Appendix D3

Heritage Study – Phase 1

Project Report

20 February 2013

Transnet Capital Projects

Ngqura 16 Mtpa Manganese Rail

Phase 1 Heritage Impact Assessment Hotazel to Kimberley and De Aar to Port of Ngqura

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1. Introduction

A Phase 1 Heritage Impact Assessment (HIA) was completed as part of an environmental authorisation process for the upgrade of Transnet (SOC) Limited's existing manganese ore railway line. The proposed project aim to increase the capacity of the manganese railway line that runs from Hotazel to the Port of Ngqura over a distance of ~800km to 16 Mtpa.

The purpose of this Phase 1 HIA is to provide the South African Heritage Agency (SAHRA), Heritage Eastern Cape and Ngwao Boswa Kapa Bokoni (Northern Cape Provincial Heritage Resources Agency) with sufficient details concerning the proposed upgrade. The HIA aimed to identify areas of concern and issues that require legal input from the relevant statutory bodies. As an output, the gathering of information pertaining to heritage resources will allow for the buffering of sensitive areas and the creation/delineation of no-go sites.

The extensive size of the project has resulted in a decision to divide it into three different working areas that are inclusive of the following:

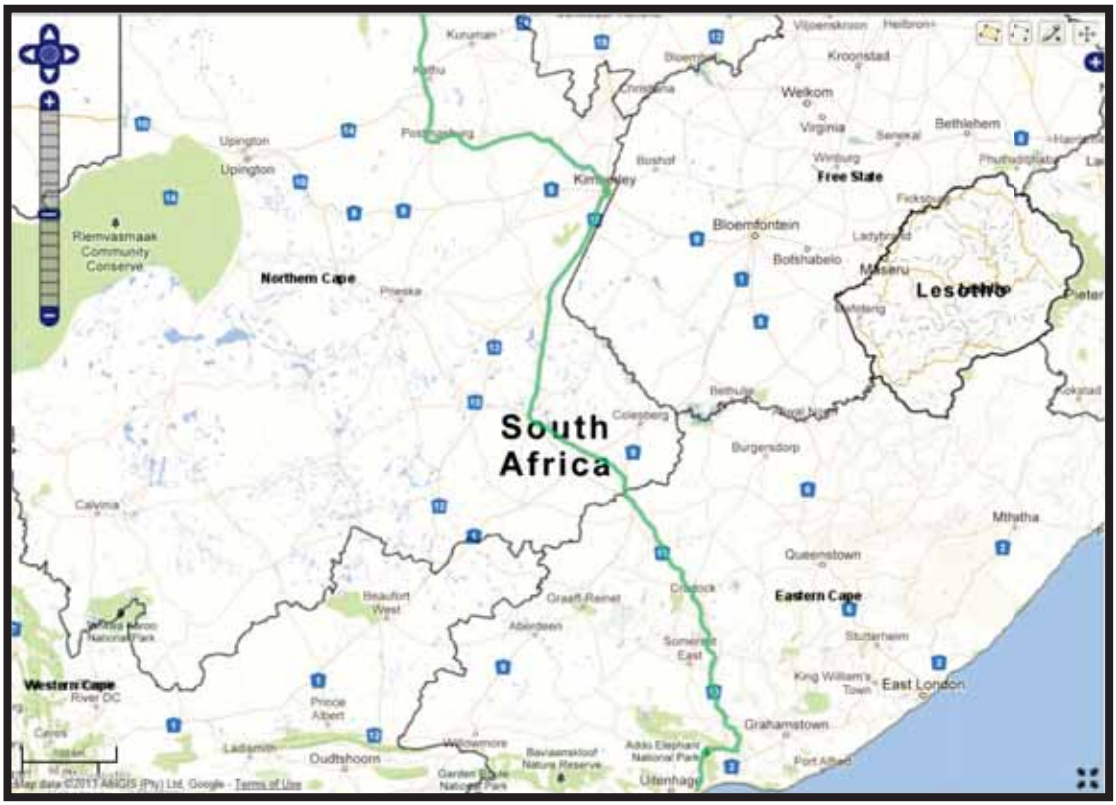

Figure 1: The extent of the development stretches from Hotazel to Port of Ngqura (SAHRIS, 2013)

- Area 1: Hotazel to Kimberley, currently being assessed as part of an environmental authorisation process, and the focus of this report
- Area 2: Kimberley to De Aar, received an environmental authorisation in 2009, and is not discussed in this report
- Area 3: De Aar to Port of Ngqura, currently being assessed as part of an environmental authorisation process, and the focus of this report

The project scope and work packages described in Section 2 provide detail in terms of the various components that may be impacted by the proposed development.

2. Background

In South Africa the main concentration of manganese mines producing predominantly higher grade ores is in the Kalahari Manganese basin, around Hotazel in the Northern Cape. It is anticipated that the manganese industry will experience strong export demand in the coming years. Given the quality of the manganese ore reserves, South Africa is in a position to benefit from the projected growth in the manganese industry if constraints on the current transport logistics are addressed.

In 2008 Transnet, in association with the manganese ore mining industry identified the need to increase the capacity of the export corridor beyond the current capacity of 5.5 Mtpa. An environmental authorisation process commenced in this regard and the project was authorised to proceed with construction in 2009. The project proposal on which this authorisation was issued was based on achieving an export capacity of 12 Mtpa. Based on the increased demand of manganese ore, Transnet, in conjunction with the mining industry has indicated the need for an increased export capacity of 16 Mtpa. As such, changes to the original project scope necessitate additional environmental authorisation processes.

In 2008, when the original environmental authorisation process was undertaken for the 12 Mtpa upgrade, an Archaeological Impact Assessment (AIA) was undertaken by Archaic who identified scattered Stone Age material, grave sites, rock art and historical sites. Although a study was done a new assessment is required for the following reasons:

- The study done by Archaic was for the 12 Mtpa upgrade and the scope for this 16 Mtpa upgrade is different.
- The National Department of Environmental Affairs (DEA), as the competent authority, authorised the 12 Mtpa project prior to receiving comments from SAHRA, who subsequently indicated shortcomings in Archaic's assessment which need to be addressed.
- The change in scope has resulted in a change of where loop extensions are proposed.
- The section between Ripon and Kommadagga has been removed from the scope of work, because of the heritage as well as social sensitivities that are associated with the area.

3. Project Scope

The project scope described below is inclusive of work packages planned for Areas 1 and 3 within the Northern and Eastern Cape provinces respectively. These work packages are inclusive of the development of new rail loops, rail loop extensions and a compilation yard. Loops are railway line arrangements which allow one train to cross over to another rail line, allowing a second train, approaching from the other direction, to pass safely. A compilation yard is used for the compilation and de-compilation of wagon trains.

The following table summarises the scope proposed at the section between Ngqura and Kimberley.

Table 3-1: Scope of work proposed for the Northern Cape area (Area 1: Hotazel to Kimberley)

Work packages planned	Description
Witloop	New loop
Wincanton	Loop extension
Sishen	New loop
Glosam	Loop extension
Postmasburg	Loop extension
Tsantsabane	Loop extension
Trewil	Loop extension
Ulco	Loop extension
Gong Gong	Loop Extension
Fieldsview	Loop extension
Mamathwane	Compilation yard

The following table summarises the scope proposed between De Aar and Port Elizabeth.

Table 3-2: Scope of work proposed for the Eastern Cape area (Area 3: De Aar to Port of Ngqura)

Work packages planned	Description
Burgervilleweg	Loop extension
Rosmead	Loop extension
Linde	Loop extension
Tafelberg	Loop extension
Knutsford	Loop extension
Drennan	Loop extension
Thorngrove	Loop extension
Cookhouse – Golden Valley	Line doubling
Sheldon	Loop extension
Verby	Loop extension

4. Location of work packages planned in the Northern Cape

The following work packages are proposed at Area 1 (Hotazel to Kimberley).

4.1 Area 1: Hotazel to Kimberley

The section below provides portions of 1:50 000 maps downloaded from the South African Heritage Resources Information System (SAHRIS) and the aim of the information is to provide a reference point related to the proposed impacted areas.

4.1.1 Witloop New Loop

At Witloop Station a new loop is proposed.

Figure 2: Location of the proposed new loop at Witloop Station (SAHRIS, 2013) Witloop Station is located north of Mamathwane Station

Figure 3: Aerial view of the proposed new loop at Witloop Station (SAHRIS, 2013)

4.1.2 Wincanton Loop Extension

A loop extension is proposed at Wincanton Station.

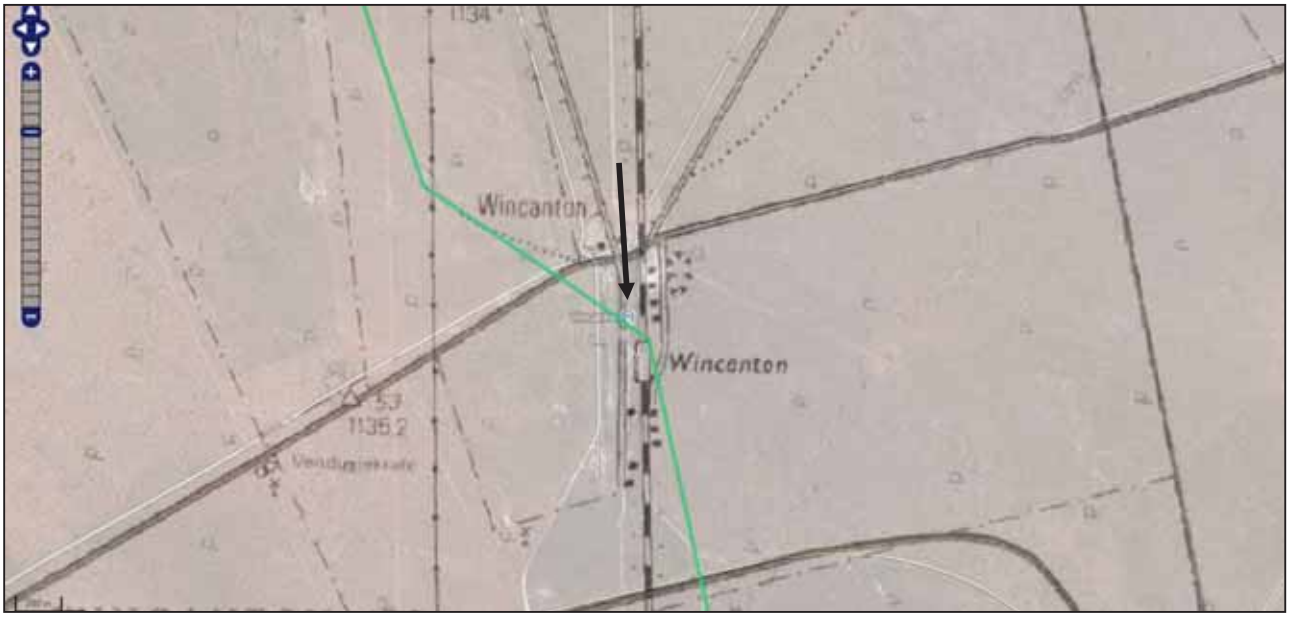

Figure 4: Location of the proposed loop extension at Wincanton Station (SAHRIS, 2013)

Figure 5: Aerial view of the proposed loop extension at Wincanton Station (SAHRIS, 2013)

4.1.3 Sishen New Loop

A new loop is proposed at Sishen Station.

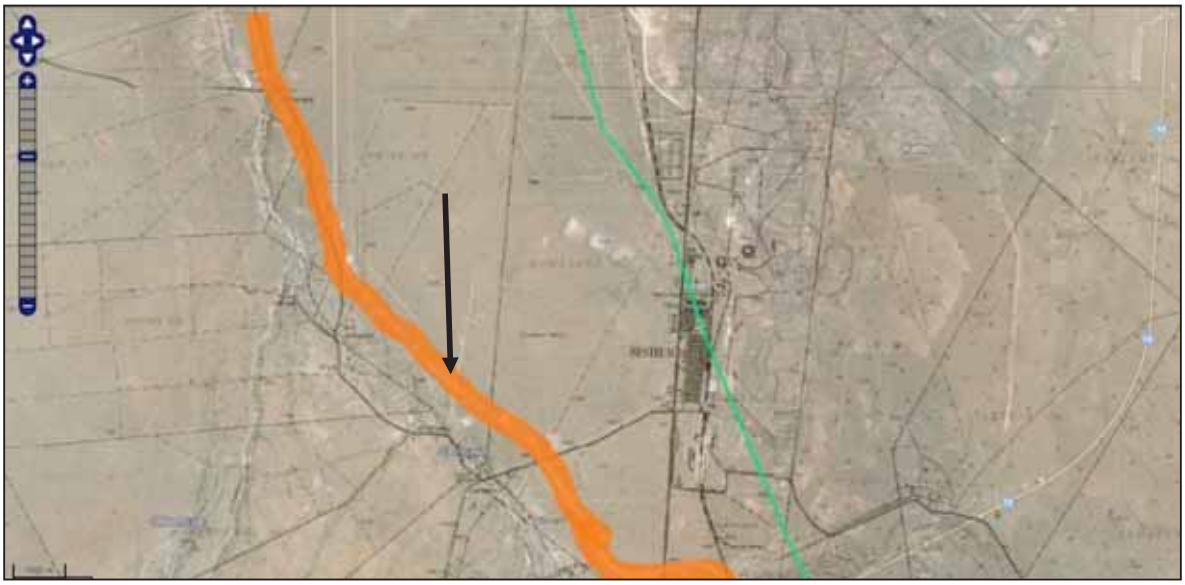

Figure 6: Location of the proposed new loop at Sishen Station (SAHRIS, 2013)

Figure 7: Aerial view of the proposed new loop at Sishen Station (SAHRIS, 2013)

4.1.4 Mamathwane Compilation Yard

A new compilation yard is proposed at Mamathwane which is located approximately 22km south of Hotazel in the Northern Cape. The proposed development area covers approximately 120 ha and will be used for the compilation and de-compilation of wagon trains.

Figure 8: Location of the proposed Mamathwane Compilation Yard (SAHRIS, 2013)

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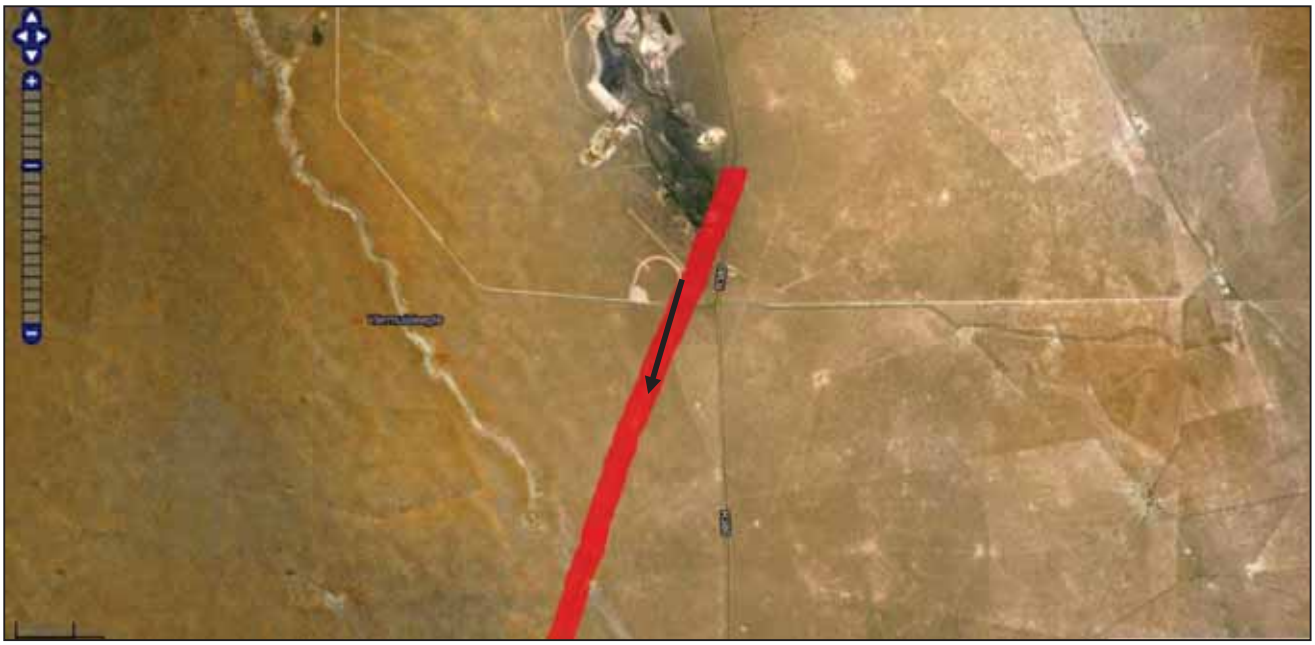

Figure 9: Aerial view of the proposed Mamathwane Compilation Yard (SAHRIS, 2013)

4.1.5 Glosam Loop Extension

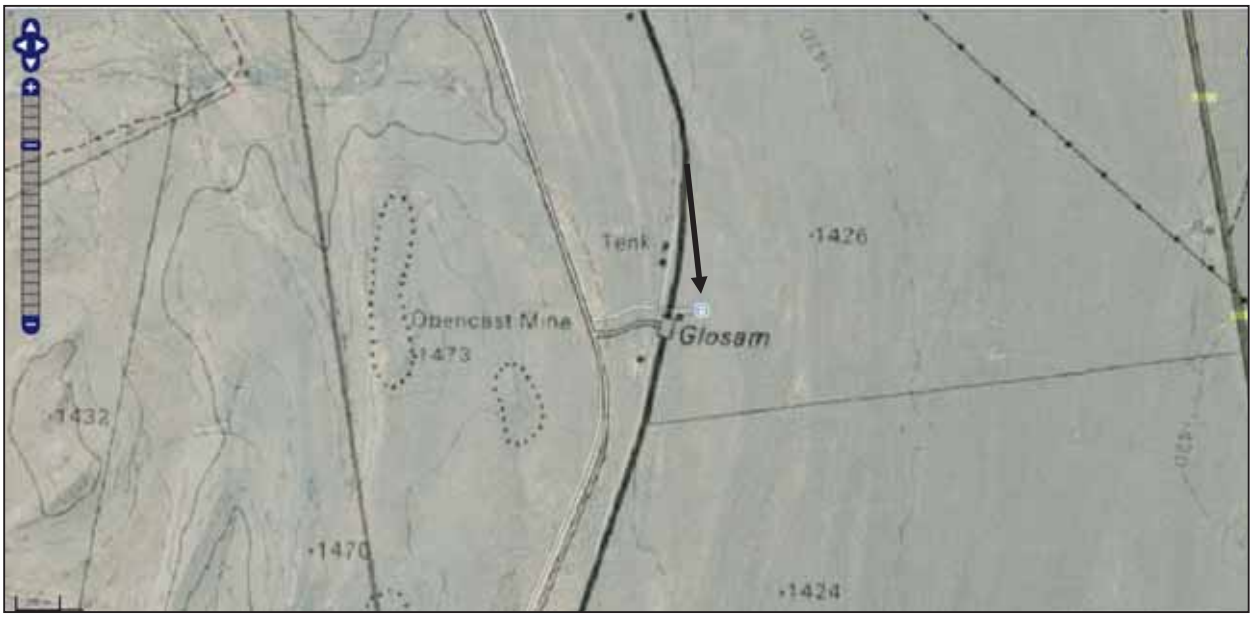

Figure 10: Location of the proposed loop extension at Glosam Station (SAHRIS, 2013)

Figure 11: Aerial view of Glosam Station and surrounds (SAHRIS, 2013)

4.1.6 Postmasburg Loop Extension

Figure 12: Location of proposed loop extension at Postmasburg Station (SAHRIS, 2013)

Figure 13: Aerial view of proposed loop extension at Postmasburg Station (SAHRIS, 2013)

4.1.7 Tsantsabane Loop Extension

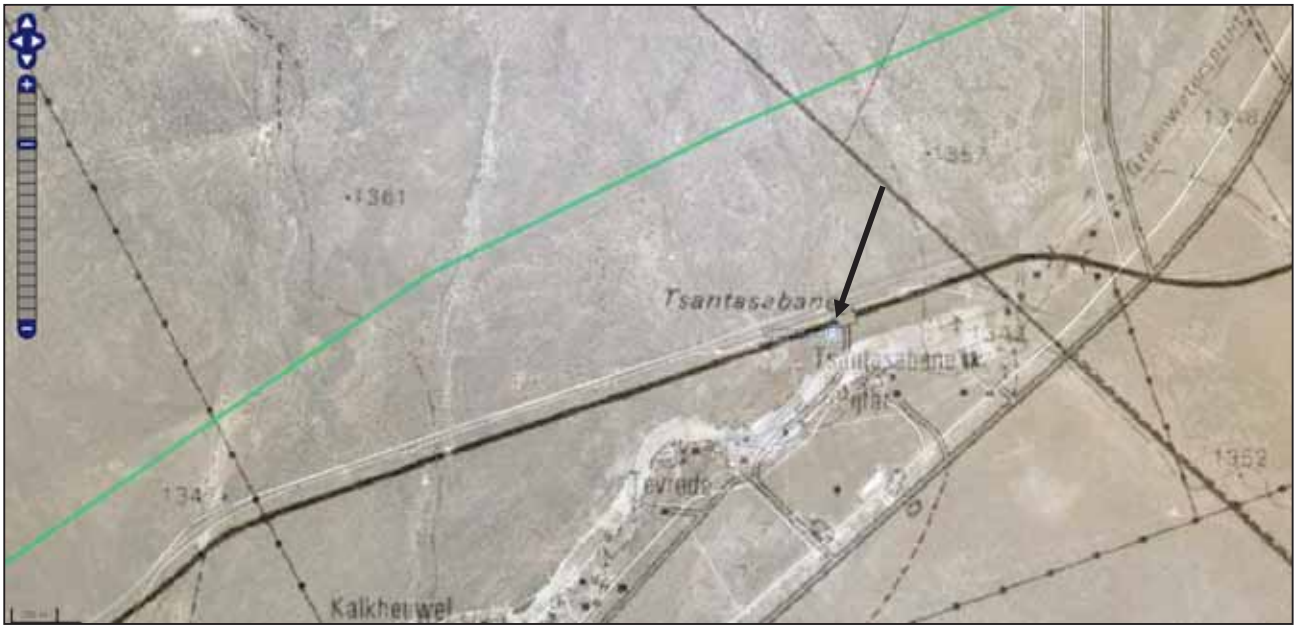

Figure 14: Location of the proposed loop extension at Tsantsabane Station (SAHRIS, 2013)

Figure 15: Aerial view of Tsantsabane proposed loop extension (SAHRIS, 2013)

4.1.8 Trewil Loop Extension

Figure 16: Location of the proposed Trewil loop extension (SAHRIS, 2013)

Trewil is located south of Silver Streams Station in the vicinity of Lime Acres

Figure 17: Aerial view of the proposed Trewil loop extension (SAHRIS, 2013)

4.1.9 Ulco Loop Extension

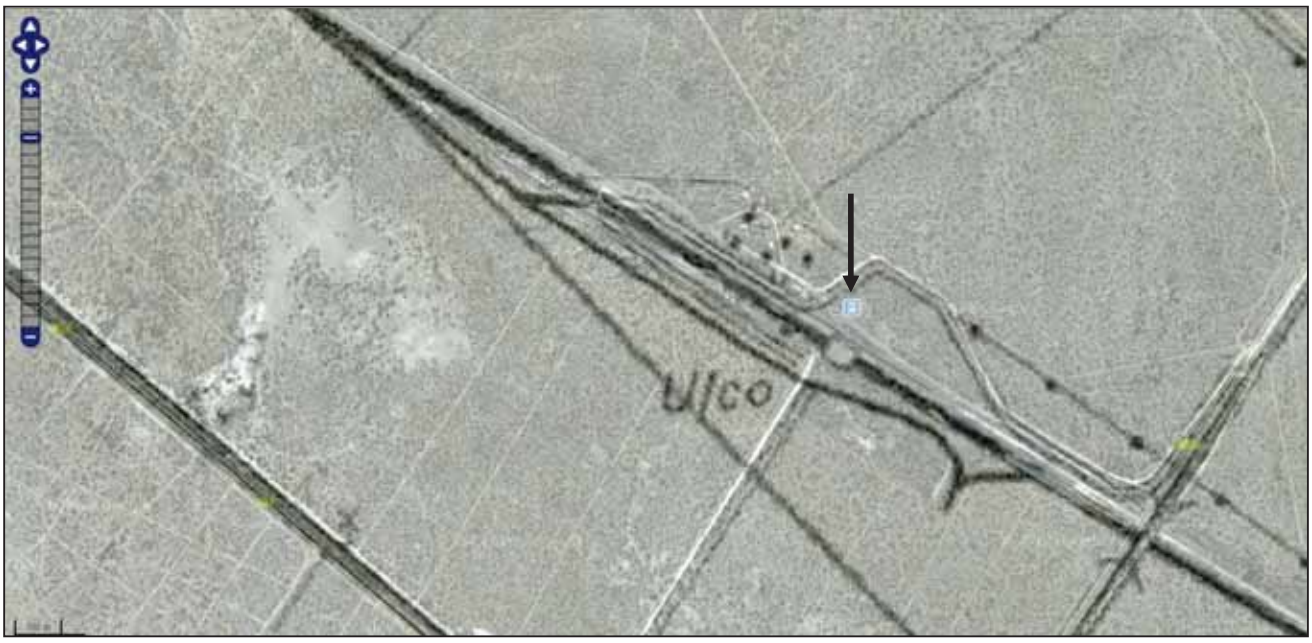

Figure 18: Location of the proposed Ulco loop extension (SAHRIS, 2013)

Figure 19: Aerial view of the proposed Ulco loop extension (SAHRIS, 2013)

4.1.10 Gong Gong Loop Extension

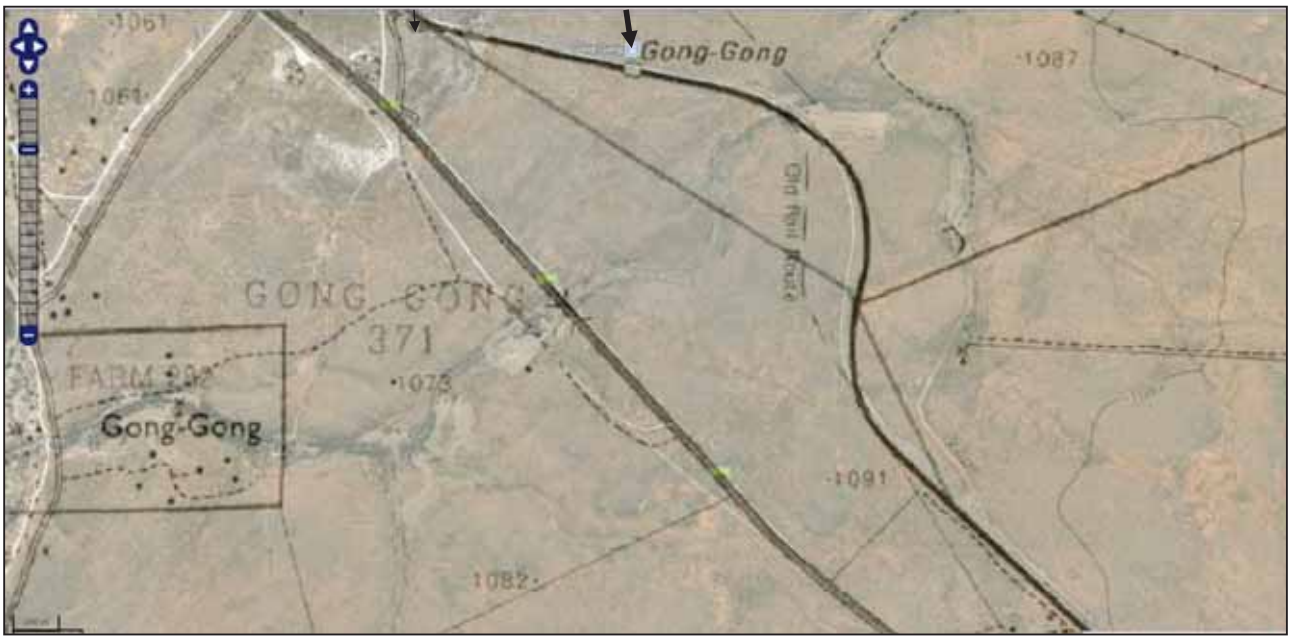

Figure 20: Location of the proposed Gong Gong loop extension (SAHRIS, 2013)

Figure 21: Aerial view of the proposed Gong Gong loop extension (SAHRIS, 2013)

4.1.11 Fieldsview Loop Extension

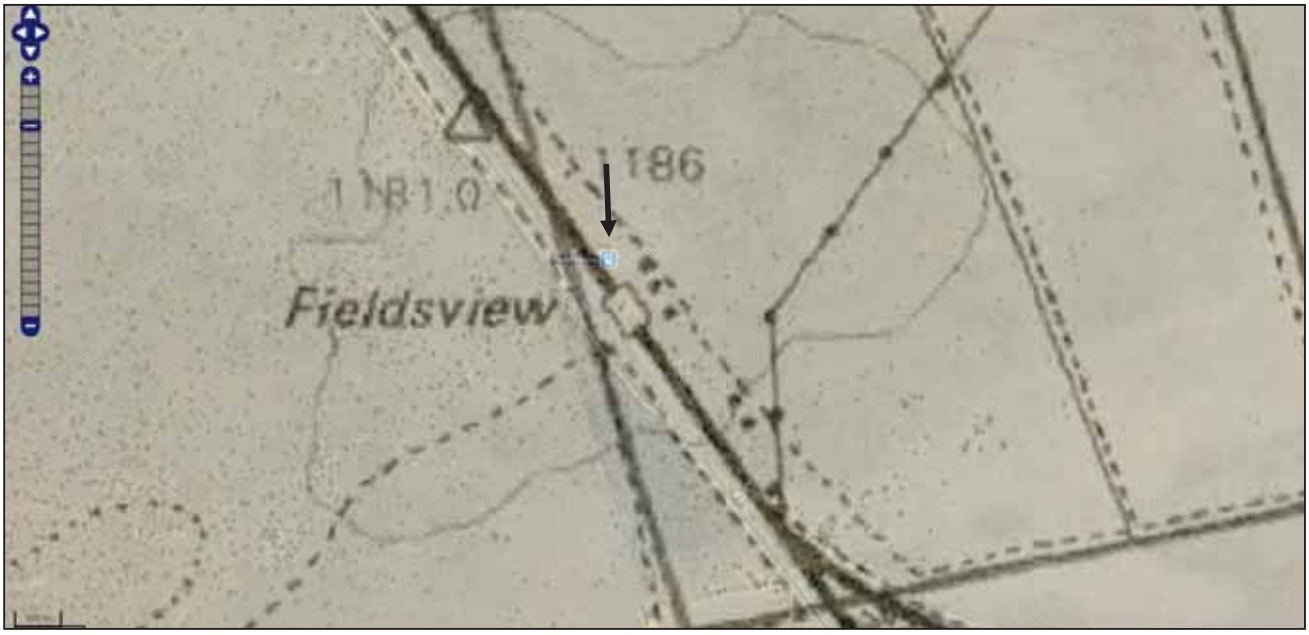

Figure 22: Location of the proposed Fieldsview loop extension (SAHRIS, 2013)

Figure 23: Aerial view of the proposed Fieldsview loop extension (SAHRIS, 2013)

4.2 Area 3: De Aar to Port of Ngqura

The locations of the work packages located within the Eastern Cape (Area 3) are indicated below:

4.2.1 Burgervilleweg Loop Extension

Figure 24: Location of the proposed Burgervilleweg loop extension (SAHRIS, 2013)

Figure 25: Aerial view of the proposed Burgervilleweg loop extension (SAHRIS, 2013)

4.2.2 Rosmead Loop Extension

Figure 26: Location of the proposed Rosmead Station

Figure 27: Aerial view of the proposed Rosmead loop extension

4.2.3 Linde Loop Extension

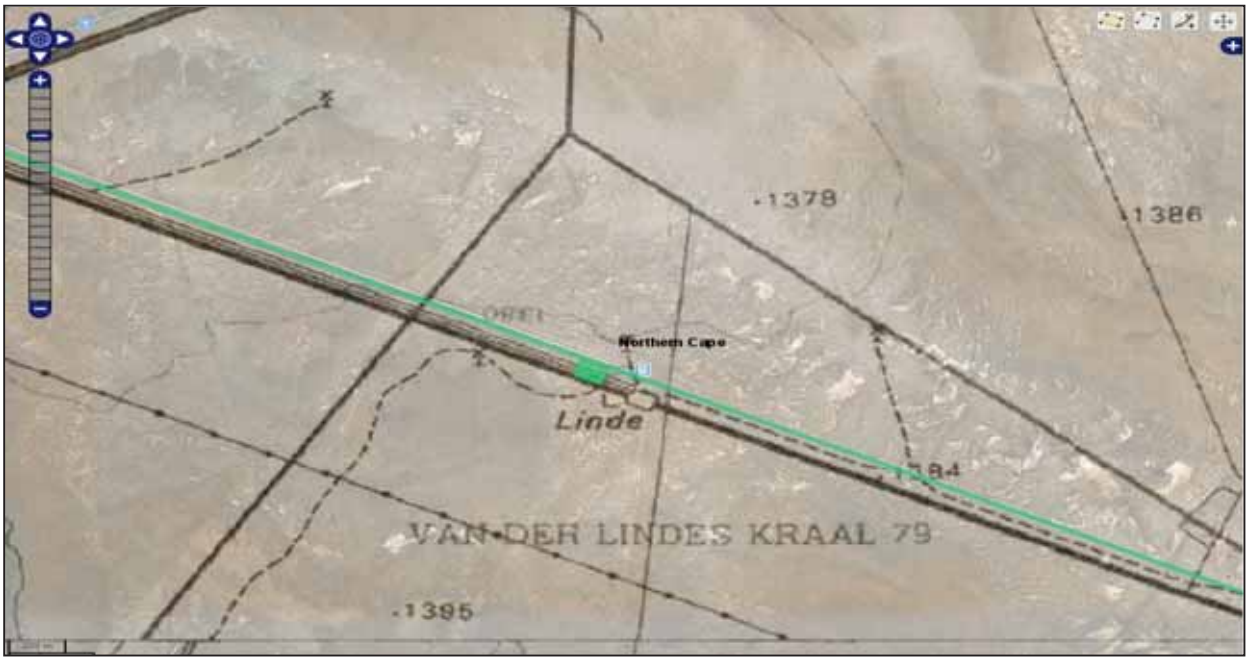

Figure 28: Location of the proposed Linde loop extension

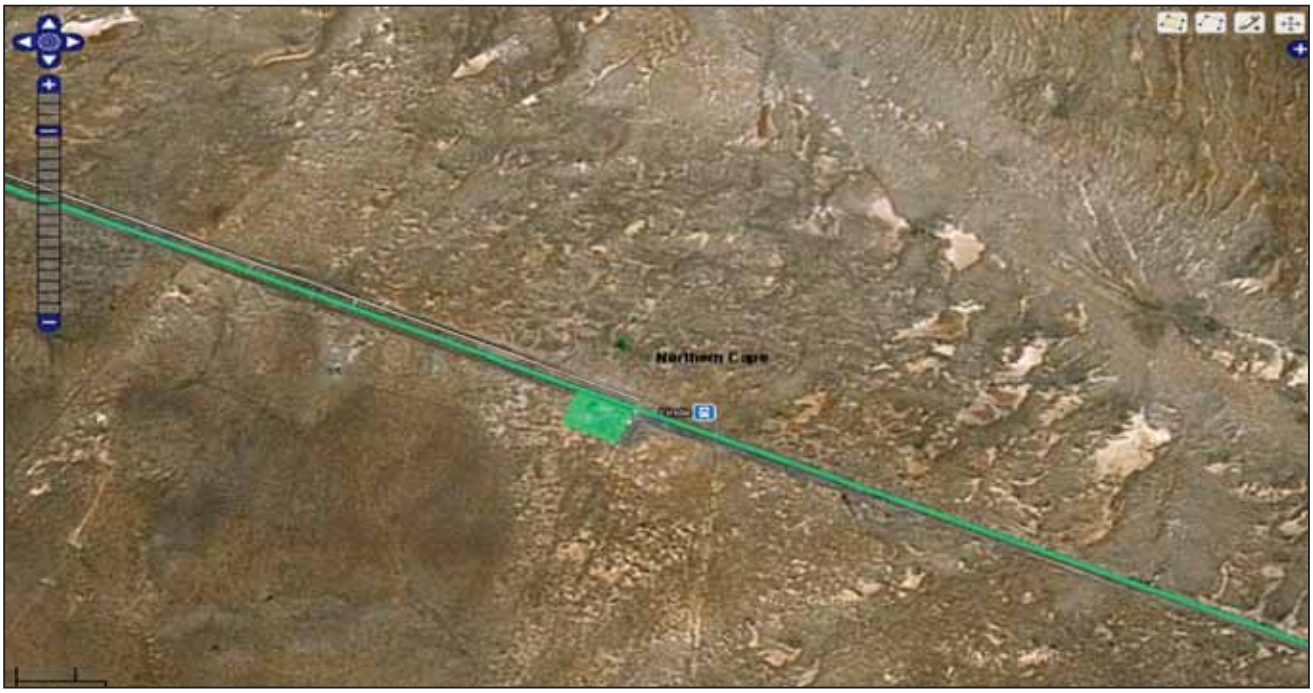

Figure 29: Aerial view of the proposed Linde loop extension

4.2.4 Tafelberg Loop Extension

Figure 30: Location of the proposed Tafelberg loop extension

Figure 31: Aerial view of the proposed Tafelberg loop extension

4.2.5 Knutsford Loop Extension

Figure 32: Location of the proposed Knutsford loop extension

Figure 33: Aerial view of the proposed Knutsford loop extension

4.2.6 Drennan Loop Extension

Figure 34: Location of the proposed Drennan loop extension (SAHRIS, 2013)

Figure 35: Aerial view of the proposed Drennan loop extension (SAHRIS, 2013)

4.2.7 Thorngrove Loop Extension

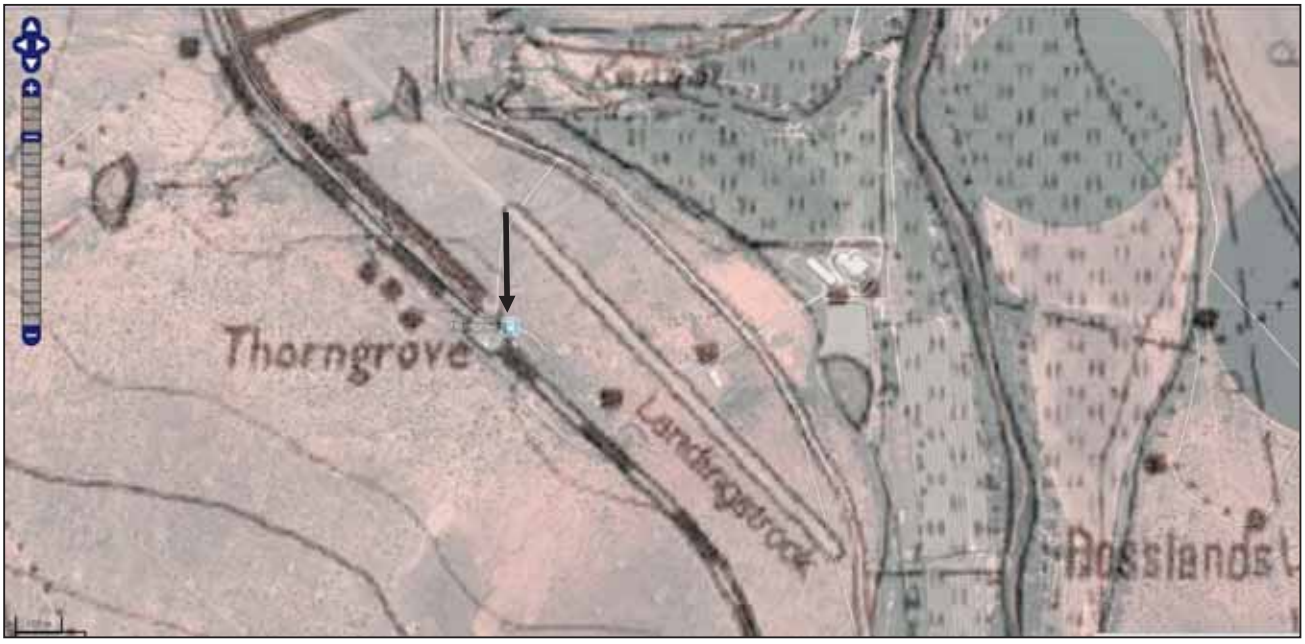

Figure 36: Location of the proposed Thorngrove loop extension (SAHRIS, 2013)

4.2.8 Cookhouse – Golden Valley Doubling

Figure 37: Location of the proposed Cookhouse – Golden Valley doubling of the railway line (SAHRIS, 2013)

Figure 38: Location of Cookhouse Station and surrounding areas (SAHRIS, 2013)

Figure 39: Rooiwal area that occurs south of Cookhouse Station. The Great Fish River is situated east from the railway line (SAHRIS, 2013)

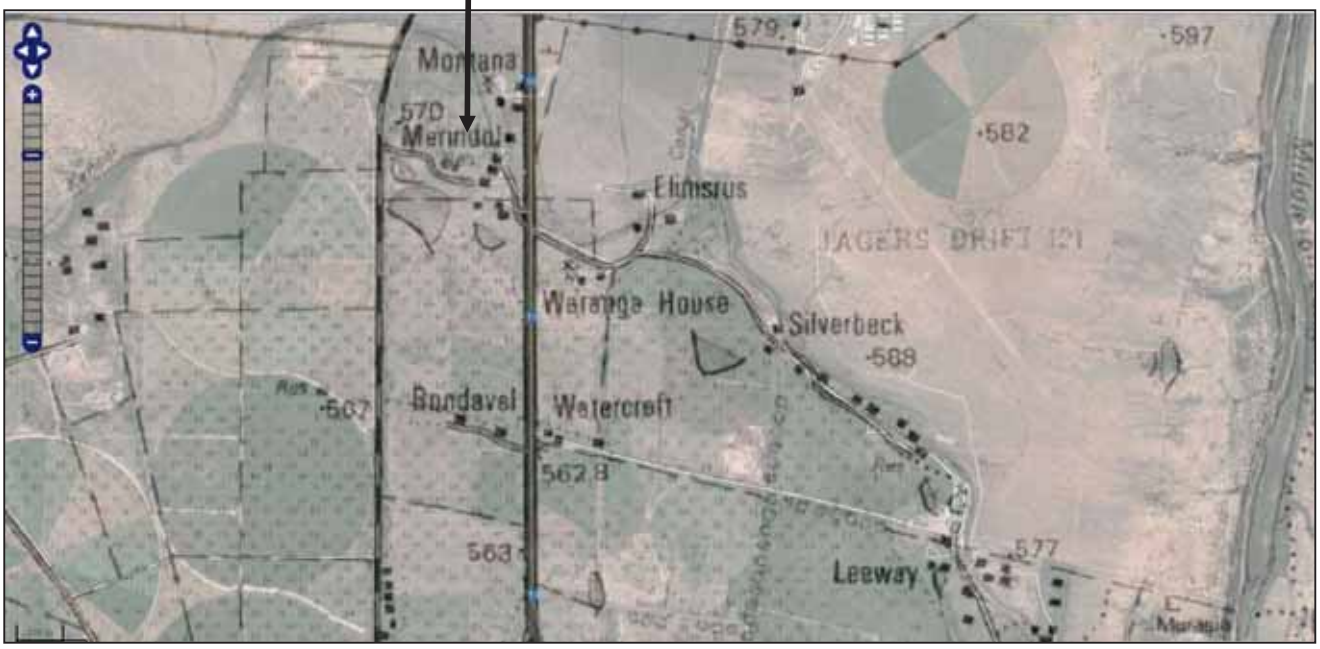

Figure 40: Farming areas at Montana, Merindal and Rondavel. This section is located north of Golden Valley Station (SAHRIS, 2013)

Figure 41: Golden Valley Station and surrounding farming areas (SAHRIS, 2013)

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4.2.9 Sheldon Loop Extension

A loop extension is proposed at Sheldon.

Figure 42: Location of the proposed Sheldon loop extension (SAHRIS, 2013)

Figure 43: Aerial view of the proposed Sheldon loop extension

4.2.10 Ripon to Kommadagga

Figure 44: Downhill section between Ripon to Kommadagga Stations (SAHRIS, 2013)

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Figure 45: Aerial view of the downhill section south towards Kommadagga Station (SAHRIS, 2013)

Figure 46: Kommadagga Station (SAHRIS, 2013)

5. Approach

This section summarises the approach, identify concerns and propose mitigation measures focusing on the sections from Hotazel to Kimberley (Area 1) and De Aar to Port of Ngqura (Area 3).

The first step was to undertake a gap analysis to identify where further studies were required, following on from the assessment done by Archaic in 2008. Although a significant portion of the heritage resources identified during that assessment are situated outside of the development footprint, the results also showed that further heritage investigations were necessary to have a clear understanding of the range of heritage resources that exist alongside/within the proposed railway line development route and stations.

As such, the main focus of this heritage impact assessment was on identifying areas where construction activities may impact on potential heritage resources, building on and adding to those resources identified already. Furthermore a detailed heritage management plan was prepared that focuses on structures, cultural landscapes, archaeological sites, paleontological sites, indigenous groups and heritage objects.

The specific terms of reference for the Phase 1 Heritage Impact Assessment are as follows:

- Provide a description of the archaeology, and cultural heritage of the project development route and identify/map any sites of archaeological or cultural significance that may be impacted by the proposed project. **Note**: The palaeontology impact assessment has been completed as part of a separate specialist study
- Undertake an archaeological reconnaissance survey to locate, identify and record the distribution of archaeological sites on th**e su**rface and against the natural geographic as well as environmental background
- Assess the sensitivity and conservation significance of any sites of archaeological or cultural heritage significance affected by the proposed development
- Make practical recommendations for the protection and maintenance of any identified and significant archaeological or cultural heritage sites that may be affected
- Provide guidance for the requirement of any permits from SAHRA, Heritage Eastern Cape and Ngwao Boswa Kapa Bokoni (Heritage Northern Cape) that might be needed

5.1 Heritage Impact Assessment Objectives

The specific project objectives are as follows:

- Identify major heritage resources issues that may result in a risk to the project or may be a potential fatal flaw
- Heritage resources of significance will be preserved and managed according to an approved Heritage Management Plan (HMP)
- Minimise the adverse impacts on heritage resources that are positioned on the surface or placed in situ

- Identify the areas where permanent impact on tangible as well as intangible heritage resources needs to be undertaken within a controlled environment
- Avoid impacts on communities of Indigenous Peoples or minimise the impact as far as possible

5.2 Legislation and Guidelines

SAHRA is a statutory organisation established in terms of the National Heritage Resources Act (No. 25 of 1999) as the national body responsible for the protection of South Africa's cultural heritage resources. SAHRA manages the administration of permits for:

- Destruction, alteration or demolition of structures older than sixty years
- Needs and desirability permits linked to development activities
- Sampling permits that allow for the removal of heritage objects for research purposes or rescue archaeology
- Rock art documentation permits
- Grave exhumation and removal permits
- Archaeological excavation permits

The need for input with respect to heritage resources is primarily triggered through statutory requirements, the nature and degree of the potential impact's significance, and concerns raised during the stakeholder consultation process (Provincial Government Western Cape, 2005)

It is the legal responsibility of the developer to ensure that the cultural heritage, archaeological resources and paleontological sites that have been identified during the reconnaissance survey are protected and that the recommended mitigation procedures are implemented. It is also the responsibility of the developer to ensure that competent professionals are contracted to assist with the identification and protection of heritage resources.

6. Assumptions and Limitations

The following assumptions and limitations must be taken into consideration when reading this report.

6.1 Assumptions

The following assumptions are applicable based on the engineering scope of works:

- No structures older than sixty years will be demolished, disturbed or destroyed
- If such an activity is to take place a professional Archaeologist will need to be informed immediately and a permitting process will need to be initiated
- No grave sites will be affected, disturbed, altered or exhumed although if such a scenario is to take place a permitting procedure must be initiated with SAHRA's assistance and the input from a professional Archaeologist
- A HMP has been drafted to guide the management of heritage resources as part of the Environmental Management Plan

- Construction of site offices will be placed at the construction sites within the railway reserve areas

6.2 Limitations

The following limitations are applicable:

- The extent of the proposed development had logistical constraints that did not allow for a complete archaeological reconnaissance survey (fieldwork) at the full extent of the railway line which covers more than 1000 km. The study therefore focussed on the construction areas identified
- The development is of a linear nature which crosses several cultural landscape areas which range in terms of the heritage resources from high to low significance. The extent of this area limits the effectiveness of a detailed survey and therefore specific focus areas where development footprints are likely to result in destruction of potential sites were focused on

7. Project Methodology

The methodology includes the following:

- Provision of a sensitivity map that will indicate the tangible and intangible heritage resources positioned alongside and within the proposed development route, supported by the review of previous heritage impact assessment reports completed for previous archaeological survey projects
- Document, calculate and analyse the heritage resources identified during the reconnaissance survey to determine what constitutes a significant resource and how this can be managed
- List recommendations, alternatives as well as mitigation measures to inform the decision-making process
- Consult with local community members, authorities, museums, academic institutions and historical associations on a regular basis
- Ensure that public access to the identified heritage resources of national, provincial and local significance are not affected

8. What is Cultural Heritage

Cultural heritage resources are characterised by two different sub-disciplines which represent intangible and tangible heritage resources that define the field of heritage resources management. Tangible heritage resources can be documented using a quantitative method and intangible heritage resources are documented using a qualitative method.

The list of heritage resources that are protected in terms of the National Heritage Act (No. 25 of 1999) is inclusive of the following:

- Tangible moveable and immovable objects
- Property sites, structures, or groups of structures older than sixty years
- Palaeontological sites and objects
- Archaeological sites and objects
- Physical landscape features for example sacred rocks, lakes and waterfalls
- Places of historic, cultural, artistic and religious value

- Unique natural features
- Intangible forms of culture that are inclusive of cultural knowledge, innovations and traditional lifestyles

Cultural landscapes developed as a result of interactions between nature and man, are illustrative of the relationship that people/communities have with the natural environment (France_UNESCO cooperation agreement, 2006). Cultural landscapes are a combination of trees, forest, rocks, hilltops and associations with sacred natural features. Cultural landscapes are also associated with areas linked to events of bravery, survival and remarkable human events.

8.1 Archaeological Time Periods

Heritage resources and cultural landscapes are linked to specific time periods. In summary the various eras are as follows:

The Iron Age and farmer period occurred in southern Africa from Common Era (2000 years ago to 1950) to historical periods. The definition is divided between Early Iron Age (c. 200 CE to c. 1400 CE) and Late Iron Age (c. 1400 CE to 1800's (Archaic, 2008)). The historical period indicates dates from 1500s to present (Natalie Swanepoel, Amanda Esterhuysen and Phillip Bonner, 2007). The Iron Age is defined as a time period that occurred during c. 200 to c. 1000 Common Era, named as the early period, and c. 1000 to 1800's Common Era (Archaic, 2008).

The Stone Age time period is divided between three different time periods, namely:

- Early: c. 2 500 000 to 150 000 Before Common Era
- Middle: c. 150 000 to 30 000 Before Common Era
- Late: c. 30 000 Before Common Era until the historical time periods commenced

9. Archaeological and Historical Background

The Northern and Eastern Cape are evident of different types of human activities, settlement areas, cultural attributes and conflict time periods. The variety of cultural groups and communities has resulted in a unique cultural landscape that provides insight into the way people lived in the archaeological as well historical times.

9.1 Archaeological Background

The Northern Cape has traces of various types of archaeological sites inclusive of prehistorical and historical sites. A range of these sites are positioned next to the rivers, hilltops and pans. The Northern Cape is evident of rocky outcrops and river banks that were used by hunter gatherers to develop temporary camping areas to have access to water and hunting resources.

The Northern Cape is evident of the occurrence of a variety of rock art images, Stone Age sites and palaeontological significant areas. The historical sites are mostly related to the siege of Kimberley and the South African War. Stone Age sites have been identified in the past by archaeologists in the well known Wonderwerk Cave located in the Kuruman Hills, Postmasburg, Doornfontein, Beeshoek and Kathu. Specularite workings, Later Stone Age and Early Middle Stone Age have been identified in Lylyfeld, Demaneng, Mashwening, King,

Rust & Vrede, Paling, Glucester and Mount Huxley to the northern side. According to archaeological records rock art sites have been identified at Beeshoek and Bruce.

Evidence of Later Iron Age (LIA) early farmers occur in the close vicinity of Kuruman. The early farmers came in contact with the Khoisan groups known as the Late Stone Age (LSA) peoples. Most of the LSA peoples were incorporated in the LIA communities and this period is represented at the Blinkklipkop specularite mine close to Postmasburg.

In terms of archaeological records and reports completed by heritage specialists various old mine works occur on the ridges to the west of the Glosam railway line siding (Pelser A J, 2012). The Glosam railway siding is positioned at the Tsantsabane Local Municipality in the Siyanda district of the Northern Cape.

The 18th century was defined as a conflict time period when the Griqua, Korana and white settlers were competing for the availability of land. This period is also known for the occurrence of the Mfecane or the so called Difaqane that resulted in a time period of instability that started in the middle 1820's. The conflict time period related to the Mfecane or Difaqane was the result of the influx of the then displaced people. The continuous conflict resulted in tribal groups migrating to hilltop areas in the need of finding safe environments.

The Platfontein area on the way to Barkley West is evident of the oldest indigenous group of people in Southern Africa. The San group is named the !Xun and Khwe that form part of a larger Khoi San category. In terms of historical records the !Xun is originally from South Angola and the Khwe from the West Caprivi in Namibia.

9.2 Historical Background

- The history of mining

  North of Kimberley the Kamfersdam mine and dump are of historical value. Kamfersdam is associated with historical mining and diamond digging camp sites. The mine area was also used by the Boers during the South African War to position their ammunitions.

- South Africa's Railway History

  South Africa's railway system dates back to the 1860's and is one of the largest on the African continent. The few lines that originated in the 1870's to 1880's were part of the historical time period associated with the finding of gold and diamonds. Various railway administrations and departments originated during the development of colonies as well as the Boer republics. These systems were combined in 1910 to develop one railway map (De Jong R. C., 2002). The discovery of minerals in the area between Hotazel and Kimberley has resulted in the need for the development of a railway line. Various sections were originally identified to be of urgent need in transportation of goods via the use of a railway line. The first section that received railway line infrastructure was Kimberley to Barkley West and thereafter the railway line was further developed between Barkley West to Koopmansfontein (Historical and Heritage Research Consultants, 2008). Afterwards the line was extended to Postmasburg and eventually reached Lohathla, Sishen and later Hotazel.

  During 1922, Borrelskop featured as an area that needed a railway station and the section between Longlands as well as Delportshoop was identified for the development of a railway siding (Historical and Heritage Research Consultants, 2008). It is estimated that the railway

line between Kimberley, Barkley West and Koopmansfontein was developed between 1922 and 1930.

In 1928, with the cooperation of the Forestry Department, the South African Railways decided to develop railway infrastructure between Postmasburg, Koopmansfontein and Danielskuil to the Maremane Native Reserve in Postmasburg (Historical and Heritage Research Consultants, 2008).

This route appeared to be the closest to the Kathu Forest Reserve that required goods transportation to the Postmasburg mines (Historical and Heritage Research Consultants, 2008).

The Groenwater area was managed by the Department of Native Affairs and they had to be consulted when land was needed for a railway siding. The affected local community members at Groenwater were compensated.

The railway line between Koopmansfontein and Postmasburg was approved for construction in 1929 and the infrastructure was in full operation during 1930. After the depression years that occurred between 1930 and 1936, the railway line was extended to Lohathla.

In 1953 the railway line was extended to Sishen because of an increase in manganese ore mining and the need of Kuruman miners to export their livestock to markets in the republic. Although farmers indicated their needs in terms of livestock transport, the decision was mostly based on the need of the manganese mines to export their material. Interest in manganese mining extended to Black Rock and Kathu, but as a result of cost implication the approval of such an infrastructure development was declined in 1952.

The South African Manganese Limited Company applied for a second time that a railway line should be developed between Sishen and Hotazel during 1959. A concern was that a lack of water existed between Hotazel and Kuruman that was needed for the locomotives. In the end the construction was approved by the South African government for development in 1959. The electrification of the railway line between Postmasburg and Hotazel occurred in 1966 (Historical and Heritage Research Consultants, 2008).

- Diamond Digging History

  Diamond digging commenced in Kimberley during 1871 and ended by 1914 (The Big Hole Kimberley, 2012). The area was characterised historically and is still characterised today by the surroundings of original buildings occupied by the diamond diggers, diamond buyers and other business communities. De Beers has been mining in the area for the last 120 years and since the end of the underground mining activities the region has changed into a unique heritage landscape.

  A decline of liberalism was experienced in the diamond fields of Kimberley during 1886. A well known parliamentarian from the Cape indicated that Cecil John Rhodes proposed to influence the vote by incorporating the mass working class in the political structures of democracy (Rob T., 1981). An opposition was present in the political arena that was adopted during the early Diamond Field days (Rob T., 1981) . The Kimberley area was dominated by merchants with interests in an expanding commodity market that was being challenged by a class of industrialists (Rob T., 1981). A clear population shift occurred in 1872 after an

increase of diamond digging activities that is an estimate increase of 28 000 to 50 000 people (Rob T., 1981).

The Great Depression that occurred in 1873 resulted in the migration of diggers from Kimberley to the Gold Fields of Pilgrim's Rest (Rob T., 1981). During 1875 the population of the diamond fields was reduced and the majority of the people were concentrated around the richest diamond pipe named Kimberley mine (Rob T., 1981).The area had four mines, but the Kimberley pipe attracted most of the diggers and resulted in an average of 470 claims of ten hectares in extent that were further subdivided in smaller portions (Rob T., 1981).

- South African War 1899-1902

  The South African War, also known as the Anglo - Boer War, has left a footprint of historical archaeological sites related to the siege of Kimberley between 1899 and 1900. A range of encampments and fortifications were developed in the area that is still visible today.

- Iron Age Groups in the Northern Cape

  Archaeological evidence showed that Tswana speaking Iron Age groups have inhabited the areas north of Postmasburg. A variety of iron and copper artefacts of Tswana origin have been discovered. Traces of specularite which could have been from the Postmasburg area provide an indication of prehistorical trading activities in the area (Humphreys A. J., 2009 reproduced).

- Archaeological - Historical evidence from the Eastern Cape

  It has been identified that from the late 17th century onwards, that an increasing number of European travellers entered the Eastern Cape. Contact between the European travellers and hunter-gatherers were limited. It seems that most of the historical contact occurred between the Colonial people and the pastoralists. In terms of historical records the section at the lower Fish River was a combination of Khoi and Xhosa pastoralists who struggled to maintain their social lifestyle in the light of an increase of landuse related to cattle grazing (Hall S.L., 1986).

- Colonial History Eastern Cape

  Britain experienced an unemployment problem after the Napoleonic conflict years. The British government decided to support immigration of their citizens to the Cape Colony in 1820. The settlers first reached Table Bay and were then sent to Algoa Bay that is currently known as Port Elizabeth (Godlonton R., 2012).

  A British governor in South Africa, named Lord Somerset, supported British citizens to settle at the frontier area positioned in the Eastern Cape. The request for settlement had a specific reason and that was to defend the eastern frontier against the Xhosa speaking people. The second agenda was to increase the quantity of English-speaking people (Godlonton R., 2012).

  Life at the border was difficult and some of the settlers decided to rather move to Port Elizabeth, Grahamstown and East London. The few settlers that decided to stay on decided to contribute to agricultural activities, planting of maize, as well as rye and barley. Wool farming became popular in the area that resulted in the development of trading relationships between the border and Grahamstown as well as Port Elizabeth (Godlonton R., 2012).

- Rock Art Engravings Northern and Eastern Cape

  Rock engravings are mostly found in the interior plateau for example in Kimberley and the Karoo (Lewis Williams D.; Dowson T., 1989). The Wonderwerk Cave (Northern Cape) archaeological excavations and research have indicated that rock engravings were evident more than 10 000 years ago (Lewis Williams D.; Dowson T., 1989). Evidence exists of rock art paintings occurring in caves and shelters at the Kuruman Hills, Ghaap Escarpment and scattered sites in the Karoo (Morris D., 1988).

  Rock engravings have also been identified at Driekopseiland that is positioned in the close vicinity of Kimberley Town (Butzer K.W., Fock G.J., Scott L. and Stuckenrath R., 1979).

  Driekopseiland is evident of more than ninety percent of geometric engraving sites (Morris D., 1988). Geometrics have been identified at the Kuruman valley and the middle Orange area (Morris D., 1988). Engravings tend to be found at rock walls, low outcrops, or clusters of surface stone (Butzer K.W., Fock G.J., Scott L. and Stuckenrath R., 1979).

10. Findings

Heritage resources of significance were identified during the reconnaissance survey during March 2012 to April 2012. The emphasis of the survey was placed on areas that may experience a direct impact or change. Additional information has been provided to highlight the occurrence of different types of heritage resources that occur in close vicinity of the proposed development areas and to ensure that those areas are protected if a change in scope occurs.

The screening of the proposed development area indicated that significant cultural landscapes, inclusive of the footprints of the San, the South African War, and historical diamond digging areas were within and around the development footprint. The historical railway lines, historical structures and foundations which are part of the rail industrial archaeology have also been identified and added to the significant heritage resources that are positioned alongside the existing railway line. Refer to the map book (Appendix A) indicating where heritage resources have been identified.

At Sishen a new loop is proposed. This area is highly disturbed because of the occurrence of intensive mining activities. Previous heritage impact assessment reports note a cluster of Stone Age sites close to Kathu and the Sishen areas. It is therefore advised that monitoring occurs before and after construction.

The proposed Mamathwane Rail Compilation Yard covers an area of 120 ha that is proposed to be placed next to the existing railway line. Although the area is already disturbed because of railway activities, it must be emphasized that in terms of previous archaeological impact assessment reports, a high density of stone tools were identified in the close vicinity. It is recommended that monitoring occurs before and during construction.

The criteria of impact were reliant on the following scenarios:

- Is the impact expected to be direct/indirect
- What is the cumulative aspect
- What is the duration and scale of the impact

- What is the significance of the impact?

10.1 Area 1 (Hotazel to Kimberley)

The table below lists the location where construction is proposed and the type of heritage resources that have been identified.

Table 10-1: Findings between Hotazel to Kimberley

Area	Coordinates		Description	Position in relation to the railway line	Mitigation	Nature of Impact before mitigation	Nature of Impact after mitigation
	South	East					
Ulco Station	28°21'52.75"	24°18'22.01"	Cultural landscape, historical buildings and old railway line	65 metres west	No construction should occur within 50 metres from the existing railway line	Medium	Low
Gong Gong Station	28°28'43.93"	24°26'30.39"	Old railway route and bridge Stone walling	7 metres west The historical structures are positioned relatively close to the railway reserve.	The historical structures are positioned relatively close to the railway reserve. Construction should be limited to the railway reserve area	Medium	Low
Fieldsview Station and surroundings	28° 35' 44.0"	24° 40' 27.9"	!Xun and Khwe cultural landscape	Borders both sides of the reserve	The area is known to be part of the !Xun and Khwe landscape and regular engagement with these communities should occur	Medium	Low
North of Fieldsview Station (6km)	28° 32' 16.0"	24° 37' 25.4"	Old railway structure foundation	5 metres east The historical structure is positioned relatively close to the railway reserve.	Construction should be limited to the railway reserve area	Medium - Low	Low

10.1.1 Area 1 (Hotazel to Kimberley) Maps

The following section provides maps and photographs that visually display the areas that are proposed to be developed (Please refer to subsection 2).

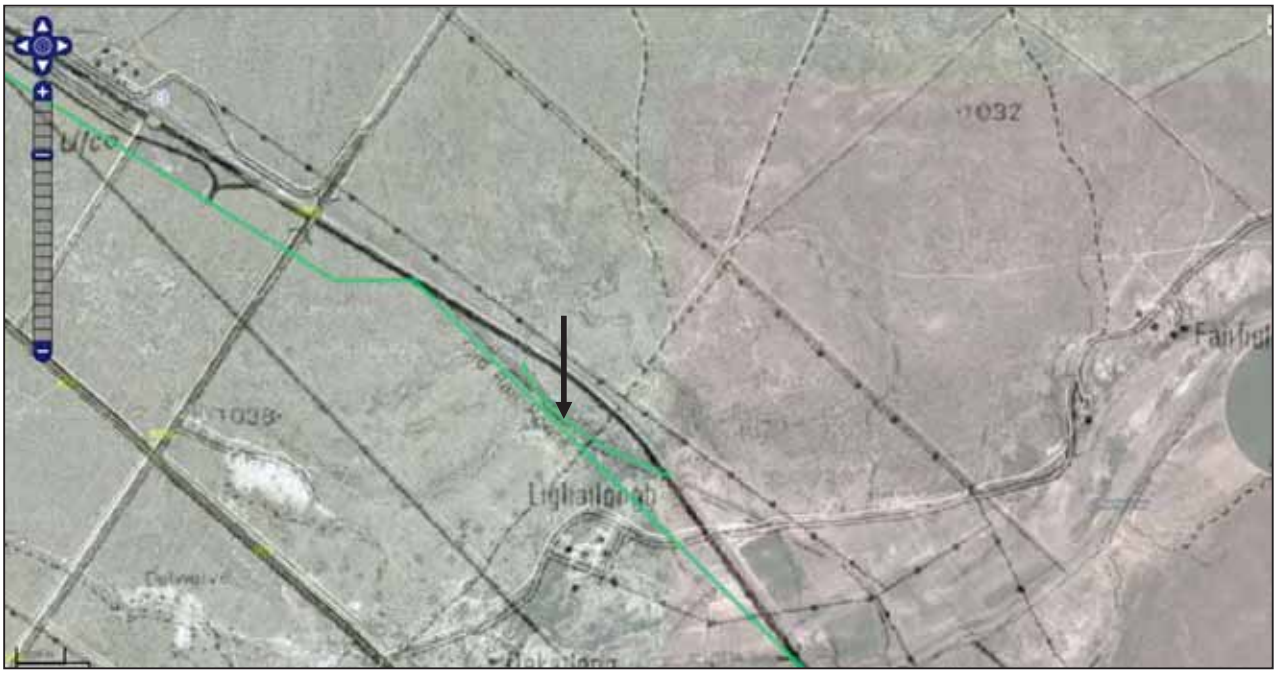

Figure 47: Ulco old railway line situated 65 metres west from the existing reserve area (SAHRIS, 2013)

Figure 48: Ulco loop extension (SAHRIS, 2013)

Figure 49: Ulco Station

Figure 50: Railway reserve at Ulco Station

Figure 51: Railway buildings at Ulco Station

Figure 52: Historical railway structures and railway within the reserve at Ulco Station

Figure 53: Old railway features at Ulco Station

Figure 54: Area south of Ulco Station, towards Ghaap

Figure 55: Gong Gong Station and the area marked in green is evident of an old railway line (SAHRIS, 2013)

Figure 56: Gong Gong Station (SAHRIS, 2013)

Figure 57: Gong Gong Station and old railway line indicated by the green section (SAHRIS, 2013)

Figure 58: Gong Gong Station

Figure 59: Landscape surrounding Gong Gong Station

Figure 60: Historical bridge positioned seven metres west of the existing railway line at Gong Gong Station

Figure 61: Old railway line between Gong Gong and Winter's Rush Stations

Figure 62: Stone walling situated west of the railway line and south of Gong Gong Station

Figure 63: Fieldsview Station and surrounding area. The area is particularly known for the historical diamond digging history (indicated by the arrow) (SAHRIS, 2013)

Figure 64: Fieldsview Station

Figure 65: Fieldsview Station and associated railway infrastructure. No heritage resources have been identified within the railway reserve, but the area is bordered by the !Xun and Khwe cultural landscape

Figure 66: The !Xun and Khwe cultural landscape borders the existing railway reserve. This photograph has been taken with the area situated west of the existing fencing line

Figure 67: The !Xun and Khwe communities are living in an area called Platfontein. The actual position of the living area is located within 7km west of the railway reserve, but the surrounding area is part their cultural landscape.

Figure 68: Close up view of the area that borders the existing railway line south of Fieldsview Station and west of the fence line

Figure 69: The railway reserve south of Fieldsview Station

10.2 Area 2 (Kimberley to De Aar)

This area has been dealt with in a separate Phase 1 Heritage Impact Assessment report.

10.3 Area 3 (De Aar to Port of Ngqura)

The heritage resources identified at the proposed development areas are inclusive of old railway infrastructure (housing, old railway lines and foundations) at Burgervilleweg, Rosmead, Linde, Tafelberg, Knutsford, Drennan, Thorngrove, Cookhouse, Golden Valley, Sheldon, Ripon and Kommadagga.

Kommadagga is particularly sensitive towards the occurrence of Stone Age material. After a change in scope of work, Kommadagga Station and surrounding areas will not be impacted upon by the proposed development. The reconnaissance survey focused on areas located within the railway reserve and where the actual construction is proposed to occur.

Table 10-2: Directly impacted areas between De Aar and Port of Ngqura

Area	Coordinates		Description	Position in relation to the railway line	Mitigation	Nature of Impact before mitigation	Nature of Impact after mitigation
	South	East					
Burgervilleweg	30°49'26.29"S	24°17'31.31"E	Various old railway structures and an old homestead are situated at the crossing station	Historical railway structures are situated 50 metres west of the existing railway line. An old homestead is positioned 50 metres east of the reserve.	The railway structures and homestead should not be impacted by the proposed development. If the structures need to be demolished a permit application must be completed	High	Medium
Rosmead	31°29'25.38"S	25° 7'9.29"E	Historical structures are located west and east of the station The area is occupied by local community members and schools are situated in the vicinity	The historical structures are situated within 20 to 100 metres from the existing railway line	The historical structures should not be impacted by the proposed development. If structures need to be demolished a permit application must be completed	High	Medium
Linde	30°59'26.03"S	24°38'21.88"E	Few historical structures are positioned north west of the existing railway line Scattered Middle Stone	The historical structures are situated within 50 metres of the reserve area Scattered Middle Stone	The historical structures should not be impacted by the proposed development. If structures need to be demolished a	Medium	Low

			Age Material	Age Material has been identified 130 metres west of the reserve area	permit application must be completed The Stone Age Material should not be impacted by the proposed development		
Tafelberg	31°37'3.92"S	25°14'26.04"E	Historical structures are located west and east of the station	The historical structures are situated within 50 to 100 metres from the existing railway line	The historical structures should not be impacted by the proposed development. If structures need to be demolished a permit application must be completed	High	Medium
Tafelberg Historical Church and other structures	31°36'55.37"S	25°14'25.87"E	Historical church	The historical structure is located north east of Tafelberg Station Historical structures have been identified 200 metres north west of the reserve	The historical structures should not be impacted by the proposed development. If structures need to be demolished a permit application must be completed	High	Medium
Knutsford	31°56'53.65"S	25°29'54.40"E	Knutsford is bordered by agricultural land Scattered stone tool material	Few structures are located west and east of the existing railway line. The features are positioned within 50 to 100 metres from the	The historical structures should not be impacted by the proposed development. If structures need to be demolished a permit application must	Medium	Low

				reserve South East of Knutsford Station, scattered stone tool material occur within a 130 metres of the reserve	be completed The Stone Age Material should not be impacted by the proposed development		
Drennan	32°26'29.52"S	25°44'29.74"E	Various old railway structures are situated at the crossing station	West and east of the existing railway line	The railway structures should not be impacted by the proposed development. If the structures need to be demolished a permit application must be completed	High	Medium
Thorngrove	32°38'8.51"S	25°48'35.87"E	Few old railway structures	West and east of the existing railway line	The railway structures should not be impacted by the proposed development. If the structures need to be demolished a permit application must be completed	High	Medium
Cookhouse	32°44'42.58"S	25°48'24.90"E	Old and contemporary railway structures	West and east of the existing railway line	The railway structures should not be impacted by the proposed development. If the	High	Medium

					structures need to be demolished a permit application must be completed		
Golden Valley Station and surroundings	32°48'38.13"S	25°47'20.36"E	Station that is evident of historical railway structures	The railway structures are situated west of the existing railway line	The railway structures should not be impacted by the proposed development. If the structures need to be demolished a permit application must be completed	High	Medium
Sheldon	33° 0'50.28"S	25°50'21.68"E	Historical Station	Railway structures are positioned west and east from the existing railway line	The railway structures should not be impacted by the proposed development. If the structures need to be demolished a permit application must be completed	High	Medium
Ripon	33° 5'36.27"S	25°52'14.65"E	Historical Station evident of contemporary and historical railway structures	Railway structures are positioned west and east from the existing railway line	The railway structures should not be impacted by the proposed development. If the structures need to be demolished a permit application must be	High	Medium

					completed		
Kommadagga Station and surroundings	33° 7'1.24"S	E25°53'46.28"E	The site is situated within 70 metres from the existing railway line	Medium density middle and late stone tool material located in the railway reserve and development area	Phase 2 removal of artefacts and detailed site recordings	High	Medium
Kommadagga Station and surroundings	33° 7'6.71"S	25°53'58.56"E	The site is situated east from the existing railway line within the reserve area	Medium density middle and late stone tool material located in the railway reserve and development area	Phase 2 removal of artefacts and detailed site recordings	High	Medium
Verby	33°26'26.82"S	26° 0'30.03"E	Verby Station is bordered by agricultural land	Few structures are located 50 to 100 metres west and east of the reserve	The railway structures should not be impacted by the proposed development. If the structures need to be demolished a permit application must be completed	Medium	Low

10.3.1 Burgervilleweg Loop Extension

Figure 70: Historical railway structures and an old homestead are located at Burgerville Station (SAHRIS, 2013)

10.3.2 Rosmead Loop Extension

Figure 71: Rosmead Historical Station (SAHRIS, 2013)

Figure 72: Rosmead Historical Station

Figure 73: Rosmead historical structures and railway line

10.3.3 Linde Loop Extension

Figure 74: Linde is evident of a few historical structures (SAHRIS, 2013)

10.3.4 Tafelberg Loop Extension

Figure 75: Tafelberg Station is evident of old railway structures and north of the station an old church is situated east of the existing railway line (SAHRIS, 2013)

10.3.5 Knutsford Loop Extension

Figure 76: Few historical structures are evident at Knutsford Station (SAHRIS, 2013)

10.3.6 Drennan Loop Extension

Figure 77: Drennan Station and various old railway structures (SAHRIS, 2013)

10.3.7 Thorngrove Loop Extension

Figure 78: Thorngrove Station evident of old railway buildings (SAHRIS, 2013)

10.3.8 Cookhouse to Golden Valley Doubling

Figure 79: Cookhouse Station. It is associated with contemporary and historical railway structures (SAHRIS, 2013)

Figure 80: Cookhouse to Drennan

Figure 81: Golden Valley Station and historical structures

Figure 82: Historical structures at Golden Valley Station

Figure 83: Railway infrastructure at Golden Valley Station

Figure 84: An access road towards Golden Valley Station

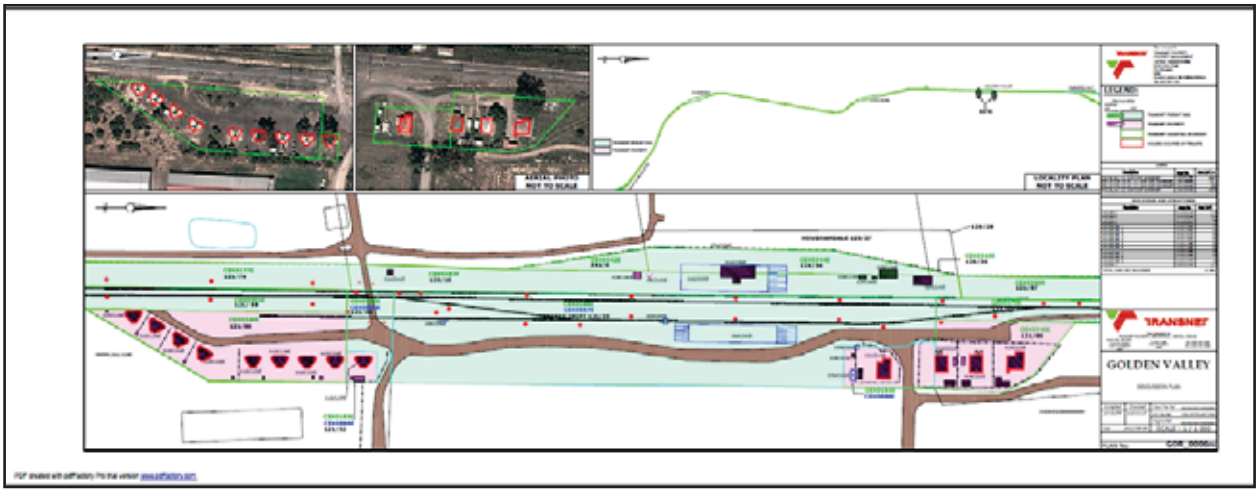

Figure 85: Golden Valley Plan displaying Transnet Properties (Transnet Properties, 2012)

Figure 86: Railway line south of Golden Valley Station. Historical and temporary structures are situated alongside the existing railway line

Figure 87: View of the railway line south of Golden Valley Station

10.3.9 Sheldon Loop Extension

Figure 88: Sheldon Station and doubling of the railway line

Figure 89: Sheldon Station evident of historical railway buildings

(SAHRIS, 2013)

Figure 90**: Klein Vis Station situated 5 km south from Sheldon Station. The area is evident of historical station buildings (SAHRIS, 2013)**

Figure 91: Sheldon Station historical buildings

Figure 92: Old railway buildings at Sheldon

Figure 93: The cultural landscape is particularly disturbed in the vicinity of the existing railway line

10.3.10 Ripon to Kommadagga Stations

The section between Ripon to Kommadagga will not be directly impacted upon, but an assessment was completed to confirm the significance of this area.

Figure 94: Ripon Station evident of historical railway structures (SAHRIS, 2013)

10.3.11 Kommadagga Station

Figure 95: View of the railway line heading towards Kommadagga Station

Figure 96: Railway reserve road heading towards Kommadagga Station

Figure 97: Station and line situated west from the existing railway line at Kommadagga Station

Figure 98: Historical water tank situated west of the existing railway line at Kommadagga Station

The water tank will not be destructed by the proposed development

Figure 99: The surrounding environment at Kommadagga Station

The photograph indicates the area east from the existing railway line

Figure 100: School situated east from the railway reserve at Kommadagga Station

Figure 101: Various types of stone tool material were identified at the embankment displayed in the photograph

The embankment is situated west from the existing railway line at Kommadagga Station

Figure 102: Railway line positioned south of Kommadagga Station

Figure 103: Railway tracks and structure situated at Kommadagga Station

Figure 104: Stone tool material identified at embankment positioned west of Kommadagga railway reserve

Figure 105: Stone tool material identified at embankment situated west of Kommadagga railway reserve

Figure 106: Stone tool material at embankment situated west of Kommadagga railway reserve

Figure 107: Landscape photograph of Kommadagga Station and surrounds

11. Mitigation Measures and Recommendations

The following mitigation procedures and recommendations would assist in the protection of heritage resources at the identified cultural landscape areas:

- Construction activities should not impact on areas where historical railway buildings are positioned as indicated on the maps provided
- The historical railway structures (buildings, old railway lines, foundations) that are located at each station area, should be fenced and these areas must not be used for storing of construction material
- During construction if any heritage objects are discovered, the Environmental Officer (EO) must contact the professional Archaeologist that is on standby for project support. The Professional Archaeologist will visit the site and determine the significance of the heritage resources findings. If the findings are of importance, the Professional Archaeologist will inform SAHRA, Heritage Northern Cape (Ngwao Boswa Kapa Bokoni) and McGregor Museum (Provincial Site Recording Institute). A combined decision will be made on the way forward and work may only proceed after SAHRA has provided approval for construction activities to proceed at the area where the heritage objects were found
- Quarterly monitoring reports completed by the EO should be forwarded to SAHRA, Heritage Eastern Cape and Heritage Northern Cape (Ngwao Boswa Kapa Bokoni) to inform them of the conservation status at each historical station area
- A sampling and monitoring permit has been applied for that will allow for heritage resource rescue work if necessary. The permit will be used in the event that in situ archaeological material related to the South African War dumping sites, stone tool material or any other type of heritage objects are uncovered during earthmoving activities

12. The Way Forward

The section from Hotazel to Kimberley (Area 1) and De Aar to the Port of Ngqura (Area 3) consists of a variety of heritage resources sites that are mostly positioned outside of the railway line reserve areas. Stone walling and South African War fortifications that are positioned outside of the railway line reserve areas should not be impacted by the proposed development. The assumption is that a large section of the construction work will be limited to the railway reserve areas. If any type of work is proposed to commence outside of the railway reserve properties, SAHRA must be notified immediately. The reason for this is that fortifications, historical structures and archaeological sites could be destroyed when development is allowed outside of the mentioned boundaries.

13. Conclusion

A number of historical railway buildings, foundations and lines have been noted at several stations. These features should not be impacted upon without a permit from the heritage authority.

The proposed compilation yard has a larger impact related to the size of the proposed development than the new loops and loop extensions. The area is already disturbed as a

result of past and existing mining activities. It is recommended that construction work stay within areas that have been developed in the past.

If any heritage resources are discovered during the earthmoving operations, it is advised that a professional Archaeologist is contacted immediately to guide the process.

In terms of the way forward the heritage impact assessment report will be externally reviewed and forwarded to SAHRA for review comment.

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Elize Becker
EB:EB

Appendix A : Heritage Map Book

Appendix B : Additional Site Photos and Descriptions

Site Photo	Description
	**Barkley West** railway reserve. The reserve areas are highly disturbed and heritage resources located in these areas tend to be out of context
	Commercial buildings that border the **Barkley West** reserve areas. The photograph is an indication of the disturbed cultural environment

	**Borrelskop** station featured during the start of the railway development in 1922 Traces of the old station foundations are visible No construction is scheduled to take place in this area
	Traces of fortifications are evident alongside the existing railway line. The density of these features increases when entering **Bad Hope** Station and surroundings

	Collapsed stone walling evident next to the existing railway line in the close vicinity of **Bad Hope** Station The area will not be affected by the proposed development
	Further traces of collapsed stone walling in **the Bad Hope** area

	**Fieldsview** cultural landscape The cultural landscape is an extension of the Footprints of the San that occurs on the opposite site of road between Kimberley and Barkley West
	Old railway lines, structures and foundations occur in the **Fieldsview** reserve areas

	Example of access roads used to reach reserve areas between Gong Gong and Fieldsview
	Service roads are located in the reserve areas and as a result archaeological features have been disturbed or are out of context

	The railway reserves are mostly entered via crossing farming properties. These areas are highly disturbed and archaeological features are destroyed because of historical developments. The type of developments refer to are access roads, service roads, the railway line and fencing
	The existing reserve area at **Groenwater** Station and surrounds are a combination of the railway line, the reserve area and scattered traces of old pieces of railway building material

	**Ghaap** cultural landscape is known for the occurrence of significant palaeontological resources. Secondly various types of significant information regarding the Diamond Digging history occur in this area. The heritage resources are not positioned in the reserve areas
	**Kneukel** occurs close the Ghaap Station and is evident of relatively new structures

	**Groenwater** and surroundings. The service road has recently been upgraded and as a result archaeological material are out of context
	A large traditional grave yard is positioned within 130 metres from the existing railway line at the **Groenwater** area. The burial ground belongs the Metsimetala Tswana speaking community

	An average of a hundred graves occur in the open field that belongs to the descendents of the Metsimetala community from **Groenwater**
	The grave of Kgosi Kweetsane is positioned in the **Metsimetala** traditional grave yard area. This area is of high heritage significance

	A distant picture displaying **Kgosi Kweetsane's** grave
	Approximately 10 unmarked graves are positioned within 50 metres from the current reserve area at **Groenwater**. No fencing occur at the grave or railway reserve area

Safety ● Quality ● Sustainability ● Innovation

	The environmental landscape that surrounds the graves mentioned above
	Large graves occur in the area positioned within 50 metres from the **Groenwater** reserve areas. The graves could belong to previous traditional leaders and they are of high sensitivity

	A 1931 grave that occur within 50 metres from the existing reserve area in **Groenwater**
	A new grave yard is positioned at the Groenwater area. The new burial ground is approximately 700 metres from the existing railway line

	This is the environment that borders the **Winterton** reserve areas
	Example of a railway crossing at **Winter's Rush**

	Old station foundations occur at **Winter's Rush** Station No construction is scheduled to take place in this area
	**Winter's Rush** bridge. No construction is proposed at this area

	Road on the way to **Silver Streams** and surroundings. No heritage resources of significance were identified within the railway reserve area
	Cultural landscape north of **Postmasburg** in the close vicinity of Sishen

	Cultural landscape north of **Postmasburg** in the close vicinity of Sishen
	**Canteen Kopje** archaeological site located within 300 metres of the railway line

	**Canteen Kopje** archaeological site located within 300 metres of the railway line
	**Diamantoord** Station. The cultural landscape is evident of South African War and Diamond Digging historical resources. No heritage resources are positioned in the reserve area

Safety • Quality • Sustainability • Innovation

	Railway line north of **Sishen** on the way to Hotazel
	**Gong Gong** Station and relatively modern buildings

Gong Gong historical bridge that is position within 50 metres of the reserve

Railway line north of **Sishen** on the way to Hotazel

	Railway crossings at Kommadagga
	Railway crossings at Kommadagga

	Existing borrow pit area in close vicinity of Golden Valley. Borrow pit areas have displayed valuable evidence of middle and late Stone Age material
	Existing borrow pit area in close vicinity of Golden Valley. Borrow pit areas have displayed valuable evidence of middle and late Stone Age material

	Sections between Conway and Cypress Grove are evident of local community members living in historical houses. The structures will not be demolished, altered or destructed
	The railway line is part of the cultural landscape in the Eastern Cape area

	An example of a culvert that occurs in the Eastern Cape section
	Kommadagga is one of the areas that was identified to be of high significance in terms of the occurrence of Stone Age material

	The type of cultural landscape that borders the existing railway line reserve is typical of a Stone Age time period environment
	A culvert that occurs in the Kommadagga area

	Hilltop areas are positioned in close vicinity of the railway line that could display valuable archaeological material
	River banks have the potential to contain valuable archaeological material

	The Fish River railway bridge
	Golden Valley Station
	Golden Valley Station

	Scattered middle to late Stone Age material occur in Knutsford and surrounds
	High density middle to late Stone Age material occur within the railway reserve at Kommadagga Station

	Service road positioned next to the railway line at Kommadagga Station
	Slagtersnek Memorial

	Golden Valley cultural landscape
	In terms of previous heritage reports rock art engraving sites have been identified within 500 metres from the existing railway line at Golden Valley

	The area has the potential to display archaeological material and possible rock art sites.
	Local community members are living in the close vicinity of the Kommadagga railway line

	A single middle age hand axe identified at Kommadagga
	Stone tool material have been identified at the sand banks that occur next to the railway line

	Medium density Stone Age material identified within the Golden Valley Station reserve areas
	Various photovoltaic type developments have been proposed at the Golden Valley, Ripon and Kommadagga areas

	Stone structure positioned south of Visrivier area
	Blockhouse positioned next to the existing railway line at Visrivier area

	Historical water towers positioned next to the existing railway line at Visrivier area
	The historical town of Visrivier

	Historical houses are positioned next to the existing railway line at the Visrivier area
	Historical stone wall or retaining wall is evident at the section south of Knutsford. Knutsford is also known for the occurrence of low to medium density stone tool material and evidence of the colonial historical resources

	River banks have the potential to contain valuable archaeological material
	Historical housing south of Kommadagga

	Irrigation farms that occur at Kommadagga area and surrounds
	Klipfontein graves (Archaic, 2008)

Rosmead historical houses (Archaic, 2008)