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**A PHASE I HERITAGE IMPACT ASSESSMENT (HIA) STUDY
FOR SIYANDA CHROME SMELTING COMPANY'S (SCSC)
PROPOSED FERROCHROME SMELTER NEAR NORTHAM IN
THE LIMPOPO PROVINCE**

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EXECUTIVE SUMMARY

This study contains the report for a Phase I HIA study for Siyanda Chrome Smelting Company's (SCSC) proposed ferrochrome smelter and related surface infrastructure near Northam in the Limpopo Province. The Phase I HIA was done in accordance with Section 38 of the National Heritage Resources Act (NHRA, No 25 of 1999). The developmental project is hereafter referred to as the Siyanda Ferrochrome Smelter Project and the footprint of the proposed development as the Project Area.

The aims with the Phase I HIA study were the following:

- To determine if any of the types and ranges of heritage resources (the 'national estate') as outlined in Section 3 of the NHRA do occur in the Project Area and, if so, to establish the significance of these heritage resources.
- To establish the level of significance of any possible impact on these heritage resources.
- To propose appropriate mitigation measures for those types and ranges of heritage resources that may be affected by the proposed Siyanda Ferrochrome Smelter Project.

The Phase I HIA study for the proposed Siyanda Ferrochrome Smelter Project did not reveal any of the types and ranges of heritage resources as outlined in Section 38 of the National Heritage Resources Act (No 25 of 1999).

There is consequently no reason from a heritage point of view why the proposed Siyanda Ferrochrome Smelter Project should not continue.

All alternatives considered (two smelter complex alternative areas, three access road routing alternatives and four power line routing alternatives) are equally suitable from a heritage point of view for the development of the proposed Siyanda Ferrochrome Smelter.

General (disclaimer)

Although due consideration was given to the observing and documenting of all heritage resources in the Project Area, some resources may not have been detected due to various reasons (occurring beneath the surface, unmarked, inconspicuous or eroded nature, covered by vegetation, human failure to recognise, etc.).

No specific consultation process was undertaken for the purposes of the HIA as the stakeholder consultation for the project is being done by SLR as part of the overall EIA process. Issues raised to date regarding potential heritage resources relate to the possible presence of graves within the project area and the possibility of graves being disturbed by the project (Joel Ramakokoka, S. McGill and Mr. and Mrs. Schoeman, 21 July 2015).

No graves were observed during the heritage survey. It is therefore not expected that any graves will be disturbed as part of the proposed project. However, should any heritage resources of significance (such as graves) be exposed during the Siyanda Ferrochrome Smelter Project, the South African Heritage Resources Authority (SAHRA) should be notified immediately, all development activities must be stopped and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notified in order to determine appropriate mitigation measures for the discovered finds.

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1 INTRODUCTION

1.1 Project Background

Siyanda Chrome Smelting Company (SCSC) proposes to develop a new ferrochrome smelter near Northam in the Limpopo Province. This Phase I Heritage Impact Assessment (HIA) study is one of a series of specialist study reports which are compiled in support of the terms of reference for the Environmental Impact Assessment (EIA) for SCSC for the establishment of a ferrochrome smelter and related surface infrastructure near Northam in the Limpopo Province. The developmental project is hereafter referred to as the Siyanda Ferrochrome Smelter Project and the footprint of the development is referred to as the Project Area.

Previous heritage surveys that were conducted for developers near Northam in the Limpopo Province indicated that the most common types and ranges of heritage resources which exist in this part of the province consists of stone walled sites which date from the Late Iron Age. However, various types and ranges of heritage resources that qualify as part of South Africa's 'national estate' as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) do occur across the Limpopo Province (see Box 1, next page).

Box 1: Types and ranges of heritage resources (the national estate) as outlined in Section 3 of the National Heritage Resources Act, 1999 (No 25 of 1999).

The National Heritage Resources Act (No 25 of 1999, Art. 3) outlines the following types and ranges of heritage resources that qualify as part of the National Estate, namely:

- (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 by in terms of the Human Tissues 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, photographs, positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (No 43 of 1996).

The National Heritage Resources Act (No 25 of 1999, Art. 3) also distinguishes nine criteria for places and objects to qualify as 'part of the national estate if they have cultural significance or other special value ...'. These criteria are the following:

- (a) its importance in the community, or pattern of South Africa's history;
- (a) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (b) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (c) 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)
- (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;
- (i) sites of significance relating to the history of slavery in South Africa

1.2 Definitions

Terms that may be used in this report are briefly outlined below:

- Conservation: The act of maintaining all or part of a resource (whether renewable or non-renewable) in its present condition in order to provide for its continued or future use. Conservation includes sustainable use, protection, maintenance, rehabilitation, restoration and enhancement of the natural and cultural environment.
- Conservation (*in-situ*): The conservation and maintenance of ecosystems, natural habitats and cultural resources in their natural and original surroundings.
- Cultural (heritage) resources: A broad, generic term covering any physical, natural and spiritual properties and features adapted, used and created by humans in the past and present. Cultural resources are the result of continuing human cultural activity and embody a range of community values and meanings. These resources are non-renewable and finite. Cultural resources include traditional systems of cultural practice, belief or social interaction. They can be, but are not necessarily identified with defined locations.
- Cultural (heritage) resource management: A process that consists of a range of interventions and provides a framework for informed and value-based decision-making. It integrates professional, technical and administrative functions and interventions that impact on cultural resources. Activities include planning, policy development, monitoring and assessment, auditing, implementation, maintenance, communication, and many others. All these activities are (or will be) based on sound research.
- Heritage resources: The various natural and cultural assets that collectively form the heritage. These assets are also known as cultural and natural resources. Heritage (cultural) resources include all human-made phenomena and intangible products that are the result of the human mind. Natural, technological or industrial features may also be part of heritage resources, as places that have made an outstanding contribution to the cultures, traditions and lifestyles of the people or groups of people of South Africa.

- Stone Age: Refers to the prehistoric past, although Late Stone Age peoples lived in South Africa well into the Historical Period. The Stone Age is divided into an Earlier Stone Age (3 million years to 150 000 thousand years ago) the Middle Stone Age (150 000 years to 40 000 years ago) and the Late Stone Age (40 000 years to 300 years ago).
- Iron Age: Refers to the last two millennia and 'Early Iron Age' to the first thousand years AD. 'Late Iron Age' refers to the period between the 16th century and the 19th century and can therefore include the Historical Period.
- Historical period: Refers to the first appearance or use of 'modern' Western writing in a particular area or region of the world.
- Pre-historical: Refers to the time before any historical documents were written or any written language developed in a particular area or region of the world.
- Recent past: Refers to the 20th century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological or historical remains. Some of these remains, however, may be close to sixty years of age and may, in the near future, qualify as heritage resources.
- Maintenance: Keeping something in good health or repair.
- Preservation: Conservation activities that consolidate and maintain the existing form, material and integrity of a cultural resource.
- Protected area: A geographically defined area designated and managed to achieve specific conservation objectives. Protected areas are dedicated primarily to the protection and enjoyment of natural or cultural heritage, to the maintenance of biodiversity, and to the maintenance of life-support systems.
- Reconstruction: Re-erecting a structure on its original site using original components.
- Replication: The act or process of reproducing by new construction the exact form and detail of a vanished building, structure, object, or a part thereof, as it appeared at a specific period.
- Restoration: Returning the existing fabric of a place to a known earlier state by removing additions or by reassembling existing components.

- Sustainability: The ability of an activity to continue indefinitely, at current and projected levels, without depleting social, financial, physical and other resources required to produce the expected benefits.
- Translocation: Dismantling a structure and re-erecting it on a new site using original components.
- Project Area: refers to the area (footprint) where the developer wants to focus its development activities (refer to plan).
- Phase I studies refer to surveys using various sources of data in order to establish the presence of all possible types and ranges of heritage resources in any given Project Area.
- Phase II studies include in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include the documenting of rock art, engraving or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavations of archaeological sites; the exhumation of human remains and the relocation of graveyards, etc. Phase II work involves permitting processes, require the input of different specialists and the co-operation and approval of the South African Heritage Resources Authority (SAHRA).

2 DETAILS OF THE SPECIALIST

Profession: Archaeologist, Museologist (Museum Scientists), Lecturer, Heritage Guide Trainer and Heritage Consultant

Qualifications:

BA (Archaeology, Anthropology and Psychology) (UP, 1976)

BA (Hons) Archaeology (distinction) (UP, 1979)

MA Archaeology (distinction) (UP, 1985)

D Phil Archaeology (UP, 1989)

Post Graduate Diploma in Museology (Museum Sciences) (UP, 1981)

Work experience:

Museum curator and archaeologist for the Rustenburg and Phalaborwa Town Councils (1980-1984)

Head of the Department of Archaeology, National Cultural History Museum in Pretoria (1988-1989)

Lecturer and Senior lecturer Department of Anthropology and Archaeology, University of Pretoria (1990-2003)

Independent Archaeologist and Heritage Consultant (2003-)

Accreditation: Member of the Association for Southern African Professional Archaeologists. (ASAPA)

Summary: Julius Pistorius is a qualified archaeologist and heritage specialist with extensive experience as a university lecturer, museum scientist, researcher and heritage consultant. His research focussed on the Late Iron Age Tswana and Lowveld-Sotho (particularly the Bamalatji of Phalaborwa). He has published a book on early Tswana settlement in the North-West Province and has completed an unpublished manuscript on the rise of Bamalatji metal workings spheres in Phalaborwa during the last 1 200 years. He has excavated more than twenty LIA settlements in North-West and twelve IA settlements in the Lowveld and has mapped hundreds of stone walled sites in the North-West. He has written a guide for Eskom's field personnel on heritage management. He has published twenty scientific papers in academic journals and several popular articles on archaeology and heritage matters. He collaborated with environmental companies in compiling State of the Environmental Reports for Ekurhuleni, Hartebeespoort and heritage management plans for the Magaliesberg and Waterberg. Since acting as an independent consultant he has done approximately 800 large to small heritage impact assessment reports. He has a longstanding working relationship with Eskom, Rio Tinto (PMC), Rio Tinto (EXP), Impala Platinum, Angloplats (Rustenburg), Lonmin, Sasol, PMC, Foskor, Kudu and Kelgran Granite, Bafokeng Royal Resources, Pilanesberg Platinum Mine (PPM) etc. as well as with several environmental companies.

3 DECLARATION OF INDEPENDENCE

I, Julius CC Pistorius, declare that:

I act as the independent environmental practitioner in this application

I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant

I declare that there are no circumstances that may compromise my objectivity in performing such work;

I have expertise in conducting environmental impact assessments, including knowledge of the National Heritage Resources Act (No 25 of 1999) and any guidelines that have relevance to the proposed activity;

I will comply with the Act, regulations and all other applicable legislation;

I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;

I have no, and will not engage in, conflicting interests in the undertaking of the activity;

I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;

I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;

I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;

I will keep a register of all interested and affected parties that participated in a public participation process; and

I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not

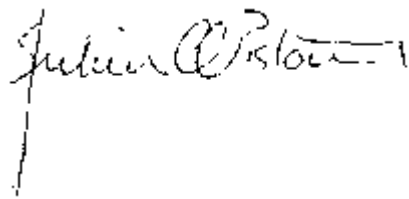
all the particulars furnished by me in this form are true and correct;

will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and

I realise that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest

I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2010.



Signature of the environmental practitioner:

Private Consultant

22 July 2016

4 SCOPE OF WORK

Siyanda Chrome Smelting Company (SCSC) proposes to develop a ferrochrome smelter on the farm Grootkuil 409KQ near Northam in the Limpopo Province. The Siyanda Ferrochrome Smelter Project may have an influence on any of the types and ranges of heritage resources which may occur in the footprint of the proposed development area (Project Area).

The aims with the Phase I HIA study were the following:

- To determine if any of the types and ranges of heritage resources (the 'national estate') as outlined in Section 3 of the NHRA do occur in the Project Area and, if so, to establish the significance of these heritage resources.
- To establish the level of significance of any possible impact on these heritage resources.
- To propose appropriate mitigation measures for those types and ranges of heritage resources that may be affected by the proposed Siyanda Ferrochrome Smelter Project.

5 LEGAL FRAMEWORK

South Africa's heritage resources ('national estate') are protected by international, national and regional legislation which provides regulations, policies and guidelines for the protection, management, promotion and utilization of heritage resources. South Africa's 'national estate' includes a wide range of various types of heritage resources as outlined in Section 3 of the NHRA (see Box 1).

According to the NHRA heritage resources are categorised using a three-tier system, namely Grade I (national), Grade II (provincial) and Grade III (local) heritage resources.

At the provincial level, heritage legislation is implemented by Provincial Heritage Resources Agencies (PHRAs) which apply the NHRA together with provincial government guidelines and strategic frameworks. Metropolitan or Municipal (local) policy regarding the protection of cultural heritage resources is also linked to national acts and is implemented by the SAHRA and the PHRAs.

At a national level, heritage resources are dealt with by the National Heritage Council Act (No 11 of 1999) and the NHRA.

5.1 Legislation relevant to heritage resources

The identification, evaluation and assessment of heritage resources in South Africa are regulated by the following legislation:

- National Environmental Management Act (NEMA, 107 of 1998)
- NHRA
- Minerals and Petroleum Resources Development Act (MPRDA, 28 of 2002)

5.2 The National Heritage Resources Act (NHRA)

According to the NHRA the 'national estate' comprises the following (see Box 1):

- a. Archaeological artefacts, structures and sites older than 100 years

- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Graveyards, burial grounds and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

Elaborating on the above the 'national estate' also includes (Box 1):

1. Places, buildings, structures and equipment of cultural significance
2. Places to which oral traditions are attached or which are associated with living heritage
3. Historical settlements and townscapes
4. Landscapes and features of cultural significance
5. Geological sites of scientific or cultural importance
6. Archaeological and paleontological sites of importance
7. Sites of significance relating to the history of slavery
8. Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military and ethnographic objects, books etc.)

5.3 Heritage Impact Assessment studies

According to Section 38 of the NHRA a HIA process must be followed under the following circumstances:

- The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
- The construction of a bridge or similar structure exceeding 50m in length
- Any development or activity that will change the character of a site and which exceeds 5 000m² or which involves three or more existing erven or subdivisions thereof
- Re-zoning of a site exceeding 10 000m²

- Any other category provided for in the regulations of SAHRA or a provincial heritage authority

5.4 Regulations with regard to heritage resources

The regulations outlined below are applicable to the types and ranges of heritage resources which are the most common in the region where the heritage study was conducted, namely:

5.4.1 Buildings and structures

According to Section 34(1) of the NHRA no person may alter (demolish) any structure or part thereof, which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means any building, works, device or any other facility made by people and which is fixed to land and which includes fixtures, fittings and equipment associated with such structures.

Alter means any action which affects the structure, appearance or physical properties of a place or object, whether by way of structural or any other works such as painting, plastering, decorating, etc..

5.4.2 Graves and burial grounds

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the NHRA no person, without a permit issued by the relevant heritage resources authority, may:

- a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- b) destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Unidentified graves are handled as if they are older than 60 years until proven otherwise.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (HTA, No 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the Ordinance on Excavations (Ordinance no. 12 of 1980) (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place. Human remains can only be handled by a registered undertaker or an institution declared under the HTA as amended.

5.4.3 Archaeology, palaeontology and meteorites

Section 35(4) of the NHRA deals with archaeology, palaeontology and meteorites and states that no person without a permit issued by the responsible heritage resources authority (national or provincial) may:

- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
- destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological material or object or any meteorite;
- trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or paleontological material or object, or any meteorite; or bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological material or objects, or use such equipment for the recovery of meteorites.
- alter or demolish any structure or part of a structure which is older than 60 years.

Heritage resources may only be disturbed or moved by an archaeologist after being issued with a permit received from the SAHRA. In order to demolish heritage resources the developer has to acquire a destruction permit by from SAHRA.

5.4.4 NEMA Appendix 6 requirements

NEMA Regs (2014) - Appendix 6	Relevant section in report
Details of the specialist who prepared the report	Dr Julius CC Pistorius
The expertise of that person to compile a specialist report including a curriculum vitae	See Part 2, Details of the specialist
A declaration that the person is independent in a form as may be specified by the competent authority	See Part 3, Declaration of independence
An indication of the scope of, and the purpose for which, the report was prepared	See Part 4, Scope of work
The date and season of the site investigation and the relevance of the season to the outcome of the assessment	See Part 6, Methodology. (6.1 Fieldwork)
A description of the methodology adopted in preparing the report or carrying out the specialised process	See Part 6, Methodology
The specific identified sensitivity of the site related to the activity and its associated structures and infrastructure	See Part 7.2 The nature of the project area and see Part 8 Contextualising the project area
An identification of any areas to be avoided, including buffers	None, not required
A map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	See Maps 4, 6 and 7
A description of any assumptions made and any uncertainties or gaps in knowledge;	See Part 6.4 Assumptions and limitations
A description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives, on the environment	See Part 9.2 Types and ranges of heritage resources and Part 10 Conclusion and recommendations
Any mitigation measures for inclusion in the EMPr	None, not required
Any conditions for inclusion in the environmental authorisation	See Part 6.4 Assumptions and limitations
Any monitoring requirements for inclusion in the EMPr or environmental authorisation	None but see Part 6.4 Assumptions and limitations
A reasoned opinion as to whether the proposed activity or portions thereof should be authorised and	All alternatives considered (two smelter complex alternative areas, three access road routing alternatives and four power line routing alternatives) are equally suitable from a heritage point of view for the development of the proposed Siyanda Ferrochrome Smelter.
If the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan	None , not required
A description of any consultation process that was undertaken during the course of carrying out the study	See Part 9.3 Consultation process undertaken and comments received from stakeholders
A summary and copies if any comments that were received during any consultation process	See Part 9.3 Consultation process undertaken and comments received from stakeholders
Any other information requested by the competent authority.	None

A main GPS track log was registered with a GPS instrument which was mounted in a vehicle. More detailed pedestrian surveys were conducted from this main track. Photographs and descriptions illuminate the nature and characteristic features of the Project Area (see Part 9.1 'The field survey').

6.2 Databases, literature survey and maps

Literature relating to the pre-historical and the historical unfolding of the region was reviewed. This review provides a broad chronological overview of the Thabazimbi-Northam-Pilanesberg region ranging from pre-historical times to the historical period, including the more recent development of the platinum and chrome mining industries in the region. The contextual evidence refers to Tswana clans who, together with the colonial Voortrekkers, were the most influential pre-historical and historical groups in the region. This contextual evidence contributes to a better understanding of the identity and meaning of heritage resources which may occur in and near the Project Area.

A number of heritage studies which were done for developers near the Project Area also provided information regarding the general heritage characteristics of the region (see Part 12, 'Bibliography relating to earlier heritage studies').

The desktop study also involved consulting heritage data banks maintained at institutions such as the Limpopo Provincial Heritage Resources Agency in Polokwane, the Archaeological Data Recording Centre at the National Flagship Institute (Museum Africa) in Pretoria and the national heritage resources register (SAHRIS) at the South African Heritage Resources Agency in Cape Town.

The Project Area was also studied by means of maps on which it appears (2426 Thabazimbi 1:250 000 map; 2427CC Middelwit 1:50 000 topographical map and Google imagery).

6.3 Spokespersons consulted

An employee in the service of Siyanda who is acquainted with the project area assisted the author during fieldwork. Frans Mosito who is also a local resident and who live near the project area was consulted regarding the possible presence of heritage resources. Mr Vernon Koekemoer who is owner of a portion of Kameelhoek was also interviewed regarding the possible presence of graves along some of the access roads leading to the Siyande Smelter's infrastructure (See 'Part 13, Spokespersons consulted').

6.4 Assumptions and limitations

Although due consideration was given to the observing and documenting of all heritage resources in the Project Area, some resources may not have been detected due to various reasons (occurring beneath the surface, unmarked, inconspicuous or eroded nature, covered by vegetation, human failure to recognise, etc.).

If any heritage resources of significance are exposed during the proposed Siyanda Chrome Smelter Project the SAHRA should be notified immediately, all development activities must be stopped and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notified in order to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorization (permits) from SAHRA to conduct the mitigation measures.

7 THE BASELINE DESCRIPTION

7.1 Location

Siyanda Chrome Smelting Company (SCSC) proposes to construct a new ferrochrome (FeCr) smelter on Portion 3 of the farm Grootkuil 409 KQ. The proposed Siyanda Ferrochrome Smelter is located approximately 8 km north-west of Northam in the Thabazimbi Local Municipality in the Limpopo Province of South Africa (2426 Thabazimbi 1:250 000 map; 2427CC Middelwit 1:50 000 topographical map and Google imagery) (Figure 2).

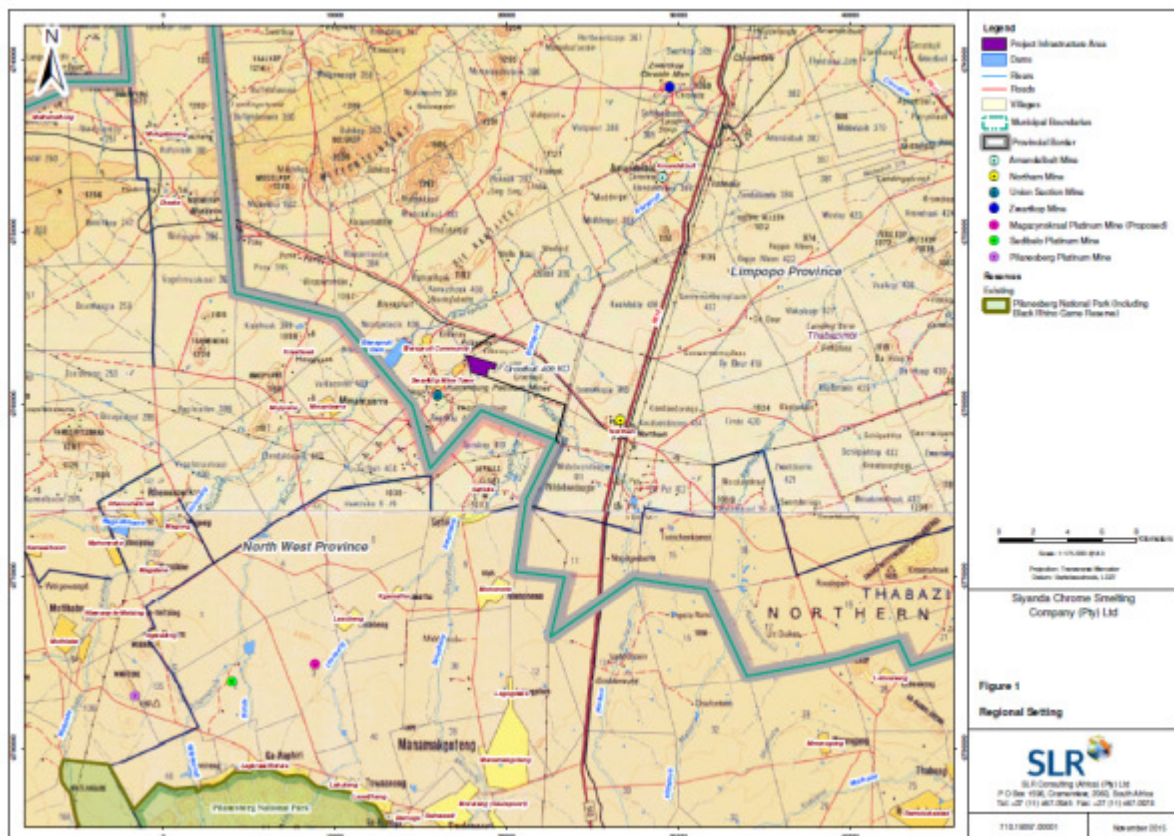


Figure 2- Regional map outlines the Project Area which involves the establishment of a proposed ferrochrome smelter on the farm Grootkuil 409KQ near Northam in the Thabazimzi Local Municipality in the Limpopo Province (above).

The Siyanda Ferrochrome Smelter Project Area falls within the former sphere of influence of the historical and Late Iron Age Kgatla Kgafela chiefdom whose earliest

capitals were located at Moruleng and Boretele along the north-eastern perimeter of the Pilanesberg. This pre-historical and historical Tswana sphere of influence was occupied from AD1650 and ancestors of the original Kgatla tribe today still occupy the larger area.



Figure 3- View from the top of Sefikile Mountain towards the Witfonteinrand in the far background. The Project Area on Grootkuil 409 KO is located towards the highest randjies in the range towards the east and comprises a flat, homogenous piece of land covered with turf soil and acacia trees which in parts are utilised for dry land agriculture (above).

The Siyanda Ferrochrome Smelter Project Area was mainly home to Kgatla communities although other Tswana identities such as members of the Kwena Phalane and Nguni members, some related to one of Mzilikazi's sons who remained in the area after the main body moved westwards, are not uncommon in the Project Area.

A considerable number of Xhosa speakers also settled in the region during more recent times as a result of the presence of a number of platinum mines. The Project Area therefore is part of a cultural landscape which warrants a brief description to demonstrate its place in the Limpopo Province's cultural history (see Part 8, 'Contextualising the Project Area').

7.2 The nature of the Project Area

The Siyanda Ferrochrome Smelter Project Area at large has been transformed into agricultural fields that are currently used for the cultivation of dry land crops such as sunflowers. Small patches of undisturbed land occur in the north-west and in the south-east. The impact of platinum and other mining activities are prominent towards the west and the north where the Swartklip and Northam Platinum Mines occur.

The landscape is flat with a tree and grass plain which is covered with acacia and a wide range of bushveld trees and is only broken in the north and in the south by the Witfontein and Sefikile mountain ranges. This outstretched savannah veld was home to a wide range of antelope and other game in the past whilst the randjes was occupied by Late Iron Age and historical Sotho-Tswana and Nguni speaking communities before the first colonials arrived.

The Siyanda Ferrochrome Smelter Project Area falls on a piece of land which is surrounded by cultural landscapes of significance, some of which have been researched and documented in the past. The immediate and larger area has also been subjected to several heritage surveys in the past (see Part 12, 'Bibliography relating to earlier heritage studies').

These earlier heritage surveys have revealed that the region is not rich in a wide range of heritage resources. The most common heritage sites which do occur are stone walled sites from the Late Iron Age and Historical Period. These settlements are mostly found along the base lines of kopjes and randjes in the region.

7.3 The nature of the Siyanda Ferrochrome Smelter Project

In broad terms the proposed Siyanda Ferrochrome Smelter Project comprises a railway siding, a raw materials offloading area, two 70 MW DC furnaces, crushing and screening plant, slag dump, and baghouse dust slurry dam and related facilities such as material stockpiles, workshops, stores and various support infrastructure and services including power lines and pipelines (see Figures 4, 6 & 7).

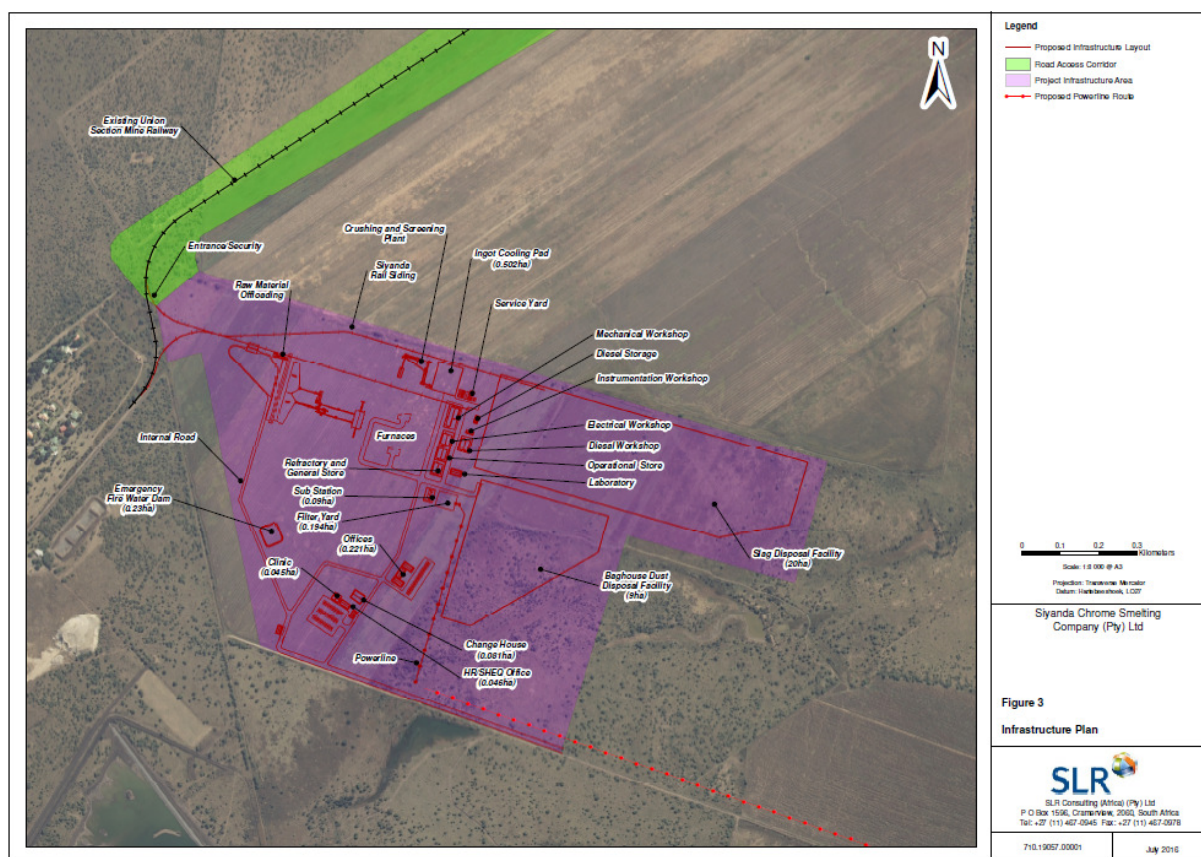


Figure 4- The Siyanda Ferrochrome Smelter’s infrastructure near the Union Section Mine and Northam in the Limpopo Province (above).

The Siyanda Ferrochrome Smelter Project will optimise resource extraction from the mineralised tailings waste streams of nearby mines by re-processing these tailings further to extract ferrochrome. The anticipated market prices in the medium and long-term are considered to be favourable for project development. Furthermore, the

project will create direct jobs and will have a positive impact on both indirect businesses and employment.

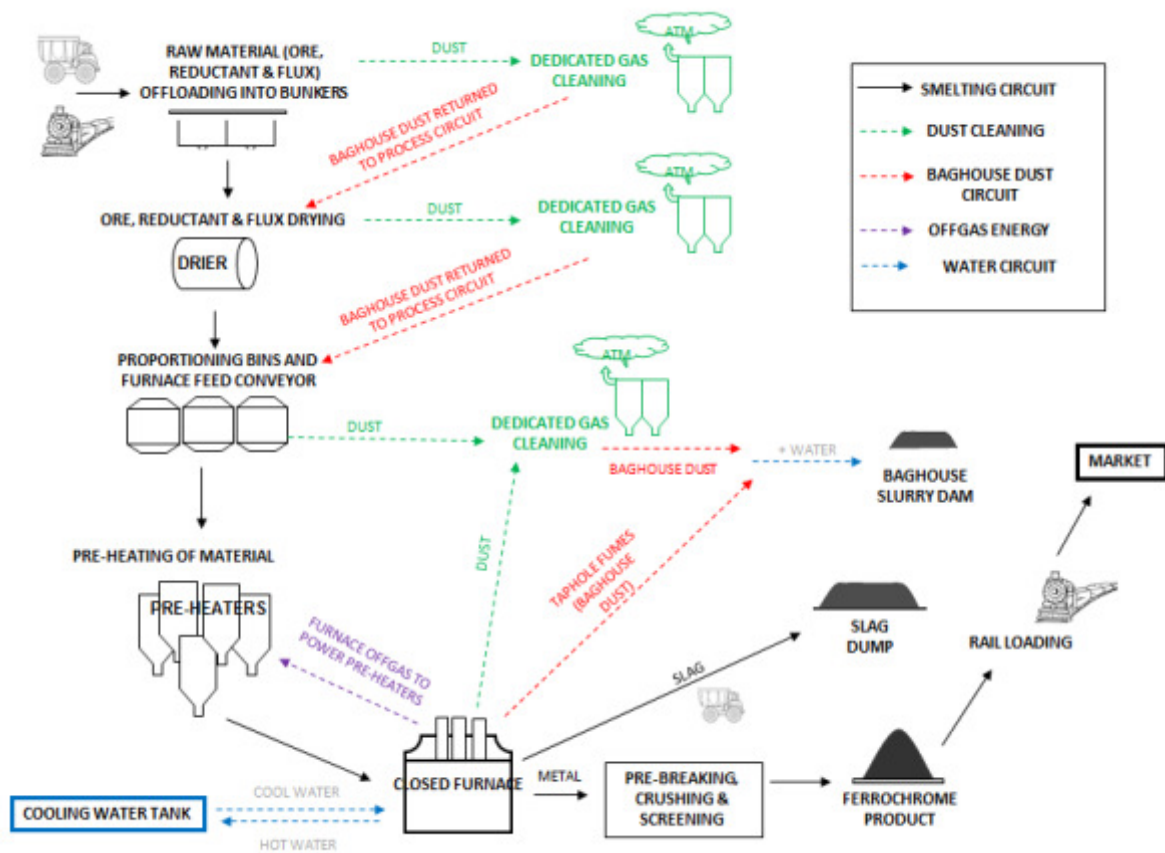


Figure 5- A simplified conceptual presentation of the proposed ferrochrome smelting process at the Siyanda Chrome Smelter (above).

Project options for the Siyanda Ferrochrome Smelter Project include a Project Infrastructure Area Option 01 (purple shading) and a Project Infrastructure Area Option 02 (brown triangle). Four options are proposed for the power line and two options are proposed for an access road running to the Siyanda Ferrochrome Smelter (Figures 4, 6 & 7).

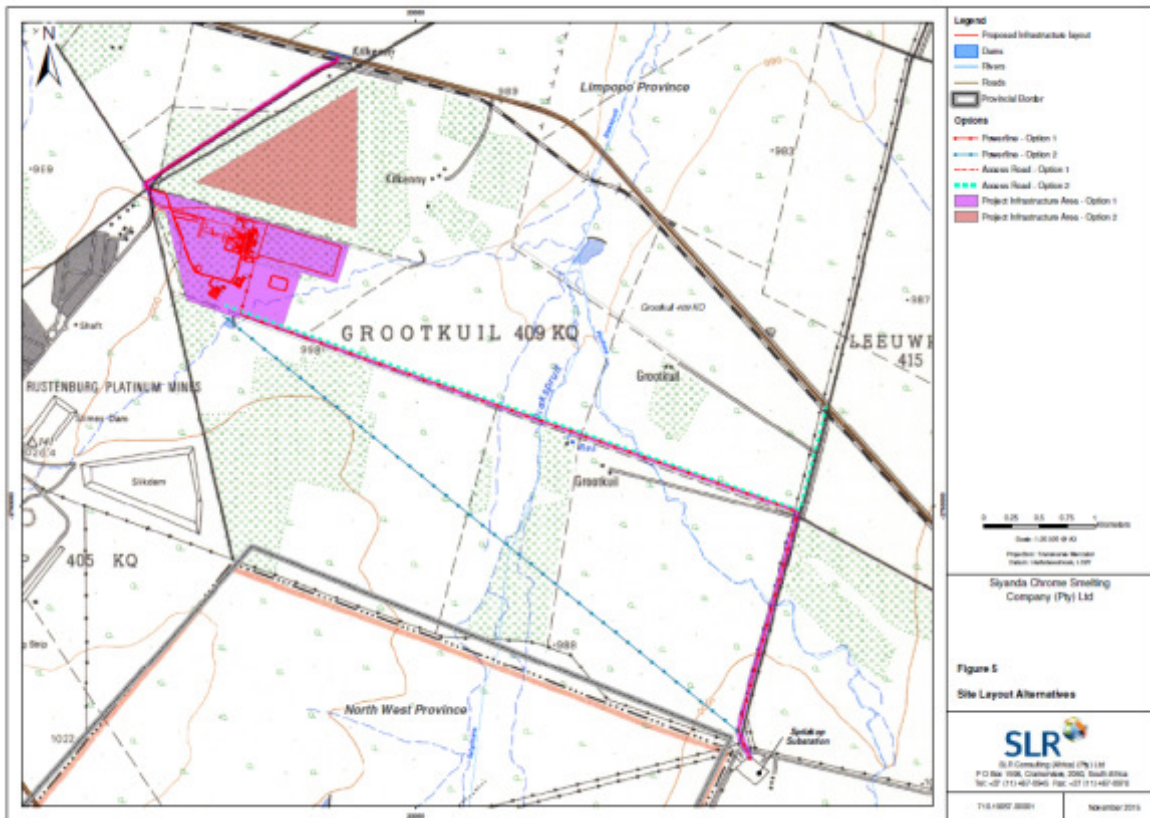


Figure 6- The Siyanda Ferrochrome Smelter Project Area on the farm Grootkuil 409KQ. Note the different options that are proposed for the placement of smelter infrastructure and for the power lines and access roads to the smelter (above).

8 CONTEXTUALISING THE PROJECT AREA

A brief overview of pre-historical and historical information below contextualises the larger project area. This information is necessary to understand the meaning and significance of heritage resources which may exist in the proposed project area.

The project area is located near Northam, between Thabazimbi in the north and the Pilanesberg in the south. This area, considered from an archaeological and heritage context, is largely unknown as no cultural-historical studies with an influential affect or scale has been undertaken in this region. Important centres around the project area include the Thabazimbi-Rooiberg area which is known for early tin mining as well as for metal working practises such as iron working by specialist groups; the Pilanesberg where the Kgata Kgafela established a chiefdom as early as the seventeenth century, and Madibeng (Brits) and Rustenburg further to the south and south-east which both were home to various pre-historical and historical Tswana clans. Ramakoka, east of the Project Area, today is still home to the Kwena Phalane a pre-historical and historical Tswana clan whose origins, earlier abodes and settlement history has not yet received any attention from researchers.

The Project Area at large is situated in a region which is known for its rich and diverse range of heritage resources, dating back from the Stone Age thousands of years to the Iron Age which ended some two hundred years ago. Stone Age sites must be scattered throughout this region but very few heritage studies have reported on these occurrences.

Stone Age sites are marked by stone artefacts that are found scattered on the surface of the earth or that are part of deposits in caves and rock shelters. The Stone Age is divided into the Early Stone Age (the period from 2.5 million years ago to 250 000 years ago), the Middle Stone Age (the period from 250 000 years ago to 22 000 years ago) and the Late Stone Age (the period from 22 000 years ago to about 2 000 years ago). Rock engravings are located near Rustenburg whilst rock paintings have been recorded in the Pilanesberg.

The most abundant heritage resources in this region, however, are those that date from the Late Iron Age and which are associated with the numerous Tswana chiefdoms who occupied the region during the last four centuries. The interaction between the climate, geology, topography, and the fauna and flora established a milieu in which the first Tswana found a suitable living environment in order to practise herding, agriculture, metal working and trading and their chiefdoms flourished during AD1600 to AD1880 (Horn 1996).

The settlements of these early Tswana chiefdoms are characterised by an impressive and elaborate stone-built tradition. Hundreds and perhaps thousands of sites were built along the bases of most of the mountain ranges in the region. The most important of these chiefdoms is the Kgatla Kgafela whose sphere of influence enveloped the Project Area. Consequently, a brief history of the Kgatla Kgafela chiefdom is provided below (Breutz 1953; 1986; Schapera 1942).

After the Kgafêla broke away from the Mosetlha at Momusweng (Makapans Location, Hammanskraal), probably during the first half of the 17th century, they settled in various places on their way to the north-west and the Crocodile River. Known places of settlement were Ntuane (to the north-west of Makapans Location near the Pienaars River), Momoseu (near Ntwane), and Tshekane (Leeuwpoort, south of the Rooiberg Tin Mine). Tshekane proved to be unhealthy, so they dwelt at Matone (Tuschenkomst) for a while and then settled at Molokwane ('Vlieggepoort', at the confluence of the Crocodile and Pienaars Rivers) near Ramakokas Location.

At the start of the 18th century, they lived at Mabule, Kruidfontein (near Saulspoort). During the first half of the 18th century, Kgwefane lived at Saulspoort in the Dithubaruba section of Moruleng. Molefe lived at Maramapong at Saulspoort. Towards the end of the 18th century, Phetso lived at Sefikile (Spitskop, 8km to the west of Northam). Letsebe ruled at Mabule (Kruidfontein) at the confluence of the Modderkuil and Middelkuil. When Senwelo was invested as chief, he moved from Mabule to Tlokwane (Rhenosterkop). Motlotle ruled at Magakwe or Dithubarubu (Kruidfontein).

Pilane built his village at Monamaneng (Kafferskraal). Later he moved to Bogopana (Witfonteinrand), to the north-east of Witfontein, and from there to Mmamodimokwana (Schilpadsnest) near the Crocodile River.

After the Matabele invasion in 1827, Pilane went to live at Motsitle (Mabeskraal). After 1837, he settled at the Elands River at Mmasebudule (Rhenosterfontein).

During the Matabele invasion, the Kgatla were too weak to defend them self. Consequently, they paid a tribute to the Ndebele. Nevertheless, their villages were destroyed and the young men were incorporated into the Ndebele army. After the Ndebele had left the Pilanesberg area in 1832, Ndebele raiders returned to the area and took three of Pilane's sons with them in 1842. Molefi, Pilane's uncle, negotiated their release. Molefi, who maintained good relations with the Ndebele, took charge of the tribe when Pilane fled to the Langa Ndebele.

The far northern part of Kgatla territory, incorporating the farms Holfontein, Cyferfontein and Rhenosterkraal, was a separate tribal section for some years under the authority of a sub-chief, Dikema Pilane. He played an important role in the times of Paul Kruger. It was also in this far northern area that the descendants of one of Mzilikazi's sons lived.

Kgamanyana lived at Moruleng, the present tribal headquarters at Saulspoort. In 1869, Kgamanyana and many tribesmen left the country to settle at Mochudi, on the banks of the Nkgotwane River in Botswana, after camping one year at Tshwene-Tshwene (near Vleesfontein). The other part of the tribe remained at Saulspoort and acquired most of the farms to the north of the Pilanesberg.

Many of these Tswana clans were uprooted during the *difaqane* when Mzilikazi's Matabele (Ndebele) entered the North-West Province, crossing the Magaliesberg at Mpame (Kommandonek) in the middle of August 1832.

9 THE PHASE I HERITAGE IMPACT ASSESSMENT STUDY

9.1 The field survey

The heritage survey is outlined by means of photographs and descriptions which illuminate the nature and characteristic features of the Project Area.

The Siyanda Ferrochrome Smelter Project Area includes an Option 01 (Preferred) for the infrastructure; an Access Road Corridors (Option 02, Preferred) as well as an option (Option 01) (Preferred) for a Power line (Preferred) (Figure 6). In the event that third party land access required for the access road corridor cannot be obtained, it is expected that the next preferred alternative will be the third alternative illustrated below by a black line.

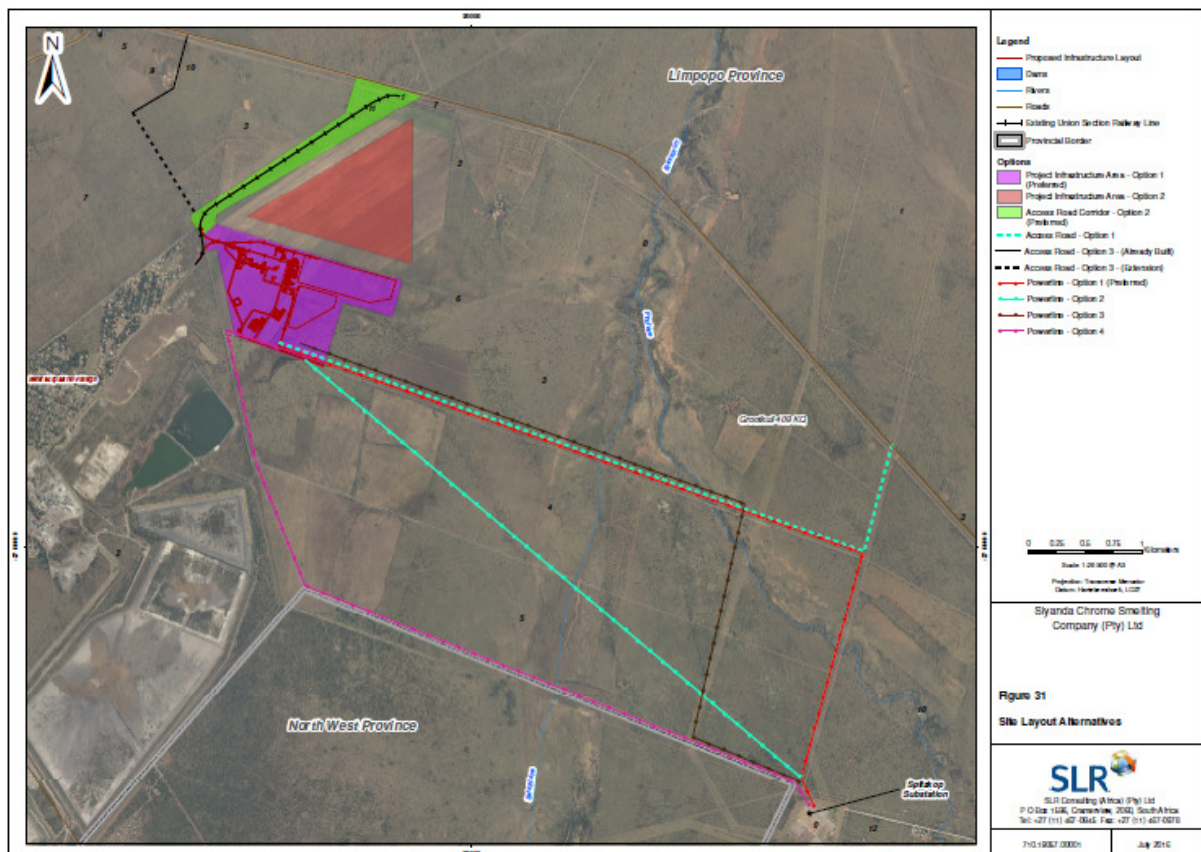


Figure 7- The Siyanda Ferrochrome Smelter Project near the Union Section Mine and Northam Area on the farm Grootkuil 409KQ. Note different options proposed for the placement of infrastructure, power lines and access roads to the smelter (above).



Figures 8 & 9- The bulk of the Siyanda Ferrochrome Smelter's infrastructure whether located at Option 01 (and a previous Option 02 location) collates with agricultural fields which occur across the western and central parts of Grootkuil 409KQ. The view above is towards Sefikile (Spitskop) in the south-east and towards the Witfontein mountain range in the north-west (below).





Figure 10- Most of the Siyanda Ferrochrome Smelter's infrastructure such as the crushing and screening plant, ingot cooling pad, service yard, operational store, etc. will be established in the midst of agricultural fields (above).



Figure 11- Patches with pristine bush occur in the south-eastern part of the project area where the Baghouse Dust Disposal Facility and the Slag Disposal Facility will be established (above).



Figure 12- Access road Option 02 runs from the Northam/Dwaalkop road southwest across pristine bush and agricultural fields following an existing railway line before converging with dirt roads and then entering the Siyanda Ferrochrome Smelter (above).



Figure 13- Access road Option 03 runs from the Northam/Dwaalkop road southwestwards and is an existing dirt road (above).



Figure 14- Access road Option 03 (Extension) runs south-eastwards across pristine bush following a border fence before entering the Siyanda Ferrochrome Smelter (above).



Figure 15- Power line Option 01 runs from the Spitskop substation south-east of the Project Area and follows Eskom's power lines. It bends north-west crossing the Brakspruit and some of its tributaries. The last stretch follows the edge of agricultural fields before entering the Siyanda Ferrochrome Smelter (above).

9.2 Types and ranges of heritage resources

The Phase I HIA study for the proposed Siyanda Ferrochrome Smelter Project did not reveal any of the types and ranges of heritage resources as outlined in Section 38 of the National Heritage Resources Act (No 25 of 1999).

There is consequently no reason from a heritage point of view why the proposed Siyanda Ferrochrome Smelter Project should not continue.

The preferred Option 01 for the Siyanda Ferrochrome Smelter, the preferred Option 01 for the power line and Option 02 for the access road therefore are suitable from a heritage point of view for the development of the proposed Siyanda Ferrochrome Smelter.

9.3 Consultation process undertaken and comments received from stakeholders

No specific consultation process was undertaken for the purposes of the HIA as the stakeholder consultation for the project is being done by SLR as part of the overall EIA process. Issues raised to date regarding potential heritage resources relate to the possible presence of graves within the project area and the possibility of graves being disturbed by the project (Joel Ramakokoka, S. McGill and Mr. and Mrs. Schoeman, 21 July 2015).

No graves were observed during the heritage survey. It is therefore not expected that any graves will be disturbed as part of the proposed project. However, should any heritage resources of significance (such as graves) be exposed during the Siyanda Ferrochrome Smelter Project, the South African Heritage Resources Authority (SAHRA) should be notified immediately, all development activities must be stopped and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notified in order to determine appropriate mitigation measures for the discovered finds.

10 CONCLUSION AND RECOMMENDATIONS

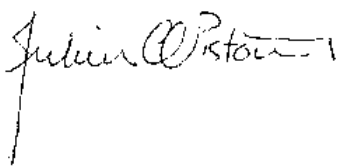
The Phase I HIA study for the proposed Siyanda Ferrochrome Smelter Project did not reveal any of the types and ranges of heritage resources as outlined in Section 38 of the National Heritage Resources Act (No 25 of 1999).

There is consequently no reason from a heritage point of view why the proposed Siyanda Ferrochrome Smelter Project should not continue.

All alternatives considered (two smelter complex alternative areas, three access road routing alternatives and four power line routing alternatives) are equally suitable from a heritage point of view for the development of the proposed Siyanda Ferrochrome Smelter.

No specific consultation process was undertaken for the purposes of the HIA as the stakeholder consultation for the project is being done by SLR as part of the overall EIA process. Issues raised to date regarding potential heritage resources relate to the possible presence of graves within the project area and the possibility of graves being disturbed by the project (Joel Ramakokoka, S. McGill and Mr. and Mrs. Schoeman, 21 July 2015).

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