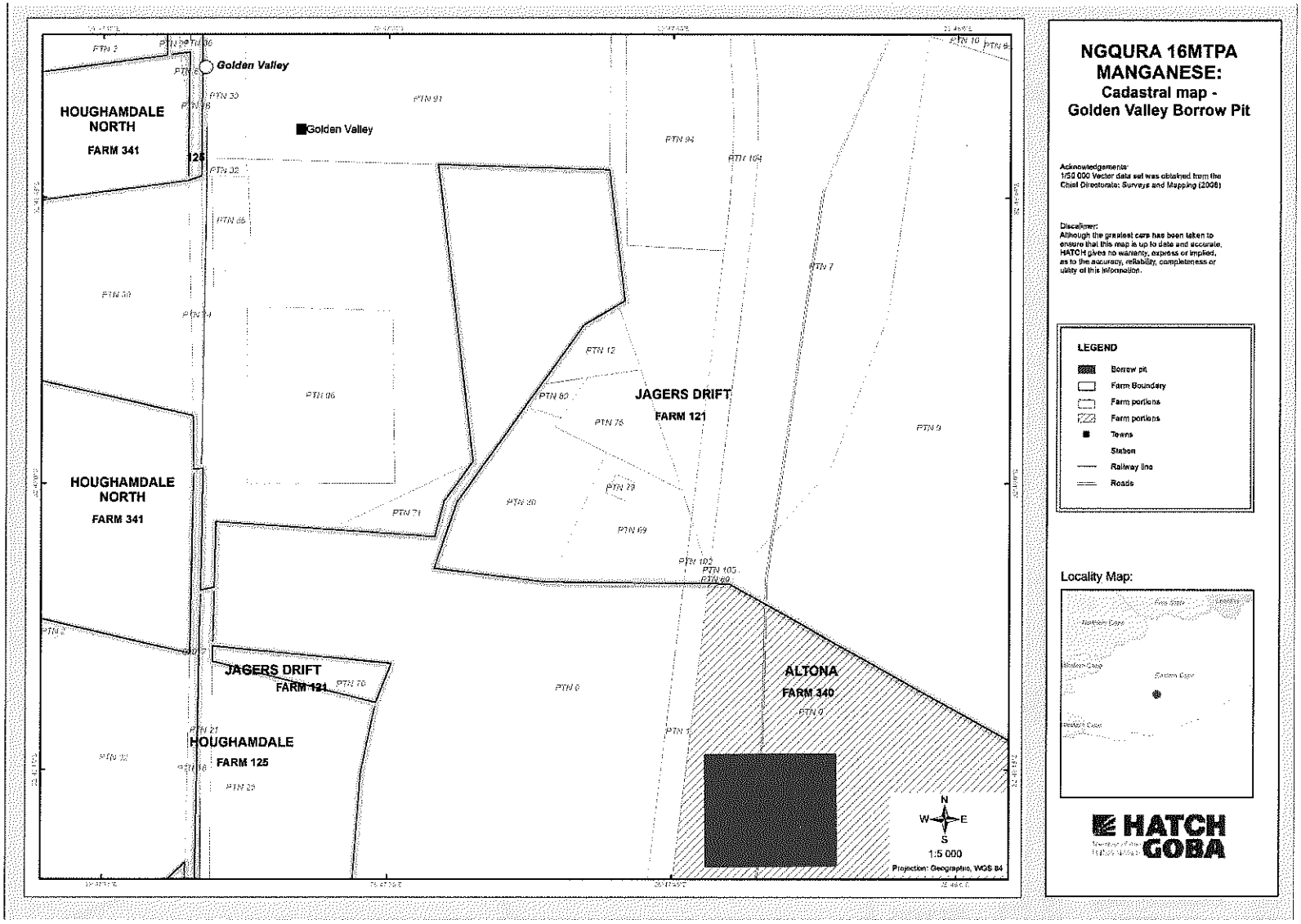


Figure 10: Locality of the Golden Valley borrow pit

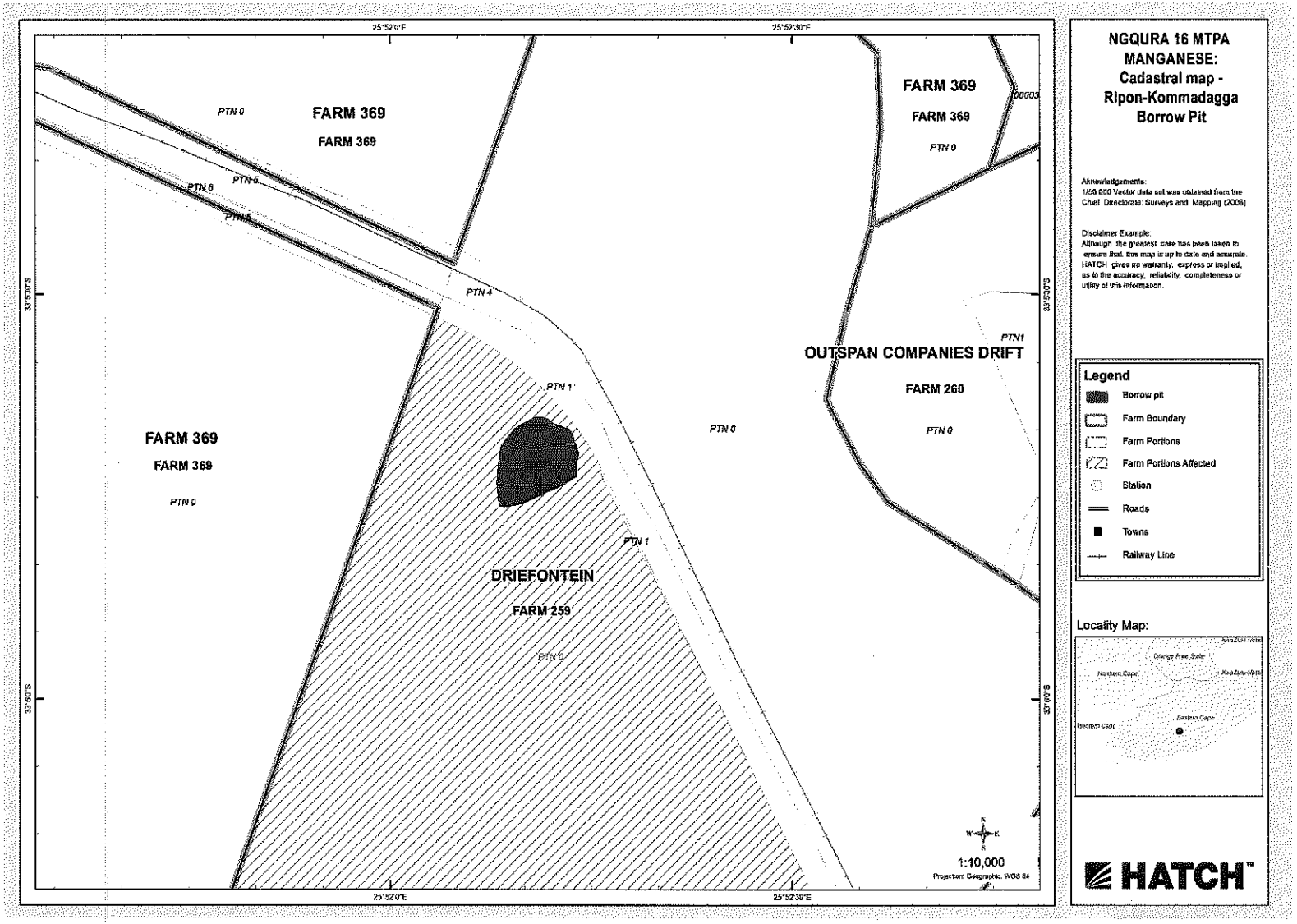


Figure 11: Locality of the Ripon-Kommadagga borrow pit

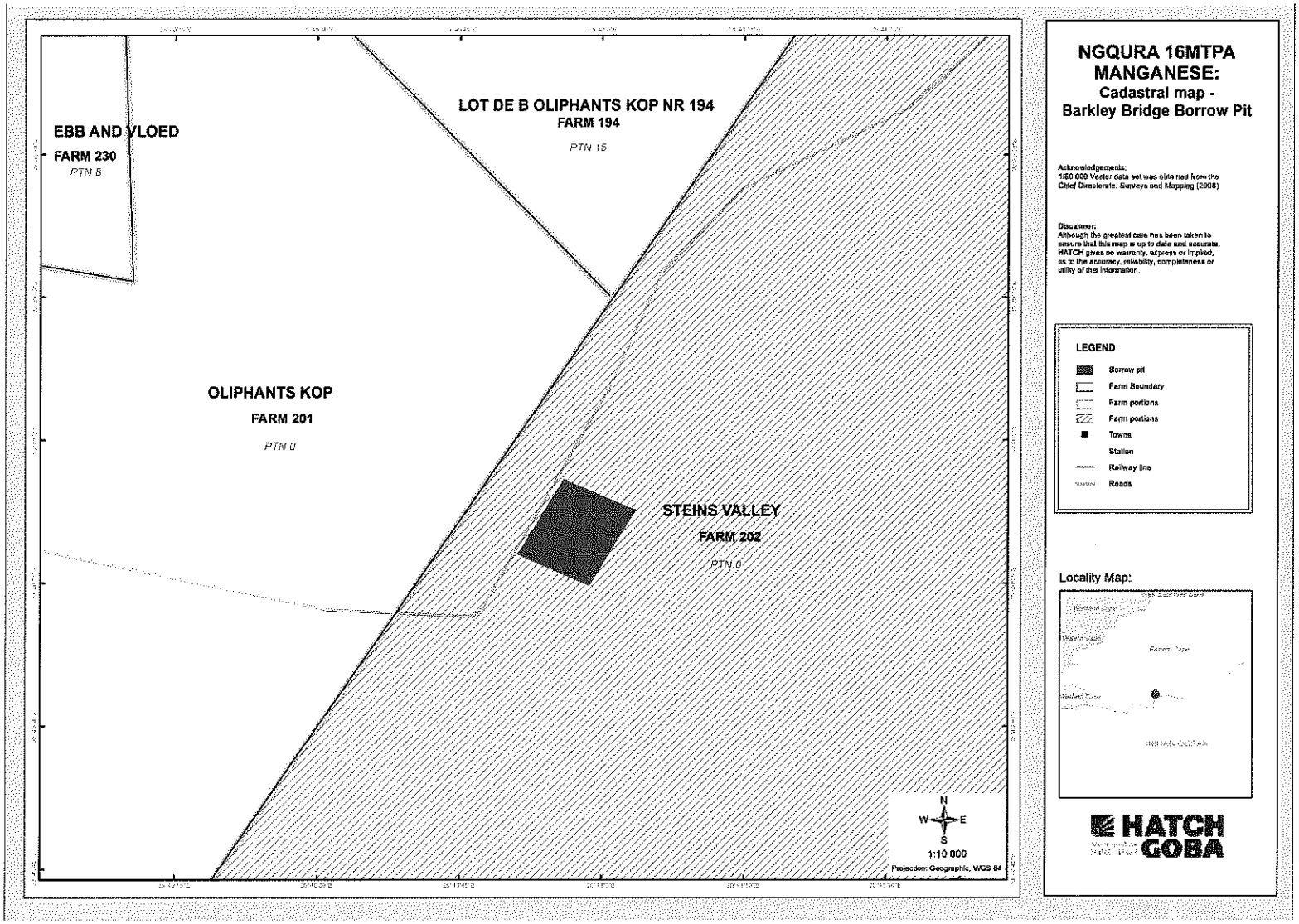


Figure 12: Locality of the Barkley Bridge borrow pit

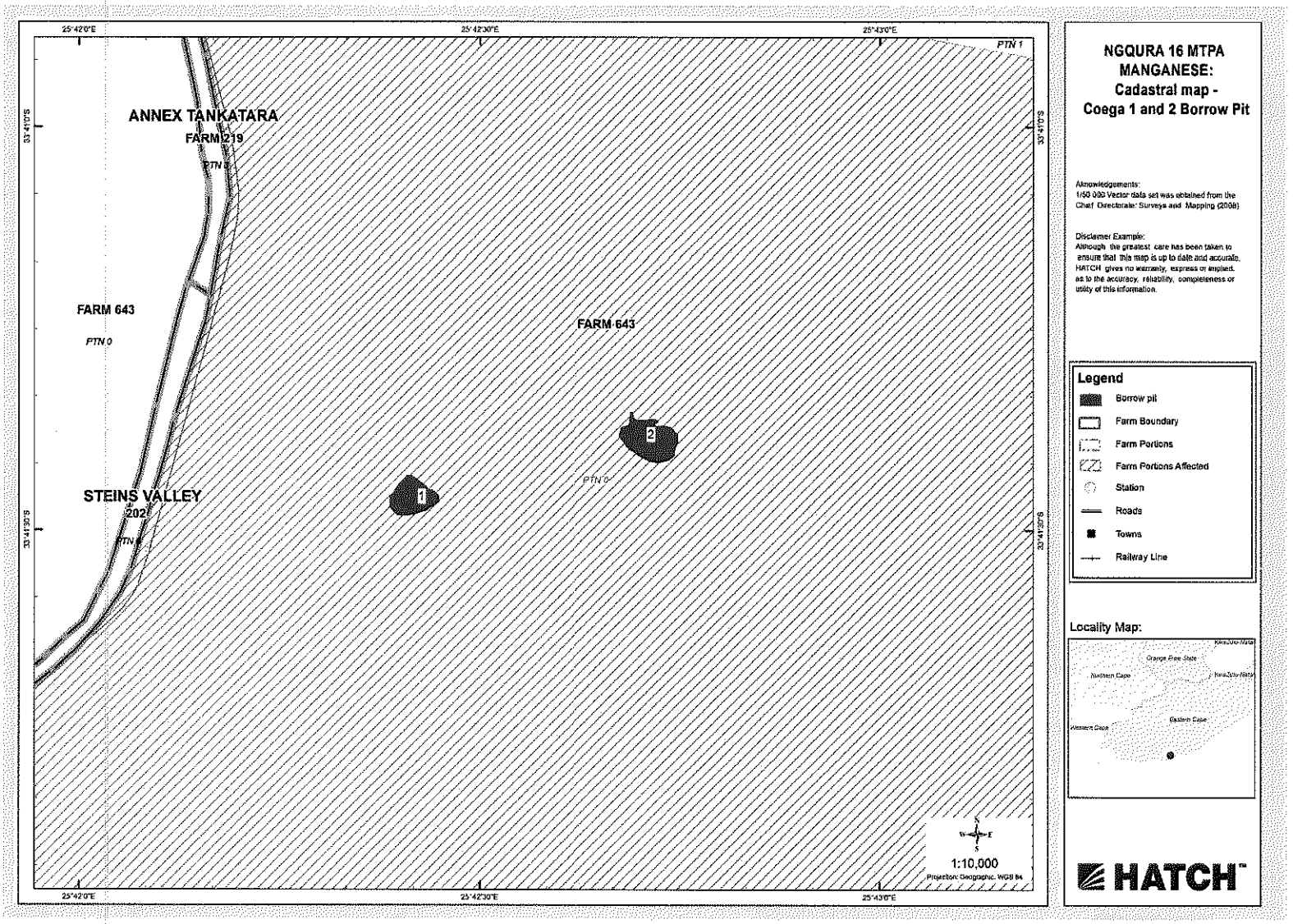


Figure 13: Locality of the Coega 1 and 2 borrow pits

The borrow pit approval process

Environmental Management Plan (EMP)

The Department of Mineral Resources (DMR) is the authorising authority for borrow pit applications. As part of the authorisation process, Transnet is required to submit an Environmental Management Plan which includes information on the activities associated with the borrow pit's excavation to the point when it is rehabilitated at the end of its life. The EMP details impacts and mitigation measures for each borrow pit activity and also includes a committed amount which will be assigned for the rehabilitation of the borrow pit.

This document is available upon request.

Supporting Documentation
Various documents are required as part of the EMP submission to the DMR. These include but are not limited to the following:

- An Environmental Impact Assessment (EIA) Report which was conducted for the area affected
- Various specialist's investigations conducted for the affected area as part of the EIA (this includes a impact assessment on potential heritage resources for the borrow pit area)
- Title deeds of the affected land portions
- Proof of engagement with the affect landowners
- A signed letter of consent from the affect landowners

In terms of the letter of consent, this is simply for the landowner to acknowledge that they have been informed and have no objection to the intention for Transnet to make use of their land.

No work will commence on the affected Landowner's property prior to the signing of a formal agreement between Transnet and the Landowner. This agreement will include details on compensation for the affected land portions.

The Public participation Process

As part of the EMP documentation, the DMR requires that the affected landowners are contacted and consulted with regarding the proposed activities for the Heuningneskloof borrow pit. This document forms part of the information which will be relayed to the Landowner regarding Transnet's intentions. In addition to this, a meeting will be set up with each Landowner to discuss and minute any issues or reservations which the Landowner may have regarding the proposed borrow pit development. A comments form has been attached to this document for any additional comments which the Landowner may want to include following the meeting. These issues will be included in the EMP submission to the authorities.

COMMENT SHEET

March 2013

Should you have any additional concerns, queries, comments or suggestions regarding the proposed borrow pit, please note them below and return this comment sheet to Anita Bron of Hatch (Email: ABron@hatch.co.za)

Title and Name:			
Organisation:			
Telephone:		**Fax:**	
Cellphone:		**Email:**	
Postal Address:			

Comments:

Name ***Signature*** ***Date***

Thank you for your valuable contribution

PROPOSED BORROW PITS FOR THE MATERIALS REQUIRED FOR THE EXPANSION OF TRANSNET'S EXISTING MANGANESE ORE EXPORT RAILWAY LINE AND ASSOCIATED INFRASTRUCTURE, NORTHERN AND EASTERN CAPE

NOTICE OF PROPOSED BORROW PIT DEVELOPMENT

Transnet (SOC) Limited (hereafter referred to as Transnet) is proposing to expand the existing manganese ore railway line from Hotazel in the Northern Cape to the Port of Ngqura in the Eastern Cape.

As part of this project, borrow material for various civil and structural activities is required. It is for this reason that several borrow pits have been proposed along the length of the line.

The Department of Mineral Resources (DMR) requires that all affected landowners are consulted with regarding the proposed borrow pit requirements. Transnet are required to submit and Environmental Management Plan (EMP) in terms of Section 39 and of Regulation 52 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002). Consultation with the affected landowners forms part of the requirements of the EMP submission.

ADDITIONAL ENVIRONMENTAL AUTHORISATION PROCESSES

ERM

Several environmental authorisations are currently being conducted in parallel with the Borrow Pit EMP submission process. The environmental authorisation process is being carried out by ERM. Before the proposed project may proceed, an amendment process, a basic assessment process and an environmental impact assessment process also need to be undertaken in terms of the National Environmental Management Act (NEMA) (Act 107 of 1998), as amended.

The decision-making authority on all these processes will be the National Department of Environmental Affairs (DEA) as opposed to the Department of Mineral Resources (DMR) who will be the decision-making authority with regards to the Borrow Pit EMP submission.

Hatch Africa (Pty) Ltd are acting on behalf of Transnet and are assisting with the preparation of the Borrow Pit EMPs. This site notice serves as notification of the proposed Borrow Pit activities. To comment on or to request more information about the proposed development contact **Evert Jacobs** of Hatch:

Tel: (011) 844 1508 or Email: ejacobs@hatch.co.za

TRANSNET

HATCH

VOORGESTELDE LEENGROEWE VIR DIE KONSTRUKSIE MATERIAAL BEHOEFTES VIR DIE UITBREIDING VAN DIE TRANSNET MANGAANERTS UITVOER SPOORLYN EN GEPAARDGAANDE INFRASTRUKTUUR IN DIE NOORD EN OOS KAAP

KENNISGEWING VAN DIE VOORGESTELDE LEEN-GROEF ONTWIKKELING

Transnet (SOC) Ltd (hierna verwys as Transnet) stel voor die uitbreiding van die bestaande managaanerts spoorlyn tussen Hotazel (Noord Kaap) en die Nqgura Hawe in Port Elizabeth (Oos Kaap).

As deel van die projek, sal leen material vir verskillende siviele en strukturele aktiwiteite benodig word. Dit is vir hierdie rede dat verskeie leengroewe voorgestel word langs die bestaande spoorlyn.

Die Departement van Minerale Hulpbronne vereis dat al die geaffekteerde grondeienaars gekontak moet word met verwysing na die voorgestelde leengroewe. Dit word verder vereis dat Transnet 'n Omgewings Bestuurs Plan indien in terme van Artikel 39 en van Regulasie 52 van die Minerale en Petroleum Hulpbronne Ontwikkelings Wet, 2002 (Wet No. 28 van 2002). Konsultasie met die geaffekteerde grondeienaars vorm deel van die vereistes van die Omgewings Bestuurs Plan indiening.

ADDISIONELE OMGEWINGS MAGTIGINGS PROSESSE

ERM

Verskeie omgewings magtigings prosesse word huidiglik uitgevoer in parallel met die leengroef Omgewings Bestuurs Plan indiening prosesse. Die omgewings magtiging proses (impak studies) word huidiglik deur Environmental Resources Management (ERM) uitgevoer. Voor die voorgestelde projek mag voort gaan, moet aangepaste, basiese en omgewings impak studies gedoen word in terme van die Nasionale Omgewings Bestuurs Wet (Wet no 107 van 1998), soos aangepas in 2010.

Die besluitnemings gesag van al die prosesse is die Nasionale Departement van Omgewingsake in plaas van die Departement van Minerale Hulpbronne wat die slegs die besluit sal maak nagaande die leengroef Omgewingsplan indiening.

Hatch Africa (Pty) Beperk tree op namens Transnet, en staan by met die voorbereiding van die leengroef Omgewings Bestuurs Plan. Hierdie terrein kennisgewings dien as inligting van die voorgestelde leengroef aktiwiteite. Om kommentaar te lewer of om verdere informasie aan te vra oor die voorgestelde ontwikkeling kontak **Evert Jacobs** by Hatch:

Tel: (011) 844 1508 of Epos: ejacobs@hatch.co.za

TRANSNET

HATCH

Minutes of Meeting

09 April 2013

Transnet Capital Projects

Ngqura 16 Mtpa Manganese Rail

DISTRIBUTION

Those present

Linde Borrow Pit, Portion 0 of Dwaal Fountain 29

DATE:	09 April 2013	
LOCATION:	In the vicinity of the proposed Linde borrow pit, Northern Cape	
PRESENT:	**Hatch** Becker, Elize (EB) Vermaak, Paul (PV)	**Landowner** Mr. Naude (N)
APOLOGIES:	None	
ABSENT:	None	
PURPOSE:	Landowner liaison	

ITEM **ACTION BY**

1. Introduction and Welcome

EB opened the meeting and welcomed those present.

2. Background Information

The background regarding the Ngqura 16 Mtpa Manganese project and the need for borrow pits was explained.

PV explained the geotechnical background and why the specific area proposed for the Linde borrow pit is suitable for borrow material, and EB spoke to the heritage component of the project.

3. Consent Forms

PV and EB explained the need for landowner consent to develop the borrow pit(s). EB further explained that additional consent is required should any archaeological material need to be removed from the landowner's property.

Both consent forms were signed.

4. Concerns Noted

It was highlighted that a solar park development is proposed to be developed on the proposed property, bordering the railway reserve. The landowner requested if the engineers can move the reserve road to the opposite side of where the solar park development will be developed. The landowner also raised concerns regarding animals crossing the railway line and whether a railway crossing closer to the substation could be developer as this would allow him easier access to his stock.

Elize Becker

EB: eb
Attachment(s)/Enclosure

Transnet Capital Projects
Ngqura 16 Mtpa Manganese Rail

Borrow Pits Stakeholder Engagement Comments and Responses Report

Prepared by:	Elize Becker	25/7/2013 Date
Reviewed by:	Tammy Kruger	25/7/2013 Date
Approved by:	Evert Jacobs	25/7/2013 Date

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Annexure
Stakeholder Database

1. Introduction

As part of the Ngqura 16 Mtpa Manganese railway upgrade, various borrow pit sites were proposed for commissioning or recommissioning at strategic positions alongside the existing railway line. In the Northern Cape, most of the proposed borrow pit sites are located on Transnet property and are a combination of new and existing borrow pits to be recommissioned. In the Eastern Cape all the borrow pits are situated on private land and are existing (refer to Table 1).

Meetings were scheduled with the landowners (i.e. where the borrow pits are located on privately owned land) and site notices were placed at all the proposed borrow pit areas. The private landowners were provided with an explanation regarding the environmental process and the need for signed consent.

This document provides a summary of the approach to the stakeholder engagement; the type of stakeholders that were liaised with; concerns that were raised and the response provided.

2. Purpose of the Concerns and Responses Report

The purpose of developing a Concerns and Responses Report is to summarise the concerns and/or comments raised by the stakeholders regarding the development of the proposed borrow pits. These comments are used to identify possible issues / risks that need to be assessed and to identify management / mitigation measures to be implemented during construction.

3. Methodology

A field schedule plan was prepared to cross reference where the proposed borrow pits are located and which stakeholders would be affected (Refer to Table 1). Each affected landowner was contacted telephonically and a meeting arranged.

3.1 Background Information Documents and Consent Forms

Background information documents (BID), consent forms and site notices were prepared. The BID documents provided a summary of the proposed development and included maps that displayed the location of each borrow pit site. Two consent forms were given to the landowner for signature. The one document requested permission for the borrow pit to be commissioned / recommissioned and the second form pertained to the removal of archaeological artefacts from the property if discovered during commissioning / recommissioning of the borrow pit.

4. Type of Stakeholders

The type of stakeholders, other than Transnet, were inclusive of private landowners and local municipalities. Table 1 provides a summary of the stakeholders that were liaised with for the proposed borrow pit sites. Transnet will be required to negotiate with land owners where the borrow pits are located on privately owned land.

5. Comments and Responses

The main concerns received from the stakeholders were related to security, maintenance of fences, stock theft, dust and traffic during commissioning / recommissioning. The responses provided to the landowners aimed at explaining the borrow pit application process and what the landowners' rights were in said process.

In most cases the private landowners signed the consent forms immediately, except for the landowner at the Fieldsview borrow pit who requested time to read through the documents. The Local Municipalities (the landowners for the Drennan and Knutsford borrow pits) also requested time to study the documents, before they asked the Municipal Managers to sign as the authorised signatory.

6. List of Borrow Pits

Table 1: List of proposed borrow pits to be commissioned or recommissioned

Borrow Pit Names	Status (new borrow pit to be commissioned or existing borrow pit to be recommissioned)	Farm Portions	Land Owner
Witloop 1	Existing	Farm No.314 of Smartt, Portion 0 and 1	Transnet
Witloop 2	Existing	Farm No.314 of Smartt, Portion 0	BHP Biliton
Wincanton 1	New	Farm No.472 of Wincanton, Portion 7	Transnet
Wincanton 2	New	Farm No.472 of Wincanton, Portion 8	Transnet
Wincanton 3	Existing	Farm No. 472 of Wincanton, Portion 0	Private
Postmasburg 1	New	Postmasburg Town	Tsantsabane Local Municipality
Postmasburg 2	New	Postmasburg Town	Tsantsabane Local Municipality
Trewil 1	Existing	Farm No. 299, Portion 1	Transnet
Ulco 1	Existing This borrow pit will no longer be required for the project	Farm No. 317 of Likatlong, Portion 2	Private
Ulco 2	New This borrow pit will no longer be required for the project	Farm No. 317 of Likatlong, Portion 1	Private
Fieldsview	Existing This borrow pit will no longer be required for the project	Farm No. 66 of Nooitgedacht, Portion 0	Private

Borrow Pit Names	Status (new borrow pit to be commissioned or existing borrow pit to be recommissioned)	Farm Portions	Land Owner
Burgervilleweg	Existing	Farm No. 39 of Riet Fountain, Portion 1	Private
Linde	Existing	Farm No. 29 of Dwaalfontein, Portion 0	Private
Rosmead	Existing	Farm No. 119 of Leuwe Fontyn, Portion 2	Private
Tafelberg	Existing This borrow pit will no longer be required for the project	Farm No. 176 of Tafelberg, Portion 2	Private
Knutsford	Existing	Farm No. 66 of Het Fortuin, Portion 0	Inxuba Yethemba Local Municipality
Drennan	Existing	Farm No. 66 of Het Fortuin, Portion 0	Inxuba Yethemba Local Municipality
Thorngrove	Existing This borrow pit will no longer be required for the project	Farm No. 550 of Waaiplaats, Portion 0	Blue Crane Local Municipality
Cookhouse-Golden Valley	Existing	Farm No. 121 of Jagersdrift, Portion 4	Private
Golden Valley	Existing	Farm No. 340 of Altona, Portion 0	Private
Ripon-Kommadagga	Existing	Farm No. 259 of Driefontein, Portion 0	Private
Barkley Bridge	Existing	Farm No. 202 of Steins Valley, Portion 0	Private
Coega Compilation Yard 1	Existing	Farm No. 643 of Tankatara, Portion 0	Private
Coega Compilation Yard 2	Existing	Farm No. 643 of Tankatara, Portion 0	Private

Table 2: Comments and Responses

Borrow Pit	Stakeholder	Type	Comments	Responses
Witloop 1	Transnet	Landowner	No concerns were raised.	
Witloop 2	BHP Billiton - Mr. David Mamphita	Landowner	Await feedback.	Mr. Mamphita will be liaised with further.
Wincanton 1 and 2	Transnet	Landowner	No concerns were raised.	
Wincanton 3	Mr. Dries Bester	Landowner	Mr. Bester does not live on the farm, however Mr. Mattheebos does. The main concerns included safety, security and whether compensation will be paid. A solar facility is proposed on a section of this property. A concern was raised by the solar farm developers, that dust may have a negative effect on the solar facility equipment.	Mr. Bester and Mr. Mattheebos were informed that new borrow pits would be commissioned at Wincanton Station and that they would be notified in advance when the activities would commence. They were informed that measures would be implemented to manage / mitigate the identified issues and that a grievance procedure would be put in place to report any concerns.
Postmasburg	Tsantsabane Local Municipality - Mr. Jacques Majit	Municipal Representative / Landowner	No concerns were raised.	Mr. Majit was informed that they would be communicated with on a regular basis regarding the timeline associated with the commissioning of the new borrow pits at Postmasburg town.
Tsantsabane	Transnet	Landowner	No concerns were raised	
Trewil	Transnet	Landowner	No concerns were raised	
Gong Gong	Transnet	Landowner	No concerns were raised	
Ulco	Mr. Naude Greyling	Landowner	The main concerns included security, stock theft, fencing, and Transnet legacy concerns.	Mr. Greyling was informed that measures would be implemented to manage / mitigate the

			Mr. Greyling had a concern regarding construction workers entering his property; the placement of animal traps; fences not being well maintained or being cut; and vehicles entering his property without permission.	identified issues and that a grievance procedure would be put in place to report any concerns.
Fieldsview	Mr. Mike Hall	Landowner	The main concerns included the increase in construction vehicles; traffic related safety and dust generation; and stock theft. Mr. Hall had a concern that the borrow pit proposed for recommissioning was not located closer to the railway line as this would result in an increase of construction traffic between the railway line and his farm.	Mr. Hall was informed that measures would be implemented to manage / mitigate the identified issues and that a grievance procedure would be put in place to report any concerns.
Burgervilleweg	Mr. Willem Retief	Landowner	The main concern included the use of groundwater which would have a negative impact on his farming activities.	Mr. Retief was advised that no boreholes will be placed on his property which could affect his groundwater levels.
Linde	Mr. Naude Greyling	Landowner	Mr. Greyling requested that Hennie Engela or Danna Moolman be contacted to provide information regarding the proposed solar facility. The main concern pertained to the potential negative impacts of the borrow pit on a proposed solar facility development on his property. The facility is proposed in close vicinity to an existing Eskom substation and the Linde Railway Station. Mr Greyling proposed that Transnet provide him with a new crossing at the Eskom substation since this would allow him easier access to the	Mr. Naude was informed that the information regarding the solar facility would be communicated to Transnet for consideration. However the proposed borrow pit is at least one kilometre from the solar facility and therefore should not have any impact. The request for a crossing was also forwarded to Transnet for review and decision making.

			cattle enclosures.	
Linde	Mr. Hennie Engela	Lead Engineer for Linde Solar Park	Mr. Engela provided a layout displaying where the development would take place and if this was in conflict with the railway line or borrow pit development. Mr. Engela was concerned that the railway reserve expansion at the Eskom substation may impact on a proposed solar facility development located on the farm.	Mr. Engela was advised that the commissioning of the borrow pit should not have an impact on the solar farm, but that this would be discussed with Transnet.
Linde	Ms. Danna Moolman / Linde Solar Park	Stakeholder	No concerns were raised.	
Rosmead	Mr. JC Louw	Landowner	The main concerns included security, stock theft, and fencing related issues.	Mr. Louw was informed that measures would be implemented to manage / mitigate the identified issues. He was further informed that a grievance procedure would be put in place to report any concerns.
Tafelberg	Mr. Kingwill	Landowner	The main concerns included security and stock theft.	Mr. Kingwill was informed that measures would be implemented to manage / mitigate the identified issues. He was further informed that a grievance procedure would be put in place to report any concerns.
Cookhouse	Mr. Mark Schulpfort	Landowner	The property belongs to a trust. Mr. Schulpfort is one of the trustees. The main concerns included security, and stock theft. Mr Schulpfort also raised the use of alternative sites.	Mr. Schulpfort was informed that measures would be implemented to manage / mitigate the identified issues. He was further informed that a grievance procedure would be put in place to report any concerns.

Golden Valley	Mr. Alwyn Raubenheimer	Landowner	The main concern included the issue of compensation.	Mr Raubenheimer was informed that Transnet would liaise with him regarding compensation.
Ripon	Mr. Jimmy Truter	Landowner	The main concerns included security, stock theft, stakeholder liaison, and the use of alternative sites. Mr. Truter mentioned that various developments had been proposed on his property in the past and he was not comfortable with the manner in which these processes were handled. One of his main concerns was the fact that representatives from various companies visited him on his farm, but never returned. A lack of communication resulted in him not understanding what the purpose of all these visits were.	Mr. Truter was informed that regular communication would occur before and during the recommissioning of the borrow pit commissioning. The environmental process was explained in detail. Mr. Truter was informed that measures would be implemented to manage / mitigate the identified issues. He was further informed that a grievance procedure would be put in place to report any concerns.
Barkley Bridge	Mr. Stefaans Meiring	Landowner	The main concern included the rehabilitation of the site.	Mr. Meiring was informed that as part of the borrow pit application process, the applicant must be able to show the ability to rehabilitate the site.
Tankatara	Mr. Peter Lake	Landowner	The main concerns included site access where construction teams have accessed his property at night, and the cutting of fences. Mr. Lake also mentioned that various historical water wells and grave sites were scattered on his property. The graves are located between the PPC haul road to the dumpsite of the station and the existing railway line.	Mr. Lake was informed that measures would be implemented to manage / mitigate the identified issues. He was further informed that a grievance procedure would be put in place to report any concerns.
Knutsford / Drennan	Inxuba Yethemba Local Municipality - Mr.	Landowner	The Municipality agreed that the existing borrow pits may be used. Awaiting signed consent form	Mr. Salman was informed that the municipality would be kept up to date regarding the borrow pit

	Salman		from Inxuba Yethemba Local Municipality. No concerns were raised however Mr. Salman indicated that the Municipal Manager had to sign the consent forms. Ms. Zola James, Local Economic Development Officer indicated that at the latest council meeting the use of the borrow pits were discussed and no concerns were raised.	environmental application and the proposed timeline in terms of the commissioning of the borrow pits. Representatives of Tsantsabane and Inxuba Yethemba Local Municipalities were visited at their offices and arranged that the consent forms were delivered to the MMs for signature. The MMs were contactable afterwards via telephone or email. Both local municipalities agreed in principle to sign the consent forms.
Knutsford / Drennan	Mr. Gojiyasi	Landowner	No concerns were raised.	Mr. Gojiyasi was advised of the environmental application process which was explained in detail.
Thorngrove	Blue Crane Local Municipality	Landowner	This borrow pit will no longer be required for the project	No responses
Coega	Dr. Paul Martin / ECO Coega IDZ	Stakeholder	The main concern include the use of existing borrow pits and why more were not being used.	Dr. Martin was advised that in fact most of the borrow pits to be used were existing.
Chris Hani District Municipality (CHDM)	Mr. Robert Walton / Eastern Cape Government Assistant Director: Technical Services Road Section	Stakeholder	Mr. Walton requested maps to determine if any overlaps occur with CHDM's existing borrow pits. The main concern pertained to the use of existing borrow pits that have been used by the CHDM for the past 20 years in repairing and maintaining gravel roads network and that borrow pits have old user rights. They are concerned that an overlap may occur between the borrow pits used by the district municipality and those proposed to be recommissioned.	The list of existing borrow pits used by the CHDM was requested to identify any overlaps between the borrow pits used by CHDM and the ones proposed for recommissioning. No further correspondence has been received from the stakeholder.

Afri-Coast Engineers	Duncan Palmer	Stakeholder	The main concern included blasting at the borrow pit and the potential impact on sensitive equipment at a proposed solar facility on the adjacent property (Portion 1 of the Farm Hetfontuin 66).	No blasting is proposed for the recommissioning of the borrow pit.

7. Summary

The main issues and concerns raised by the directly affected landowners included stock theft, safety, security during commissioning, impact on solar facility developments, rehabilitation of borrow pits and entrance to private property.

Stakeholder Database

Type	Stakeholder	Farm/Area
Landowner	Transnet	Witloop 1
Landowner	BHP Billiton/David Mamphita	Witloop 2
Landowner	Transnet	Wincanton 1
Landowner	Transnet	Wincanton 2
Landowner	Dries Bester	Wincanton 3
Landowner	Tsantsabane Local Municipality	Postmasburg
Landowner	Transnet	Tsantsabane
Landowner	Transnet	Trewil
Landowner	Transnet	Gong Gong
Landowner	Naude Greyling	Ulco 1
Landowner	Naude Greyling	Ulco 2
Landowner	Mike Hall	Fieldsview / Nooitgedacht
Landowner	Willem Retief	Burgervilleweg / De Bad
Landowner	Naude	Linde
Landowner	J.C. Louw	Rosmead / Leeuwe Fonteijn 119
Landowner	Kingwill	Tafelberg / Farm No. 176
Landowner	Mark Schulpfort	Cookhouse/Jagers Drift 121
Landowner	Aaalwyn Raubenheimer	Golden Valley 3
Landowner	Jimmy Truter	Ripon / Driefontein
Landowner	Stefaans Meiring	Barkley Bridge
Landowner	Peter Lake	Tankatara
Landowner	Inxuba Yethemba Local Municipality	Knutsford / Drennan
Landowner	Blue Crane Local Municipality	Thorngrove
Solar Farm Developer	Hennie Engela/Lead Engineering	Linde
Solar Farm Developer	Danna Moolman	Linde
ECO Coega IDZ	Dr. Paul Martin/ECO Coega IDZ	Coega
Municipal Officer	Mr. Gojiyasi	Knutsford / Drennan
Municipal Officer	Robert Walton / Eastern Cape Government : Technical Services Road Section	Chris Hani District Municipality
Local economic development officer	Zola James	Knutsford / Drennan
Solar Farm Developer	Duncan Palmer/Afri-Coast Engineers	Knutsford
Solar Farm Developer	Madelein De Waal	Wincanton 3
Solar Farm Engineers	VentuSA Energy/David Peinke (Engineering Manager)	Wincanton 3