PHASE 2 MITIGATION REPORT

PROPOSED RECOMMISSIONING OF THE OLD BALGRAY COLLIERY LOCATED NEAR DUNDEE, ENDUMENI LOCAL MUNICIPALITY, UMZINYATI DISTRICT MUNICIPALITY, KWAZULU-NATAL PROVINCE.

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Declaration of Independence

The report has been compiled by PGS Heritage (Pty) Ltd, an appointed Heritage Specialist for Agreenco Environmental Projects (Pty) Ltd. The views stipulated in this report are purely objective and no other interests are displayed during the decision making processes discussed in the Heritage Impact Assessment.

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Report Title	Phase 2 Mitigation Report for the Proposed Recommissioning of the Old Balgray Colliery located near Dundee, KwaZulu-Natal.		
Control	**Name**	**Signature**	**Designation**
Author	**Polke Birkholtz**		**Project Manager / Heritage Specialist & Archaeologist**

EXECUTIVE SUMMARY

Introduction

PGS Heritage (Pty) Ltd was appointed by Agreenco Environmental Projects (Pty) Ltd to undertake a Phase 2 Mitigation Report for the proposed recommissioning of the old Balgray Colliery located near Dundee, Umdeni Local Municipality, Umzinyati District Municipality, Kwazulu-Natal Province.

The focus of this report was placed on site BALG 2, which comprises the remains of a historic farmstead that was identified on a Portion of the Farm Craigside 2272. Mention was also made of observations and work undertaken by the applicant in terms of site BALG 3 that was identified on the same farm.

Scope of the Study

The aims of this Phase 2 Archaeological Assessment are to:

- Undertake an archival and historical desktop study to provide a historic framework for the project area and surrounding landscape. This must be augmented by an assessment of old aerial photographs and a study of the McPhail family, in particular Duncan Dugald MacPhail and Ian Alistair MacPhail.
- Conduct a field assessment of site BALG 2;
- Record an archaeological site layout plan of site BALG 2;
- Conduct photographic recording of site BALG 2;
- Provide a write-up of site BALG 2 and its contents; and
- Provide observations made by applicant in terms of site BALG 3.

Desktop Study

An archaeological and historical desktop study was undertaken to provide a historical framework for site BALG 2 and its surroundings. This was augmented by an assessment of the early editions of the releveant topographic maps as well as an examination of the available old aerial photographs.

The examination of the aerial photographs revealed that the historic farmstead at site BALG 2 was already in existence and well-established by 1944. However, its depiction on the 1963 aerial photograph

seems to indicate that by this time the farmstead was either abaondoned, or farming activities had been halted. The 1975 aerial photograph indicates further degradation at the farmstead, with a number of buildings evidently in a poor state of preservation.

The desktop study also revealed that the farmstead at BALG 2 was known as Brooklyn, and appears to have been built by Duncan Dugald MacPhail at an unknown time during or before 1910. The available information indicates that the farmstead at Brooklyn was built on the farm Craigside which had been owned by Duncan Dugald MacPhail's father Dugald MacPhail, from c. 1872 until his death in 1941. While Dugald MacPhail lies buried in the historic cemetery at Talana Hill, his son Duncan Dugald MacPhail is buried in the old Dundee Cemetery. During the 1950s and 1960s, Ian MacPhail, the son of Duncan Dugald and Annie Violet MacPhail, lived at Brooklyn with his wife Zena and children Clare and Neil (www.dundeenatal.com). Further research has revealed that the family comprised Ian Alistair MacPhail (born 1 April 1912) and his wife Zena Mary MacPhail (born Crawthorne) (1915 - 1995) (www.myheritage.com).

On-site Mitigation at Site BALG 2

Fieldwork was undertaken at site BALG 2 from Wednesday, 16 October 2019 to Friday, 18 October 2019. The following mitigation measures were undertaken during this period:

- Walkthroughs of site BALG 2;
- Record a site layout plan of site BALG 2;
- Conduct photographic recording of site BALG 2; and
- Provide a write-up of the site and its contents.

On Tuesday, 16 October 2019, the experienced fieldwork team from PGS Heritage (Pty) Ltd conducted walkthroughs of the site as well as its surroundings. The aims of these walkthroughs were for the fieldwork team to acquaint themselves with the site and its layout, and also to establish whether any tangible evidence for middens could be identified. The walkthroughs of the site and its immediate surroundings failed to identify any middens associated with the site.

A site plan was recorded of site BALG 2 using a Topcon GPT-3000(L)N series Total Station. The Total Station work was undertaken on Wednesday, 17 October and Thursday, 18 October 2019. During the survey work, detailed field notes were taken and a number of field sketches were also drawn. The site

layout plan was drawn in Corel Draw using the data recorded in the field. The site layout plan is depicted in **Figures 17** - **19** of this report.

The site and its features were recorded photographically. The respective positions and angles with which these site and feature photographs were recorded, are shown in **Figure 20** of this report.

The recording and write-up of site BALG 2 was undertaken by individually discussing the primary tangible remains of the site, namely:

- Raised rectangular area of soil associated with exposed stonewalling;
- Cluster of poorly preserved stonewalled features;
- Rectangular stone-packed livestock enclosure;
- Poorly preserved remains of a rectangular masonry shed; and
- Planted trees located across the farmstead, including two palm trees and a double lane of pine trees located on the south-eastern end of the site.

Mitigation at Site BALG 3

The mitigation undertaken for site BALG 3 comprises the following:

- An assessment of available old aerial photographs to see if the historic imagery can provide more insight into the origin and function of the structure at site BALG 3; and
- Mitigation undertaken by the applicant.

The only mitigation undertaken by PGS Heritage (Pty) Ltd in terms of site BALG 3, comprised an assessment of old aerial photographs. For this purpose, images taken in 1944, 1963 and 1975 were obtained from the National Geo-Spatial Information at the Department of Rural Development and Land Reform in Cape Town. The 1944 aerial photograph does not provide any evidence for structures or human occupation in proximity to site BALG 3. However, the 1963 aerial photograph depicts a cleared area with two rondavel-like structures in the locality where site BALG 3 was identified. This means that a historic black homestead was indeed located where site BALG 3 was identified during the fieldwork, and that this historic black homestead was established between 1944 and 1963. The 1975 aerial photograph again depicts a historic black homestead, and indicates that by now the homestead comprised eight structures. At least three of these structures are shown to be rectangular. This aerial

photograph also depicts a second historic black homestead further to the south. The assessment of old aerial photographs has revealed that a historic black homestead was indeed located where site BALG 3 was identified. This homestead was established between 1944 and 1963.

After the identification of site BALG 3 during the Heritage Impact Assessment, representatives of the mining company undertook a site visit to establish whether any former residents of the homestead could be identified. Their work resulted in the identification of a person who was born at the homestead, namely Mrs Nonhlanhla. Three grave sites were identified by Mrs Nonhlanha. The first of these (Grave Site 1) is located in close proximity to site BALG 3 and is located approximately 3 to 5 meters off the proposed access road footprint. A total of three graves are located at Grave Site 1. Mrs. Nonhlanha indicated that she was happy for these graves to remain where they are, on the proviso that they are fenced off. The other two grave sites identified by Mrs Nonhlanhla are located some distance from the proposed access road footprints. These sites are numbered Grave Site 2 and Grave Site 3.

Conclusions and Recommendations in terms of Site BALG 2

The following conclusions can be made as a result of the fieldwork and mitigation:

- A historic farmstead was located at site BALG 2. This farmstead was historically known as Brooklyn, and appears to have been built by Duncan Dugald MacPhail at an unknown time during or before 1910. Duncan Dugald MacPhail was the son of Dundee pioneer Dugald MacPhail.
- The farmstead at site BALG 2 was well-established by the time that the 1944 aerial photograph was taken, but appears to have deteriorated at an unknown time thereafter. By 1975, the farmstead appears to have been abandoned, with a number of the buildings from the site already in a poor state of preservation.
- The walkthroughs and recording of the farmstead revealed that it is poorly preserved. No evidence for the farmhouse could be found, whereas the remaining structures are all in a very poor state of preservation. Additionally, the surface of extensive sections of the site appears to have been disturbed by earthmoving activities. This disturbance took place at an unknown time, but may have been undertaken at the time that mining activities were undertaken on the property during the 1960s.
- No evidence for archaeological or historical rubbish heaps or middens could be identified during the fieldwork.

The following recommendations can be made for site BALG 2:

- It is the opinion of the author of this report that the remains of the farmstead at site BALG 2 may be destroyed. The reasons for this is that despite the intensive on-site mitigation work and walkthroughs undertaken as part of the current study, very litte tangible remains of the historic farmstead could in fact be identified. Even the livestock enclosure, which represents one of the key remaining elements of the farmstead, is poorly preserved. Furthermore, the assessment of old aerial photographs undertaken as part of the current study has revealed that the original farmhouse is completely destroyed, whereas the rectangular raised area of soil that was originally suggested to be the farmhouse, was in fact a garden feature associated with the farmhouse. The assessment of old aerial photographs has also indicated that the farmstead was already undergoing deterioration by the time that the 1963 and 1975 aerial photographs were taken. Additionally, a comparison of the tangible remains of the historic farmstead today with its depiction on the 1944 aerial photograph, clearly confirms the fact that very little of the original farmstead has remained on site.
- Despite the intensive walkthroughs and on-site recording of the farmstead, no evidence of any archaeological or historic middens could be identified on site. As a result, no archaeological excavations would be required before the site may be destroyed.
- This report must be submitted to the provincial heritage authority Amafa aKwazulu-Natali with a destruction permit application. The site at BALG 2 may only be destroyed once this destruction permit application has been approved by the heritage authority.

Conclusions and Recommendations in terms of Site BALG 3

The following conclusions can be made in terms of site BALG 3:

- The assessment of old aerial photographs undertaken by PGS Heritage (Pty) Ltd confirmed the presence of a historic black homestead at site BALG 3. This homestead was established betwee 1944 and 1963, and by 1975 comprised eight structures.
- The mitigation work undertaken by the applicant resulted in the identification of a person who was born at the historic black homestead at site BALG 3, namely Mrs Nonhlanhla. She indicated that she was born at the homestead in 1970, and that she was one of the first children to be born at the site. Mrs Nonhlanhla estimated that the homestead dated back to before 1950, and indicated that it comprised a number of dwellings. Mrs Nonhlanhla identified three graves

sites. The first of these (Grave Site 1) is located in close proximity to site BALG 3 and is located approximately 3 to 5 meters off the proposed access road footprint. A total of three graves are located at Grave Site 1. Mrs. Nonhlanha indicated that she was happy for these graves to remain where they are, on the proviso that they are fenced off. The other two grave sites identified by Mrs Nonhlanhla are located some distance from the proposed access road footprints. These sites are numbered Grave Site 2 and Grave Site 3.

The following recommendations can be made for site BALG 2:

- The proposed access road footprint must be altered in such a way that a buffer area of at least 10m is kept clear of any development around the graves at Grave Site 1.
- The graves at Grave Site 1 must be fenced in the presence of the family representative. This must be undertaken before construction on the access road commences.

CONTENTS **PAGE**

List of Appendices

1 INTRODUCTION

PGS Heritage (Pty) Ltd was appointed by Agreenco Environmental Projects (Pty) Ltd to undertake a Phase 2 Mitigation Report for the proposed recommissioning of the old Balgray Colliery located near Dundee, Umdeni Local Municipality, Umzinyati District Municipality, Kwazulu-Natal Province.

The focus of this report will be placed on site BALG 2, which comprises the remains of a historic farmstead that was identified on a Portion of the Farm Craigside 2272. Mention will also be made of observations and work undertaken by the applicant in terms of site BALG 3 that was identified on the same farm.

1.1 Scope of the Study

The aims of this Phase 2 Archaeological Assessment are to:

- Undertake an archival and historical desktop study to provide a historic framework for the project area and surrounding landscape. This must be augmented by an assessment of old aerial photographs and a study of the McPhail family, in particular Duncan Dugald MacPhail and Ian Alistair MacPhail.
- Conduct a field assessment of site BALG 2;
- Record an archaeological site layout plan of site BALG 2;
- Conduct photographic recording of site BALG 2;
- Provide a write-up of site BALG 2 and its contents; and
- Provide observations made by applicant in terms of site BALG 3.

1.2 Specialist Qualifications

This Phase 2 Archaeological Assessment was compiled by PGS Heritage (Pty) Ltd. The following individuals were involved with this study:

- Mr Polke Birkholtz, the project manager and principal heritage specialist, is registered with the Association of Southern African Professional Archaeologists (ASAPA) as a Professional Archaeologist and is also accredited with the CRM Section of the same association. He has 19 years of experience in the heritage assessment and management field and holds a B.A. (cum laude) from the University of Pretoria specialising in Archaeology, Anthropology and

History and a B.A. (Hons.) in Archaeology (cum laude) from the same institution.

1.3 Assumptions and Limitations

The following assumptions and limitations to this study exist:

- Not detracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the possible heritage resources present within the area. Various factors account for this, including the subterranean nature of some archaeological sites, as well as the density of vegetation cover found in some areas. As such, should any heritage features and/or objects not included in the present inventory be located or observed, a heritage specialist must immediately be contacted. Such observed or located heritage features and/or objects may not be disturbed or removed in any way, until such time that the heritage specialist has been able to make an assessment as to the significance of the site (or material) in question. This applies to graves and cemeteries as well. In the event that any graves or burial places are located during the development, the procedures and requirements pertaining to graves and burials will apply as set out below.

1.4 Legislative Context

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation:

i. National Environmental Management Act (NEMA), Act 107 of 1998
ii. National Heritage Resources Act (NHRA), Act 25 of 1999
iii. KwaZulu Natal Heritage Act 4 of 2008
iv. Mineral and Petroleum Resources Development Act (MPRDA), Act 28 of 2002
v. Development Facilitation Act (DFA), Act 67 of 1995

The following sections in each Act refer directly to the identification, evaluation and assessment of cultural heritage resources (CRM).

i. National Environmental Management Act (NEMA) Act 107 of 1998:
    a. Basic Environmental Assessment (BEA) – Section (23)(2)(d)

b. Environmental Scoping Report (ESR) – Section (29)(1)(d)
c. Environmental Impact Assessment (EIA) – Section (32)(2)(d)
d. Environmental Management Plan (EMP) – Section (34)(b)

ii. National Heritage Resources Act (NHRA) Act 25 of 1999:
a. Protection of Heritage Resources – Sections 34 to 36; and
b. Heritage Resources Management – Section 38

iii. KwaZulu Natal Heritage Resources Act (KwaZulu Natal HRA), Act 4 of 2008:
a. Heritage Resources Management - Section 27(1)

iv. Mineral and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
a. Section 39(3)

Both the NHRA and the KwaZulu Natal Heritage Act stipulate that cultural heritage resources may not be disturbed without authorization from the relevant heritage authority. Section 34(1) of the NHRA states that, "…*no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority*…" The NHRA is utilized as the basis for the identification, evaluation and management of heritage resources and in the case of CRM those resources specifically impacted on by development as stipulated in Section 38 of NHRA, and those developments administered through NEMA, MPRDA and the DFA legislation. In the latter cases the feedback from the relevant heritage resources authority is required by the State and Provincial Departments managing these Acts before any authorizations are granted for development. The last few years have seen a significant change towards the inclusion of heritage assessments as a major component of Environmental Impacts Processes required by NEMA and MPRDA. This change requires us to evaluate the Section of these Acts relevant to heritage (Fourie, 2008).

The NEMA 23(2)(b) states that an integrated environmental management plan should, "…*identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage*". A study of subsections (23)(2)(d), (29)(1)(d), (32)(2)(d) and (34)(b) and their requirements reveals the compulsory inclusion of the identification of cultural resources, the evaluation of the impacts of the proposed activity on these resources, the identification of alternatives and the management procedures for such cultural resources for each of the documents noted in the Environmental Regulations. A further important aspect to be taken account of in the Regulations under NEMA is the Specialist Report requirements laid down in Section 33 of the regulations (Fourie, 2008).

1.5 Terminology and Abbreviations

Archaeological resources

i. 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;
ii. rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;
iii. wrecks, being any vessel or aircraft, or any part thereof which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation;
iv. features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

Cultural Significance

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.

Development

Any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in a change to the nature, appearance or physical nature of a place or influence its stability and future well-being. These may include:

i. construction, alteration, demolition, removal or change in use of a place or a structure at a place;
ii. carrying out any works on or over or under a place;
iii. subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
iv. constructing or putting up for display signs or boards;
v. any change to the natural or existing condition or topography of land; and

vi. any removal or destruction of trees, or removal of vegetation or topsoil

Early Stone Age

The earliest archaeological phase identified in South Africa. It refers to the archaeology of the Stone Age, dating to between roughly 700 000 and 2 500 000 years ago.

Heritage

That which is inherited and forms part of the National Estate (historical places, objects, and fossils as defined by the National Heritage Resources Act 25 of 1999).

Heritage Resources

This means any place or object of cultural significance

Later Stone Age

The archaeology of the last 20 000 years, associated with fully modern people.

Late Iron Age

The archaeology of the last 1000 years up to the 1800s, associated with ironworking and farming activities such as herding and agriculture.

Middle Stone Age

The archaeology of the Stone Age, dating to between 20 000-300 000 years ago, associated with early modern humans.

Palaeontology

The study of 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 of any site which contains

such fossilised remains or trace.

Study Area

The term study area refers to the area that was assessed during the heritage impact assessment.

Development Footprint Areas

Development footprint areas represent the actual development areas.

Table 1 - Abbreviations

ABBREVIATION	*DESCRIPTION*
AIA	**Archaeological Impact Assessment**
AMAFA	**Amafa Kwazulu Natali, the Provincial Heritage Resources Authority**
ASAPA	**Association of South African Professional Archaeologists**
CRM	**Cultural Resources Management**
DEA	**Department of Environmental Affairs**
EAP	**Environmental Assessment Practitioner**
ECO	**Environmental Control Officer**
EIA	**Environmental Impact Assessment / Early Iron Age**
EMPr	**Environmental Management Programme Report**
ESA	**Early Stone Age**
GPS	**Global Positioning System**
HIA	**Heritage Impact Assessment**
I&AP	**Interested & Affected Party**
KZN Heritage Act	**KwaZulu Natal Heritage Act 4 of 2008**
LSA	**Later Stone Age**
LIA	**Late Iron Age**
MIA	**Middle Iron Age**
MSA	**Middle Stone Age**
NEMA	**National Environmental Management Act**

NHRA	**National Heritage Resources Act**
PHRA	**Provincial Heritage Resources Authority**
SAHRA	**South African Heritage Resources Agency**
SAHRIS	**South African Heritage Resources Information System**

Refer to **Appendix A** for further discussion on heritage management and legislative matters.

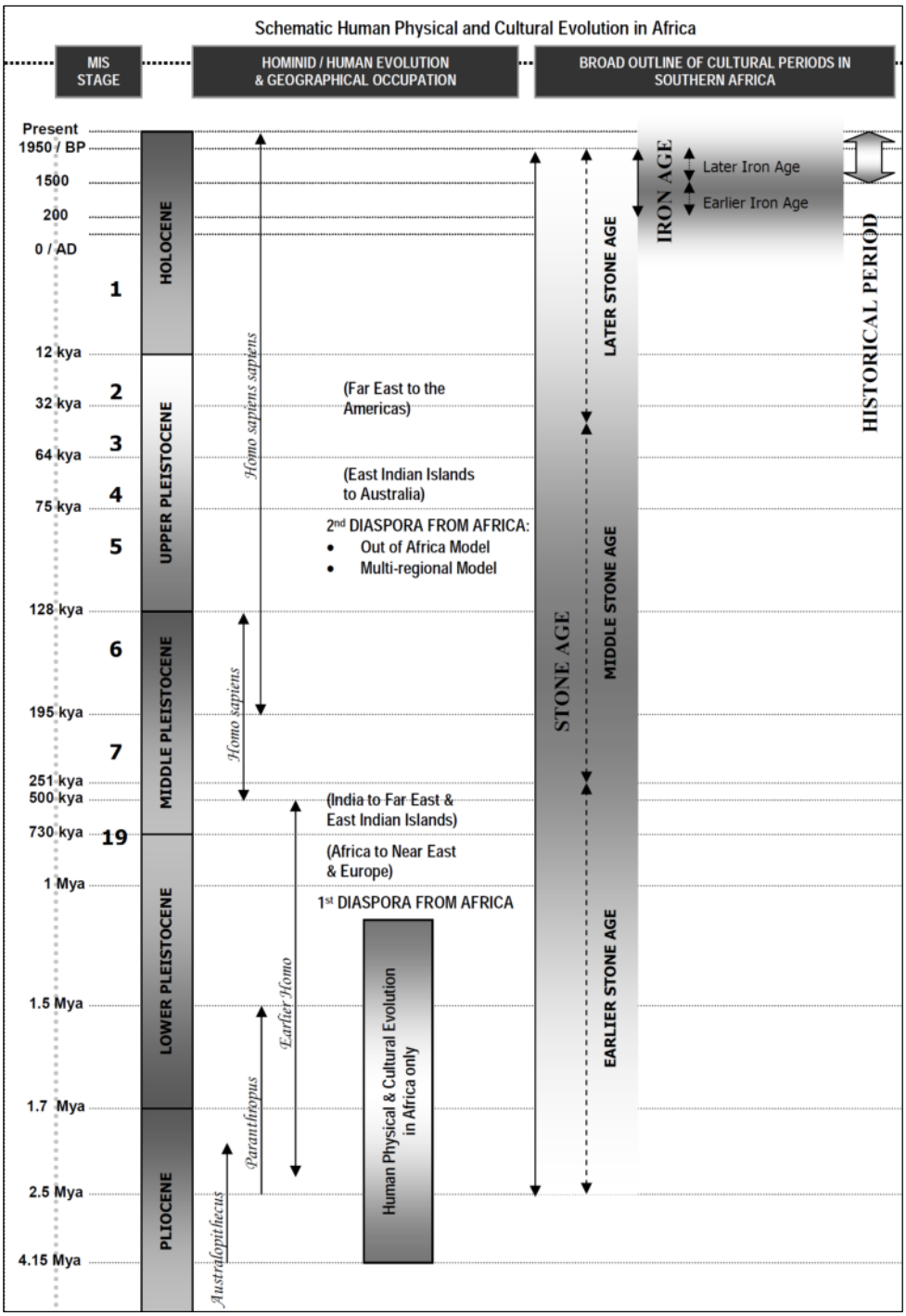

Figure 1 – Human and Cultural Timeline in Africa (Morris, 2008).

2 LOCATION OF SITES

BALG 2	
Coordinates	S 28.135590 E 30.221932
Location	The site is located 3.4km north by north-west of the CBD of Dundee.
Property	Portion 116 of the farm Craigside 2272
Topographic Map	2830AA

BALG 3	
Coordinates	S 28.135841 E 30.227937
Location	The site is located 3.2km north by north-west of the CBD of Dundee.
Property	Portion 116 of the farm Craigside 2272
Topographic Map	2830AA

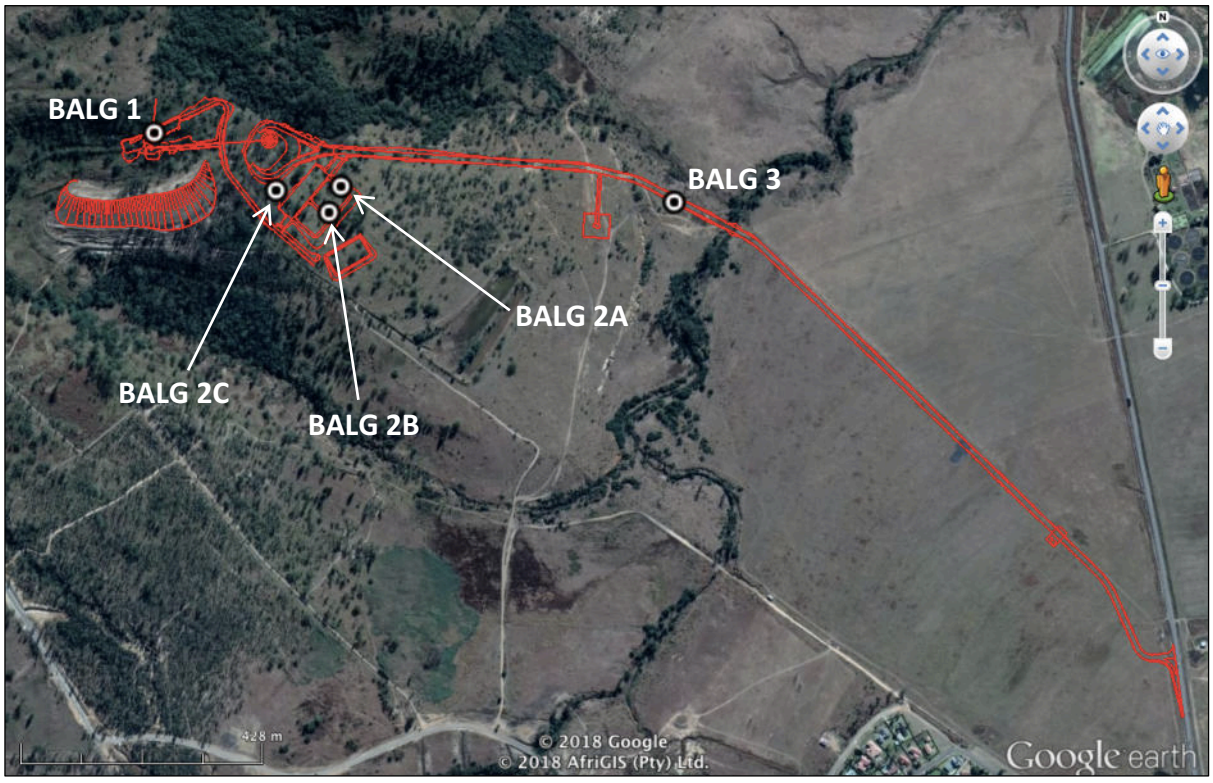

Figure 2 – Google Earth depiction of the three sites that were identified during the heritage assessment for the proposed project. The positions of sites BALG 2 and BALG 3 are especially important for the purposes of this report. The proposed development footprints are shown in red.

3 IDENTIFICATION OF SITES AND BACKGROUND TO THIS STUDY

PGS Heritage (Pty) Ltd was appointed by Agreenco Environmental Projects (Pty) Ltd in 2019 to undertake a Heritage Impact Assessment (HIA for the proposed recommissioning of the old Balgray Colliery. The study area for this project was located north by north-west of the town of Dundee and situated within the Endumeni Local Municipality and the Umzinyati District Municipality, Kwazulu-Natal Province.

Intensive field surveys of the study area were undertaken on foot by an experienced fieldwork team comprising one archaeologist/heritage specialist (Polke Birkholtz) accompanied by a fieldwork assistant (Derrick James). The fieldwork resulted in the identification of three archaeological and heritage sites. These identified sites comprise the following:

- Mine adits associated with the Old Balgray Colliery (see site BALG 1);
- Poorly preserved historic farmstead that was built and occupied by the decendants of Dundee founder Dugald MacPhail (see site BALG 2); and
- One historic structure which may have been a historic black homestead where the risk for the presence of unmarked graves exist (see site BALG 3).

An overlay of the identified archaeological and heritage sites over the proposed development footprint areas was made, which was used to assess the impact of the proposed development on these identified archaeological and heritage sites. Both pre-mitigation and post-mitigation impact assessments were undertaken.

No mitigation measures were deemed necessary for site BALG 1. However, a series of site-specific mitigation measures were outlined in the report for sites BALG 2 and BALG 3.

The following mitigation measures were outlined for site BALG 2:

- Archival and historical research must be undertaken on the farmstead and the persons who owned and occupied it. Such research may include an assessment of old aerial photographs as well as research on the McPhail family, and in particular Duncan Dugald MacPhail and Ian Alistair MacPhail.
- An archaeological site layout plan must be compiled using accepted archaeological

techniques.

- During the recording of the archaeological site layout plan, an attempt must be made to identify any archaeological middens associated with the sites. Should such middens be identified, archaeological test excavations would be required. If no such middens are found, the next two mitigation measures comprising an archaeological excavation permit application and archaeological test excavations would not be required.
- A permit application to AMAFA for archaeological test excavations to take place.
- Once the permit is received, limited archaeological test excavations may also be required, should a deposit be identified.
- An archaeological mitigation report must be compiled.
- A destruction permit application must be lodged with AMAFA to allow for the destruction of site BALG 2.

The mitigation measures recommended for site BALG 3 are provided below.

The following initial mitigation measure is required:

- A social consultation process to assess whether any local residents or the wider public are aware of the presence of graves here.

Depending on the outcome of the social consultation process, three different outcomes would be the result, namely:

- Outcome 1: The social consultation absolutely confirms that no graves are located here.
- Outcome 2: The social consultation absolutely confirms that graves are located here.
- Outcome 3: The social consultation does not yield any confident results.

The following mitigation measures would be required for sites falling under Outcome 1:

- No further mitigation would be required.

The following mitigation measures would be required for sites falling under Outcome 2:

- A grave relocation process must be undertaken.

- A detailed social consultation process, at least 60 days in length, comprising the attempted identification of the next-of-kin in order to obtain their consent for the relocation.
- Bilingual site and newspaper notices indicating the intent of the relocation.
- Permits from all the relevant and legally required authorities.
- An exhumation process that keeps the dignity of the remains and family intact.
- An exhumation process that safeguards the legal rights of the families as well as that of the mining company.
- The process must be done by a reputable company well versed in the mitigation of graves.

The following mitigation measures would be required for sites falling under Outcome 3:

- Test excavations to physically confirm the presence or absence graves.
- If no evidence for graves is found, the site will fall within Outcome 1 as outlined above. This means that no further mitigation measures would be required.
- If evidence for graves is found, the site will fall within Outcome 2 as outlined above. This means that a full grave relocation process must be implemented.

Additionally, the following mitigation measures must be undertaken for all these sites:

- All structures and site layouts from the site must be recorded using standard survey methods and/or measured drawings. The end result would be a site layout plan.
- A mitigation report must be compiled for the sites within which all the mitigation measures and its findings will be outlined. The recorded drawings from the previous item must also be included in this mitigation report.
- The completed mitigation report must be submitted to the relevant heritage authorities.

PGS Heritage (Pty) Ltd was appointed by Agreenco Environmental Projects (Pty) Ltd in October 2019 to undertake the mitigation measures recommended for site BALG 2. Additionally, PGS Heritage (Pty) Ltd was also requested to include the observations made by the applicant in terms of site BALG 3 in the mitigation report.

4 ASSESSMENT METHODOLOGY

4.1 Methodology for Assessing Heritage Site Significance

The methodology utilised for the undertaking of this assessment, will be outlined below.

Step I – Desktop Study: An archival and historical desktop study was undertaken to provide a historic framework for the project area and surrounding landscape. This was augmented by a study of available historical and archival maps, as well as an assessment of old aerial photographs. Furthemore, a study of published literature was undertaken to provide an understanding of the McPhail family, and in particular Duncan Dugald MacPhail and Ian Alistair MacPhail.

Step II – Fieldwork: The fieldwork was undertaken from Wednesday, 16 October 2019 to Friday, 18 October 2019. The fieldwork comprised the following:

- Conduct a field assessment of site BALG 2;
- Record an archaeological site layout plan of site BALG 2; and
- Conduct photographic recording of site BALG 2.

Step III – The final step involved the compilation of a report, which is this document. This report addressed inter alia the following aspects:

- Provide a write-up of site BALG 2 and its contents; and
- Provide observations made by applicant in terms of site BALG 3.

The significance of heritage sites was based on five main criteria:

- site integrity (i.e. primary vs. secondary context),
- amount of deposit, range of features (e.g., stonewalling, stone tools and enclosures),
- Density of scatter (dispersed scatter)
    - Low - <10/50m2
    - Medium - 10-50/50m2
    - High - >50/50m2
- uniqueness and

- potential to answer present research questions.

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be expressed as follows:

A - No further action necessary;
B - Mapping of the site and controlled sampling required;
C - No-go or relocate development position
D - Preserve site, or extensive data collection and mapping of the site; and
E - Preserve site

Site Significance

Site significance classification standards prescribed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used for the purpose of this report (see **Table 2**).

Table 2 – Site significance classification as prescribed by SAHRA

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation; National Site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; Provincial Site nomination
Local Significance (LS)	Grade 3A	High	Conservation; Mitigation not advised
Local Significance (LS)	Grade 3B	High	Mitigation (Part of site should be retained)
Generally Protected A (GP.A)	Grade 4A	High/Medium	Mitigation before destruction
Generally Protected B (GP.B)	Grade 4B	Medium	Recording before destruction
Generally Protected C (GP.C)	Grade 4D	Low	Destruction

5 DESKTOP STUDY FINDINGS

5.1 Overview of the Archaeology and Early History of the Study Area and Surroundings

DATE	DESCRIPTION
The Study Area during the Stone Age	
With the exception of the Later Stone Age, very little is known about the Stone Age archaeology of the study area and its immediate surroundings. As will be shown below, some work was done by the pioneer archaeologist of Kwazulu-Natal, Professor Oliver Davies, during the twentieth century.	
2.5 million to 250 000 years ago	The Earlier Stone Age (ESA) is the first and oldest phase identified in South Africa's archaeological history and comprises two technological phases. The earliest of these is known as Oldowan and is associated with crude flakes and hammer stones. It dates to approximately 2 million years ago. The second technological phase is the Acheulian and comprises more refined and better made stone artefacts such as the cleaver and bifacial hand axe. The Acheulian dates back to approximately 1.5 million years ago. No information regarding ESA sites from the study area or its immediate surroundings could be located.
>250 000 to 40 000 years ago	The Middle Stone Age (MSA) is associated with flakes, points and blades manufactured by means of the prepared core technique. This phase is furthermore associated with modern humans and complex cognition (Wadley 2013). The pioneer Natal archaeologist, Professor Oliver Davies, had recorded Middle Stone Age sites in the surroundings of Dannhauser (Prins, 2013) (Prins, 2014). The exact localities for these sites are not presently known. The town of Dannhauser is located 22 km north-west of the study area.
40 000 years ago to c. 1800s	The Later Stone Age (LSA) is the third archaeological phase identified and is characterised by an abundance of very small stone tools known as microliths as well as many rock art sites across the country. This period is associated with hunter-gatherers (San) as well as early pastoralists (Khoekhoe). In the immediate surroundings of the study area, a significant tangible aspect of the Later Stone Age is present in the form of rock shelters, where accumulated middens and rock paintings provide valuable information to archaeologists in attempting to better understand this well known phase in our history. Dr. Aron Mazel, presently of the Newcastle University, carried out extensive archaeological research on the rock shelters of the uKhahlamba-Drakensberg and Biggarsberg areas of the Thukela basin (Mazel & Watchman, 2003). This research project started in 1981, and over the course of the next decade or more, Dr. Mazel studied the history of Holocene hunter-gatherers by way of archaeological excavations on rock shelters in these areas of Kwazulu-Natal. In terms of the Biggarsberg especially, excavated rock shelters include Mgede, Sikhanyisweni, Mzinyashana, Maqonqo and Nkupe (Mazel, 1988 & 1996). The rock shelter at Nkupe is by far the closest of these sites to the study area, and is situated on the higher slopes of the south-western end of the prominent hill known as One Tree Hill or Mkupe. Located on the farm Quaggas Kirk, near its

boundary with Dagbreek, the site is located approximately 25.6km west of the present study area.

During his research, Dr. Mazel also identified two more rock shelters on the same hill where Nkupe is located. One of these two shelters contained five paintings of humans and the other shelter only one painting (Mazel, 1988). Although the exact location of these two sites are not known, it seems highly likely that they are located within the southern end of the study area.

Dr. Mazel carried out three archaeological excavations at Nkupe, during the early 1980s, which established that Nkupe Shelter was "…*one of the key sites for documenting and explaining the Thukela Basin hunter-gatherer Holocene past. It contains probably one of the most complete and detailed 7000-2000 BP sequences known in Southern. Africa, and, in addition, produced a substantial quantity of subsistence and material cultural remains* (Mazel, 1988:321).

Mitchell (1999) states the research of Dr. Mazel in the uKhahlamba-Drakensberg and Biggarsberg areas of the Thukela basin, represented the 'most extensive observations' of the Later Stone Age period in the Mixed Woodland Biome of southern Africa. Dr. Mazel's research focussed on the alliance networks between the different hunter-gatherer groups within this area, which revealed that before 4000 BP a single network may have extended through this area, with the Maqonqo Shelter (containing far more ostrich eggshell and seashell ornaments than any of the other sites during this period) identified as of particular significance within this network. The abandonment of Maqonqo coincided with "…*the emergence of three, perhaps four, smaller social regions, each associated with a distinct set of assemblages. Backed microlithic assemblages at sites in the Ndaka social region, for example, are dominated by segments, those in the Toleni region by backed points and blades (although segments still occur), and those in the Injasuthi region by backed points and blades without segments*." (Mitchell, 2000:169).

Figure 3 – Nkupe Shelter during the archaeological excavations of the early 1980s (Mitchell, 1999:168).

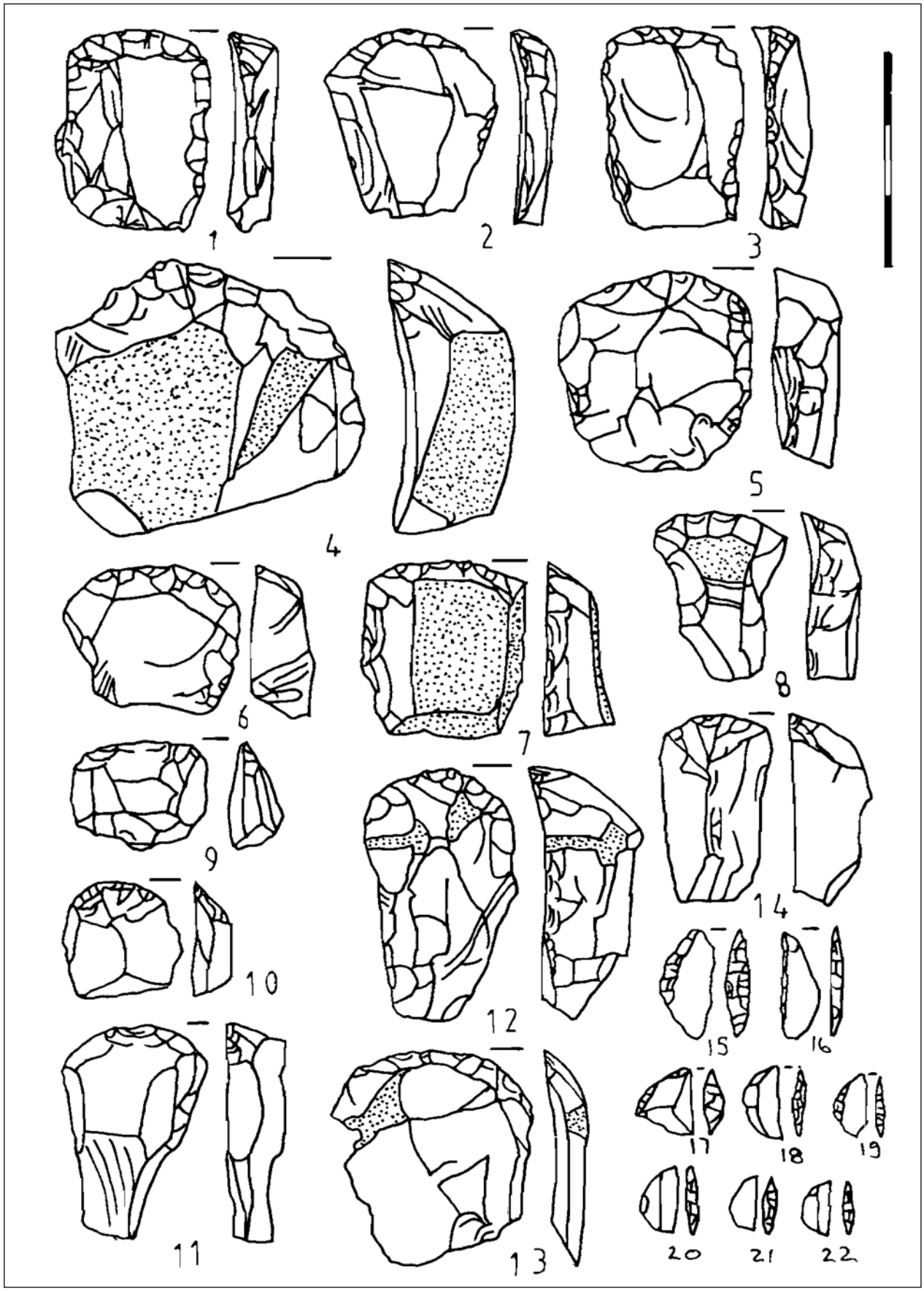

Figure 4 –Scrapers and backed pieces excavated from Nkupe Shelter (Mazel, 1988:341).

The Study Area during the Iron Age	
The arrival of early farming communities during the first millenium, heralded in the start of the Iron Age for South Africa. The Iron Age is that period in South Africa's archaeological history associated with pre-colonial farming communities associated with agricultural and pastoralsit farming activites, metal working, cultural customs such as lobola as well as the tangible representation of the significance of cattle imprinted on their settlement layouts (known as the Central Cattle Pattern) (Huffman, 2007). Although the earliest phase of this period (known as the Early Iron Age) started already in AD 200 in certain sections of Southern Africa, its arrival in the general surroundings of the study area would only have commenced in AD 1350, during the early stages of the Late Iron Age (Huffman, 2007).	
AD 1350 – AD 1750	Ongoing research in KwaZulu-Natal has focused on the second phase of the Blackburn sequence, known as Moor Park. During the fourteenth century, the Moor Park farmers were the first to colonize the higher altitude grasslands of South Africa's interior. In doing so, they opened up possibilities for greater economic specialization and interdependence, not least because of the impossibility of smelting iron where suitable fuel was lacking. The same lack of timber also encouraged the adoption of stone as a building material (Mitchell and Whitelaw, 2005). The Moor Park facies of the Blackburn Branch of the Urewe Tradition is associated with pottery characterised by punctates, rim notching and appliqué (Huffman, 2007).
c. 1500	During this period, black Nguni-speaking peoples started populating the area today known as KwaZulu-Natal. Documents dating to as early as 1550 indicate that these farming communities had generally uniform customs and language (Van Jaarsveld, 1998). In the words of John Laband: "*…after about AD 1500 the evidence indicates that the Iron Age people of the Natal-Zululand region were culturally, linguistically and physically the direct ancestors of today's black population, and that their distinctive Nguni-speaking culture had developed within their own region…*" (Laband, 1995:13).
Late 1700s – Early 1800s	An earlier migration from southern Swaziland led the amaHlubi to the Umzinyathi (Buffalo) River in c. 1650. A period of growth and expansion followed. See for example Hadebe (1992), Houston & Mbele (2011) and Eldredge (2015). During the latter part of the eighteenth century, Bhungane became the new ruler of the Hlubi kingdom. During his reign, the amaHlubi land extended "… *from the mountains at the source of the Mzinyathi River in the Wakkerstroom area down to the vicinity of the Ncome (Blood) River in the south east and east towards what is now known as Vryheid. The Drakensberg (Undi) mountains formed the western boundary" (*Houston & Mbhele, 2011:102). It is clear that during at least this time, the study area fell within the land of the amaHlubi. However, this was not a desolate land with an isolated Hlubi community. During the early 1800s a number of kingdoms and chiefdoms were known from the surroundings of the Hlubi kingdom, including a number of Bhele chiefdoms between present-day Ladysmith and Dundee (Wright & Mazel, 2007), with the Ngwane, Ndandwe, Mtethwa and Zulu further to the east and south-east. During the latter stages of Bhungane's reign, cracks started appearing in the

	union that was the Hlubi kingdom. During these years, the battle for succession of the royal line was threatening the unity and strength of the Hlubi kingdom. This disparity continued into the reign of Mthimkhulu, who succeeded his father in 1818 (Hadebe, 1992).
1818 – c. 1848	After the succession of Mthimkhulu in 1818, a period in the history of the amaHlubi started that is known as *izwekufa* – the destruction of the nation. In this period, the amaHlubi were attacked and defeated by the amaNgwane of Matimane. In the words of Houston & Mbhele (2011:103), the Hlubi "…*were driven away from their land and deprived of their cattle and food. Mthimkhulu was killed. The consequence of this event was the dispersal of the tribe to different areas like the Transkei, the Orange Free State and the Transvaal. Many people hid in caves and forests where there was very little food*." In contrast, these years also saw the rapid growth of the once small subordinate clan named Zulu, and its early rulers Shaka kaSenzangakhona and Dingane kaSenzangakhona (see for example Laband, 1995). While the reign of Shaka (1787 – 1828) saw peaceful relations between the Zulu and Hlubi kingdoms, the relations with subsequent Zulu kings Dingane and Mpande kaSenzangakhona were far less so. In 1848, during the reign of Mpande (1840 – 1872), the fear of destruction and attack from the Zulu was of such grave concern to the then king of the Hlubi, Langalibele, that he moved his people southward to the surroundings of present-day Estcourt and requested protection from the Colonial Authorities in Natal. Ironically, less than thirty years after their move into the colonial fold, the Hlubi of Langalibele was involved in a bitter war with the colonial authorities (Wright & Mazel, 2007).

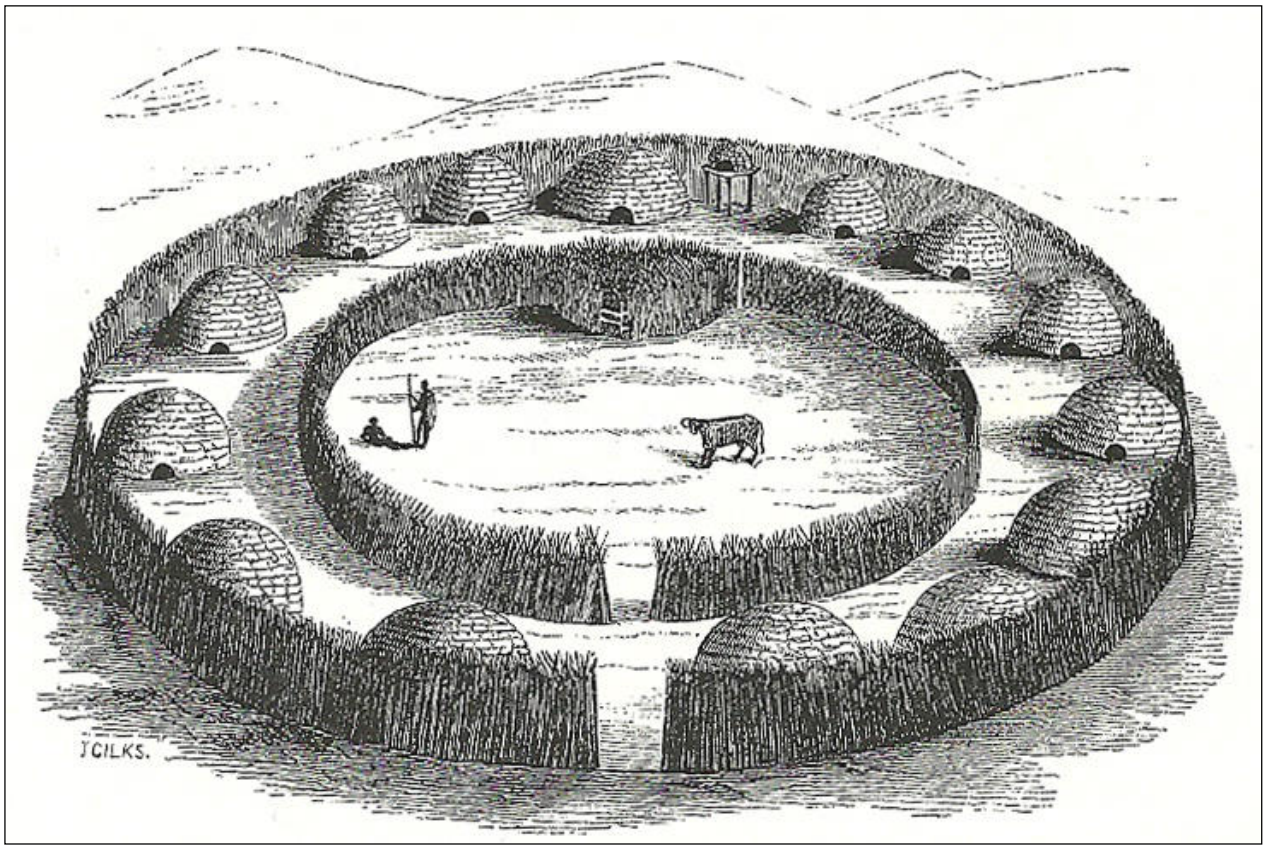

Figure 5 – A nineteenth century depiction of a typical Zulu umuzi (homestead) (Reader's Digest, 1994:81).

The Early Colonial Period	
The early Colonial Period within the study area and surroundings was characterised by the arrival of white people on a permanent basis in the area. This commenced with the establishment of a trading station at Port Natal by six Englishmen in 1824. Furthermore, during the 1830s a mass migration of roughly 2 540 Afrikaner families (comprising approximately 12 000 individuals) from the frontier zone of the Cape Colony to the interior of Southern Africa took place. These people were later to be known as Voortrekkers (those who travel ahead) and formed part of the first mass movement of whites into the interior of Southern Africa (Visagie, 2011). The arrival of white people, with a long-term view of occupation and settlement, into the lands of established kingdoms such as the Zulu, led to a period of conflict, which eventually led to the destruction of the Anglo-Zulu War of 1879. This period also saw the first establishment and surveying of defined properties and farms within the study area.	
1837 - 1838	The first Voortrekker parties crossed over the Drakensberg Mountains in 1837. While the events associated with the arrival and early activities of Voortrekkers would have a significant impact on the wider region as a whole, these events occurred some distance away from the present study area. For instance, the pass that was used by the Voortrekkers (known today as Retief's Pass) is located 111 km to the south-west, whereas the first laagers in present-day Kwazulu-Natal are roughly 87 km south-west of the study area. Similarly, the Battle of Blood (Ncome) River is located roughly 29.5 km east of the study area. In all likelihood, the nearest events of this period to the present study area appear to be the well-known Battle of Blood (Ncome) River (located roughly 29.5km east of the study area) as well as the movement of the Voortrekker parties and commandoes from their laagers further to the south, to the Zulu kingdom. For instance, it is known that the route chosen by the so-called *Wenkommando* under Andries Pretorius took them in proximity to the present-day town of Wasbank. This town is located 22.7 km south-west of the present study area.
December 1838	Port Natal trader and pioneer, Alexander Harvey Biggar, accompanied the Voortrekker Commando under Andries Pretorius that was formed to exact revenge on the Zulu and King Dingane for the attacks on Voortrekker parties at Blaauwkrans and other places. Biggar felt he had a personal debt to settle with Dingane as both his sons had recently been killed in skirmishes with the Zulu. En route to the Zulu kingdom, the commando passed through the mountain range at the time known as the Heuningberg (Honey Mountain). While traversing through the mountain, Alexander Biggar's horse-drawn cart was overturned, much to the amusement of his Voortrekker compatriots. The mountain range was summarily renamed Biggarsberg (Biggar's Mountain), a name which it still holds to this day. Alexander Harvey Biggar moved to Port Natal in 1837, where he established himself as a trader in ivory with his sons Robert and George. Tragically, in the spate of two months, both Biggar's sons were killed during skirmishes and conflict with the Zulu. George Biggar was killed with the Voortrekkers at Blaaukrans on 17 December 1838, whereas Robert Biggar was killed on 17 April 1838 during an attempted raid on uMgungundlovu. Alexander Biggar joined the Voortrekker Commando that was formed to exact revenge on the Zulu and King Dingane. As part of this *Wenkommando*, as it became known, he fought at the

	Battle of Blood River (Van der Walt, 2009) and was also present at the subsequent sacking of Dingane's capital, uMgungundlovu. Alexander Harvey Biggar met his end at the hands of the Zulu during an ambush on the banks of the White Umfolozi river on 27 December 1838 (www.wikipedia.org). He was 57 years old. As indicated above, the route taken by the Wenkommando to the site of the Battle of Blood (Ncome) River, would have taken them past the surroundings of present-day Wasbank. As indicated, Wasbank is located 21 km south-east of the study area.
 *Figure 6 – Alexander Harvey Biggar (29 October 1781 – 27 December 1838). The mountain range still known today as Biggarsberg, was given this name in 1838, when his horse-drawn cart overturned while traversing*	
1848	Fearing attacks from Zulu kingdom, Langalibele of the amaHlubi, moved his people from the general surroundings of the study area in a southward direction. The amaHlubi were eventually established to the west of present-day Estcourt. See for example Wright & Mazel (2007).
1852 - 1875	The later house of one of the Voortrekker leaders, Karel Landman, is located on the farm Uithoek near Wasbank. Landman stayed in the house from 1852 until his death in 1875. He also lies buried on the farm. The house was declared a National Monument in 1938 (Oberholster, 1972). Amongst other accomplishments, Landman was the second in command (under Andries Pretorius) during the Battle of Blood (Ncome) River (Laband, 1947). The Karel Landman house is located 16.9 km south-west of the study area.

November 1860	The farm Craigside 2272 was surveyed by C.T. Bell in November 1860. The farm was granted on 1 December 1860. Interestingly, the survey diagram describes the position of the farm as in the '*County of Klip River*' (Chief Surveyor-General of South Africa).

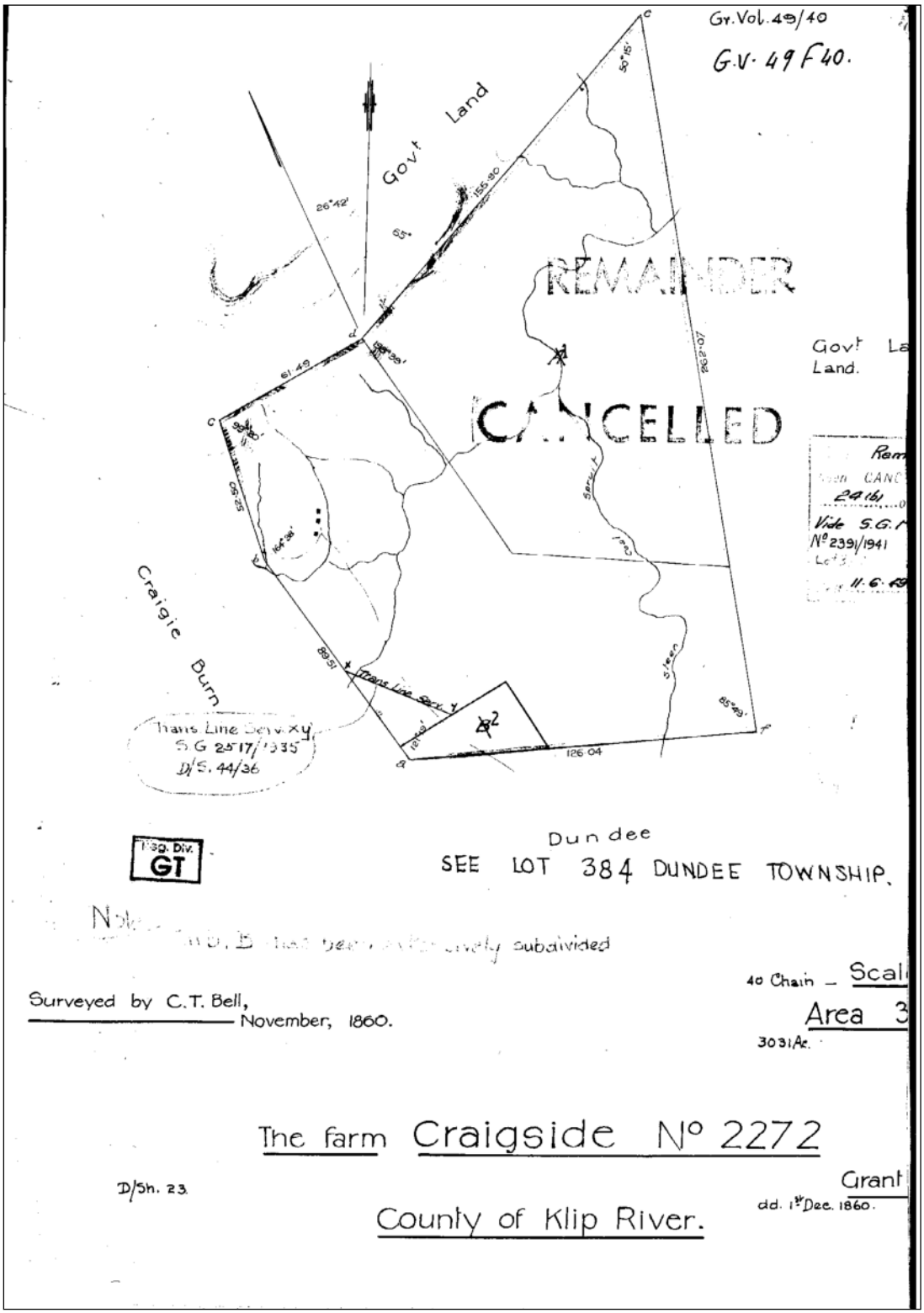

Figure 7 – Survey diagram of the farm Craigside 2272. The farm was first surveyed in November 1860 (Chief Surveyor-General of South Africa).

1868	The town of Newcastle was laid out during this year. It was named for the British Colonial Secretary at the time, the Duke of Newcastle. The town was the fourth oldest colonial settlement to be proclaimed in present-day Kwazulu-Natal, after Durban, Weenen and Pietermartizburg (Erasmus, 2004). Newcastle is located 51.4 km north-west of the study area.
The Anglo-Zulu War (1879)	
1879	The Anglo-Zulu War was fought between Great Britain and the Zulu of King Cetshwayo kaMpande. After an initial Zulu victory at Isandlwana (22 January 1879), the tide turned in favour of the British and eventually led to the Battle of Ulundi (4 July 1879) where the Zulus were defeated and King Cetshwayo's capital destroyed (Knight, 2002). The closest battle to the study area is Rorke's Drift (22 – 23 January 1879), located roughly 37 km to the south-east. However, after the British defeat at Isandhlwana (22 January 1879), present-day Dundee became the focal point where the Second Invasion Force mustered. A massive military camp was established in town and "…*the Vale of the Sterkstroom was littered with tents and wagons*…" (Dundee Museum, 1982). in April 1879, work started on a large sod-walled fort known as Fort Jones. The fort was completed in May 1879 and was built to provide protection to the British depot at Dundee against a Zulu attack. The fort was manned by companies of the 2/24th under Lieutenant-Colonel H.J. Degacher. Fort Jones was later destroyed during the expansion of the town of Dundee (Dundee Museum, 1982) (Laband & Thompson, 1983). While the exact locality of the military camp at Dundee is not presently known, the fact that Fort Jones was later destroyed by the expansion of the town, indicates that the camp is presently located within the built-up part of the town of Dundee.

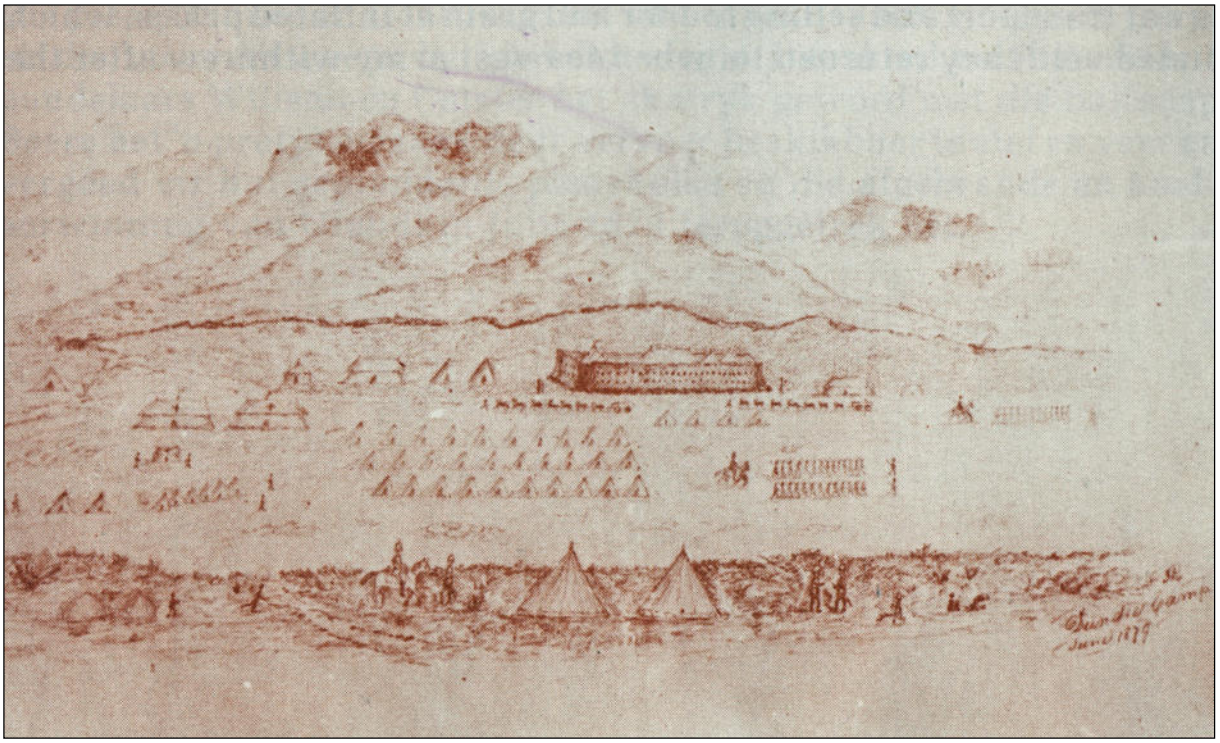

Figure 8 – Contemporary sketch of Dundee Camp drawn in June 1879 during the Anglo-Zulu War (Dundee Museum, 1982:17). Fort Jones can clearly be seen in this image.

5.2 Significant Aspects of the History of the Study Area and Surroundings

5.2.1 Early Coal Mining and the Establishment of Dundee

The town of Dundee played a central role in the origin and early history of the coal-mining industry of KwaZulu-Natal. As early as the 1850s, many decades before the establishment of Dundee, early travelers found and collected coal on surface outcrops and in streams in the area where Dundee was later laid out (Erasmus, 2017).

In 1860 a Scotsman named Thomas Patterson Smith acquired a property of just over three thousand acres which stretched from Talana Hill in the east across the Sandspruit and Sterkspruit toward Impati Hill in the west, from Gerrit Gerhardus Dekker. He named the farm Dundee after his birthplace in Scotland, and built himself a thatched cottage against the foot of Talana Hill. In 1864 his brother Peter Smith, with his wife Ann, joined Thomas Smith at Dundee. They had landed in Natal in 1859 and moved to present-day Dundee after several years of unproductive farming in the Ladysmith district. Although Thomas Patterson Smith had originally departed from Scotland to undertake gold prospecting in Australia, it was the black gold at Dundee that would make him and his brother both farmous and wealthy (Dundee Museum, 1982).

In 1862 Peter Smith began transporting coal from the surroundings of Dundee by ox-wagon to Pietermaritzburg (Erasmus, 2017). A geological survey conducted in 1880 confirmed that there were substantial coal deposits in the region, especially on and around Smith's farm Dundee in the hills above the Steenkoolstroom (Dundee Museum, 1982) (Erasmus, 2017).

In 1870 another Scotsman, Dugald MacPhail, visited the surroundings of Dundee and enjoyed the hospitality of the Smith brothers at their farm. Two years later, Dugald MacPhail returned, bought the farm Craigside on the south-eastern slopes of Impati Hill and married Peter and Ann Smith's daughter Isabella Petrie Smith.

With time, the two Smith brothers, Thomas Patterson Smith and Peter Smith, formed the Dundee Coal and Estate Company with their brother-in-law Dugald MacPhail. This company expanded rapidly, creating a stimulus for the influx of explorers, traders, hunters and missionaries to the surroundings of Dundee (Dundee Museum, 1982) (Erasmus, 2017). By 1878 the three Scotsmen were employing professional Cornish miners on their mines, and a tiny village of thatched cottages housing wheelwrights, miners, wagon-makers and blacksmiths sprang up (Dundee Museum, 1982).

During the Anglo-Zulu War, the building of a fort in the valley in 1879 necessitated an urgent need for the development of a village, which Peter Smith and his family laid out in 1882 on the farm Dundee. The town was surveyed by Charles G. Willson on 1000 acres of commonage (Erasmus, 2017) (Dundee Museum, 1982). Later another 60 acres were donated from the farm Craigside belonging to Dugald McPhail, to increase the size of the newly established town (Dundee Museum, 1982).

The Zulu War had put the coalfields and Dundee on the map and outside interest in the town and district started growing. This outside interest included Durban merchant Benjamin Greenacre, the Sparks Brothers, the Randles Brothers as well as George Sutton of Howick, who later became Prime minister of Natal (Dundee Museum, 1982). Plots sold rapidly and the village expanded at a rapid pace, with Charles Willson and Dugald McPhail benefitting greatly. Dundee was for generations dominated by the powerful trio of Smith, Wilson and MacPail, all whom served the town and country with distinction (Dundee Museum, 1982).

Figure 9 – Contemporary photograph showing some of the men behind the establishment of Dundee. From left to right: Dugald MacPhail, William Craighead Smith, Charles G. Wilson and Peter Smith (Dundee Museum, 1982:21).

5.2.2 The MacPhail Family and the farmstead named Brooklyn

Although the study area is located on the farm Craigside, all the early topographical maps indicate that the farmstead identified at BALG 2 was known as Brooklyn. The earliest mention of this place name associated with the MacPhail family, was found in a reference to an archival document housed at the Pietermaritzburg Archives Repository. This archival document refers to a person named Duncan MacPhail, who was residing at a place called Brooklyn in 1910 (Pietermaritzburg Archives Repository, NAB, SNA, I/1/463, 1561/1910). The person referred to in this archival document can only be Duncan Dugald MacPhail (15 November 1882 – 18 October 1918), one of two sons of Dundee pioneer Dugald MacPhail (26 April 1840 – 4 May 1941) (www.geni.com).

Based on the archival document referred to above, Duncan Dugald MacPhail was already living at Brooklyn in 1910 (Pietermaritzburg Archives Repository, NAB, SNA, I/1/463, 1561/1910). As a result, the year 1910 can be seen as the earliest known date for the existence of the farmstead at BALG 2. Furthermore, the place of death for Duncan Dugald MacPhail in 1918 is also recorded as the farm Brooklyn, which indicates that he must have lived on the farm from at least 1910 to 1918 (www.geni.com).

From the information outlined above it seems likely for the farmstead at Brooklyn to have been built by Duncan Dugald MacPhail at an unknown time during or before 1910. The available information also indicates that the farmstead at Brooklyn was built on the farm Craigside which had been owned by Duncan Dugald MacPhail's father Dugald MacPhail, from c. 1872 until his death in 1941. While Dugald MacPhail lies buried in the historic cemetery at Talana Hill, his son Duncan Dugald MacPhail is buried in the old Dundee Cemetery.

During the 1950s and 1960s, Ian MacPhail, the son of Duncan Dugald and Annie Violet MacPhail, lived at Brooklyn with his wife Zena and children Clare and Neil (www.dundeenatal.com). Further research has revealed that the family comprised Ian Alistair MacPhail (born 1 April 1912) and his wife Zena Mary MacPhail (born Crawthorne) (1915 - 1995) (www.myheritage.com).

At the time, the farm Brooklyn was accessed by following Smith Street across Douglas Street and through the so-called MacPhail Gates, which appears to have been located between the Sterkstroom and the outskirts of Dundee. Once through the gates, one had to cross over the Sterkstroom and then continue to the farmstead at Brooklyn (www.dundeenatal.com). The MacPhail Gates were

presented to Dugald MacPhail on his 100th birthday by the town of Dundee, and were originally erected at the entrance to his farm Craigside (www.talana.co.za). The gates were later removed and erected further south at the entrance to the public park in Smith Street, where they can still be viewed to this day.

Figure 10 – The MacPhail Gates in their current position at the public park in Smith Street, Dundee.

Figure 11 – Closer view of a section of the MacPhail Gates. The insert shows the date that was engraved into the masonry of one of the gate structures. It seems likely for this date to reflect the day on which the gates were erected at the entrance to the farm Craigside.

5.3 Historical Topographic maps

An assessment of available archival and historical maps was undertaken as a way to establish a historic layering for the study area. These historic maps are also valuable resources in identifying possible heritage sites and features located within the study area. The only maps used for the present study are the First and Second Editions of the 2830AA Topographic Sheets.

5.3.1 First Edition of the 2830AA Topographic Sheet

A section of the First Edition of the 2830AA Topographic Sheet can be seen in **Figure 12** below. This map sheet was based on aerial photography undertaken in 1944, was surveyed in 1959 and drawn in 1962 by the Director-General of Surveys. The following possible heritage features are depicted on this map in proximity to the present development footprint areas:

- **Feature 1**

  A cluster of five buildings is depicted a few hundred meters south-west of the western end of the present study area. It is believed that these buildings were the farmstead of Dugald MacPhail.

- **Feature 2**

  A single hut is depicted a short distance outside of the present development footprints.

- **Feature 3**

  A cluster of buildings is depicted here. It seems evident that this cluster of buildings comprised a farmstead known as Brooklyn. The poorly preserved remains of this farmstead were identified during the fieldwork at site BALG 2.

- **Feature 4**

  A cluster of at least eight huts is depicted immediately east of the eastern end of the proposed development footprints.

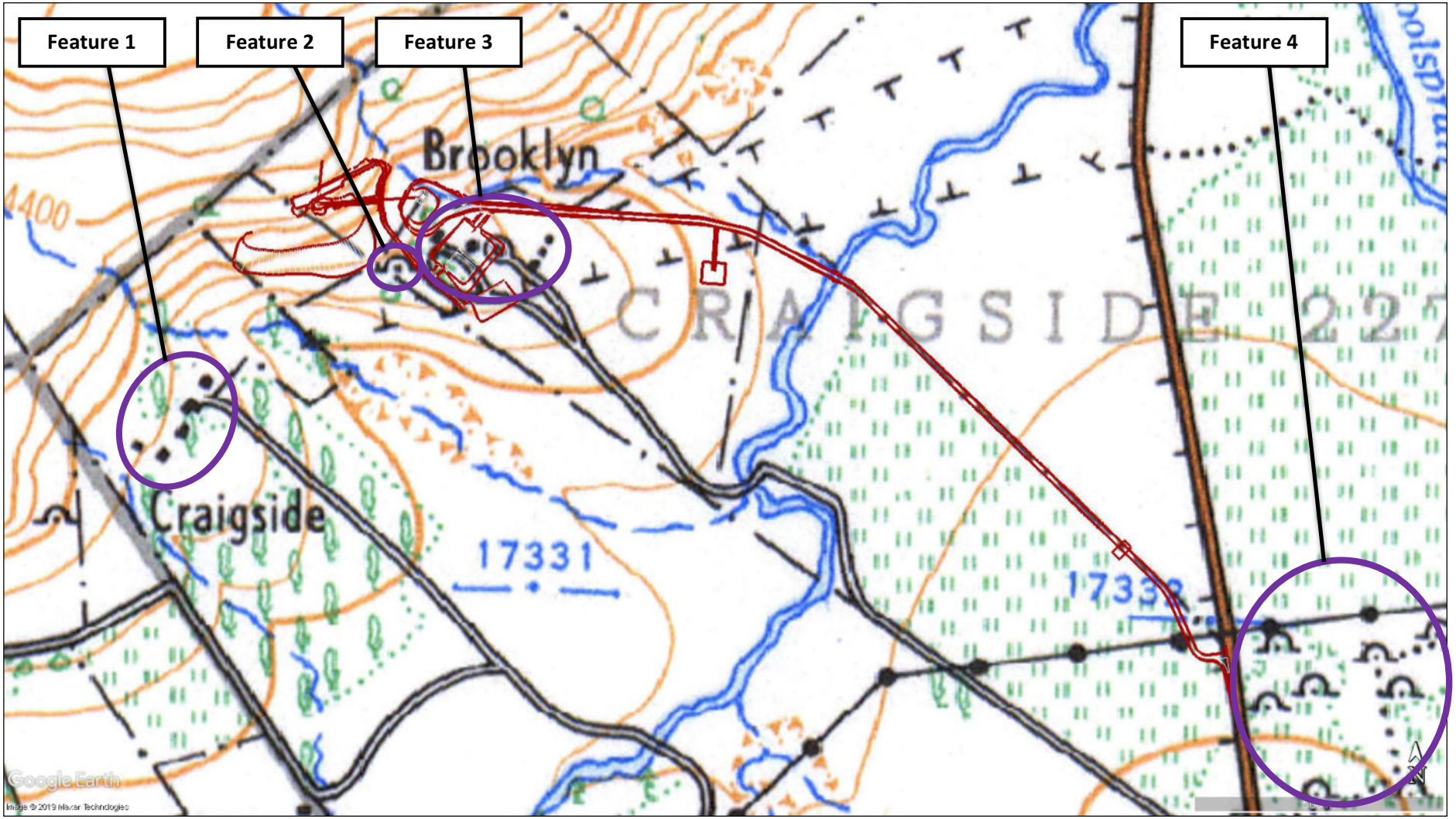

Figure 12 - *Section of the First Edition of the 2830AA Topographic Map that was surveyed in 1959 and drawn in 1962. The map features identified on this map are discussed in the corresponding text.*

5.3.2 Second Edition of the 2830AA Topographic Sheet

A section of the Second Edition of the 2830AA Topographic Sheet can be seen in **Figure 13** below. This map was published in 1982. The following possible heritage features are depicted on this map in proximity to the present development footprint areas:

- **Feature 1**

  A cluster of four buildings is depicted south-west of the western end of the present study area. It is believed that these buildings were the farmstead of Dugald MacPhail.

- **Feature 2**

  Mine infrastructure in the form of a discard dump and excavations are depicted here. This discard dump still exists. This mining infrastructure appears to have been the result of mining activities undertaken on the property during the 1960s.

- **Feature 3**

  A cluster of two buildings is depicted outside of the present study area. One of these buildings is massive, and may have been associated with the nearby mining activities.

- **Feature 4**

  A single building is depicted just outside of the present study area. This building was identified during the fieldwork (see site BALG 3).

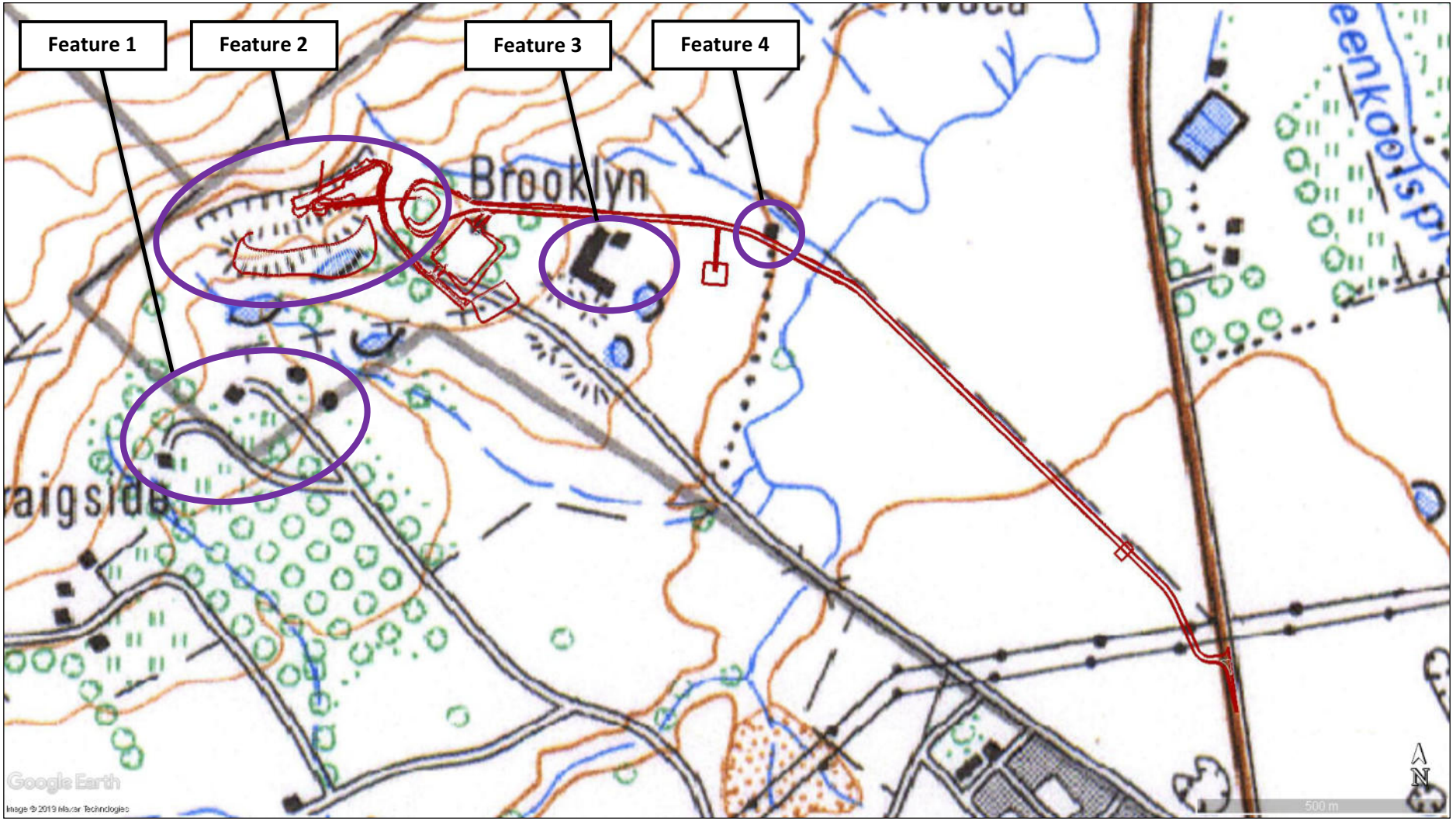

Figure 13 - Section of the Second Edition of the 2830AA Topographic Map that was printed in 1982. The map features identified on this map are discussed in the corresponding text.

5.4 Old Aerial Photographs

Aerial photographs provide a valuable tool for establishing the chronology of buildings, as well as their approximate age. A sequence of aerial photographs was obtained for the study area. Images taken in 1944, 1963 and 1975 were obtained from the National Geo-Spatial Information at the Department of Rural Development and Land Reform in Cape Town.

In the section that follows, the relevant aerial photographs will be discussed. Any observations and conclusions that can be drawn from the study of these aerial photographs will be outlined here.

5.4.1 Aerial Photograph taken in 1944

The 1944 aerial photograph (NGI, Aerial Photographs, 66_18_17331) represents the oldest aerial photograph depicting site BALG 2 that could be found.

This image indicates that at the time, the farmstead at site BALG 2 was well established. The following main features can be identified on this depiction of the site:

- **Feature A**

  The farm dwelling is depicted here. Although the resolution of this old aerial photograph does not allow for a very clear depiction of the farmstead and its characteristics, this depiction of the farm dwelling suggests that the dwelling was quite large. A number of small structures are depicted at the back of the dwelling.

  During the fieldwork no evidence for the farm dwelling and its associated smaller structures were identified.

- **Feature B**

  A roughly rectangular area comprising two parts and which appears to have been raised, is depicted east of the farm dwelling. This raised area seems to have formed part of the farmstead's gardens leading up from a circular driveway to the front of the house.

  A rectangular area of raised soil was identified in this same locality during the fieldwork.

- **Feature C**

  A circular driveway can be seen east of the raised area at Feature B. This circular driveway provided access to the farm dwelling and is shown enclosing a tree.

  Although limited evidence for this driveway and its exact characteristics could be identified during the fieldwork, the tree that was located at its centre is still found on site.

- **Feature D**

  A double lane of trees is depicted south and south-east of the circular driveway. The main access road to the dwelling appears to have cut across this lane of trees from where it led to the circular driveway closer to the dwelling.

  The lane of trees could still be identified on site. However, no evidence for the driveway that is shown cutting across the lane of trees was found.

- **Feature E**

  This lane of trees from Feature D is associated with a linear alignment of unidentified square-shaped structures. The exact origin or function of these square-shaped structures are not clear.

  During the fieldwork no evidence for this linear alignment of squre structures was found.

- **Feature F**

  What appears to be garden and landscape features can be seen in the area south and south-east of the farm dwelling.

  During the fieldwork, a number of wall sections of packed stone lines were identified in this area. Furthermore, at least two terraces were also found. At least a section of these terraces may have formed part of the circular driveway described under Feature C.

- **Feature G**

  A number of small, unidentified structures and buildings are depicted in area south and south-west of the farm dwelling. This cluster of buildings is located south-east of the cattle kraal, and is associated with a small lane of trees.

  No evidence for any of the structures or buildings depicted here could be found. The small lane of trees is still found on site.

- **Feature H**

  A kraal complex comprising a rectangular cattle kraal and two large rectangular buildings is depicted some distance west of the farm dwelling. A lane of trees is also shown nearby.

  The stonewalled cattle kraal as well as the poorly preserved remains of the rectangular building immediately south-east of the kraal were identified during the fieldwork.

- **Feature I**

  An unidentified structure is depicted some distance north-west of the farm dwelling. The origin and function of this structure is not presently known.

  No evidence for this structure was found during the fieldwork.

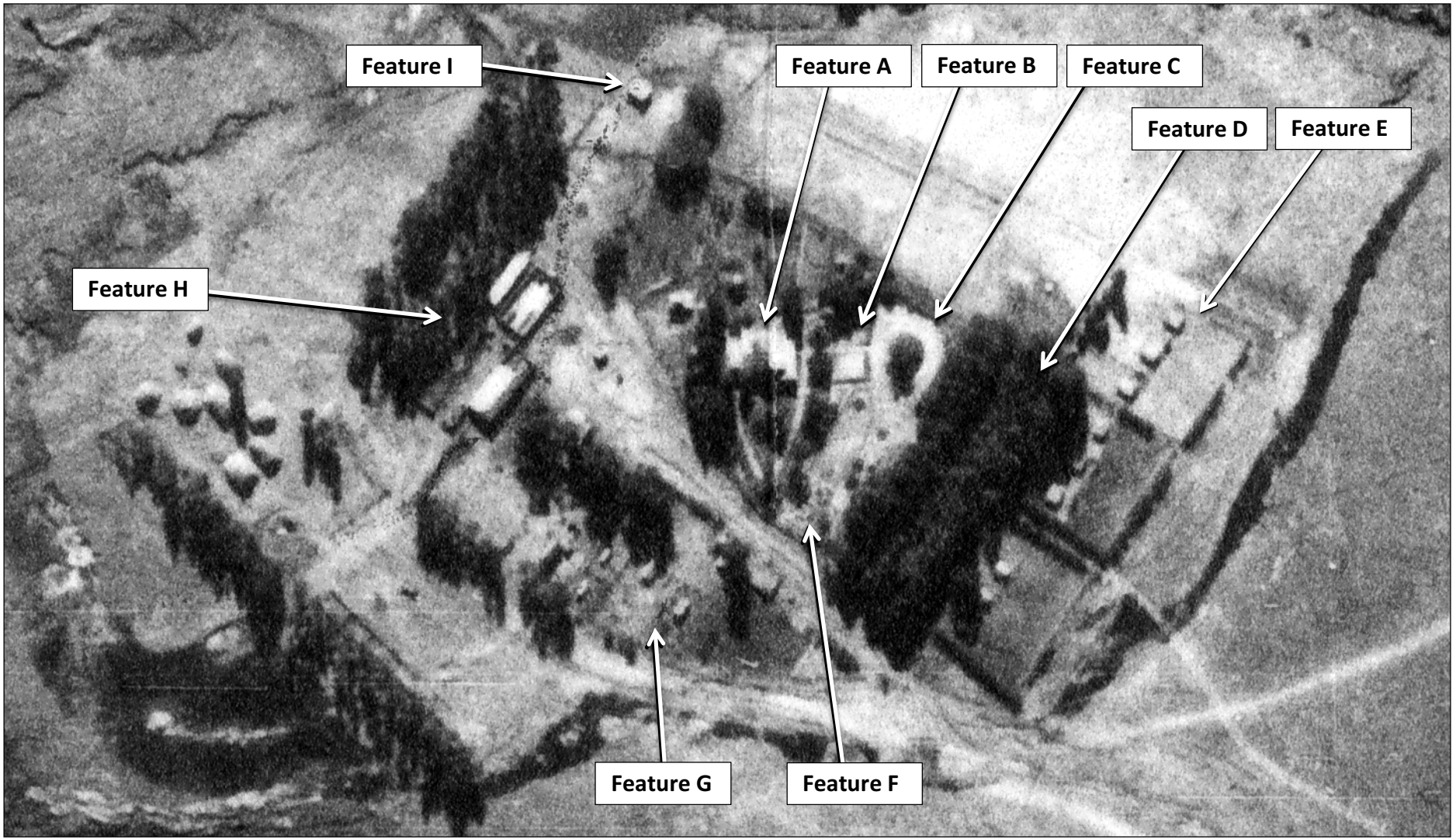

Figure 14 - *Section of the 1944 aerial photograph. The map features identified on this map are discussed in the corresponding text.*

5.4.2 Aerial Photograph taken in 1963

The 1963 aerial photograph (NGI, Aerial Photographs, 484_03_0099) represents the second oldest aerial photograph depicting site BALG 2 that could be found.

A comparison of the 1963 image with the one from 1944 suggests that by 1963 the farm was either not permanently occupied or that farming activities have been reduced or halted. This is due to the general appearance of the farmstead and its immediate surroundings.

The following main features can still be identified on this depiction of the site:

- **Feature A**

  The farm dwelling is depicted here. Again, the resolution of this old aerial photograph does not allow for a very clear depiction of the farmstead and its characteristics. However, this depiction of the farm dwelling suggests that the dwelling was quite large. A number of small structures and possibly garden walls are depicted west, north-west and north of the dwelling.

  During the fieldwork no evidence for the farm dwelling and its associated structures were identified.

- **Feature B**

  A roughly rectangular area comprising two parts and which appears to have been raised, is depicted east of the farm dwelling. This raised area seems to have formed part of the farmstead's gardens leading up from a circular driveway to the front of the house.

  A rectangular area of raised soil was identified in this same locality during the fieldwork.

- **Feature C**

  A circular driveway can be seen east of the raised area at Feature B. This circular driveway provided access to the farm dwelling and is shown enclosing a tree.

Although limited evidence for this driveway and its exact characteristics could be identified during the fieldwork, the tree that was located at its centre is still found on site.

- **Feature D**

A double lane of trees is depicted south and south-east of the circular driveway. The main access road to the dwelling appears to have cut across this lane of trees from where it led to the circular driveway closer to the dwelling.

This 1963 depiction of the lane of trees seems to show a much sparser cluster of trees than the one depicted on the 1944 aerial photograph.

The lane of trees could still be identified on site. However, no evidence for the driveway that is shown cutting across the lane of trees was found.

- **Feature E**

This lane of trees from Feature D is associated with a linear alignment of unidentified square-shaped structures. The exact origin or function of these square-shaped structures are not clear.

A comparison of the depiction of this feature on the 1944 and 1963 aerial photographs indicates a total of nine structures on the former image with only three structures shown on the 1963 image.

During the fieldwork no evidence for this linear alignment of squre structures was found.

- **Feature F**

What appears to be garden and landscape features can be seen in the area south and south-east of the farm dwelling. A comparison of this 1963 aerial photograph with the depiction of this feature on the 1944 image indicates that a small structure and two parallel linear walls were added to this area. These walls correspond with the position and layout of the two terrace walls that were identified during the fieldwork.

- **Feature G**

  A comparison of the depiction of this feature on the 1944 and 1963 images indicates that the number of small structures and buildings have been replaced by larger features which may be buildings or concrete surfaces. These structures are located south-east of the cattle kraal, and are associated with a small lane of trees.

  No evidence for any of the structures or buildings depicted here could be found. The small lane of trees is still found on site.

- **Feature H**

  A kraal complex comprising a rectangular cattle kraal and two large rectangular buildings is depicted some distance west of the farm dwelling. A lane of trees is also shown nearby.

  The stonewalled cattle kraal as well as the poorly preserved remains of the rectangular building immediately south-east of the kraal were identified during the fieldwork.

- **Feature I**

  The unidentified structure depicted on the 1944 aerial photograph is not clearly shown on this 1963 image. The origin and function of this structure is not presently known.

  No evidence for this structure was found during the fieldwork.

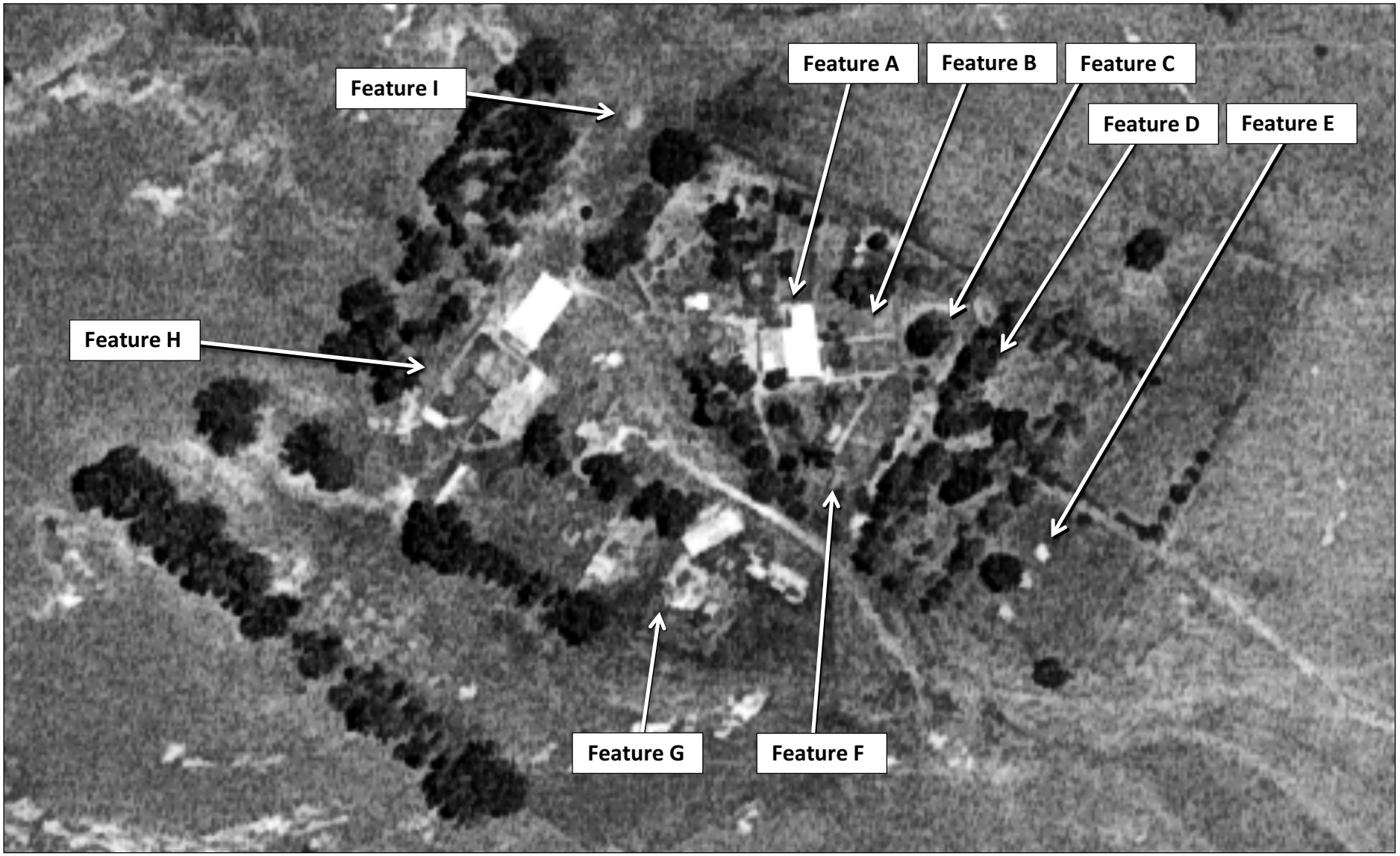

Figure 15 - *Section of the 1963 aerial photograph. The map features identified on this map are discussed in the corresponding text.*

5.4.3 Aerial Photograph taken in 1975

The 1975 aerial photograph (NGI, Aerial Photographs, 498_69_0211) represents the third oldest aerial photograph depicting site BALG 2 that could be found.

The depiction of the farmstead on this 1975 image further supports the suggestion that the farmstead was not permanently occupied anymore and that farming activities had ceased. In fact, a number of the buildings from the farmstead appear to be in ruins and abandoned. The following main features can be identified on this depiction of the site:

- **Feature A**

  The farm dwelling is again depicted here. Although the resolution of this old aerial photograph does not allow for a very clear depiction of the farmstead and its characteristics, this depiction of the farm dwelling suggests that the dwelling was quite large. A number of small structures are depicted at the back of the dwelling.

  During the fieldwork no evidence for the farm dwelling and its associated smaller structures were identified.

- **Feature B**

  The roughly rectangular area that was identified on the 1944 and 1966 aerial photographs, can not clearly be seen on this image.

  A rectangular area of raised soil was identified in this same locality during the fieldwork.

- **Feature C**

  The circular driveway that was identified on the 1944 and 1966 aerial photographs, can not clearly be seen on this image.

  Although limited evidence for this driveway and its exact characteristics could be identified during the fieldwork, the tree that was located at its centre is still found on site.

- **Feature D**

  A double lane of trees is depicted south and south-east of the circular driveway. The main access road to the dwelling appears to have cut across this lane of trees from where it led to the circular driveway closer to the dwelling.

  The lane of trees could still be identified on site. However, no evidence for the driveway that is shown cutting across the lane of trees was found.

- **Feature E**

  No evidence for the linear alignment of square-shaped structures can be identified on this image. During the fieldwork, no evidence for this linear alignment of square structures was found.

- **Feature F**

  Very little of the garden and landscape features that were identified here, can still be seen on this aerial photograph.

  During the fieldwork, a number of wall sections of packed stone lines were identified in this area. Furthermore, at least two terraces were also found. At least a section of these terraces may have formed part of the circular driveway described under Feature C.

- **Feature G**

  Although a number of the small, unidentified structures and buildings can still be identified here, many of these structures appear to be abandoned with no roofs evident. No evidence for any of the structures or buildings depicted here could be found. The small lane of trees is still found on site.

- **Feature H**

  A kraal complex comprising a rectangular cattle kraal and two large rectangular buildings is

depicted some distance west of the farm dwelling. A lane of trees is also shown nearby.

The stonewalled cattle kraal as well as the poorly preserved remains of the rectangular building immediately south-east of the kraal were identified during the fieldwork.

- **Feature I**

No evidence for the unidentified structure can be identified on this aerial photograph. Additionally, no evidence for this structure was found during the fieldwork.

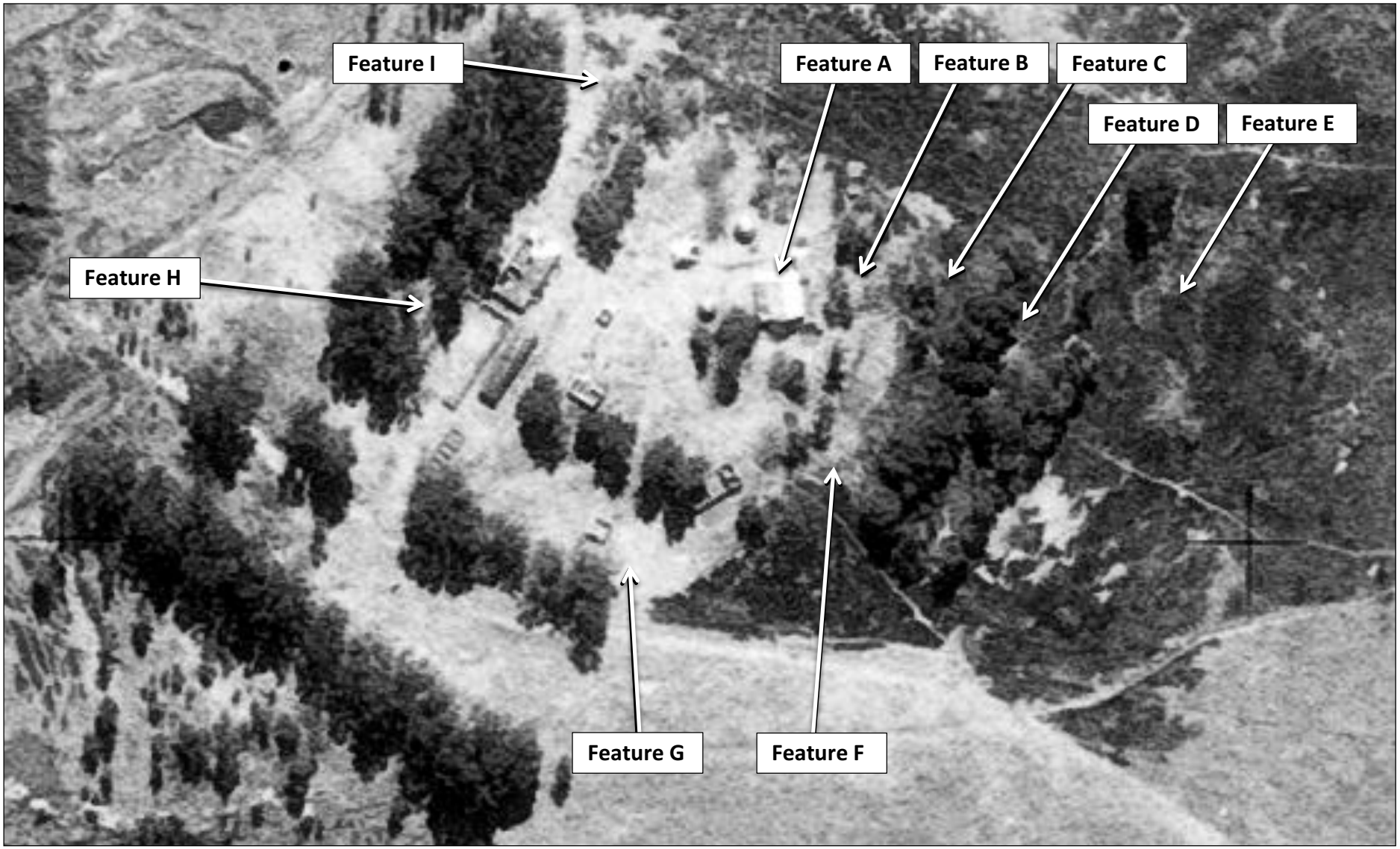

Figure 16 - *Section of the 1975 aerial photograph. The map features identified on this map are discussed in the corresponding text.*

6 DESCRIPTION OF SITE BALG 2

6.1 Introduction

The poorly preserved remains of a historic farmstead were identified here. The primary tangible remains of the site comprise the following:

- Raised rectangular area of soil associated with exposed stonewalling;
- Cluster of poorly preserved stonewalled features;
- Rectangular stone-packed livestock enclosure;
- Poorly preserved remains of a rectangular masonry shed; and
- Planted trees located across the farmstead, including two palm trees and a double lane of pine trees located on the south-eastern end of the site.

6.2 Main Elements of site BALG 2

6.2.1 Raised Rectangular Area of Soil

This site element is located on the north-eastern end of the site. It is comprised of a rectangular area of raised soil approximately 17m by 9m in extent. Three small sections of packed stone lines consisting of single rows of stones could be seen. Two of the stone lines were parallel to one another with the third built perpendicular to the other two.

At the time of the first site visit in June 2019, this site element was mistakenly identified as the poorly preserved remains of the historic farmhouse. However, once an assessment of the historic aerial photographs was undertaken, it was realised that the farmhouse was in fact located a short distance west of this site element in an area which had been disturbed by earthmoving activities. These historic aerial photographs also seem to indicate that this site element was a garden feature associated with the main access to the house, and may have been associated with steps leading up to the front door of the dwelling.

6.2.2 Cluster of Poorly Preserved Stonewalled Features

This site element is located south and south-west of the previous site element. It comprises a loose arrangement of stone features, all of which comprises single rows of stones. These features appear

to have been garden features associated with the farm dwelling. A number of soil heaps were observed in proximity to these structures. These soil heaps appear to have been the result of earthmoving activities undertaken at an unknown time.

6.2.3 Rectangular Stone-Packed Livestock Enclosure

This site element is located near the western end of the site. It comprises a rectangular livestock enclosure approximately 29 m by 14 m in extent. The enclosure has a 10.5 m wide opening on its south-western end.

Four building phases can be associated with the livestock enclosure. These are as follows:

- The oldest building phase is still found on the south-eastern and southern sides of the enclosure, and is characterised by dry stone walling built from dressed dolerite. This section of the enclosure was built in such a way that its lower sections are wider than the higher sections (battered walling), thereby creating a stabilising effect. This building phase can likely be associated with the early establishment of the farmstead and is certainly more than 100 years old.

- The second oldest building phase is found in the lower sections of the remainder of the structure. These wall sections are not battered, but are dry stone walling.

- The third oldest building phase is found in a small section of brickwork observed on top of the eastern end of the enclosure. It seems evident for the height of the enclosure wall in this section to have been raised by adding a section of bricks to the top of the stone wall.

- The fourth building phase comprises loosely packed stones that were packed on top of the remainder of the enclosure's walling. These stones were loosely packed on top of the remaining walls during the relatively recent period to increase their height.

6.2.4 Poorly Preserved Remains of a Rectangular Masonry Shed

This site element is located immediately south and south-east of the livestock enclosure discussed above. It comprises the poorly preserved remains of what appears to have been a rectangular shed built entirely of masonry. All that has remained of this shed are sections of walling along its south-

western and southern sides. A section of these preserved wall sections reaches a height of 2.86m, indicating that the original building must have had very tall sides. These remaining wall sections also include a formally built opening, roughly 1.25m wide, which may have been a doorway. Two parallel rows of stones were built adjacent to the masonry walls.

6.2.5 Planted Trees

The farmstead is to this day associated with planted trees. The most prominent of these are as follows:

- Two very tall palm trees; and
- A double lane of pine trees. The assessment of the old aerial photographs has revealed that this double lane of pine trees was planted before 1944.

7 MITIGATION OF SITE BALG 2

7.1 Introduction

The mitigation measures undertaken as part of the current scope of work, comprised a desktop study, walkthrough of the site and its surroundings, the recording of a site plan and photographic recording of the site.

7.2 Mitigation

7.2.1 Desktop Study Work

For the purposes of this report, a historical overview of the site and its surrounding landscape was compiled. Additionally, an assessment was made of available historic maps and old aerial photographs. Lastly, a study of published literature and available resources was undertaken to provide an understanding of the history of the farmstead.

7.2.2 Walkthroughs of the Site

On Tuesday, 16 October 2019, the first day of fieldwork, the experienced fieldwork team from PGS Heritage (Pty) Ltd conducted walkthroughs of the site as well as its surroundings. The aims of these walkthroughs were for the fieldwork team to acquaint themselves with the site and its layout, and also to establish whether any tangible evidence for middens could be identified. The walkthroughs of the site and its immediate surroundings failed to identify any middens associated with the site.

7.2.3 Recording of Archaeological Site Plan

A site plan was recorded of site BALG 2 using a Topcon GPT-3000(L)N series Total Station. The Total Station work was undertaken on Wednesday, 17 October and Thursday, 18 October 2019.

During the survey work, detailed field notes were taken and a number of field sketches were also drawn.

The site layout plan was drawn in Corel Draw using the data recorded in the field. The archaeological site plan is depicted in **Figure 17** below.

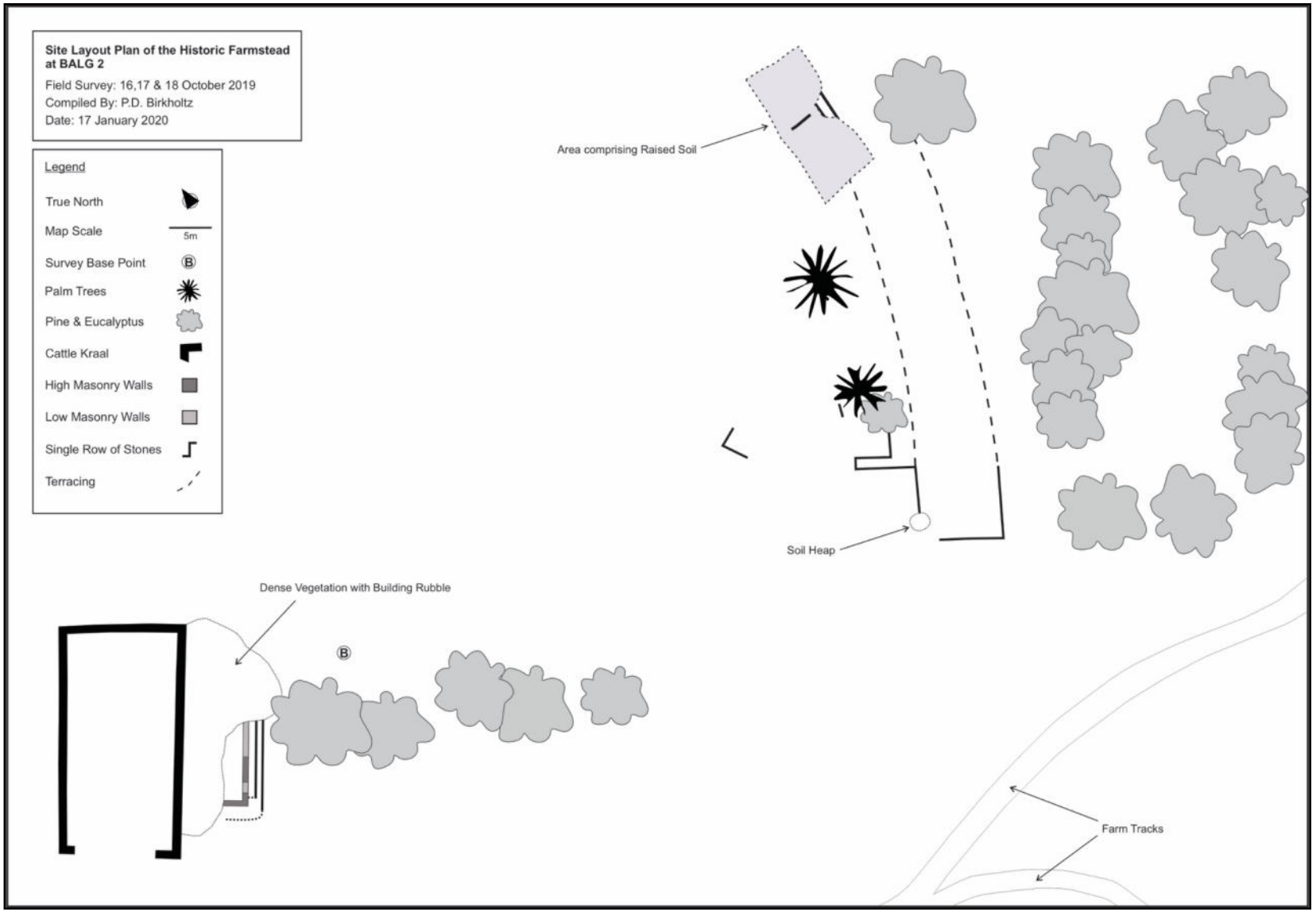

Figure 17 – *Site layout plan for site BALG 2.*

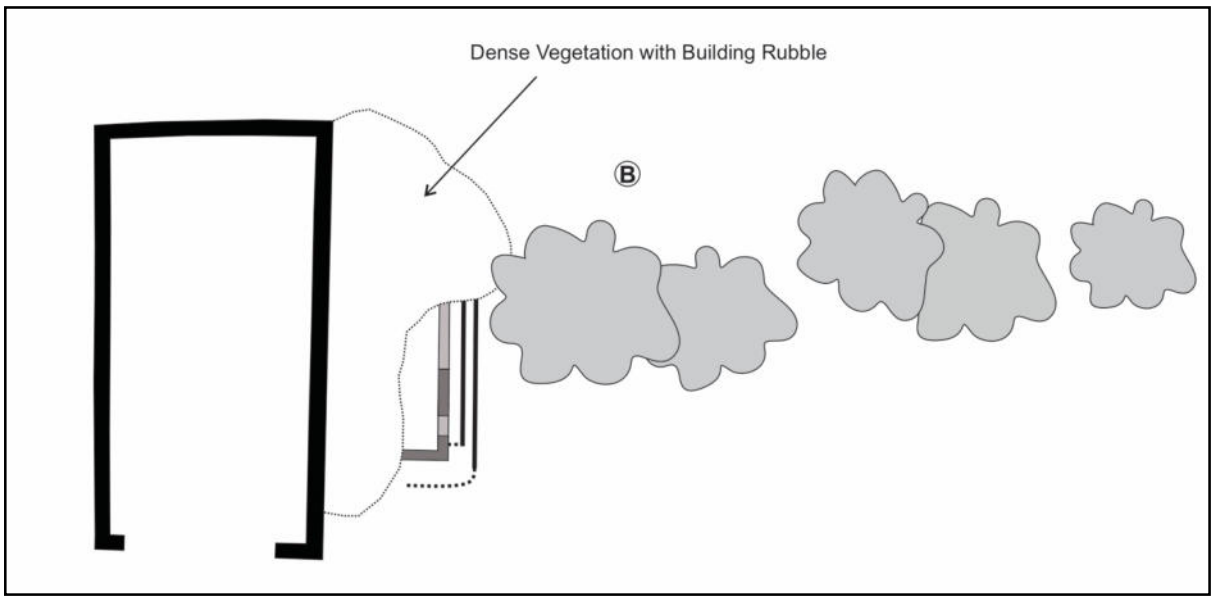

Figure 18 – Closer view of a section of the site plan showing the area around the livestock enclosure.

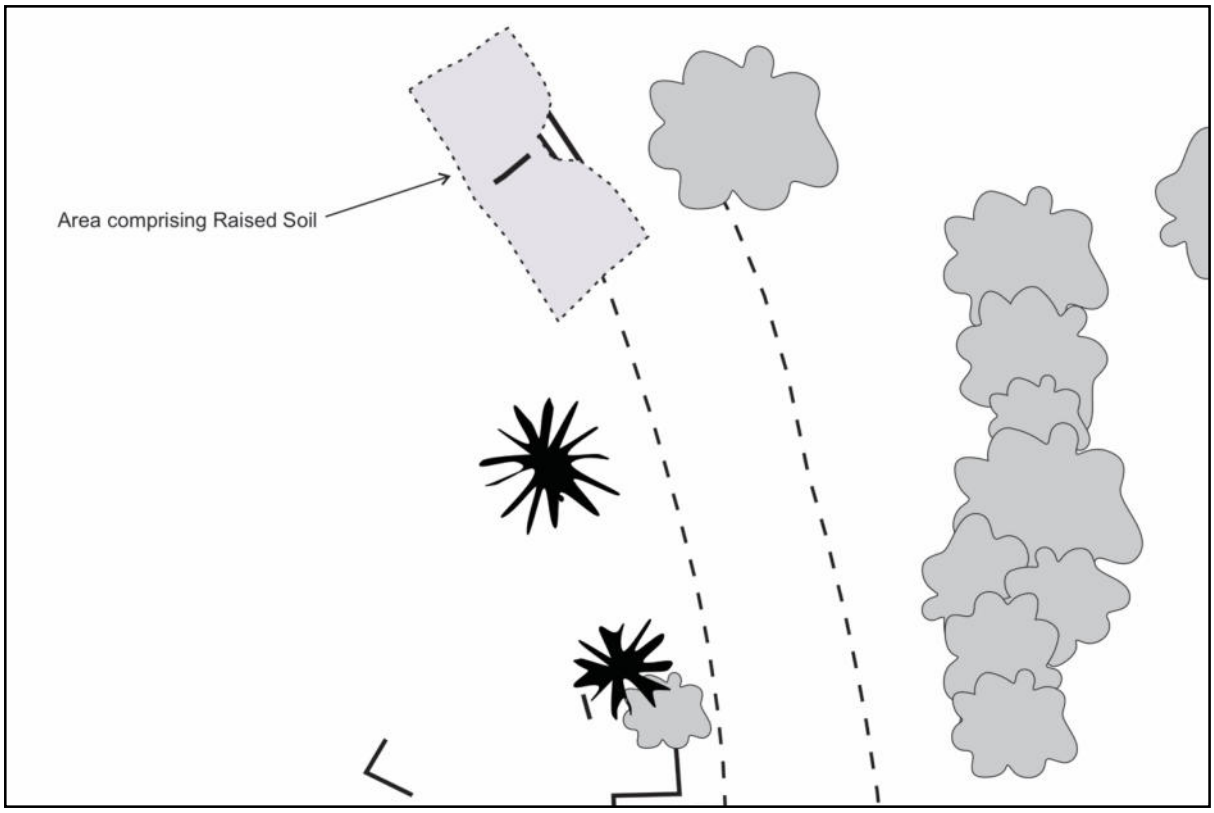

Figure 19 – Closer view of a section of the site plan showing the area near the two palm trees.

7.2.4 Photographic Recording

The site and its features were recorded photographically. The respective positions and angles with which these site and feature photographs were recorded, are depicted on **Figure 20** below.

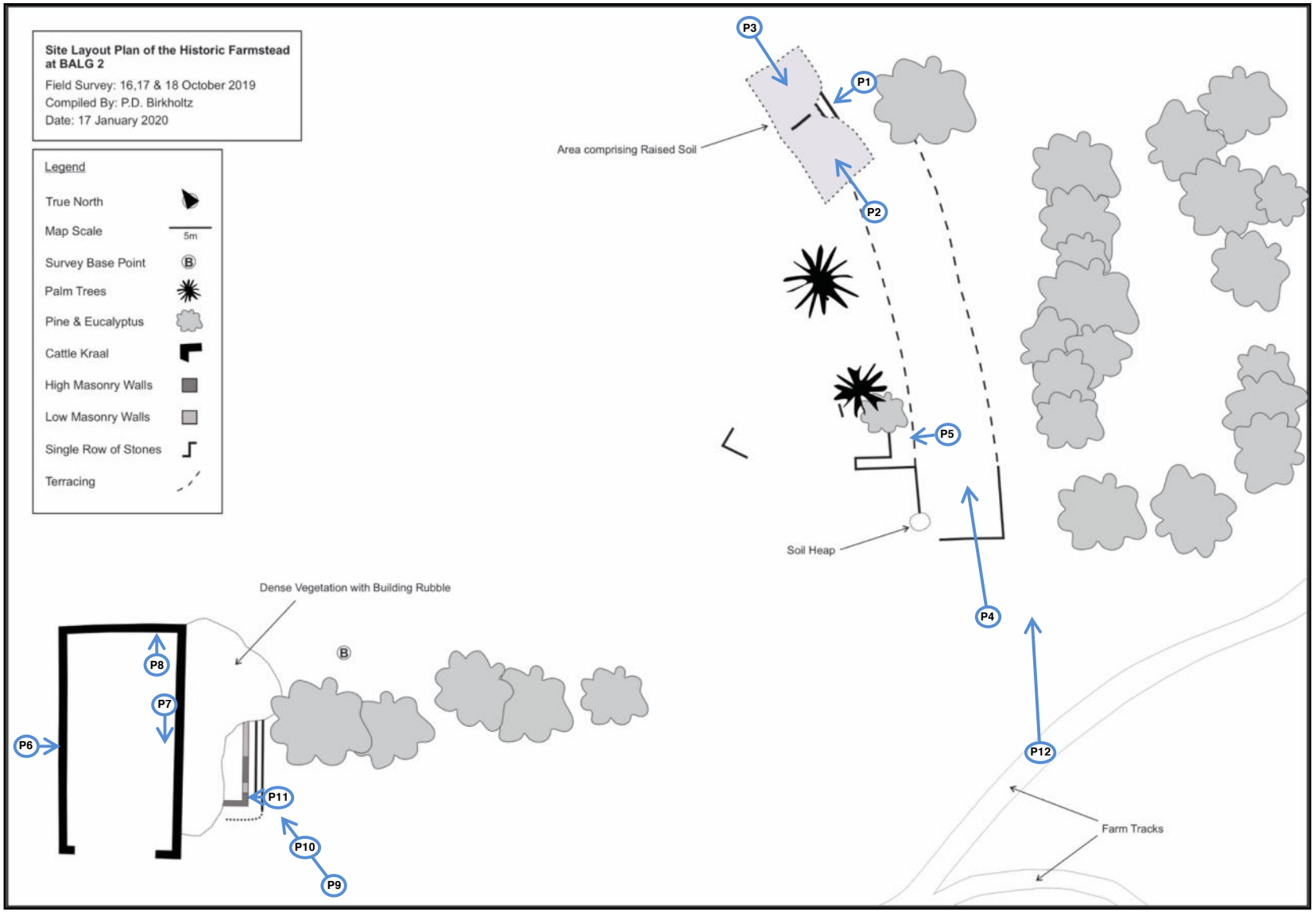

Figure 20 – Site layout plan for site BALG 2 showing the respective positions and angles with which the site photographs were taken.

Figure 21 – General view of the raised rectangular area of soil. Scale is in 10cm increments. Refer photographic reference P1 on map depicted in Figure 20.

Figure 22 – Another view of the raised rectangular area of soil. Scale is in 10cm increments. Refer photographic reference P2 on map depicted in Figure 20.

Figure 23 – View across the raised rectangular area showing the two palm trees and the double lane of pine trees. Scale is in 10cm increments. Refer reference P3 on map depicted in Figure 20.

Figure 24 – View from the south-west towards the raised area of soil. The two palm trees can be seen on the left with a section of the double lane of pine trees evident on the right. Scale is in 10cm increments. Refer photographic reference P4 on map depicted in Figure 20.

Figure 25 – General view of the area where the cluster of stonewalled features was identified. Note the number of soil heaps associated with the disturbance of the site surface. Scale is in 10cm increments. Refer photographic reference P5 on map depicted in Figure 20.

Figure 26 – General view across the livestock enclosure. In the background, a section of the remains of masonry shed can be seen. Scale is in 10cm increments. Refer photographic reference P6 on map depicted in Figure 20.

Figure 27 – This view along the inside wall of the original component of the livestock enclosure clearly depicts the batterering that was built into the wall to increase its stability. This section of the livestock enclosure can be seen as the first building phase in its construction. Scale is in 10cm increments. Refer photographic reference P7 on map depicted in Figure 20.

Figure 28 – Three building phases in the construction of the livestock enclosure can be identified on this image. The first building phase is represented by the stonewall on the right, with the second building phase represented by the stonewall on the left. The brickwork visible on top of both these stonewall sections, represents a third building phase. Refer photographic reference P8 on map depicted in Figure 20.

Figure 29 – General view of the tangible remains of the masonry shed. Scale is in 10cm increments. Refer photographic reference P9 on map depicted in Figure 20.

Figure 30 – Closer view of the tangible remains of the masonry shed. Refer photographic reference P10 on map depicted in Figure 20.

Figure 31 – Detailed view of a section of walling from the masonry shed. Scale is in 1cm increments. Refer photographic reference P11 on map depicted in Figure 20.

Figure 32 – General view of a section of the site showing the double lane of pine trees on the right with the palm trees on the left. Refer photographic reference P12 on map depicted in Figure 20.

8 MITIGATION OF SITE BALG 3

8.1 Introduction

Site BALG 3 comprises the poorly preserved remains of a rectangular brick structure that was identified during the fieldwork for the project's Heritage Impact Assessment. Bricks manufactured by both the Dundee Brick and Tile Company as well as Coronation Brickworks were observed on the surface of the structure. With no evidence to the contrary, the site was provisionally interpreted as a historic black homestead. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. As the site is not occupied anymore, no direct information with regards to the presence (or not) of such graves is currently available.

8.2 Mitigation

8.2.1 Assessment of Old Aerial Photographs

An assessment was made of available old aerial photographs to see if the historic imagery can provide more insight into the origin and function of the structure at site BALG 3. For this purpose, images taken in 1944, 1963 and 1975 were obtained from the National Geo-Spatial Information at the Department of Rural Development and Land Reform in Cape Town.

The 1944 aerial photograph (NGI, Aerial Photographs, 66_18_17331) represents the oldest aerial photograph available for this assessment. No evidence for any structures or human occupation can be seen on this aerial photograph in proximity to site BALG 3.

The 1963 aerial photograph (NGI, Aerial Photographs, 484_03_0099) represents the second oldest aerial photograph available for this assessment. This image depicts a cleared area with two rondavel-like structures in the locality where site BALG 3 was identified. This means that a historic black homestead was indeed located where site BALG 3 was identified during the fieldwork, and that this historic black homestead was established between 1944 and 1963.

The 1975 aerial photograph (NGI, Aerial Photographs, 498_69_0211) represents the third oldest aerial photograph available for this assessment. This image again depicts a historic black homestead, and indicates that by now the homestead comprised eight structures. At least three of these

structures are shown to be rectangular. This aerial photograph also depicts a second historic black homestead further to the south.

The assessment of old aerial photographs has revealed that a historic black homestead was indeed located where site BALG 3 was identified. This homestead was established between 1944 and 1963.

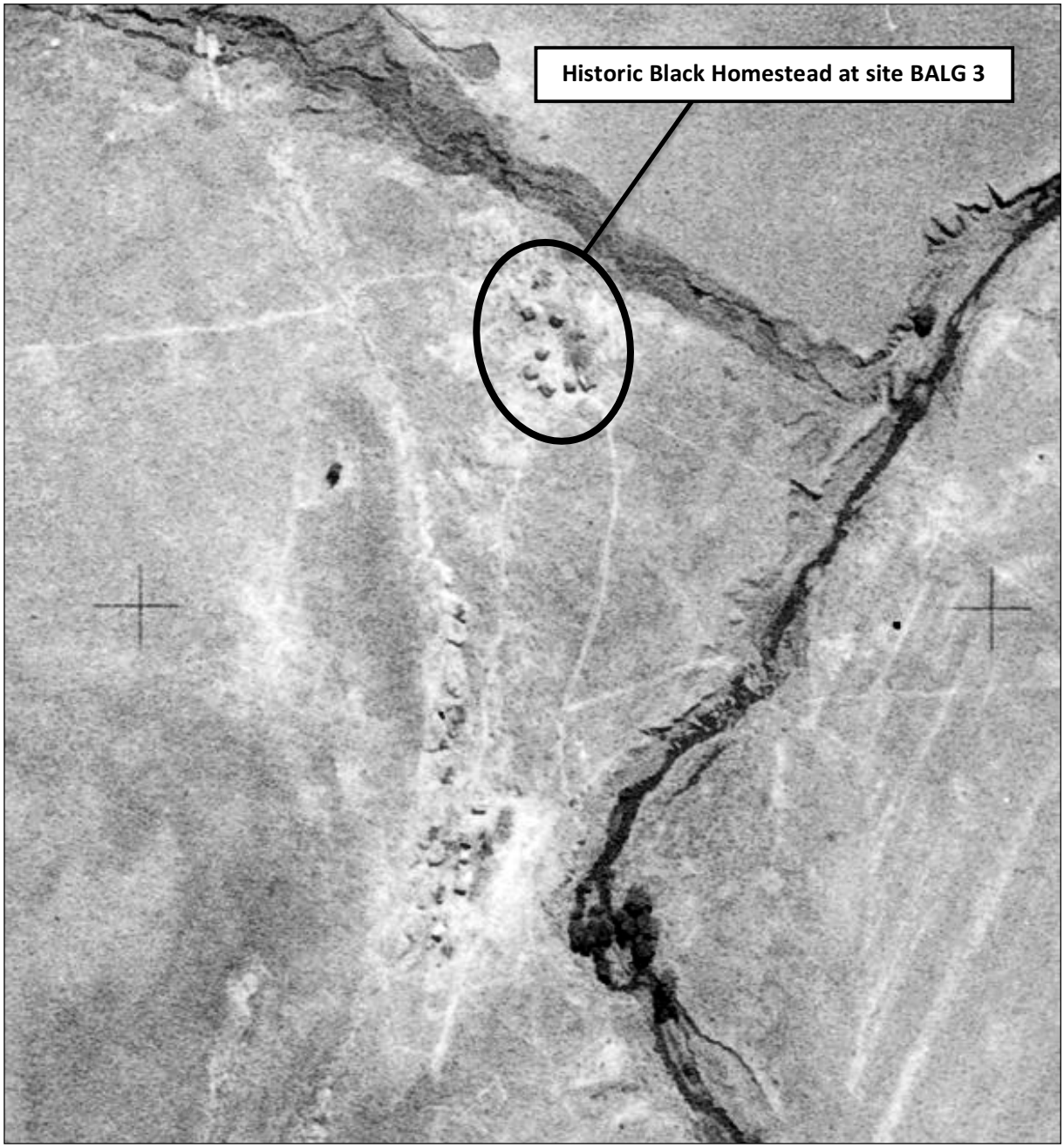

Figure 33 – Section of the 1975 aerial photograph showing the historic black homestead at BALG 3. A second historic black homestead is depicted further to the south. This second homestead is located outside of the development footprints assessed during the Heritage Impact Assessment.

8.2.2 Social Consultation

The information contained in this section was obtained from an email supplied by Agreenco Environmental Projects (Pty) Ltd.

After the identification of site BALG 3 during the Heritage Impact Assessment, representatives of the mining company undertook a site visit to establish whether any former residents of the homestead could be identified. Their work resulted in the identification of a person who was born at the homestead, namely Mrs Nonhlanhla. She indicated that she was born at the homestead in 1970, and that she was one of the first children to be born at the site. Mrs Nonhlanhla estimated that the homestead dated back to before 1950, and indicated that it comprised a number of dwellings.

Three grave sites were identified by Mrs Nonhlanha. The first of these (Grave Site 1) is located in close proximity to site BALG 3 and is located approximately 3 to 5 meters off the proposed access road footprint. A total of three graves are located at Grave Site 1. Mrs. Nonhlanha indicated that she was happy for these graves to remain where they are, on the proviso that they be fenced off.

The other two grave sites identified by Mrs Nonhlanhla are located some distance from the proposed access road footprints. These sites are numbered Grave Site 2 and Grave Site 3.

Coordinates for Grave Site 1 is not currently available. This is due to the proximity of this site to site BALG 3. The coordinates for Grave Site 2 and Grave Site 3 are provided below.

BALG 3	Grave Site 2	Grave Site 3
S 28.135841 E 30.227937	S 28.136411 E 30.227770	S 28.136896 E 30.227626

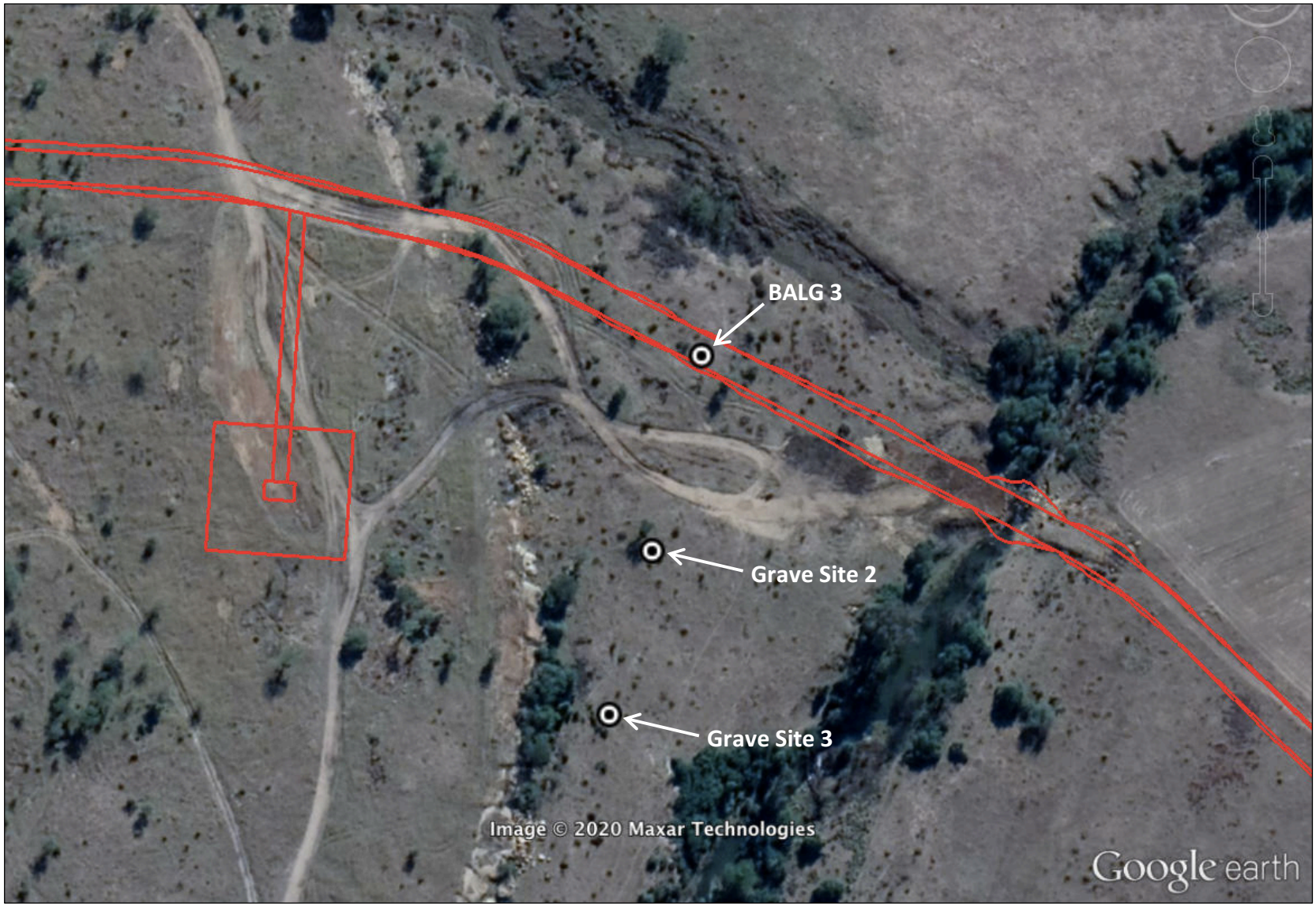

Figure 34 – Google Earth image depicting the distribution of grave sites identified by Mrs Nonhlanhla.

9 CONCLUSIONS AND RECOMMENDATIONS

Introduction

PGS Heritage (Pty) Ltd was appointed by Agreenco Environmental Projects (Pty) Ltd to undertake a Phase 2 Mitigation Report for the proposed recommissioning of the old Balgray Colliery located near Dundee, Umdeni Local Municipality, Umzinyati District Municipality, Kwazulu-Natal Province.

The focus of this report was placed on site BALG 2, which comprises the remains of a historic farmstead that was identified on a Portion of the Farm Craigside 2272. Mention was also made of observations and work undertaken by the applicant in terms of site BALG 3 that was identified on the same farm.

Scope of the Study

The aims of this Phase 2 Archaeological Assessment are to:

- Undertake an archival and historical desktop study to provide a historic framework for the project area and surrounding landscape. This must be augmented by an assessment of old aerial photographs and a study of the McPhail family, in particular Duncan Dugald MacPhail and Ian Alistair MacPhail.
- Conduct a field assessment of site BALG 2;
- Record an archaeological site layout plan of site BALG 2;
- Conduct photographic recording of site BALG 2;
- Provide a write-up of site BALG 2 and its contents; and
- Provide observations made by applicant in terms of site BALG 3.

Desktop Study

An archaeological and historical desktop study was undertaken to provide a historical framework for site BALG 2 and its surroundings. This was augmented by an assessment of the early editions of the releveant topographic maps as well as an examination of the available old aerial photographs.

The examination of the aerial photographs revealed that the historic farmstead at site BALG 2 was

already in existence and well-established by 1944. However, its depiction on the 1963 aerial photograph seems to indicate that by this time the farmstead was either abaondoned, or farming activities had been halted. The 1975 aerial photograph indicates further degradation at the farmstead, with a number of buildings evidently in a poor state of preservation.

The desktop study also revealed that the farmstead at BALG 2 was known as Brooklyn, and appears to have been built by Duncan Dugald MacPhail at an unknown time during or before 1910. The available information indicates that the farmstead at Brooklyn was built on the farm Craigside which had been owned by Duncan Dugald MacPhail's father Dugald MacPhail, from c. 1872 until his death in 1941. While Dugald MacPhail lies buried in the historic cemetery at Talana Hill, his son Duncan Dugald MacPhail is buried in the old Dundee Cemetery. During the 1950s and 1960s, Ian MacPhail, the son of Duncan Dugald and Annie Violet MacPhail, lived at Brooklyn with his wife Zena and children Clare and Neil (www.dundeenatal.com). Further research has revealed that the family comprised Ian Alistair MacPhail (born 1 April 1912) and his wife Zena Mary MacPhail (born Crawthorne) (1915 - 1995) (www.myheritage.com).

On-site Mitigation at Site BALG 2

Fieldwork was undertaken at site BALG 2 from Wednesday, 16 October 2019 to Friday, 18 October 2019. The following mitigation measures were undertaken during this period:

- Walkthroughs of site BALG 2;
- Record a site layout plan of site BALG 2;
- Conduct photographic recording of site BALG 2; and
- Provide a write-up of the site and its contents.

On Tuesday, 16 October 2019, the experienced fieldwork team from PGS Heritage (Pty) Ltd conducted walkthroughs of the site as well as its surroundings. The aims of these walkthroughs were for the fieldwork team to acquaint themselves with the site and its layout, and also to establish whether any tangible evidence for middens could be identified. The walkthroughs of the site and its immediate surroundings failed to identify any middens associated with the site.

A site plan was recorded of site BALG 2 using a Topcon GPT-3000(L)N series Total Station. The Total Station work was undertaken on Wednesday, 17 October and Thursday, 18 October 2019. During the

survey work, detailed field notes were taken and a number of field sketches were also drawn. The site layout plan was drawn in Corel Draw using the data recorded in the field. The site layout plan is depicted in **Figures 17** - **19** of this report.

The site and its features were recorded photographically. The respective positions and angles with which these site and feature photographs were recorded, are shown in **Figure 20** of this report.

The recording and write-up of site BALG 2 was undertaken by individually discussing the primary tangible remains of the site, namely:

- Raised rectangular area of soil associated with exposed stonewalling;
- Cluster of poorly preserved stonewalled features;
- Rectangular stone-packed livestock enclosure;
- Poorly preserved remains of a rectangular masonry shed; and
- Planted trees located across the farmstead, including two palm trees and a double lane of pine trees located on the south-eastern end of the site.

Mitigation at Site BALG 3

The mitigation undertaken for site BALG 3 comprises the following:

- An assessment of available old aerial photographs to see if the historic imagery can provide more insight into the origin and function of the structure at site BALG 3; and
- Mitigation undertaken by the applicant.

The only mitigation undertaken by PGS Heritage (Pty) Ltd in terms of site BALG 3, comprised an assessment of old aerial photographs. For this purpose, images taken in 1944, 1963 and 1975 were obtained from the National Geo-Spatial Information at the Department of Rural Development and Land Reform in Cape Town. The 1944 aerial photograph does not provide any evidence for structures or human occupation in proximity to site BALG 3. However, the 1963 aerial photograph depicts a cleared area with two rondavel-like structures in the locality where site BALG 3 was identified. This means that a historic black homestead was indeed located where site BALG 3 was identified during the fieldwork, and that this historic black homestead was established between 1944 and 1963. The 1975 aerial photograph again depicts a historic black homestead, and indicates

that by now the homestead comprised eight structures. At least three of these structures are shown to be rectangular. This aerial photograph also depicts a second historic black homestead further to the south. The assessment of old aerial photographs has revealed that a historic black homestead was indeed located where site BALG 3 was identified. This homestead was established between 1944 and 1963.

After the identification of site BALG 3 during the Heritage Impact Assessment, representatives of the mining company undertook a site visit to establish whether any former residents of the homestead could be identified. Their work resulted in the identification of a person who was born at the homestead, namely Mrs Nonhlanhla. Three grave sites were identified by Mrs Nonhlanha. The first of these (Grave Site 1) is located in close proximity to site BALG 3 and is located approximately 3 to 5 meters off the proposed access road footprint. A total of three graves are located at Grave Site 1. Mrs. Nonhlanha indicated that she was happy for these graves to remain where they are, on the proviso that they are fenced off. The other two grave sites identified by Mrs Nonhlanhla are located some distance from the proposed access road footprints. These sites are numbered Grave Site 2 and Grave Site 3.

Conclusions and Recommendations in terms of Site BALG 2

The following conclusions can be made as a result of the fieldwork and mitigation:

- A historic farmstead was located at site BALG 2. This farmstead was historically known as Brooklyn, and appears to have been built by Duncan Dugald MacPhail at an unknown time during or before 1910. Duncan Dugald MacPhail was the son of Dundee pioneer Dugald MacPhail.
- The farmstead at site BALG 2 was well-established by the time that the 1944 aerial photograph was taken, but appears to have deteriorated at an unknown time thereafter. By 1975, the farmstead appears to have been abandoned, with a number of the buildings from the site already in a poor state of preservation.
- The walkthroughs and recording of the farmstead revealed that it is poorly preserved. No evidence for the farmhouse could be found, whereas the remaining structures are all in a very poor state of preservation. Additionally, the surface of extensive sections of the site appears to have been disturbed by earthmoving activities. This disturbance took place at an unknown time, but may have been undertaken at the time that mining activities were

undertaken on the property during the 1960s.

- No evidence for archaeological or historical rubbish heaps or middens could be identified during the fieldwork.

The following recommendations can be made for site BALG 2:

- It is the opinion of the author of this report that the remains of the farmstead at site BALG 2 may be destroyed. The reasons for this is that despite the intensive on-site mitigation work and walkthroughs undertaken as part of the current study, very litte tangible remains of the historic farmstead could in fact be identified. Even the livestock enclosure, which represents one of the key remaining elements of the farmstead, is poorly preserved. Furthermore, the assessment of old aerial photographs undertaken as part of the current study has revealed that the original farmhouse is completely destroyed, whereas the rectangular raised area of soil that was originally suggested to be the farmhouse, was in fact a garden feature associated with the farmhouse. The assessment of old aerial photographs has also indicated that the farmstead was already undergoing deterioration by the time that the 1963 and 1975 aerial photographs were taken. Additionally, a comparison of the tangible remains of the historic farmstead today with its depiction on the 1944 aerial photograph, clearly confirms the fact that very little of the original farmstead has remained on site.
- Despite the intensive walkthroughs and on-site recording of the farmstead, no evidence of any archaeological or historic middens could be identified on site. As a result, no archaeological excavations would be required before the site may be destroyed.
- This report must be submitted to the provincial heritage authority Amafa aKwazulu-Natali with a destruction permit application. The site at BALG 2 may only be destroyed once this destruction permit application has been approved by the heritage authority.

Conclusions and Recommendations in terms of Site BALG 3

The following conclusions can be made in terms of site BALG 3:

- The assessment of old aerial photographs undertaken by PGS Heritage (Pty) Ltd confirmed the presence of a historic black homestead at site BALG 3. This homestead was established betwee 1944 and 1963, and by 1975 comprised eight structures.

- The mitigation work undertaken by the applicant resulted in the identification of a person who was born at the historic black homestead at site BALG 3, namely Mrs Nonhlanhla. She indicated that she was born at the homestead in 1970, and that she was one of the first children to be born at the site. Mrs Nonhlanhla estimated that the homestead dated back to before 1950, and indicated that it comprised a number of dwellings. Mrs Nonhlanhla identified three graves sites. The first of these (Grave Site 1) is located in close proximity to site BALG 3 and is located approximately 3 to 5 meters off the proposed access road footprint. A total of three graves are located at Grave Site 1. Mrs. Nonhlanha indicated that she was happy for these graves to remain where they are, on the proviso that they are fenced off. The other two grave sites identified by Mrs Nonhlanhla are located some distance from the proposed access road footprints. These sites are numbered Grave Site 2 and Grave Site 3.

The following recommendations can be made for site BALG 2:

- The proposed access road footprint must be altered in such a way that a buffer area of at least 10m is kept clear of any development around the graves at Grave Site 1.
- The graves at Grave Site 1 must be fenced in the presence of the family representative. This must be undertaken before construction on the access road commences.

10 PREPARERS

This report was written by the following preparers:

- Polke Birkholtz – Project Manager / Archaeologist / Author

11 REFERENCES

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National Archives URU 745 1274; URU 816 560
National Archives, WAT 441/1952

Historic Topographic Maps

All the historic and early topographic maps used in this report were obtained from the Directorate: National Geo-spatial Information of the Department of Rural Development and Land Reform in Cape Town.

Internet

www.sanbi.org

Google Earth

All the aerial depictions and overlays used in this report are from Google Earth.

Appendix A

LEGISLATIVE REQUIREMENTS – TERMINOLOGY AND ASSESSMENT CRITERIA

General principles

In areas where there has not yet been a systematic survey to identify conservation worthy places, a permit is required to alter or demolish any structure older than 60 years. This will apply until a survey has been done and identified heritage resources are formally protected.

Archaeological and palaeontological sites, materials, and meteorites are the source of our understanding of the evolution of the earth, life on earth and the history of people. In terms of the heritage legislation, permits are required to damage, destroy, alter, or disturb them. Furthermore, individuals who already possess heritage material, are required to register it. The management of heritage resources is integrated with environmental resources and this means that, before development takes place, heritage resources are assessed and, if necessary, rescued.

In addition to the formal protection of culturally significant graves, all graves which are older than 60 years and are not located in a cemetery (such as ancestral graves in rural areas), are protected. The legislation also protects the interests of communities that have an interest in the graves: they should be consulted before any disturbance takes place. The graves of victims of conflict and those associated with the liberation struggle are to be identified, cared for, protected and memorials erected in their honour.

Anyone who intends to undertake a development must notify the heritage resources authority and, if there is a reason to believe that heritage resources will be affected, an impact assessment report must be compiled at the construction company's cost. Thus, the construction company will be able to proceed without uncertainty about whether work will have to be stopped if an archaeological or heritage resource is discovered.

According to the National Heritage Act (Act 25 of 1999 section 32) it is stated that:
An object or collection of objects, or a type of object or a list of objects, whether specific or generic, that is part of the national estate and the export of which SAHRA deems it necessary to control, may be declared a heritage object, including –

- Objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects, meteorites and rare geological specimens;
- visual art objects;
- military objects;
- numismatic objects;

- objects of cultural and historical significance;
- objects to which oral traditions are attached and which are associated with living heritage;
- objects of scientific or technological interest;
- books, records, documents, photographic positives and negatives, graphic material, film or video or sound recordings, excluding those that are public records as defined in section 1 (xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996), or in a provincial law pertaining to records or archives; and
- any other prescribed category.

Under the National Heritage Resources Act (Act No. 25 of 1999), provisions are made that deal with and offer protection to, all historic and prehistoric cultural remains, including graves and human remains.

Graves and cemeteries

Graves younger than 60 years fall under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) as well as the Human Tissues Act (Act 65 of 1983) and are under the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the Office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning, or in some cases the MEC for Housing and Welfare. Authorisation for exhumation and reinternment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws, and by-laws must also be adhered to. In order to handle and transport human remains, the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

Graves older than 60 years, but younger than 100 years, fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act) as well as the Human Tissues Act (Act 65 of 1983) and are under the jurisdiction of the South African Heritage Resources Agency (SAHRA). The procedure for Consultation Regarding Burial Grounds and Graves (Section 36(5) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in the category located inside a formal cemetery administrated by a local authority will also require the same authorisation as set out for graves younger than 60 years, over and above SAHRA authorisation.

If the grave is not situated inside a formal cemetery but is to be relocated to one, permission from the local authority is required and all regulations, laws, and by-laws set by the cemetery authority must be adhered to.

Appendix B

CURRICULUM VITAE

PROFESSIONAL CURRICULUM
FOR POLKE DOUSSY BIRKHOLTZ

Name: *Polke Doussy Birkholtz*

Date & Place of Birth: *9 February 1975 – Klerksdorp, North West Province, South Africa*

Place of Tertiary Education & Dates Associated:

Institution: University of Pretoria
Qualification: BA (Cum Laude) - Bachelor of Arts Specializing in Archaeology, History & Anthropology
Date: 1996

Institution: University of Pretoria
Qualification: BA Hons (Cum Laude) - Bachelor of Arts with Honours Degree Specializing in Archaeology
Date: 1997

Qualifications:

BA	-	Degree specialising in Archaeology, History and Anthropology
BA Hons	-	Professional Archaeologist

Memberships:

Association of Southern African Professional Archaeologists (ASAPA)
Professional Member of the CRM Section of ASAPA

Overview of Post Graduate Experience:

1997 – 2000 – Member/Archaeologist – Archaeo-Info
2001 – 2003 – Archaeologist/Heritage Specialist – Helio Alliance
2000 – 2008 – Member/Archaeologist/Heritage Specialist – Archaeology Africa
2003 - Present – Director / Archaeologist / Heritage Specialist – PGS Heritage

Languages: English: Speak, Read & Write & Afrikaans: Speak, Read & Write

Total Years' Experience: 19 Years

Experience Related to the Scope of Work:

- Polke has worked as a **HERITAGE SPECIALIST / ARCHAEOLOGIST / HISTORIAN** on more than 300 projects, and acted as **PROJECT MANAGER** on almost all of these projects. His experience includes the following:
    - Development of New Sedimentation and Flocculation Tanks at Rand Water's Vereeniging Pumping Station, Vereeniging, Gauteng Province. Heritage Impact Assessment for *Greenline*.

- EThekwini Northern Aqueduct Project, Durban, KwaZulu-Natal. Heritage Impact Assessment for *Strategic Environmental Focus*.
- Johannesburg Union Observatory, Johannesburg, Gauteng Province. Heritage Inventory for *Holm Jordaan*.
- Development at Rand Water's Vereeniging Pumping Station, Vereeniging, Gauteng Province. Heritage Impact Assessment for *Aurecon*.
- Comet Ext. 8 Development, Boksburg, Gauteng Province. Phase 2 Heritage Impact Assessment for *Urban Dynamics*.
- Randjesfontein Homestead, Midrand, Gauteng Province. Baseline Heritage Assessment with Nkosinathi Tomose for Johannesburg City Parks.
- Rand Leases Ext. 13 Development, Roodepoort, Gauteng Province. Heritage Impact Assessment for *Marsh*.
- Proposed Relocation of the Hillendale Heavy Minerals Plant (HHMP) from Hillendale to Fairbreeze, KwaZulu-Natal. Heritage Impact Assessment for *Goslar Environmental*.
- Portion 80 of the farm Eikenhof 323 IQ, Johannesburg, Gauteng Province. Heritage Inventory for *Khare Incorporated*.
- Comet Ext. 14 Development, Boksburg, Gauteng Province. Heritage Impact Assessment for *Marsh*.
- Rand Steam Laundries, Johannesburg, Gauteng Province. Archival and Historical Study for *Impendulo* and *Imperial Properties*.
- Mine Waste Solutions, near Klerksdorp, North West Province. Heritage Inventory for *AngloGold Ashanti*.
- Consolidated EIA and EMP for the Kroondal and Marikana Mining Right Areas, North West Province. Heritage Impact Assessment for *Aquarius Platinum*.
- Wilkoppies Shopping Mall, Klerksdorp, North West Province. Heritage Impact Assessment for *Center for Environmental Management*.
- Proposed Vosloorus Ext. 24, Vosloorus Ext. 41 and Vosloorus Ext. 43 Developments, Ekurhuleni District Municipality, Gauteng Province. Heritage Impact Assessment for *Enkanyini Projects*.
- Proposed Development of Portions 3, 6, 7 and 9 of the farm Olievenhoutbosch 389 JR, City of Tshwane Metropolitan Municipality, Gauteng Province. Heritage Impact Assessment for *Marsh*.
- Proposed Development of Lotus Gardens Ext. 18 to 27, City of Tshwane Metropolitan Municipality, Gauteng Province. Heritage Impact Assessment for *Pierre Joubert*.
- Proposed Development of the site of the old Vereeniging Hospital, Vereeniging, Gauteng Province. Heritage Scoping Assessment for *Lekwa*.
- Proposed Demolition of an Old Building, Kroonstad, Free State Province. Phase 2 Heritage Impact Assessment for *De Beers Consolidated Mines*.
- Proposed Development at Westdene Dam, Johannesburg, Gauteng Province. Heritage Impact Assessment for *Newtown*.
- West End, Central Johannesburg, Gauteng Province. Phase 1 Heritage Impact Assessment for the *Johannesburg Land Company*.
- Kathu Supplier Park, Kathu, Northern Cape Province. Heritage Impact Assessment for *Synergistics*.
- Matlosana 132 kV Line and Substation, Stilfontein, North West Province. Heritage

Impact Assessment for *Anglo Saxon Group* and *Eskom*.

- Marakele National Park, Thabazimbi, Limpopo Province. Cultural Resources Management Plan for *SANParks*.
- Cullinan Diamond Mine, Cullinan, Gauteng Province. Heritage Inventory for *Petra Diamonds*.
- Highveld Mushrooms Project, Pretoria, Gauteng Province. Heritage Impact Assessment for *Mills & Otten*.
- Development at the Reserve Bank Governor's Residence, Pretoria, Gauteng Province. Archaeological Excavations and Mitigation for the *South African Reserve Bank*.
- Proposed Stones & Stones Recycling Plant, Johannesburg, Gauteng Province. Heritage Scoping Report for *KV3*.
- South East Vertical Shaft Section of ERPM, Boksburg, Gauteng Province. Heritage Scoping Report for *East Rand Proprietary Mines*.
- Proposed Development of the Top Star Mine Dump, Johannesburg, Gauteng Province. Detailed Archival and Historical Study for *Matakoma.*
- Soshanguve Bulk Water Replacement Project, Soshanguve, Gauteng Province. Heritage Impact Assessment for *KWP*.
- Biodiversity, Conservation and Participatory Development Project, Swaziland. Archaeological Component for *Africon*.
- Camdeboo National Park, Graaff-Reinet, Eastern Cape Province. Cultural Resources Management Plan for *SANParks*.
- Main Place, Central Johannesburg, Gauteng Province. Phase 1 Heritage Impact Assessment for the *Johannesburg Land Company*.
- Modderfontein Mine, Springs, Gauteng Province. Detailed Archival and Historical Study for *Consolidated Modderfontein Mines.*
- Proposed New Head Office for the Department of Foreign Affairs, Pretoria, Gauteng Province. Heritage Impact Assessment for *Holm Jordaan Group*.
- Proposed Modification of the Lukasrand Tower, Pretoria, Gauteng Province. Heritage Assessment for IEPM.
- Proposed Road between the Noupoort CBD and Kwazamukolo, Northern Cape Province. Heritage Impact Assessment for *Gill & Associates*.
- Proposed Development at the Johannesburg Zoological Gardens, Johannesburg, Gauteng Province. Detailed Archival and Historical Study for *Matakoma.*

- Polke's **KEY QUALIFICATIONS:**

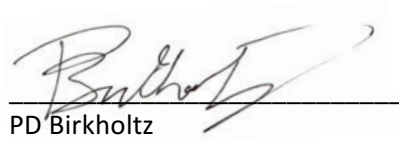
  - Project Management
  - Archaeological and Heritage Management
  - Archaeological and Heritage Impact Assessment
  - Archaeological and Heritage Fieldwork
  - Archival and Historical Research
  - Report Writing

- Polke's **INFORMATION TECHNOLOGY EXPERIENCE:**

  - *MS Office – Word, Excel, & Powerpoint*

- *Google Earth*
- *Garmin Mapsource*
- *Adobe Photoshop*
- *Corel Draw*

I, Polke Doussy Birkholtz, hereby confirm that the above information contained in my CV is true and correct.



_____ 5 January 2019

PD Birkholtz Date