

**HERITAGE IMPACT ASSESSMENT OF PROPOSED
EXPANSION OF THE RIEBEEK WEST PORTLAND
CEMENT FACILITY
MALMESBURY DISTRICT, WESTERN CAPE**

Prepared as part of an EIA for:

Ninham Shand Consulting
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Prepared by

Tim Hart
Erin Finnegan

Archaeology Contracts Office
Department of Archaeology
University of Cape Town
Private Bag
Rondebosch
7701

Phone (021) 650 2357
Fax (021) 650 2352
Email timothy.hart@uct.ac.za

EXECUTIVE SUMMARY

The Archaeology Contracts Office of the University of Cape Town was appointed to assess the heritage impact of the proposed expansion of the Pretoria Portland Cement facility at Riebeek West in the Malmesbury district of the Western Cape Province. The proposed activities involve:

- Expansion of the Final Pit to the Optimal Pit
- Mothballing of the existing facility
- Construction of a new facility at Delectus (option A) or Vlakkerug (option B)
- Expansion of overburden dumps on Vlakkerug, Middelpoos and eventually Delectus
- Construction of workers camps, railway extensions, roads and other support facilities.

Impact assessment

The heritage impact assessment has revealed that it is unlikely that significant archaeology and palaeontology will be impacted; however the built environment within the proposed site boundaries includes historic structures at De Rust, Vlakkerug, Delectus and Middelpoos. In addition, the birth place of Jan Smuts (a provincial heritage site) lies within the production area of the Final Pit. The proposed activities may necessitate the demolition of generally protected historic buildings at De Rust, Vlakkerug, Delectus and Middelpoos – a heritage impact of medium negative significance. The Optimal Pit will result in potential destruction of what is assumed to be the Smuts Family Cemetery and further erode the landscape context of the Smuts Cottage. Overburden dumping and a proposed construction camp of Vlakkerug may affect the staff cemetery.

Fatal flaws

There are no fatal flaws

Recommendations

- Identified historic buildings will need to be subject to focussed assessment if it is foreseen that they will be impacted by the proposed operation (this should take place in the same year that demolition is envisaged).
- A blasting monitoring plan is required to safeguard the fabric of the Smuts Cottage and outbuildings prior to and during expansion of the Optimal Pit.

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GLOSSARY

AHAP *Association of Heritage Professionals*

Archaeological material *Remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures.*

ESA *Early Stone Age dating to between 200 000 and 1.8 million years ago.*

Fossil *Mineralised bones of animals, shellfish, plants and marine animals. A trace fossil is the track or footprint of a fossil animal that is preserved in stone or consolidated sediment.*

Heritage *That which is inherited and forms part of the National Estate (Historical places, objects, fossils as defined by the National Heritage Resources Act of 2000)*

Palaeontological *Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.*

Precambrian *An ancient period in the evolution of the planet dating to before 400 million years ago.*

SAHRA *South African Heritage Resources Agency*

Structure (historic) *Any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith. Protected structures are those which are over 60 years old.*

1 Introduction

The Archaeology Contracts Office (ACO) was appointed by Ninham Shand Consulting to assess the heritage impacts associated with the proposed expansion of the Pretoria Portland Cement (PPC) operation, Riebeeck West, Western Cape Province. This report is one of a number of specialist reports contributing to a broader Environmental Impact Assessment.

The demand for cement has risen by 8.2 percent annually with the result that PPC, which has two cement manufacturing operations in the Western Cape, is unable to meet current demands. Cement is made from limestone which is mined, crushed and heated in a rotary kiln to make hydraulic cement. There are only two limestone deposits in the Western Cape that are suitable for cement manufacture. One of these is at De Hoek near Piketberg, the other is at Riebeeck West. Both are owned by PPC. Feasibility studies have revealed that the ore reserves at De Hoek are not extensive enough to warrant the expansion of that facility; however the reserves at Riebeeck West are abundant and will sustain the life of the operation until 2061. PPC has calculated that it will have to produce some 1.2 million tons of clinker per annum to meet future demands. This is more than double the capacity of the existing plant. In short the proposal will be to eventually open a new mine pit at Delectus (an adjacent farm owned by PPC) in the distant future (after 2263), expand the present Final Pit at Ongegund to become the Optimal Pit, mothball and decommission the existing factory (which is located on a major ore body) and erect modern rotary kilns using the latest technology at one of two alternative sites. An operation of this magnitude will require construction camps for up to 1500 construction personnel who will work on various phases of the expansion project over a 3 year period.

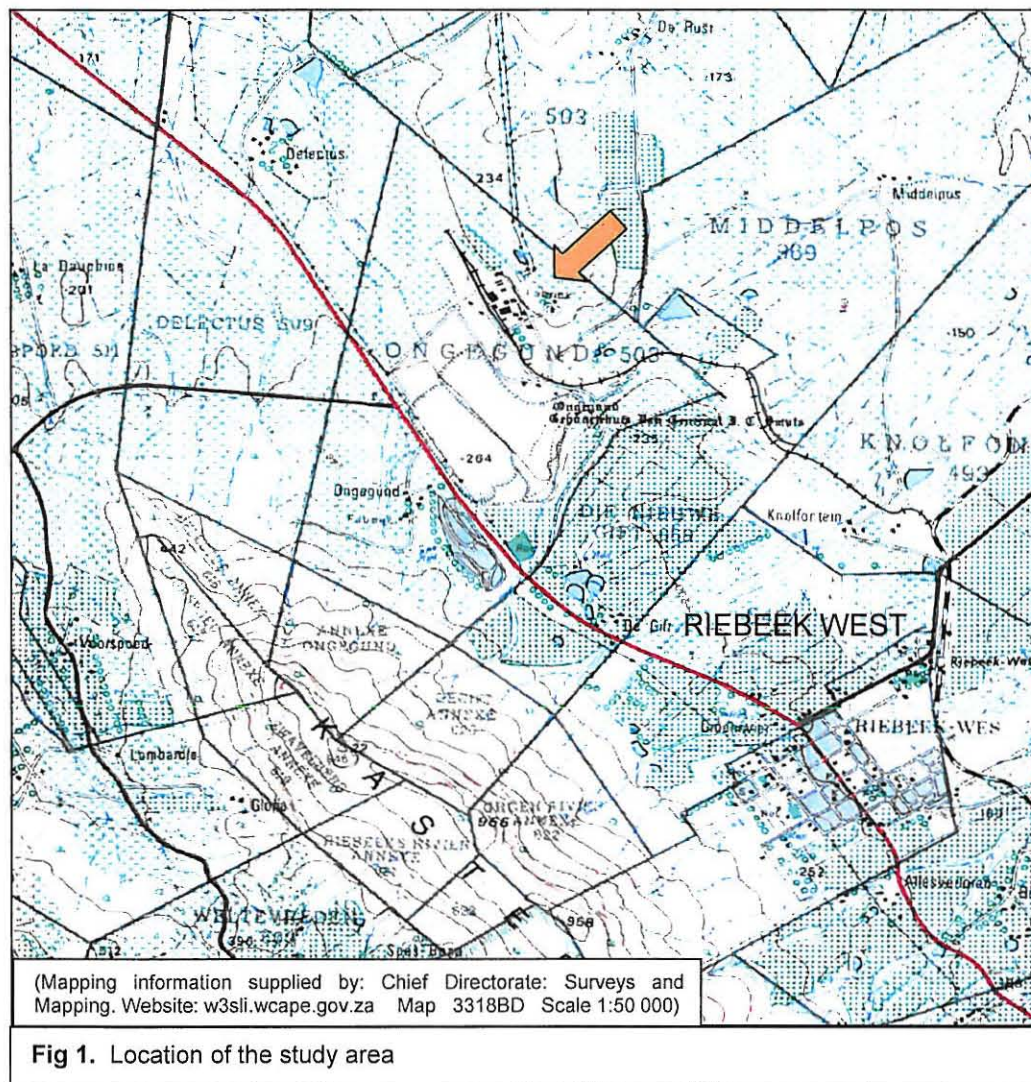
Since the limestone deposits are deeply buried underground, an enormous quantity of shale overburden will need to be removed to access the ore. This material has to be dumped. Parts of the farms Delectus, Valkkerug and Middelpoos have been identified for overburden dumping. In short, the overall footprint of the proposed activity is massive. Not only is there a large construction operation involved but also extensive landscape modification. All these activities have potential implication for heritage on the site and in terms of the heritage qualities of the general area.

The ACO was required to undertake a heritage impact assessment of the proposed expansion in terms of the guidelines for Heritage Impact Assessment as published by DEAT.

Loosely defined, *heritage is that which is inherited*. The National Heritage Resources Act of 1999 has defined certain kinds of heritage as being worthy of protection, by either specific or general protection mechanisms. In South Africa the law is directed towards the protection of human made heritage, although palaeontology, places and objects of scientific importance are covered. The National Heritage Resources Act also protects intangible heritage such as traditional activities, oral histories and places where significant events happened. Generally protected heritage includes:

- Cultural landscapes

- Buildings and structures (greater than 60 years of age)
- Archaeological sites (greater than 100 years of age)
- Palaeontological sites and specimens
- Shipwrecks and aircraft wrecks
- Graves and grave yards.



1.1 The proposed activity

The new factory would be located near the existing PPC cement manufacturing facility. Two sites are being investigated, namely Delectus (Site A) and Vlakkerug (Site B). PPC's property is divided into two erven, namely Malmesbury 1176, and Vlakkerug 503. Site A is situated on Malmesbury 1176, while Site B is situated on Vlakkerug 503. The proposed cement factory includes a kiln with a rated capacity of 1.2 million tons of clinker per annum; approximately double the capacity of the existing cement plant. The proposed project comprises the construction and operation of a cement manufacturing facility and associated infrastructure including provisions for water and electricity supply, service roads, dust and waste arrangement, raw materials and product

*transportation. Impacts relating to mining activities will also be included in the scope of this EIA due to an increase in the rate of mining and the expansion of the existing mining footprint and related activities*¹

At present limestone is mined from a large open cast pit called the Final Pit. The deposit is buried under about 30 m of shale which has to be removed to expose the resource. Excavation with heavy machinery, blasting (periodically) is used to loosen the limestone which is then hauled by large dump trucks to either the overburden dump in the case the upper deposits, or to the stockpiles in the case of limestone. After processing into cement at the facility, this product is dispatched via trucks or railway.

It is proposed that the existing limestone pit (known as the Final Pit) will be expanded to what will be known as the Optimal Pit. Initially it will be necessary to continue to utilise the existing facility which will be mothballed and put onto a maintenance programme once the new facility has been commissioned and is fully operational on either site A (Delectus) or site B (Vlakkerug). As the existing facility is situated under limestone reserves, when required, the existing facility will be decommissioned and dismantled for mining to occur for the Optimal Pit. The Delectus pit will be opened after 2061 and the resulting overburden used to backfill the Optimal Pit. Until such time that mining of the Optimal Pit is completed, it will not be possible to use overburden for backfilling. This material will need to be deposited on the landscape on the farms Vlakkerug or Middelpoos or a combination of either depending on the selected site of the new facility. The construction of a new facility is projected to take 3 years with up to 1500 workers being employed over the various phases of the project. Alternative construction camp sites have been identified on PPC's property. Furthermore, depending on what facility site is chosen, rail and road links will have to be constructed, and temporary waste water treatment plants constructed for the construction phase.

The process is a complex one involving tight co-ordination of a very large process in terms of space and time. It is unlikely that the project will cater for 60 years worth of variables at this particular time – heritage and environmental legislation are likely to change; however the EIA and the specialist studies investigate the issues as they are perceived at present, which will cater for future mitigation requirements.

2 The study approach

2.1 Information base

The information used to inform this study comes from a variety of sources. This has involved a review of the history of the properties affected by the proposed expansion (mainly through primary archival sources), a review of records pertaining to the Smuts Birth Place house, as well as archaeological research that has taken place in the Swartland. Site inspections have been carried out within PPC owned properties as well as in the broader environs of Riebeeck Kasteel and Riebeeck West. Information has also been obtained through consultation with PPC staff, Gabriel Fagan Architects and the South African Heritage Resources Agency.

¹ Public Background Information Document produced by Ninham Shand 2007

2.2 Assumptions

The kinds of heritage resources assessed during this study are those defined as generally or specifically protected by the National Heritage Resources Act 25 of 1999.

2.3 Limitations

Assessment of archaeological heritage was based on surface observations only. No trial excavations were conducted. Severe visibility limitations were experienced as a result the wheat growing season and dense grass cover throughout brought on by a wet winter. Some buildings at Delectus were locked so their interiors could not be inspected.

2.4 Methodology

This study has involved desktop research conducted mostly at the Cape Archives and Deeds Office in Cape Town followed up with site inspections by an archaeologist (experienced in both Stone Age and historical archaeology), as well as a general heritage practitioner. The site inspections have involved examining areas where there is undisturbed visible ground surface, disturbed visible ground surface, historic structures and features as well as taking cognisance of the general tangible and aesthetic qualities of the affected landscape. The use of early 20th century aerial photographs has played an important role in the identification of structures more than 60 years of age.

Site inspections took place under the guidance of PPC staff who organized access to areas and also provided the necessary background information. Heritage sites and material were mapped (Garmin hand held GPS 60CSX datum WGS84). Areas along the Main Road through Riebeek Kasteel and Riebeek West were also checked to ascertain the possibility of indirect impacts on broader heritage and the cultural, historical landscape within the area.

3 Description of the study area, context and setting

The study area lies in the Swartland – a broad rural expanse of low rolling hills interspersed with farms, small communities and towns. Before the advent of wheat farming, the Swartland was characterised by “Renosterveld” plant communities which gave the area a dark-grey olive-green appearance when viewed from afar – hence the name Swartland (black country). The underlying geology which consists of schists and shales of the Malmesbury Group is considered to be good agricultural land, the shale being rich in trace elements, which before the advent of agriculture supported large quantities of game. The Berg River alluvial terraces contain copious quantities of Early and Middle Stone Age artefacts attesting to the occupation of this landscape by humans for a million years or more. Today the Swartland is one of the most important wheat producing areas of the nation. Almost every farmer is involved in the cultivation of wheat which has given the entire area its particular character and texture.

PPC’s property in Riebeek West (PPC Riebeek) is located approximately 70 km from Cape Town, just a few kilometers from the towns of Riebeek West and Riebeek Kasteel in the heart of the Swartland farming areas. The mountain known as Kasteelberg forms a picturesque backdrop to these two towns. The plant and mine

appears to be incongruous with the rural surroundings, however it is situated on one of two rich limestone deposits in the province. Its presence there is a direct function of the underlying geology.

The nearby towns of Riebeek West and Riebeek Kasteel are both rooted in the history of early rural communities of the Swartland. Over the last twenty years, they have transformed themselves from dusty agricultural villages to energetic communities who refurbished many heritage buildings and homes, created small businesses (restaurants, bed and breakfasts, specialist shops) and generally transformed both towns from "drive through" *dorpiess* to real destinations. The populations of these towns, which in recent years has increased with ex-city dwellers seeking rural lifestyles protect their rural lifestyles, the peace of small town life and the heritage that surrounds them.

3.1 Heritage context

A 946m sentinel of Table Mountain sandstone rises from the wheat fields and vineyards of the Swartland, or the 'Black land', so called after the dark appearance of the ubiquitous 'Renosterveld' ('Rhinoceros bush'). It is here at the foot of Kasteelberg (Castle Mountain) where the hamlets of Riebeek Kasteel and Riebeek West were established.

In 1661, Pieter Cruythoff, one of Jan van Riebeeck's corporals, led a reconnaissance team of eleven men to explore the hinterland. A myth had been circulating for some time about the city of gold, Monomotapa, which allegedly lay somewhere to the immediate north of the Cape settlement.² The VOC headquarters were impatient for their envisioned instant profits and commissioned several expeditions to find the fabled land.

While the mission obviously never succeeded in locating a town saturated with gold, it did provide one of the earliest written records describing the interior of the Cape. The surgeon, Pieter van Meerhof, accompanied the first mission and kept the journal and wrote of plains teeming with wildlife. From one vantage point at Kasteelberg, on one day, they saw "thirteen horses (quagga), five rhinoceros, ostrich, thousands of hartebeest"³ It is also in this journal that 'Riebeek Kasteel' was first mentioned, named in honour of their mentor Jan van Riebeek.

When Willem van der Stel became governor of the Cape in 1699, he opened up new area for settlement, which included land grants in the Riebeek Valley and Tulbagh. Some of the first arrivals were Huguenots, and this resulted in the early establishment of vineyards, along with wheat and other fruit crops. Several farms in the Riebeek Valley dating from this period are still in operation today, including Kloovenburg and Allesverloren.

² Worden, N, Van Heyningen, E & V. Bickford-Smith, 1998: *Cape Town: The Making of a City: an Illustrated Social History*, D. Philip, South Africa.

³ Molsbergen, 1916:45-62 & Mosop 1931: 6-11, in Rookmaker, L.C. *Zoological Exploration of Southern Africa 1650-1790*, Balkema, Rotterdam.

Other explorers left their mark in the valley, and an interesting side note involves the French astronomer and pioneering surveyor, Abbé de la Caille, who visited in 1752. "He established an early triangulation system, at least part of which is still used today. A spot on the Kasteelberg was a key point. Following the plotting of stars he concluded that the Earth has a larger radius south of the Equator. This caused quite a stir at the time but he was wrong. He had failed to allow for the magnetic effect of the mountains. In 1839 Sir Thomas Maclear, of the Royal Observatory Cape Town, climbed the Kasteelberg. He took further measurements which enabled him to correct Abbé de la Caille's earlier findings." (<http://www.capeinfo.com/WCregions/West Coast/RiebeekValley/History.asp>)

All men were required to belong to the burgher militia and Riebeek Kasteel became a Company outpost, initially manned by a corporal and eight men. A cannon, which is now situated in the Voortrekertuin in Riebeek Kasteel, was originally mounted on the top of the Kasteelberg.⁴

The VOC *freeburgher* system intensified pressures on the land. Food production yielded dreadfully low financial returns for the farmers, as the VOC paid unrealistically low prices. This forced farmers to turn to hunting as a means of survival. Within a number of years the larger fauna, such as the hippos of the Berg River, were exterminated. This level of natural resource exploitation put the settlers into inevitable conflict with the local indigenous Khoekhoen groups in the region, which included the Souqua (Sonqua), Cochoqua, and further along the coast, the 'Saldanhars'. The settlers' numbers, their uncompromising drive, and firepower, all but guaranteed that the Khoekhoen would be pushed back and that the landscape, once teeming with wildlife, would irreversibly be stripped of its natural fauna and flora.

According to historic records, the Khoekhoen favoured the Swartland as grazing land as it was far better suited to raising cattle than the depleted soils of the Table Mountain sandstones. The Berg River served as a corridor of permanent water and as such had a strong pull over the movement and settlement of people.

By the 19th century vast tracts of the Swartland were under wheat cultivation reaching an unsustainable climax in the 1930's when sheet erosion caused by years of poor plowing practice brought wheat farming to its knees and caused many of the poorer landowners to be displaced and their land consolidated. It was not until the universal implementation of contour plowing and modern fertilizers that farming became sustainable again. The indigenous Renosterveld plant communities have disappeared save a few small patches of land where remnant communities have survived. Hence, over the last 200 years the Swartland became transformed from a game rich wilderness to a vast historic landscape of wheat cultivation, farmsteads and small towns.

These small towns of Riebeek West and Riebeek Kasteel which neighbour the PPC mine and facility owe their origins to *freeburgher* land grants of the 18th century. Situated in the foothills of the Kasteelberg, the towns serviced the local farming community:

*"Over the years Riebeek Kasteel became inhabited by wagon makers and other artisans while retired farmers settled in Riebeek West. One can still see reflections of the relative wealth and status of the two villages in the 19th and early 20th century by looking at house styles – older houses in Riebeek West tend to be much grander. And compare the railway stations – Riebeek West is a substantial country station with buildings and a long platform while Riebeek Kasteel is a small halt. The villages were given nick names which reflected their status: Riebeek Kasteel – Mossienes (an untidy sparrow's nest) and Riebeek West – Vinknes (a tidy weaver bird's nest)."*⁵

⁴ <http://www.capeinfo.com/WCregions/WestCoast/RiebeekValley/History.asp>

⁵ ⁵ <http://www.capeinfo.com/WCregions/WestCoast/RiebeekValley/History.asp>

Dutch Reformed Churches had been built at Stellenbosch and Malmesbury. The residents of the Riebeek Valley suffered the difficulties of getting to communion until the 1850s, when it was finally decided to build a church in Riebeek Kasteel. However,

*"halfway through the project the wealthier residents of Riebeek West held a series of meetings which resulted in them withdrawing and building another church four kilometres down the road. The doors to the Oude Kerk were opened in 1855. But Riebeek West church, opened in 1858, had the first active congregation since a dominee (pastor) was appointed immediately. One did not arrive in Riebeek Kasteel until 1881 due to lack of money. This event created a rift between the villages and there is still a feeling of (now friendly) rivalry to this day. The "new church" in Hoof Street, Riebeek Kasteel was opened in 1913."*⁶

It was also during the 'church rift' period that a formal request was made to the government by several prominent community leaders to officially recognize the name 'Riebeek Wes' as a separate entity from Riebeek Kasteel, further flaming the rivalry between the two villages.⁷

Riebeek West is unique as being the hometown of two famous South African politicians. In 1870 Jan Christian Smuts was borne on the farm Ongegund (please see Section below) and four years later, former South African prime minister DF Malan, was born at Allesverloren.

4 Description of heritage environments affected by proposed activities

The property on which the PPC mine and facility was previously named Ongegund and is made up of the consolidated farms: Vlakkerug (503), Vlakkerug (500) and Malmesbury (1176) (made up of Ongegund 508, Delectus 509 and the 500/10 portion). Also included in the study is the farm Middelpoos 969 which although not owned by PPC, may be utilised by the company in the future to cater for overburden needs.

The properties that will be affected by the proposed PPC expansion are discussed in detail in the following pages,

4.1 Precinct 1: Ongegund Farm

The first land grant in these environs was to Andries van der Heide in 1708 (Fig. 2). There is very little information in the archival records for the property during the 18th century; and no transfer or title deeds were recorded in the Deeds Office registry. Prior to it becoming part of the Ongegund Farm in 1818, it is known only that it was transferred to J. van der Heyde in 1727.

⁶ Ibid

⁷ CA CO Vol 4090, Ref: 108. The request was made by JD Loubser, WA van Jaarsveld, WA van Jaarsveld, C Grobbelaar. 1856

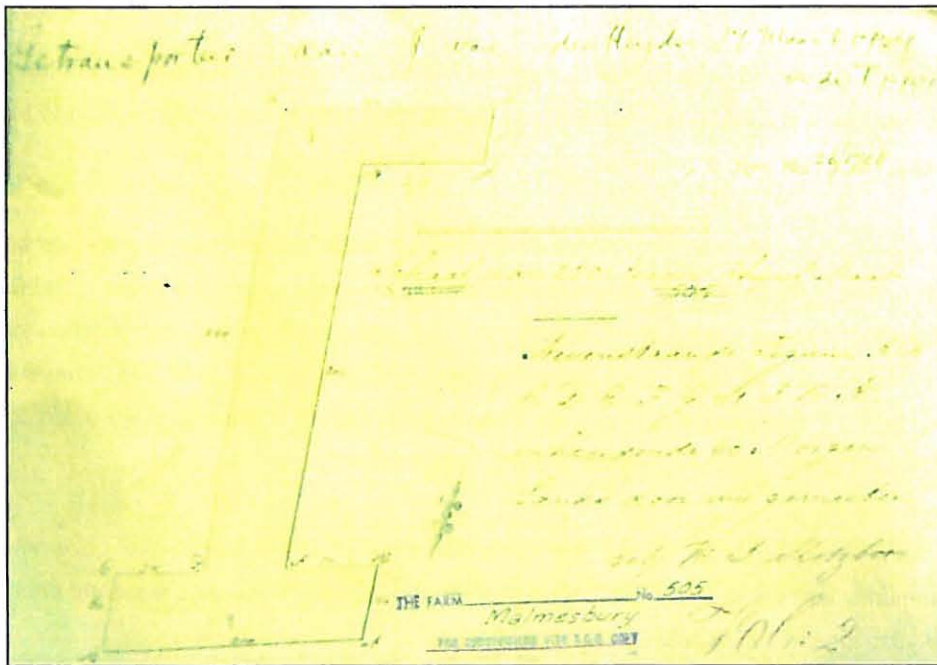


Fig 2 CT DO, Grant to A van der Heide,. OSF Vol. 2, 1 Nov 1708, S.G. Dgm No. 26/1708

Michiel Nicolaas Smuts (Jan Christian Smuts great-grandfather) was granted 'Ongegund' in 1818, as Stellenbosch Quitrent 4.12 (Table 1). In 1856 it seems as though a portion of this quitrent came off and was consolidated with the original 1708 freehold (Farm 505).⁸ Ongegund also called 'Boplaas', was originally a very large farm, but was repeatedly subdivided until at one stage, prior to JC Smuts's time, five Smuts families lived on the same farmyard! The property has been subject to many regrants and permutations, but remained in the Smuts family until 1946, when it was bought by the Portland Cement Company.

Table 1: Land ownership history for Ongegund Farm No. 508

DEED	DATE	FROM	TO	EXTENT
SQ 4.12	10.06.1818	Grant (Farm 504)	Michiel Nicolaas Smuts	1472 M 280SR
224	22.05.1888	Est. Pieter van der Byl Smuts	Pieter van der Byl Smuts (widow)	1224 M 288.5 SR
4951	11.09.1893	Widow P vd Byl Smuts	Albertus Jesse Smuts	1224 M 288.5 SR
		At the stage, 'Delectus Farm 509' was subdivided off, leaving the remainder 'Ongegund 'A' Farm 508'.		
9714	15.12.1911	AJ Smuts & another (Farm 508)	Albertus Jesse Smuts	674 M
6059	22.07.1935	Est. AJ Smuts	Pieter v.d.Byl Smuts	whole
5127	11.04.1946	Pieter v.d.Byl Smuts	Cape Portland Cement Co. Ltd.	Whole
4196	29.03.1956	Cape Portland Cement Co. Ltd.	Government of the Union of South Africa,	portion
T5127/46	23.02.1976		Proclamation as a National Monument being remainder of Farm Ongegund No.508	
36197	29.09.1980	Cape Portland Cement	Pretorial Portland Cement Co. Ltd.	574,9345 M

⁸ A portion of the 1708 freehold and a portion of the 1818 grant were again consolidated in the 1911 grant to Albertus Jesse Smuts, which is the extent of the property owned by PPC today.

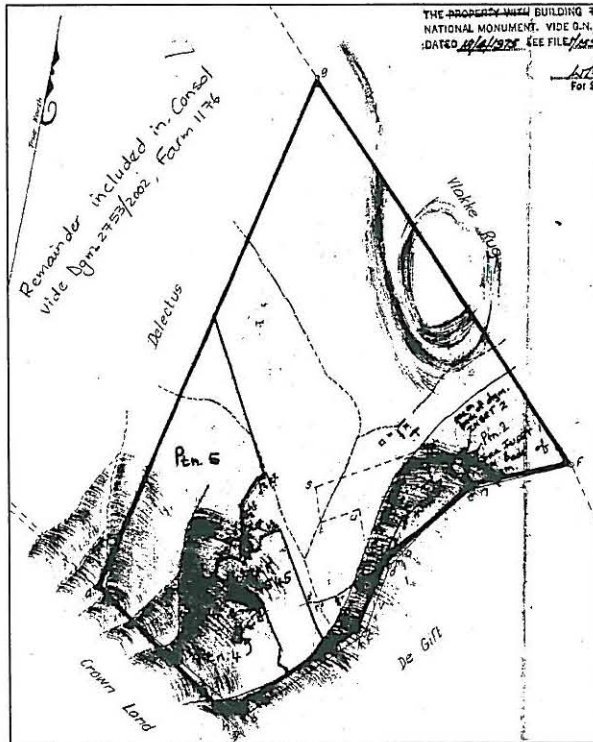


Fig 3 'Ongegund 'A' Farm 508, granted to Albertus Jesse Smuts 15.12.1911. This property is a consolidation of portions of original 1708 Freehold land and the quitrent land granted to MN Smuts in 1818. DO SG Dgm. No. 675/1910

4.2 Identified heritage sites

Smuts Cottage

The Smuts family ancestry is both German and Dutch, as paternal ancestor Michiel Cornelius Smuts emigrated from Middleburg, Holland around 1692, and his maternal ancestor, Johann Christiaan Davel (after whom he was named), had emigrated from Bautzen, Germany, in 1734.⁹ The family originally settled in the Swartland in 1786 on the farm Zoutfontein, and purchased Ongegund in 1818. Jan Christian Smuts was born in a cottage on the farm on the 24 May 1870.



Fig. 4 Smuts Cottage

The site was proclaimed a National Monument in 1975.¹⁰ Restoration work on the cottage commenced in the mid-1980s, by architect Gawie Fagan:

⁹ Crafford, F.S. 1943: *Jan Smuts: A biography*, Doubleday, Doran & Co., Inc. New York, pg. 9

¹⁰ National Monuments Council Proclamation No. 726, 18.04.1975

*"During restoration of the cottage in which Jan C. Smuts was born, it became clear that the building had once formed part of the much larger complex which was his grandfather's farmstead. It was probably in 1866 with the marriage of his father that an old barn was refurbished with the new inside walls, new door and window openings, and a brand new hearth... The wagon house, chicken run with laying nests, schoolroom and stable were roofless and all in a very poor state of repair. There was, however, enough evidence of the earlier appearance, and with the help of photographs, these could be accurately reconstructed. The clay walls would certainly not have withstood the onslaught of the winter rains much longer. It was interesting to note that the buildings, except the open fowl-run, had had flat roofs."*¹¹

The restored National Monument was officially inaugurated by Mr. FW de Klerk (as Minister of Education) on 20 May 1986.

Present conservation status:

The cottage, parts of the *werf* (yard), garden and outbuildings are well cared for by PPC who maintain the small museum. The Smuts Cottage and environs are considered to be a Provincial Heritage Site in terms of the NHRA. In terms of context, the site lies on a "peninsula" excluded from, but surrounded by mining operations. The broader context of the site has been eroded - the deep existing mine pit lies in very close proximity while a haul road passes very close by. The site itself lies on a very rich ore deposit, which PPC do not intend to mine in the foreseeable future, however it is expected that the proposed Optimal Pit will encroach closer to the site and further erode the context of the place.

A heritage concern is the possible effect of long term blasting (on a weekly basis) in those areas of the pit closest to the Smuts Cottage precinct. The effects (If there are any) of this activity are going to be very difficult to evaluate until such time that the actual activity commences. It is only then that seismic activity can be monitored, and the blasting technique modified accordingly.

Smuts Family Graveyard

Pieter van der Byl Smuts was the last family owner of the property before selling to the Portland Cement Company in 1946. A Power of Attorney document between Pieter van der Byl Smuts and the Cape Portland Cement Company stipulated:

"The land described in paragraph 1 above is to be subject to the following condition: That the graveyard on the said land situate (sic) near the Homestead shall not be interfered with or disturbed, and that any member of my family and I shall have the right to use the graveyard with access thereto at all reasonable times."

¹¹ *The Smuts Cottage: Birthplace of Jan Christian Smuts*, Pamphlet by Pretoria Portland Cement (PPC) 1986?

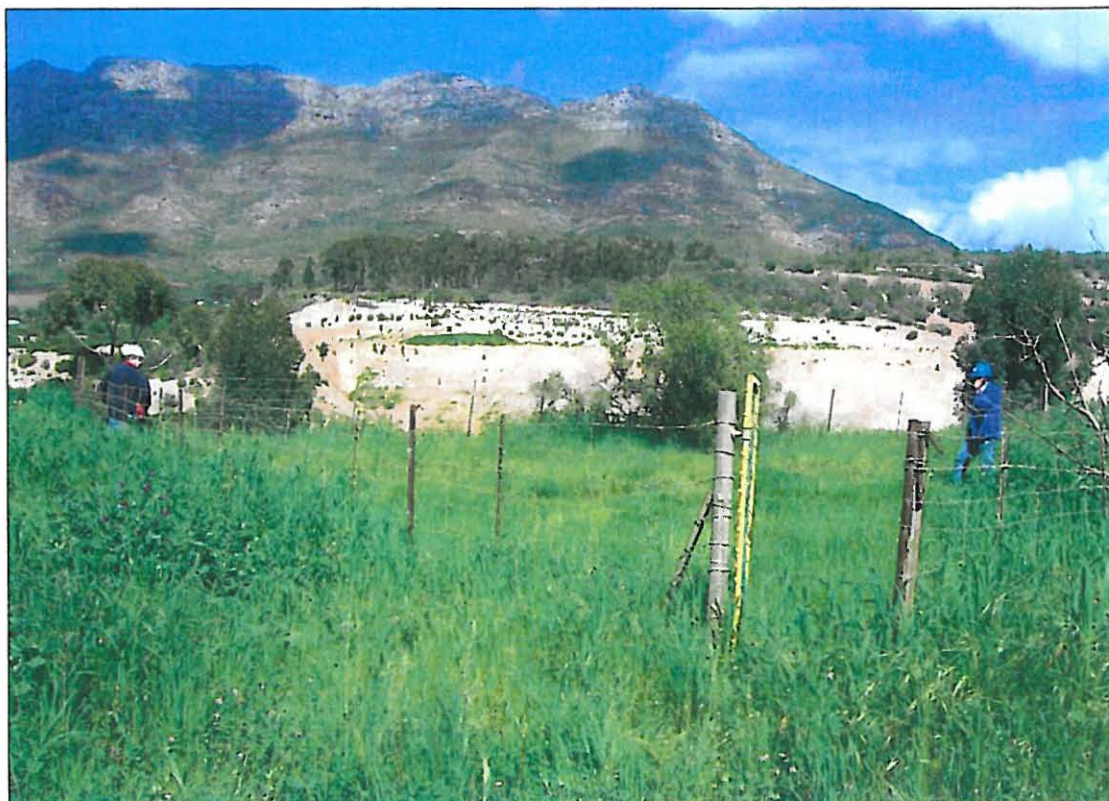


Fig. 5 A fenced in area which correlates with the position of the Smuts Family Cemetery as marked on maps.

Present conservation status

The graveyard was not securely identified during the site inspection, however a small area enclosed by a barb wire fence was assumed to be the site of the Smuts family cemetery (Fig 5). Indications are that the cemetery was professionally exhumed in the 1950's to make way for excavation of the lime pit, the human remains being relocated to the municipal cemetery in Riebeeck Kasteel. At time of initial inspection site was heavily overgrown and there was no evidence of any grave stones. A morning of precautionary trial excavations were conducted by PPC and ACO with the agreement of the South African Heritage Resources Agency. The excavations, which were comprehensive, conclusively revealed that the site was never used as a place of interment and in all likelihood was never a cemetery. Informants from PPC indicated that the fenced area was used as a goat kraal some 30 years ago. The site is not considered significant and is not a restriction to further mine development.

PPC Cemetery

An enclosed graveyard was located on PPC property near the boundary with the neighbouring farm. It was confirmed that this was a PPC employee cemetery for those workers who "had no where to go". There were approximately eight graves, the persons buried there ranging from 3 months to 51 years of age, during the period 1967 to 1981.



Fig. 6 Staff cemetery

Current conservation status.

Although the graves are recent and are not protected by the National Heritage Resources Act they remain protected by the Provincial Exhumation Ordinance of 1980 which is implemented by the local authority. Ideally the graves are best conserved where they are. The expansion proposal indicates that the site lies very close to an alternative for a proposed construction village and an overburden dump.

4.3 Precinct 2: Delectus Farm

Delectus Farm 509 is a consolidation of a portion of Ongegund (Farm 506), granted in 1831, and an adjoining portion of land. It was granted under Consolidated Title in 1911 to Wilhemina Catharina Gertruida Smuts (Table 2).

Table 2: Land ownership history for Delectus Farm No. 509

DEED	DATE	FROM	TO	EXTENT
S.Q 8.60	09.05.1831	Grant (Farm 506, 'Ongegund adjoining between Vlakkerug and Sout Rivier')	Michiel Nicolaas Smuts	182 M 419 SR
224	22.05.1888	Estate late Pieter v. d Bly Smuts	Pieter van der Byl Smut's widow	whole
4951	11.09.1893	Widow, Est. P.v.d.Byl Smuts	Albertus Jesse Smuts	whole
3511	16.05.1911	Registrar of Deeds	Estate Pieter van der Byl Smuts	whole
9715	15.12.1911	CCT (now DELECTUS, Farm 509)	Wilhemina	764 M 107

			Catharina Gertruida Smuts	SR
18108	31.12.1920	WCG Smuts	Christoffel Lombard Smuts	764 M 107 SR
4774	14.04.1961	C.L. Smuts		

Wilhemina Catharina Gertruida Smuts was the widow of (one of the many) Pieter van der Byl Smuts, and presumably had been living on Delectus prior with her husband before his death around 1909. At which time, the estate was appraised to the sum of 3266 pounds. This included: 19 mules, 9 horses, 5 cows and calves, 1 ox, 370 sheep, 30 goats, 40 pigs (large), 50 pigs (small), harness and farming implements, 2 'buckwaggon', 1 cart (covered), 1 cart (open), ½ share in the farm 'Ongegund' (as it was then known), and household furniture.¹²

Current conservation status

The proposed Delectus pit will be situated very close to the farm buildings. There is a possibility that establishment of the Delectus mine could result in their demolition. The farm is currently un-occupied.

Main house

A site inspection revealed that the main farm house was greater than 60 years of age and along with the large nearby barn, a protected structure. In heritage terms the house can be described as being multi-layered. Indications are that the core of the building appears to be Cape Georgian dating to the first half of the 19th century. Much of the woodwork inside the house is intact (doors, internal shutters) however there is ample evidence of Victorian modifications and further early 20th century additions.



Fig. 7 (left) main house at Delectus.
Fig.8 (below left) Barn at Delectus
Fig. 9 (below right) A small cottage that has been modernized but has early origins.



¹² CA MOOC 13/1/1701 Ref 144, Smuts, WCG Liquidation and Distribution, 1909

The front of the house appears to have been decorated in the 1970's with liberal quantities of slate tile to give it a "modern look". A heritage statement on the building prepared by architect Chris Murphy of the Swaartland Heritage Foundation has determined that the interior of the building has been irrevocably altered. The building is considered to have little conservation value.

Also noted at Delectus was the large historic barn, also a 19th century structure with various additions. The building is technically protected and alternatives to demolition should be considered, however Chris Murphy feels that it is of little conservation value. Given the high degree of alteration of other structures on the farm and damage to context, there seems little merit in retaining this structure.

Stables

The Delectus stables which are in a poor state without a roof are greater than 60 years of age, but too damaged to be considered conservation-worthy. A permit will be required for their demolition.

Cottage

A further small cottage on Delectus, was on close inspection identified as being greater than 60 years of age probably also dating to the 19th century has been so highly modernized that it is not considered conservation-worthy.

Outbuildings

There are a great many out-buildings at Delectus, most of which are recent and in varying states of repair ranging from recently demolished to standing. None of them are protected.

4.4 Precinct 3: Vlakkerug

The farm had been in the van der Westhuizen family since 1856, with various erven partitioned off to family members (Table 3). In 1984, Hester Sophia du Toit (*nee* van der Westhuizen) transferred a portion of 4,2827 hectares to current owner Johannes Petrus Cornelius du Toit, who at the same time purchased an adjacent property (7,6289 ha) which had also been in the family. These were consolidated as the current extent of Farm Vlakkerug.

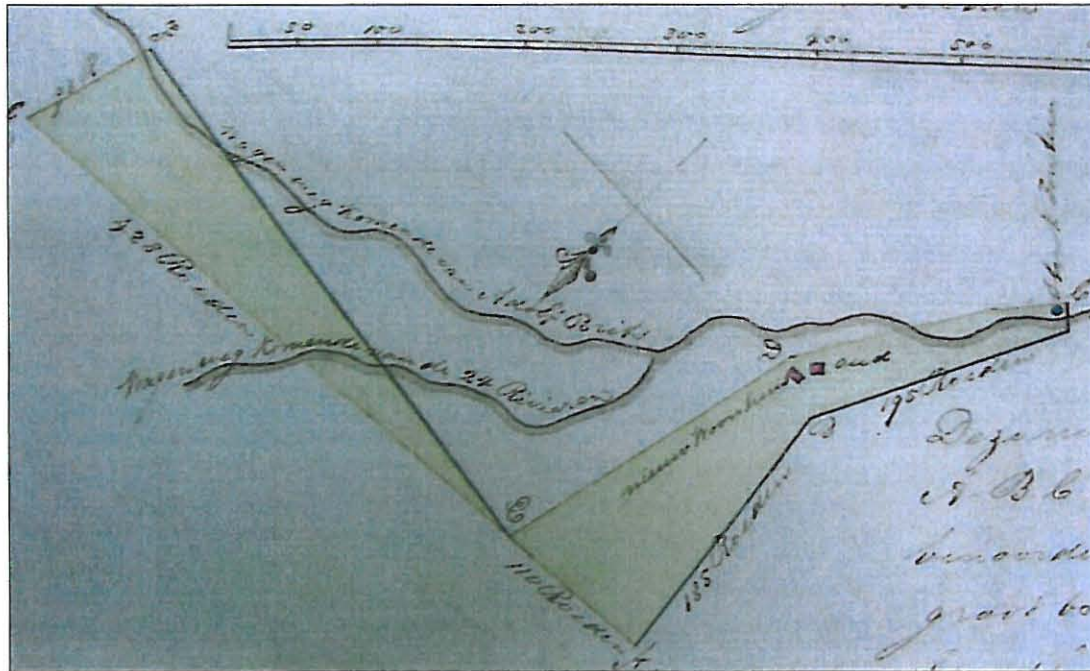


Fig. 10 . Surveyor's Diagram of Farm 499 showing two buildings. Granted to Gerrit Fischer in 1753. OSF 3.69, 21.09.1753, S.G. Dgm No. 20/1754

DEED	DATE	FROM	TO	EXTENT
Old Stellenbosch Freehold 3.69	21.09.1753	Freehold Grant (Farm 499)	Gerrit Fischer (Visser)	60 M.
Transfer No. ?	06.02.1806	?	Louis Christiaan Karstens	60 M
SQ 9/50	06.09.1831	Grant (now Farm 500)	Louis Christiaan Karstens	3087 M, 24 SR
130	13.3.1832	LC Karstens -	Andries Smit (this portion referred to as the Remainder as 'Portion 1 was sold off as Middlepost)	2523 M 548 SR
176	18.3.1856	A.A. Smit	Andries Adriaan Smit Jr Benjamin van der Westhuizen	1850 M, 282 SR
522	21.4.1880	A.A. Smit Jr.	Benjamin van der Westhuizen	1850 M, 282 SR

Table 3: Land ownership history for Vlakkerug Farm No. 500

Conservation status

Vlakkerug is farmed by the Du Toit family who are direct descendents of the Van der Westhuizen family. A site inspection revealed the presence of well preserved heritage structures at the Vlakkerug Farm. There is a 19th century farm house, various barns of similar age. An area within sight of the Vlakkerug farm has been identified as a potential site for the establishment of the new factory, which means that the general cultural landscape of Vlakkerug will be affected both visually and in terms of sense of place.



4.5 Precinct 4: Middelpos

The farm Middelpos is not currently PPC property, however comment in terms of heritage is offered. The property has a common history with Vlakkerug, being subdivided off in the mid 19th century. An examination of a sequence of aerial photographs dating from the 1930's shows that the existing farm houses of Middelpos were already well established in the earlier part of the 20th century. There is little doubt that the property contains Victorian or earlier elements.

Conservation status

The farm is privately owned and actively farmed (wheat). Since this is effectively private property the farm buildings were not inspected, however if any activity is envisioned for this area it is likely that cultural landscape issues and building conservation issues will need to be addressed.

4.6 Riebeek West Rural Townscape

In the interests of establishing the degree of indirect and accumulative impacts outside the boundaries of the PPC property comment is made on the rural townscape of Riebeek West.

Riebeek West is a town with origins that go back to the 18th century. Today it is a mature rural town rich in historic structures of mainly the early – late Victorian period. Many of these are on generous erven arranged around a geometric grid pattern of small streets (many of them unpaved). Erven are generous – no doubt originally big enough for orchards and vegetable cultivation although of late there are increasing signs of densification. Some of the larger erven have been subdivided for property development.

The Main Road is and was the center of commercial activity, structures are generously spaced with gardens and trees abutting onto the road. Besides a small supermarket, service stations and co-ops which service

essential needs, there are a number of restaurants, B&B's and shops that have been refurbished to capitalise on the old world charm of the town.

Riebeeck west is a well conserved heritage town which has become local attraction and a destination. The values that has attracted both residents and visitors are its rural ambience and charm imparted by the well cared for historic structures, trees green spaces, setting and quietness.

Heritage concerns

While the actual proposed development of the PPC operation won't affect Riebeeck West in a direct manner, residents and shop owners are concerned that the qualities of the 'place' will be eroded by increased volumes of traffic, people (construction workers) and traffic. It was noted during the site inspection that several very large vehicles entered the town at speed – the generously proportioned main road tempting drivers to rush through the town without slowing down. This is a source of irritation to anyone visiting Main Street and is identified as a heritage concern.

Concern has been expressed at the possibility that vibration caused by heavy vehicles may cause structural damage to older structures. Unfortunately measurement of damage of this kind is very difficult as the amount of variables involved is substantial. Soft brick structures can spontaneous crack if improper cement mix ratios are used in their restoration or the incorrect combinations of material is used. This means that it is very difficult to attribute cause to any particular series of events, unless the event that causes damage is immediately definable. The site inspection revealed that most buildings are quite well set back from the pavement and buffered by a very wide road. Instances of historic buildings deterioration due to vibration caused by heavy vehicles have not been documented in the Western Cape. It is noted that the Smuts House has stood for years within the vicinity of a mine pit where blasting has taken place regularly – being constructed from softer flexible materials the structure has been able to adequately survive low level seismic events. Within the constraints of the experience of the heritage team, damage caused by vibration is considered to be an unlikely occurrence.



Fig. 11 Main Street, Riebeek Wes, date unknown. CA R246

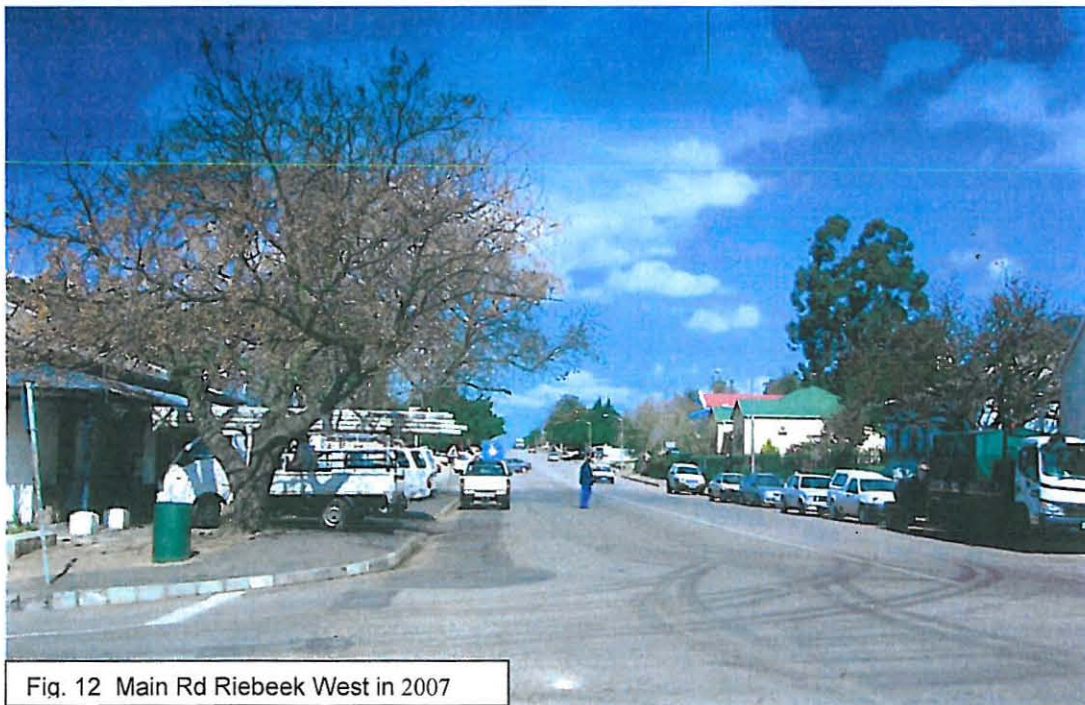


Fig. 12 Main Rd Riebeek West in 2007

4.7 Rural Cultural Landscape

Before the Smuts family sold their properties to PPC in the mid – 20th century, the rural cultural landscape was relatively complete – a mosaic of wheat farms and historic farm houses intimately linked with the family and childhood of a very important South African and world leader. Unfortunately in heritage terms, these properties lay above the provinces largest and best grade of limestone. The National Monuments Commission of that time

did not have benefit of modern concepts of heritage conservation nor the legislative clout to protect anything more than the small cottage where Jan C Smuts was born and a few of the associated farm buildings. Permission was given for the family graves to be exhumed and relocated, after which the mine pit was opened and fifty years of mining followed. Since 1960, impacts to the rural cultural landscape have been massive. The Smuts cottage stands in a small enclave surrounded by roads, railway tracks, a massive limestone pit and factory. The site is completely divorced from its rural context, relatively unknown to the public. What were once lands is now an industrial site, landscapes have been massively modified to the point that the PPC Factory, mine and overburden sites are locally the dominant landscape. The assessment of the PPC rural cultural landscape in terms of criteria prescribed by the National Heritage Resources Act reveals that the sole unique quality of the site is its association with an historically significant figure. The study area was once a typical Swartland rural landscape, however this landscape quality has already been irrevocably changed to the extent that the integrity of the landscape has been highly compromised.

The rural cultural landscape has now been subject to 48 years of mining, and this is set to continue beyond the mid-21st century. Overburden dumps will continue to develop, then be contoured off and rehabilitated into wheat land. The existing factory is to be mothballed and newer technology installed. Perhaps the biggest impact to the rural cultural landscape will be a physical shift of same kinds of impacts that have affected the area for almost half a century. Old landfill sites will continue to be contoured off and rehabilitated. New landfill operations will continue, however everything other than the working fronts of the landfill sites will be contoured off and rehabilitated. The local landscape will continue to be transformed slowly but steadily over the next forty years and beyond. It must be understood that the pace of the mining operation is not once-off event that causes massive visual impact and landscape destruction – it is slow and steady, the expansion of the overburden dumps are almost imperceptible from month to month to the casual observer. Over the time span of 100 years (1960-2060) the accumulative changes to the local landscape will be substantial. Ultimately, it may be necessary to inundate the farms buildings of Middelpoos, Vlakkerug and De Rust which are protected in terms of current legislation, however given the large time span of event on the mine, it would be inappropriate to evaluate these farm buildings in terms of current legislation. This must be done within one or two years of proposed demolition in terms of legislation of the time.

PPC Rural Cultural Landscape: Heritage Value Indicators as outlined in the National Heritage Resources Act, No. 25 of 1999.	Evaluation	Degree of Certainty
Importance in the community, or pattern of South Africa's history	Low	High
Possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage	Low	High
Potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	Low	High
Importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	Low	High
Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	Low	High
Importance in demonstrating a high degree of creative or technical achievement at a particular period	Low	High
Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Low	High
Strong or special association with the life or work of a	High	High

person, group or organisation of importance in the history of South Africa		
Relating to the history of slavery in South Africa	Low	High
Places to which oral traditions are attached or which are associated with living heritage	Low	High

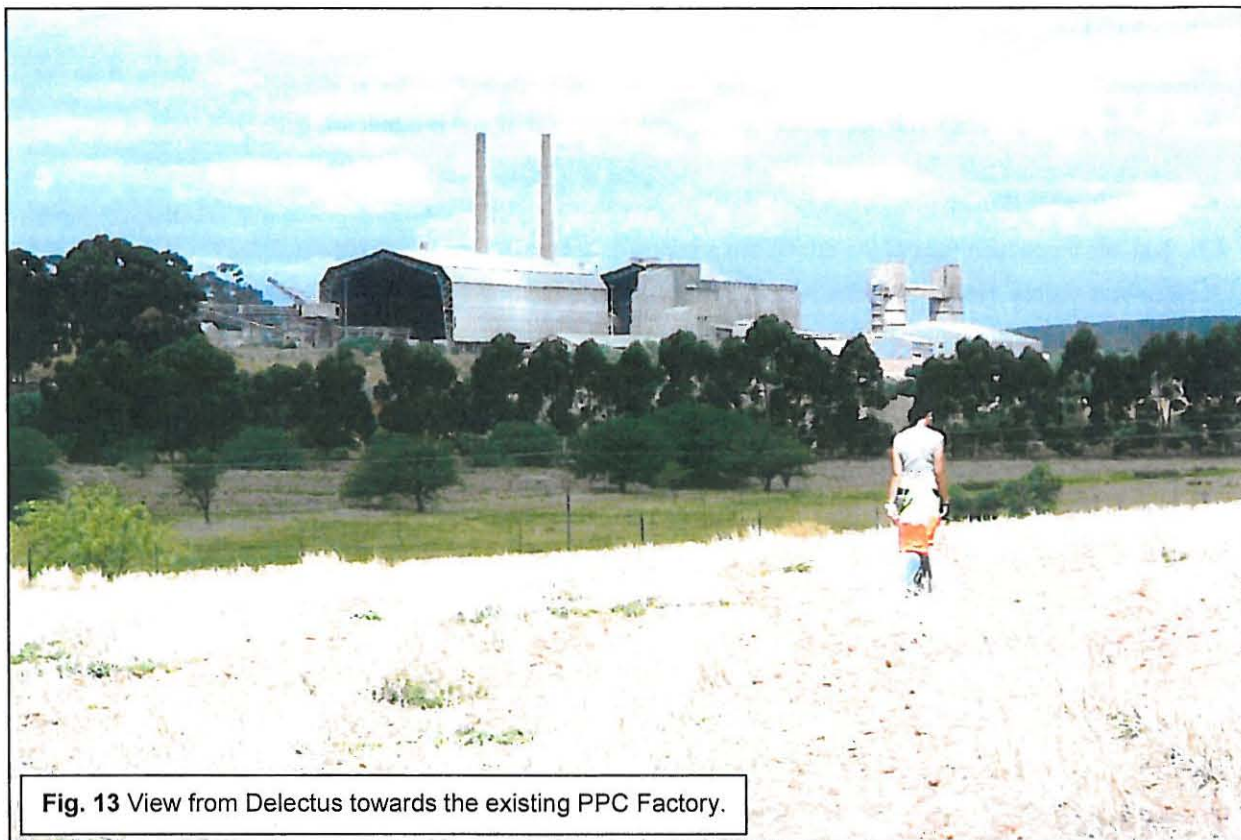


Fig. 13 View from Delectus towards the existing PPC Factory.

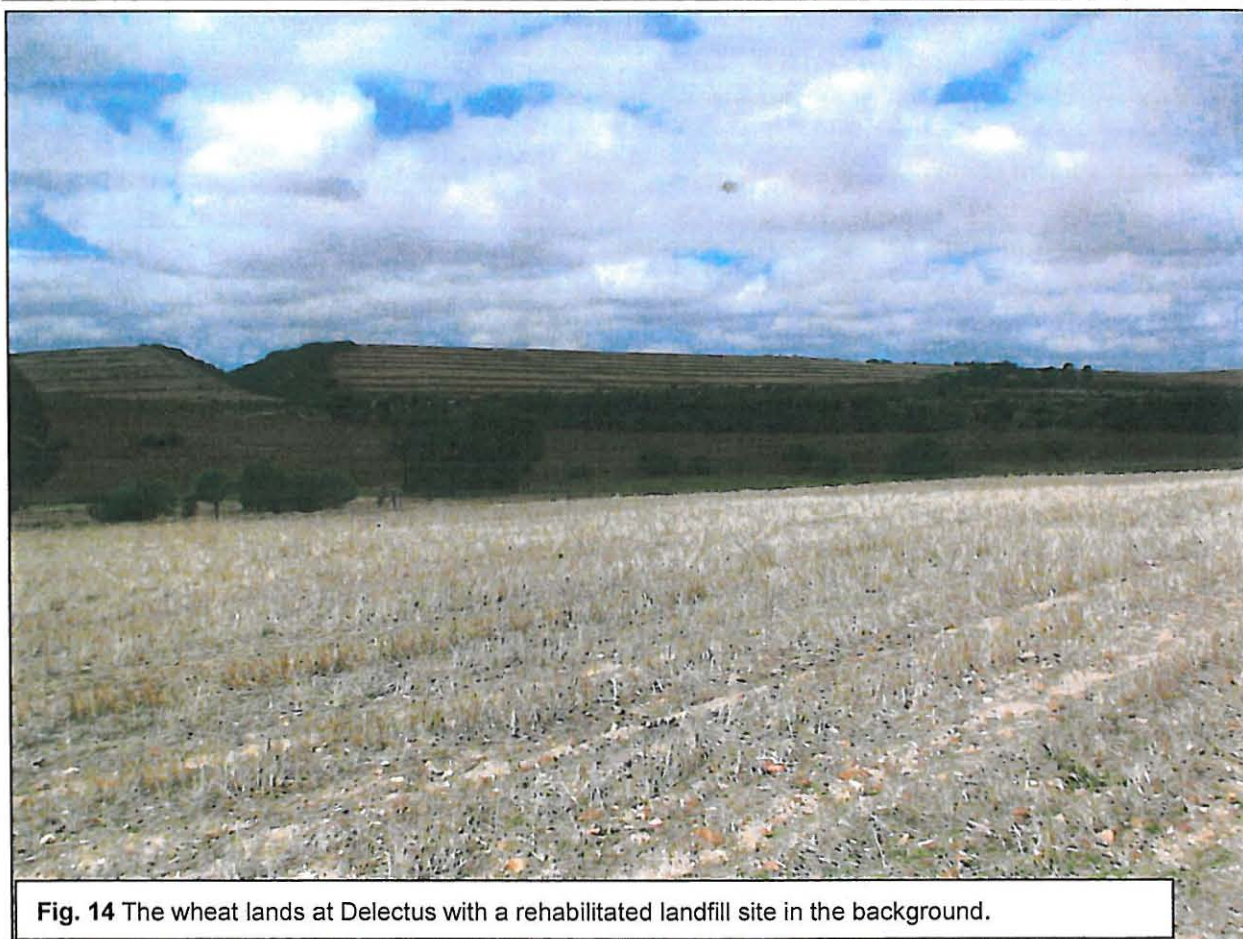


Fig. 14 The wheat lands at Delectus with a rehabilitated landfill site in the background.

4.8 Palaeontology

The basal formations of the Swartland are Malmesbury Shale – a sedimentary rock dating from the Precambrian period which is older than the first life forms. No fossiliferous material is expected.

4.9 Archaeology

The first site inspection took place during the growing season of wheat which means that very little of the ground surface was visible. No Early Stone Age material was noted in any of the road verges or open areas of land. A second site visit was made in February of 2008 after the wheat harvest had taken place. Fields around the proposed new mine site at Delectus were checked. No Stone Age material of any significance was located.

Almost the entire study area has been subject to years of agriculture, mining and *ad hoc* changes. Effectively the only undisturbed area in the study area is a patch of 8 hectares of Renosterveld which is actively conserved by PPC and will not be disturbed.

Previous experience has shown that pre-colonial archaeological material is relatively limited in the Swartland as the shale bedrock offers very poor quality material for making stone artefacts. Early and Middle Stone Age finds are plentiful along the banks of the Berg River where alluvial quartzites are to be found, but decrease with distance from the river. It is highly possible that pre-colonial archaeology ranging from Late to Early Stone Age is present in the study area, however years of plowing has destroyed its context and diminished the scientific value of any such material.

It is not expected that any further assessments will produce any evidence of significant material,

5 Assessment of impacts

5.1 The ways in which heritage can be impacted

Destruction of tangible heritage inevitably takes place during the construction process of development activities rather than during the operational phases as the main source of impact normally is due to the disturbance of undisturbed ground or landscape and/or demolition of structures and places protected by the National Heritage Resources Act 25 of 1999. In the case of the proposed activity, construction of new cement factories and support structures will result in construction phase impacts caused by the disturbance of ground and demolition of existing buildings in the way of the operation. Impacts may continue at a slower pace during the operational phase when overburden is removed from mining pits and dumped gradually altering the landscape. Invariably the kinds of impacts resulting are irreversible and of permanent duration.

Cultural landscapes are highly sensitive to accumulative impacts and large scale development activities that change the character and public memory of a place. The proposed activity will result in the opening and enlarging of cast pits as well as the depositing of large quantities of overburden which will alter the appearance of the surrounds and inundate large areas. The factory itself is a substantial structure which carries with it not only potential visual impacts, but it is also somewhat incongruous with the rural atmosphere.

Archaeological sites – colonial and pre-colonial, fossil deposits and graves are highly fragile and context sensitive, which means that their value is very easily destroyed when the landscape in which they are situated is

disturbed by bulk excavation, land clearing and construction work. Mitigation can be achieved through scientific recording, sampling or excavation however these are also destructive processes. In general, full rectification of heritage impacts is not normally possible in the case of archaeology and paleontology, but is possible to a degree in the context of built environment where restoration and reconstruction can be achieved (but with loss of authenticity). Generally, the best way to avoid impacts is to identify potential sensitivities first, then to take pro-active measures to avoid impacting the resource and ensure conservation thereafter.

5.2 Impacts caused by the proposed activities for proposed facility site locations and associated overburden dumping

5.2.1 Delectus option A

The Delectus operation sees the eventual opening of a new limestone pit in the vicinity of the existing farm buildings with overburden dumping taking place on Vlakterug, Middelpoos and on Delectus itself. The railway line will be extended to service the Delectus facility, while 3 alternative sites have been identified for construction camp and waste water treatment works. A new factory (Factory Site Option A) will need to be built close to the existing Delectus farm buildings. The most significant identified impact is the potential need to demolish four protected buildings on Delectus Farm to make way for the facility and the eventual overburden dump. In time protected farm buildings at De Rust and Vlakterug will be threatened by the gradual extension of the waste dump sites.

Selection of factory site A will result in impacts to

- The Delectus farm buildings which will need to be demolished
- High visibility from the R311 resulting in diminishment of local rural ambience
- A low possibility of disturbing archaeological material

Table 4 Assessment of impacts facility site option A

Factory Site A	Extent	Intensity	Duration	Reversibility	Probability	Significance	Status	Confidence
With mitigation	Local	Low	Long term	Irreversible	Sure	Low	Negative (positive if Delectus Buildings can be maintained)	Certain
Without mitigation	Local	Medium	Long term	Irreversible	Sure	Low	Negative	Certain

Opening of the Delectus pit will result in impacts to:

- Eventual inundation of protected structures at De Rust and Vlakterug farm yard.
- Eventual inundation of large tracts of rural landscape on farms Vlakterug and Middelpoos, and to a lesser extent, Delectus.
- A low possibility of disturbing significant archaeological material

Table 5 Assessment of impacts Delectus Pit

Delectus Pit	Extent	Intensity	Duration	Reversibility	Probability	Significance	Status	Confidence
With mitigation	Local	Low	Long term	Irreversible	Sure	Low	Negative (positive if buildings at De Rust and Vlakkerug can be maintained)	Certain
Without mitigation	Local	Medium	Long term	Irreversible	Sure	Low	Negative	Certain

Extension of the railway line will result in impacts:

- A low chance of disturbing significant archaeological material.

Table 6 Assessment of impacts option A railway line extension

Delectus Railway	Extent	Intensity	Duration	Reversibility	Probability	Significance	Status	Confidence
With mitigation	Local	Low	Long term	Reversible	Sure	Very low	Negative	Certain
Without mitigation	Local	Medium	Long term	Irreversible	Sure	Low	Negative	Certain

Construction of workers camps and WWTWs (all 3) will result in impacts to:

- Local Loss off rural landscape Not true. Everything will be completely restored after removal of temporary construction camp; temporary impact only
- A low possibility of disturbing significant archaeological material.

Table 7 Assessment of impacts WWTW, construction camps

Construction camps	Extent	Intensity	Duration	Reversibility	Probability	Significance	Status	Confidence
With mitigation	Local	Low	Long term Temporary only	Reversible	Sure	Low	Negative	Certain
Without mitigation	Local	Medium	Long term	Reversible	Sure	Medium	Negative	Certain

Mitigation: Delectus

- A demolition permit will have to be obtained from Heritage Western Cape for alteration or destruction of buildings at Delectus, De Rust, Vlakkerug. The permit applications will need to be motivated by a conservation architect after the affected buildings have been carefully studied. The permit may not necessarily be issued which will mean that PPC will have to consider fallback alternatives to demolition such as landscaping of overburden dumps around the structures.
- Permits for alteration and demolition will need to be applied for within the year that demolition is envisaged (permits tend to be valid for a year).

- Ideally, alternative uses should be found for the Delectus farm house and historic barn. The buildings could be conserved as is, or better still refurbished under the guidance of an AHAP registered conservation architect.
- Landscape impacts are closely related to visual impacts – mitigation measures recommended in the independent visual impact assessment apply.

Opening of the Delectus pit will result in impacts to:

- Eventual inundation of protected structures at De Rust and Vlakkerug farms.
- Eventual inundation of large tracts of rural landscape on farms Vlakkerug and Middelpas, and to a lesser extent, Delectus.
- A very low possibility of disturbing significant archaeological material

5.2.2 Optimal Pit expansion

The proposed activity effectively involves expanding and deepening the existing Final Pit which is to be incorporated within the Optimal Pit. The existing production facility (mills, stock piles and kilns) lies over a massive ore body. The intention is to remove and mothball the existing facility to gain access to the ore body then build a new facility on either Delectus (site A) or Vlakkerug (site B). Use of the Vlakkerug site B has a number of implications in terms of heritage impacts – especially landscapes and threats to buildings. Creation of the Optimal Pit could nibble away at the very small buffer zone between the Smuts Cottage and the mine site.

Selection of factory site B will result in impacts to

- High visibility of the facility and kiln stacks over a wide expanse of country side including Riebeek West.
- Extensive loss of landscape caused by infilling of overburden over Middelpoos farm and valley as well as the need to demolish protected heritage structures at Middelpoos Farm buildings.
- A low possibility of disturbing significant archaeological material

Table 8 Assessment of impacts facility site option B

Factory Site A	Extent	Intensity	Duration	Reversibility	Probability	Significance	Status	Confidence
With mitigation	Local	Medium	Long term	Irreversible	Probable	Medium	Negative	Certain
Without mitigation	Local	High	Long term	Irreversible	Probable	High	Negative	Certain

Creation of the Optimal Pit will result in impacts to:

- Reduction in size of buffer zone round Smuts Cottage and diminishment of the landscape context of the heritage site.
- Potential physical damage to Smuts Cottage as a result of effects of blasting at the expanded optimal pit..

Optimal Pit	Extent	Intensity	Duration	Reversibility	Probability	Significance	Status	Confidence
With mitigation	Local	Low	Long term	Irreversible	Highly probable	Low-medium	Negative	Sure
Without mitigation	Local	High	Long term	Irreversible	Highly probable	High	Negative	Sure

Extension of the railway line will result in impacts:

- A very low chance of disturbing significant archaeological material as much of the landscape along the proposed alignment is heavily disturbed.

Table 9 Assessment of impacts Vlakkerug railway extension

Vlakkerug Railway	Extent	Intensity	Duration	Reversibility	Probability	Significance	Status	Confidence
With mitigation	Local	Very low	Long term	Reversible	Sure	Very low	Neutral	Certain
Without mitigation	Local	Medium	Long term	Irreversible	Sure	Low	Neutral	Certain

Construction of workers camps and WWTWs (all 3) will result in impacts to: See comments above on WWTW

- Local Loss off rural landscape
- A low possibility of disturbing significant archaeological material.

Table 10 Assessment of impacts WWTWs and construction camps Vlakkerug option B.

Factory site B	Extent	Intensity	Duration	Reversibility	Probability	Significance	Status	Confidence
With mitigation	Local	Low	Long term	Reversible	Probable	Low	Negative	Sure
Without mitigation	Local	Medium	Long term	Reversible	Probable	Medium	Negative	Sure

Mitigation: Optimal Pit and Vlakkerug Facility Site option B

- A demolition permit will have to be obtained from Heritage Western Cape for destruction/alterations of buildings at Middelpoos, De Rust, Vlakkerug. The permit applications, will need to be motivated by a conservation architect after the affected buildings have been carefully studied. The permit may not necessarily be issued which will mean that PPC will have to consider fallback alternatives to demolition such as landscaping of overburden dumps around the structures. Permits are normally valid for 1-3 years.
- Ideally, alternative uses should be found for any generally protected buildings such as the De Rust, Vlakkerug and Middelpoos farm houses and outbuildings. The buildings could be conserved as is, or better still refurbished under the guidance of an AHAP registered conservation architect.
- Landscape impacts are closely related to visual impacts – mitigation measures recommended in the independent visual impact assessment apply.
- The effects of prolonged blasting on the Smuts cottage and out buildings that will take place with the expansion of the optimal pit, will need to be evaluated and mitigated during the operational phase of mining. Shortly prior to blasting, the baseline condition of the buildings will need to be established, thereafter the buildings will need to be inspected regularly (once a month) for evidence of accelerated cracking. Existing cracks in the fabric will need to be monitored and independently audited by a consultant or a local interest group (suggest digital photography record). If acceleration in cracking is perceived, PPC will need to review their blasting techniques to moderate the intensity of shocks. This should be achievable with a little experimentation and feedback using a seismograph. Damage to fabric of the historic structures will need to be made good.
- The PPC staff cemetery is unlikely to be impacted as PPC does not intend to initiate any activities close to the site. PPC may voluntarily elect to maintain fencing from time to time and control vegetation growth.

5.2.3 Ranking of alternatives for facility sites

Both options A and B create a suite of impacts that will affect various generally protected structures and the general surrounding landscape. Balancing the two options, the high degree of visibility of option B (Vlakkerug) and the concurrent loss of landscape (which includes a wetland system).that will occur of the farm Middelpoos (both options), the Delectus site Option A is favoured provided that the appropriate permits are obtained for demolition/alteration of buildings..

5.2.4 Indirect Impacts to Riebeek West

It is unlikely that heavy vehicles will result in damage to any historic structures along Voortrekker Road. however potential changes to sense of place are considered more serious. In these terms the heritage impact assessment is intimately linked with the findings of both the traffic, visual and social impact assessments which means that assessment of impacts will be dependent on the findings of multiple studies.

6 Conclusion

PPC occupies a farm that was once occupied by five Smuts families who lived at both Ongegunt and Delectus. Given present day attitudes towards heritage which focuses not only on individual heritage sites and buildings, but also their wider context, far more stringent conditions would have been imposed on conservation of the Smuts Cottage and its context. Be that as it may, authorized mining has been taking place for almost half a century. It is within these terms that this assessment has taken place.

PPC's proposed operations are considerable with the result that they will create a locally human made landscape of contoured off artificial hills rehabilitated into wheat lands, as well as the large open pits which in the distant future will need to be rehabilitated or put to adaptive reuse. Although this is a massive intervention, the typical low rolling hills of the Swartland are relatively easy to emulate, which in visual terms means that it is possible to harmonise the overburden sites with their surroundings. The downside is that all buildings, archaeological material that is in the way of the overburden dumps will be affected. Wherever possible the adaptive reuse of historic structures is encouraged. It is acknowledged that this is not always possible, in which case the proper demolition procedures in terms of the National Heritage Resources Act or other equivalent legislation needs to be followed.

7 Recommendations

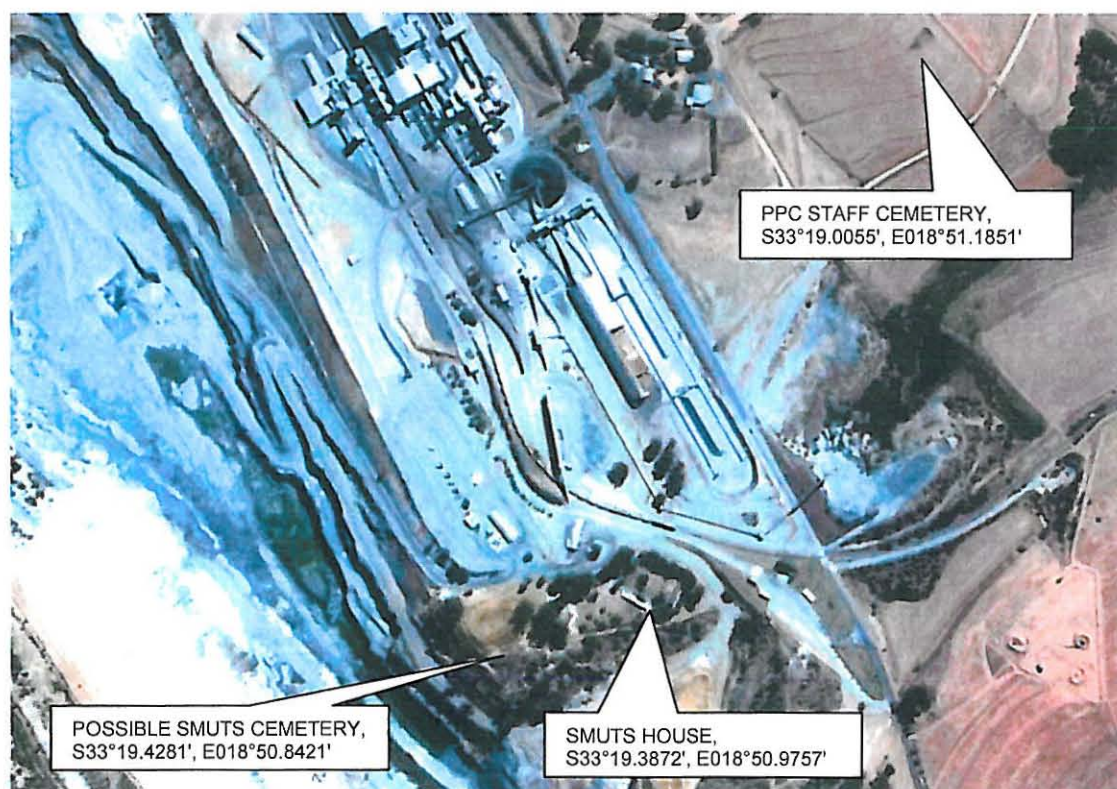
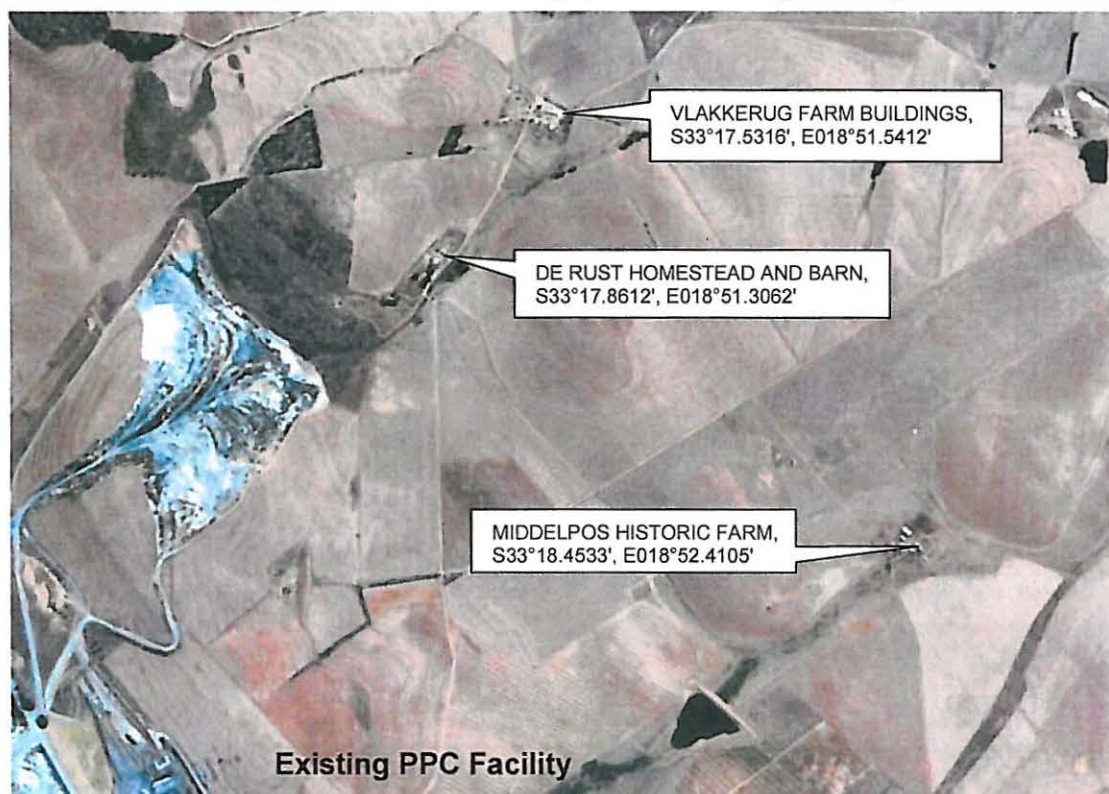
Delectus facility site (option A) is favoured over Vlakkerug Facility site (option B)

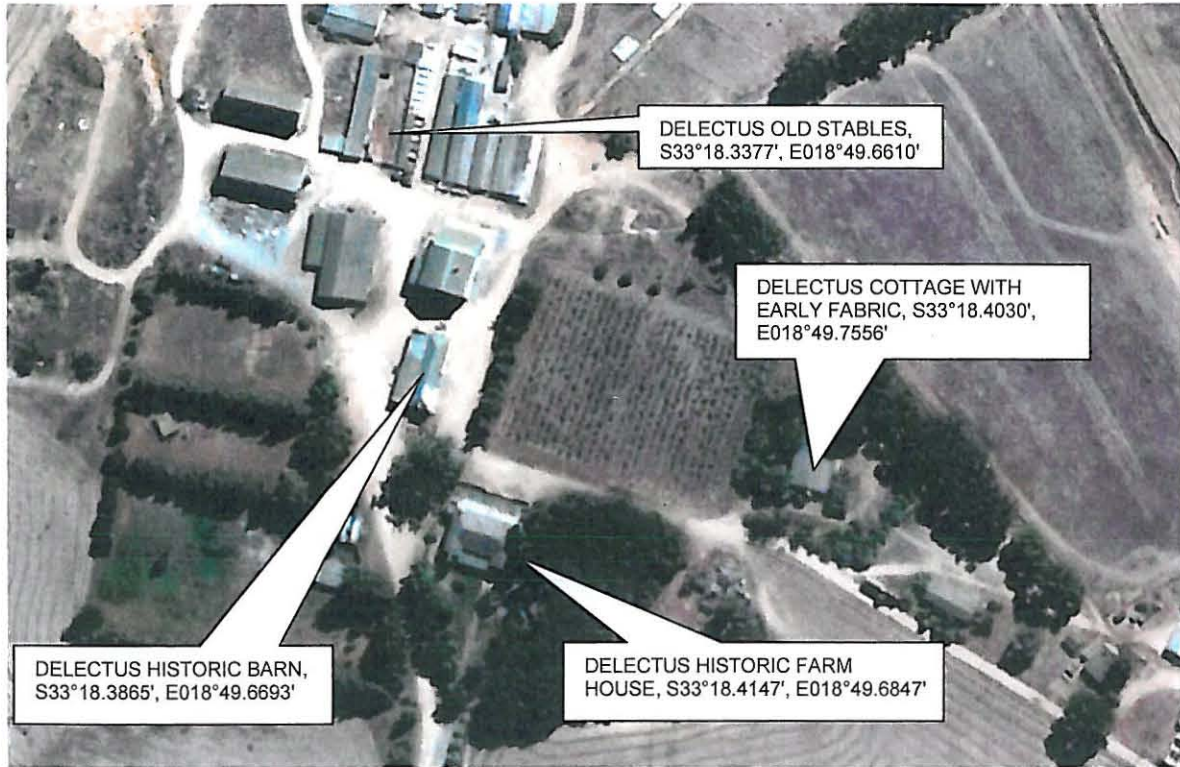
While no fatal flaws have been identified in terms of the proposed activities, follow up work is going to be necessary. In summary these are:

- The development of a blasting monitoring plan for Smuts Cottage and out-buildings.
- Maintenance measures for the PPC staff cemetery.
- Focused studies on all generally protected structures on the property that will need to be demolished (to be undertaken in the same years that demolition is envisaged).

8 Appendix A

Locations of heritage sites (Aerial Photographs from Google Earth)





Co-ordinates of identified heritage sites
 DE RUST HOMESTEAD AND BARN
 DELECTUS COTTAGE WITH EARLY FABRIC
 DELECTUS HISTORIC BARN
 DELECTUS HISTORIC FARM HOUSE
 DELECTUS OLD STABLES
 MIDDELPOS HISTORIC FARM
 POSSIBLE SMUTS CEMETERY
 PPC STAFF CEMETERY
 SMUTS HOUSE
 VLAKKERUG FARM BUILDINGS

Latitude	Longitude
S33°17.8612'	E018°51.3062'
S33°18.4030'	E018°49.7556'
S33°18.3865'	E018°49.6693'
S33°18.4147'	E018°49.6847'
S33°18.3377'	E018°49.6610'
S33°18.4533'	E018°52.4105'
S33°19.4281'	E018°50.8421'
S33°19.0055'	E018°51.1851'
S33°19.3872'	E018°50.9757'
S33°17.5316'	E018°51.5412'