



FINAL REPORT

HERITAGE RESOURCES SCOPING SURVEY & PRELIMINARY ASSESSMENT

TRANSNET FREIGHT LINE EIA, EASTERN CAPE AND NORTHERN CAPE

PREPARED FOR

ENVIRONMENTAL RESOURCE MANAGEMENT SOUTHERN AFRICA

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Stakeholders	Environmental Resources Management Southern Africa (Pty) Ltd HMG Joint Venture Transnet Ltd Interested and Affected Parties as identified in EIA		
Reviewed:	Name	Date	Comments

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EXECUTIVE SUMMARY

Purpose

Environmental Resources Management Southern Africa (Pty) Ltd (ERM) was appointed by HMG Joint Venture on behalf of Transnet Ltd in June 2008 as independent environmental consultants to undertake a Scoping/EIA Study for the proposed upgrade and refurbishment of the railway line from Hotazel (Northern Cape) to Coega (Eastern Cape). ERM appointed Archaic Heritage Project Management (Archaic) to undertake a Scoping Survey and Preliminary Assessment (SSPA). The SSPA was aimed at identifying potential heritage resources along an existing railway line between De Aar in the Northern Cape and the Coega Industrial Development Zone (IDZ) in the Eastern Cape.

Limitations

The immense distance (>1200km) and timeframe of the survey limited the amount of time that could be spent per site. However, the linear nature of the line and the fact that all loops fall within the railway reserve minimised a lot of impact and necessity for very detailed site surveys. The most obvious limitation was the fact that the majority of heritage resources, including features such as graves and fossils, are usually found below the surface. Intangible heritage may also not necessarily be identified. These are places or features that may have special significance to one or more communities in the area. Examples of such places could include initiation and ancestral sites, sacred trees or forests, pools and rivers. Certain areas in the survey area were very disturbed due to agricultural, residential and railway activities. This affected the identification of heritage resources that may occur in these areas.

Results

Twenty-nine loops and associated proposed infrastructure were surveyed. The total number of sites amounted to sixty-five sites. Each site was graded according to SAHRA minimum standards and the NHRA as follows:

Grade III A sites	4
Grade IV A sites	8
Grade IV B sites	5
Grade IV C sites	48
TOTAL	65

Heritage resources that were identified included fossils, Early, Middle and Late Stone Age, Historical sites and structures and graves. Detailed results may be found under each site's description.

Recommendations

The following recommendations are made as general guidelines for all sites mentioned in the report, as well as any area where possible heritage resources are found that have not been identified during this SSPA. Detailed recommendations may be found when each site is discussed.

- As most heritage resources occur underground, care should be taken when excavations or other earthmoving activities take place.
- Public Participation and Social Consultation should aim to identify any intangible heritage resources in the areas where proposed activities will take place. This could include burial grounds and graves, places of special spiritual or cultural significance such as initiation grounds, or places of ritual value such as rivers, pools and mountains.

- As far as possible, all laydown areas should occur within the railway reserves at stations or halts, where the environment has already been impacted by previous activities.
- The use of borrow pits should be limited to existing footprints. Where any borrow pit is to be extended, an archaeologist should be contracted to undertake a watching brief at such sites.
- Existing, known monuments and graves must be protected at all times from any possible impact that may result from the proposed activities. A Heritage Site Management Plan should be drafted and followed for any such sites.

Stakeholders

Identified stakeholders include:

Environmental Resources Management Southern Africa (Pty) Ltd

HMG Joint Venture

Transnet Ltd

Other parties as identified during and as a result of Public Participation

GLOSSARY OF TERMS

FARMER PERIOD	Refers to (mainly) Bantu-speaking agro-pastoralist groups that occur in southern Africa from c. 200 CE to historical periods. The term is used in lieu of and equivalent to the Iron Age. The Farmer Period is usually divided into two phases, i.e. Early c. 200 CE to 1400 CE Late c. 1400 CE to c. 1800's
HISTORICAL PERIOD	Usually refers to white or literate history, but more recently also refers to the last five hundred years of South African history. Dates from 1500s to present.
IRON AGE	Most-used term to describe and define Bantu-speaking agro-pastoralist archaeology (see Farmer Period). The Iron Age is variously divided into two or three phases, i.e. Early c. 200 to 1000 CE Early c. 200 to 900 CE Late c. 1000 to 1800's CE Middle c. 900 to 1400 CE Late c. 1400 to 1800's CE
LITHICS	Stone tools associated with the three Stone Age periods
MATERIAL CULTURE	Refers to various artefacts associated with particular groups over time.
STONE AGE	Refers to the longest period of human history and archaeology. In southern Africa the Stone Age is divided into three periods, i.e. Early c. 2 500 000 to 150 000 BCE Middle c. 150 000 to 30 000 BCE Late c. 30 000 BCE to contact periods with Farmer and Colonial/Historical Periods
SURVEY AREA	The proposed development/impact area identified by the Client in the Terms and Conditions, Working Brief and Scope of Work.

LIST OF ABBREVIATIONS

BCE	Before Common Era (c. 2000 and more years ago) dating method equivalent to BC
BP	Before Present, where present is 1950
CE	Common Era (c. 2000 years ago to 1950) dating method equivalent to AD
ESA	Early Stone Age
HSMP	Heritage Site Management Plan
Ka	Thousand Years Ago
LSA	Late Stone Age
MSA	Middle Stone Age
Ma	Million Years Ago
NHRA	National Heritage Resources Act Nr 25 of 1999
PRHA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

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INTRODUCTION

WHO WE ARE: Archaic HPM – a private company – manages the Archaeological Contracts Office for the Department of Anthropology and Archaeology, University of Pretoria. We specialise in management of heritage projects in southern Africa and beyond. Our expertise includes the generation of desktop surveys, scoping surveys, Heritage Impact Assessments and/or Specialist reports, Phase 2 Mitigation of archaeological and/or heritage sites, and Phase 3 Site Management Plans.

Archaic HPM operates within parameters provided by the National Heritage Resources Act 25 of 1999 (NHRA) and associated minimum standards provided by the South African Heritage Resources Agency (SAHRA). Further, we comply with the code of ethics and standards of the Association of Southern African Professional Archaeologists (ASAPA). Complementary national and provincial legislation such as the National Environmental Management Act No. 107 of 1998 (NEMA), the Environment Conservation Act No. 73 of 1989 (ECA), and Environmental Management Plans (EMPs) form key components of every project we undertake.

Our management of the Archaeological Contracts Office creates a unique environment within which heritage resources management may be undertaken. We have access to professional staff who may assist with projects. In addition, as part of our commitment to the training of young heritage practitioners, a percentage of all project turnover is allocated to a Research and Development Fund that enables the Department of Anthropology and Archaeology to assist students and staff in their studies, research and professional growth.

OUR HISTORY: Archaic's ancestry dates back to 2003 when Johan Nel started using that name during contracts and research projects undertaken as an Archaeology undergraduate student. *Archaic* means that which is old, ancient and belonging to or characteristic of a much earlier period, and the name has stayed with Johan and the company ever since.

Archaic Heritage Project Management was officially founded in August 2005 by partners Johan Nel and Gerard de Kamper as a heritage resource management concern that caters to the wider needs of heritage professionals in South Africa. Since February 2007, Archaic HPM manages the Archaeological Contracts Office for the Department of Anthropology & Archaeology, University of Pretoria (UP).

OUR BUSINESS: The principle business interest of Archaic HPM is the assessment and management of projects that impact on or concern southern African heritage resources. Heritage, in all its various forms, constitutes a complex and vital part of the past, present and future. Thus the professional management, conservation and preservation thereof are of the utmost importance. Archaic HPM aims to promote South Africa's heritage (natural, cultural, and 'intangible') through undertaking heritage projects. These projects include: legally required actions such as environmental and heritage impact assessments (EIA's and HIA's), curation, collections management, identifying, recording and documenting intangible, historical and archaeological heritage and related field activities.

Further aims are to involve local and affected communities as far as possible, teaching and training them in the importance of heritage, as well as learning from them. This is achieved partly through the dissemination of knowledge via the commercial and academic media. Archaic HPM endeavours to publish our projects and research findings and provide access to information at little or no cost for *bona fide* researchers, students, and schools. Student training forms a large part of the Archaic HPM's focus and students from UP and beyond are regularly used in projects to expose them to available work opportunities and experience within the heritage and cultural resource management field. Through the Research and Development Fund, these students have further opportunities to further their studies, qualifications and professional growth.

Archaic provides competitive and professional service of the highest standards and quality. We aim to achieve service excellence through the punctual submission of comprehensive and comprehensible reports and by operating within allocated budgets. As project managers, we utilise the best consultants and resources available to ensure that our detailed and well-researched projects meet the expectations of our clients and relevant authorities.

FIELDS OF INTEREST

- ✓ Advice, consultation and implementation of heritage resources management;
- ✓ Professional research related to archaeological, historical, and socio-cultural ; heritage resources;
- ✓ Archaeological, Heritage and Social Impact Assessments (AIA, HIA, SIA);
- ✓ Cultural Resource Management (CRM);
- ✓ Grave relocation and Social Consultation ;
- ✓ Training and experience education;
- ✓ Liaison between specialist consultants;
- ✓ Local and international archaeological field schools.

PROJECT BACKGROUND

Project purpose

Environmental Resources Management Southern Africa (Pty) Ltd (ERM) was appointed by HMG Joint Venture on behalf of Transnet Ltd in June 2008 as independent environmental consultants to undertake a Scoping/EIA Study for the proposed upgrade and refurbishment of the railway line from Hotazel (Northern Cape) to Coega (Eastern Cape). ERM appointed Archaic Heritage Project Management (Archaic) to undertake a Scoping Survey and Preliminary Assessment (SSPA). The SSPA was aimed at identifying potential heritage resources along an existing railway line between De Aar in the Northern Cape and the Coega Industrial Development Zone (IDZ) in the Eastern Cape.

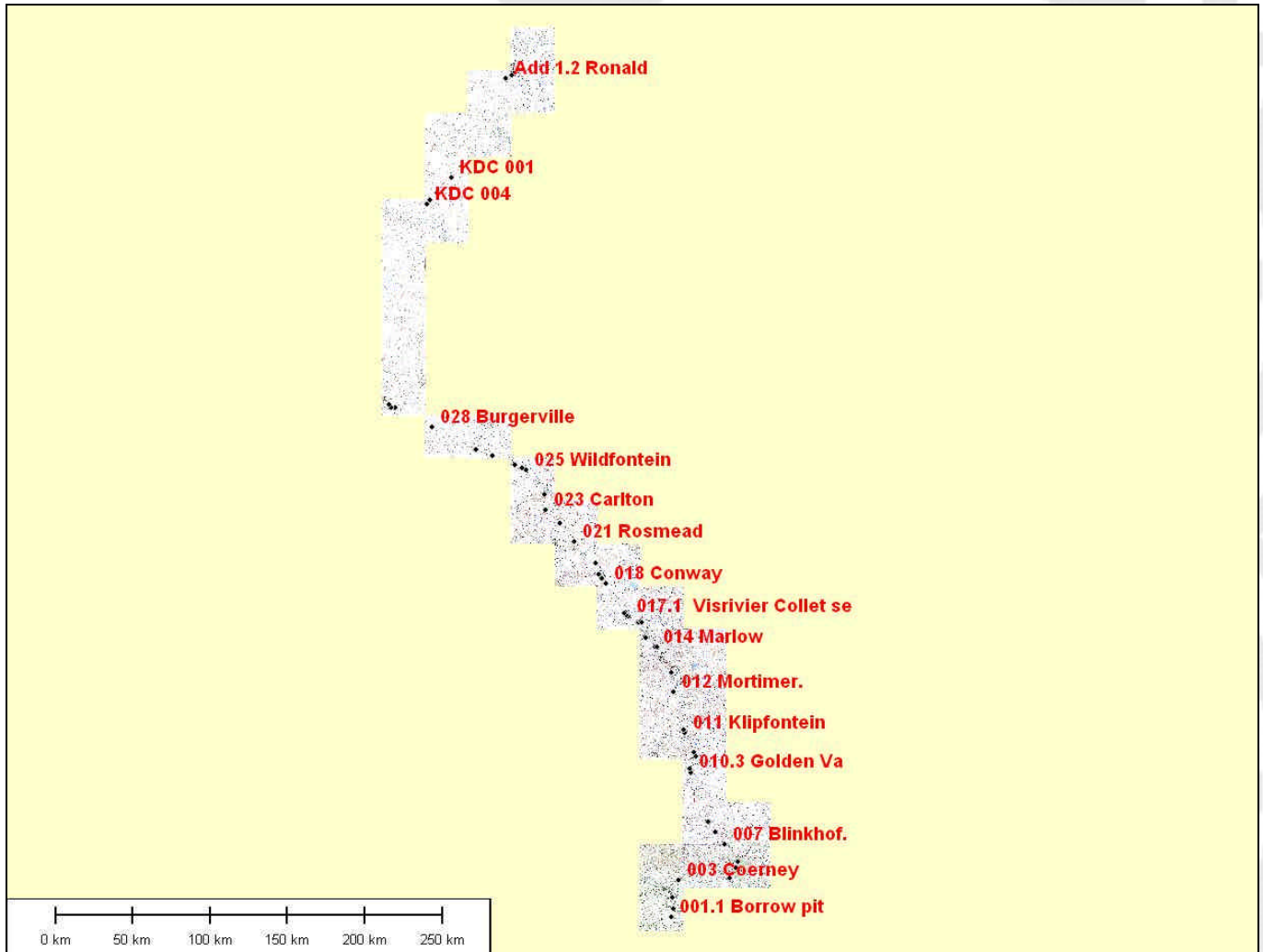


Figure 1: Locations of sites indicated on 1: 50 000 topographical maps.

The line from Kimberley to De Aar passes through mostly flat, Karoo topography. From De Aar south, the line passes through more mountainous terrain, close to or through the towns of Noupoort, Craddock, Cookhouse and Alicedale. Most of the railway consists of a single-line track. Passing loops (also known as crossing loops, places where a train may halt while other trains pass on an adjacent main line) are to be extended or newly constructed.

Possible, additional infrastructure associated with the passing loops includes:

- station buildings
- electrical substations
- upgraded/expanded station yards
- access roads and
- new or altered level crossings
- construction camps
- laydown areas for the storage of raw materials
- re-use of existing borrow pits
- establishment of new borrow pits

A further component to the project scope included the refurbishment and electrification of an existing second line between De Aar and Kimberley. Archaic conducted the survey along the railway line from Kimberley to De Aar, and De Aar to Coega, covering over 1200 km.

Scope of Work, Objectives and Deliverables.

The Scope of Work and objectives inferred from documentation supplied to Archaic by ERM included:

- desktop research in order to collect secondary data on the occurrence and distribution of archaeological and/or cultural heritage sites in the project area (baseline)
- pedestrian survey of the project affected areas (loop sites, new borrow pit sites or where there is new land affected) and identify and describe any archaeological/cultural heritage sites
- identification of possible archaeological, historical and socio-cultural heritage resources within each proposed passing loop area
- evaluation of possible impacts, risks and/or threats on identified heritage resources
- field ratings per site
- recommendations in terms of possible mitigation in the event of any possible negative impacts on heritage resources and to explain how the different elements of the project may affect any archaeological/ cultural heritage sites within the project area. This includes descriptions of mitigation/management measures that may be implemented to avoid or reduce any negative impacts on these sites and enhance benefits of the development

In order to comply with the above ERM has provided the following information:

- a high level summary report on the study area completed by ERM;
- a list of all the proposed passing loop upgrade/development sites;
- copies of available GIS maps and aerial photographs.

Project duration

ERM has allowed five (5) working weeks for the completion of the SSPA. Fieldwork commenced on 16 September and was finalised on 23 September 2008. The schedule as drafted by ERM comprised the following:

- two weeks for fieldwork,
- the production of a draft report after two weeks
- one week to finalise the report following comments from ERM and the client.

Historical background to survey area

The railway lines from Kimberley to De Aar and De Aar to Coega was built in sections over a span of approximately fifteen years. The line from Port Elizabeth reached Coega by the end of 1872, while the De Aar railway junction was opened on 31 March 1884 (Burman 1984). The entire line thus predates the 20th century, and offers very significant insight into the historical and political climate of the late 19th century. On certain 1: 50 000 topographical maps, remnants of the old line are indicated, and parts of the present railway were upgraded from the original.

During the building of the De Aar-Kimberley section, labour shortages led to a small war where thirty workers were killed, after Black labour was imported from Natal and other regions (Burman 1984). The railway from Port Elizabeth into the South African interior, specifically Kimberley, played a large role during the 1899 to 1902 Anglo-Boer War. The line was integral in obtaining control over *Zuid-Afrikaansche Republiek* enclaves, and sending and receiving supplies to and from villages and towns. Many battlefields exist along the railway route that bears testimony to this period of conflict in South African history. Tangible evidence of these battles are the remains of blockhouses built by the English to defend and monitor the railway (Richardson 2001).

Another place of historical significance is that of Slachtersnek on the Cradock-Cookhouse section. As a result of the Cape Colony government's use of "coloured" troops to apprehend a white farmer, a rebellion broke out. This led to the execution by hanging of four accused (Cameron and Spies 1986: 83). Other heritage resources that are found along the line include a prehistoric, possibly Khoi-San specularite mine on the farm Blinkklipkop, that dates to as early as 700 CE (Newbould 2006). Stone Age lithic assemblages further attest to the existence of hominins and hunter-gatherer communities all along the line from as early as 2.5 Ma to as recent as 19th century.

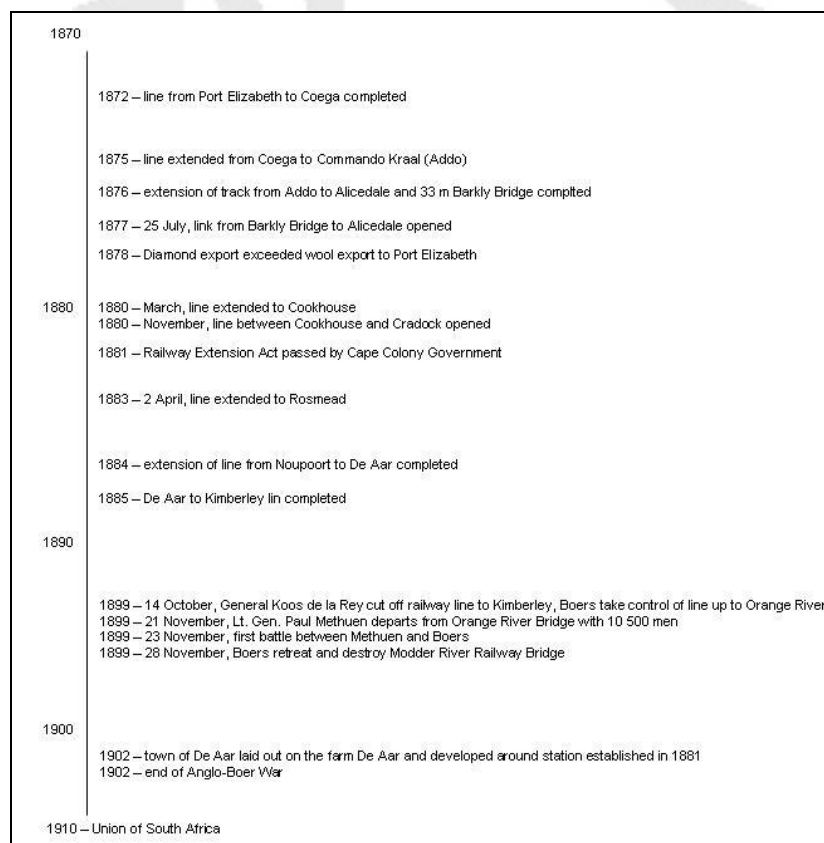


Figure 2: Chronology of Port Elizabeth to Kimberly railway line showing most important events

APPROACH AND METHODOLOGY

Johan Nel and Isabelle Barrier conducted a survey from 16 to 22 September 2008. The mainly road based survey started in Kimberley and ended in Port Elizabeth. As far as possible, the survey was conducted on the service road parallel to the railway line. A pedestrian survey was done at every loop site and possible and existing borrow pit sites. Identified heritage resources were recorded in a Global Positioning System format, using a Garmin Etrex Cx GPS with an average accuracy of between five and ten meters. This data was included into a Geographical Information System (GIS) database. The information in the database includes site names, map sheet data, brief description of each site, Field Ratings per site, and recommendations. Photographs were taken of identified and possible heritage resources using a Canon 20D digital SLR camera and 17-85mm lens.

Desktop surveys and archival research were also conducted. Specialist archival researchers were contracted to undertake a baseline study of the history and significance of the line, as well as to identify possible areas with heritage significance (refer to Addendum F). Map surveys on 1: 50 000 topographical maps were done prior to and subsequent to the site surveys in order to identify where possible heritage resources may occur based on map sheet information and topographical analyses (i.e. springs, fountains, ruins, hilltops, monuments, etc. indicated on the maps).

A field rating for each site was given according on the SAHRA minimum standards for impact assessment reports, based on the significance as defined in Section 3 of the NHRA. All relevant information was captured in a table, including project specific terminology as provided by ERM.

Table 1: Explanation of Summary Table

1: 50 000 MAP SHEET	1:50 000 topographical map number in which each site is located
CO-ORDINATES	GPS co-ordinates given in decimal degree format using the WGS-84 datum
FIELD RATING	Rating given as per SAHRA minimum standards
SIGNIFICANCE	Significance of site in terms of NHRA criteria
SIGNIFICANCE CRITERIA	Criteria of significance in terms of ERM expectations and provided methodology
CONTEXT	Context of site in terms of archaeological/historical integrity
ESTIMATED SIZE	The estimated size of each proposed loop area was calculated as $(ex+al) \times 100 = \sim a \text{ m}^2$, where ex = existing loop, al = additional length, bz = buffer zones either side of the line, $\sim a \text{ ha}$ = approximate hectares.
RISKS, THREATS, IMPACT	Potential impact and risks that could affect heritage resources.
NATURE OF IMPACT	Criteria of impact in terms of ERM expectations and provided methodology
RECOMMENDATION	Recommendations in terms of possible mitigation to protect, record or document heritage resources.

LEGAL REQUIREMENTS

Archaic HPM bound itself to all relevant legislation and Minimum Standards for archaeological reports as set by the South African Heritage Resources Agency (SAHRA). Specific references are made to the following:

- National Heritage Resources Act No. 25 of 1999 (NHRA), with specific reference to Sections 3, 32, 35, 36 and 38;
- National Environment Management Act No. 107 of 1998 (NEMA);
- List of Activities and Regulation for Environmental Impact Assessments (EIA), Government Notice Nos. R385, R386 and 387;
- SAHRA minimum standards for Impact Assessment Reports.

LIMITATIONS

The immense distance (>1200km) and timeframe of the survey limited the amount of time that could be spent per site. However, the linear nature of the line and the fact that all loops fall within the railway reserve minimised a lot of impact and necessity for very detailed site surveys. The most obvious limitation was the fact that the majority of heritage resources, including features such as graves and fossils, are usually found below the surface.

Intangible heritage may also not necessarily be identified. These are places or features that may have special significance to one or more communities in the area. Examples of such places could include initiation and ancestral sites, sacred trees or forests, pools and rivers. Certain areas in the survey area were very disturbed due to agricultural, residential and railway activities. This affected the identification of heritage resources that may occur in these areas.

GENERAL RECOMMENDATIONS

The following recommendations are made as general guidelines for all sites mentioned in the report, as well as any area where possible heritage resources are found that have not been identified during this SSPA.

- As most heritage resources occur underground, care should be taken when excavations or other earthmoving activities take place.
- Public Participation and Social Consultation should aim to identify any intangible heritage resources in the areas where proposed activities will take place. This could include burial grounds and graves, places of special spiritual or cultural significance such as initiation grounds, or places of ritual value such as rivers, pools and mountains.
- As far as possible, all laydown areas should occur within the railway reserves at stations or halts, where the environment has already been impacted by previous activities.
- The use of borrow pits should be limited to existing footprints. Where any borrow pit is to be extended, an archaeologist should be contracted to undertake a watching brief at such sites.
- Existing, known monuments and graves must be protected at all times from any possible impact that may result from the proposed activities. A Heritage Site Management Plan should be drafted and followed for any such sites.

SITE DESCRIPTIONS

The average size of each loop is between 120 000 m² and 200 000 m². This calculation is based on the information supplied by ERM that included the existing loop and the proposed number of meters for extending each loop. A buffer of 50 m on either side of the line was allowed^{*}.

Most sites were extensively impacted on by railway activities and at certain locations, by agricultural and/or residential use. The majority of sites may be exempt from full Phase 1 Heritage Impact Assessments. This is indicated under the recommendations for each site. Due to the linear nature of the railway line and the associated loops, there is in general very little impact associated on the cultural environment at each loop site. However, more destructive and intensive activities such as the use and creation of borrow pits threaten heritage resources to a far greater extent. Special attention was paid to these sites in the identification of heritage resources and potential impacts.

BARKLY BRIDGE

001 Barkly Bridge

The site is located at the Barkly Bridge station complex and surrounded by cultivated fields. The entire area has been impacted on by agricultural and railway activities and infrastructure. No visible heritage resources were noted. Regarding the proximity of the farm and workers' cottages, there might be a possibility of burials in the area.

Table 2: 001 Barkly Bridge – detailed site information

1: 50 000 MAP SHEET	3325 DA Addo 1986 edition 3	
CO-ORDINATES	S: -33.62208	E: 25.69616
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	If burials exists these will have higher significance (IV A) in terms of Section 3 (3) of the NHRA as follows: <i>(a) its importance in the community, or pattern of South Africa's history;</i> <i>(g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.</i>	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary, area extensively disturbed and altered by agricultural and railway activities and infrastructure	
ESTIMATED SIZE	(860m + 450m)x100m= ~1.31ha. Directly adjacent to line.	
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials.	

^{*} The estimated size of each proposed loop area was calculated as $(ex+al) \times 100 = \sim a \text{ m}^2$, where ex = existing loop, al = additional length, bz = buffer zones either side of the line, ~a ha = approximate hectares.

	The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas.
RECOMMENDATION	No mitigation recommended

001.1 Borrow pit

The site is located to the east of a major dirt road from Barkly Bridge to Grassridge, close to the PPC mine. The borrow pit is located in the Coega Bontveld (M&R 2007) in what is known as calcareous palaeo-dunes of the Cenozoic Algoa Group (65 to 3 Ma). A single MSA/LSA core was found on the surface west of the road and across from the borrow pit. However, more Stone Age material may possibly occur in and around the borrow pit, as well as possible Cenozoic marine fossils.

Table 3: 001.1 Borrow pit – detailed site information

1: 50 000 MAP SHEET	3325 DA Addo 1986 edition 3	
CO-ORDINATES	S: -33.66946	E: 25.68153
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site may have low significance in terms of Section 3 (3) of the NHRA as follows: (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage; (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage; (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Low to medium
CONTEXT	Primary, but extensively disturbed and altered by borrow pit activity	
ESTIMATED SIZE	Entire landscape	
RISKS, THREATS, IMPACT	A possibility exists that marine fossils may occur. Risks and impact include extension of borrow pit and erosion of possible heritage resources.	
NATURE OF IMPACT	Impact will be negative to any subsurface heritage resources. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during extension of borrow pit; ▪ indirect impact resulting from access routes, labour camps and other infrastructure development. 	
RECOMMENDATION	<ul style="list-style-type: none"> ▪ No mitigation recommended regarding archaeological and/or historical heritage resources. ▪ A watching brief may be necessary in terms of palaeontological heritage resources. 	

ADDO

The site is located in the small settlement of Addo in the railway complex. A Township with semi-formal and informal housing extends very close to the line, increasing possibility of burials in the area. It is uncertain whether any loop and associated activities is to take place at this location.

Table 4: 002 Addo – detailed site information

1: 50 000 MAP SHEET	3325 DA Addo 1986 edition 3	
CO-ORDINATES	S: -33.55512	E: 25.69053
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	<p>If burials exists these will have higher significance (IV A) in terms of Section 3 (3) of the NHRA as follows:</p> <p><i>(a) its importance in the community, or pattern of South Africa's history;</i></p> <p><i>(g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.</i></p>	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary, area extensively developed and disturbed by formal, semi-formal and informal residential activities and railway activities and infrastructure.	
ESTIMATED SIZE	(1089m+0m)x200m= ~2.2ha. Adjacent to line.	
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

COERNEY

Site is situated between Addo National Park and R342. The area has been disturbed and altered by the development and construction of both the railway and the road, between Addo's fence and approximately 20 m west of the road's western shoulder. No visible heritage resources were note.

Table 5: 003 Coerney – detailed site information

1: 50 000 MAP SHEET	3325 BC Coerney 1990 edition 2	
CO-ORDINATES	S: -33.45914	E: 25.72143
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary, area extensively disturbed by both railway and road development and infrastructure between Addo National Park and formal, semi-formal and informal residential activities and railway activities and infrastructure.	
ESTIMATED SIZE	(619m+1100m)x100m= ~1.7ha. Adjacent to line.	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

VERBY

Site is disturbed either side of the line by agricultural activity, with a possibility of burials existing in the area. No visible heritage resources were noted.

Table 6: 004 Verby – detailed site information

1: 50 000 MAP SHEET	3326 AC Alicedale 1998 edition 3	
CO-ORDINATES	S: -33.44308	E: 26.01851
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible
CONTEXT	Secondary, area extensively developed and disturbed by formal, semi-formal and informal residential activities and railway activities and infrastructure.	
ESTIMATED SIZE	(565m+777m)x100m= ~1.3ha. Adjacent to line.	
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

EAGLE'S CRAG

The site is located east of the line and a large farm that includes residences, fields and sheds. The old station/halt complex is much damaged. A small semi-formal settlement is also located approximately 50 m east of the line, increasing the possibility of burials in the area. No other heritage resources were noted.

Table 7: 005 Eagle's Crag – detailed site information

1: 50 000 MAP SHEET	3326 AC Alicedale 1998 edition 3	
CO-ORDINATES	S: -33.38400	E: 26.05689
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	<p>If burials exists these will have higher significance (IV A) in terms of Section 3 (3) of the NHRA as follows:</p> <p><i>(a) its importance in the community, or pattern of South Africa's history;</i></p> <p><i>(g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.</i></p>	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary, area extensively disturbed by both railway and road development and infrastructure between Addo National Park and formal, semi-formal and informal residential activities and railway activities and infrastructure.	
ESTIMATED SIZE	(881m+716m)x100m= ~1.6ha. Adjacent to line.	
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

TOOTABI

The site is located on the western bank of the Boesmans River, with fairly intensive agriculture to the west. The river banks are heavily eroded. Although no heritage resources were noted, there is a possibility of archaeological resources eroding out of the banks. No major risks or threats were identified that may be caused by railway activities; however it may impact on the already unstable and eroding river banks.

Table 8: 006 Tootabi – detailed site information

1: 50 000 MAP SHEET	3326 AC Alicedale 1998 edition 3	
CO-ORDINATES	S: -33.35001	E: 26.06897
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary, river bank extensively eroded and site of new loop disturbed by railway and agricultural development and infrastructure.	
ESTIMATED SIZE	(0m+1332m)x50m= ~6.6ha. Adjacent to line.	
RISKS, THREATS, IMPACT	There may be a risk that heritage resources (most probably Stone Age material) may erode out of the river banks.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas ▪ cumulative impact resulting from vibration caused by railway traffic and further erosion of river bank. 	
RECOMMENDATION	It is recommended that a watching brief be implemented in the event of the river banks being stabilised or rehabilitated. This watching brief should include the on-site presence of an archaeologist, preferably a Stone Age specialist, during initial earthworks.	

BLINKHOF

The entire station/halt area has been filled and levelled to create a stable platform, raised approximately 10 m above the Boesmans River to the north of the site. No heritage resources were noted, although there may occur some on the farm/property that borders the site on the south.

Table 9: 007 Blinkhof – detailed site information

1: 50 000 MAP SHEET	3325 BB Kommadagga 1986 edition 2	
CO-ORDINATES	S: -33.24877	E: 25.99280
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible
CONTEXT	Secondary	
ESTIMATED SIZE	(734m+593m)x100m= ~1.3ha Adjacent to line	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	
NATURE OF IMPACT	No impact regarding any heritage resources could be identified at this site.	
RECOMMENDATION	No mitigation recommended.	

SALTAIRE

Site is overall disturbed, with only a single MSA/LSA flake found. There is a possibility that fossils may occur in the borrow pit material. There is a risk that fossil material and/or other lithics could be destroyed or impacted on by erosion occurring as a result of borrow pit use.

Table 10: 008 Saltaire – detailed site information

1: 50 000 MAP SHEET	3325 BB Kommadagga 1986 edition 2	
CO-ORDINATES	S: -33.17947	E: 25.93965
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(925m+439m)x100m= ~1.4ha. Adjacent to line.	
RISKS, THREATS, IMPACT	Potential risk that Stone Age and fossil material may be destroyed.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources	

	that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas.
RECOMMENDATION	No mitigation recommended.

KOMMADAGGA

Large deflated area north of line where possible borrow pit material is located. ESA, MSA and LSA lithics found, including a small hand axe. A piece of fossiliferous rock with small embedded fossil. A small semi-formal settlement is located approximately 700 m NE of station where there may be possible graves. No other visible heritage resources were noted. Some parts have been impacted on by possible agricultural activities in the form of long soil “barriers” made for the possible management of water runoff. These probably have impacted on subsurface heritage resources.

Table 11: 009 Kommadagga – detailed site information

1: 50 000 MAP SHEET	3325 BB Kommadagga 1986 edition 2	
CO-ORDINATES: Kommadagga	S: -33.11853	E: 25.8996
KDC 018 (fossil)	-33.11701	25.89619
KDC 017 (MSA/LSA lithics)	-33.11617	25.89653
KDC 016 (hand axe)	-33.11573	25.89744
KDC 015 (poss. borrow pit mat.)	-33.11586	25.89741
KDC 014 (MSA/LSA)	-33.11597	25.89738
FIELD RATING	Generally protected B: Field rating IV A	
SIGNIFICANCE	The site is considered to have <i>high</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA: <i>(b) its possession of uncommon, rare or endangered aspects of South Africa’s natural or cultural heritage;</i> <i>(c) its potential to yield information that will contribute to an understanding of South Africa’s natural or cultural heritage;</i> <i>(d) its importance in demonstrating the principal characteristics of a particular class of South Africa’s natural or cultural places or objects;</i> <i>(f) its importance in demonstrating a high degree of creative or technical achievement at a particular period.</i>	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Medium to high
CONTEXT	Mostly secondary with possible primary aspects.	
ESTIMATED SIZE	(651m+678m)x100m= ~1.3ha (loop area). Area where possible borrow pit is situated and where artefacts and fossils were identified is ~10ha.	

RISKS, THREATS, IMPACT	<p>A potential risk exists that possible <i>in situ</i> Stone Age and fossil material may be destroyed as a result of borrow pit activity. No direct impact as a result of the present railway structures was identified, although there probably was some impact caused during the original development of the line.</p> <p>Threats include the possible illegal collection and removal of material from the site by nearby residents (<500 m from site).</p>
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during borrow pit activities; ▪ indirect impact resulting from access routes, laydown areas; ▪ cumulative impact from increased human traffic resulting from construction and other activities.
RECOMMENDATION	<p>In the event of this site being used, a palaeontologist and Stone Age specialist should conduct detailed surface survey (Phase 1 Archaeological / Palaeontological Impact Assessment) which should include a desktop study to determine the site's significance.</p>



Figure 3: General view of landscape at Kommadagga



Figure 4: General view of landscape at Kommadagga



Figure 5: General view of landscape at Kommadagga



Figure 6: Possible borrow pit material that may be fossil bearing at Kommadagga



Figure 7: Detail of possible fossil bearing rock at Kommadagga



Figure 8: ESA Acheullian hand axe at Kommadagga



Figure 9: MSA core at Kommadagga

GOLDEN VALLEY

010 Golden Valley Loop

The site is located in an area completely disturbed by agricultural activities and rail infrastructure. No visible heritage resources were noted. Due its proximity to farm residences a possibility exists that burials may occur in the general vicinity.

Table 12: 010 Golden Valley Loop – detailed site information

1: 50 000 MAP SHEET	3225 DD Golden Valley 1998 edition 3	
CO-ORDINATES	S: -32.81031	E: 25.78934
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(914m+372m)x100m= ~1.3ha. Adjacent to line.	
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area.	

NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas.
RECOMMENDATION	No mitigation recommended.

010.1 Road borrow pit (KDC 011)

The site is located immediately northwest of an existing borrow pit (010.1 Road borrow pit), and extends ~500 m NS and ~50 m EW. Heritage resources identified on the surface include large MSA and LSA lithic lithicss. Tools include cores, blades, points, flakes, chunks, possible hammer stones/grindstones and manuports (river pebbles). The site may possibly constitute a Stone Age manufacturing area.

It is furthermore close to Slachtersnek, an important historical site related to the 1815 Rebellion. There is also a possibility of fossils occurring, especially in the more eroded areas to the east.

Table 13: KDC 011 – detailed site information

1: 50 000 MAP SHEET	3225 DD Golden Valley 1998 edition 3	
CO-ORDINATES: Road borrow pit	S: -32.71248	E: 25.81221
KDC 011	S: -32.71250	E: 25.81144
FIELD RATING	Generally protected B: Field rating IV A	
SIGNIFICANCE	The site is considered to have <i>high</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA: <i>(b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;</i> <i>(c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;</i> <i>(d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;</i> <i>(f) its importance in demonstrating a high degree of creative or technical achievement at a particular period.</i>	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Medium to high
CONTEXT	Primary, with some secondary impact due to borrow pit activities.	
ESTIMATED SIZE	~500mx~100m= ~5ha (borrow pit) ~500mx~50m= ~2.5ha (Stone Age site)	
RISKS, THREATS, IMPACT	Threats and risks include the destruction of the Stone Age site, as well as possible discovery of fossils and negative impact on the Slachtersnek historical area.	

<p>NATURE OF IMPACT</p>	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during borrow activity; ▪ indirect impact resulting from access routes, laydown areas; ▪ cumulative impact from increased human traffic resulting from construction and other activities.
<p>RECOMMENDATION</p>	<ul style="list-style-type: none"> ▪ A Stone Age specialist should conduct detailed surface survey (Phase 1 Archaeological Impact Assessment) which should include a desktop study to determine the site's significance. Please refer to Addendum F: Stone Age Specialist Report for more detailed explanations and recommendations.



Figure 10: General view of landscape at 010.1 Road Borrow Pit (KDC 011)



Figure 11: General view of landscape at 010.1 Road Borrow Pit (KDC 011)



Figure 12 General view of landscape at 010.1 Road Borrow Pit (KDC 011)



Figure 13: General view of landscape at 010.1 Road Borrow Pit (KDC 011)



Figure 14: General view of landscape at 010.1 Road Borrow Pit (KDC 011)



Figure 15: Detail of erosion to north of lithics at 010.1 Road Borrow Pit (KDC 011)

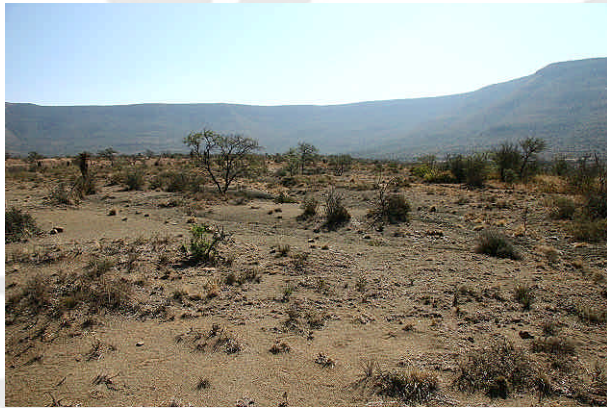


Figure 16: Detail of erosion to north of lithics at 010.1 Road Borrow Pit (KDC 011)



Figure 17: Detail of ESA/MSA cores at 010.1 Road Borrow Pit (KDC 011)



Figure 18: Detail of cobble cores at 010.1 Road Borrow Pit (KDC 011)



Figure 19: Lithics of MSA lithics at 010.1 Road Borrow Pit (KDC 011)



Figure 20: Detail of MSA lithics at 010.1 Road Borrow Pit (KDC 011)



Figure 21: Detail of MSA lithics at 010.1 Road Borrow Pit (KDC 011)



Figure 22: Detail of MSA lithics at 010.1 Road Borrow Pit (KDC 011)



Figure 23: Old glass bottle base with possible LSA flake marks visible



Figure 24: Detail of old glass bottle base



Figure 25: A second piece of similar glass, also with possible LSA flaking

010.2 Cookhouse

The site is located immediately north of the N10 (<70 m), in existing diggings. The area is very disturbed and no visible heritage resources were noted.

Table 14: 010.2 Cookhouse – detailed site information

1: 50 000 MAP SHEET	3225 DD Golden Valley 1998 edition 3	
CO-ORDINATES	S: -32.73841	E: 25.82719
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	N/A	
RISKS, THREATS, IMPACT	Identified risks and threats include the destruction of Stone Age material due to extended borrow pit activity.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

010.3 Golden Valley (KDC 012; KDC 013)

The site is located above the south-eastern edge of the existing borrow pit. MSA/LSA lithic tools consisting of flakes, small cobble cores and chunks were identified on the surface. The site is also located approximately 700 m northeast of the Slagtersnek monument.

Table 15: KDC 012 and KDC 013 – detailed site information

1: 50 000 MAP SHEET	3225 DD Golden Valley 1998 edition 3	
CO-ORDINATES: 010.3 Golden Valley	S: -33.17947	E: 25.93965
KDC 012 (monument)	S: -33.83489	E: 25.79483
KDC 013 (Stone Age site)	S: -33.82834	E: 25.79633
FIELD RATING	KDC 012 Provincial: Field Rating/Grade II KDC 013 Generally protected B: Field rating IV C	
SIGNIFICANCE	<p>The Stone Age site is considered to have <i>little</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA due to the scattered nature and relative poor quality lithics associated.</p> <p>The Slagtersnek Monument is however considered to be of high significance in terms of Section 3 (3) of the NHRA:</p> <p><i>(a) its importance in the community, or pattern of South Africa's history;</i> <i>(g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;</i> <i>(h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and</i></p>	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Medium
CONTEXT	Primary and secondary in borrow pit. The monument is of primary context.	
ESTIMATED SIZE	~500mx~20m= ~1ha (borrow pit)	
RISKS, THREATS, IMPACT	Identified risks and threats include the destruction of Stone Age material and possible impact on the monument due to activities associated with the borrow pit.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas; ▪ cumulative impact from increased human traffic resulting from construction and other activities.. 	
RECOMMENDATION	Monitoring by Stone Age specialist in the event that this borrow pit be extended. Please refer to Addendum ** for more detailed information regarding the Stone Age heritage resources found. Although the monument is approximately 1000 m from the borrow pit site, a Site	

	Management Plan for the monument should be included as part of the EMP to mitigate against any damage or vandalism.
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Figure 26: General view of landscape at 010.3 Golden Valley



Figure 27: General view of landscape at 010.3 Golden Valley



Figure 28: General view of landscape at 010.3 Golden Valley



Figure 29: MSA lithics found at 010.3 Golden Valley



Figure 30: Detail of 010.3 Golden Valley lithic lithics

KLIPFONTEIN

011 Klipfontein loop and KDC 010

A cemetery is situated very close, or in, the railway reserve. The graves date from about the 1990 to very recent (<2 years) and totals about 36-40 burials. The cemetery is still in use by labourers and residents of the immediate area, and according to local community members is the only cemetery close to the line. Although it falls outside the proposed loop footprint (~500 m southeast), it may be impacted on by activities associated with construction and lay down areas. No other visible heritage resources were noted.

Table 16: KDC 010– detailed site information

1: 50 000 MAP SHEET	3225 DB Cookhouse 1998 edition 3	
CO-ORDINATES (loop)	S: -32.60304	E: 25.76213
KDC 010	S: -32.59994	E: 25.75814
FIELD RATING	Generally protected B: Field rating IV C Cemetery Local: Field Rating/Grade III A	
SIGNIFICANCE	The site overall is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA. However, the burials have a high significance (III A) in terms of Section 3 (3) of the NHRA as follows: <i>(a) its importance in the community, or pattern of South Africa's history;</i>	

	<i>(g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.</i>	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low, but with possibility for high impact if unmanaged
CONTEXT	The cemetery is in primary context, whilst the loop site is secondary.	
ESTIMATED SIZE	(0+1363m)x100m= ~1.4ha (loop site)	
RISKS, THREATS, IMPACT	There are further risks and threats that the burials may be inadvertently or purposefully damaged or vandalised.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. ▪ cumulative impact may arise from increased, temporary traffic in area as a result of construction activities 	
RECOMMENDATION	<ul style="list-style-type: none"> ▪ Public Participation and Social Impact should identify <i>bona fide</i> I&AP. ▪ The cemetery should be fenced off from the railway reserve in such a manner that access may be controlled and limited, in consultation with the <i>bona fides</i>. This will also prevent new graves from “spilling” into the reserve. There should no reason for the burials to be relocated. 	



Figure 31: General view landscape at 011 Klipfontein station



Figure 32: General view of cemetery (KDC 010) at 011 Klipfontein station



Figure 33: General view of cemetery (KDC 010) at 011 Klipfontein station



Figure 34: General view of cemetery (KDC 010) at 011 Klipfontein station



Figure 35: Detail of burials at 011 Klipfontein station



Figure 36: Detail of burials at 011 Klipfontein station

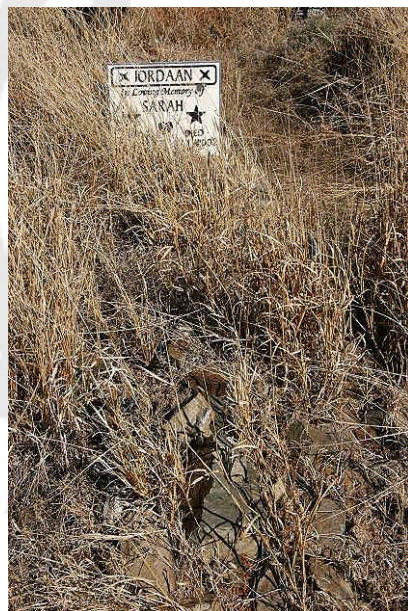


Figure 37: Detail of burial at 011 Klipfontein station



Figure 38: Detail of burial at 011 Klipfontein station



Figure 39: Detail of headstone from a burial at 011 Klipfontein station



Figure 40: Detail of headstone and grave goods from a burial at 011 Klipfontein station

011.1 Cutting

There was some uncertainty as to the exact location of this site. However, the area immediately above and to the west of the dirt road has been completely destroyed by quarry activities. This was taken to be the “cutting” mentioned in the documentation. The area to the east between the road and the line is under cultivation. No visible heritage resources were noted, although there is a possibility of rock art in the cliffs above the “cutting”. There is a further possibility that burials may exist in the wider area, other than KDC 10, as the area is fairly well developed.

Table 17: 011.1 Cutting – detailed site information

1: 50 000 MAP SHEET	3225 DB Cookhouse 1998 edition 3	
CO-ORDINATES	S: -32.58495	E: 25.75405
FIELD RATING	Generally protected B: Field rating IV C Cemetery Local: Field Rating/Grade III A	
SIGNIFICANCE	The site overall is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary.	
ESTIMATED SIZE	Unknown	
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during borrow pit activity; ▪ indirect impact resulting from access routes, laydown areas. ▪ cumulative impact from increased human traffic resulting from construction and other activities. 	
RECOMMENDATION	No mitigation recommended.	

MORTIMER

Site is located close to farmsteads, increasing the possibility of burials in the area. The entire area is disturbed by farming and residential use. No visible heritage resources were noted.

Table 18: Mortimer – detailed site information

1: 50 000 MAP SHEET	3225 BC Mortimer 1998 edition 3	
CO-ORDINATES	S: -32.36226	E: 25.69168
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible
CONTEXT	Secondary	
ESTIMATED SIZE	(770m+548m)x100m= ~1.3ha (loop site). Adjacent to line.	
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

HALESOWEN

Site is located between the R390 and farm boundary. No visible heritage resources were noted in the immediate area, although parts of the old rail way can still be identified. This railway is the first line built for mainly transport traffic from the coast, Port Elizabeth and Coega into the interior. Addendum ** speaks to the historical significance in more detail.

Table 19: Halesowen – detailed site information

1: 50 000 MAP SHEET	3225 BA Cradock 1987 edition 2	
CO-ORDINATES	S: -32.24848	E: 25.68088
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible
CONTEXT	Secondary	
ESTIMATED SIZE	(582m+840m)x100m= ~1.4ha. Adjacent to line.	

RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified at the loop site.
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas.
RECOMMENDATION	<ul style="list-style-type: none"> ▪ The old rail way line should be avoided at all costs. If by any event this resource is to be impacted on the necessary permit applications for alteration or destruction of heritage resources must be made by a qualified heritage specialist. ▪ No mitigation is recommended for the loop site.

MARLOW

014 Marlow loop

The site is located ~300 m northeast of the Great Fish River against a mountain slope. No visible heritage resources were noted, however, Stone Age, Historical and possibly Late Farmer material may occur.

Table 20: 014 Marlow loop – detailed site information

1: 50 000 MAP SHEET	3225 BA Cradock 1987 edition 2	
CO-ORDINATES	S: -32.10521	E: 25.58687
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(633m+698m)x100m= ~1.3ha. Adjacent to line.	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

014.1 Marlow new borrow pit

Site is located in existing borrow pit. Although no visible heritage resources were noted, Stone Age, Historical and possibly Late Farmer material may occur.

Table 21: 014.1 Marlow new borrow pit – detailed site information

1: 50 000 MAP SHEET	3225 BA Cradock 1987 edition 2	
CO-ORDINATES	S: -32.10451	E: 25.60175
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(633m+698m)x100m= ~1.3ha	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during borrow pit activities; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

KAPTEIN

Site is located in an agricultural area that has disturbed most of the surface features. No visible heritage resources were noted.

Table 22: Kaptein – detailed site information

1: 50 000 MAP SHEET	3225 BA Cradock 1987 edition 2	
CO-ORDINATES	S: -32.04856	E: 25.53296
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(561m+760m)x100m= ~1.3ha. Adjacent to line.	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials.	

	The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas.
RECOMMENDATION	No mitigation recommended.

KNUTSFORD

016 Knutsford loop and 016.2 Knutsford

Both sites are located in or near to cultivated land. Site 016.2 is located very close to the Knutsford canal. No visible heritage resources were noted at either site. There may be a possibility of burials occurring in relation to the farms and associated settlements.

Table 23: 016 Knutsford loop and 016.2 Knutsford – detailed site information

1: 50 000 MAP SHEET	3125 DC Kwaairivier 2001 edition 3	
CO-ORDINATES (loop)	S: -31.95536	E: 25.50667
016.2 Knutsford	S: -31.95889	E: 25.51189
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(642m+658m)x100m= ~ 1.3ha (loop site)	
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

016.1 Borrow pit and KDC 009

Existing borrow pit located just below 980 m contour on map sheet 3125CD. No visible heritage resources were noted, however, grey mudstone may be fossiliferous. A stone retaining wall is located on the 980 m contour and indicated on map sheet 3125 CD. This wall may be a retaining wall for an old road or track, or more probably an old farm boundary. It seems to have extended to the borrow pit. There is a risk that the wall may be impacted on by the extended use of the borrow pit into the hill.

Table 24: 016.1 Borrow pit and KDC 009 – detailed site information

1: 50 000 MAP SHEET	3125 CD Visrivier 2001 edition 3	
CO-ORDINATES (016.1 borrow pit)	S: -31.95762	E: 25.48624
KDC 009	S: -31.95824	E: 25.49000
FIELD RATING	Borrow pit: Generally protected B: Field rating IV C KDC 009: Generally protected B: Field rating IV C	
SIGNIFICANCE	<p>The borrow pit site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.</p> <p>The wall may be considered to have some cultural significance or other special value in terms of Section 3 (3) of the NHRA:</p> <p><i>(a) its importance in the community, or pattern of South Africa's history;</i> <i>(c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;</i> <i>(d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;</i> <i>(f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;</i> <i>(g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;</i> <i>(h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and</i></p>	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
	EXTENT	On-site
CONTEXT	Secondary	
ESTIMATED SIZE	(642m+658m)x100m= ~ 1.3ha	
RISKS, THREATS, IMPACT	The extended use of the borrow pit may affect the walling, posing a risk of damage or destruction.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	



Figure 41: Detail of stone retaining wall at 016.1 Borrow pit

VISRIVIER
017 Visrivier

The site is located between the N10 and railway. Semi-formal housing occurs in the area, with farm land to the northeast. No visible heritage resources were noted. There may be a possibility of burials associated with the farm and semi-formal housing.

Table 25: 017 Visrivier – detailed site information

1: 50 000 MAP SHEET	3125 CD Visrivier 2001 edition 3	
CO-ORDINATES	S: -31.90487	E: 25.40917
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(855+512)x100= ~136 700	
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

017.1 Visrivier

The site is located on the south-eastern banks of the Great Fish River in an eroded area between the N10 and railway. Semi-formal housing occurs in the area that has also impacted on the location. No visible heritage resources were noted. However, archaeological material may be present *in situ* in the river banks. There may be a possibility of burials associated with the semi-formal housing.

Table 26: 017.2 Visrivier – detailed site information

1: 50 000 MAP SHEET	3125 CD Visrivier 2001 edition 3	
CO-ORDINATES	S: -31.91552	E: 25.41996
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
CONTEXT	Secondary	
ESTIMATED SIZE	N/A	
RISKS, THREATS, IMPACT	Threats and risks include possible exposure of <i>in situ</i> heritage resources by borrow pit activities. No other impact is identified.	
RECOMMENDATION	A watching brief should be implemented in the event of this site used as a borrow pit. This watching brief should include the on-site presence of a professional archaeologist during initial stages of earthworks.	



Figure 42: General view of landscape at 017.1 Visrivier. Red iron bridge spans Great Fish River.



Figure 43: General view of landscape at 017.2 Visrivier

017.2 Visrivier Collet se quarry and KDC 008

Site located in large existing borrow pit south of the N10. Two circular stone structures are situated east of the borrow pit. One is ~100 cm in diameter and 40 cm high with a small opening to the west. The other is dilapidated and ~250 cm in diameter. No information could be found describing similar structures in the area. The structures are probably associated with the current farming activities. No visible material culture is associated with both structures and their use and context is unknown.

Table 27: 017.2 Visrivier Collet se quarry and KDC 008 – detailed site information

1: 50 000 MAP SHEET	3125 CD Visrivier 2001 edition 3	
CO-ORDINATES (quarry)	S: -31.92611	E: 25.43351
KDC 008	S: -31.92584	E: 25.43478
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary, with the stone feature probably in primary context.	
ESTIMATED SIZE	(855+512)x100= ~136 700	
RISKS, THREATS, IMPACT	The structures may be impacted on by extension of the borrow pit and risks involves the destruction or damage of these structures	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during borrow pit activities; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	A watching brief should be implemented in the event of this site used as a borrow pit. This watching brief should include the on-site presence of a professional archaeologist during initial stages of earthworks.	



Figure 44: General view of landscape at 017.2 Collet se Quarry and KDC 008



Figure 45: General view of landscape at 017.2 Collet se Quarry and KDC 008



Figure 46: Stone feature KDC 008 at 017.2 Collet se Quarry.



Figure 47: Detail of stone feature KDC 008 at 017.2 Collet se Quarry.

CONWAY

018 Conway

The area is built up with historical houses east of the line. There is a possibility that burials could exist. No other visible heritage resources were noted. Threats and risks include possible impact to the historical houses (i.e. 60 years or older) and possible burials that may exist.

Table 28: Conway – detailed site information

1: 50 000 MAP SHEET	3125 CB Conway 2001 edition 3	
CO-ORDINATES	S: -31.73242	E: 25.30152
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary, the houses have been restored or altered	
ESTIMATED SIZE	(659m+827m)x100m= ~1.5ha. Adjacent to line	
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area. Although no immediate impact could be identified regarding the railway houses, indirect threats due to construction activity may pose risks to the structures.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended regarding archaeological heritage resources. However, it is recommended that historical architects be consulted in the event of impact on any of the structures. Such	

	specialists will assess the significance and determine the historical integrity of the structures, and provide recommendations as to possible mitigation in terms of the current project.
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018.2 Existing borrow pit and KDC 007

An existing borrow pit with no visible heritage resources, however, grey mudstone may be fossiliferous. A long stone wall is located on top of a rocky outcrop (map sheet 3125 CB) southwest of the line. This is probably an old farm boundary. The borrow pit does not seem to have any impact on this wall. The wall may have some local significance. No other visible heritage resources were noted.

Table 29: 018.2 existing borrow pit and KDC 007 – detailed site information

1: 50 000 MAP SHEET	3125 CB Conway 2001 edition 3	
CO-ORDINATES (018.2 borrow pit)	S: -31.70389	E: 25.27851
KDC 007	S: -31.70235	E: 25.27599
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary, although the wall has primary context	
ESTIMATED SIZE	(0m+1432m)x100m= ~1.4ha	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during borrow pit activities; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

GLENHEATH

Site located in railway reserve. No visible heritage resources were noted.

Table 30: Glenheath – detailed site information

1: 50 000 MAP SHEET	3125 CB Conway 2001 edition 3	
CO-ORDINATES	S: -31.67899	E: 25.25894
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(0m+1432m)x100m= ~1.4ha. Adjacent to line	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	Letter of Recommendation for Exemption.	

TAFELBERG

Site is located in railway reserve. An old church (indicated on map sheet 3125CA) is situated ~600 m north of site. The church seems to still be in use and is well maintained. No other visibly heritage resources were noted. There is a possible threat to the church regarding unmanaged access and risks include vandalism. No direct impact was identified that may result from the loop activities.

Table 31: Tafelberg – detailed site information

1: 50 000 MAP SHEET	3125 CA Tafelberg 2001 edition 3	
CO-ORDINATES	S: -31.61538	E: 25.24052
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(641m+712m)x100m= ~1.4ha	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	

NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas.
RECOMMENDATION	<ul style="list-style-type: none"> ▪ A Site Management Plan should be drafted into the EMP to mitigate against any impact, threat and risk to the church structure and its immediate environment. ▪ No mitigation recommended in terms of archaeological heritage resources at the loop site.

ROSMEAD

Large station complex with presently occupied historical (i.e. 60 years or older) railway houses. No visible heritage resources have been noted. The houses may be indirectly impacted on by loop construction activity.

Table 32: Rosmead – detailed site information

1: 50 000 MAP SHEET	3125 CA Tafelberg 2001 edition 3	
CO-ORDINATES	S: -31.49010	E: 25.11904
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(560m+730m)x100m= ~ 1.3ha (loop site). Adjacent to line	
RISKS, THREATS, IMPACT	The houses may be indirectly impacted on. No potential risks, threats or impacts were identified concerning other archaeological heritage resources.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended regarding archaeological heritage resources. However, it is recommended that historical architects be consulted in the event of impact on any of the structures. Such specialists will assess the significance and determine the historical integrity of the structures, and provide recommendations as to possible mitigation in terms of the current project.	



Figure 48: Historic railway houses (old South African Railways – SAR)



Figure 49: Historic railway shed (old South African Railways – SAR)



Figure 50: Historic railway houses (old South African Railways – SAR)

FLONKER

Site located between N9 and line. The old rail line is situated ~250 m south of the station halt. Although no other heritage resources were noted, there may be possible Stone Age material, as well as rock art occurring in the shelters above the site. The old railway line may be impacted on by loop construction and associated activities, and there is a risk that the line may be completely destroyed.

Table 33: Flonker – detailed site information

1: 50 000 MAP SHEET	3125 AC Middelburg (Eastern Cape) 2001 edition 2	
CO-ORDINATES	S: -31.38297	E: 25.03316
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(651m+996m)x100m= ~1.6ha	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified at the loop site. However, a potential, indirect impact exists to the rock shelters above the line in case of rock art occurs. Risks include vibration from the railway traffic that could affect fragile panels.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	<ul style="list-style-type: none"> ▪ Rock art specialists should investigate the shelters above the line for rock art. ▪ No mitigation is recommended in terms of heritage resources at the loop site. 	

CARLTON

Site located between mountains (west) and N9 (east). Large erosion areas occur northeast and southeast of the station building. A possible sandstone blockhouse/fortification can be seen on the mountain slope towards Noupoort. The old railway is located ~300 m east of the station. No visible heritage resources were noted in the immediate area of the loop.

Table 34: Carlton – detailed site information

1: 50 000 MAP SHEET	3124 BD Carlton 2001 edition 2	
CO-ORDINATES	S: -31.30505	E: 24.95056
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(641m+1460m)x100m= ~ 2.1ha Adjacent to line	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

BARREDEEL

Site area impacted on by erosion and (probably) illegal dumping of building rubble. No visible heritage resources were noted. At least three natural fountains are indicated on the map sheet, where Stone Age material could possibly occur, approximately 100 m from the line.

Table 35: Barredeel – detail site information

1: 50 000 MAP SHEET	3124 BB Noupoort 2001 edition 2	
CO-ORDINATES	S: -31.22002	E: 24.94696
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(751+582)x100= ~133 300	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	<ul style="list-style-type: none"> ▪ In the event of <i>any</i> activity taking place at the fountains, a Stone Age specialist should conduct a surface survey. ▪ No mitigation is recommended at the loop site. 	

WILDFONTEIN

025 Wildfontein

No heritage resources were noted in immediate area of loop. There is a farm approximately 1000 m to the southeast of the line, which increases possibility of burials in wider area.

Table 36: Wildfontein – detailed site information

1: 50 000 MAP SHEET	3124 BB Noupoot 2001 edition 2	
CO-ORDINATES	S: -31.07201	E: 24.83622
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(792+520)x100= ~131 200	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

025.1 Borrow pit and 025.2 Borrow pit

No heritage resources were noted in or near existing borrow pit. However, Stone Age and fossil material may occur, as well as possible Boer War material culture. The only possible risk is that the potential exists for historical dumps (i.e. a midden or rubbish dump older than 60 years), that may have significance to either the railway or other historical episodes such as the Boer War.

Table 37: 025.1 Borrow pit and 025.2 Borrow pit – detailed site information

1: 50 000 MAP SHEET	3124 BB Noupoot 2001 edition 2	
CO-ORDINATES (025.1)	S: -31.06341	E: 24.81386
025.2	S: -31.04704	E: 24.77151
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low

CONTEXT	Secondary
ESTIMATED SIZE	(792+520)x100= ~131 200
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas.
RECOMMENDATION	No mitigation recommended.

LINDE

A MSA/LSA lithic scatter occurs south of line, in the service road. No other heritage resources were noted. There is a risk that lithics may be destroyed by loop and associated activities.

Table 38: Linde – detailed site information

1: 50 000 MAP SHEET	3024 DC Hanover Road 1998 edition 2	
CO-ORDINATES	S: -30.99132	E: 25.64041
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(583m+698m)x100m= ~1.2ha Adjacent to line	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation is recommended for the loop site, however, a watching brief by a Stone Age specialist should be implemented in the event of the borrow pit being developed for future use.	



Figure 51: MSA lithics identified at Linde

HANOVER ROAD

Area built-up and developed, increasing possibility of burials. No heritage resources were noted. The only potential risk identified is that burials may be found.

Table 39: 027 Hanover Road, 027.1 Level Crossing and 027.2 Existing borrow pit – detailed site information

1: 50 000 MAP SHEET	3024 DC Hanover Road 1998 edition 2	
CO-ORDINATES (027)	S: -30.95363	E: 24.54012
027.1	S: -30.95554	E: 24.54624
027.2	S: -30.95588	E: 24.54479
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(0m+1272m)x100m= ~1.2ha	
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops and borrow pit activities; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

BURGERVILLEWEG

An old homestead is situated to the northwest of the loop, as well as some old railway houses. There may be a possibility of burials occurring. The only potential risk identified is that burials may be found.

Table 40: Burgervilleweg – detailed site information

1: 50 000 MAP SHEET	3024 CD Burgervilleweg 1988 edition 2	
CO-ORDINATES	S: -30.82397	E: 24.29203
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	(574m+760m)x100m= ~1.3ha	
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area.	
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

BLETTERMAN

Area mostly disturbed by railway and farming activities, where burials could occur. Possible fossils may occur in existing borrow pit. No heritage resources were noted. The only potential risk identified is that burials may be found.

Table 41: Bletterman – detailed site information

1: 50 000 MAP SHEET	3024 CA De Aar 1988 edition 2	
CO-ORDINATES (029 Bletterman loop)	S: -30.70928	E: 24.08014
029.1 Road borrow pit	S: -30.71311	E: 24.05424
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low

CONTEXT	Secondary
ESTIMATED SIZE	(574m+760m)x100m= ~1.3ha
RISKS, THREATS, IMPACT	Potential impact and risks may occur in the event of burials found in the development area.
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas.
RECOMMENDATION	No mitigation recommended.

KDC 005

Ruins of an old sandstone railway house, dated to between 1915 and 1945 by surface material that included glass bottle fragments, porcelain, bottle tops. Located ~2.5 km from Nonzwakazi Township outside De Aar, within rail reserve. Structure very dilapidated and of little significance, although dump may be of some academic value.

Table 42: KDC 005 – detailed site information

1: 50 000 MAP SHEET	3024 CA De Aar 1988 edition 2	
CO-ORDINATES	S: -30.69547	E: 24.04178
FIELD RATING	Generally protected B: Field rating IV C.	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
CONTEXT	Secondary	
ESTIMATED SIZE	~50mx~50m= ~0.5ha	
RISKS, THREATS, IMPACT	The site is not located near any loop and no risk, threat or impacts associated with the loop activities were identified.	
RECOMMENDATION	No mitigation recommended.	

KDC 003

Site situated ~50 m southeast of the line. It consists of a single, large boulder with engravings on the western and northern sides, as well as a smaller, loose rock next to the northern face of the boulder. Engravings are of a single Eland, five possibly human footprints (one outlined, four fully engraved) and an indistinct engraving ~ 20 cm below Eland. The Eland's head seems to have been retraced with fine scratches. An unidentified figure is engraved on the loose rock. No other visible heritage resources were noted. A letter "A" is also engraved on a rock ~ 20 m west of Eland boulder.

Table 43: KDC 003 – detailed site information

1: 50 000 MAP SHEET	3225 DD Golden Valley 1998 edition 3	
CO-ORDINATES	S: -33.17947	E: 25.93965
FIELD RATING	Local: Field rating/Grading III A	
SIGNIFICANCE	<p>The site is considered to have high local significance or other special value in terms of Section 3 (3) of the NHRA:</p> <p><i>(a) its importance in the community, or pattern of South Africa's history;</i> <i>(b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;</i> <i>(c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;</i> <i>(d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;</i> <i>(e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;</i> <i>(f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;</i> <i>(g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.</i></p>	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	High
CONTEXT	Primary	
ESTIMATED SIZE	Although only the mentioned boulders have engravings, the entire landscape forms part of the site.	
RISKS, THREATS, IMPACT	There is a risk of natural weathering of the engravings, as well as threats to the sites integrity if the line is to be upgraded. Possible impact to the site and engravings may include unmanaged access of workers onto farm property.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	Phase 1 specialist survey for other rock art within the area, as well as possible Stone Age occurrences. Site must be documented and recorded by a rock art specialist and a Site Management Plan for the	

protection of the site implemented as part of the EMP.



Figure 52: General view of landscape from railway southeast at KDC 003.



Figure 53: General view of landscape from railway southeast at KDC 003.



Figure 54: General view of landscape from railway southeast at KDC 003. Note historical/contemporary engraving/graffiti on rock in mid-distance



Figure 55: General view of engraved boulder.



Figure 56: Detail of engravings on boulder.



Figure 57: Close-up of engraved Eland.



Figure 58: Detail of Eland head, showing (possibly later) retouching of face and horns.



Figure 59: Detail of footprint with natural weathering to the left of the engraving



Figure 60: Detail of engraved footprint.



Figure 61: Detail of engraved footprint.



Figure 62: Detail of engraved footprint.



Figure 63: Detail of outline-engraved footprint.



Figure 64: Detail of unknown engraved figure on large boulder



Figure 65: Unidentified engraved figure on western side of boulder, just above loose, engraved rock.



Figure 66: Possible animal figure on loose, engraved rock at the foot of larger boulder.



Figure 67: Detail of engraved letter “A” on boulder approximately 40m northwest of eland and footprint engravings.

KDC 001

Old railway house foundations (five) west of line in old rail reserve. Possibility of engravings in area, as area is known for rock //Xam engravings. A stone cairn is situated on top of low hill to southwest of foundations. Possible Boer War structure, but probably an elevation (spot height) beacon. No visible heritage resources were note. Burials may exist in relation to houses.

Table 44: KDC 001 – detailed site information

1: 50 000 MAP SHEET	2924 AB Kolkop 1988 edition 2	
CO-ORDINATES	S: -29.37674	E: 24.40247
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	~100x~50= ~5000, as well as broader landscape	
RISKS, THREATS, IMPACT	As no current activities have been projected for this part of the line, no potential risks, threats or impacts were identified.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

ADD RONALDSVLEI

Add 1 ERS and 1.1 Ronaldsvlei

In built-up industrial area of Kimberley. No visible heritage resources noted. No risks, threats or impacts identified.

Table 45: Add 1 ERS and 1.1 Ronaldsvlei – detailed site information

1: 50 000 MAP SHEET	2824 DD Beaconsfield 1997 edition 4	
CO-ORDINATES (Add 1 ERS)	S: -28.76760	E: 24.76796
Add 1.1	S: -28.78402	E: 24.75626
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary	
ESTIMATED SIZE	Entire station complex	
RISKS, THREATS, IMPACT	No potential risks, threats or impacts were identified.	
NATURE OF IMPACT	<p>Impact, if any, will be negative to any subsurface heritage resources that may include burials.</p> <p>The nature of possible impacts may be:</p> <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas. 	
RECOMMENDATION	No mitigation recommended.	

Add 1.2 Ronaldsvlei

MSA lithics occur in existing borrow pit (Add 1.2). It was uncertain whether these were washed in, or eroding out of borrow pit sides. No other visible heritage resources were notes.

Table 46: Add 1.2 Ronaldsvlei – detailed site information

1: 50 000 MAP SHEET	2824 DC Spytfontein 1997 edition 3	
CO-ORDINATES	S: -28.79992	E: 24.71805
FIELD RATING	Generally protected B: Field rating IV C	
SIGNIFICANCE	The site is considered to have <i>little or no</i> cultural significance or other special value in terms of Section 3 (3) of the NHRA.	
SIGNIFICANCE CRITERIA	EXTENT	On-site
	DURATION	permanent
	INTENSITY	Negligible to low
CONTEXT	Secondary, entire area has been impacted on and affected by railway infrastructure and borrow pit activities.	

ESTIMATED SIZE	
RISKS, THREATS, IMPACT	There is a risk that if the lithics do erode out of the borrow pits sides, important <i>in situ</i> site(s) may be lost by borrow pit activity.
NATURE OF IMPACT	Impact, if any, will be negative to any subsurface heritage resources that may include burials. The nature of possible impacts may be: <ul style="list-style-type: none"> ▪ direct impact during construction of passing loops; ▪ indirect impact resulting from access routes, laydown areas.
RECOMMENDATION	A watching brief should be implemented in the event of this site used as a borrow pit. This watching brief should include the on-site presence of a professional archaeologist during initial stages of earthworks.

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ANNEXURE A: DESCRIPTION OF FIELD RATINGS

The following is taken from Section 7 (K) of the 2006 SAHRA Minimum Standards: Archaeological and Palaeontological Components for Impact Assessment Reports.

While grading of sites remains the responsibility of SAHRA, recommended Field Ratings of sites are given in order to comply with section 38 of the NHRA. The Field Ratings used in this report is based on the following:

- a. National: This site is considered to be of Field Rating/Grade I significance and should be nominated as such (mention should be made of any relevant international ranking);
- b. Provincial: This site is considered to be of Field Rating/Grade II significance and should be nominated as such;
- c. Local: this site is of Field Rating/Grade IIIA significance. The site should be retained as a heritage register site (High significance) and so mitigation as part of the development process is not advised;
- d. Local: this site is of Field Rating/Grade IIIB significance. It could be mitigated and (part) retained as a heritage register site (High significance);
- e. Generally Protected A (Field Rating IV A): this site should be mitigated before destruction (generally High/Medium significance);
- f. Generally Protected B (Field Rating IV B): this site should be recorded before destruction (generally Medium significance);
- g. Generally Protected C (Field Rating IV C): this site has been sufficiently recorded (in the Phase 1). It requires no further recording before destruction (generally Low significance).

ANNEXURE B: STATEMENTS OF SIGNIFICANCE

Field Ratings attempt to rate sites according to their significance based on certain criteria as defined under Section 3 (3) of the NHRA. The following is taken from the NHRA and used as guidelines for Field Ratings.

CHAPTER I

SYSTEM FOR MANAGEMENT OF NATIONAL HERITAGE RESOURCES

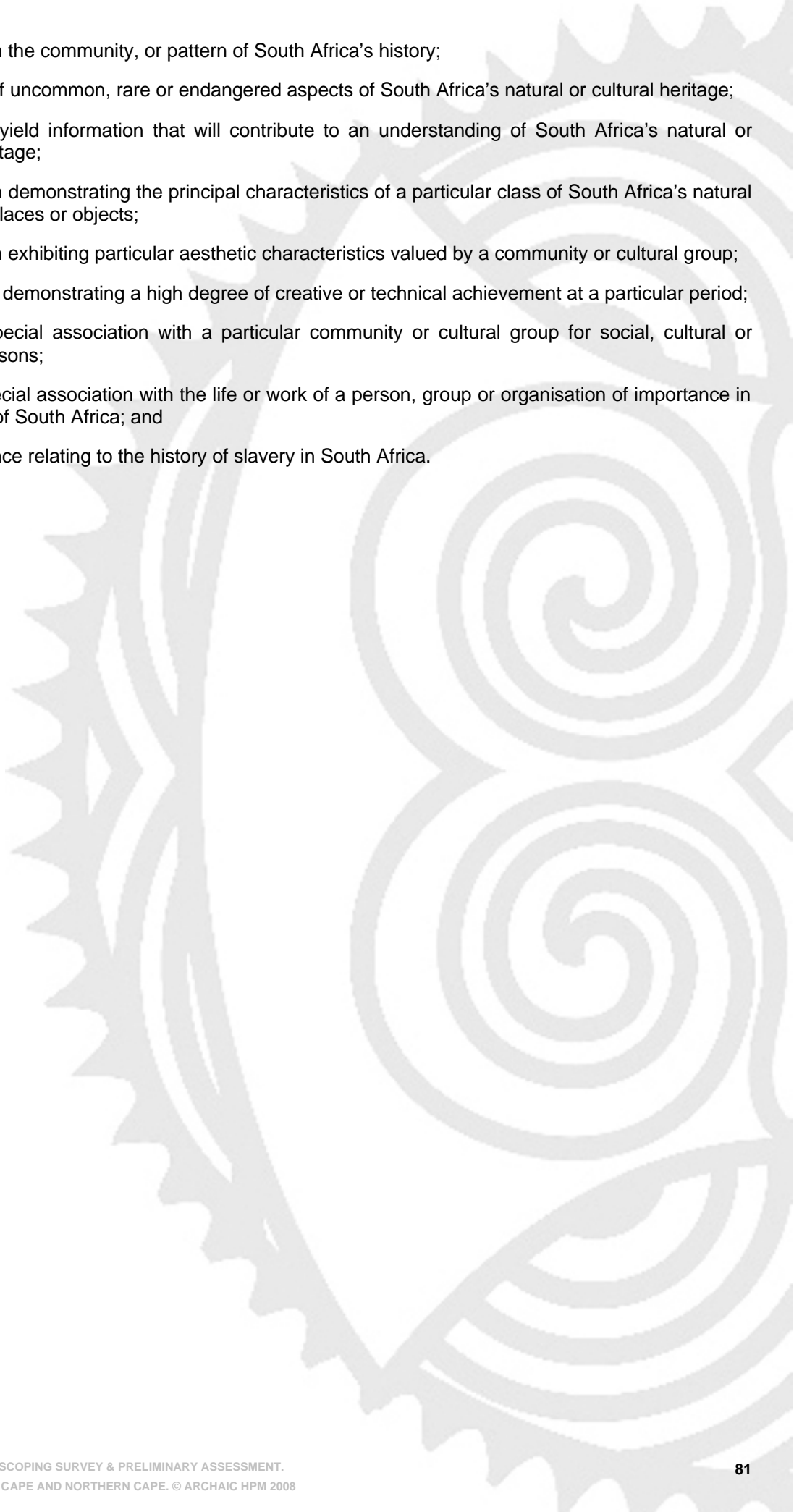
Part 1: General Principles

3. National estate.—(1) For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.

(2) Without limiting the generality of subsection (1), the national estate may include—

- (a) places, buildings, structures and equipment of cultural significance;
- (b) places to which oral traditions are attached or which are associated with living heritage;
- (c) historical settlements and townscapes;
- (d) landscapes and natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and palaeontological sites;
- (g) graves and burial grounds, including—
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders;
 - (iii) graves of victims of conflict;
 - (iv) graves of individuals designated by the Minister by notice in the *Gazette*;
 - (v) historical graves and cemeteries; and
 - (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including—
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - (ii) objects to which oral traditions are attached or which are associated with living heritage;
 - (iii) ethnographic art and objects;
 - (iv) military objects;
 - (v) objects of decorative or fine art;
 - (vi) objects of scientific or technological interest; and
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1 of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

(3) Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of—

- 
- (a) its importance in the community, or pattern of South Africa's history;
 - (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
 - (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
 - (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
 - (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
 - (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
 - (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
 - (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
 - (i) sites of significance relating to the history of slavery in South Africa.

KEY	HIGH	HIGH/MEDIUM	MEDIUM	LOW
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SITE_NR	LAT_COORD	LON_COORD	MAP_NR	MAP_NAME	MAP_YEAR	MAP_EDITION	REMARKS_COMMENTS	FIELD_RATING	RECOMMENDATION
001 Barkly Bridge	-33.62208	25.69616	3325DA	Addo	1986	Edition 3	The entire area has been impacted on by agricultural and railway activities and infrastructure. No visible heritage resources were noted. Regarding the proximity of the farm and workers' cottages, there might be a possibility of burials in the area. Potential impact and risks may occur in the event of burials found in the development area.	IV C	Public Participation and Social Impact should identify existence of burials.
001.1 Borrow pit	-33.66946	25.68153	3325DA	Addo	1986	Edition 3	Stone Age material may possibly occur in and around the borrow pit. A single MSA/LSA core was found on the surface. The borrow pit is located in the Coega Bontveld (M&R 2007) in what is known as calcareous palaeodunes of the Cenozoic Algoa Group (65 to 3 Ma). A possibility exists that marine fossils may occur. Risks and impact include extension of borrow pit and erosion of possible heritage resources.	IV C	Desktop studies by Stone Age and Palaeontology specialists.
002 Addo	-33.55512	25.69053	3325DA	Addo	1986	Edition 3	Similar to 001 Barkly Bridge, except no agriculture. Township with semi-formal and informal housing extends to very close of the line, increasing possibility of burials in the area. Potential impact and risks may occur in the event of burials found in the development area.	IV C	Public Participation and Social Impact should identify existence of burials.
003 Coerney	-33.45914	25.72143	3325BC	Coerney	1990	Edition 2	Site is situated between Addo National Park and R342. The area seems to have been impacted on by the development of both the line and the road. No visible heritage resources were note. No impacts, risks or threats were identified for this location.	IV C	Public Participation and Social Impact should identify existence of burials.
004 Verby	-33.44308	26.01851	3326AC	Alicedale	1998	Edition 3	Site is disturbed either side of the line. No visible heritage resources were note. No impacts, risks or threats were identified for this location.	IV C	
005 Eagle's Crag	-33.38400	26.05689	3326AC	Alicedale	1998	Edition 3	The old station/halt complex is very	IV C	Public Participation and

SITE_NR	LAT_COORD	LON_COORD	MAP_NR	MAP_NAME	MAP_YEAR	MAP_EDITION	REMARKS_COMMENTS	FIELD_RATING	RECOMMENDATION
							damaged and disturbed. A farm with associated infrastructure is located on the western side of the line. A small semi-formal settlement is also located on the eastern side. There may be a possibility of burials in the area. Potential impact and risks may occur in the event of burials found in the development area.		Social Impact should identify existence of burials
006 Tootabi	-33.35001	26.06897	3326AC	Alicedale	1998	Edition 3	The site is located on the western bank of the Boesmans River, with fairly intensive agriculture to the west. The river's banks are heavily eroded. Although no heritage resources were noted, there is a possibility of archaeological resources eroding out of the banks. No major risks or threats were identified that may be caused by railway activities, however it may impact on the already unstable and eroding river banks.	IV C	It is recommended that a watching brief be implemented in the event of the river banks being stabilised or rehabilitated.
007 Blinkhof.	-33.24877	25.99280	3325BB	Kommadagga	1986	Edition 2	The entire station/halt area has been filled and levelled to create a stable platform, raised approximately 10 m above the Boesmans River to the north of the site. No heritage resources were noted, although there may occur some on the farm/property that borders the site on the south. No potential risks, threats or impacts were identified.	IV C	Possibility exists that fossils may occur in wider area, and a palaeontological desktop study may be recommended.
008 Saltaire	-33.17947	25.93965	3325BB	Kommadagga	1986	Edition 2	Site is overall disturbed, with only a single MSA/LSA flake found. There is a possibility that fossils may occur in the borrow pit material. There is a risk that fossil material and/or other lithics could be destroyed or impacted on by erosion occurring as a result of borrow pit use.	IV C	Palaeontological desktop study.
009 Kommadagga KDC 018 KDC 017 KDC 016 KDC 015 KDC 014	-33.11853 -33.11701 -33.11617 -33.11573 -33.11586 -33.11597	25.89966 25.89619 25.89653 25.89744 25.89741 25.89738	3325BB	Kommadagga	1986	Edition 2	Large deflated area north of line where possible borrow pit material is located. ESA, MSA and LSA lithics found, including a small hand axe. A piece of fossiliferous rock with small embedded fossil. A small semi-formal settlement is located approximately 700 m NE of	IV A	A palaeontologist and Stone Age specialist should conduct detailed surface survey (Phase 1 Archaeological / Palaeontological Impact Assessment) which should

SITE_NR	LAT_COORD	LON_COORD	MAP_NR	MAP_NAME	MAP_YEAR	MAP_EDITION	REMARKS_COMMENTS	FIELD_RATING	RECOMMENDATION
							station where there may be possible graves. No other visible heritage resources were noted.		include a desktop study to determine the site's significance. A watching brief should also be implemented when large scale earthworks commence.
010 Golden Valley	-32.81031	25.78934	3225DD	Golden Valley	1998	Edition 3	The area is completely disturbed by agricultural activities and rail infrastructure. No visible heritage resources were noted. There may be possible burials in the general vicinity. No risks, threats or impacts to heritage resources were identified.	IV C	Public Participation and Social Impact should identify existence of burials.
010.1 Road borrow KDC 011	-32.71248 -32.71250	25.81221 25.81144	3225DD	Golden Valley	1998	Edition 3	Large MSA and LSA lithic lithics that include cores, blades, points, flakes, chunks, possible hammer stones/grindstones and manuports (river pebbles). The site may possibly constitute a Stone Age manufacturing area. The site is situated immediately northwest of an existing borrow pit, and extends ~500 m NS and ~50 m EW. It is furthermore close to Slachtersnek, an important historical site related to the 1815 Rebellion. There is also a possibility of fossils occurring, especially in the more eroded areas to the east. Threats and risks include the destruction of the stone age site, as well as possible discovery of fossils and negative impact on the Slachtersnek historical area.	IV A	Palaeontological and historical desktop studies should be done, and a Phase 1 Archaeological Impact Assessment to record and collect surface lithics. A Site Management Plan should also be implemented in the event of this site being used for borrow material.
010.2 Cookhouse	-32.73841	25.82719	3225DD	Golden Valley	1998	Edition 3	The area is very disturbed as it lies immediately north of the N10 (<70 m), in existing diggings. No visible heritage resources were noted. No risks, threats or impacts to heritage resources were identified.	IV C	Although no resources were identified, possible <i>in situ</i> material may be found excavations. An archaeologist must be notified in the event of this happening.
010.3 Golden Valley KDC 013 KDC 012	-32.82803 -32.82834 -32.83489	25.79735 25.79633 25.79483	3225DD	Golden Valley	1998	Edition 3	Possible MSA/LSA lithic lithics consisting of flakes, small cobble cores and chunks located immediately above the south-eastern part of the borrow pit. The site is also located approximately 700 m northeast of the	IV B (IV A)	A Phase 1 AIA should be done on the Stone Age materials, including a desktop study for fossils. The monument must be protected against any risks, threats or

SITE_NR	LAT_COORD	LON_COORD	MAP_NR	MAP_NAME	MAP_YEAR	MAP_EDITION	REMARKS_COMMENTS	FIELD_RATING	RECOMMENDATION
							Slagtersnek monument. Identified risks and threats include the destruction of Stone Age material and possible impact on the monument due to activities associated with the borrow pit.		impact that may result from the borrow pit use. A HSMP should also be implemented to ensure the protection of the site during work.
011 Klipfontein KDC 010	-32.60304 -32.59994	25.76213 25.75814	3225DB	Cookhouse	1998	Edition 3	No visible heritage resources other than a semi-formal cemetery were noted. The cemetery is situated very close, or in, the railway reserve. The graves date from about the 1990 to very recent (<2 years) and totals about 36-40 burials. The cemetery is still in use by labourers and residents of the immediate area, and according to local community member is the only cemetery close to the line. Although it falls outside the proposed loop footprint (~500 m southeast), it may be impacted on by activities associated with construction and lay down areas. There are further risks and threats that the burials may be inadvertently or purposefully damaged or vandalised.	III A (IV A)	The cemetery should be fenced off from the railway reserve in such a manner that access may be controlled and limited. This will also prevent new graves from "spilling" into the reserve. There should no reason for the burials to be relocated. Public Participation and Social Impact should identify <i>bona fide</i> I&AP before any decision is made to fence the graves off.
011.1 Cutting a	-32.58495	25.75405	3225DB	Cookhouse	1998	Edition 3	There was some uncertainty as to the exact location of this site. However, the area immediately above and to the west of the dirt road has been completely destroyed by quarry activities. This was taken to be the "cutting" mentioned in the documentation. The area to the east between the road and the line is under cultivation. No visible heritage resources were noted, although there is a possibility of rock art in the cliffs above the "cutting". No risks, threats or impacts to heritage resources were identified. There is a further possibility that burials may exist in the wider area, other than KDC 10.	IV C	Public Participation and Social Impact should identify existence of burials.
012 Mortimer.	-32.36226	25.69168	3225BC	Mortimer	1998	Edition 3	Site is located close to farmsteads, increasing the possibility of burials in the area. The entire area is disturbed by farming and residential use. No visible heritage resources were noted. No risks, threats or impacts to heritage	IV C	Public Participation and Social Impact should identify existence of burials.

SITE_NR	LAT_COORD	LON_COORD	MAP_NR	MAP_NAME	MAP_YEAR	MAP_EDITION	REMARKS_COMMENTS	FIELD_RATING	RECOMMENDATION
							resources were identified.		
013 Halesowen	-32.24848	25.68088	3225BA	Cradock	1987	Edition 2	Site is located between the R390 and farm boundary. No visible heritage resources were noted in the immediate area, although parts of the old rail way can still be identified. No risks, threats or impacts to heritage resources were identified.	IV C (III A)	Although no resources were identified, possible <i>in situ</i> material may be found excavations. An archaeologist must be notified in the event of this happening. The old rail way line should be avoided at all costs. If by any event this resource is to be impacted on the necessary permit requirements must be met.
014 Marlow	-32.10521	25.58687	3225BA	Cradock	1987	Edition 2	The site is located ~300 m northeast of the Great Fish River against a mountain slope. No visible heritage resources were noted, however, Stone Age, Historical and possibly Late Farmer material may occur. No risks, threats or impacts to heritage resources were identified.	IV C	Although no resources were identified, possible <i>in situ</i> material may be found excavations. An archaeologist must be notified in the event of this happening.
014.1 Marlow New	-32.10451	25.60175	3225BA	Cradock	1987	Edition 2	Site is located in existing borrow pit. Although no visible heritage resources were noted, Stone Age, Historical and possibly Late Farmer material may occur. No risks, threats or impacts to heritage resources were identified.	IV C	Although no resources were identified, possible <i>in situ</i> material may be found excavations. An archaeologist must be notified in the event of this happening.
015 Kaptein	-32.04856	25.53296	3225BA	Cradock	1987	Edition 2	Site is located in an agricultural area that has disturbed most of the surface features. No visible heritage resources were noted. No risks, threats or impacts to heritage resources were identified.	IV C	Public Participation and Social Impact should identify existence of burials.
016 Knutsford 016.2 Knutsford	-31.95536 -31.95889	25.50667 25.51189	3125DC	Kwaairivier	2001	Edition 3	Both sites are located in or near to cultivated land. Site 016.2 is located very close to the Knutsford canal. No visible heritage resources were noted at either site. There may be a possibility of burials occurring in relation to the farms and associated settlements. No risks, threats or impacts were identified.	IV C	Public Participation and Social Impact should identify existence of burials.
016.1 Borrow pi KDC 009	-31.95762 -31.95824	25.48624 25.49000	3125CD	Visrivier	2001	Edition 3	Existing borrow pit located just below 980 m contour on map sheet 3125CD. No visible heritage resources were	IV C	A desktop study should be done to determine the age and significance of the wall

SITE_NR	LAT_COORD	LON_COORD	MAP_NR	MAP_NAME	MAP_YEAR	MAP_EDITION	REMARKS_COMMENTS	FIELD_RATING	RECOMMENDATION
							noted, however, grey mudstone may be fossiliferous. A stone retaining wall is located on the 980 m contour and indicated on map sheet 3125 CD. This wall may be a retaining wall for an old road or track. It seems to have extended to the borrow pit. There is a risk that the wall may be impacted on by the extended use of the borrow pit into the hill. No other heritage resources were noted.		as it could be of historical value. A palaeontological desktop study should also be undertaken. In the event of the wall being of greater significance than the present field rating, a HSMP should be implemented according to specialist recommendations.
017 Visrivier	-31.90487	25.40917	3125CD	Visrivier	2001	Edition 3	The site is located between the N10 and railway. Semi-formal housing occurs in the area, with farm land to the northeast. No visible heritage resources were noted. There may be a possibility of burials associated with the farm and semi-formal housing. No threats, risks or impacts were identified.	IV C	Public Participation and Social Impact should identify existence of burials.
017.1 Visrivier Collet se quarry KDC 008	-31.92611 -31.92584	25.43351 25.43478	3125CD	Visrivier	2001	Edition 3	Site located in large existing borrow pit south of the N10. Two circular stone structures are situated east of the borrow pit. One is ~100 cm in diameter and 40 cm high with a small opening to the west. The other is dilapidated and ~250 cm in diameter. No visible material culture is associated with both structures and their use and context is unknown. The structures may be impacted on by extension of the borrow pit and risks involves the destruction or damage of these structures.	IV C	A Stone Age, Farmer Period and/or Historical specialist should undertake a desktop study of the structures to determine their significance.
017.2 Visrivier	-31.91552	25.41996	3125CD	Visrivier	2001	Edition 3	The site is located on the south-eastern banks of the Great Fish River in an eroded area between the N10 and railway. Semi-formal housing occurs in the area that has also impacted on the location. No visible heritage resources were noted. However, archaeological material may be present <i>in situ</i> in the river banks. There may be a possibility of burials associated with the semi-formal housing. Threats and risks include possible exposure of <i>in situ</i> heritage	IV C	A watching brief should be implemented in the event of this site used as a borrow pit. Public Participation and Social Impact should identify existence of burials.

SITE_NR	LAT_COORD	LON_COORD	MAP_NR	MAP_NAME	MAP_YEAR	MAP_EDITION	REMARKS_COMMENTS	FIELD_RATING	RECOMMENDATION
							resources by borrow pit activities. No other impact is identified.		
018 Conway	-31.73242	25.30152	3125CB	Conway	2001	Edition 3	The area is built up with historical houses east of the line. There is a possibility that burials could exist. No other visible heritage resources were noted. Threats and risks include possible impact to the historical houses and possible burials that may exist.	IV C	Public Participation and Social Impact should identify existence of burials. A historical desktop study should be done on the houses and associated historical buildings and a HSMP implemented if these are to be impacted on.
018.2 Existing KDC 007	-31.70389 -31.70235	25.27851 25.27599	3125CB	Conway	2001	Edition 3	An existing borrow pit with no visible heritage resources, however, grey mudstone may be fossiliferous. A long stone wall is located on top of a rocky outcrop (map sheet 3125 CB) southwest of the line. This is probably an old farm boundary. The borrow pit does not seem to have any impact on this wall. The wall may have some local significance. No other visible heritage resources were noted. No risks, threats or impacts were identified.	IV C	A possible desk top study may be done to determine the significance of the stone wall. A palaeontological desktop study should also be undertaken.
019 Glenheath	-31.67899	25.25894	3125CB	Conway	2001	Edition 3	Site located in railway reserve. No visible heritage resources were noted. No risks, threats or impacts were identified.	IV C	Letter of Recommendation for Exemption.
020 Tafelberg	-31.61538	25.24052	3125CA	Tafelberg	2001	Edition 3	Site is located in railway reserve. An old church (indicated on map sheet 3125CA) is situated ~600 m north of site. The church seems to still be in use and is well maintained. No other visible heritage resources were noted. There is a possible threat to the church regarding unmanaged access and risks include vandalism. No direct impact was identified that may result from the loop activities.	III A	A SHMP should be implemented to mitigate against any impact, threat and risk to the structure and its immediate environment.
021 Rosmead	-31.49010	25.11904	3125CA	Tafelberg	2001	Edition 3	Large station complex with historical railway houses that are still occupied. No visible heritage resources have been note. The houses may be impacted on by loop construction activity. No risks or threats have been identified in the immediate area of the	IV C	In the event that the houses may be impacted on a historical/conservation architect should undertake a desktop study and possibly a site visit to determine significance of houses. A

SITE_NR	LAT_COORD	LON_COORD	MAP_NR	MAP_NAME	MAP_YEAR	MAP_EDITION	REMARKS_COMMENTS	FIELD_RATING	RECOMMENDATION
							loop.		HSMP should be implemented pending the specialist's decision.
022 Flonker	-31.38297	25.03316	3125AC	Middelburg (Eastern Cap	2001	Edition 2	Site located between N9 and line. The old rail line is situated ~250 m south of the station halt. Although no other heritage resources were noted, there may be possible Stone Age material, as well as rock art occurring in the shelters above the site. The old railway line may be impacted on by loop construction and associated activities, and there is a risk that the line may be completely destroyed.	IV B	In the event that the old line will be impacted on, the necessary SAHRA permit applications will need to be made as well as a historical archaeologist or railway specialist contracted to draft a HSMP.
023 Carlton	-31.30505	24.95056	3124BD	Carlton	2001	Edition 2	Site located between mountains (west) and N9 (east). Large erosion areas occur northeast and southeast of the station building. A possible sandstone blockhouse/fortification can be seen on the mountain slope towards Noupoort. The old railway is located ~300 m east of the station. No visible heritage resources were noted in the immediate area of the loop. No risks, threats or impacts were identified.	IV C	Letter of Recommendation for Exemption.
024 Barredeel.	-31.22002	24.94696	3124BB	Noupoort	2001	Edition 2	Site area impacted on by erosion and (probably) illegal dumping of building rubble. No visible heritage resources were noted. At least three natural fountains are indicated on the map sheet, where Stone Age material could possibly occur.	IV C	No impact should take place close to fountains without Stone Age specialist.
025 Wildfontein	-31.07201	24.83622	3124BB	Noupoort	2001	Edition 2	No heritage resources were noted in immediate area of loop. There is a farm to the southeast of the line, which increases possibility of burials in wider area. No risks, threats or impacts were identified.	IV C	Letter of Recommendation for Exemption. Public Participation and Social Impact should identify existence of burials.
025.1 Borrow pi 025.2 borrow p	-31.06341 -31.04704	24.81386 24.77151	3124BB	Noupoort	2001	Edition 2	No heritage resources were noted in or near existing borrow pit. However, Stone Age and fossil material may occur, as well as possible Boer War material culture. The only possible risk is that an historical dump may be found that may have significance to either the railway or other historical	IV C	An historical and palaeontological desktop study should also be undertaken. A Letter of Recommendation for Exemption could be requested pending study.

SITE_NR	LAT_COORD	LON_COORD	MAP_NR	MAP_NAME	MAP_YEAR	MAP_EDITION	REMARKS_COMMENTS	FIELD_RATING	RECOMMENDATION
							episode. No threats or impacts were identified.		
026 Linde	-30.99132	24.64041	3024DC	Hanover Road	1988	Edition 2	A MSA/LSA lithic scatter occurs south of line. No other heritage resources were noted. There is a risk that lithics may be destroyed by loop and associated activities.	IV C	A Stone Age specialist should undertake a surface survey to establish detailed significance. A Letter of Recommendation for Exemption could be requested pending study.
027 Hanover Road 027.1 Level crossing 027.2 Existing	-30.95363 -30.95554 -30.95588	24.54012 24.54624 24.54479	3024DC	Hanover Road	1988	Edition 2	Area built-up and developed, increasing possibility of burials. No heritage resources were noted. The only potential risk identified is that burials may be found.	IV C	Letter of Recommendation for Exemption. Public Participation and Social Impact should identify existence of burials.
028 Burgerville	-30.82397	24.29203	3024CD	Burgervilleweg	1988	Edition 2	An old homestead is situated to the northwest of the loop, as well as some old railway houses. There may be a possibility of burials occurring. The only potential risk identified is that burials may be found.	IV C	Letter of Recommendation for Exemption. Public Participation and Social Impact should identify existence of burials.
029 Bletterman 029.1 Road borrow	-30.70928 -30.71311	24.08014 24.05424	3024CA	De Aar	1988	Edition 2	Area mostly disturbed by railway and farming activities, where burials could occur. Possible fossils may occur in existing borrow pit No heritage resources were noted. The only potential risk identified is that burials may be found.	IV C	A palaeontological desktop study should be undertaken. A Letter of Recommendation for Exemption could be requested pending study. Public Participation and Social Impact should identify existence of burials.
Add 1 ERS stag Add 1.1 Ronald	-28.76760 -28.78402	24.76796 24.75626	2824DD	Beaconsfield	1997	Edition 4	In built-up industrial area of Kimberley. No visible heritage resources noted. No risks, threats or impacts identified.	IV C	Letter of Recommendation for Exemption.
Add 1.2 Ronald	-28.79992	24.71805	2824DC	Spytfontein	1997	Edition 3	MSA lithics occur in existing borrow pit (Add 1.2). It was uncertain whether these were washed in, or eroding out of borrow pit sides. No other visible heritage resources were notes. There is a risk that if the lithics do erode out of the borrow pits sides, important <i>in situ</i> site(s) may be lost by borrow pit activity.	IV B	Stone Age specialist should conduct Phase 1 AIA to determine extent of lithic lithics.
KDC 001	-29.37674	24.40247	2924AB	Kolkop	1988	Edition 2	Old railway house foundations (about five) west of line. Possibility of engravings in area, as area is known for rock //Xam engravings. A stone cairn is situated on top of low hill to southwest of foundations. Possible	IV C	Letter of Recommendation for Exemption.

SITE_NR	LAT_COORD	LON_COORD	MAP_NR	MAP_NAME	MAP_YEAR	MAP_EDITION	REMARKS_COMMENTS	FIELD_RATING	RECOMMENDATION
							Boer War structure, but probably an elevation (spot height) beacon. No visible heritage resources were note. Burials may exist in relation to houses. No risks, threats or impacts were identified.		
KDC 002	-29.46605	24.32006	2924AB	Kolkop	1988	Edition 2	Possibility of engravings in area, as area is known for rock //Xam engravings. No visible heritage resources were note. No risks, threats or impacts were identified.	IV C	Letter of Recommendation for Exemption.
KDC 003	-29.50906	24.28029	2924CB	Wanda	1988	Edition 2	Site situated ~50 m southeast of the line. It consists of a single, large boulder with engravings on the western and northern sides, as well as a smaller, loose rock next to the northern face of the boulder. Engravings are of a single Eland, five possibly human footprints (one outlined, four fully engraved) and an indistinct engraving ~ 20 cm below Eland. The Eland's head seems to have been retraced with fine scratches. An unidentified figure is engraved on the loose rock. No other visible heritage resources were noted. A letter "A" is also engraved on a rock ~ 20 m west of Eland boulder. There is a risk of natural weathering of the engravings, as well as threats to the sites integrity if the line is to be upgraded. Possible impact to the site and engravings may include unmanaged access of workers onto farm property.	III A	Site must be recorded by a rock art specialist and a HSMP implemented pending specialist recommendations.
KDC 004	-29.53149	24.26198	2924CB	Wanda	1988	Edition 2	Close to railway houses with a possibility of burials occurring. The only potential risk identified is that burials may be found.	IV C	Letter of Recommendation for Exemption. Public Participation and Social Impact should identify existence of burials.
KDC 005	-30.69547	24.04178	3024CA	De Aar	1988	Edition 2	Ruins of an old sandstone railway house, dated to between 1915 and 1945 by surface material that included glass bottle fragments, porcelain, bottle tops. Located ~2.5 km from Nonzwakazi township outside De Aar.	IV C (IV B)	An historical desktop study should also be undertaken. A Letter of Recommendation for Exemption could be requested pending study.

SITE_NR	LAT_COORD	LON_COORD	MAP_NR	MAP_NAME	MAP_YEAR	MAP_EDITION	REMARKS_COMMENTS	FIELD_RATING	RECOMMENDATION
							Structure very dilapidated and of little significance, although dump may be of some academic value. The site is not located near any loop and no risk, threat or impacts associated with the loop activities were identified.		

ANNEXURE D: 1: 50 000 MAP SHEETS

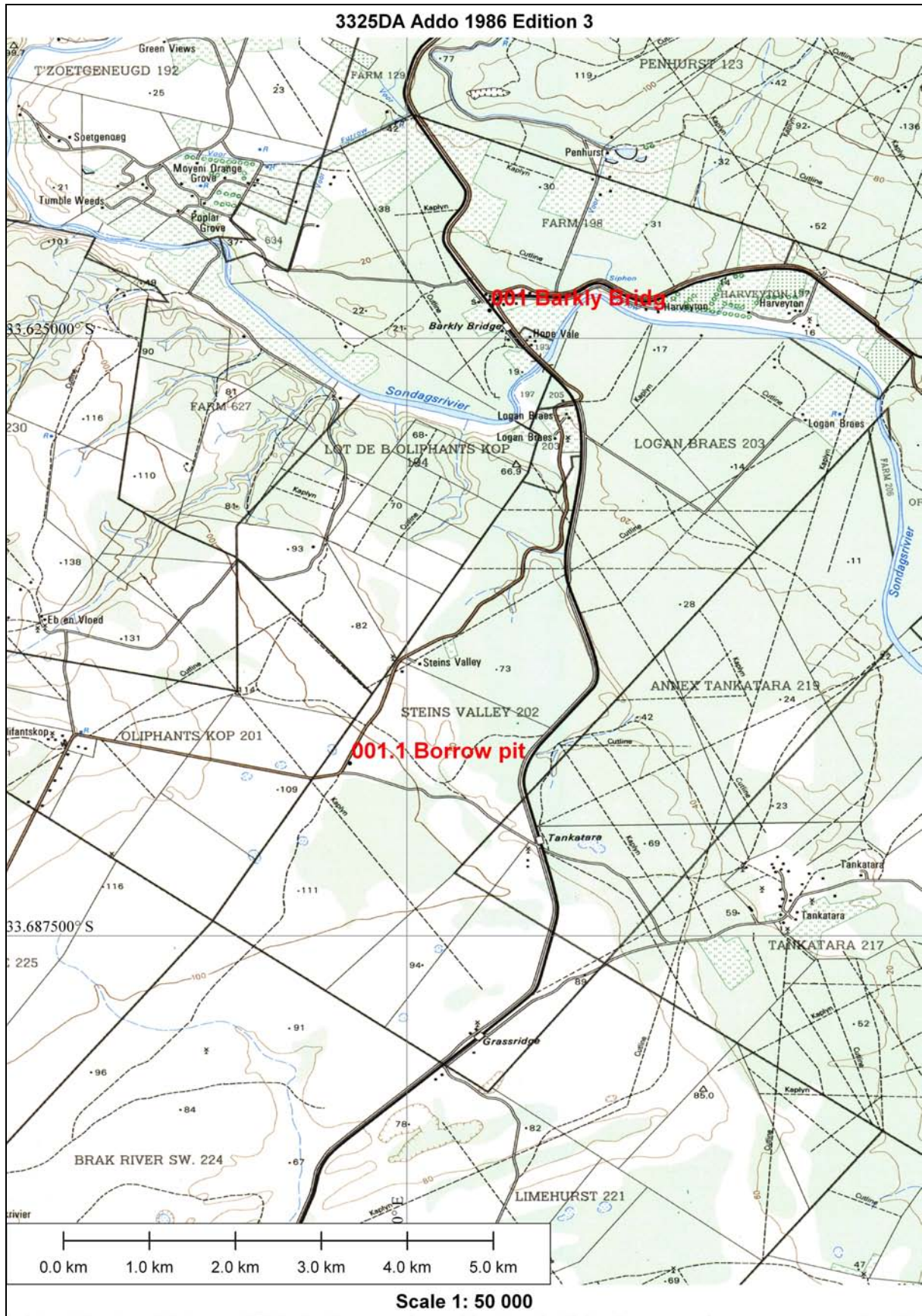


Figure 68: Barkly Bridge sites

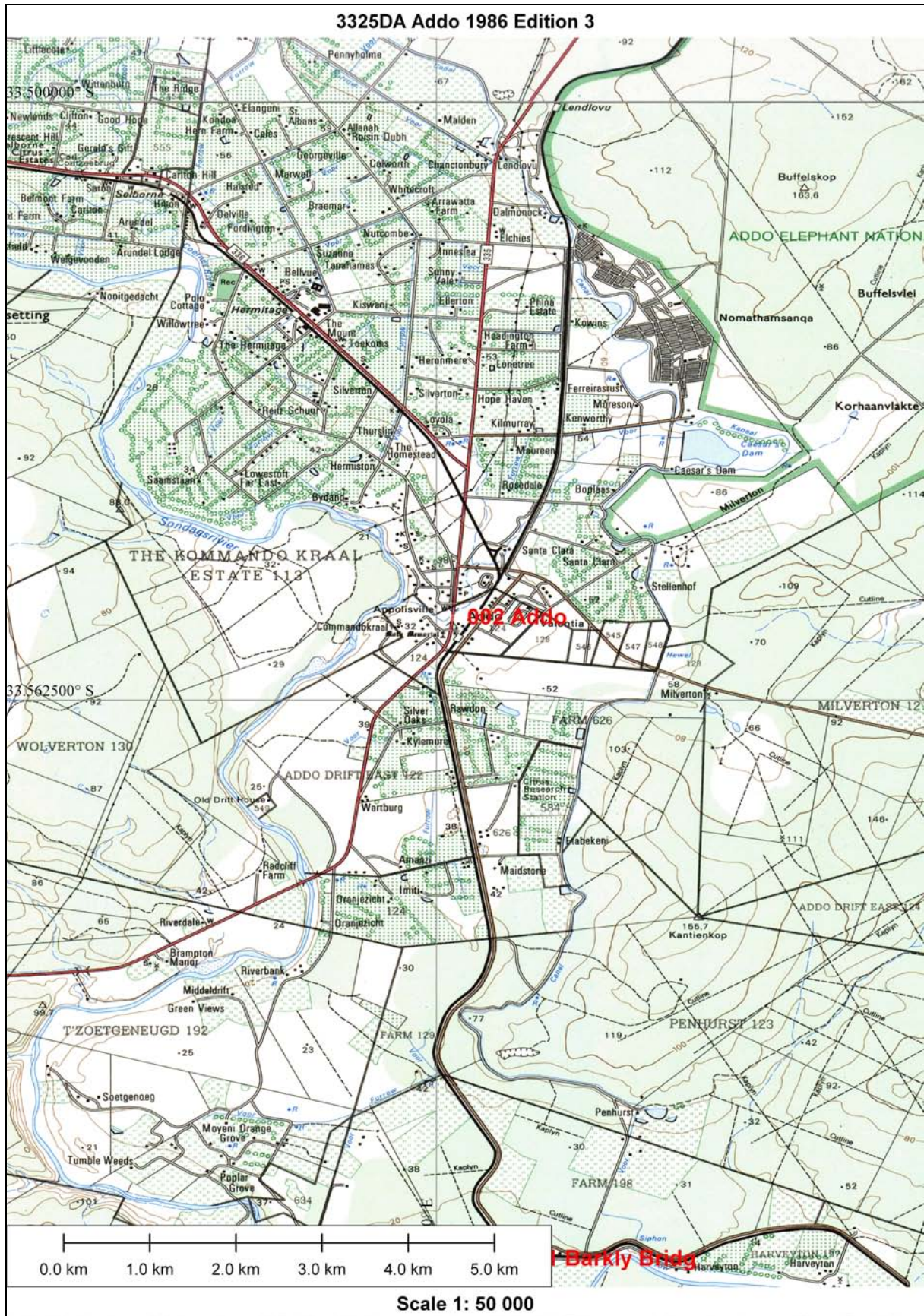


Figure 69: Addo location

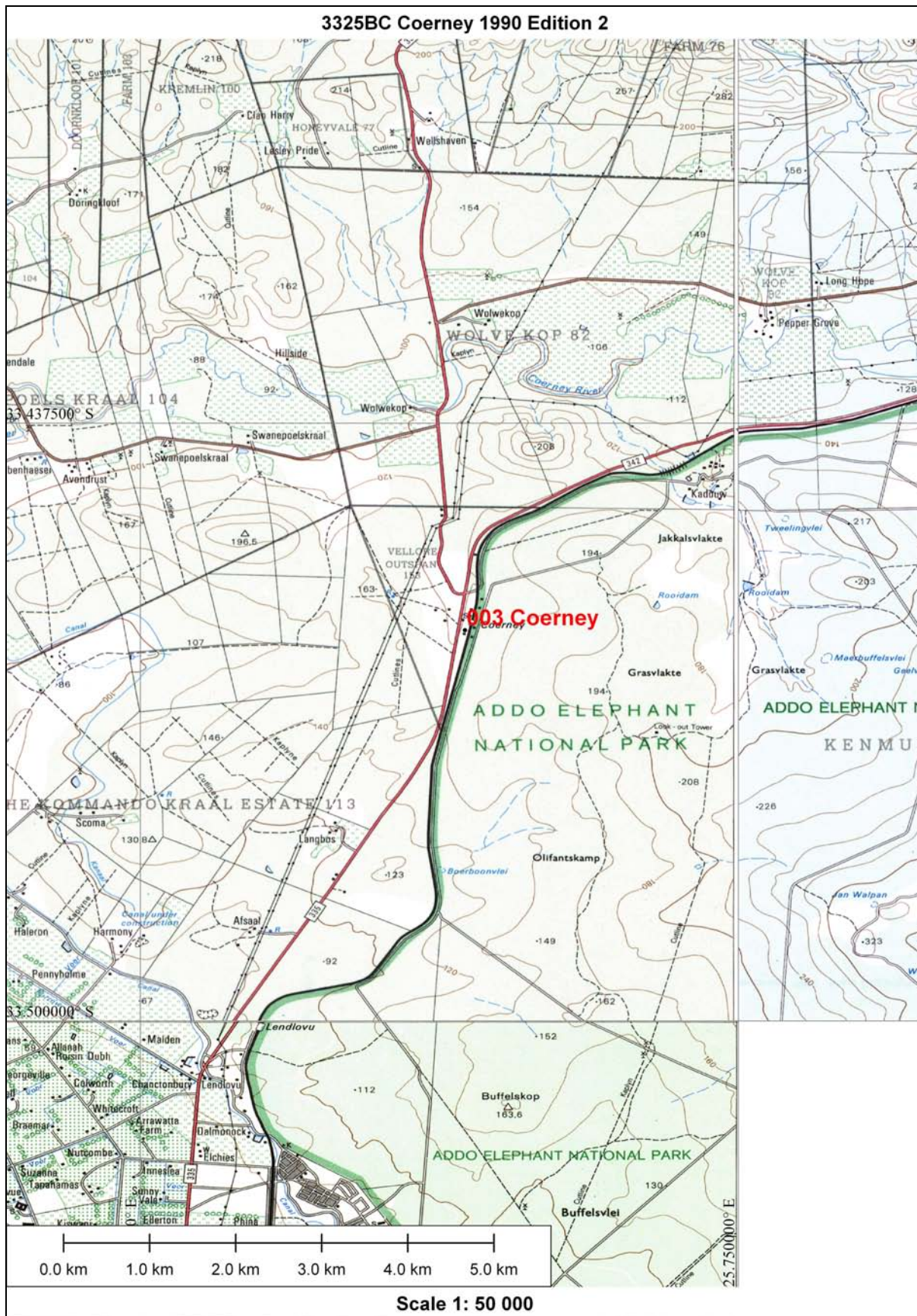


Figure 70: Coerney location

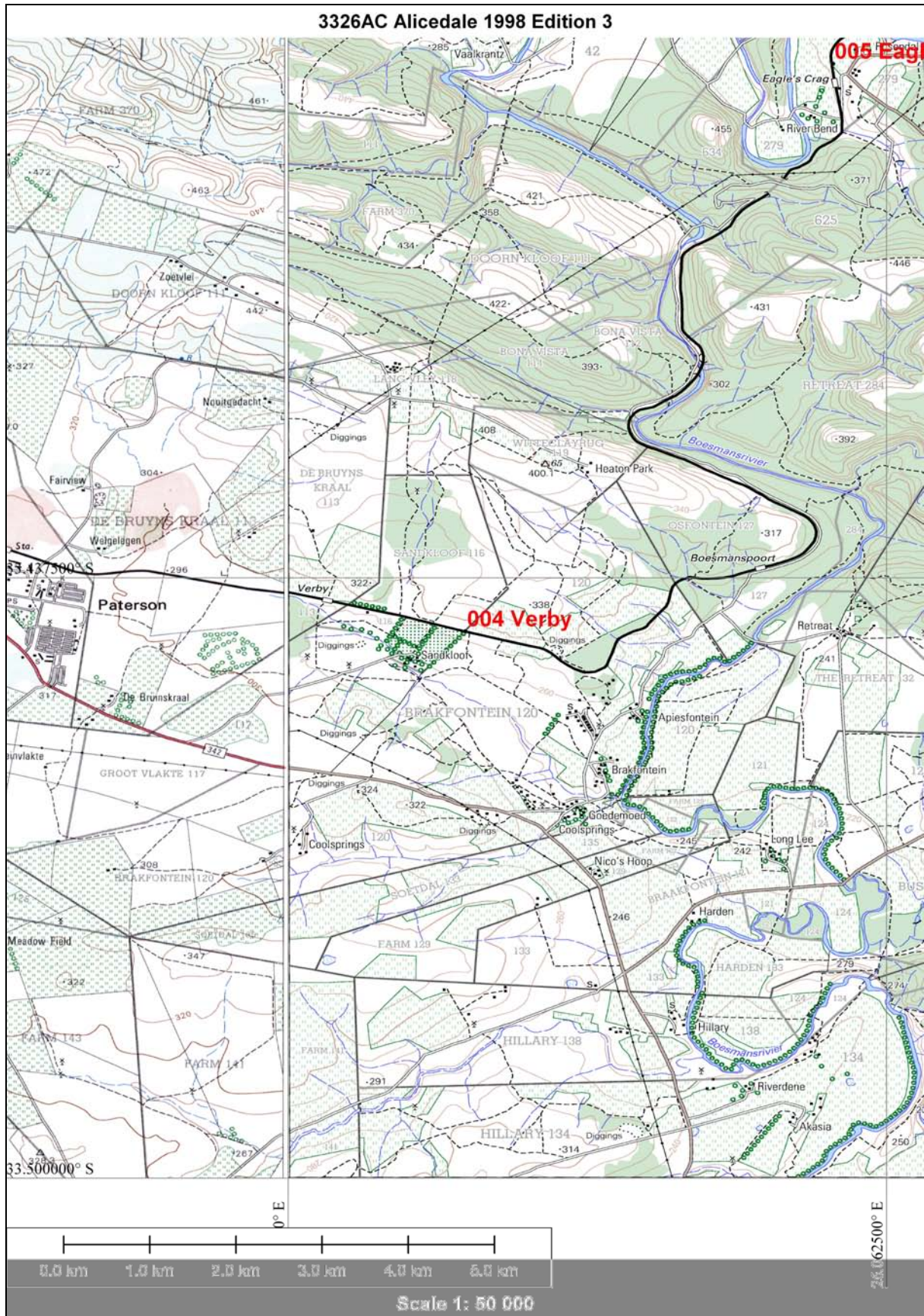


Figure 71: Verby locations

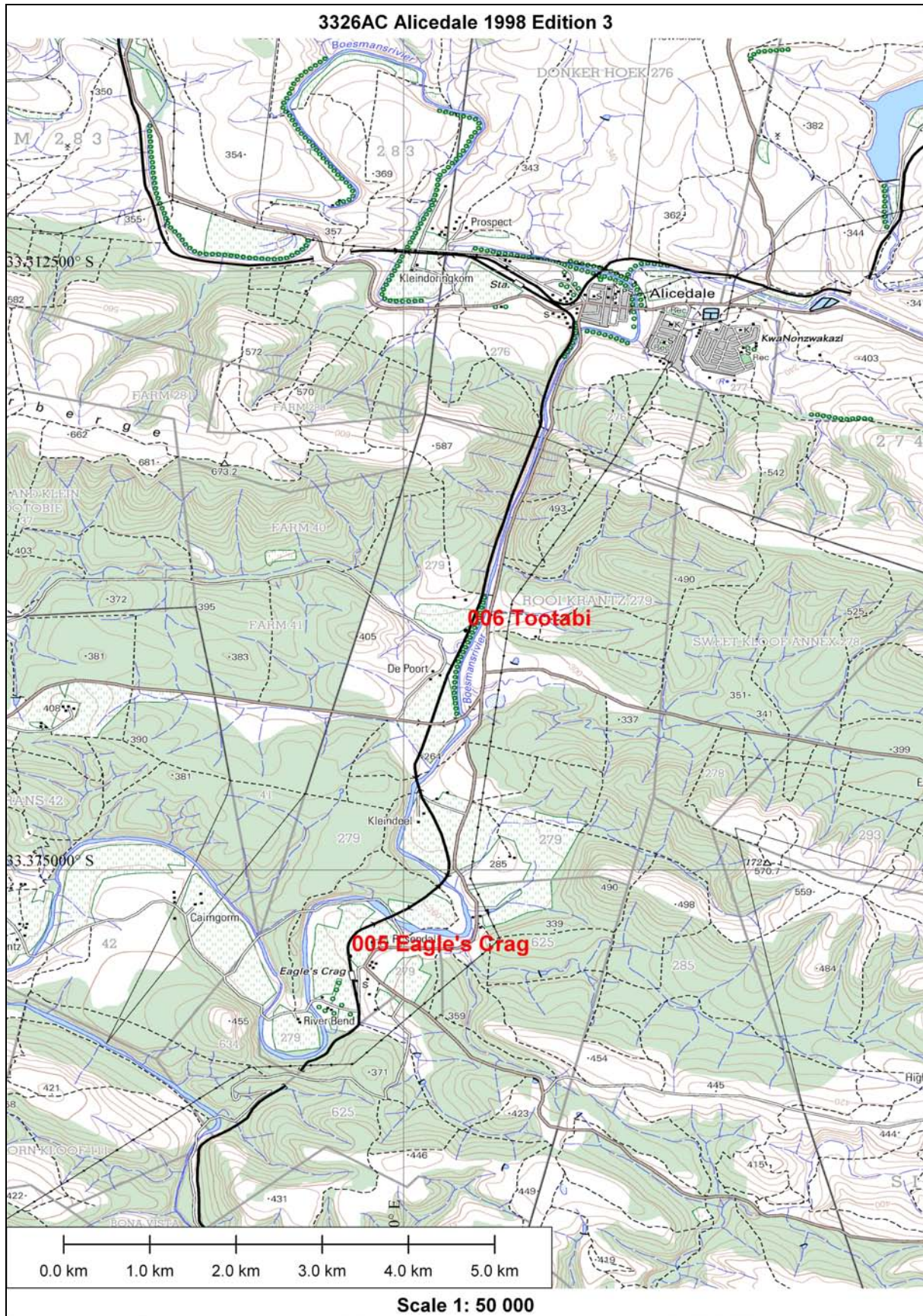


Figure 72: Eagle's Crag and Tootabi locations

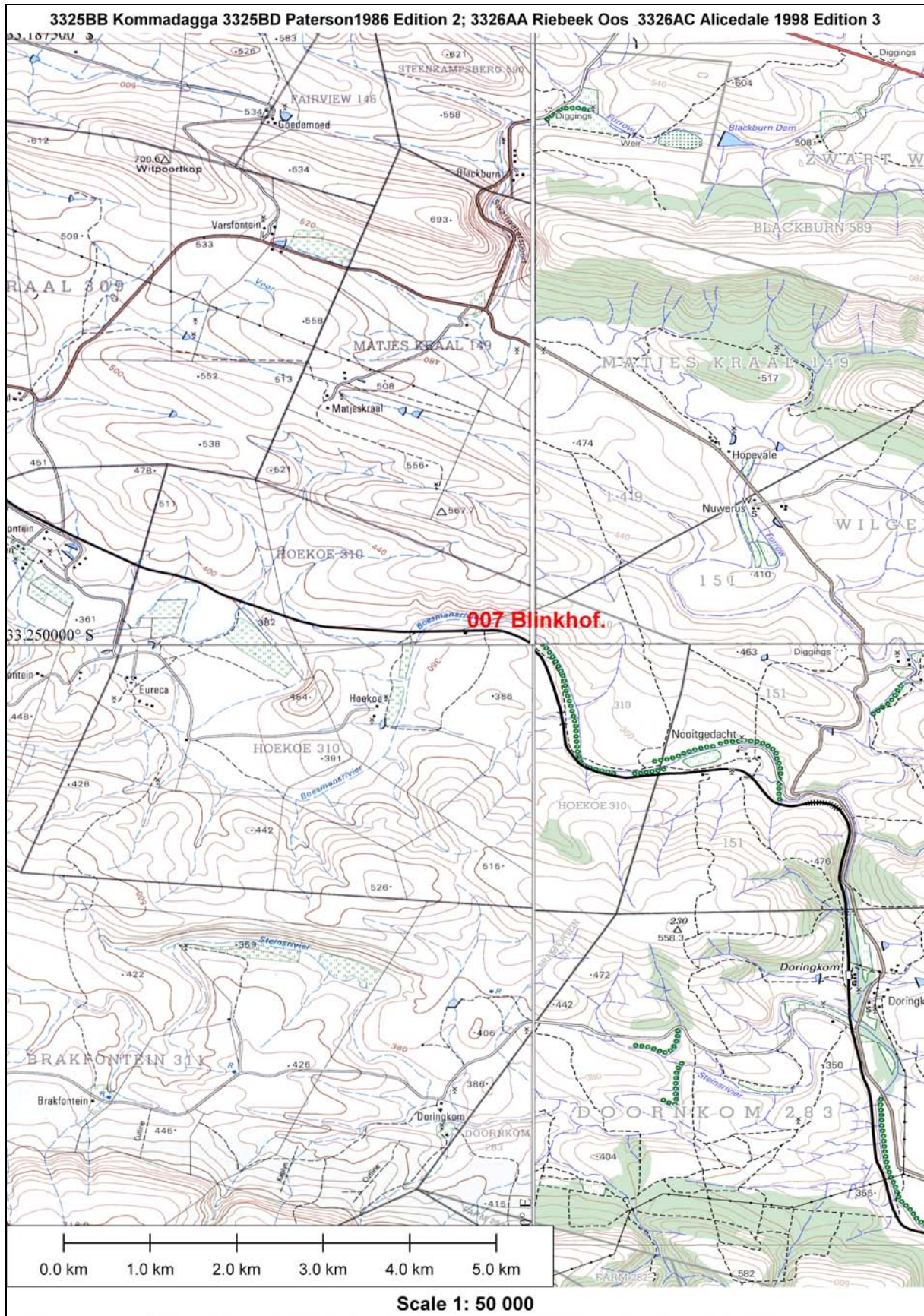


Figure 73: Blinkhof location

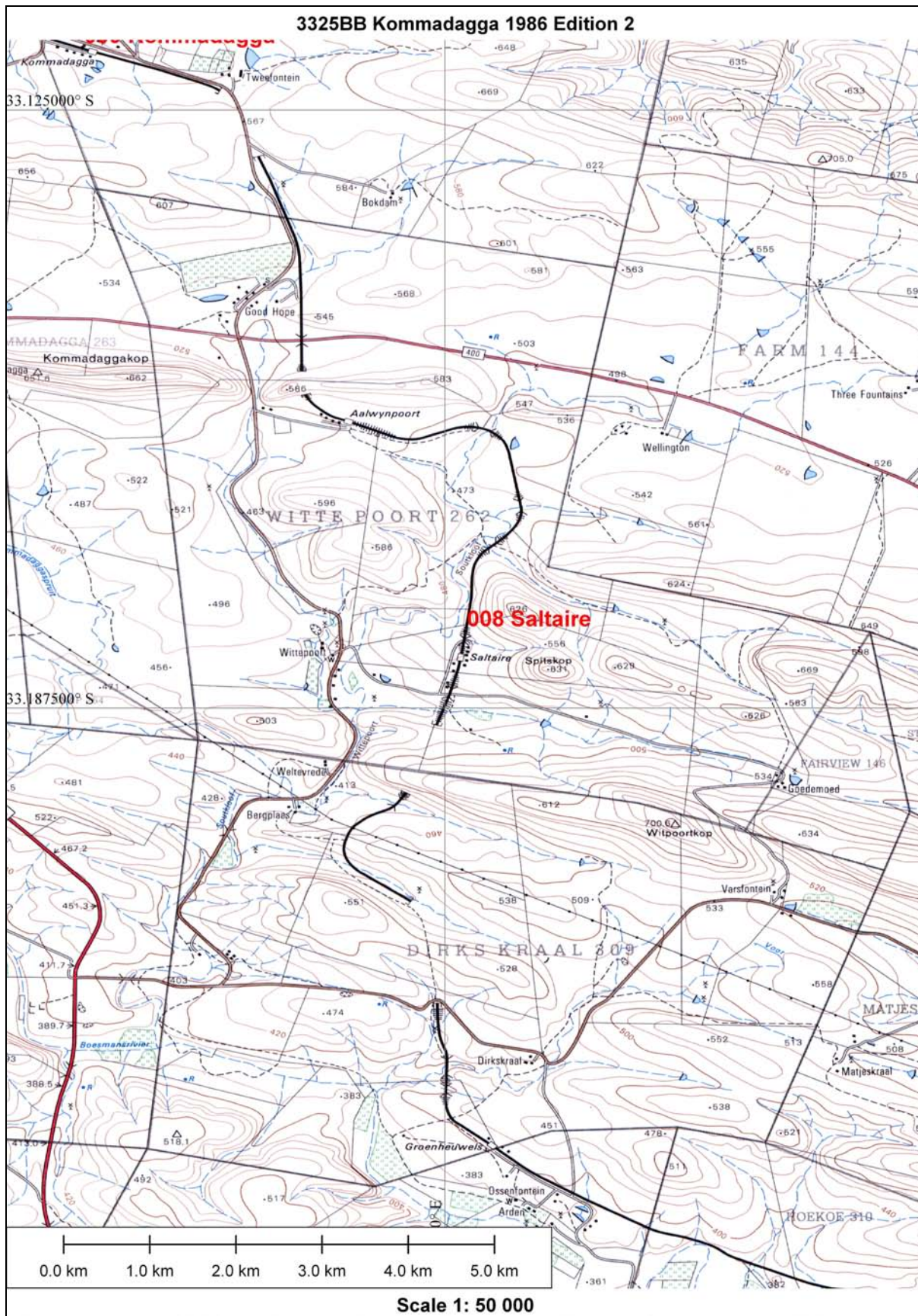


Figure 74: Saltaire location

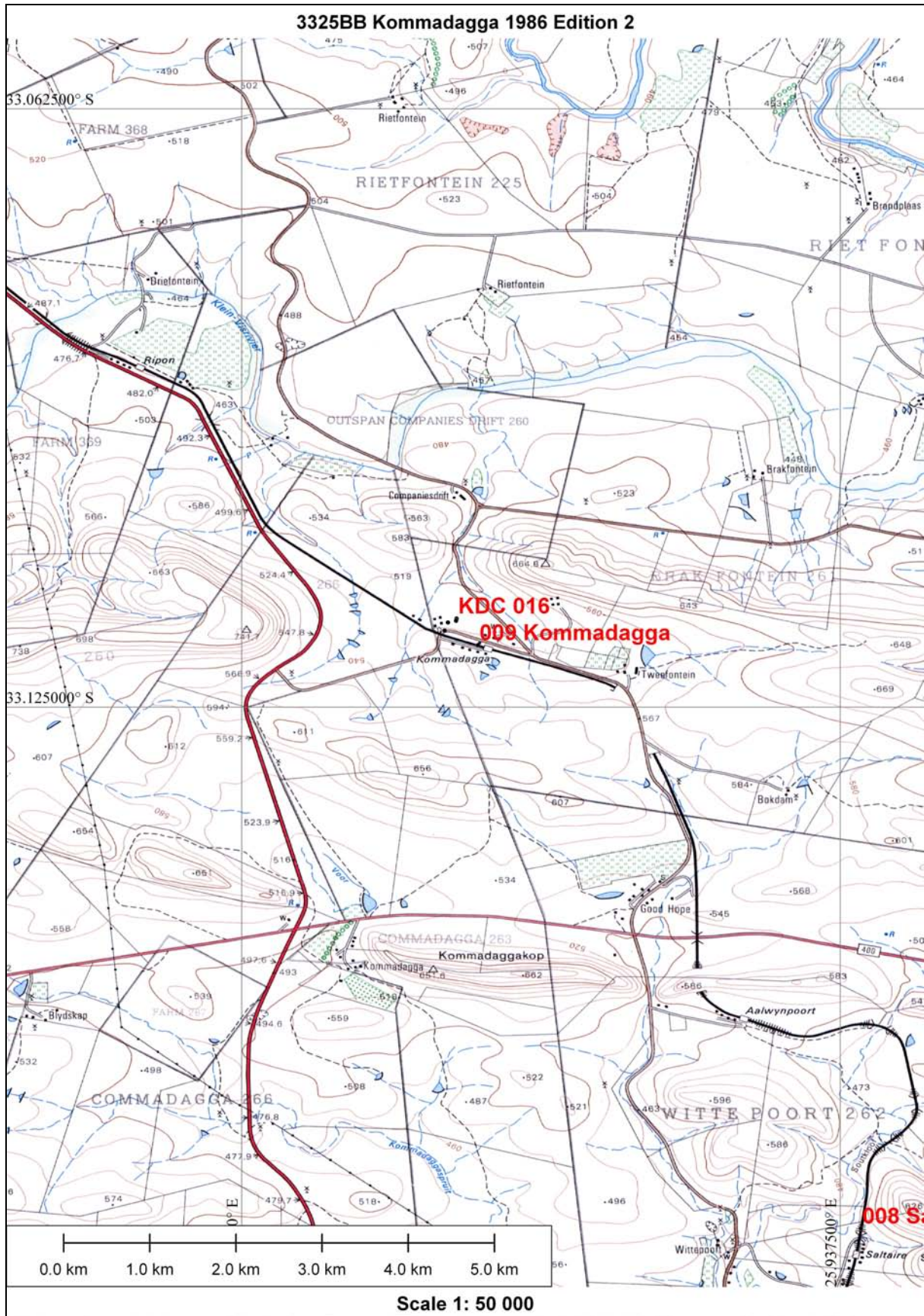


Figure 75: Kommadagga location



Figure 76: Detail of sites KDC 014 to KDC 018 at Kommadagga

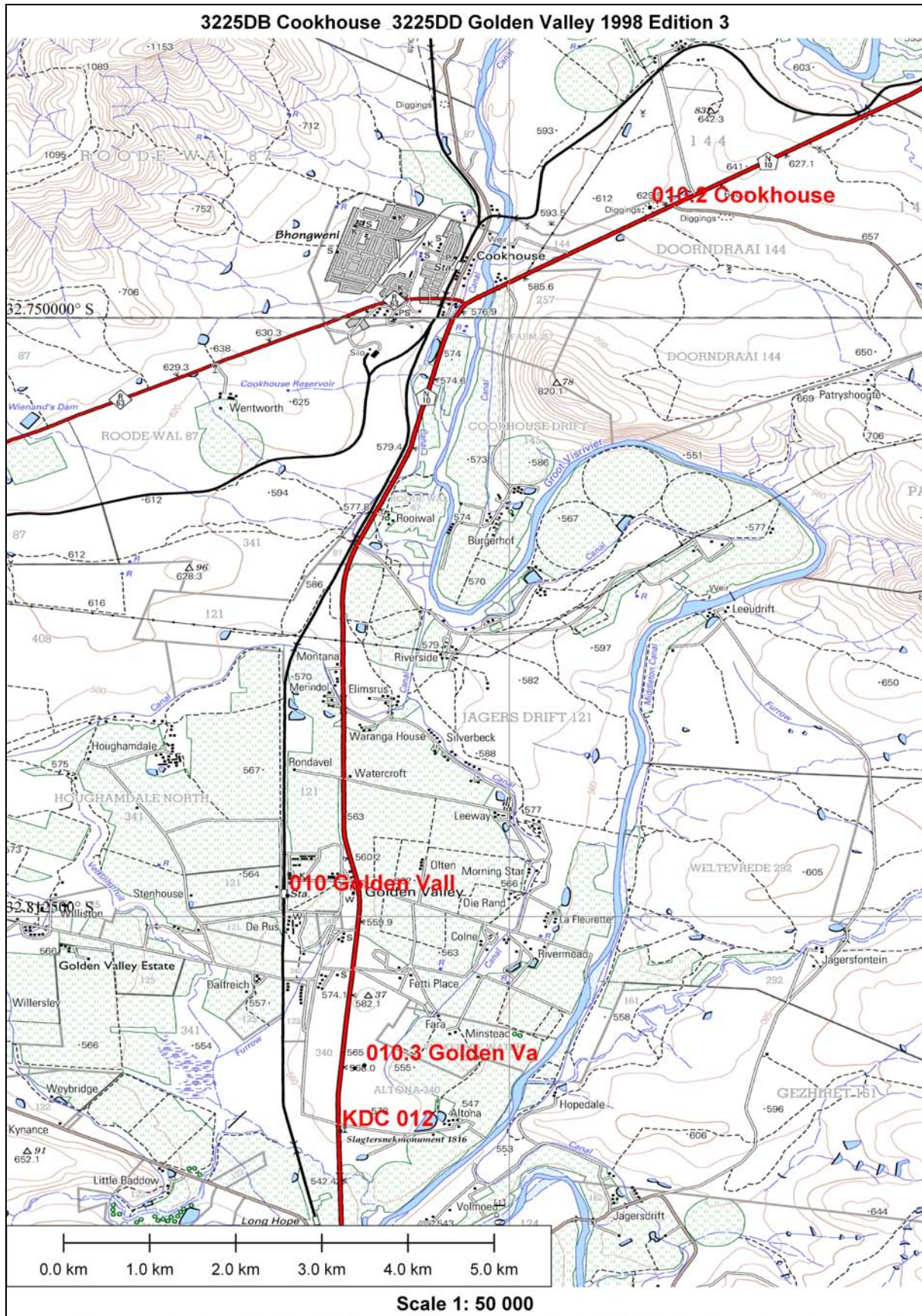


Figure 77: Golden Valley sites

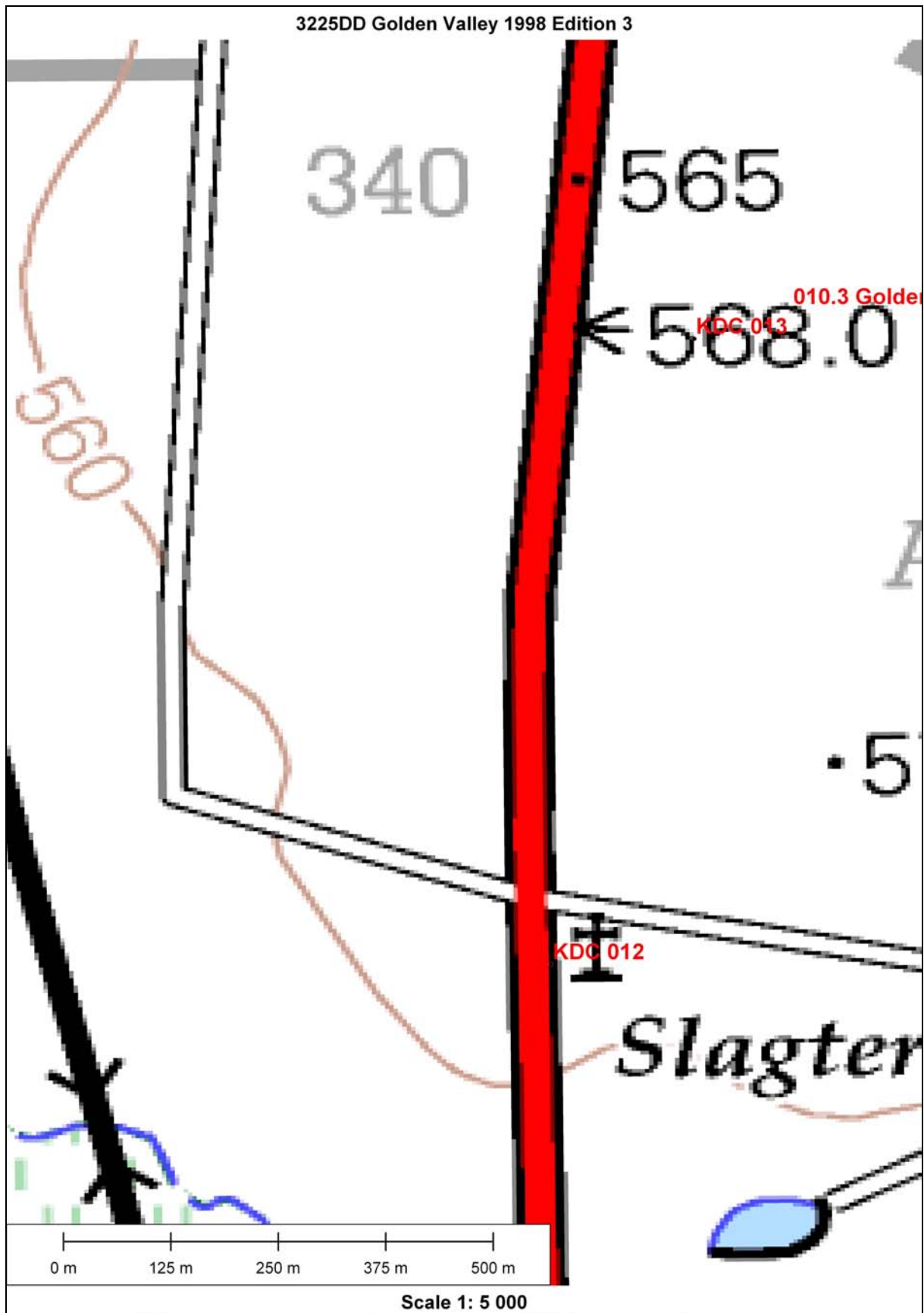


Figure 78: Detail of sites KDC 012 and KDC 013 at 010.3 Golden Valley

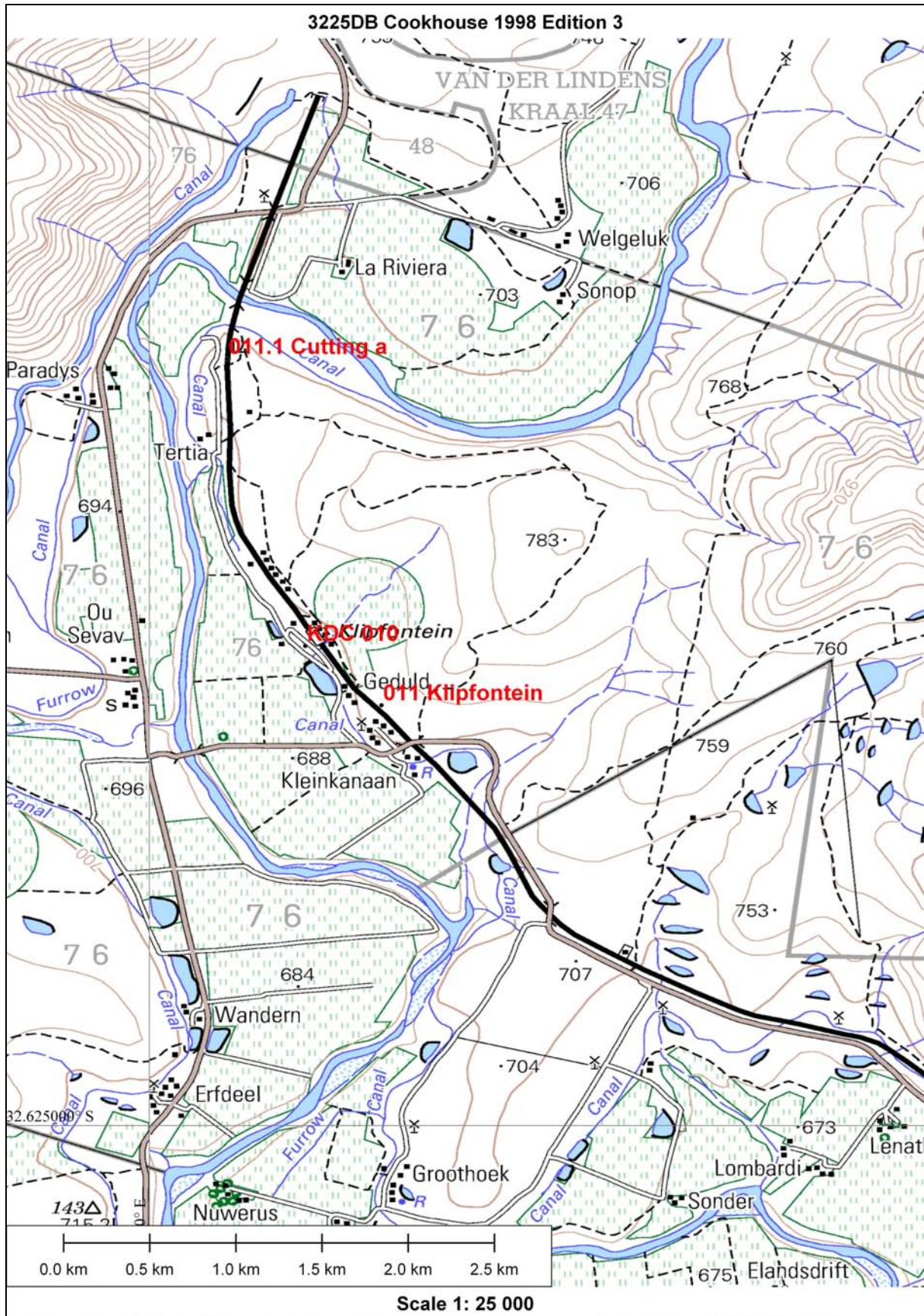


Figure 79: Klipfontein and KDC 010 sites

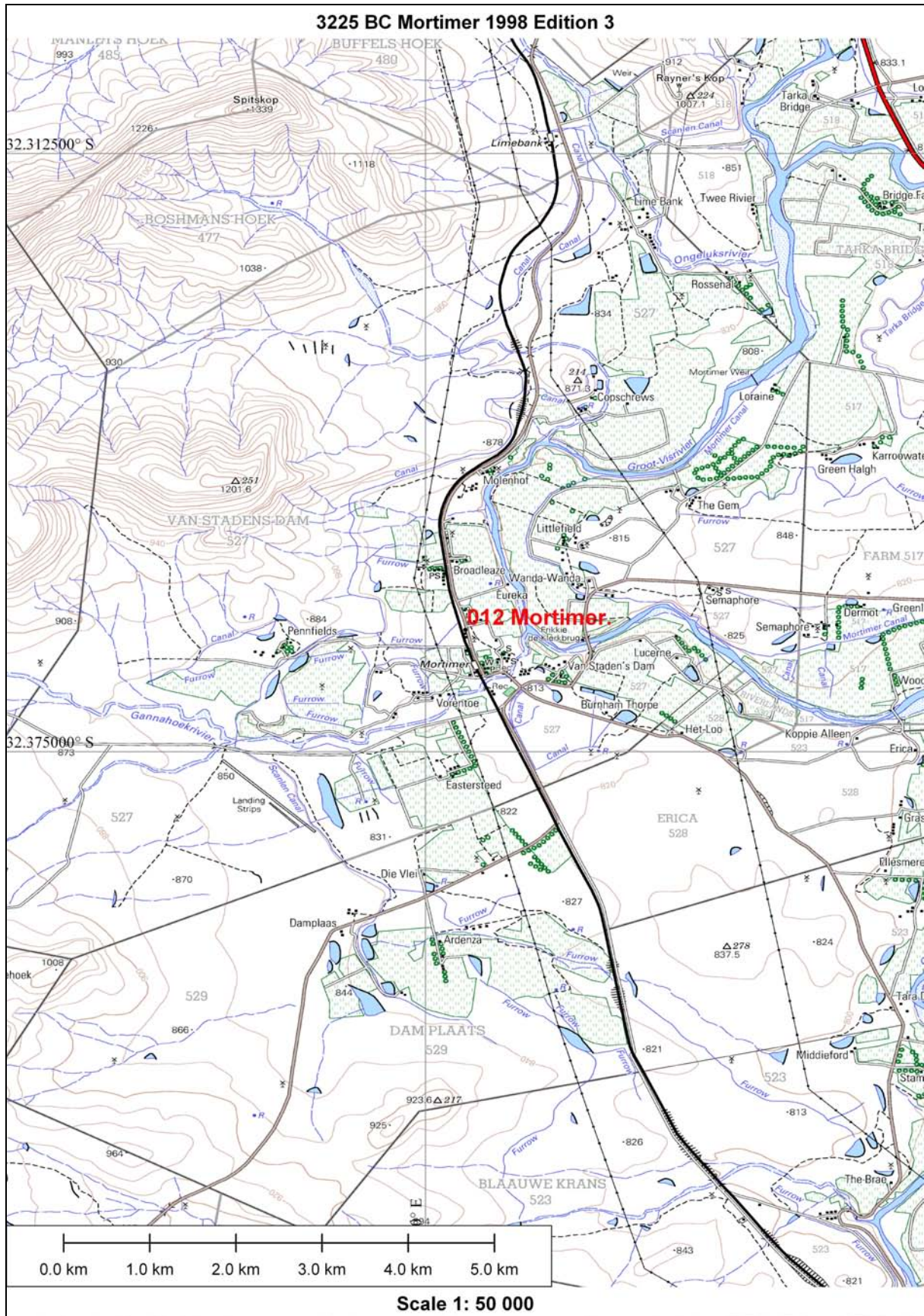


Figure 80: Mortimer location

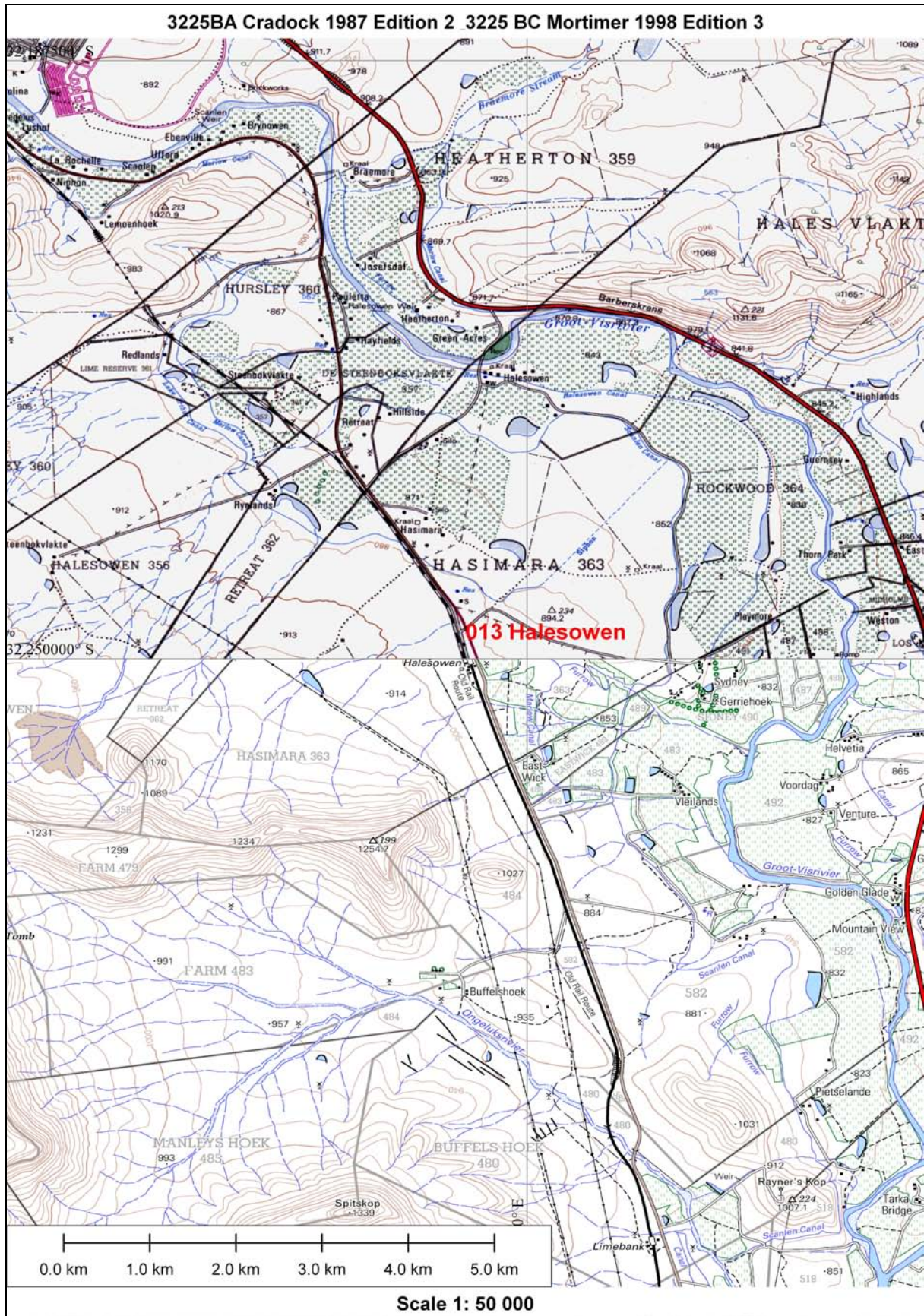


Figure 81: Halesowen location

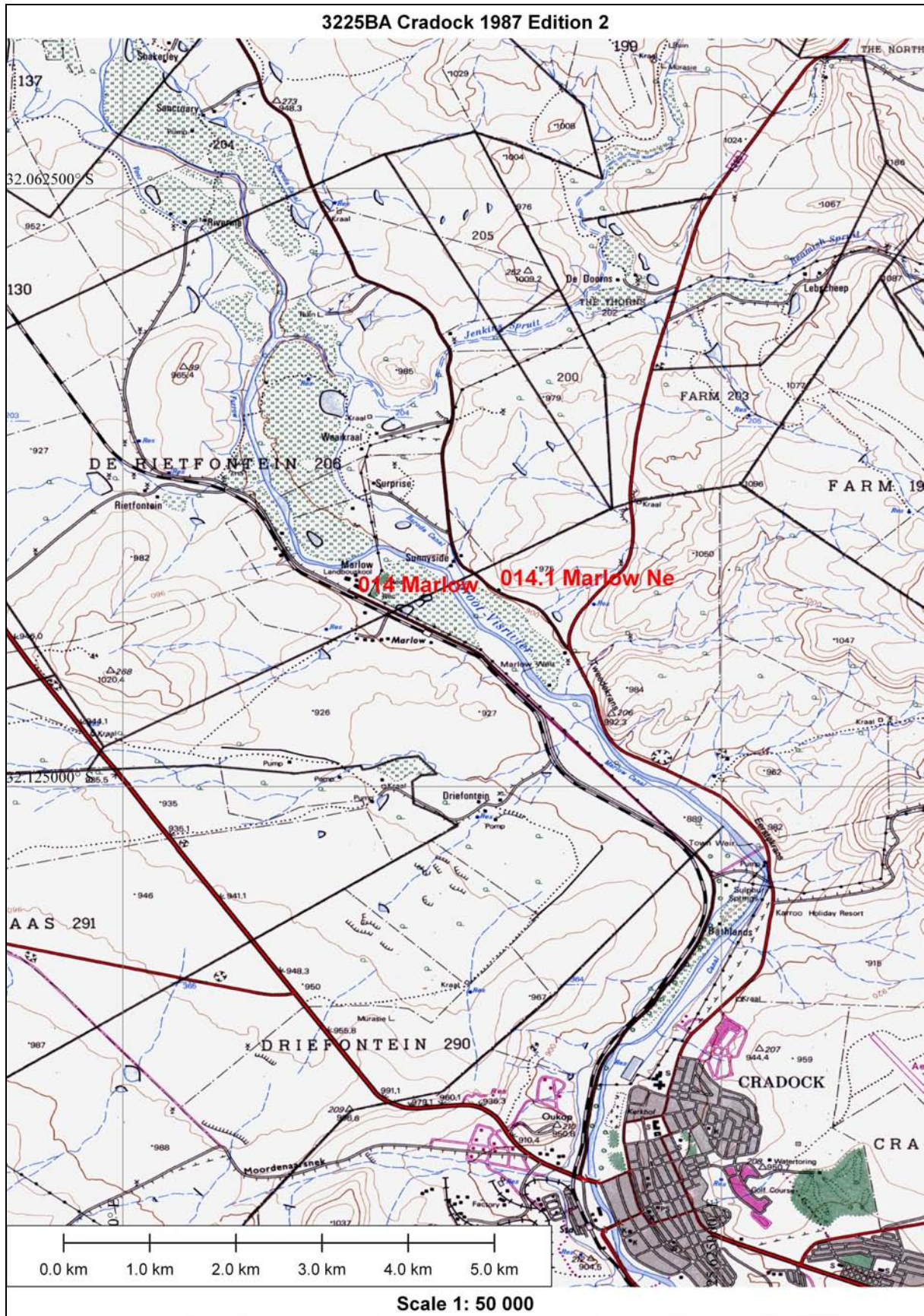


Figure 82: Marlow sites

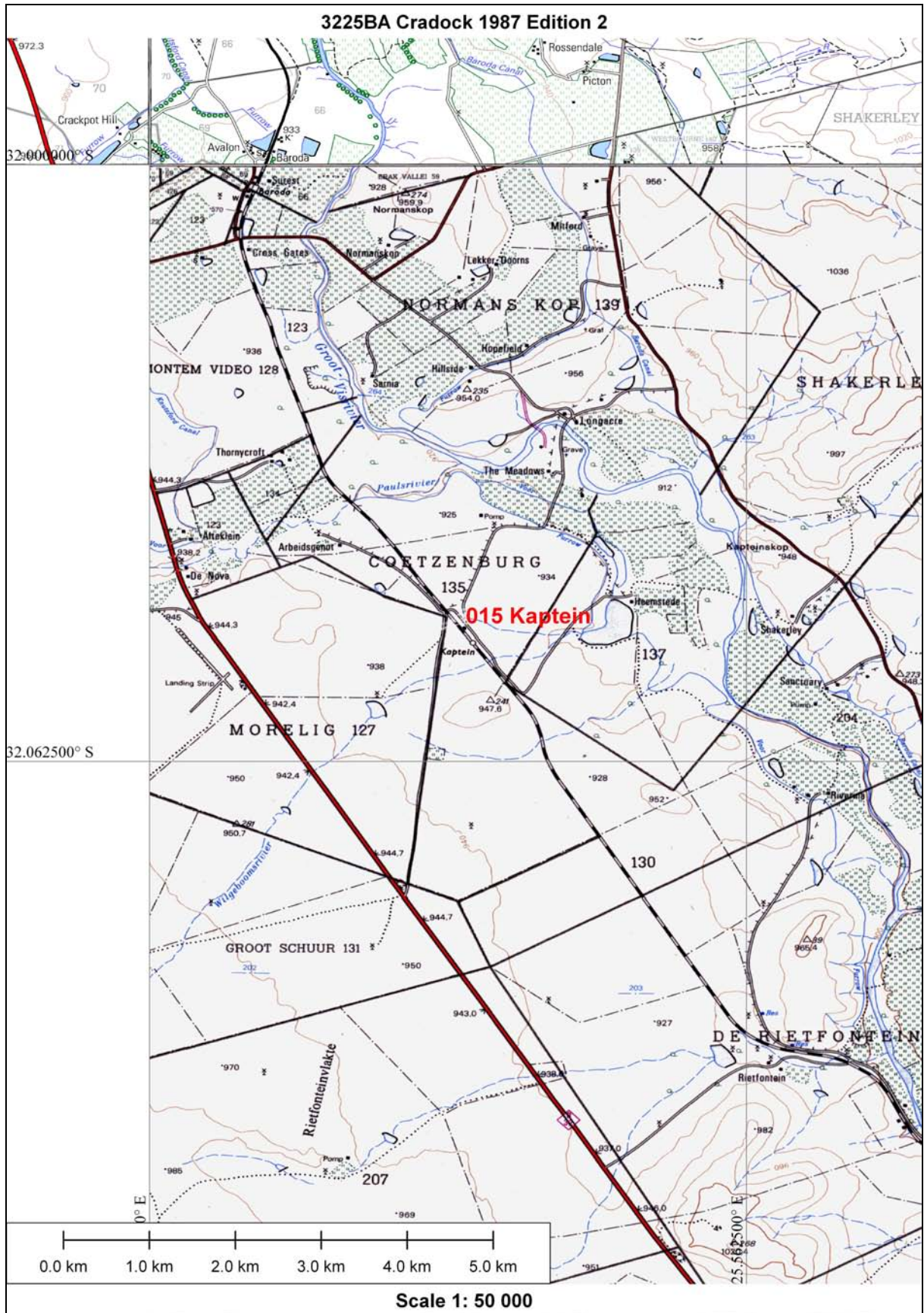


Figure 83: Kaptein location

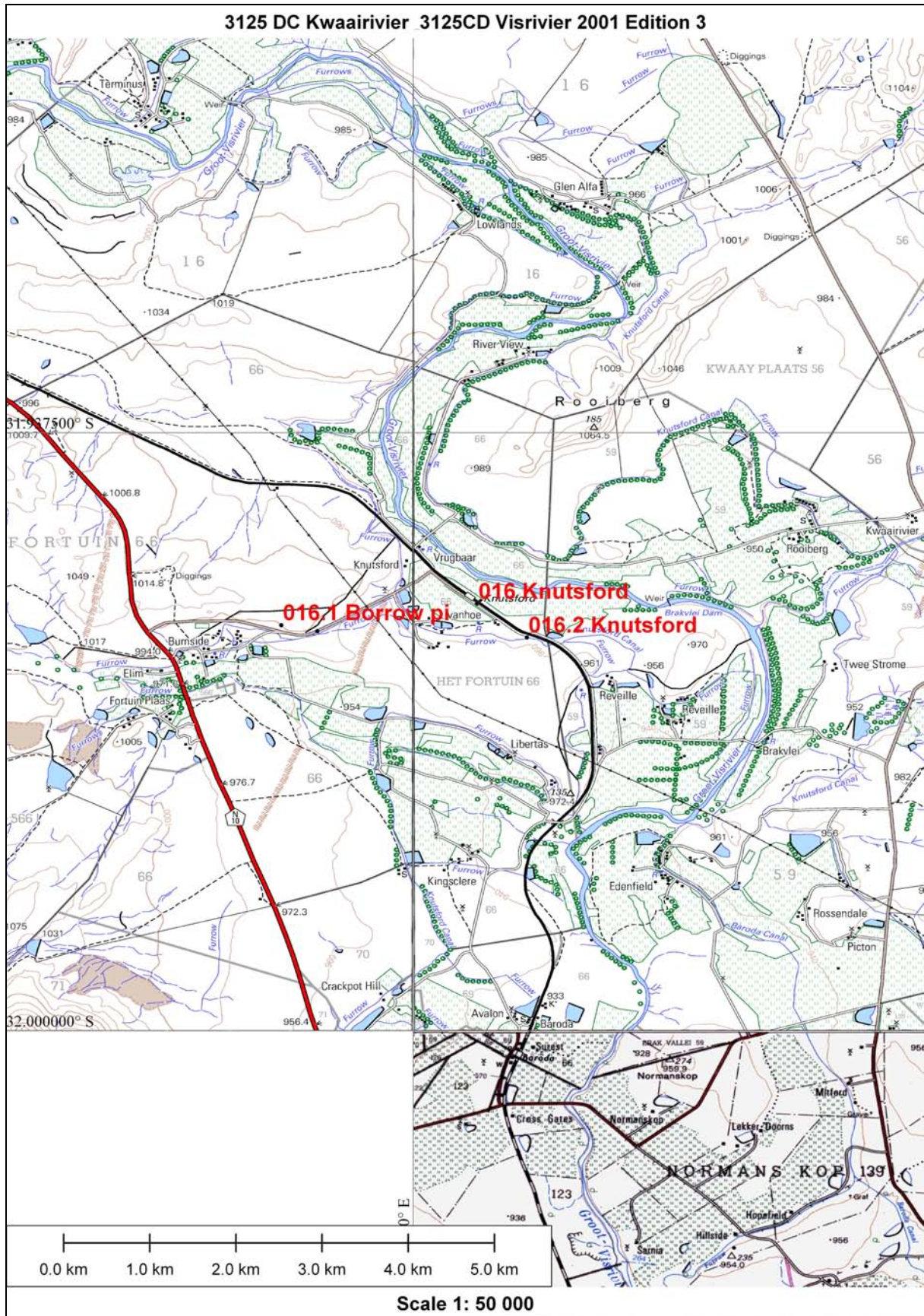


Figure 84: Knutsford sites

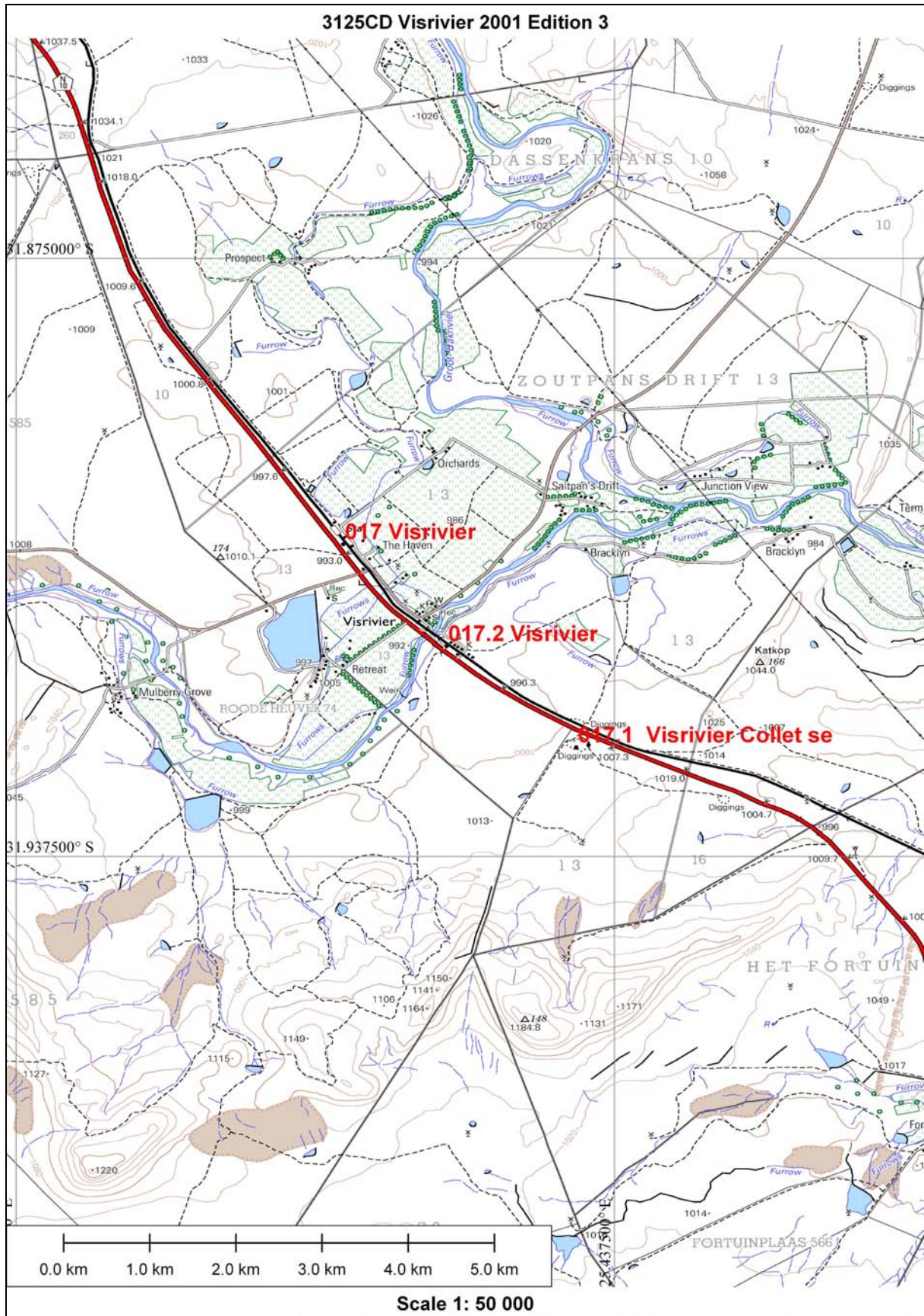


Figure 85: Visrivier sites

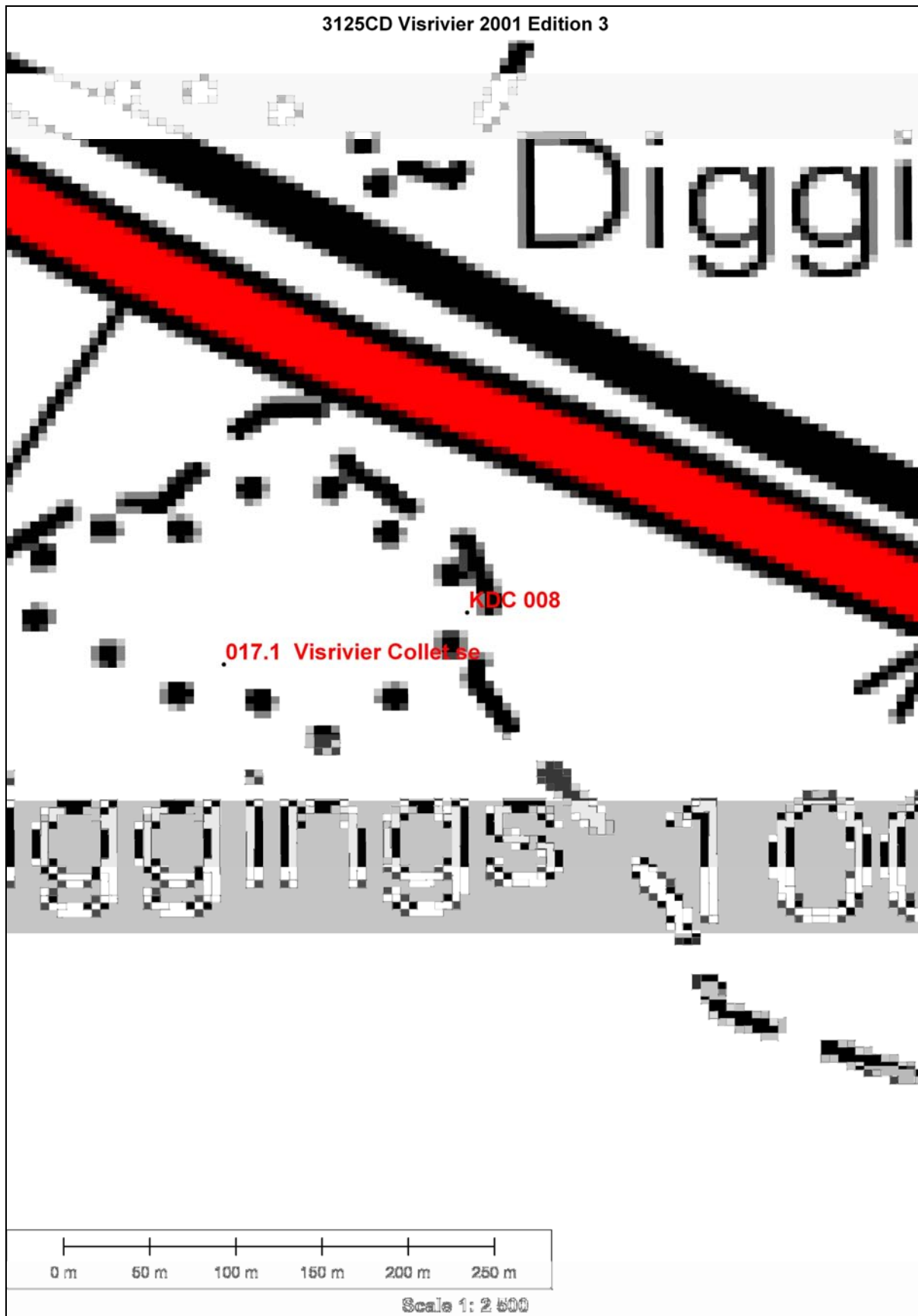


Figure 86: Detail of site KDC 008 at Collet se quarry

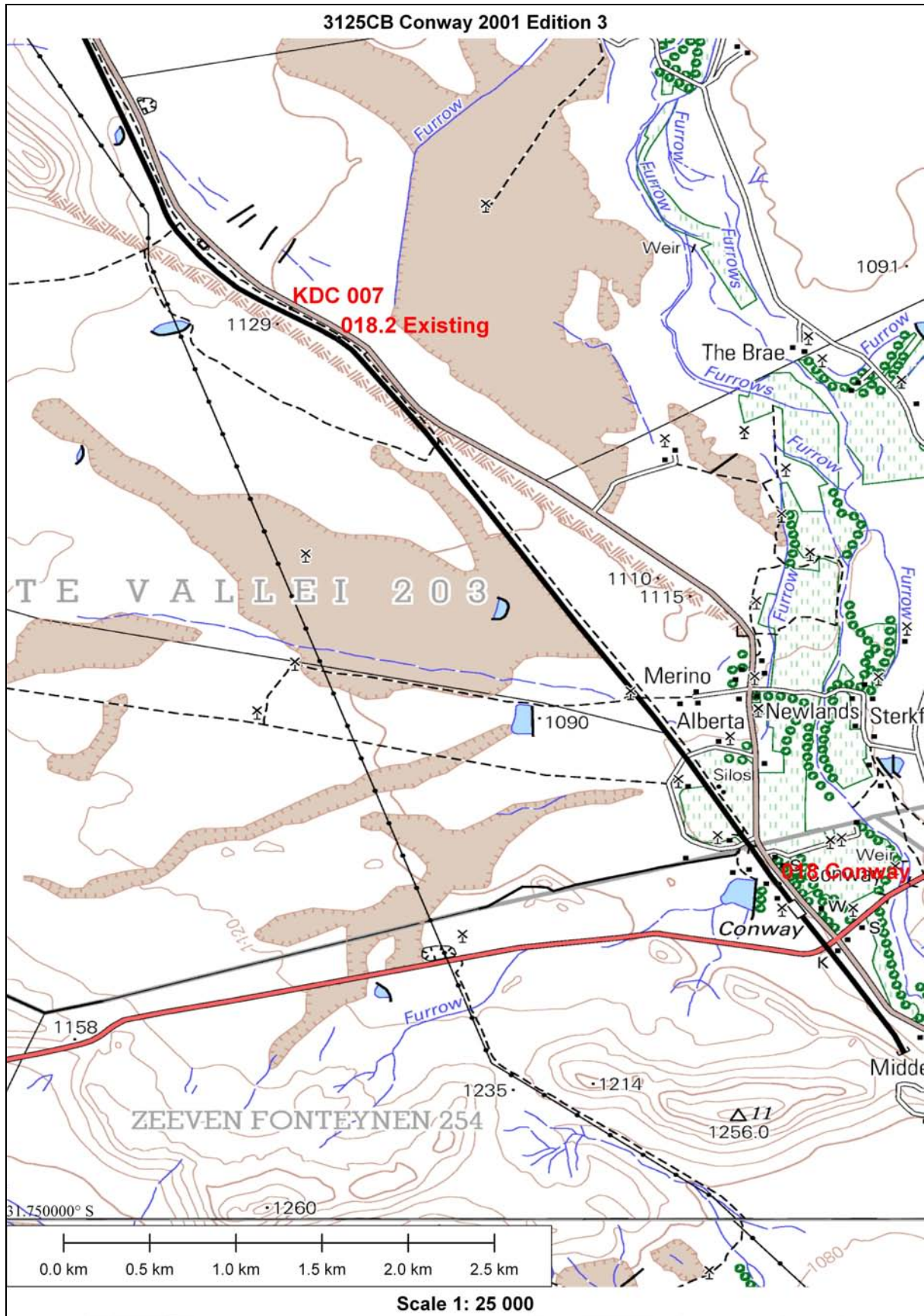


Figure 87: Conway sites and KDC 007 location

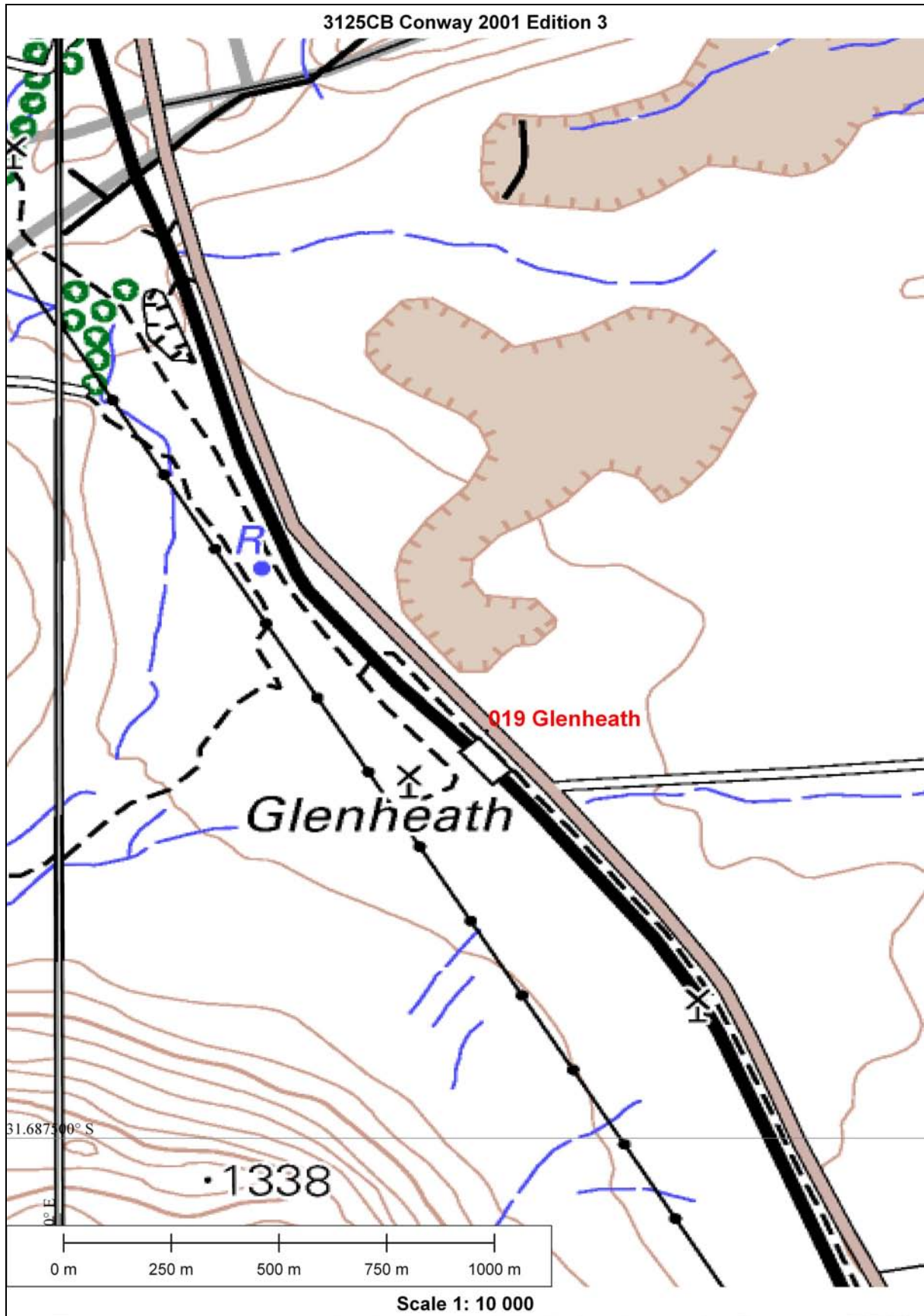


Figure 88: Glenheath location

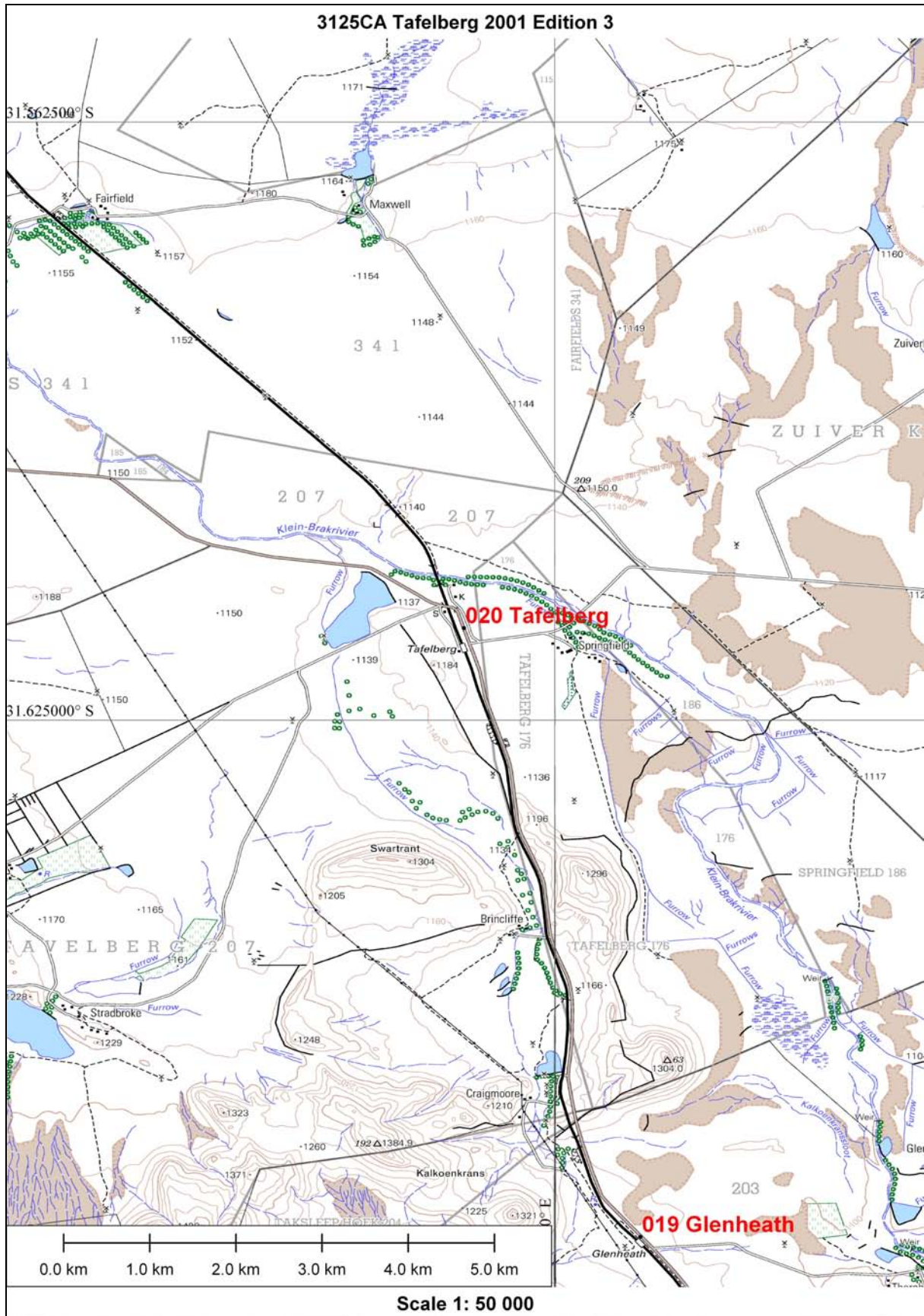


Figure 89: Tafelberg location

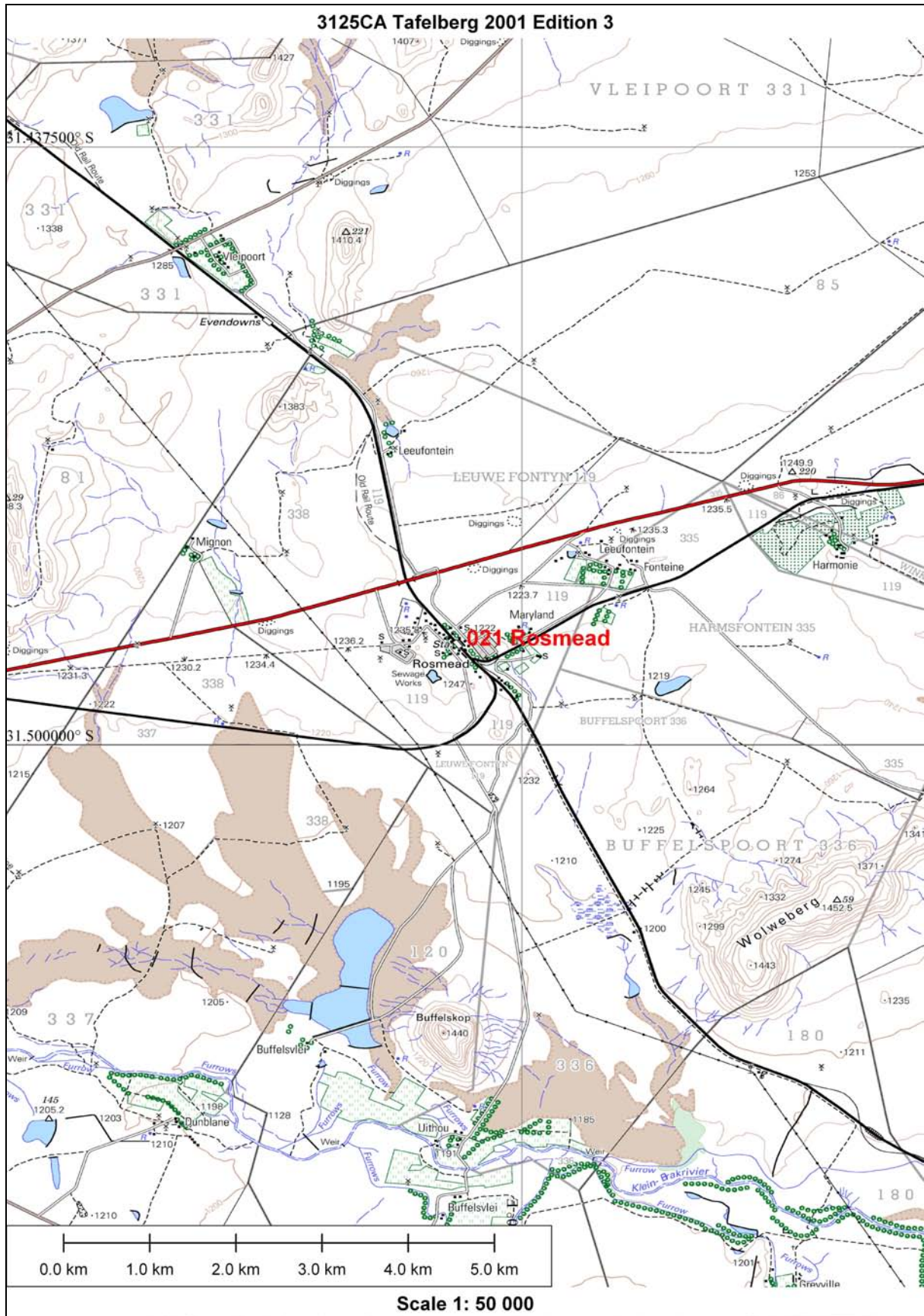


Figure 90: Rosmead location

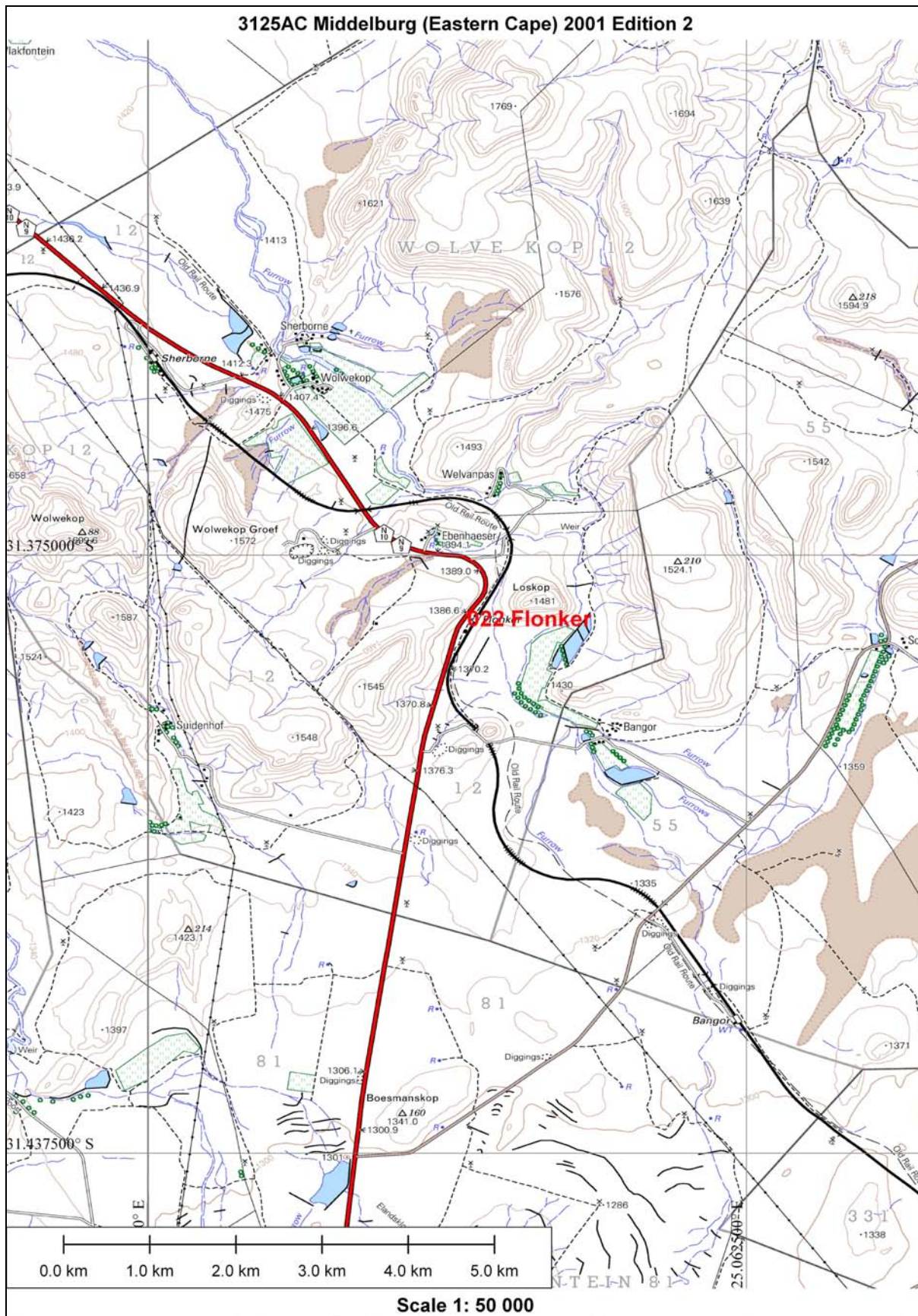


Figure 91: Flonker location

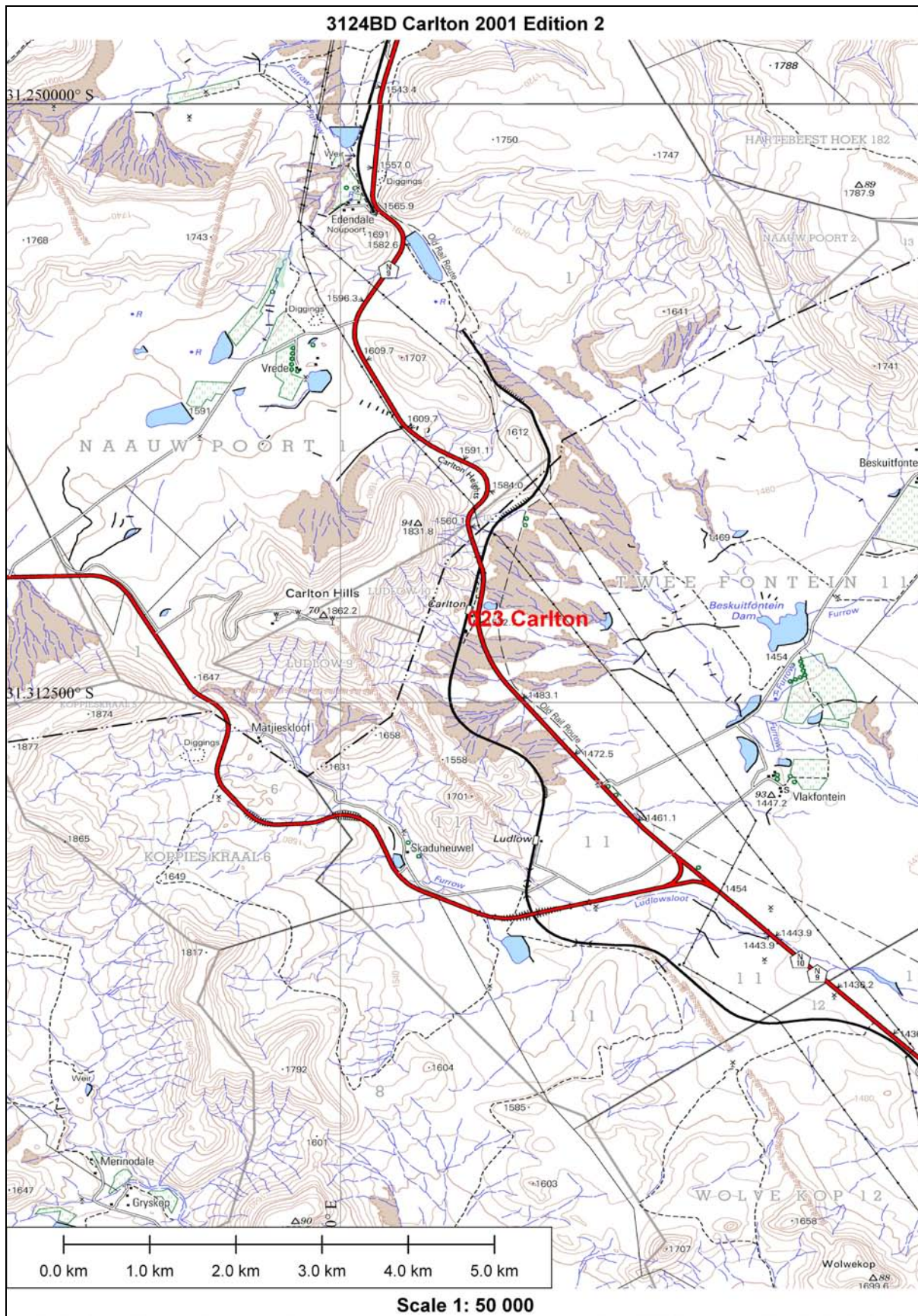


Figure 92: Carlton location

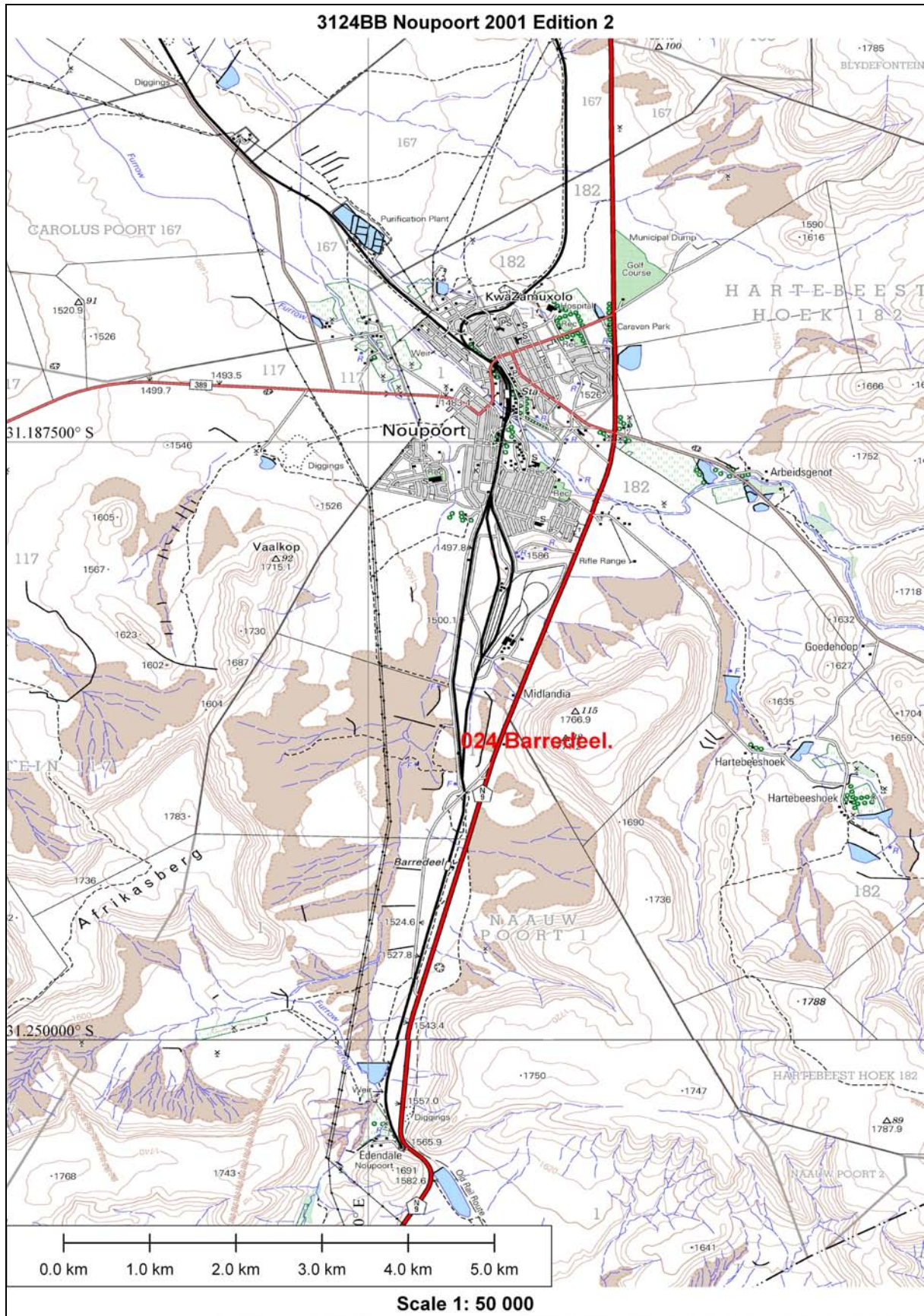


Figure 93: Barredeel

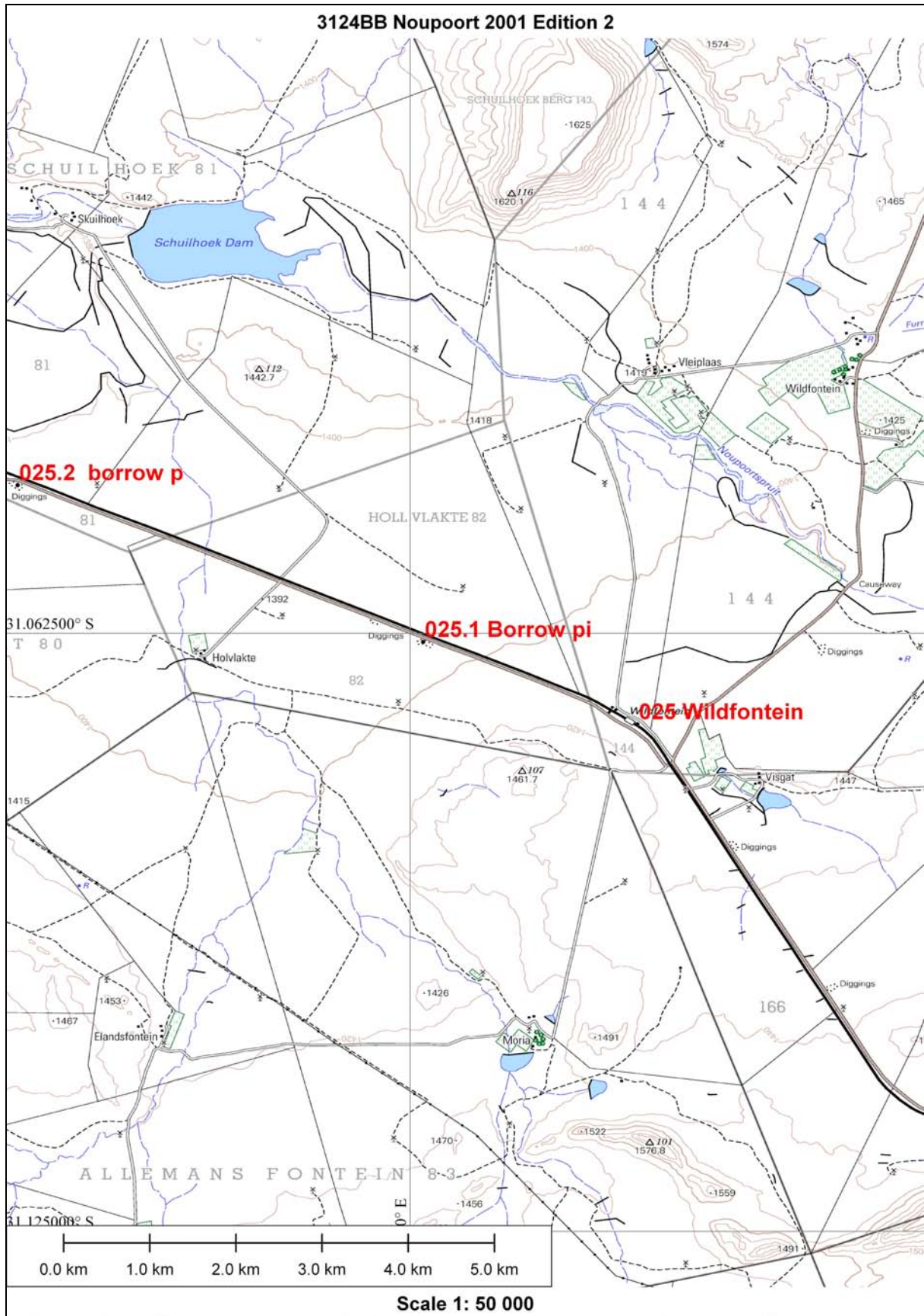


Figure 94: Wildfontein sites

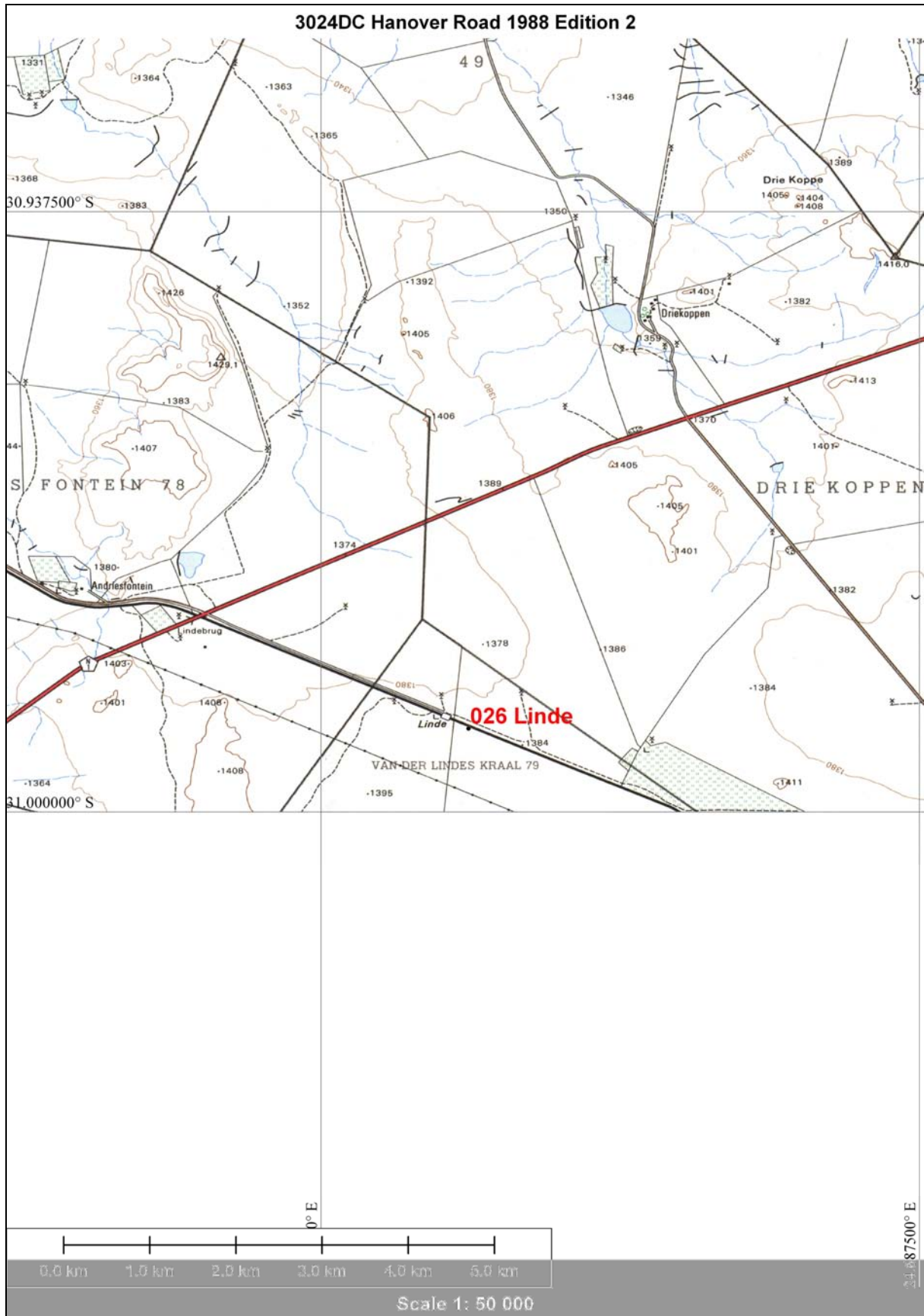


Figure 95: Linde location

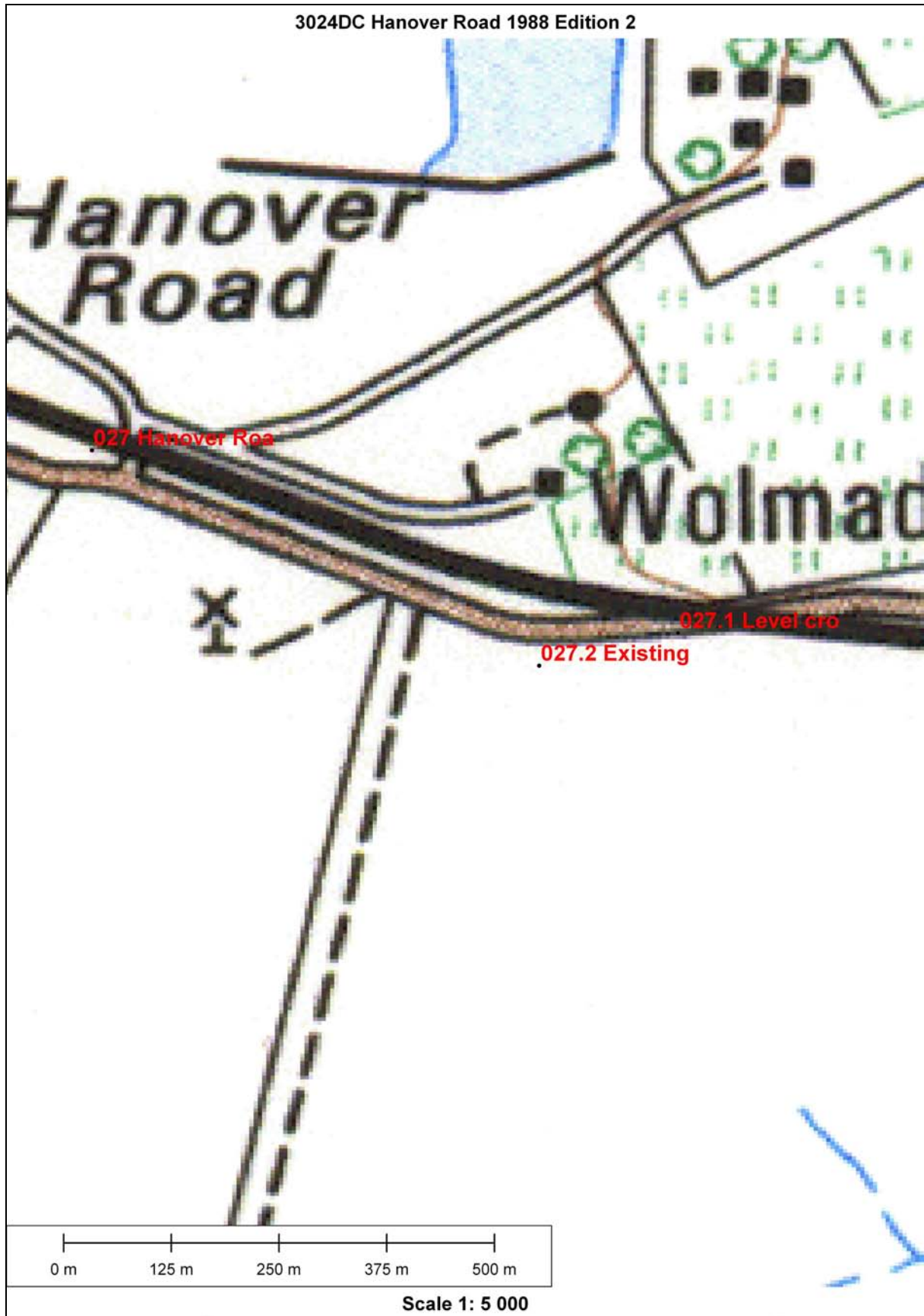


Figure 96: Hanover Road sites

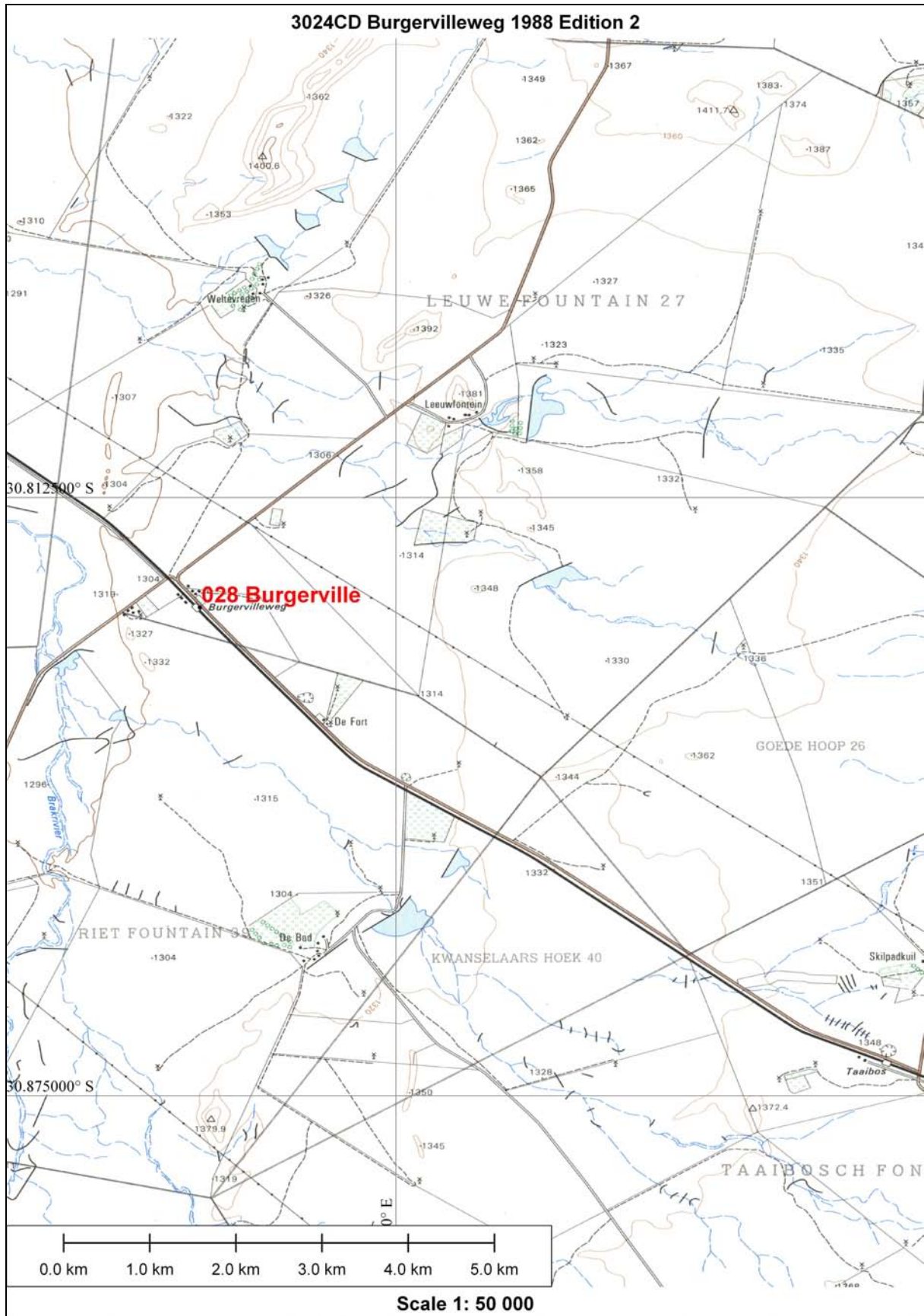


Figure 97: Burgervilleweg locations

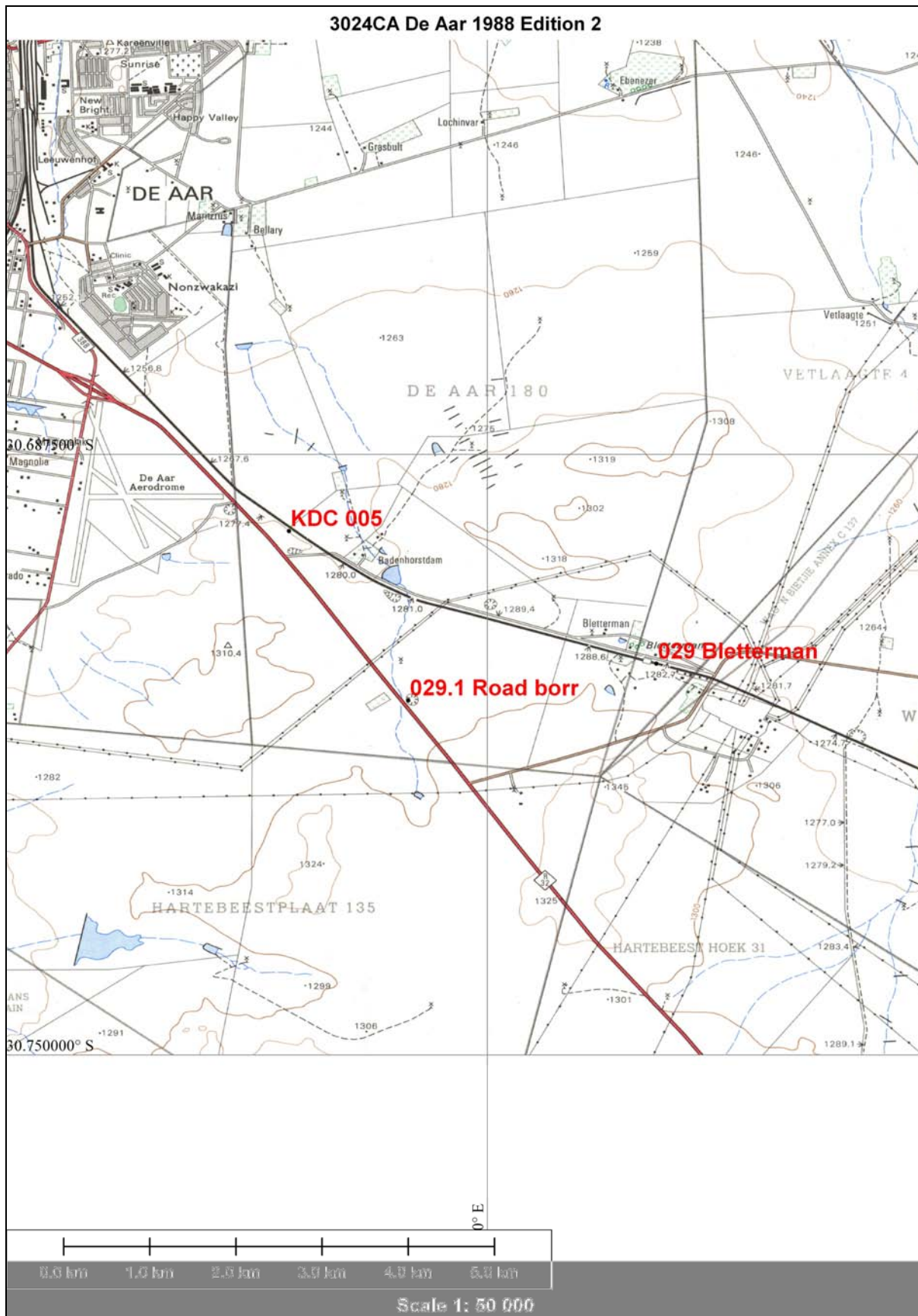


Figure 98: Bletterman and KDC 005 locations

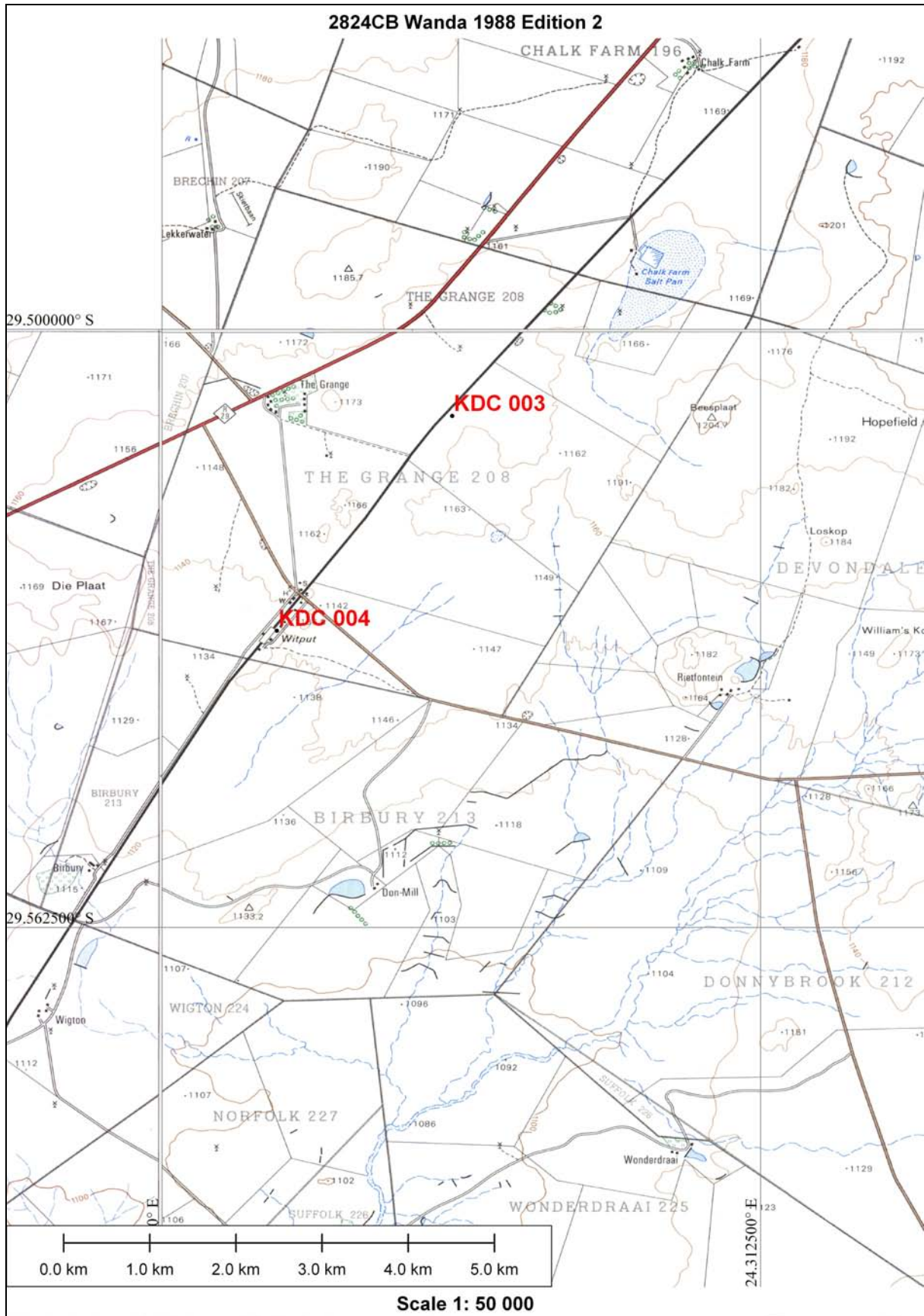


Figure 99: KDC 004 location

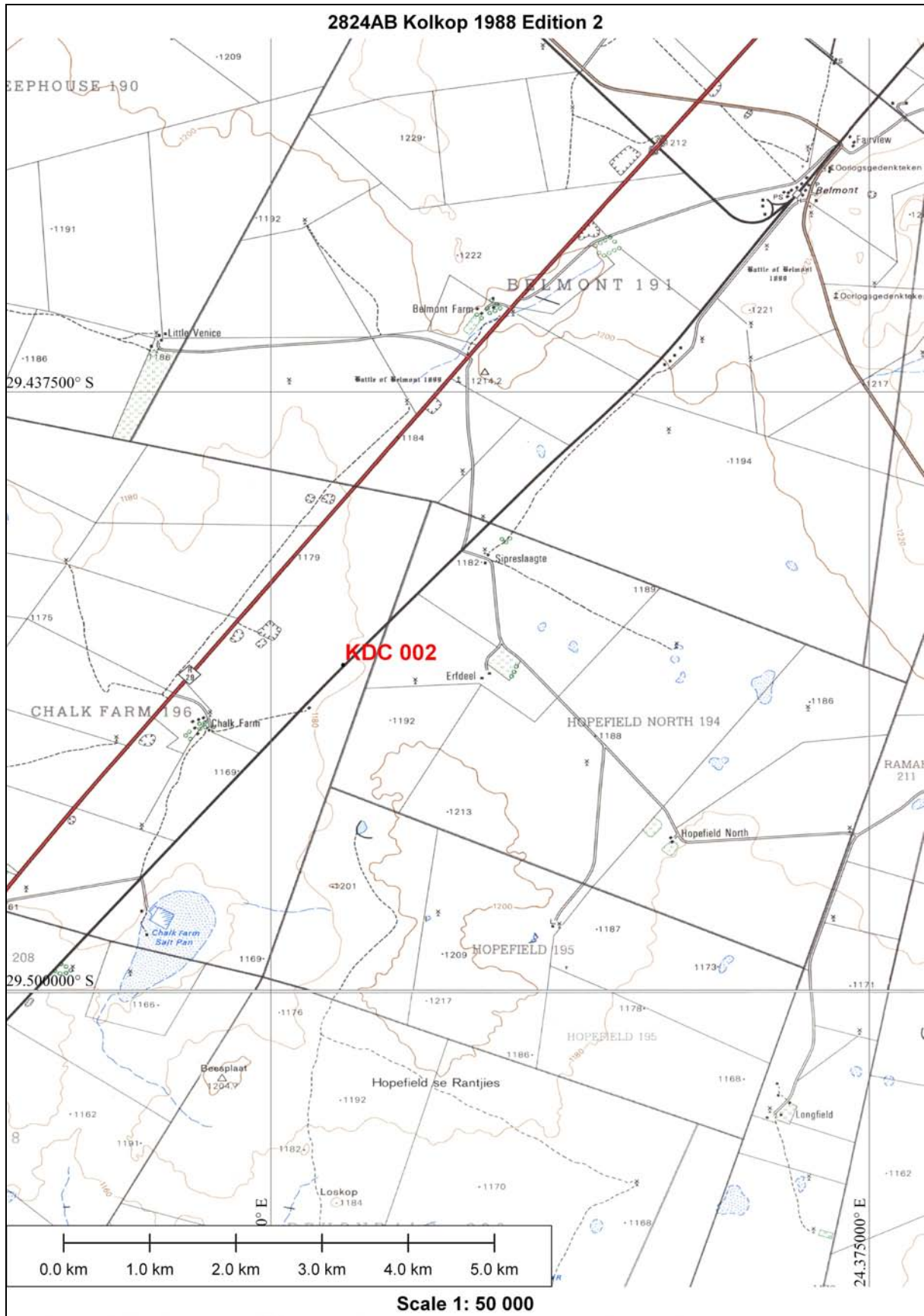


Figure 100: KDC 002 location

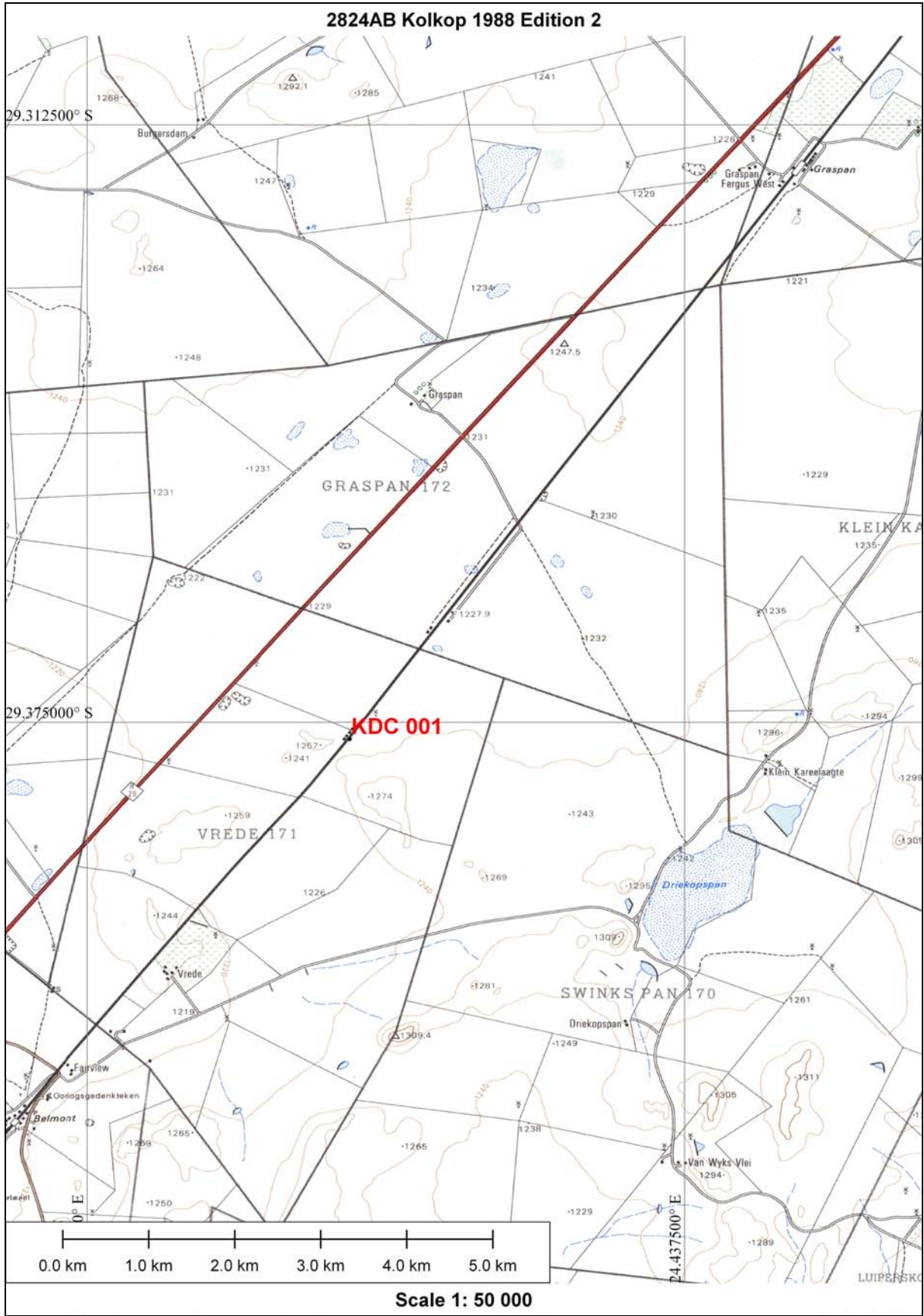


Figure 101: KDC 001 location

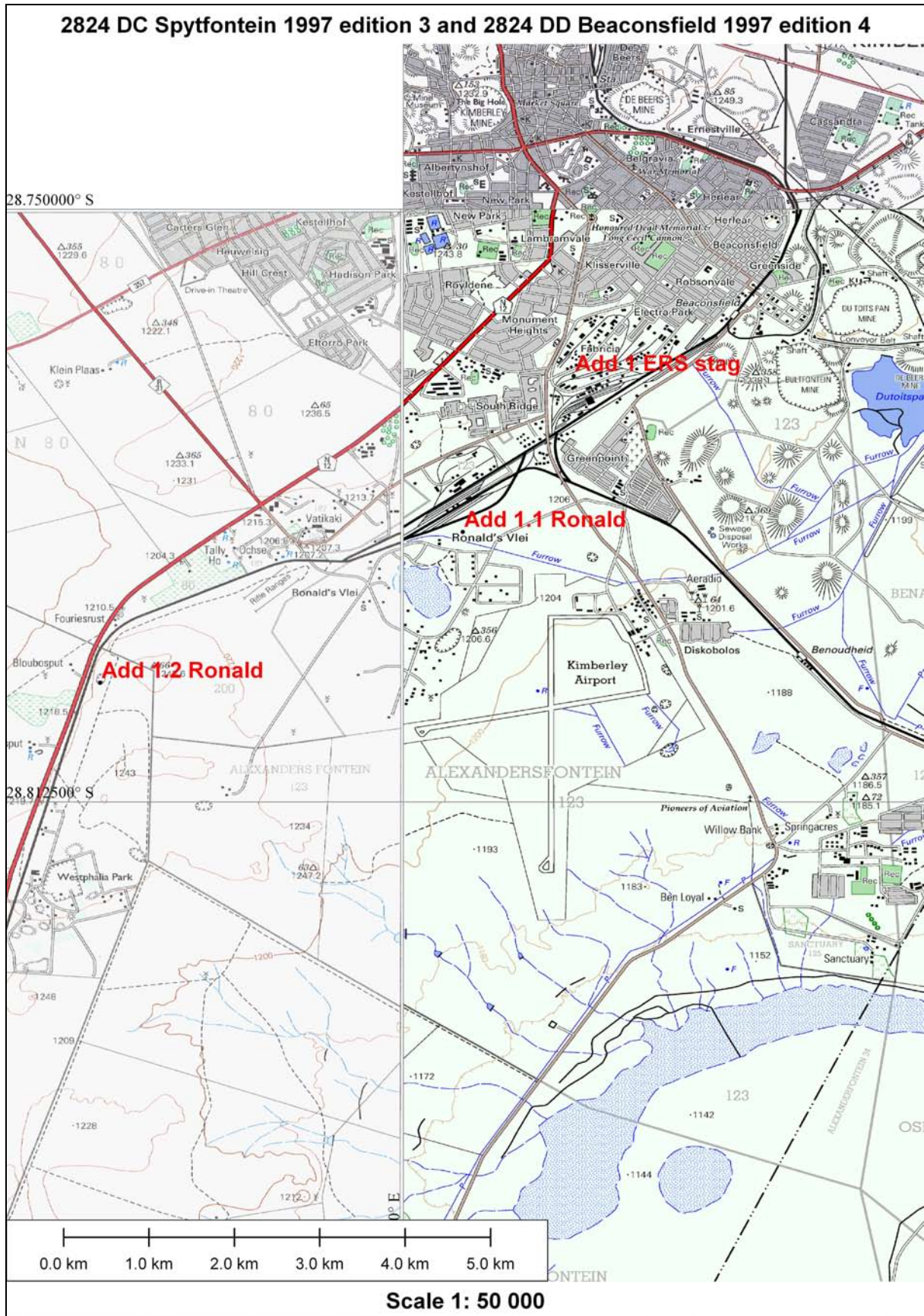


Figure 102: Ronald's Vlei sites

ANNEXURE E: ARCHIVAL RESEARCH FINAL REPORT



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Report on Historical and Heritage Related Themes for the Railway Lines From Hotazel to Port Elizabeth

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30 September 2008

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INTRODUCTION

This report seeks to give an overview of the following:

- to establish the age and history of the railway line between Hotazel in the Northern Cape to Port Elizabeth in the Eastern Cape,
- to highlight important historical, heritage, cultural environmental happenings, areas and structures in the vicinity of these railway lines,
- and to ascertain any other significant information which relates to these railway lines and their immediate regions.

2. HISTORIOGRAPHY AND METHODOLOGY

Archival sources were helpful in establishing the various ages of the railway lines, especially the lines constructed during the first half of the twentieth century in the Northern Cape. Secondary sources were very forthcoming in establishing the ages and the histories of the earlier Cape Colony railway lines. Various secondary sources relating to the history of towns and tourist attractions, routes, electronic information (tourism sites, electronic news papers and guides) as well as map books were used to compile a brief history of sites of historical, social and cultural importance in close proximity to the line. Google Earth maps were used to illustrate and point out some sites in close proximity to the the railway lines discussed. These maps are only meant to orientate the reader and should not be seen as a substitute to a proper topographical or atlas map. Various pictures are also included to give the reader a more vivid sense of the history of the topic discussed in this report.

It was decided to divide the history of the railway lines into various sections reflecting both the geographical region in which it is located and the various stations and or railway sidings or major towns on the rail route.

3. CONSTRUCTING A RAILWAY LINE

3.1. RAILWAY LINE FROM DE AAR TO KIMBERLEY

The De Aar railway junction was opened on 31 March 1884. The junction derives its name from a spring on the farm where the station is located.¹ It was first named Brounger Junction, after William George Brounger an engineer who played an important part in the development of the rail system in the Cape Colony.² The name was changed to De Aar after strong local pressure forced the authorities to rename the station.³

A shortage of labour during the building of the railway line led to a tribal war at De Aar in which thirty workers were killed after black labour was brought to the area from Natal and other regions of Southern Africa. It was thus decided to split the work force into two sections. One section had to work on continuing the line from De Aar to the Orange River and ultimately extending the line to Kimberley and the other section of the workforce had to extend the line to Naauwpoort (Noupoort) where it would ultimately link up with the line being built from Port Elizabeth to Colesberg.⁴



Illustration 1: The first train enters Kimberley in 1885. From: BURMAN, J., Early railways at the Cape

1 J. Burman, *Early railways at the Cape*, p. 62.

2 J. Burman, *Early railways at the Cape*, p. 16.

3 J. Burman, *Early railways at the Cape*, p. 62.

4 J. Burman, *Early railways at the Cape*, p. 62.

The extension of the line to Kimberley was as a direct result of the discovery of diamonds in that area in 1869. The line from De Aar to the Orange River was officially opened in November 1884.⁵ Due to a world wide economic slump the Cape Colony was in a recession and it was only after the British Government advanced £400 000 the line to Kimberley could be completed. The 121km track between the Orange River and Kimberley was opened on 28 November 1885.⁶

3.2. RAILWAY LINE FROM PORT ELIZABETH TO DE AAR

By the early 1870s, Port Elizabeth had become the major commercial and financial centre of the Cape Colony. The main exports from the town being wool, ostrich feathers and diamonds. The rapid expansion of the the interior market both at Kimberley and in the two Boer Republics, made the development of more affordable and hence more profitable trading routes to these regions a necessity.⁷ Road transport was becoming increasingly expensive and this directly provided the impetus for railway proposals.⁸

The subsequent development of railway routes into the interior, was at first marred by conflict between the various members of the Cape Parliament, who had conflicting notions and ideas as to whether railway development should be extended from the existing railway infrastructure in the surrounding vicinities of Cape Town or rather whether Port Elizabeth and East London should be linked in their own rights by rail to the interior.⁹

Nevertheless railway development in Port Elizabeth did not stagnate due to political and bureaucratic infighting and by the end of 1872 the railway line from Port Elizabeth reached Coega.¹⁰ In 1874 the Cape Government seemed to have put their regional and constituency quarrels at rest and it was decided to built railway lines to the interior from Cape Town, Port Elizabeth and East London. Port Elizabeth merchants succeeded in securing support for two trunk lines from the city. One was to go via Uithage to Graaf-Reinet and the other to Cradock.¹¹ The line to Cradock was built in various sections. In 1875 the line was extended from Goega to Commando Kraal (Addo). During 1876 extensive work was done on the extension of the track from Addo to Alicedale. A 33 metre structure, named Barley Bridge was completed and the link

5 J. Burman, *Early railways at the Cape*, p. 92.

6 J. Burman, *Early railways at the Cape*, p. 92.

7 A. Mabin, 'The rise and decline of Port Elizabeth 1850 – 1900' in *The International Journal of African*

8 A. Mabin, 'The rise and decline of Port Elizabeth 1850 – 1900' in *The International Journal of African*

9 A. Mabin, 'The rise and decline of Port Elizabeth 1850 – 1900' in *The International Journal of African*

10 J. Burman, *Early railways at the Cape*, p. 69.

11 A. Mabin, 'The rise and decline of Port Elizabeth 1850 – 1900' in *The International Journal of African*

Historical Studies, 19(2): 1986, p. 284.

Historical Studies, 19(2): 1986, p. 285.

Historical Studies, 19(2): 1986, pp. 285 – 286.

Historical Studies, 19(2): 1986, p. 287.

from the latter to the Alicedale Junction was opened on 25 July 1877.¹² The extension of the the line to Cradock was a tedious process as the the line ran close and parallel to the Bushmans River thus provision had to be made for natural drainage into the river.¹³ By March 1880 the railway line extended to Cookhouse and by November 1880 the line between Cookhouse and Cradock was opened.¹⁴

Cradock was supposed to be the end of the line from Port Elizabeth, but it was decided to extend the line further as to have a direct link of trade with the Orange Free State and the diamond fields.¹⁵ Already by 1878 diamonds passed the value of wool exports and trade with the Orange Freestate and Transvaal Republics increased significantly.¹⁶ However, another railway dispute emerged between the factions of parliament which again seemed to have own interest at hart rather than equal economic development for the Cape Colony as a whole. Nevertheless by 1881 the Railway Extension Act was passed and it sought to connect Port Elizabeth by rail to the proposed railway line between Cape Town and Kimberley near Hope Town. However, the recession of the 1880s and the fact that Port Elizabeth merchants failed to develop port facilities at Algoa Bay meant that there was a steady decline in overall rail trade to Port Elizabeth.¹⁷

Railway construction did nevertheless continue in leaps and bounds. On 2 April 1883 the line reached Rosmead. The extension of the line from the De Aar through Noupoort was completed in 1884.¹⁸ The only village on this route being Hanover with the station Hanover Road about 16 kilometres from the town. The completion of the line from De Aar to Rosmead thus linked De Aar with Port Elizabeth and in consequence Port Elizabeth was finally also linked with Kimberley and the northern regions with the completion of the railway line between De Aar and Kimberley in 1885. From archival records it could also be established that the South African government approved the electrification and equipment for electric traction of the railway line between Port Elizabeth and De Aar in May 1980.¹⁹

12 J. Burman, *Early railways at the Cape*, p. 69.

13 J. Burman, *Early railways at the Cape*, p. 72.

14 J. Burman, *Early railways at the Cape*, p. 73.

15 J. Burman, *Early railways at the Cape*, p. 73.

16 A. Mabin, 'The rise and decline of Port Elizabeth 1850 – 1900' in *The International Journal of African*

17 A. Mabin, 'The rise and decline of Port Elizabeth 1850 – 1900' in *The International Journal of African*

18 J. Burman, *Early railways at the Cape*, p. 74.

19 URU: 7847/490

Historical Studies, 19(2): 1986, p. 290.

Historical Studies, 19(2): 1986, p. 292.

3.3. RAILWAY LINE FROM KIMBERLEY TO HOTAZEL

The history of the construction of the railway line between Kimberley and Hotazel seems to have been as a direct result of the discovery of various minerals in this region. The line was built in various sections first from Kimberley to Barkly West and then from Barkly West to Koopmansfontein. The line was then extended from Koopmansfontein to Postmasburg and from Postmasburg to Lohathla. As more mining development was earmarked it necessitated the extension of the line from Lohathla to Sishen and at a later stage from Sishen to Hotazel.

It seems from archival documents that a proposal was submitted for the establishment of a railway line from Kimberley to Barkly West with its terminus at Borrelskop, a railway siding between Longlands and Delportshoop in 1922.²⁰ The line between Kimberley, Barkly West and Koopmansfontein thus had to be completed between 1922 and 1930 although the precise date on which the extension of the railway line was inaugurated could not be established from the records at the researchers disposal.

Regarding the extension of the line from Koopmansfontein to finally reach Hotazel the following information could be gathered. It would seem from archival records that there was an extensive consultation process regarding the extension of the railway line between Koopmansfontein and Postmasburg. Already in 1919 the Forestry Department was approached by the South African Railways on the viability of establishing a proposed railway line in this region from the town of Douglas to Postmasburg.²¹ At that stage the Forestry Department stated that it had no representations to make in the matter as it did not consider the area to be designated for afforestation.²²

However, by 1928 the Chief Conservator of Forests informed the South African Railways and Harbours that it favoured a possible railway route to Postmasburg via Koopmansfontein to Danielskuil and then through the Maremane Native Reserve to its terminus in Postmasburg. The Forestry Department stated that this route was the 'nearest to the Kathu Forest Reserve from which wood is disposed of to Postmasburg Mines, and where timber could be grown to serve the future needs of the area'.²³

20 PM: 1/2/51: PM13/2

21 FOR: 337: A1078/7

22 FOR: 337: A1078/7

23 FOR: 337: A1078/7

The Department of Native Affairs also had to be consulted in the process as a portion of the Groenwater Native Location was needed for the establishment of a railway siding. The Department of Native Affairs wanted to know whether the rights of the people living in the location would be infringed especially with regard to the cultivation of their lands and gardens. The Railways and Harbours Board subsequently stated that it would compensate people whose land would be affected by the measure and a total sum of £78.4.0 was to be shared among six people effected by this development.²⁴ The railway line between Koopmansfontein and Postmasburg was finally approved in 1929²⁵ and in 1930 the line was opened for rail traffic.²⁶ Subsequently after the economic depression of the early 1930s the railway line was extended from Postmasburg to Lohathla in 1936.²⁷

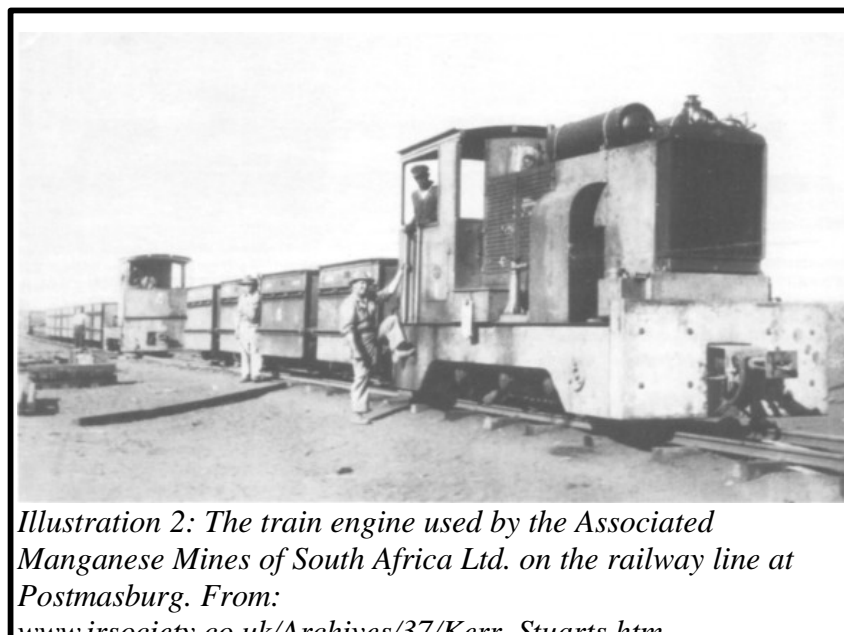


Illustration 2: The train engine used by the Associated Manganese Mines of South Africa Ltd. on the railway line at Postmasburg. From: www.irrassociaty.co.uk/Archives/27/Kerr_Stuarts.htm

The extension of the line from Lohathla to Sishen came about after the South African Iron and Steel Industrial Corporation indicated that a third furnace was to be constructed at Vanderbyl Park and would be in operation by 1953. This necessitated the obtaining of more iron-ore from its farm, Sishen.²⁸ Farmers in the vicinity of Kuruman also complained that they had difficulty in transporting their livestock to markets in the South African Republic and therefore suggested that the terminus of the proposed line to Sishen should rather be extended to Kathu. It was noted by the farmers that there was an abundance of water at Kathu whereas at Sishen water was a scarce commodity. The Railways and Harbour Board was, however, of the opinion that

24 NTS: 3872: 41309

25 URU: 1072/2351

26 P.H.R. Snyman, *Postmasburg, 'n eeu onder plaaslike bestuur 1893-1993*, p. 18.

27 AMPT PUBS: 6/435: UG 13-1952, p.1; L.G. Boardman, *The geology of the manganese and iron deposits north of Postmasburg*, p. 10.

28 AMPT PUBS: 6/435: UG 13-1952, p.1.

extending the line beyond Sishen would depend solely on further mineral mining development in the area.²⁹

The Board's report also indicated that the Associated Manganese Mines of South Africa would also benefit greatly by the line being extended from Lohathla to Sishen. This mining company had an extensive mining operation at Black Rock. The Associated Manganese Mines also requested that the line should rather be extended to Kathu. The Board however stated that the only way it would consider this proposal is if the mining company was willing to guarantee that it would carry any operating-losses by the Railways and Harbours Board in the administration of the railway line. The company declined to do so and it was thus decreed by the Board that the line would only be extended to Sishen. The Railways and Harbours Board approved the construction of this line in January 1952 at an estimated cost of £490,000. The South African parliament sanctioned the development in August 1952.³⁰

In 1959 the South African Manganese, Limited, company approached the relevant authorities for constructing a railway line from Sishen to Hotazel. The farm Hotazel, had high-grade manganese-ore and the mineral was also found on various neighbouring farms. It was also anticipated that the line would carry some 12 000 tons of asbestos. Other traffic carried by the proposed railway track in its first year of business were 16 000 head of cattle and 70 000 gallons of cream and approximately 10 500 passengers. One concern however was that there was a lack of water for the locomotives as the water at Hotazel was pumped several miles from the Kuruman River and solely for domestic usage. The Railways and Harbours Board thus recommended that water provision had to be made available at Sishen for the locomotives. The proposal was subsequently approved for the construction of the railway, which was to be built for an estimated cost of £1,232,045.³¹ The South African parliament sanctioned the development in May 1959.³² From archival records it could also be established that the South African government approved the electrification and equipment for electric traction of the railway line between Postmasburg and Hotazel in 1966.³³

29 URU: 2972/1055.

30 URU: 2972/1055.

31 AMPT PUBS: 6/523: UG39-1959, p. 3.

32 URU: 3932/1750.

33 URU: 5114/813

4. DISCUSSION OF IMPORTANT HERITAGE, CULTURAL, HISTORICAL AND ENVIRONMENTAL SITES

4.1 NORTHERN CAPE: KALAHARI REGION

a. HOTAZEL-WINCANTON

With its rich mineral deposits the Hotazel region forms an important part of South Africa's mining heritage. The open-query manganese ore mine, Samancor's Mamatwan sinter plant, as well as, the underground manganese ore mines at Wessel and Black Rock bears testimony to this.³⁴ The construction of the railway line to Hotazel in 1959 allowed for easy transportation of ore rich in manganese and iron.³⁵ The Nchwaning and Gloria mines, that were respectively established in 1971 and 1978, still produces ore that is carried by this line to Port Elizabeth.³⁶ Railway sidings on the Hotazel and Wincaton line include Witloop, Mamathawane and Vlermuislaagte.

b. WINCATON-SISHEN

In the vicinity of the Wincaton station and the Gamagara river is the town Dibeng that derives its name from the Tswana word 'first drinking place'. The town is also known as 'the sunflower town' due to the fact that the residents have to provide their own water and thus each property has its own windpump. The town has very strong Dutch Reformed Church roots and the congregations of Kuruman, Kathu and Olifantshoek seceded from the church on Dibeng.³⁷ Kathu, or the 'town under the trees' boasts the Gamagara Game Reserve and the Khai-Appel Pleasure Resort. Kathu was established because of ISCOR's interest in its rich iron deposits and it subsequently developed one of the largest open-cast iron mines in the world, the railway line being a vital part of sustaining the economic feasibility of the area.³⁸ The only railway siding on the Wincaton-Sishen line is called Emil.

³⁴ S. Newbould (Ed), The tourism blueprint reference guide to the nine provinces of South Africa, pp. 213-214.

³⁵ AMPT PUBS: 6/523: UG39-1959, p. 3; URU: 3932/1750.

³⁶ Assmang: Manganese: Nchwaning, <http://www.assmang.co.za/o/manganese/nchwaning.asp>, Access: 29/09/2008.

³⁷ S. Newbould (Ed), The tourism blueprint reference guide to the nine provinces of South Africa, p. 213; P.H.R. Snyman, *Postmasburg: 'n Eeu onder plaaslike bestuur, 1893-1993*, (Raad vir Geesteswetenskaplike navorsing, Pretoria, 1993), p. 82.

³⁸ S. Newbould (Ed), The tourism blueprint reference guide to the nine provinces of South Africa, p. 214.

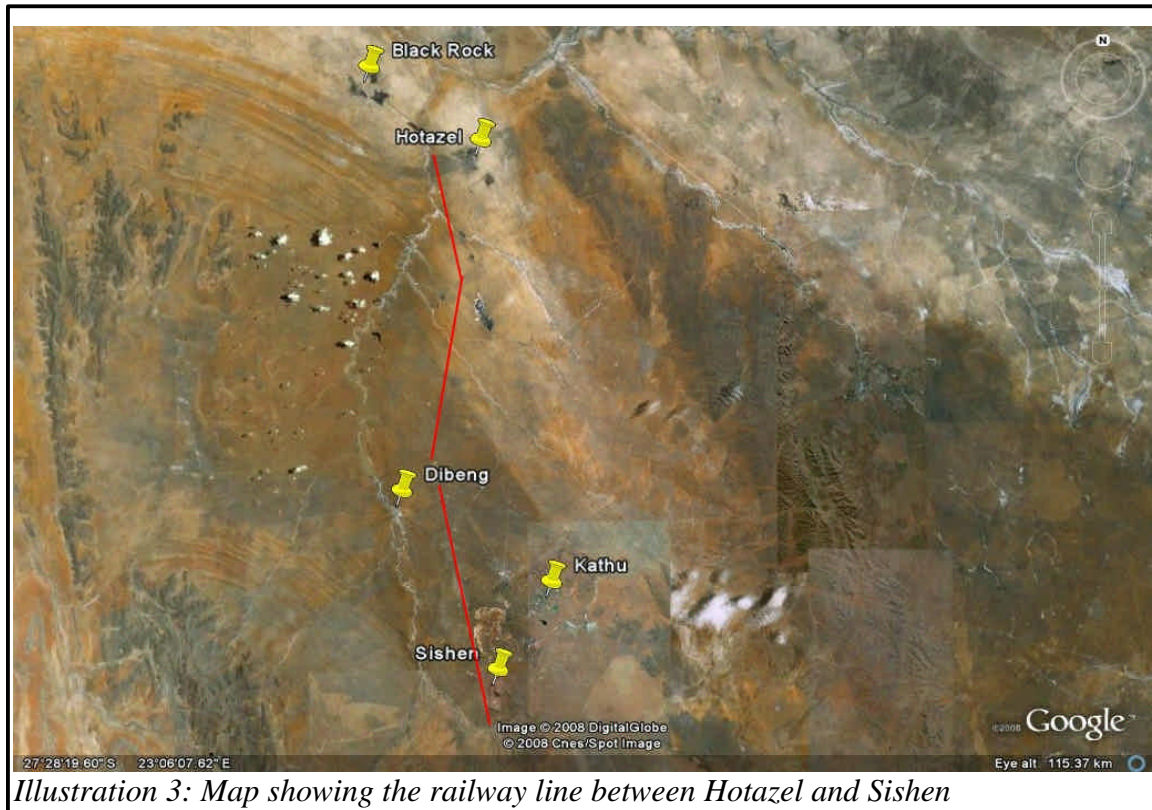


Illustration 3: Map showing the railway line between Hotazel and Sishen

c. SISHEN-LOHATLA

The railway line between Sishen and Lohatla links these two mining towns. In 1953 Sishen was founded by ISCOR and subsequently grew due to the industrial giant's and other companies, like "Springbok Industrial and Mineral Ventures" and "Griqualand Iron Ore"'s, interest in the area's rich iron and manganese deposits.³⁹ The mines dependency on efficient transportation underlined the necessity of the railway line, so much so that the South African Railways built roads to the line.⁴⁰ Pre-dating Sishen by 16 years the Lohatla mining town's mineral deposits served to help fulfil a high demand for weapons during the Second World War. Lothala today serves as a training ground for the South African military.⁴¹ Railway sidings between the Lohatla and Postmasburg line include Glosam, Mangalore and Beeshoek.

39 P.H.R. Snyman, *Postmasburg: 'n Eeu onder plaaslike bestuur, 1893-1993*, pp. 43-44.

40 P.H.R. Snyman, *Postmasburg: 'n Eeu onder plaaslike bestuur, 1893-1993*, p. 53.

41 P.H.R. Snyman, *Postmasburg: 'n Eeu onder plaaslike bestuur, 1893-1993*, p. 43.

4.2. NORTHERN CAPE: GREEN KALAHARI

a. POSTMASBURG-SILVER STREAMS

Postmasburg was originally named Blinkklip (Shinning stone) or by its Tswana name Tsantsibane referring to the glare caused by iron oxide in the sand.⁴² The original name is remembered on one of the railway sidings. The town was proclaimed during 1892 by a local farming community in honour of Reverend J. Postma a founding member of the reformed church and became a municipality in 1936.⁴³ The railway line between Postmasburg and Silver Streams winds past various historical sites. Archaeological findings here indicate that the Khoisan people mined specularite, a soft glittering form of haematite, on Blinkklipkop from as early as AD 700. It is believed that this specularite was a highly valued commodity in pre-colonial times as it was used as a cosmetic and in ritual purposes.⁴⁴ Further north east one finds, in close vicinity of the railway line, the town Danielskuil that was first referred to in missionary records in 1820. The name derives from a natural crater in a limestone formation which reminds of the Biblical story of Daniel and the lions' den. Legend has it that the Griqua people used the sink-hole as a prison for prisoners, but no historical prove of this can be found.⁴⁵ A dry-stone-walled circular blockhouse erected by the British garrison under Captain George Cullum bears testimony to its rich Anglo-Boer War history. Danielskuil, Postmasburg and smaller towns on the line like Lime Acres, prospers on mining and has deposits of limestone and diamonds that are still transported at present by rail.⁴⁶ Railway sidings on the Potmasburg-Silverstreams-Koopmansfontein line include Blinkklip, Groenwater, Clifton and Lime Acres; Silver Streams, Trewil and Plateau.

42 S. Newbould (Ed), The tourism blueprint reference guide to the nine provinces of South Africa, p. <http://www.routes.co.za/nc/postmasburg/index.html>, Access: 29/09/2008.

43 Postmasburg, <http://www.routes.co.za/nc/postmasburg/index.html>, Access: 29/09/2008.

44 S. Newbould (Ed), The tourism blueprint reference guide to the nine provinces of South Africa, p.

45 S. Newbould (Ed), The tourism blueprint reference guide to the nine provinces of South Africa, p.

46 D. Richardson, *Historical sites of South Africa*, (Struik, Cape Town, 2001), p. 50; S. Newbould (Ed), Africa, p. 206.

210; Postmasburg,

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The tourism blueprint reference guide to the nine provinces of South

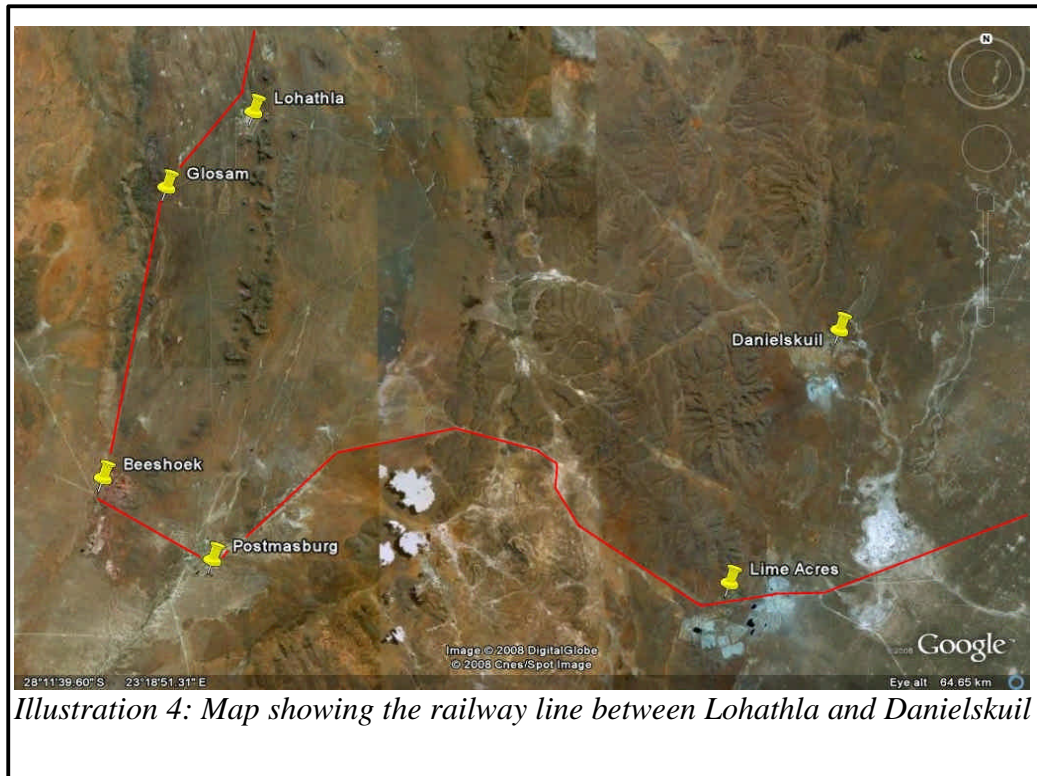


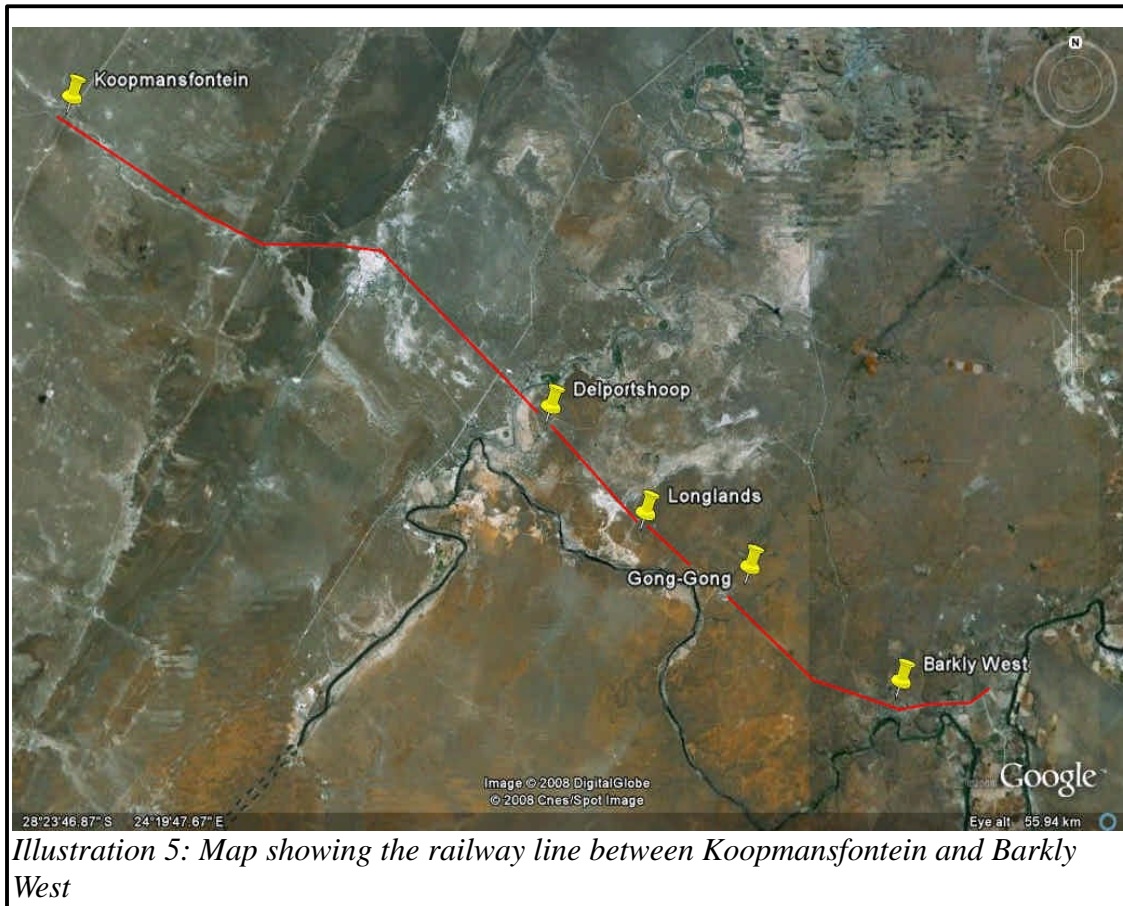
Illustration 4: Map showing the railway line between Lohathla and Danielskuil

b. KOOPMANSFONTEIN-DELPORSHOOP-LONGLANDS

The railway line between Koopmansfontein, Delportshoop and Longlands winds through an area rich in mineral deposits. While the small town Koopmansfontein is mainly regarded as a farming area, Delportshoop is rich in diamonds, evident in the Sonop Diamond Diggings that is located in the vicinity and the town also boasts the Vaalbos National Park.⁴⁷ Longlands is also a small alluvial mining town.⁴⁸ Railway sidings on the Koopmansfontein-Delportshoop-Longlands line include Nooibos, Kneukel, Ghaap, Ulce, Longlands and Gong-Gong.

⁴⁷ Northern Cape: Delportshoop, http://www.northerncape.org.za/getting_around/towns/Delportshoop, Access: 29/09/2008; I. Modiba, "Diamond mine turns deadly", *Diamond fields advertiser*, 12/12/2007, p. 3.

⁴⁸ N. Visagie, "Town in shock after murder", *Diamond fields advertiser*, 27/06/2008, p. 4.



4. 3. NORTHERN CAPE: DIAMOND FIELDS

a. BARKLY WEST-KENILWORTH

Originally established in 1869 as a camp for alluvial diamond diggers the town Klipdrift was renamed Barkly West in the early 1870s after the Cape Governor Sir Henry Barkly during which time it became part of the Crown colony of Griqualand West. The town was occupied by Boer forces for four months who temporarily renamed it Nieuw Boshof. The town gained municipality status in 1881.⁴⁹ Historical sites in the area include architectural treasures like the Dutch Reformed Church, Old Magistrate Court and St Mary's Church that was built respectively in 1906, 1897 and 1869. In close proximity of the railway line is the late nineteenth century bridge and toll house over the Vaal river that was designed by James Ford, as well as, the Canteen Kopje Nature reserve that, not only revealed Early Stone Age implements but also have alluvial-diamond bearing gravels.⁵⁰ Warrenton and Windsorton, both towns which are still actively mining diamonds, also originated at the end of the nineteenth century. While Windsorton,

49 D. Richardson, *Historical sites of South Africa*, p. 46; Northern Cape: Barkly West, Northern Cape: Delportshoop, http://www.northerncape.org.za/getting_around/towns/Barkly%20West/. Access: 29/09/2008; S. Newbould (Ed), *The tourism blueprint reference guide to the nine provinces of South Africa*, p. 191

50 D. Richardson, *Historical sites of South Africa*, p. 46.

originally Hebron, was first a mission station Warrenton was bought to produce vegetables for the miners.⁵¹ Railway sidings on the Barkly West-Kenilworth line includes Weir and Rivermead

b. KIMBERLEY-DE AAR

Kimberley developed from the diamond mining camps that was previously known as Vooruitzicht, Colesberg Kopje and De Beers New Rush. It was named Kimberley in 1873 in honour of the Earl of Kimberley and gained municipal and city status respectively in 1877 and 1912.⁵² Kimberley has a rich heritage and numerous historical sites illustrating South Africa's history. Various monuments and memorials, historical churches, schools, magistrate and commercial buildings are also visible from the railway line reflecting not only on the diversified history of the town but also on the prominence that the rail had on all aspects of life. The Cape Police Memorial in Belgravia was erected in memory of the Cape Colony policemen who died during the Anglo-Boer War 1899-1902. The figure of the Cape policeman stands on the pillars facing the Carter's Ridge battlefield where several Cape Police officers lost their lives during the siege. The monument was constructed entirely of red and grey granite and was purchased from Messrs MacDonald, Monumental Works, Aberdeen, Scotland. Kimberley's bronze monument of Queen Victoria stands opposite the Oppenheimer Gardens. Resplendent on her State chair, and clad in her state robes, Queen Victoria holds a sceptre in one hand and orb in the other. It was unveiled on 18 May 1906 by Sir Walter Hely-Hutchinson.

51 S. Newbould (Ed), *The tourism blueprint reference guide to the nine provinces of South Africa*, p. 192

52 D. Richardson, *Historical sites of South Africa*, p. 52.

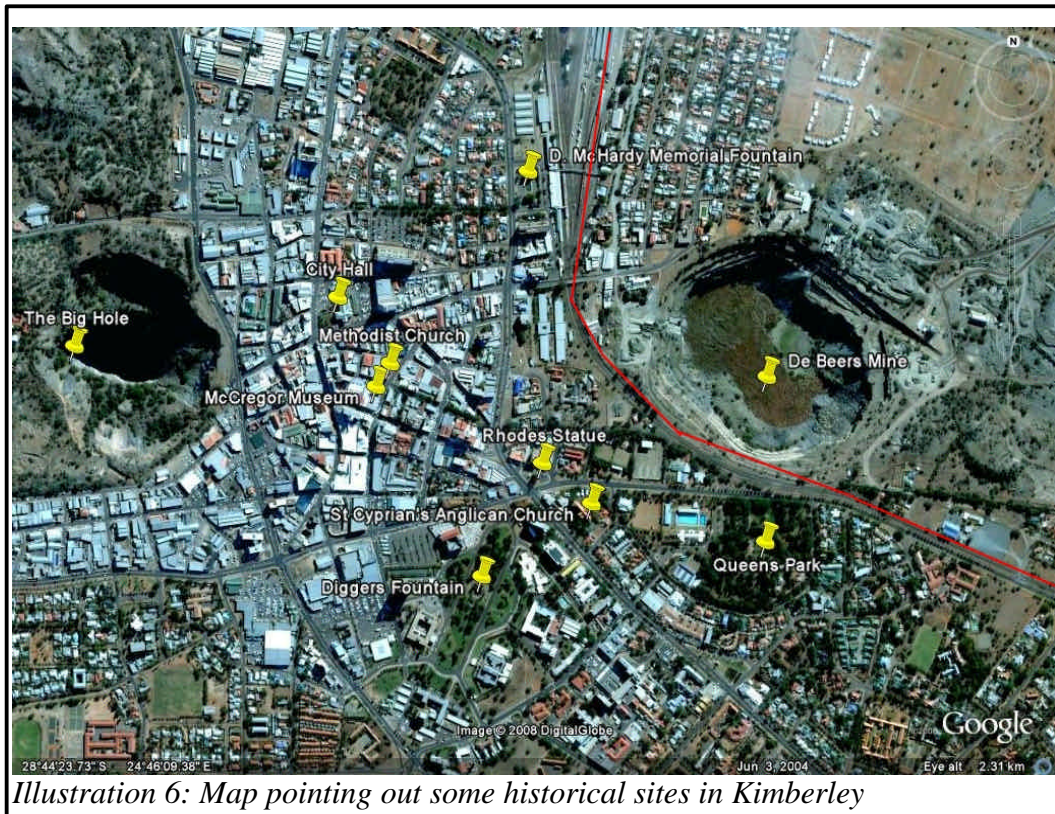


Illustration 6: Map pointing out some historical sites in Kimberley

The memorial to the South African Police of the Northern Cape was unveiled on 15 October 1988, as a tribute to 75 years “of excellent service” between 1913 and 1988. The Don Mchardy memorial fountain in front of the railway station was unveiled in 1965, in the presence of Harry Oppenheimer. The fountain had been jointly erected by the De Beers Company and the Kimberley City Council in memory of Don McHardy, a former General Manager and Director of De Beers who had done so much for the welfare of his fellow Kimberley citizens. McHardy died in 1963. The imposing monument known as The Honoured Dead Memorial remembers the British soldiers who gave their lives in defending Kimberley from the Boers during the siege that lasted 124 days. It was unveiled on 28 November 1904, the fifth anniversary of the second battle of Carter’s Ridge and was designed by Sir Herbert Baker. Twenty-seven British soldiers lie buried within the tomb, which was situated on the (then) highest point of Kimberley. Other statues also include the Rhodes memorial which celebrates Rhodes influence on South Africa's history.⁵³ Some architectural landmarks in Kimberley include: the Dutch Reformed Mother Church (1882), the St Alban's Church (1886), Trinity Methodist Church (1906) Kimberley Club building, Kimberley Boys (1913) and Girls (1913) High schools, Africana library (1887), City hall and Market square (1871) and the Old Court building (1876). A detailed history of

53 Kimberley: Tourism and recreation: Kimberley: Historical: Monuments and memorials, 30/09/2008.
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<http://www.kimberley.co.za/tourism/historical/monumentsandmemorials/>. Access:

Kimberley and its development is also on display at the Mine museum and the McGregor museum.⁵⁴

The railway line between Kimberley and De Aar has a rich history. This history dates mainly to the Anglo-Boer War (1899 – 1902) and as explained by historian Jose Burman this war 'really marks the high point in the story of the railways in South Africa'.⁵⁵ The fact of the matter was that the only efficient transport and communication systems in South Africa at the time were the railways and the telegraphic connection associated with it. Thus in one sense the entire war revolved around control of the railway lines.⁵⁶ Various battles were fought along this railway line between British and Boer forces.

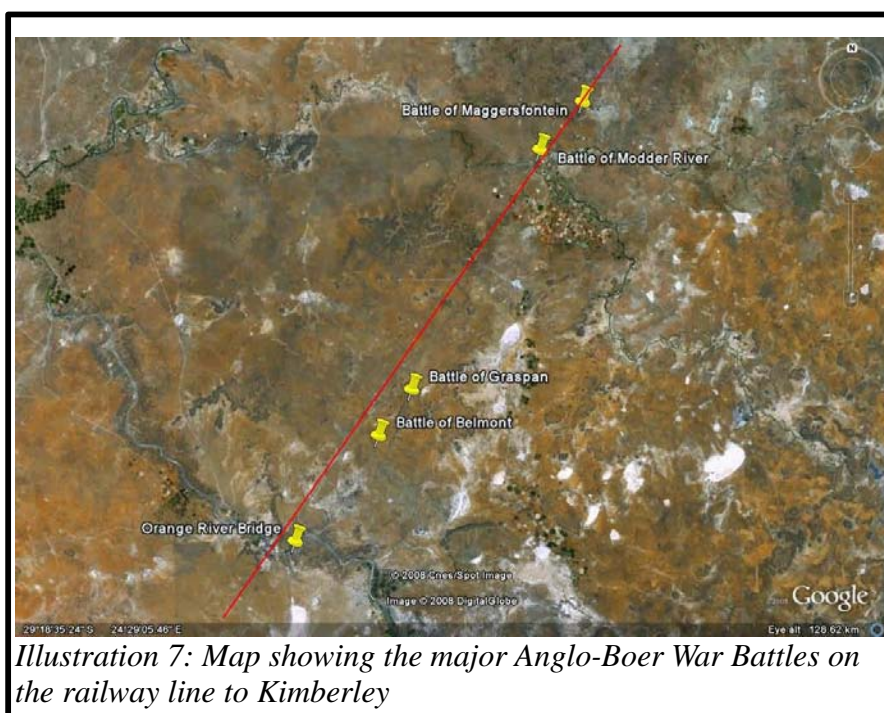


Illustration 7: Map showing the major Anglo-Boer War Battles on the railway line to Kimberley

After the two Boer republics declared war on Britain on 11 October 1899 the Boer forces immediately commenced with an offensive which saw Boer troops moving into the Cape and Natal Colonies.⁵⁷ The main purpose of the offensive on the western front was to besiege Kimberley and to take control of the railway line between the Orange River and Kimberley. Thus on 14 October 1899 General Koos De la Rey cut off the railway line to Kimberley and the Boers took control of the railway line up to the Orange River. Due to successful defence of the Orange River Bridge by the British the Boer endeavour came to halt at this section of the line.⁵⁸ Taking

54 D. Richardson, *Historical sites of South Africa*, pp. 53-60

55 J. Burman, *Early railways at the Cape*, p. 141.

56 J. Burman, *Early railways at the Cape*, p. 141.

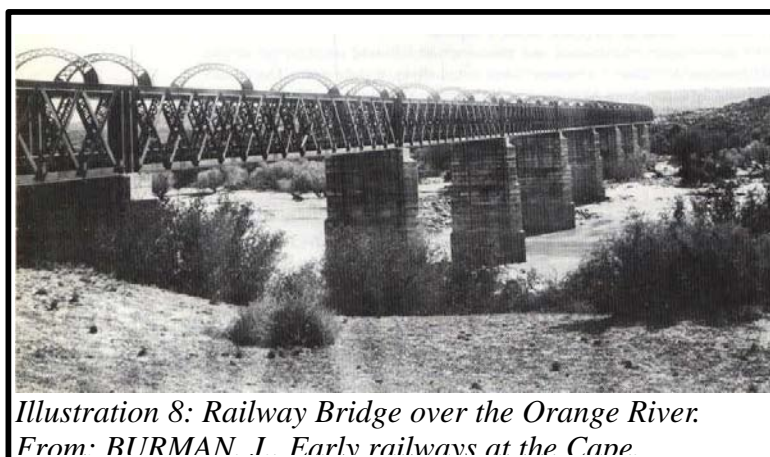
57 F. Pretorius, *The Anglo-Boer War*, p. 14.

58 J. Burman, *Early railways at the Cape*, p. 141.

control of this section of the railway line was a strategic manoeuvre which sought to block the British forces from reaching Kimberley and thus lifting the siege by rail.⁵⁹

Lieutenant General Paul Methuen was given the task of lifting the siege in Kimberley. His task was seemingly made easier by the fact that the Boers neglected to take control of the railway junctions at De Aar and Noupoort.⁶⁰ Methuen thus made use of this eastern railway line to move about 10 500 men to Kimberley.⁶¹ He departed with his force on 21 November 1899 from the Orange River Bridge.⁶² The first battle between the Boers and Methuen's forces took place on 23 November 1899 at Belmont; two days latter there was another battle at Graspan. Methuen managed at these battles to force about 3200 Boer soldiers from their positions among the railway line.⁶³

Experienced gained at the battle of Graspan indicated to Boer General De la Rey that hills were not good positions from which to attack the British. De la Rey decided to rather make use of steep slopes at the convergence of the Modder and Rietrivers for the next Boer attack on Methuen's force. The subsequent battle at Modder River on 28 November 1899 saw the Boers inflicting a note worthy attack on the British. However, due to a military blunder that saw some Boer forces leaving their strategic positions forced the Boers to retreat.⁶⁴ However, before retreating the Boers destroyed the Modder River Railway Bridge which caused Methuen to pause for supplies.⁶⁵



59 F. Pretorius, *The Anglo-Boer War*, p. 16.

60 F. Pretorius, *The Anglo-Boer War*, p. 16.

61 F. Pretorius, *The Anglo-Boer War*, p. 17.

62 J. Burman, *Early railways at the Cape*, p. 142.

63 F. Pretorius, *The Anglo-Boer War*, p. 20.

64 F. Pretorius, *The Anglo-Boer War*, p. 20.

65 J. Burman, *Early railways at the Cape*, p. 142.

The next battle occurred at Magersfontein on 11 December 1899. De la Rey decided to make use of trench warfare in this battle and his forces had to dig a twelve mile long defence line beneath the Magersfontein ridge. De la Rey suspected that Methuen would again concentrate his main attack on the hills and would not suspect that the Boers were in fact not scattered in the hills but in formation in trenches before the hills. The British thus had no idea that the Boers had set them a trap. On the morning of 11 December 1899 a non-suspecting British force led in battle by the Highland Brigade marched directly into a deadly line of Boer fire. When dusk settled over Magersfontein 255 Boer soldiers and 971 British Soldiers had died.⁶⁶ Methuen retreated and the siege of Kimberley was not lifted by the British until 15 February 1900. By this stage Lord Roberts had arrived in Cape Town and assumed control of a British force of 180 000 men. He realised that the main obstacle to the British endeavour was the immobility of the British force and its reliance on the railway lines. Thus he successfully made use horses in his campaigns and were very soon able to not only achieve victories, such as the surrender of General Piet Cronje at Paardeberg, but by 5 June 1900 Roberts triumphantly entered Pretoria, the capital of the Transvaal Republic.⁶⁷

The war however was far from over and now moved into the guerilla phase which saw the Boer forces now being split up into individual commandos and the railways was soon a prime target of these Boer troops.⁶⁸ The British responded by building blockhouses among the railway lines and by initiating sweeps through various regions Lord Kitchener was successful in driving the Boer forces towards the blockhouses from where they could be easily defeated.⁶⁹ By this stage Lord Kitchener also decided to cut off the main supplies to the Boer commandos, in that, the Boer farms; and with a policy of scorched earth, British soldiers burnt down farmsteads and destroyed livestock and crops on Boer farms sending the Boer women and children to various concentration camps in the different areas.⁷⁰

66 F. Pretorius, *The Anglo-Boer War*, p. 20.

67 J. Burman, *Early railways at the Cape*, pp. 144 – 146.

68 J. Burman, *Early railways at the Cape*, p. 147.

69 J. Burman, *Early railways at the Cape*, p. 150.

70 F. Pretorius, *The Anglo-Boer War*, pp. 56 – 57.



In 1997 it was announced by the Northern-Cape Tourism Board that the Anglo-Boer War battlefields along this section of the railway line would be developed as a tourist route for R4.4 million. This sites would be developed for the centenary of the Anglo-Boer War celebrations and included historical attractions such as the battlefields at Graspan, Modder River, Magersfontein, Paardeberg and Belmont. The blockhouses at the Orange River and Modder River Stations would also be restored.⁷¹ The site at Magersfontein has nine memorials, which includes a Celtic cross erected in memory of the Highland Regiment casualties, a granite memorial to Scandinavians fighting on Boer side, and a marble cross recording Guards Brigade losses.⁷²

Futher south from the Magersfontein site is the town, Hopetown. In close proximity to the railway stations Belmont and Witput, Hopetown started as a single mudbuilding housing the Dutch Reformed Church in 1854 and was named after the auditor-general of the Cape Major Willem Hope.⁷³ In 1866 a diamond Eureka was found in this area and two years later the “Star of South Africa” was found, close by, on the farm, Zandfontein. Today Hopetown is a farming town.⁷⁴

The Kimberley-De Aar line pass by close to the town of Orania. This stronghold for an Afrikaner purist community was originally built for construction workers working on the Orange River Project in the 1970s. After the houses stood empty for ten years a “whites only” area was

71 G. Coetzee, Slagvelde in die Noord-Kaap ontwikkel in *Die Volksblad*, 01-04-1997.
72 D. Richardson, *Historic sites of South Africa*, p. 61.
73 D. Richardson, *Historic sites of South Africa*, p. 52.
74 S. Newbould (Ed), *The tourism blueprint reference guide to the nine provinces of South Africa*, p. 196
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proclaimed by a certain Boshof and forty Afrikaans families aiming to build a “Volkstaat” complete with a statue of the so-called architect of Apartheid Dr H.F. Verwoerd.⁷⁵

Railway stations and sidings on this part of the line includes Wimbledon, Spytfontein, Merton, Richie, Klokfontein, Heuningneskloof, Enslin, Graspan, Athens, Belmont, Witput, Oranjerivier, Kraankruil, Poupan, Kalkbult, Potfontein, Baartman, Houtkraal, Behrshoek and Perdevlei,

c. DE AAR- HANOVER ROAD

De Aar was laid out on the farm De Aar in 1902, and developed around the station that was established there in 1881. It attained municipal status in 1904. Historical sites in the area include the house of the well-known author Olive Schreiner as well as the 1894 St Paul's Church that was used by British troops during the Anglo-Boer War.⁷⁶ The line between De Aar and Hanover Road Station connects the following railway stations and sidings: Bletterman, Riet, Burgervilleweg, Taalbos and Frans.

d. HANOVER ROAD-NOUPOORT

The town Hanover was once part of the Graaf-Reinet district and known as Bo-Zeekoeirivier. As the farming community grew, a community centre was needed and, in 1854 the 8656ha farm, Petrusvallei, was bought for R5000. The former owner asked that the proposed town be called Hanover as his ancestors came from this city in Germany.⁷⁷ Interesting sites in the area include the eighteenth century Camdeboo House and the 1860 Cape Dutch House. With a station at Hanover Road in close proximity to the town the railway serves the communities at stations and sidings like Linde, Dwaal, Wiltfontein and Carolus located on the railway line to the station at Noupoot.

75 S. Newbould (Ed), The tourism blueprint reference guide to the nine provinces of South Africa, pp. http://www.news24.com/News24/South_Africa/Decade_of_Freedom/0_2-7-1598_1515558.00.html.

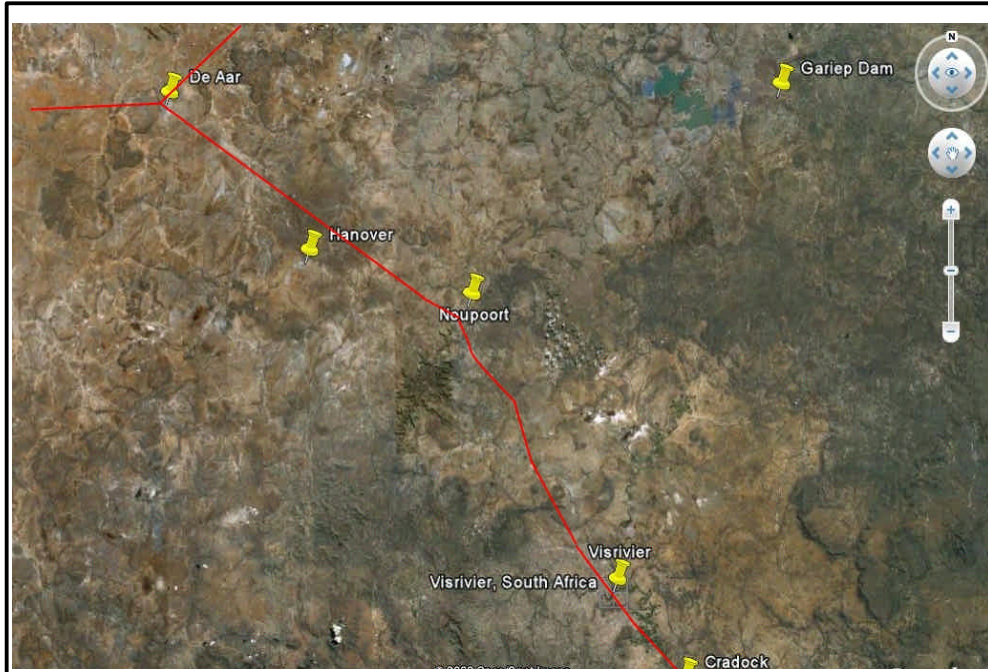
76 D. Richardson, *Historical sites of South Africa*, p. 50.

77 S. Newbould (Ed), The tourism blueprint reference guide to the nine provinces of South Africa, p. 196

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196-197; 10 years on, Orania fades away, Access: 30/09/2008



e. NOUPOORT-SHERBORNE

In 1881 the railway line from Port Elizabeth ended on the farm Carlton. With the diversion of the line to Colesberg in 1883/4 a station was built on a part of Barend Kruger's farm Hartbeeshoek. The station was named Naauwpoort after the adjacent farm. In 1963 the name was changed to Noupoot.⁷⁸ This line that winds approximately 151km to Cradock passes through a railway siding at Carlton.

4.4. EASTERN CAPE

a. CRADOCK-COOKHOUSE

The railway line enters the Eastern Cape at the Sherborne siding and moves through Bangor, Rosmead, Collet, Tafelberg, Glenheath, Conway, Cypress Grove, Visrivier, Krutsford, Baroda, Kaptein and Marlow towards Cradock. The railway line passes by Cradock, a thriving agricultural community that specializes in the production of wool, mohair and cattle farming. This town was founded in 1813 on the farm, Buffelshoek, during which time the British governor, sir John Cradock ordered a fort to be built there. The towns close proximity to the banks of the Great Fish River ideally caters for the migratory farmers who settled in this area to make use of its excellent grazing pastures and abundant water.⁷⁹ Historical sites in the area included the

78 S. Newbould (Ed), The tourism blueprint reference guide to the nine provinces of South Africa, p. 196
 79 SA places: Cradock, <http://www.places.co.za/html/cradock.html>, Access: 29/09/2008
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1868 Dutch Reformed church where the former Boer president, of the South African or Transvaal Republic, Paul Kruger was christened. During the Anglo-Boer War, the church roof was used as a look out post by the British soldiers who occupied the town. Cradock also houses a house and the grave of Olive Schreiner. In the vicinity of the railway line is sulphur springs and the Mountain Zebra national park which bears testimony to the natural diversity of the area.⁸⁰ Railway sidings on this part of the line includes: Halesowen, Mortimer, Drennan, Doringbos, Witmos, Klipfontein, Thorngrove and Slagtersnek. This area includes sites where various skirmishes took place during the early nineteenth century, the most famous being the Slagtersnek rebellion. The Slagtersnek rebellion was precipitated by the government's use of 'coloured' troops to arrest a white farmer - an incident which ignited the old differences over what was generically called 'native policy'. Johannes Bezuidenhout was killed during the clash between government forces and the rebels. A court subsequently found four accused guilty of treason. They were hanged on 9 March 1816.⁸¹

b. COOKHOUSE-ALICEDALE

Cookhouse was established on the west bank of the Great Fish river during 1819. The name either refers to a small stone building on the river banks that was used to prepare food for the British soldiers or to the extreme heat that the British troops experienced while they were stationed on the Eastern frontier of the Cape Colony.⁸² Railway sidings and stations on this part of the line includes: Golden Valley, Longhope, Harefield, Middleton, Sheldon, Ripon, Komadagga, Saltaire, Groenheuwels and Dornigkom.

c. ALICEDALE-ADDO

Nestled in the heart of the Eastern Cape is the Victorian Village of Alicedale that was, until the mid 1990s, the Central Railway Junction for rail transport throughout South Africa.⁸³ The town was named after Alice Slesor (née Dale), whose husband constructed the railway station.⁸⁴ The following railway stations and sidings connect the Alicedale station to Addo: Tootabi, Eagles Crag, Boesmanspoort, Sand Flats, Mimosa, Woodland and Coerney.

80 W. & S. Olivier, *Toergids vir Suid-Afrika*, (Kapaastad, Struik, 2001), p. 79; Cradock: Things to see and do, http://www.cradock.co.za/index_files/Page518.htm, Access: 30/09/2008.

81 T. Cameron & S.B. Spies (reds.), *Nuwe geskiedenis van Suid-Afrika in woord en beeld* (Hamun & W. & S. Olivier, *Toergids vir Suid-Afrika*, p. 79

82 W. & S. Olivier, *Toergids vir Suid-Afrika*, p. 79

83 Welcome to Alicedale, <http://www.grahamstown.co.za/alicedale/index.html>, Access: 29/09/2008.

84 Eastern Cape: Alicedale, <http://www.routes.co.za/ec/alicedale/index.html>, Access: 29/09/2008.

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do, http://www.cradock.co.za/index_files/Page518.htm, Access: Rossau, Pretoria, 1986), p. 83.

d. ADDO-PORT ELIZABETH

The name Addo is derived from the Khoi-Khoi name Kradouw, referring either to the river passage or the abundance of trees in the area. This small settlement owes its existence to the creation of a railway junction and is home to the world renowned Addo elephant park that was created in 1931.⁸⁵ This area with strong rivers and fertile valleys, like the Swartkopsriver, Sondagsriver valley and Darlington dam, has irrigation systems that dates back to 1812 and allows for extensive agricultural activities and bio-diversity. The line furthermore passes through Coega, an industrial area and port that houses various industries like automobile factories, food processing plants and oil refineries a lot that is transported by rail to Port Elizabeth and globally exported.⁸⁶ The Addo-Port Elizabeth line consists of railway sidings and stations like Loganbraes, Tankatara, Coega, Swart Kops and New Brighton.

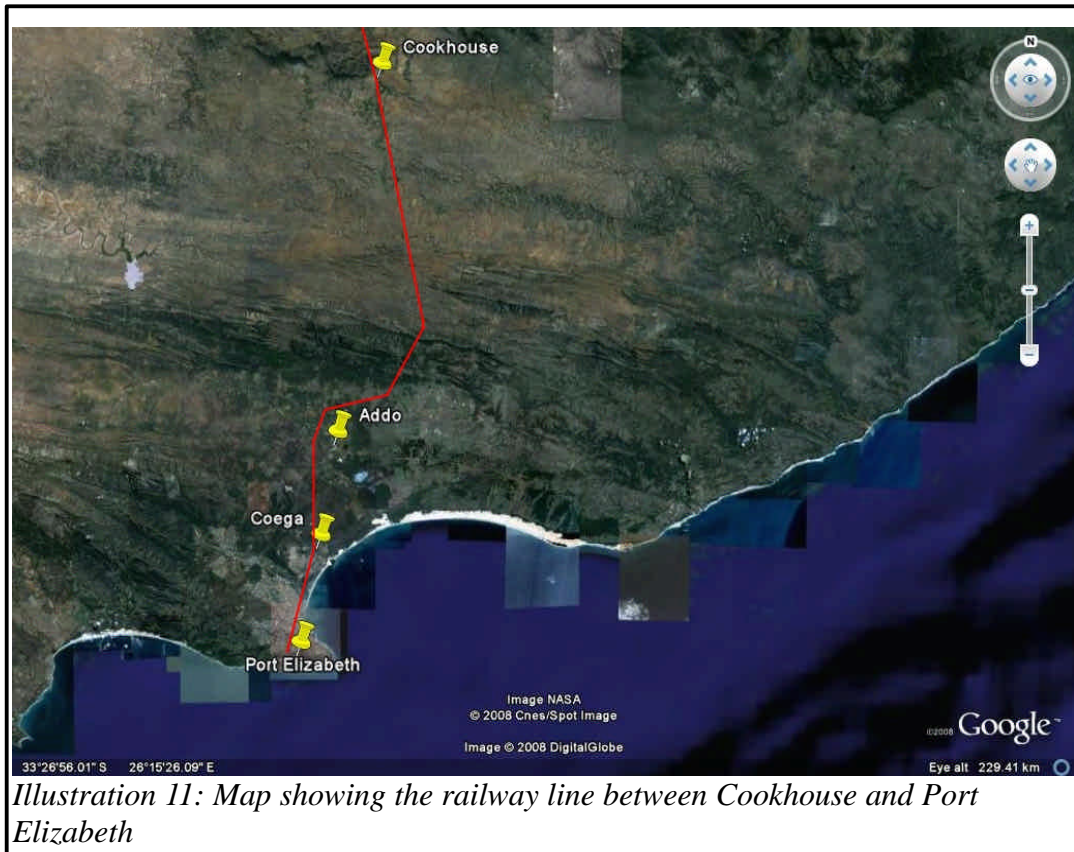
e. PORT ELIZABETH

The railway line ends at Port Elizabeth. This city grew around Fort Frederick, a military station established in 1799, but rapid development only occurred with the arrival of the 1820 settlers. It was named Port Elizabeth in 1820 by Sir Rufane Donkin (1772-1841), acting governor of the Cape, after his wife Elizabeth Frances, who had died two years previously in India. Port Elizabeth attained municipal status in 1869 and became a city in July 1913.⁸⁷

85 W. & S. Olivier, *Toergids vir Suid-Afrika*, p. 70; Eastern Cape: Addo, <http://www.routes.co.za/ec/addo/index.html>, Access: 29/09/2008.

86 Coega, Annual report 2007, http://www.coega.co.za/files/FIL3DDDB0_Coega%20Annual%20Report.pdf, Access: 30/09/2007.

87 D. Richardson, *Historical sites of South Africa*, p. 36.



5. CONCLUSION

In conclusion, it is evident that the railway lines have played an important part in the historical, social, cultural and political development in the Northern and Eastern Cape. The strategical placement of the railway from Hotazel to Port Elizabeth line had indeed influenced and sustained the communities living in close proximity to it. This report has given an overview of the establishment of the various railway lines from Port Elizabeth to Hotazel and highlighted some of the historical sites that is located in the vicinity of the line.

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DEPARTMENT OF ANTHROPOLOGY AND ARCHAEOLOGY
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04-11-2008

To: Johan Nel
Archaic Heritage Project Management

Assessment by MM van der Ryst for *Archaic Heritage Project Management* of the Scoping Survey and Preliminary Assessment prepared for *Environmental Resource Management Southern Africa: The Transnet Freight Line EIE, Eastern Cape and Northern Cape*

The purpose of this specialist report is to review the scoping report, preliminary assessments and mitigation measures recommended for Stone Age archaeological remains documented during the archaeological survey under review and to offer advice on cultural significance. It should be noted that this report is based on the description and photographic documentation provided by *Archaic Heritage Project Management* and that a field survey was not conducted by a Stone Age specialist.

The survey of the Transnet Freight Line EIE, Eastern Cape and Northern Cape, was conducted over a distance of >1200km on a linear trajectory along an existing railway line between De Aar in the Northern Cape and the Coega Industrial Development Zone (IDZ) in the Eastern Cape. The archaeological scoping and initial assessment by *Archaic* included a survey and review of the existing railway footprint as well as twenty-nine loops and the associated proposed infrastructure areas that will be impacted upon by the upgrading of an existing rail link. All loops fall within the current railway reserve, which will minimise impact and any negative effects of the proposed development on the documented heritage resources. It should also be noted that agricultural, residential and railway activities have already impacted on a major part of the survey area.



The report by *Archaic* addresses impact on heritage resources identified within the proposed loop areas as well as those archaeological components bordering on existing borrow pits which may be impacted upon by possible future extensions of gravel mining. The location, recording and documentation of archaeological occurrences at sixty-five sites were based on the recognition of diagnostic cultural material as well as an understanding for site preferences. Standard archaeological procedures were followed and the sites were recorded and graded by the archaeologist at *Archaic* according to SAHRA minimum standards and the NHRA. Identified heritage resources include fossils of marine origins, Early, Middle (MSA) and Later Stone Age (LSA) archaeological occurrences, LSA engravings, historical sites and structures as well as graves.

Pertinent to this report are the seven occurrences of MSA and LSA Age lithics as well as an engraving site which have been recorded. Two of the archaeological sites with lithic assemblages, namely Kommadagga KDC014 & 016-018 (3325 BB KOMMADAGGA) and KDC011 Road Borrow Pit Golden Valley (3225 DD GOLDEN VALLEY), require further investigations. It is therefore recommended that a Stone Age specialist should conduct a more intensive Phase 1 survey in the field to evaluate and extend the preliminary findings provided in the scoping report and in order to gather more detailed data on the lithic assemblages. This should enable such a professional to provide a more comprehensive report and establish the level of site significance of the archaeological remains within regional contexts. Pending the outcome of the Phase 1 Archaeological Impact Assessment (AIA), and provided that preventative action is necessitated by the impact of proposed developments, appropriate mitigation requirements should include representative sampling through a surface collection as well as sub-surface investigation such as STP's and test excavations.

A Phase 1 is also recommended for the engraving site KDC003 (3225 DD GOLDEN VALLEY) consisting of boulders and portable rocks. This should include surveying for more engravings and for the likely occurrence of Stone Age lithics. In addition, the engravings should be documented and an appropriate conservation management plan drawn up by a rock art specialist. Two other localities where no heritage resources have been documented, namely 022 Flonker (3125 AC MIDDELBURG) in the vicinity of rock shelters, and the other at Barredeel (3124 BB NOUPOORT) near water sources should, however, be investigated for possible Stone Age remains.

The regional Stone Age archaeology

Lithic occurrences

The survey conducted by *Archaic* covered a very large geographical area due to the linear trajectory of such a railway line. It follows that the archaeology over such a broad area is extremely diverse and a desktop study of literature relevant to the areas of impact will have to encompass large areas of the Eastern and Northern Cape, which falls outside the brief of my assessment. It is, furthermore, complicated by the occasional co-occurrence of archaeological and fossil-bearing breccias in the area under review (see also Curnoe et al. 2006, and others).

The majority of the sites under survey contain ephemeral MSA and low numbers of LSA lithics where no monitoring or mitigation is recommended. The two localities of KDC014 & 015-018 Kommadagga and KDC011 and Road Pit Borrow Golden Valley, where the extent of the Stone Age occurrences warrants a survey and recommendations on significance as well as possible mitigation by a Stone Age specialist researcher, have predominantly an MSA character. The lithics of these larger assemblages seemingly occur in clusters, which comprise primary and secondary classes including cores, primary cortical flakes, unretouched convergent flakes and blades and manufacturing debris of chunks, chips and broken flake sections/fragments. The evidence for stages of lithic reduction does point to some primary deposition contexts.

Southern African MSA assemblages were produced from around 250/200 000 years ago. It is now generally accepted that the MSA technology of prepared cores that delivered large pointed flakes and flake blades, of which some were reworked into formal tools, was fully replaced by the LSA. The LSA is marked by a series of new technological developments, including the production of microlithic stone tools and a range of other new innovations. Various time-frames for the transition have been suggested, and at some sites typologies with a MSA nature are still found at approximately 30 000 to 20 000 BP and even more recent (Deacon 1984a; Deacon 1984b; Thackeray 1992; Wadley 2005).

The archaeology of the Northern Cape is rich and varied, but not all sites are equally significant (Morris 2007). Whereas the localities surveyed by *Archaic* exhibit an ephemeral LSA presence, the general areas of the scoping brief are known to have dense LSA occupancies in localities with sustainable resources (Beaumont & Boshier 1974; Deacon 1986; Humphreys & Thackeray 1983; Thackeray et al. 1983; Beaumont & Morris 1990; Mitchell 2002; Barham & Mitchell 2008).

Within a current world-wide emphasis on researching the origins of modern forms of behaviour the southern African MSA is focal to our understanding of stone tool manufacture and the emergence of recognisably modern forms of cognition and behaviour (Barham & Mitchell 2008). A full assessment of the localities under review, and in particular those of high MSA archaeological significance, consequently requires adequate documentation in order for these assemblages to be inventoried and included in existing data bases.

The engravings

The engraving site KDC003 (3225 DD GOLDEN VALLEY) should also be documented by appropriate professionals. While the rock art occurrence is not directly within the footprint of the railway extension, a survey of the broader landscape is recommended in view of the significant nature of the engravings at this locality. Hunter-gatherers utilized natural and social resources during their established seasonal rounds within a wider physical and conceptual landscape and an AIA should make provision for the recognition of a ritualized landscape when sites of such importance fall within the scope a survey (SAHRA APM guidelines). Engravings form part of an ideational landscape (Deacon 1988; Morris 1988; Morris 1990; Deacon 1996; Deacon 1997; Deacon 2001; Morris 2002, 2004a, 2004b; Deacon & Foster 2004). Ideational landscape as a broad term translates to landscapes of the mind and can embrace all kinds of meanings attached to and embodied in landscapes — including those assigned by the archaeologist (Knapp & Ashmore 1999:12-3).

The footprint engravings are similar to engraved footprints made by the /Xam near Kenhardt (Wilman 1933; Deacon 1988; Deacon 1996; Deacon 1997; Deacon 2001; Deacon & Foster 2004:29-31). Animal figures, such as the finely engraved eland at Golden Valley, figured prominently in the rituals and beliefs of hunter-gatherers. In the areas under review the 19th-century /Xam and their San hunter-gatherer ancestors made many of the engravings (Deacon & Foster 2004:31). The folklore, beliefs and ways of life of the /Xam were recorded in detail in their own language and translated by Bleek & Lloyd in the 1870s (Bleek & Lloyd 1911; Deacon & Foster 2004:19). Rock art sites, and in particularly engravings, are abundant in the interior and often appear in concentrations (Morris 1990, 2002, 2004a, 2004b; Unpublished departmental research report, October 2008). Rock art sites are often focused on water sources (Morris 1990; Deacon & Foster 2004; Morris 2004b) and the investigation of the fountains at Barredeel (3124 BB NOUPOORT) is recommended in order to survey for rock art and for possible remains indicative of hunter-gatherer activities.

An assessment of the Stone Age sites is provided in the following table, which is followed by a more detailed listing of these sites.

SUMMARY OF STONE AGE ARCHAEOLOGICAL SITES DOCUMENTED BY ARCHAIC AND PROPOSED MITIGATION BASED ON AN ASSESSMENT OF THE RECORDS PROVIDE			
Site	Archaeological context	Significance	Proposed mitigation
001.1 BORROW PIT 3325 DA ADDO	One core Extensively disturbed by existing borrow pit Activities	Low	None A Letter of Recommendation for Exemption from SAHRA
008 SALTAIRE 3325BB KOMMADAGGA	One core Disturbed contexts	Low	None A Letter of Recommendation for Exemption from SAHRA
009 KOMMADAGGA 3325 BB KOMMADAGGA KDC018 (fossil) KDC017 (MSA/LSA lithics) KDC016 (handaxe) KDC014 (MSA/LSA)	ESA MSA LSA	High	Phase 1 Specialist survey. If deemed significant enough following on Phase 1 and impacted by gravel removal, a Phase 2 representative sampling
010.1 ROAD BORROW PIT (KDC011) 3225 DD GOLDEN VALLEY	MSA LSA Composition of lithic assemblage indicates knapping	High	Phase 1 Specialist survey. If deemed significant enough following on Phase 1 and impacted by gravel removal, a Phase 2 representative sampling
010.3 GOLDEN VALLEY (KDC012; KDC013) 03225 DD GOLDEN VALLEY	Scatters MSA LSA	Medium	Currently none Monitoring in event of future development of borrow pit
017.2 VISRIVIER COLLET'S QUARRY and KDC008 3125 CD VISRIVIER	Circular stone structures, which probably have no bearing on the Stone Age	Medium	Currently none Monitoring in event of future development of borrow pit
022 FLONKER 3125 AC MIDDELBURG	None		Shelters above the site should be investigated for rock art. If there should be any rock art the vibrations caused from movement along the rail may impact on fragile panels
BARREDEEL 3124 BB NOUPOORT	None		Fountains in the vicinity should be investigated in the event of future development

LINDE 3024 DC HANOVER ROAD	Scatters MSA LSA	Medium	Currently none Monitoring in event of future development of borrow pit
KDC003 3225 DD GOLDEN VALLEY	Engravings	High	Phase 1 specialist surveys for other rock art within the area as well as possible Stone Age occurrences Documentation, protection and management of the engraving site by rock art specialist
Add 1.2 RONALDSVLEI 2824 DC SPYTFONTEIN	Scatters MSA	Medium	Currently none Monitoring in event of future development of borrow pit

DETAIL OF THE SITES WITH STONE AGE MATERIALS

001.1 BORROW PIT

3325 DA ADDO 1986 edition 3

- A single MSA/LSA core was documented as a surface find in the vicinity of the borrow pit.
- The site has *low* significance and no further action is required.
- However, any horizontal or vertical extension of the borrow pit would require archaeological monitoring for exposed artefacts or *in situ* stone tool knapping activities.

006 TOOTABI

3326 AC ALICEDALE 1998 edition 3

No archaeological remains were identified at this locality.

- The site has *low* significance as and no further action is required.
- The archaeologist recommended that the heavily eroded river bank should be stabilised as part of a general environmental concern and in view of possible future impact on the railway infrastructure by the proposed increase in train freight movement.
- Monitoring is therefore recommended in the event of the river banks being stabilised or rehabilitated as future erosion activities may expose underlying artefactual material.

008 SALTAIRE

3325 BB KOMMADAGGA 1986 edition 2

- A single MSA/LSA core was documented within a disturbed context.
- The site has *low* significance and no further action is required.
- Any extension of the borrow pit use shall require monitoring for artefactual remains.

009 KOMMADAGGA KDC014-KDC018

3325 BB KOMMADAGGA 1986 edition 2

- ESA (including a small hand axe), MSA and LSA lithics are present within a large deflated area in the general vicinity of a borrow pit.
- A fragment of fossiliferous rock contains a small embedded fossil.
- Whereas the site has *high* cultural significance, no development is currently proposed and there is accordingly no direct impact on the Stone Age remains.
- However, as this locality represents one of two major Stone Age occurrences identified during the survey, I support the recommendation from the archaeologist that Archaeological and Palaeontological Impact Assessments should be conducted to determine site significance.
- In the case of any development or extension of the borrow pit, mitigation and sampling by a Stone Age specialist through surface collection, STP's and test excavations should be implemented.

010.1 ROAD BORROW PIT (KDC011)

3225 DD GOLDEN VALLEY 1998 edition 3

- MSA and LSA lithic assemblages were identified during the survey. The MSA lithics in particular include manuports, hammer stones, cores, blades, flakes, lithics and some formal tools, which indicate relatively extensive stone tool manufacturing activities at the locality as well as some measure of depositional integrity.
- While borrow pit activities most probably impacted on the stratigraphic sequence of the various Stone Age phases, the site is still considered to have *high* cultural significance.
- The locality is close to Slachtersnek, an important historical site from the 1815 Rebellion. There is also a possibility of marine fossils in the more eroded areas to the east.
- I agree with the recommendation that a Stone Age specialist should conduct a Phase 1 AIA to determine the site's significance.
- In addition, monitoring and further investigation, with possibly sampling, is recommended should future mining of the borrow pit occurs.

010.3 GOLDEN VALLEY (KDC012; KDC013)

03225 DD GOLDEN VALLEY 1998 edition 3

- The site is located approximately 700 m northeast of the Slagtersnek monument.
- Surface finds of scattered MSA/LSA lithics include flakes, cores and chunks over an area near an existing borrow pit.
- Whereas the site has *medium* cultural significance, it may be included in the brief for a Phase 1 AIA recommended above for the two sites with more representative MSA assemblages, as a more detailed survey by a specialist may yield more lithics.
- The locality should also be monitored in the event of an extension of the borrow pit.

014.1 MARLOW

3225 BA CRADOCK 1987 edition 2

No visible heritage resources were noted.

The site is considered to have *little or no* cultural significance.

017.2 VISRIVIER COLLET'S quarry and KDC008

3125 CD VISRIVIER 2001 edition 3

Two circular stone structures are situated east of the borrow pit.

The stone circles are too small to have served as houses.

No LSA lithics, debris or any items of material culture were found and their use and contexts are unknown.

- The stone circles at Wildebeest Kuil (Morris 2004:1) and Springbokoog (Morris & Beaumont 1994:11-28) that were excavated yielded LSA assemblages.
- In the event of future extension of the existing borrow pit the structures should be reinvestigated.

022 FLONKER

AC MIDDELBURG (Eastern Cape) 2001 edition 2

No heritage resources were recorded.

The shelter localities above the site should be investigated for rock art and Stone Age deposits. This is a preventive measure in view of rail traffic vibrations that may impact on fragile rock art.

BARREDEEL

3124 BB NOUPOORT 2001 edition 2

No heritage resources were recorded.

In view of the fact that at least three fountains are indicated on the 1:50 000 map sheet, these should be investigated for possible Stone Age lithics when future developments are proposed.

I therefore agree with the recommendation that in the event of future activities that may impact on the fountains, such as the extension of borrow pits or railway loops, a Stone Age specialist should be appointed to conduct a survey and to recommend mitigation measures.

025.1 BORROW PIT and 025.2 BORROW PIT

3124 BB NOUPOORT 2001 edition 2

- No heritage resources were noted in or near the existing borrow pit.
- The site is considered to have *little or no* cultural significance.

LINDE

3024 DC HANOVER ROAD 1998 edition 2

A low-level MSA/LSA lithic scatter occurs south of line.

There is a currently no risk that lithics may be destroyed by the proposed loop and associated activities.

- A Stone Age specialist should undertake a surface survey to establish detailed significance in the event of future development.

KDC003

3225 DD GOLDEN VALLEY 1998 edition 3

An engraving site was located ~50 m southeast of the line. Engravings on a large boulder include an eland and five human footprints (one outlined, four fully engraved) and an indistinct engraving ~ 20 cm below the eland. An unclear, possibly animal, figure is engraved on a smaller boulder. A rock ~ 20 m west contains an engraved letter "A".

The site has *high* significance.

I agree with the recommendation that the site should be fully recorded by rock art specialists if this locality has not yet been included in a rock art inventory.

It is also recommended that a broader rock art survey should be conducted as this region is well-known for engravings (Deacon & Foster 2004).

It is recommended that a Stone Age specialist should conduct a survey for lithics at this locality.

A heritage site management plan that includes the broader landscape should be implemented.

Add 1.2 RONALDSVLEI

2824 DC SPYTFONTEIN 1997 edition 3

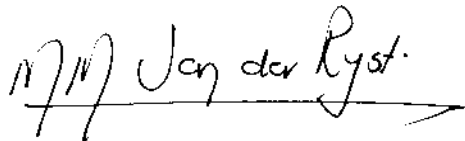
A few isolated MSA lithics were found within the existing borrow pit (Add 1.2).

No other heritage resources were noted. The site has *low* significance.

The entire area has been impacted upon by the current railway infrastructure and borrow pit activities.

In the event of an extension of the borrow pit it is recommended that a Stone Age specialist should conduct a survey to determine the origins of and the extent of the lithics.

I trust that this report will meet with your approval.

A handwritten signature in black ink that reads "MvR Maria van der Ryst". The signature is written in a cursive style and is positioned above a horizontal line that ends in an arrowhead pointing to the right.

Dr Maria van der Ryst

Accredited professional archaeologist for the SADC region, member no. 158

CRM-accredited Principal Investigator (PI): Iron Age Archaeology

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