



DRAYTON SOUTH

Non-Aboriginal Heritage Impact Assessment





Drayton South Coal Project
Non-Aboriginal Heritage Impact
Assessment
Hansen Bailey Environmental
Consultants
27 June 2012

Non-Aboriginal Heritage Impact Assessment

Drayton South Coal Project





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Prepared for

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Executive Summary

Drayton Mine is managed by Anglo Coal (Drayton Management) Pty Ltd which is owned by Anglo American Metallurgical Coal Pty Ltd (Anglo American). Drayton Mine commenced production in 1983 and currently holds Project Approval 06_0202 (dated 1 February 2008) that expires in 2017 at which time the operation will have to close.

The Drayton South Coal Project (the Project) will allow for the continuation of mining at Drayton Mine by the development of an extension to the existing operations. The Project seeks approval for an open cut and highwall mining operations within the Drayton South area, while continuing to utilise the existing infrastructure and equipment from Drayton Mine.

AECOM Australia Pty Ltd was commissioned by Hansen Bailey Environmental Consultants on behalf of Anglo American Metallurgical Coal Pty Ltd to undertake a non-Aboriginal heritage impact assessment for the Project. This assessment will form part of an Environmental Assessment being prepared by Hansen Bailey Environmental Consultants to support an application for Project Approval under Part 3A of the *Environmental Planning and Assessment Act 1979* to facilitate the continuation of the existing Drayton Mine through the development of an open cut coal mining operation and associated infrastructure within the Drayton South area.

A field survey and subsequent significance assessment of identified heritage sites within the study area, conducted between 2 and 6 May 2011. The study area comprises:

- An area of 4,597 ha within the Project Boundary, which includes the Drayton South disturbance footprint and the transport corridor (Drayton South); and
- Properties adjacent to Drayton South where listed and non-listed heritage items are known or anticipated to occur based on historical research and heritage inventories.

During the field survey 10 items were identified, including the five items listed on the heritage inventories – Plashett Homestead, Edderton Homestead, Arrowfield Cottage, Strowan Homestead and Woodlands Homestead. The other five items identified included the stockyard, Nissan hut with stockyard, fence, Bowfield Homestead and Randwick Homestead.

The fence and Nissan hut with stockyard, are located within the Drayton South disturbance footprint. These items are of historical significance on a local scale and provide a good representation of rural development and land use of the Upper Hunter region. Both items will be removed as a result of the construction and operation of the Project. Due to significance of the items and the impact, it is recommended that each item be documented, in accordance with the relevant guidelines, to capture an accurate record of past settlement and land use prior to removal.

Several listed heritage items are situated within the study area, including Plashett Homestead, Edderton Homestead and Strowan Homestead. These items are of historical significance on a local scale, with Strowan Homestead being recognised at national level. Plashett Homestead and Strowan Homestead are a classic representation of the architecture style established during the early to mid-nineteenth century period. The homesteads also retain a strong association with eminent local pioneering families in the region. Edderton Homestead provides a good example of an early twentieth century rural homestead and associated farming complex, which would once have been characteristic of the area. These heritage items hold high research potential as they provide an understanding of the lifestyle and operations associated with major mid-nineteenth and twentieth century pastoral properties. These heritage items, along with other items identified in the field survey will be indirectly impacted by the Project to various degrees.

With regard to potential blasting impacts, the acoustics impact assessment for the Project undertaken by Bridges Acoustics (Appendix G of the EA) concluded that all relevant criteria could be met at each of the identified heritage items by implementing relevant blast management techniques.

The Project will result in the modification of the existing visual environment surrounding Edderton Homestead, Strowan Homestead, Arrowfield Cottage, Plashett Homestead and Bowfield Homestead. As outlined in the visual impact assessment (JVP, 2012) (Appendix I of the EA), several mitigation measures to reduce visual impacts at sensitive viewing locations, including heritage items, have been incorporated into the design and operation of the Project. If required, offsite mitigation measures, such as tree screening or plantings, can be implemented to further reduce the visual impact to landscapes surrounding heritage items.

There will be no direct or indirect impacts to the stockyard, Woodlands Homestead or Randwick Homestead and therefore no impact on their significance. As such no mitigation or management measures have been proposed.

The management of heritage items within the study area should be undertaken through a non-Aboriginal heritage management plan.

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was commissioned by Hansen Bailey Environmental Consultants (Hansen Bailey) on behalf of Anglo American Metallurgical Coal Pty Ltd (Anglo American) to undertake a non-Aboriginal heritage impact assessment for the Drayton South Coal Project (the Project). The purpose of the assessment is to form part of an Environmental Assessment (EA) being prepared by Hansen Bailey to support an application for a contemporary Project Approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to facilitate the continuation of the existing Drayton Mine through the development of an open cut and highwall coal mining operation and associated infrastructure within the Drayton South area.

The scope of work completed by AECOM for the assessment included:

- Addressing the Director-General's Environmental Assessment Requirements relating to non-Aboriginal heritage, issued on 3 August 2011;
- Review of previous archaeological and historical studies conducted within the study area to assess the current status of non-Aboriginal heritage and to understand the development of the area;
- Locating and recording non-Aboriginal sites within the study area to assist in developing suitable heritage management recommendations and nominate areas of potential constraints;
- Assessing the heritage significance of sites in accordance with the Heritage Office guidelines *Assessing Heritage Significance* (2001); and
- Presenting recommendations for the management and/or mitigation of the Project's impact on the heritage sites and archaeological resource identified.

1.1 Project Description

Drayton Mine is managed by Anglo Coal (Drayton Management) Pty Ltd which is owned by Anglo American. Drayton Mine commenced production in 1983 and currently holds Project Approval 06_0202 (dated 1 February 2008) that expires in 2017 at which time the operation will have to close.

The Project will allow for the continuation of mining at Drayton Mine by the development of open cut and highwall mining operations within the Drayton South mining area while continuing to utilise the existing infrastructure and equipment from Drayton Mine.

The Project is located approximately 10 km north west of the village of Jerrys Plains and approximately 13 km south of the township of Muswellbrook in the Upper Hunter Valley of NSW. The Project is predominately situated within the Muswellbrook Shire Local Government Area (LGA), with the south west portion falling within the Singleton LGA. Figure 1 illustrates the location of the Project. The Project is located adjacent to two thoroughbred horse studs, two power stations and several existing coal mines.

The Project will extend the life of Drayton Mine by a further 27 years ensuring the continuity of employment for its workforce, the ongoing utilisation of its infrastructure and the progressive rehabilitation of Drayton Mine's completed mining areas.

Anglo American is seeking Project Approval under Part 3A of the EP&A Act to facilitate the extraction of coal by both open cut and highwall mining methods within Exploration Licence (EL) 5460 for a period of 27 years. The Project Application Boundary (Project Boundary) is shown on Figure 1.

The Project generally comprises:

- The continuation of operations at Drayton Mine as presently approved with minor additional mining areas within the East, North and South Pits;
- The development of an open cut and highwall mining operation extracting up to 7 Mtpa of Run of Mine (ROM) coal over a period of 27 years;
- The utilisation of the existing Drayton Mine workforce and equipment fleet (with an addition of a highwall miner and coal haulage fleet);
 - The Drayton Mine fleet consists of at least a dragline, excavators, fleet of haul trucks, dozers, graders, water carts and associated supporting equipment;

- The use of Drayton Mine's existing voids for rejects and tailings disposal and water storage to allow for the optimisation of the Drayton Mine final landform;
- The utilisation of the existing Drayton Mine infrastructure including the Coal Handling and Preparation Plant (CHPP), rail loop and associated loadout infrastructure, workshops, bath houses and administration offices;
- The construction of a transport corridor between Drayton South and Drayton Mine;
- The utilisation of the Antiene Rail Spur off the Main Northern Railway to transport product coal to the Port of Newcastle for export;
- The realignment of a section of Edderton Road; and
- The installation of water management and power reticulation infrastructure at Drayton South.

The conceptual layout of the Project is shown in Figure 2.

1.2 Study Area

The study area comprises:

- An area of 4,597 ha within the Project Boundary, which includes the Drayton South disturbance footprint and the transport corridor (Drayton South); and
- Properties adjacent to Drayton South where listed and non-listed heritage items are known or anticipated to occur based on historical research and heritage inventories.

1.3 Project Team

The Project was managed by Dr Susan Lampard (AECOM Archaeologist). Susan coordinated project logistics, conducted heritage assessments and authored this report. Chelsea Kavanagh (Hansen Bailey) assisted with fieldwork. Ruth Baker (AECOM Associate Director - Environment) provided technical and QA review. Jackie Mandy provided mapping support.

1.4 Limitations

Within this report predictions have been made about the probability of subsurface archaeological materials occurring within the study area based on surface indications and environmental contexts. However, it is possible that materials may occur in areas without surface indications and in any environmental context.

A summary of the statutory requirements regarding non-Aboriginal heritage is provided in Section 2.0. This is provided based on experience with the heritage system in NSW and does not purport to be legal advice. It should be noted that legislation, regulations and guidelines change over time and users of the report should satisfy themselves that the statutory requirements have not changed since the report was written.

This assessment does not address areas within or adjacent to Drayton Mine as Veritas Archaeology & History Service (2005) previously undertook a non-Aboriginal heritage assessment as part of the Drayton Mine Extension EA.

1.5 Related Studies

The studies which are to be read in conjunction with this assessment include the following:

- The EA acoustics impact assessment; and
- The EA visual impact assessment.

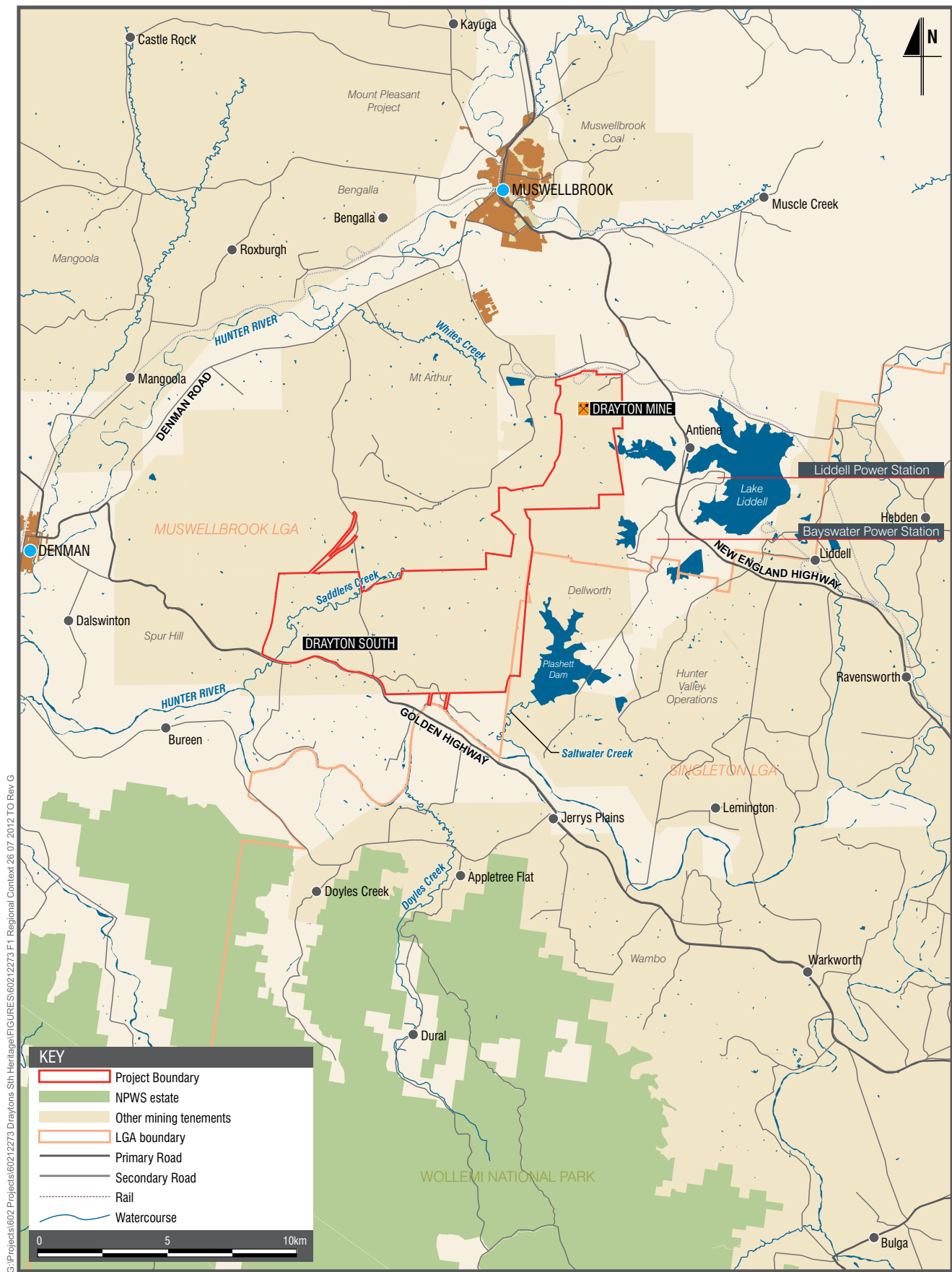


FIGURE 1

AECOM

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Hansen Bailey



FIGURE 2

2.0 Statutory Controls

A number of planning and legislative documents govern how heritage is managed in NSW and Australia. The following section provides an overview of the requirements under each as they apply to the Project.

2.1 Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) took effect on 16 July 2000.

Under Part 9 of the EPBC Act, any action that is likely to have a significant impact on a matter of National Environmental Significance (known as a controlled action under the Act), may only progress with approval of the Commonwealth Minister for the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC). An action is defined as a project, development, undertaking, activity (or series of activities), or alteration. An action will also require approval if:

- It is undertaken on Commonwealth land and will have or is likely to have a significant impact on the environment on Commonwealth land; and,
- It is undertaken by the Commonwealth and will have or is likely to have a significant impact.

The EPBC Act defines 'environment' as both natural and cultural environments and therefore includes Aboriginal and non-Aboriginal historic cultural heritage items. Under the Act protected heritage items are listed on the National Heritage List (items of significance to the nation) or the Commonwealth Heritage List (items belonging to the Commonwealth or its agencies). These two lists replaced the Register of the National Estate (RNE). While the RNE has been suspended and is no longer a statutory list, it remains available as an archive.

The heritage registers mandated by the EPBC Act have been consulted and there are no items within the study area on these registers. In relation to heritage, the EPBC Act is not of further relevance to the precinct planning.

2.2 Environmental Planning and Assessment Act 1979

The EP&A Act allows for the preparation of environmental planning instruments to direct development within NSW. This includes Local Environment Plans (LEP), which are administered by local government, and principally determine land use and the process for development applications. LEPs usually include clauses requiring that heritage be considered during development applications and a schedule of identified heritage items be provided. The Muswellbrook (2009) and Singleton (1996) LEPs apply to the Project and are discussed further in Section 2.5 and 2.5.

Part 3A of the EP&A Act provides an approvals regime for all 'major projects'. Major projects are defined under Schedule 1 of the Major Development State Environmental Planning Policy (SEPP) (2005) and are identified by way of declaration as a listed project in the Major Development SEPP or by notice in the NSW Government Gazette. Part 3A applies to all projects where the Minister has the approval role. Under Part 3A, the Minister can issue a Project Approval or a Concept Approval. Both maintain the requirement for consultation with the community and relevant State government agencies. However, the requirement for certain other permits and licences is removed under Part 3A.

In October 2011, Part 3A of the EP&A Act was repealed. However the Project has been granted the benefit of transitional provisions and as a result, is a development to which Part 3A still applies.

2.2.1 Director-General's Environmental Assessment Requirements

All applications for Project Approval under Part 3A of the EP&A Act must be supported by an EA. The EA is to be prepared in accordance with the Director-General's Environmental Assessment Requirements (EARs). This assessment, which forms part of the EA, addresses the EARs relating to non-Aboriginal heritage. Table 1 lists the EARs that are relevant to this assessment and the sections in this report where these EARs are addressed.

Table 1 Director-General's Environmental Assessment Requirements

Key Issue	Requirement	Report Section
Heritage	Assessment of potential impacts on non-Aboriginal heritage values of the locality related to its settlement by Europeans and its pastoral history	Section 6.0, 7.0 and 8.0

As required by the EARs, the following guidelines and policies were considered when preparing this assessment:

- NSW Heritage Manual (1996); and
- The Burra Charter (International Council on Monuments and Sites).

In addition to the policies identified in the EARs, the following policies and guidelines were considered in this assessment:

- Assessing Heritage Significance (2001);
- Heritage Curtilages (1996b); and
- Levels of Heritage Significance (2008).

2.3 The Heritage Act 1977

The *Heritage Act 1977* (Heritage Act) was enacted to conserve the environmental heritage of NSW. Under section 32, places, buildings, works, relics, moveable objects or precincts of heritage significance are protected by means of either Interim Heritage Orders (IHO) or by listing on the State Heritage Register (SHR). Items that are assessed as having State heritage significance can be listed on the SHR by the Minister on the recommendation of the Heritage Council.

Archaeological relics (any relics that are buried) are protected by the provisions of section 139. Under this section it is illegal to disturb or excavate any land knowing or suspecting that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed. In such cases, an excavation permit under section 140 is required. Note that no formal listing is required for archaeological relics; they are automatically protected if they are of local significance or higher.

Proposals to alter, damage, move or destroy places, buildings, works, relics, moveable objects or precincts protected by an IHO or listed on the SHR require an approval under section 60. Demolition of whole buildings will not normally be approved except under certain conditions (section 63). Some of the sites listed on the SHR or on LEPs may either be 'relics' or have relics associated with them. In such cases, a section 60 approval is also required for any disturbance to relics associated with a listed item.

Under Section 170 of the Heritage Act, NSW government agencies are required to maintain a register of heritage assets. The register places obligations on the agencies, but not on non-government proponents, beyond their responsibility to assess the impact on surrounding heritage items. AECOM has searched s.170 registers to determine whether there are listed items within the Project area. The findings from these searches are presented in Section 4.

2.4 Muswellbrook Local Environmental Plan (2009)

The Muswellbrook LEP 2009 controls development in relation to heritage items within the Muswellbrook Shire boundary. Clause 5.10(1) outlines the Council's aims in relation to heritage, which are:

- To conserve the environmental heritage of Muswellbrook;
- To conserve the heritage significance of heritage items and heritage conservation areas including associated fabric, settings and views;
- To conserve archaeological sites; and
- To conserve places of Aboriginal heritage significance.

As the current proposal is under Part 3A of the EP&A Act, the LEP will not be applicable. Schedule 5 of the LEP does provide a list of identified heritage items, which has been examined to determine whether the items could potentially be impacted by the Project. The findings from review of the Muswellbrook LEP are presented in Section 4.

2.5 Singleton Local Environmental Plan (1996)

The Singleton LEP 1996 controls development in relation to heritage items within the Singleton Shire boundary. Part 9 provides for the care and control of heritage items. As the current proposal is under Part 3A of the EP&A Act, the LEP will not be applicable. Schedule 3 of the LEP, however, provides a list of identified heritage items, which has been examined to determine whether the items could potentially be impacted by the Project. The findings from review of the Singleton LEP are presented in Section 4.

2.6 Hunter Regional Environmental Plan (Heritage) (1989)

The Hunter Regional Environmental Plan (Hunter REP) was deemed a SEPP on 1 July 2009. The aims of the Hunter REP are threefold:

- To conserve the heritage of the Hunter region;
- To promote the appreciation and understanding of the variety of items; and
- To encourage the conservation of townscapes that are desirable to conserve.

To this end, Schedule 1 lists items of State significance, Schedule 2 items of regional significance and Schedule 3 items of local significance within the region.

Clause 6 requires LGAs to include provisions for significant items within LEPs, while Clause 7 provides for development of heritage items. It requires that applications to alter, damage, remove or construct in the vicinity, be accompanied by a Statement of Heritage Impact, which addresses the impact to the significance of the item.

3.0 Methodology

A field survey was undertaken by Dr Susan Lampard of AECOM between 2 and 6 May 2011. The following sections describe the methodology adopted.

3.1 Field Survey Methodology

Historical research prior to the fieldwork had not identified any areas of interest other than the items listed on the SHR, Schedule 5 of the Muswellbrook LEP and Schedule 3 of the Singleton LEP (see Section 4 for the findings of these searches).

The objective of the field survey was to assess the area within the study area and to determine if there were any sites of heritage significance present. The field survey involved coverage of the area within the study area via vehicle, where feasible. The area covered is shown in Figure 1.

The following method was undertaken at each site:

- The tenant was located and permission was sought to access their property, where appropriate;
- Tenants were asked for information regarding the age and history of the structure or feature and if they were aware of any other known features of historical interest in the area;
- The structures and/or features at the site were identified and recorded;
- The structures/features were assessed for historical significance;
- Photographs of the structures/features were captured and details were recorded in a photo log; and
- The position of the item was recorded with a Global Positioning System (GPS).

3.2 Analysis Method

The GPS data was provided to AECOM's Geographic Information System analyst for mapping. The physical evidence was then analysed in light of the item's historical context to determine its significance. The process of determining significance is described further in Section 3.3. Based on the significance and impact of the Project on each item, management recommendations were developed.

3.3 Significance Assessment Criteria

In order to understand how development will impact on a heritage item, it is essential to understand why an item is significant. An assessment of significance is undertaken to explain why a particular site is important and to enable the appropriate site management and curtilage to be determined. Cultural significance is defined in the Australia ICOMOS Charter for the conservation of places of cultural significance (the Burra Charter) as meaning "aesthetic, historic, scientific or social value for past, present or future generations" (Article 1.1). Cultural significance may be derived from a place's fabric, association with a person or event, or for its research potential. The significance of a place is not fixed for all time, and what is of significance to us now may change as similar items are located, more historical research is undertaken and community tastes change.

The process of linking this assessment with a site's historical context has been developed through the NSW Heritage Management System and is outlined in the guideline *Assessing Heritage Significance* (2001), part of the NSW Heritage Manual (Heritage Office 1996). The *Assessing Heritage Significance* guidelines establish seven evaluation criteria (which reflect four categories of significance and whether a place is rare or representative) under which a place can be evaluated in the context of State or local historical themes. Similarly, a heritage item can be significant at a local level (i.e. to the people living in the vicinity of the item), at a State level (i.e. to all people living within NSW) or be significant to the country as a whole and be of National or Commonwealth significance.

In accordance with in the guideline *Assessing Heritage Significance*, an item will be considered to be of State or local heritage significance if it meets one or more of the following criteria:

Criterion (a) – an item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).

The site must show evidence of significant human activity or maintains or shows the continuity of historical process or activity. An item is excluded if it has been so altered that it can no longer provide evidence of association.

Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area).

The site must show evidence of significant human occupation. An item is excluded if it has been so altered that it can no longer provide evidence of association.

Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).

An item can be excluded on the grounds that it has lost its design or technical integrity or its landmark qualities have been more than temporarily degraded.

Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.

This criterion does not cover importance for reasons of amenity or retention in preference to proposed alternative.

Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.

Under the guideline, an item can be excluded if the information would be irrelevant or if it only contains information available in other sources.

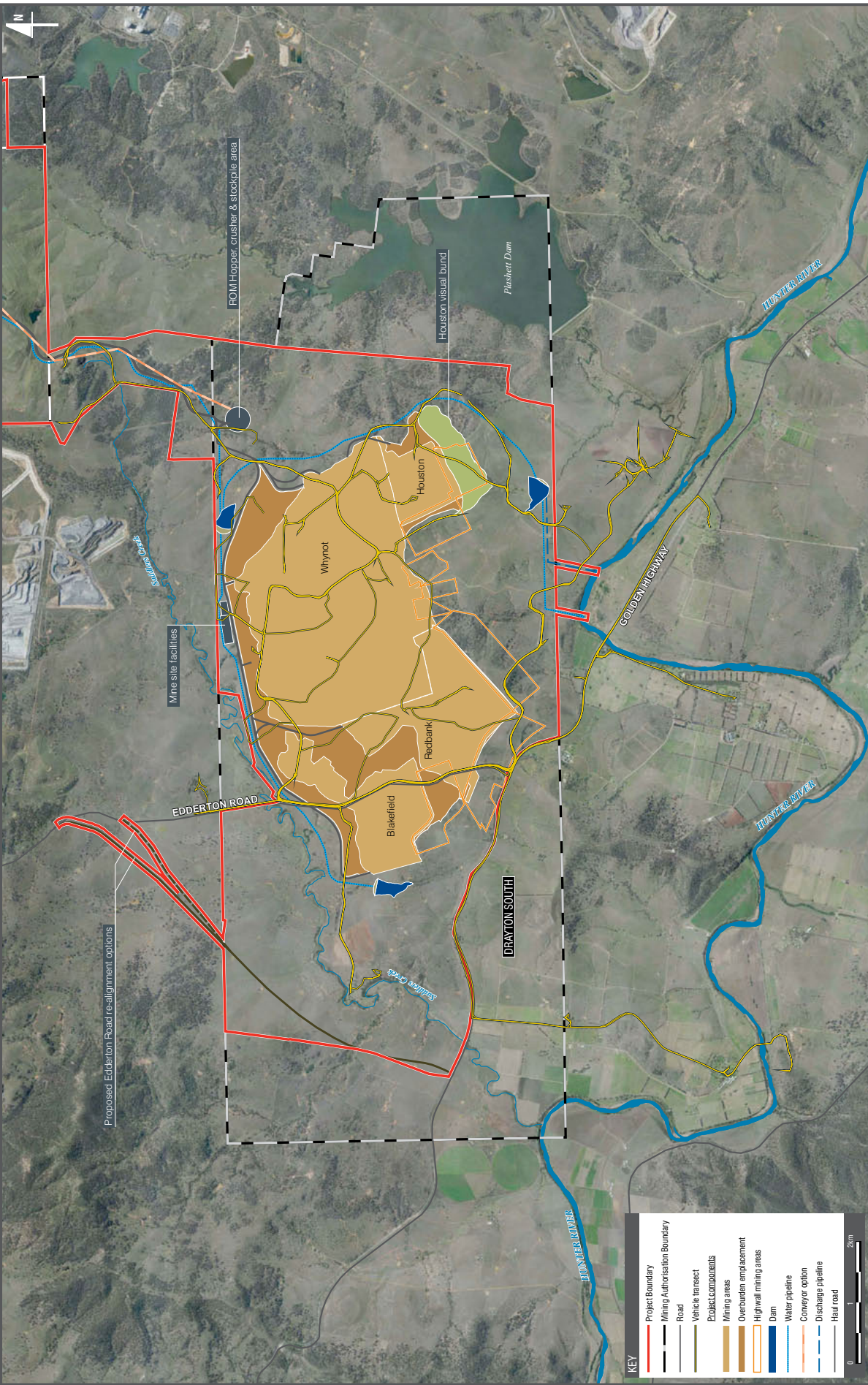
Criterion (f) – an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area). The site must show evidence of the element/function etc proposed to be rare.

Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW's:

- cultural or natural places; or
- cultural or natural environments.

An item is excluded under this criterion if it is a poor example or has lost the range of characteristics of a type.

The Heritage Council requires the summation of the significance assessment into a succinct paragraph, known as a Statement of Significance. The Statement of Significance is the foundation for future management and impact assessment.



VEHICLE TRANSECTS
Non-Aboriginal Heritage Impact Assessment
Drayton South Coal Project, New South Wales

FIGURE 3

4.0 Heritage Inventories

As discussed in Section 2.0, Commonwealth, State and local governments maintain inventories of items of historical significance within each jurisdiction. AECOM undertook a search of relevant heritage inventories on 18 April 2011, including:

- World Heritage List;
- Commonwealth Heritage List;
- National Heritage List;
- RNE;
- SHR,
- Section 170 Registers of relevant Government Agencies;
- Muswellbrook LEP;
- Singleton LEP; and
- Hunter REP.

Table 2 summarises the heritage items as currently listed on statutory inventories. The location of these items in relation to the Project is shown in Figure 4.

Table 2 Heritage Items Identified on Heritage Inventories

Register	Items within Drayton South	Items Adjacent to Drayton South
World Heritage List	0	0
Commonwealth Heritage List	0	0
National Heritage List	0	0
RNE	0	Strowan Homestead
SHR	0	0
Section 170 Registers	0	0
Muswellbrook LEP	0	Edderton Homestead Plashett Homestead Woodlands Homestead
Singleton LEP	0	Arrowfield Cottage Strowan Homestead
Hunter REP	0	Woodlands Homestead



FIGURE 4

5.0 Historical Context

5.1 Introduction

The historical context of an area is important in understanding the type of sites likely to be identified and their potential distribution. The following section provides a brief overview of the history of the Hunter Valley, before focusing on the properties within the study area.

5.2 Early European Exploration

The Hunter region was initially identified as an area of rich resources in 1797 when Lieutenant John Shortland found coal at the mouth of the Hunter's River, as it was then known. In 1801, a convict settlement was established at the mouth of the river to gather coal and timber, and burn shells for lime (Hunter 2010:6).

The 1810s saw increased pressure on land around Sydney, especially following several years of drought. The farmers on the Hawkesbury River around Windsor petitioned Governor Macquarie to allow exploration inland. In 1819, Macquarie authorised men to find an overland route into what is now the Hunter Valley. The leader of this party, Windsor chief constable John Howe, exclaimed it was the best pasture he had seen since leaving England. Confirmation of the overland route was undertaken in 1820 (Hunter 2010:7). Macquarie rewarded the men in this second party with land grants around what is today Singleton. Land was quickly surveyed and by 1823 grants along rivers and creeks had been issued.

In 1829, Jerrys Plains was surveyed as a town, although it had been a campsite for travellers for some years previous. The town was not proclaimed until 1840 and official grants were not given until several years later. Despite the absence of official land ownership, development of the town continued.

Muswellbrook was proclaimed in 1833, although again, there had been earlier settlement in the vicinity. The surrounding area was largely used for grazing and cropping, with an increasing focus on dairying. Coal mining began in the early 1900s and increased significantly by the 1980s.

5.3 Land Settlement and Development

The majority of the area within Drayton South was originally part of the Plashett, first granted to James Robertson. Surrounding estates included Bowfield, Arrowfield, Strowan and Edderton. The history of these estates is summarised below and is indicative of the development of the area.

5.3.1 Plashett

In London, James Robertson of Renfrew, Scotland had been a watch and mathematical instrument maker for Grimaldi and Johnson of The Strand. In this capacity, Robertson had made friends with Thomas Brisbane, who was a keen astronomer. When Brisbane was appointed Governor of NSW he encouraged Robertson to immigrate to the colony.

On arrival in 1822, Robertson and his family (his wife, Anna Maria and six children) lived in George Street, Sydney, where he established a jewellery and watchmaking business. Prior to his arrival in the colony, Brisbane had arranged with Governor Macquarie that Robertson be given a 500 acre grant, which Brisbane increased to 1,000 acres. Robertson took half of this at Baulkham Hills and the other at Broken Bay. He made substantial improvements to the Baulkham Hills property stocking it with sheep and cattle; however, there was not sufficient pasture to support his livestock in the long term.

On 24 August 1824, Robertson applied for an additional grant, which he was entitled to for completing a specified amount of improvements to his current land holdings. On 19 November, Governor Brisbane authorised a grant of 1,000 acres and reserved a further 1,000 acres as a purchase. Robertson took up his 1,000 acre grant on the northern side of the Hunter River at Jerrys Plains in early 1827, naming the property Plashett after his father-in-laws property in Essex, England. The 1828 census lists Robertson as holding 2,000 acres of land (Plashett), on which 170 acres were cleared and 80 acres cultivated, with 5 horses, 250 cattle, and 800 sheep.

A map of the Hunter River Land Grants produced in October 1829, shows the Robertson 1,000 acres with a house built on it. This house is thought to be the slab cottage which remained standing until 1993, when it was reportedly demolished. On 15 September 1854, Plashett was advertised for sale in the Maitland Mercury, and was described as being *"an excellent Stone House, not finished inside, which was located near to where the old homestead stood."*

Plashett was purchased from Robertson in November 1854 by Joseph Pearse, who in turn transferred ownership to his son William Pearse in 1864. By the 1890s, the property was supplying sheep and cattle for both Sydney and Hunter Valley abattoirs. Cattle were sent to the Hunter from the Pearse properties in Queensland to be fattened up for the Sydney market. Corn, horse breeding, and shearing also took place on the property. By 1910, Plashett was producing milk from a herd of approximately 100 cows for the Jerrys Plains butter factory.

When William Pearse died in 1927, a probate valuation describes the property as pastoral, with 18 grazing paddocks, three for cultivation, and a few others as well. Timber had been left in the paddocks to provide shade for the cattle, and this included kurrajong and box species.

Plashett remained in the Pearse family for 117 years, until 1971, when a portion of the property was transferred to Caroon Pty Ltd. In 1982, this portion was transferred to the Electricity Commission of New South Wales (Pacific Power). In that same year, Lot 2 DP 616024, which comprised half of the land owned by Pacific Power, was transferred to Mount Arthur Coal Pty Ltd. In 2000 the property was purchased by Anglo American. Plashett remains a pastoral property, managed now on behalf of Anglo American.

5.3.2 Bowfield

Bowfield comprises of approximately 5,000 acres, part of which is situated on George Blaxland's land grant (later part of W.H. White's property) while the Saddlers Creek portion is part of the grant to George Bowman, of Arrowfield (approximately 2,600 acres in 1832). W.H. White sold his portion to Squire Bowman (of Balmoral) which he occupied, and the property subsequently became known as Bowfield. The property was later acquired by 'Mac' Bowman.

The original Bowfield Homestead was built c.1928. Allegedly there was also an old weatherboard house in the vicinity of the Bowfield Homestead.

Bowfield has since been purchased by Anglo American and is currently leased as a working pastoral property primarily for cattle grazing.

5.3.3 Arrowfield

George Bowman arrived in Sydney in 1798 at three years of age. His father John had immigrated to Australia on the recommendation of Sir Joseph Banks. George Bowman settled in Richmond and made a living as an inn keeper.

In August 1824, George Bowman was granted 250 acres in the Hunter Valley. He then purchased a further 800 acres to make 'Archerfield'. In 1820, he married Eliza Pearce, and together they had 11 children. George continued to live at Richmond while his sons, George and William, managed his holdings in the Hunter Valley.

Arrowfield had originally been granted to Crawford Logan Browne, an immigrant who had arrived in Australia in 1827 at the age of 22. Soon after, he was granted 1,280 acres in the Hunter Valley. Browne had interests at Williams River, Dungog, also in the Hunter Valley, and so concentrated his efforts there, selling 'Black Field', Patrick's Plains to George Bowman on the 20 April 1837.

In 1841, Bowman bought 1,274 acres to the north. This essentially comprised the land which would come to be known as Arrowfield, with the exception of some purchases north of 'the road' (possibly the Golden Highway). By 1842, the property was known as 'Arrowfield'. In 1844, the Browne portion of the property was transferred to John Woodward who was the second son of George Bowman. George's other son James managed 'Strowan'. John subsequently bought his own portions of land to the north of Arrowfield as well, and on the death of George, James became the owner of the entirety of Arrowfield and 2,560 acres adjacent to Bowfield. By the 1850s, James was living at Arrowfield and was running cattle and sheep, and farmed feed and cash crops.

Arrowfield was later sold to William Rupert Raleigh, who had been leasing and working the property. Raleigh then sold the property to brothers William and Frederick Albert Moses in April 1912. They operated it as an outstandingly successful thoroughbred stud, and it was put up for auction on the 12 April 1924. The horses were sold and new records were set for the prices that they fetched on the market. As the Moses brothers were getting on in age, the property was predominantly managed by Jack Honnery.

In July 1925, Arrowfield was purchased by William Pearce Bowman in the name of two of his underage sons – Major Millington and Ray Millington Bowman; however, it was his third son, Tristan, who eventually became the sole owner. The property was then used as a jersey stud, for dairy and sheep grazing. A piggery was also established, and during World War II (WWII) an airstrip was built on the property. In 1946, Tristan sold the property to John Norman Lawson of Muswellbrook. Lawson was a member of the House of Representatives for

the United Australia Party from 1931 to 1940, and was the Minister for Trade and Customs for the last two years of this term before losing his seat. Lawson also kept racehorses on the property. When Lawson died in 1956, his sons John Gordon and Rodney Beaumont inherited the property, which they used for dairying, cattle breeding, and ewes for meat.

In the 1970s, vines were planted on the property and it appears that Carpenter's Ltd acquired the land and set about planting the grapes in partnership with Penfold Wines through Francis Investments Pty Ltd. Carpenter's Ltd eventually bought out Francis Investments Pty Ltd and established their own winery, as opposed to just selling grapes. The wine, however, was not of good quality and there was not a strong market for red wine at the time. As they were not profitable, the focus was changed to white wine production, and the property was taken over once again, this time by Griffin Holdings.

In the meantime, John Messara had been building the Australian Racing and Breeding Stables Ltd (ARABS). In 1986, Griffin Holdings sold to ARABS and in 1987 changed their name to the Arrowfield Group. They also purchased Oak Range, Strowan and Riverview in the local area, and the focus of the property once again returned to operating as a horse stud (Driscoll 1989). A portion of the property was later sold in 1989 to the Whitlam, Simon and Gilbert Group, which was led by Nick Whitlam, a merchant banker. At the time, wine was distributed under the Mount Arrow label as the group did not hold the rights to the Arrowfield brand.

In 1991, the property was acquired by the Inagaki family; the controlling interest in the Hokuriku Coca Cola Bottling Co Ltd. The Arrowfield viticulture operations went on to be owned and operated by The InWine Group Australia Ltd of which Hokuriku Coca Cola Bottling Co Ltd was the leading stakeholder. The property has since been acquired by Hollydene Estate.

5.3.4 Strowan

The estate on which Strowan Homestead sits was originally two portions of land located on the southern side of the Hunter River. The first portion of land was granted to John Hosking in 1820, and became known as Hosking Park. Hosking was an absentee owner, and in 1836 he sold the land to George Bowman. The second portion of land was granted to James Robertson, the father of Sir John Robertson, in 1825. This land grant comprised 1,000 acres, and Robertson subsequently purchased a further 1,000 acres. The 1,280 acres situated on the southern bank of the Hunter River became Strowan, so named after the ancient barony of Clan Robertson and the land on the northern bank became Plashett. Strowan remained in Robertson hands for 30 years.

In 1840, James Robertson transferred Strowan to his son John, who had joined his father on the property in 1835. John was a victim of The Depression and in 1843 was declared bankrupt leaving Strowan to be sequestered. Eventually the property reverted to James and his wife. They then sold it to George Bowman in 1854. George made his sixth son, James, manager of Strowan. James would later become the owner of this property as well. The property was subsequently passed to Walter Bowman, and on his death, it was inherited by his nephews, brothers Robert and Mackenzie. On dissolution of the partnership, Robert Bowman became the sole owner of the property. The 'chief glory' of Strowan during the Bowman years was its Clydesdale stud. Strowan remained in the Bowman family for more than 130 years, until it was purchased by the Arrowfield Group Ltd in 1986 (Driscoll, 1989).

In 1985, John Messara gained controlling interest in ARABS. He later purchased Arrowfield and the adjacent properties, including Strowan, for the establishment of what is now a leading horse stud. The property is now owned and operated by Calogo Bloodstock Ag trading as Coolmore Australia.

5.3.5 Edderton

Edderton was originally part of the historic Arrowfield estate. The lands upon which the Edderton Homestead is situated were formally granted to George Bowman as part of a land grant of 2,560 acres. The property was subsequently purchased by a Mr Ryder, and Edderton Homestead was then built in 1908. Ryder named the property after the Edderton Meat Works in Brisbane, one of his business interests.

The property was later acquired by the Hector Cameron McDonald c. 1910 and then passed on to his son Douglas. When first purchased by McDonald, the property was approximately 4,000 acres. Over a period of 25 years, McDonald consolidated Edderton with other lands into a large pastoral property, increasing it to about 13,000 acres. Originally, McDonald ran about 16,000 sheep and today a six stand galvanized iron shearing shed remains, together with the old shearers quarters. After some time, sheep were replaced by cattle as a result of the damage caused to the land. The homestead was extended by the McDonalds from its original four rooms. The building is of quite unusual detail and is in excellent condition.

Following WWII, the Edderton property steadily became less economically viable and was gradually broken up. Edderton has since been acquired by Mt Arthur Coal and is currently leased as a working pastoral property primarily for cattle grazing.

6.0 Field Survey Results and Significance Assessment

During the field survey 10 items were identified, including the five items listed on the heritage inventories – Plashett Homestead, Edderton Homestead, Arrowfield Cottage, Strowan Homestead and Woodlands Homestead. The other five items identified included the stockyard, Nissan hut with stockyard, fence, Bowfield Homestead and Randwick Homestead.

The following section describes each item, considers the criteria outlined in section 3.3 to determine significance and provides a Statement of Significance. The location of the items identified is shown in Figure 5. Further details regarding each item are included in Appendix A.

6.1 Fence

6.1.1 Description

This item consists of a post and rail fence, located to the west of the proposed ROM hopper, crusher and stockpile area. The fence is not listed on a heritage inventory. The fence originally had two rails; however, these have subsequently been replaced by barbed and plain wire. There is evidence of a tree having been cut down to create either the posts for the fence or for a former slab hut, although the former is more likely. The fence terminates at what appears to be a property boundary and a stockyard with dimensions of 10 m x 15 m. There are no internal divisions within the stockyard rather it has a simple rectangular form. The post and rail fence forms the western side of the stockyard. The section of the fence to the south of the starting point has more replacement star pickets than the rest of its length.

6.1.2 Historical Context

There is no specific historical information available pertaining to this site; however, there is information available which pertains to post and rail fencing more generally.

Post and rail fencing was the most popular type of fence used in the early days of farming. This fencing method was characterised, as the name suggests, by the use of split posts and wooden rails. Much preparation work was needed prior to constructing a fence of this type. Logs were cut to a length of approximately 6 ft (1.8 m) for the posts and 9 ft (2.7 m) for the rails. They were then split into radial segments using steel wedges and may have required some shaping and trimming. The ends of the rails had to be shaped to fit the posts, probably with an adze. Posts were morticed (holes cut through them) to support the rails. This was done with a mortice axe or an auger. Fences usually had either two or three rails, depending on the type of animal to be restrained.



FIGURE 5

6.1.3 Significance Assessment

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of low historical significance on a local level as it provides an example of a popular type of fencing employed in the early, formative years of farming and settlement in the Upper Hunter region. Farming and agriculture are highly significant activities which have contributed greatly to defining the character of the local region, from the settlement of the area in the 1800s, through to the present day.
Historical association significance SHR criteria (b)	This item is not of historical association significance on a State or local level as it does not have a strong or special association with the life or works of a person, or group of persons, of importance in State or local cultural history.
Aesthetic significance SHR criteria (c)	This item is not of aesthetic significance on a State or local level as it does not demonstrate aesthetic characteristics and/or a high degree of technical achievement in the State or the local area.
Social significance SHR criteria (d)	This item is not of social significance on a State or local level as it does not have a strong or special association with a particular community or cultural group in the State or local area for social, cultural or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item is not of technical/research significance on a State or local level as it does not possess the potential to yield information that will contribute to or enhance our understanding of State or local cultural history.
Rarity SHR criteria (f)	This item does not possess uncommon, rare, or endangered aspects of State or local cultural history and so does not qualify as significant under this criterion.
Representativeness SHR criteria (g)	This item is not of representativeness significance as it is not important in demonstrating the principal characteristics of a class of State or local places or environments.

6.1.4 Statement of Significance

This fence is of limited historical significance on a local level as it provides an example of a popular fencing style employed in the early, formative years of farming and settlement in the Upper Hunter region. Farming and agriculture are highly significant activities which have contributed greatly to defining the character of the local region, from the settlement of the area in the 1800s, through to the present day. It provides physical evidence of the former land use patterns.

6.2 Nissan Hut with Stockyard

6.2.1 Description

This site consists of one galvanised iron Nissan hut set on wooden stumps. The site is located central to the Project, within the proposed mining area and is not listed on a heritage inventory. It has an elevated wooden floor at the rear (south east) end, whilst the front section has no floor, and is more like a verandah. The rear of the hut has a weatherboard facing. There is a square, galvanised iron lean-to also at the rear of the hut which has a brick fireplace/barbeque with a rusted fire box. The floor of this lean-to is composed of rough rocks and blue metal.

There is evidence that water was once supplied to the internal sink of the Nissan hut. A pressure tank located in the south west corner may also have had a shower underneath. There are two in-ground tanks present at the site, both of which are concrete lined. The hut has double opening doors in front, and may also have been used for storage.

The hut may have been used as short term accommodation, but it does not appear to have been lived in long term.

A sheep shower – Sunbeam Cooper HH model – is located to the north east of the Nissan hut with associated runs. There are small yards present with link fencing.

6.2.2 Historical Context

In *The History of the Bowman Family* (2000:50) Stanley Mackenzie Bowman (known as Mac) states that he and his brother Robert built the Nissan hut with stockyard in 1950.

6.2.3 Significance Assessment

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of historical significance on a local level as it provides evidence of the rural development and use of the area. The adaptation of the Nissan hut form for use in farming life further contributes to the item's significance, demonstrating how a widespread architectural innovation was able to be modified and adapted to address the specific needs of the local area.
Historical association significance SHR criteria (b)	This item is not of historical association significance on a State or local level as it does not have a strong or special association with the life or works of a person, or group of persons, of importance in State or local cultural history.
Aesthetic significance SHR criteria (c)	This item is not of aesthetic significance on a State or local level as it does not demonstrate aesthetic characteristics and/or a high degree of creative or technical achievement in the State or local area.
Social significance SHR criteria (d)	This item is not of social significance on a State or local level as it does not have a strong or special association with a particular community or cultural group in the State or local area for social, cultural, or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item is not of technical/research significance as it does not possess the potential to yield information that could contribute to or enhance our understanding of State or local cultural history.
Rarity SHR criteria (f)	This item does not possess uncommon, rare or endangered aspects of State or local cultural history and so does not qualify as significant under this criterion.
Representativeness SHR criteria (g)	This item does not demonstrate the principal characteristics of a class of State or local cultural place or environment.
Integrity	This item is in quite poor condition and the Nissan hut specifically, whilst still standing, has fallen into a state of disrepair. However, the item does still retain a moderate to high level of integrity.

6.2.4 Statement of Significance

The Nissan hut with stockyard is of historical significance on a local level as it provides evidence of the rural development and use of the area. The association of the Nissan hut and stockyards and the farming context of the item further contributes to its significance, demonstrating how a widespread architectural innovation was able to be modified and adapted to address the needs of the local area.

6.3 Bowfield

6.3.1 Description

The site consists of a homestead, and three archaeological sites situated on the former Bowfield property to the west of the proposed Blakefield mining area. The archaeological sites are a c.1970s rubbish dump, the former site of the shearing shed complex and the site of a former house/cottage.

Homestead

A c.1928 house composed of Besser-type blocks and painted white with a red tile roof was erected on the property. The homestead is rectangular in form and has an internal organisation of rooms opening off either side of a central corridor. A verandah extends along the front (southern) side of the house and is supported on cast iron pillars with Corinthian capitals. The western elevation of the house has a brick chimney, which services a large fireplace in what is now a sitting room. The wooden floor boards are in excellent condition and of a very high quality dark wood. Approximately 5 m north west of the house is a brick foundation of a small room said to have been constructed of bottles laid on their side with the bases facing outwards.

c.1970s Dump

The c. 1970s dump predominantly consists of bottles, wire and other common household and farm refuse. The dump is located in the erosion gullies associated with Saddlers Creek. The dump is not considered to be of heritage significance, but is noted as being in the vicinity of the former shearing shed site.

Former Shearing Shed Site

In the vicinity of the dump there is an avenue of peppercorn trees, a concrete slab approximately 1.2 m x 2 m, local stone slabs and a sizable brick scatter. A concrete drain, not dissimilar to the sheep dip at the Nissan hut and an introduced hawthorn tree/shrub are also present. There is evidence of a sewer/water pipe in situ. To the

south west is a concrete, rectangular slab, approximately 1.2 m x 2.5 m, with an outline of a square room evident. This could possibly indicate the previous presence of a slab building at this location. To the north west is a Neem tree.

Former House/Cottage

The site consists of a concrete foundation slab, approximately 8 m x 11 m. A pile of cream bricks is located to the south west. A small pressure tank is located in the north western area of the site.

6.3.2 Historical Context

Bowfield comprises part of George Blaxland's land grant, later part of W.H. White's property, while the Saddlers Creek portion is part of the grant of Arrowfield (approximately 2,600 acres in 1832) to George Bowman. The total area is approximately 5,000 acres. W.H. White sold his portion to Squire Bowman (of Balmoral) which he occupied, and the property subsequently became known as Bowfield. The property was later acquired by 'Mac' Bowman.

The original Bowfield Homestead was built c.1928. Allegedly there was also an old weatherboard house in the vicinity of the Bowfield Homestead.

Bowfield has since been purchased by Anglo American and is currently leased as a working pastoral property primarily for cattle grazing.

6.3.3 Significance Assessment

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	Bowfield is of local significance as a modest homestead of the late 1920s, indicating the continued development of the rural industry during the period.
Historical association significance SHR criteria (b)	This item is not of historical associative significance on a State or local level as it does not have a strong or special association with the life or works of a person, or group of persons, of importance in State or local cultural history.
Aesthetic significance SHR criteria (c)	This item is not of aesthetic significance on a State or local level as it does not demonstrate aesthetic characteristics or a high degree of creative or technical achievement.
Social significance SHR criteria (d)	This item is not of social significance on a State or local level as it does not have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item is of local research significance as it has the potential to yield information that could contribute to or enhance our understanding of local farming practices, in particular the construction and operation of a shearing shed considered in its time to be state of the art. The c.1970s rubbish dump is not considered to be of research significance.
Rarity SHR criteria (f)	This item does not qualify as significant under this criterion as it is not rare.
Representativeness SHR criteria (g)	This item is not of representative significance as it does not demonstrate the principal characteristics of a class of State or local cultural places or environments.

6.3.4 Statement of Significance

Bowfield Homestead is of local historical and research significance. The homestead is evidence of the continuing development of the rural economy during the 1920s. The former shearing shed and former house/cottage site is of archaeological research interest, having the potential to answer questions regarding shearing technology of the 1930s.

6.4 Plashett

6.4.1 Description

Plashett includes a homestead, a small residence and slab garage, a manager's residence, stables group, dairy group, a hayshed and the remains of a bridge. A comprehensive physical description of the elements is provided by Anne Bickford & Associates (1994) in the Conservation Management Plan for the property. Plashett is located between Drayton South and the Golden Highway.

Homestead

Plashett Homestead is a single storey ashlar sandstone building, constructed in a simplified Victorian Regency style in the late 1860s. It appears to have been built in two key phases, with the first being the construction of a sandstone house with attached kitchen wing (c. 1866), and the second being the addition of a large timber frame extension to the north west (twentieth century). While minor modifications and verandah infill additions have occurred, the main body of the house retains a good level of integrity.

The main house is simple and symmetrical in form, with a hipped corrugated iron roof, although there is evidence to suggest it was originally shingle-clad. An original kitchen wing, of similar construction, connects to the main house at the northern corner. The main body of the homestead is almost square in shape and is oriented towards the Golden Highway and the Hunter River, roughly to the south. The original kitchen was semi-detached on the north west corner of the house. An underground water reservoir is located in the L-shape formed by the main house and the kitchen. The house has two sandstone chimneys; one being located in the kitchen wing. A L-shaped verandah addresses the courtyard and well. The c.1866 house and kitchen wing have direct access to this.

Various additions have been made to the homestead, as detailed by Anne Bickford and Associates (1994). The large timber framed addition is clad in weatherboards and has a 'colorbond' corrugated steel roof with a lower pitch than the main house. There are two additional brick chimneys in this addition, and the exterior walls display a variety of different weatherboard profiles.

The interior of the homestead has a central, dual chamber hallway extending from the front verandah to the rear courtyard. The main rooms of the house lead from this hallway. The entry hall is divided by a semi-circular arch with decorative plaster mouldings. The formal end of the hall at the south west end of the house is wider whereas it becomes narrower and more informal to the rear (north east) of the house. The attached kitchen wing contemporary with the main house, is connected by a hallway. Most of the internal surfaces of the homestead are rendered and plastered. Ceilings are generally lath and plaster with decorative cornices and ceiling roses to the two front rooms. The floors are all hardwood boards and joinery is clear finished cedar, although some joinery has been painted over. All of the original fireplaces and their surrounds remain intact and in good condition. It is not difficult to determine the original paint schemes from the damaged areas of plastered wall. No original freestanding furniture is apparent inside the homestead.

The homestead is situated above a cellar. This cellar is stone-walled and accessed from the north west verandah of the homestead by a single run of well-worn stone steps. It is a coursed stone room comprising two chambers. The innermost section has no direct access to the outside, and is divided by a vertical timber slab wall with a door. It is entered through a doorway from the main chamber and receives indirect ventilation through an iron barred 'window'. The floors are red sandstone brick laid in a herringbone pattern and is generally in good condition. Significant deterioration of the face of the stone walls to a height of approximately 1,200 mm suggests flooding occurred. Several meat hooks hang from the beams of the ceiling.

The general layout of the homestead and garden, portray characteristics of the major garden style of the mid-nineteenth century.

Meat Shed

The Plashett meat shed consists of a vertical timber slab shed, approximately 5 m x 4 m, with a corrugated iron roof. It is situated approximately 52 m east of Plashett Homestead.

The wall of the shed consists of squared posts with infill vertical timber slabs. The slabs are axed split logs, butt jointed, end chamfered, dropped into a sleeper at the base and nailed to top plates. The door is on the western elevation and is constructed of tongue and groove boards screwed to a frame. While the door threshold is sandstone blocks, the floor itself is concrete (possibly render on bricks) inside perimeter sleepers. There is a series of c.1920-1950s fridges inside the meat shed. In the south east corner is an enclosed area with hooks and a refrigerated section. A workbench is built into one corner, around which sheet iron is nailed across the joints between the slabs. Iron hooks with sheet iron 'rodent caps' also hang from the ceiling joists.

Since 1994, the shed has developed a significant lean to the south and it is currently structurally unsound; although this can be rectified. During the field inspection, the shed was observed to be surrounded by farm equipment, including ploughs, farrows, and a windmill head. The former cottage site, located between the meat shed and Plashett Homestead, is believed to be the former structure seen in photographic records from 1975. The south western area is demarcated by sandstone worked blocks, while along the eastern side is a rough, sandstone cobbled area. Behind this lies an evident square depression. To the south east, a single post exhibiting

the same joinery style as 'Stockyard 1' was identified. Farther to the south east is a sewerage outlet. Farther to the south east again are located gallows for meat slaughter and a small holding pen.

The overall condition of this building is fairly poor. In addition to the significant lean, there is evidence of termite attack to some of the remaining slabs and weatherboards. A ceiling joist has also collapsed.

Stockyards and Barns

To the north west is a sandstone and brick fireplace, two concrete slabs and two standing dressed poles with nails and joinery for fitting of crossbeams. There are two sets of concrete 'rails', the first just under 1 m high, set 800 mm apart and 1.2 m long. There is a second set similar in form but higher and set further apart. A brick path leads back to a stockyard, which has a small hut on the northern side. This may possibly have been a blacksmiths.

There is also a vertical slab barn with a corrugated iron loft accessed via external stairs. It has a pitched roof with a gable at loft access. There is a lean-to section on the northern and southern elevations. The southern section is divided into two compartments, which are open on the western side as a result of some slabs falling out. The floors are composed of a timber slab, with sandstone footings in some sections. There is a newer extension which forms a T-shape to the east. The concrete floor has been poured in sections with incised squares. The central section of the structure appears to have been used as a poultry house for a time. Each corner appears to be a stall of approximately 2 m x 2 m, with a trough built into the diagonal.

There is also a complex of yards built of bush timber located to the north, with some more recent fixes in dressed timber and galvanised iron. There is a stock shed to the west of the barn, which has a pitched roof, and is oriented east/west and open to the barn on the eastern side.

Dairy Complex

This item consists of a rectangular building, approximately 10 m long x 11 m wide. This structure is roofed with a centre gable which changes pitch to skillions on either side.

The dairy building has two distinct sections. One section contains 12 milking stalls, and the other an open area with two stalls, the purpose of which is unclear. The dairy can be entered from either the north or south through open paling gates. The structure of the building is a combination of round and squared posts, with rough sawn beams and rafters. Fixings include iron straps and bolts, wire and nails. In the dairy, the stalls are separated by split rails rather than being either tenoned and tied to the posts by wire, or housed into or bolted to the posts. There are large wooden troughs on the northern side, and metal on the south of the dairy building. No machinery is present. There is also an annex on the southern side of the structure, which may possibly have been used for storage purposes. The building overall is in quite poor condition.

To the south of the dairy building is a large pit, which is filled with metal, wire, machinery and car parts, c. 1970s/80s and later washers, dryers, fridges and other electronic appliances. Building debris is also present including blocks of sandstone. To the south west there is a partially in-ground concrete tank. To the west there is a concrete slab and a peppercorn tree. To the south west and in the next paddock is a 3 m x3 m feed shed with a food trough on the eastern wall. This has a flat roof and a wood log foundation. It has the same concrete slabs with incised squares as barn extension.

The building is in poor condition; the bottom plate sleepers are rotten, and many slabs are missing or loose.

Hayshed

This structure has a pitched roof with a lean-to to the south. It has been constructed of dressed bush timber, and is essentially a high hayshed. It is structurally unsound, and has mostly collapsed. The roof is remnant in only a small portion. A wagon and plough was observed to have once been stored inside.

Workers Cottages Sites

At the workers cottage sites, a roughly rectangular formation of peppercorn trees was observed. A surface scatter comprising brown and clear moulded glass and refined earthenware was identified. One earthenware fragment had a green vine leaf pattern. Vertically embossed on the side of an intact bottle from the site was the: 'H. Jones and Co. Sydney' – 'Pick me up' registered trademark. This bottle is the property of //Pick me up condiment// Co Ltd. AGM on base. Brick and metal fragments were also noted in the vicinity. The scatter appears to continue into the adjacent horse paddock. The site is located to the north of a dam and the current manager's house.

6.4.2 Historical Context

Plashett was granted to James Robertson, of Renfrew, Scotland, in 1827. Robertson had arrived in the colony in 1822 accompanied by his wife, Anna Maria and six children.

On arrival, Robertson and his family lived in George Street, Sydney, and James established a jewellery and watchmaking business. On 24 August 1824, Robertson applied for an additional grant, which he was entitled to for completing a specified amount of improvements to his current land holdings. On 19 November, Governor Brisbane authorised a grant of 1,000 acres and reserved a further 1,000 acres as a purchase. James Robertson took up his 1,000 acre grant on the northern side of the Hunter River at Jerrys Plains in early 1827, naming the property Plashett after his father-in-laws property in Essex, England. The 1828 census lists Robertson as holding 2,000 acres of land (Plashett), on which 170 acres were cleared and 80 acres cultivated, with 5 horses, 250 cattle, and 800 sheep.

On 15 September 1854, Plashett was advertised for sale in the Maitland Mercury, and was described as being “*an excellent Stone House, not finished inside, which was located near to where the old homestead stood.*” Plashett was purchased from Robertson in November 1854 by Joseph Pearse, who in turn transferred ownership to his son William Pearse in 1864. By the 1890s, the property was supplying sheep and cattle for both Sydney and Hunter Valley abattoirs. Cattle were sent to the Hunter from the Pearse properties in Queensland to be fattened up for the Sydney market. Corn, horse breeding, and shearing also took place on the property. By 1910, Plashett was producing milk from a herd of approximately 100 cows for the Jerrys Plains butter factory.

Plashett remained in the Pearse family for 117 years, until 1971, when a portion of the property was transferred to Caroon Pty Ltd. In 1982, this portion was transferred to the Electricity Commission of New South Wales (Pacific Power). In that same year, Lot 2 DP 616024, which comprised half of the land owned by Pacific Power, was transferred to Hunter Valley Energy Coal Pty Ltd. The property was purchased in 2000 by Anglo American. Plashett remains a pastoral property, managed now on behalf of Anglo American.

6.4.3 Significance Assessment

The significance assessment undertaken by Anne Bickford determined the homestead was of regional significance. As this level of significance was abolished with changes to the Heritage Act in 1998 it is necessary to reassess the significance of Plashett Homestead as either of local or State significance.

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of State historical significance as it is an almost intact farming complex of the mid-nineteenth century period in the region.
Historical association significance SHR criteria (b)	This item is of local historical associative significance due to its association with the eminent local pioneering Robertson and Pearse families.
Aesthetic significance SHR criteria (c)	This item is of aesthetic significance on a local level, as the homestead has a sophisticated building design set in a carefully conceived garden. It is also of potential State significance, however, further comparative research would be required to confirm this.
Social significance SHR criteria (d)	This item is not of social significance on a State or local level as it does not have a strong or special association with a particular community or cultural group in the State or local area for social, cultural, or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item has excellent research potential at a State level, as it has the potential to contribute to an understanding of the conduct of a major mid-nineteenth century pastoral property and of the manner in which wealthy pastoralists lived at that time.
Rarity SHR criteria (f)	This item is rare on a State level, being an intact example of a rural 1860s homestead.
Representativeness SHR criteria (g)	This item is of local representative significance as it demonstrates the principal characteristics of a mid-nineteenth century farm complex. It is potentially of State significance, however further comparative research would be required to confirm this.

6.4.4 Statement of Significance

Plashett Homestead is of State historical significance as it is a rare, almost intact survivor of the mid-19th century period in the region. The item is also of aesthetic significance, as the homestead has a sophisticated building design set in a carefully conceived garden. The property is of local significance thanks to its association with the eminent local pioneering Robertson and Pearse families. The property has excellent research potential, as it is likely to be able to reveal information which could contribute to an understanding of the conduct of a major mid-19th century pastoral property and of the manner in which wealthy pastoralists lived at that time.

6.5 Edderton

6.5.1 Description

Edderton is located on Edderton Road and the north bank of Saddlers Creek. Edderton consists of a large homestead, two weatherboard houses, farm buildings, tank stand, meat house and a small hut. These are discussed below. Edderton Homestead is listed on the Muswellbrook LEP.

Edderton Homestead

The homestead is a substantial single storey, timber framed, Federation style bungalow, with weatherboard cladding and a corrugated iron roof. The homestead was constructed in the early twentieth century, c. 1908, and is today set in a curtilage that is enhanced by a number of associated extant outbuildings and a garden.

The homestead has a T-shaped floor plan, and the structure has a complex roofline of double pitch with a separate verandah. The apex has a circular air vent and is filled with painted shingles. Together with the complex roofline, these elements are suggestive of the 'Arts and Crafts' style, common during the late nineteenth and early twentieth century, around the time the homestead was built.

The front elevation of the structure has a centred, double arched door and two symmetrical bay windows. These are possibly later additions, as there is another door with an arched fan light located to the left of the main, central door. This door is not consistent with the symmetry of the rest of the facade of the house, indicating that the layout has been modified over time.

The verandah may also be a later addition to the homestead, as it is constructed on a base support of red brick. Furthermore, the U-shaped rear of the residence has an enclosed verandah, which was renovated during the 1970s. It would appear that there were also other, earlier renovations to the residence, as the current tenants located a fireplace inside that does not align with the chimneys of the north western room.

Outbuildings

The outbuildings of the Edderton Homestead Complex include a weatherboard meat shed, a rubble tank stand with wooden storage underneath, and three weatherboard farm storage sheds with associated stockyards.

A weatherboard house situated on the hill behind Edderton Homestead over looks Saddlers Creek, the proposed mine site, and Bowfield. This house is currently being renovated for occupation.

6.5.2 Historical Context

Edderton property was originally part of the historic Arrowfield estate. The property was subsequently purchased by a Mr Ryder, and the Edderton Homestead was built in 1908. Ryder named the property after the Edderton Meat Works in Brisbane, one of his business interests.

The property was later purchased by Hector Cameron McDonald in around 1910 and then passed on to his son Douglas. Originally McDonald ran about 16,000 sheep and today a six stand galvanized iron shearing shed remains, together with the old shearers quarters. After some time sheep were replaced by cattle as a result of the damage caused to the land. The homestead was extended by the McDonalds from its original four rooms. Following WWII, the Edderton property steadily became less economically viable and was gradually broken up.

Further historical details are provided in Section 5.3.5.

6.5.3 Significance Assessment

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of local historical significance as it provides a good example of an early twentieth century rural homestead and associated farming complex, which would once have been characteristic of the area. The item is important in the course of local history, as farming and agricultural activities were highly significant in defining the growth and development of the local area from the nineteenth century through to the present day.
Historical association significance SHR criteria (b)	This item is not of historical association significance on a local or State level as it does not demonstrate a strong or special association with the life or works of a person, or group of persons, of significance in the course of local or State history.
Aesthetic significance SHR criteria (c)	This item is of local aesthetic significance as it demonstrates the aesthetic characteristics of the 'Arts and Crafts' style of the late nineteenth and early twentieth century incorporated into a rural residential structure.
Social significance SHR criteria (d)	This item is not of social significance on a local or State level as it does not possess a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item is of research significance on a local level as it possesses the potential to yield information that may contribute to an understanding of rural farming life in the local area in the early twentieth century, and how it has evolved over the decades through to the present day.
Rarity SHR criteria (f)	This item is not considered to be rare as it does not demonstrate uncommon, rare or endangered aspects of local or State cultural history.
Representativeness SHR criteria (g)	This item is of representative significance on a local level as it provides a good example of an early twentieth century rural homestead and associated farming complex, which would once have been characteristic of the area.

6.5.4 Statement of Significance

The Edderton Homestead Complex is of local historical and representative significance as it provides a good example of an early twentieth century rural homestead and associated farming complex, which would once have been characteristic of the local area. It is also historically significant for its association with the expansion of the wool industry in the Upper Hunter, and it has a strong association with pastoralism and the growth of sheep farming in the Muswellbrook area. Furthermore, the Edderton Homestead Complex is of research significance on a local level as it possesses the potential to yield information that may contribute to an understanding of the scale and nature of wool growing carried out on a major regional property around the turn of the century.

The Edderton Homestead itself is also of local aesthetic significance, as its design is unique in the region employing a range of details from different architectural styles in a most accomplished way.

6.6 Stockyard

6.6.1 Description

The stockyard is located south of Drayton South near the eastern most proposed dam. It is not listed on a heritage schedule. The stockyard consists of a stock run constructed from bush timbers with cut-in joints. The stock run is L-shaped in plan. Telephone insulators have been re-used as electrical fence insulators.

6.6.2 Historical Context

There is no specific historical information available for this site.

6.6.3 Significance Assessment

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of local historical significance as it is associated with farming activities which have defined the development of the local area over an extended period of time.
Historical association significance SHR criteria (b)	This item is not of historical association significance on a local or State level as it does not possess a strong or special association with the life or works of a person, or group of persons, of importance in local or State cultural history.
Aesthetic significance SHR criteria (c)	This item is not of aesthetic significance on a local or State level as it does not demonstrate aesthetic characteristics and/or a high degree of creative or technical accomplishment on a local or State level.
Social significance SHR criteria (d)	This item is not of social significance on a local or State level as it does not possess a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item is not of technical/research significance on a local or State level as it does not possess the potential to yield information that could contribute to or enhance our understanding of local or State cultural history.
Rarity SHR criteria (f)	This item is not considered to be rare as it does not possess uncommon, rare or endangered aspects of local or State cultural history.
Representativeness SHR criteria (g)	This item is of local representative significance as it is a good, largely intact example of a stockyard which demonstrates the key characteristics of a stock run typical of those used in the local area.

6.6.4 Statement of Significance

The stockyard is of local historical significance as it is associated with farming activities which have defined the development of the local area over an extended period of time. It is also of local representative significance as it is a good, largely intact example of a stockyard which demonstrates the key characteristics of a stock run typical of those used in the local area.

6.7 Strowan

6.7.1 Description

Strowan is located on the southern side of the Golden Highway, opposite Plashett Homestead, on Coolmore Stud. Strowan Homestead is listed on the RNE and the Singleton LEP.

Strowan Homestead was designed by O.H. Lewis, the son of Mortimer Lewis, and was built in 1860 in an early Victorian style (Driscoll 1989:33). It consists of a single storey main section constructed from rendered handmade bricks, shuttered French windows, flagged verandah, cast iron columns and trellis, corrugated galvanised iron roof (originally a shingled roof), a rear, two storied sandstone kitchen and loft (for storage).

Strowan Homestead is of similar symmetrical design to Plashett Homestead, with a central door flanked by side lights and two sets of French doors. The windows and French doors have arched tops. The French doors were also observed to have shutters on them. The house has a simple, pitched roof with a separate verandah. It is missing the gable over the front entry that Plashett Homestead has. The sandstone verandah pairing is in quite poor condition. The house is painted white and has ornate, metal verandah supports.

Internally the homestead is more resolved than Plashett Homestead, mainly due to a lack of unsympathetic additions. All of the rooms have fireplaces. The entry hall is tiled in marble and slate diamonds. These are probably a later insertion over floorboards. Multi-coloured diamond side lights around the windows are also probably later insertions. There is evidence of a rear addition to the house that has been recently removed. In the rear room a bathroom/toilet has been inserted. This is entirely contained and could be removed without damage to the fabric of the homestead. While in relatively good condition, there is evidence internally of rising damp.

Outbuildings associated with the homestead in 1980 included stables, a hayshed, a buggy shed, and a workman's cottage. These structures were of ironbark slab construction.

There was also said to be another structure, similar to the Arrowfield Cottage, situated behind Strowan Homestead that has since been relocated to Pokolbin as a church. To the south west is a stable/barn, constructed from well-dressed vertical slabs, with original feed troughs and a wooden floor. The over-loft of the barn can be accessed via external stairs on the northern side. During the field inspection the loft area was not inspected as the stairs were deemed to be unsafe. Despite this, this structure is overall in very good condition.

6.7.2 Historical Context

The land was originally granted to James Robertson in 1825, which he named Strowan after the ancient barony of Clan Robertson. Strowan remained in Robertson hands for 30 years.

In 1840, James Robertson transferred Strowan to his son John, who had joined his father on the property in 1835. John was a victim of The Depression and in 1843 was declared bankrupt leaving Strowan to be sequestered. Eventually the property reverted to James and his wife. They then sold it to George Bowman in 1854. George made his sixth son, James, manager of Strowan. James would later become the owner of this property as well. The property was subsequently passed to Walter Bowman, and on his death, it was inherited by his nephews, brothers Robert and Mackenzie. On dissolution of the partnership, Robert Bowman became the sole owner of the property. The 'chief glory' of Strowan during the Bowman years was its Clydesdale stud. Strowan remained in the Bowman family for more than 130 years, until it was purchased by the Arrowfield Group Ltd in 1986.

Strowan was listed on the RNE in 1978.

Further historical details are provided in Section 5.3.4.

6.7.3 Significance Assessment

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of national historical significance as is a rare, almost intact surviving homestead of a mid-nineteenth century in the region.
Historical association significance SHR criteria (b)	This item is of local historical associative significance due to its association with eminent local pioneering and business families, including the Bowman family.
Aesthetic significance SHR criteria (c)	This item is of local aesthetic significance, being a well-proportioned and elegantly executed house of the 1860s.
Social significance SHR criteria (d)	This item is not of social significance on a State or local level as it does not have a strong or special association with a particular community or cultural group for social, cultural, or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item has very good research potential, as it has the potential to contribute to an understanding of the conduct of a major mid-nineteenth century pastoral property and of the manner in which wealthy pastoralists lived at that time.
Rarity SHR criteria (f)	This item does not meet this criterion as it is not rare.
Representativeness SHR criteria (g)	This item is of local representative significance as it provides a largely intact, early Victorian style homestead in a regional context.

6.7.4 Statement of Significance

Strowan Homestead is of national historical significance as is a rare, almost intact surviving homestead of a mid-nineteenth century in the region. The property is also of local historical associative significance due to its association with eminent local pioneering and business families in the Upper Hunter region. Strowan Homestead

has very good research potential, as it has the potential to contribute to an understanding of the conduct of a major mid-nineteenth century pastoral property and of the manner in which wealthy pastoralists lived during that time. Furthermore, the homestead is of local representative and aesthetic significance as it provides a largely intact, early Victorian style homestead in a regional context and retains a high level of integrity.

6.8 Arrowfield

6.8.1 Description

Arrowfield is located south of the Golden Highway and Drayton South. The historical component of Arrowfield consists of a two storey sandstone cottage, which has been renovated for use as a guest house. The structure is not the original homestead, and may originally have been used as the stables. There is a cellar underneath the building, with chains on the walls. These do not appear to be substantial enough to restrain convicts though, as has been suggested.

The original Arrowfield Homestead is said to have been located behind (to the south) this cottage. A memorial in the form of a bathtub with a plaque marks the location of the former homestead. The view from the cottage and former homestead site to the mine location is limited by local trees and the range.

Note: The former winery named Arrowfield on the Golden Highway does not have heritage buildings associated with it.

6.8.2 Historical Context

Arrowfield was acquired by George Bowman in 1841. His son John Woodward Bowman was his tenant. John ran cattle and sheep, and farmed feed and cash crops at Arrowfield (Driscoll 1989).

Arrowfield was later sold to William Rupert Raleigh, who had been leasing and working the property. Raleigh then sold the property to brothers William and Frederick Albert Moses in April 1912. They operated it as an outstandingly successful thoroughbred stud.

In July 1925, Arrowfield was purchased by William Pearce Bowman in the name of two of his underage sons – Major Millington and Ray Millington Bowman, however it was his third son, Tristan, who eventually became the sole owner. In 1946, Tristan sold the property to John Norman Lawson of Muswellbrook.

When Lawson died in 1956, his sons John Gordon and Rodney Beaumont inherited the property, which they used for dairying, cattle breeding, and ewes for meat.

In the 1970s, vines were planted on the property and it appears that Carpenter's Ltd acquired and set about planting the grapes in partnership with Penfold Wines through Francis Investments Pty Ltd. Carpenter's Ltd eventually bought out Francis Investments Pty Ltd and established their own winery, as opposed to just selling grapes. As they were not profitable, the focus was changed to white wine production, and the property was taken over once again, this time by Griffin Holdings.

Further historical details are provided in Section 5.3.3.

6.8.4 Significance Assessment

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of local historical significance due to its strong association with the history and development of pastoralism and particularly horse breeding in the Upper Hunter region.
Historical association significance SHR criteria (b)	This item is of historical association significance on a local due to its association with the eminent local pioneering Bowman family and other key influential pastoral and business families in the region.
Aesthetic significance SHR criteria (c)	This item is not of aesthetic significance on a State or local level as it is not an important demonstration of aesthetic achievements and/or a high degree of creative or technical achievement.
Social significance SHR criteria (d)	This item is not of social significance on a State or local level as it does not have a strong or special association with a particular community or cultural group in the State or local area.
Technical/Research significance SHR criteria (e)	This item is of technical/research significance on a local level as it possesses the potential to contribute to and enhance our understanding of the nature and history of pastoralism, and its development and evolution in the Muswellbrook area from the nineteenth century through to the present day.
Rarity SHR criteria (f)	This item does not meet this criterion as it is not rare.
Representativeness SHR criteria (g)	This item is not of representative significance on a State or local level as it does not demonstrate the principal characteristics of a class of cultural place in the State or region.

6.8.5 Statement of Significance

Arrowfield Cottage is of local historical significance due to its strong association with the history and development of pastoralism and particularly horse breeding in the Upper Hunter region. This item is further of historical association significance on a local level due to its association with the eminent local pioneering family of the Bowmans, and other key influential pastoral and business families and figures in the region. This item is also of technical/research significance on a local level as the house and former homestead site retain a good level of integrity and possess the potential to contribute to and enhance our understanding of the nature and history of pastoralism and horse breeding, and their development and evolution in the Upper Hunter region from the nineteenth century through to the present day.

6.9 Woodlands

6.9.1 Description

Woodlands is located south of the Golden Highway and Drayton South. The homestead sits behind a ridge, which prevents views towards the Project.

The item consists of a dressed sandstone house in Colonial Georgian style, oriented to the south. The exterior consists of stone walls with metal roofing. Simple sandstone columns support the older, front verandah, whilst timber columns support those of a subsequent extension. There are seven symmetrical French doors across the front of the residence, with the central door being flanked by two small rectangular windows. To the north west side of the house is a sandstone set of outbuildings, which form part of an L-shape design. Behind the main house is a small, square kitchen, which was renovated in 2009. Today, there are no original internal fittings in the main building.

6.9.2 Historical Context

Woodlands was the name of a small land grant of 960 acres on the Goulburn River given to James Arndell, the son of First Fleet surgeon Thomas Arndell, in 1824. The property was held by the Arndells until c. 1860, when it was bought from them by James White, who passed it on to his son H.C. White in 1868. It was used by the Whites as a Shorthorn cattle stud, but was also used for thoroughbred horses. In 1908, the property was subdivided and the homestead lot passed to E.G. Blume, who made it famous as a thoroughbred stud. He subsequently sold it to A.E. Grace of Grace Bros., and it then passed from him to E. McManamin who ran sheep in the area.

From 1971, when Lord Derby bought it, Woodlands was developed as part of the largest private racing enterprise in Australasia according to its then owners, Inghams Enterprises. The homestead is said to date from the early decades of the nineteenth century.

The item is currently owned by Darley Australia – HH Sheikh Mohammed bin Rashid Al Maktoum's global horse breeding operation.

6.9.3 Significance Assessment

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of historical significance on a State level, as the substantial 1830s dwelling sits in outstanding condition alongside the later residence, indicating the earliest phase of Hunter region development.
Historical association significance SHR criteria (b)	This item is of associative significance on a local scale as it is associated with eminent pioneering and business families of the Muswellbrook area.
Aesthetic significance SHR criteria (c)	This item is of State significant aesthetic value. It is a superbly sited and proportioned building with unique and unequalled views of the Hunter River. The renovations undertaken are sympathetic and do not detract from the significance of the item.
Social significance SHR criteria (d)	This item is not of social significance on a State or local level as it does not have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item is of scientific significance as the property has unique potential to contribute to and enhance our understanding of thoroughbred horse breeding and cattle raising over a period of a hundred and fifty years, and to the lifestyle of the wealthy initial settlers of the Hunter region land.
Rarity SHR criteria (f)	This item is rare on a regional level.
Representativeness SHR criteria (g)	This item does not meet this criterion as it does not demonstrate the principal characteristics of a class of cultural places or environments.

6.9.4 Statement of Significance

Woodlands Homestead is of historical and aesthetic significance at State level, as the substantial 1830s dwelling sits in outstanding condition alongside the later residence, indicating the earliest phase of Hunter region development. The item is also of associative significance on a local scale as it is associated with eminent pioneering and business families of the Muswellbrook area. Scientifically, the property is also of State significance for its rare potential to reveal information which could contribute both to an understanding of thoroughbred horse breeding and cattle raising over a period of a hundred and fifty years, and to the lifestyle of the wealthy initial settlers of the Hunter region.

6.10 Randwick

6.10.1 Description

Randwick Homestead is located on the Woodlands Stud south of the Golden Highway and Drayton South. Randwick Homestead consists of a weatherboard house oriented to the west. The main house has a brick chimney and semi-circular roof vents. The front door has lead-light side windows. Extensions to the west and north forms a T-shaped plan.

6.10.2 Historical Context

There is no specific historical information available pertaining to this item.

6.10.3 Significance Assessment

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	There is currently insufficient information to assess Randwick Homestead against this criterion.
Historical association significance SHR criteria (b)	There is currently insufficient information to assess Randwick Homestead against this criterion.
Aesthetic significance SHR criteria (c)	There is currently insufficient information to assess Randwick Homestead against this criterion.
Social significance SHR criteria (d)	There is currently insufficient information to assess Randwick Homestead against this criterion.
Technical/Research significance SHR criteria (e)	There is currently insufficient information to assess Randwick Homestead against this criterion.
Rarity SHR criteria (f)	There is currently insufficient information to assess Randwick Homestead against this criterion.
Representativeness SHR criteria (g)	There is currently insufficient information to assess Randwick Homestead against this criterion.

6.10.4 Statement of Significance

There is currently insufficient information to accurately assess Randwick Homestead.

7.0 Issues and Potential Impacts

The following section draws upon information provided in Section 6.0 to address the issues and potential impacts on identified heritage items during the construction and operation phases of the Project.

7.1 Direct Impacts

The development of the Project will result in direct impacts to items identified within Drayton South. These items specifically include the fence and Nissan hut with stockyard.

The fence is situated in the vicinity of the proposed ROM hopper, crusher and stockpile area. The construction of such infrastructure will potentially result in a high impact to this item (i.e. destruction); however, as it only meets one criterion and it is considered of low significance at a local level, the significance of the impact is minor.

The Nissan hut with stockyard is situated within the mining area for the Project. The development and extraction activities that are scheduled to occur within the area will have a high impact on this item (i.e. destruction). Similar to the fence, the Nissan hut with stockyard only meets one criterion and it is considered of low significance at a local level, therefore the significance of the impact will be minor.

7.2 Indirect Impacts

7.2.1 Blasting

Blasting will be a key activity required as part of the operation of the Project. As a result of this activity, associated ground vibrations and overpressure have the potential to impact the structural integrity of select heritage items identified.

The acoustic impact assessment for the Project undertaken by Bridges Acoustics (2012) (Appendix G of the EA) provides a blasting impact assessment, which considers the heritage items identified within the study area. The impact assessment reported the recommended vibration and overpressure criteria as outlined in the *Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration* (Blasting Guideline) (ANZECC, 1990) for each item identified but not directly impacted (see Table 3).

Table 3 Recommended Vibration and Overpressure Criteria

Heritage Item	Recommended Vibration Criteria (mm/s)	Recommended Overpressure Criteria (dBL)
Strowan Homestead	5	115
Arrowfield Cottage	5	115
Woodlands Homestead	5	115
Randwick Homestead	5	115
Bowfield Homestead	10*	120*
Plashett Homestead	10*	120*
Edderton Homestead	10*	120*

*Criteria agreed with land owner

Bridges Acoustics (2012) concluded that the blast vibrations generated by the Project will not exceed the recommended vibration and overpressure criteria at all heritage items. Table 4 outlines the predicted blasting impacts at each heritage item.

Table 4 Predicted Blasting Impacts

Heritage Item	Distance to Heritage Item (m)	Ground Vibration (mm/s)				Overpressure (dBL)			
		Maximum Instantaneous Charge (kg)	500	1000	1500	2000	500	1000	1500
Strowan Homestead	3,550	0.3	0.6	0.8	1.0	98	101	103	104
Arrowfield Cottage	3,230	0.4	0.7	1.0	1.2	99	102	104	105
Woodlands Homestead	5,400	0.2	0.3	0.4	0.5	93	96	97	99
Randwick Homestead	3,130	0.4	0.7	1.0	1.3	100	102	104	105
Bowfield Homestead	1,710	1.1	1.9	2.7	3.4	107	110	112	113
Plashett Homestead	2,700	0.5	0.9	1.3	1.6	101	104	106	107
Edderton Homestead	1,080	2.3	4.0	5.6	7.0	113	116	118	119

7.2.2 Visual

The construction of the Project, including the Houston visual bund, overburden emplacement areas, rehabilitation areas and tree screenings, will modify the existing visual environment and potentially the visual aesthetics of the landscape surrounding the heritage items identified.

The visual impact assessment for the Project undertaken by JVP Visual Planning and Design (2012) (Appendix I of the EA) describes the likely visual impacts associated with the Project on the areas surrounding the Project Boundary (the visual study area). The visual study area for the Project is divided into four sectors, including the Northern, Eastern, Southern and Western sectors. This assessment can be used to assess the likely visual impacts that may be experienced at each of the heritage items identified but not directly impacted.

Northern Sector

Edderton Homestead is situated in the Northern Sector of the visual study area and located 0.6 km from the Project Boundary. On the basis of topography alone, various viewing locations within the Northern Sector have been identified as having outlooks over the northern overburden emplacement area and the mine site facilities. In some instances, existing trees and vegetation in adjoining fields will limit such views. It is predicted that viewing locations in this sector that are situated within 7.5 km of the Project Boundary, such as Edderton Homestead, will have a high sensitivity to changes in the existing landscape.

Due to the proximity of Edderton Homestead to the Project Boundary, it will experience high visual effects during the early stages of the Project. From Year 10 and for the remainder of the Project life, the visual effect will be reduced to moderate and then low, with the northern extent of the overburden emplacement areas rehabilitated and mining advancing further south. Similarly, the visual impact levels will be reduced from high to moderate.

Southern Sector

Strowan Homestead, Arrowfield Cottage and Plashett Homestead are situated in the Southern Sector of the visual study area. Strowan Homestead and Arrowfield Cottage are situated on Coolmore Stud and located 2.2 and 2.5 km, respectively from the Project Boundary. Plashett Homestead is situated on land owned by Anglo American and located 1.4 km from the Project Boundary.

One of Anglo American's key objectives when developing the mine plan for the Project was to reduce, as far as practical, the visual impacts on sensitive receptors located within the Southern Sector, including Coolmore Stud, Woodlands Stud, the existing Arrowfield Estate and the village of Jerrys Plains. This was largely achieved through careful mine planning and design to ensure that the existing ridgeline to the south of the Project was maintained and that overburden emplacement areas remained shielded behind it. The existing ridgeline is able to shield the majority of views from the Project. However, there is a valley located immediately to the south of the Houston mining area where views would be possible. In order to alleviate potential long term views of the Project, a visual bund will be constructed within this valley to shield views of operations associated with the Project.

As such, within the Southern Sector there will be varying views available to the development of the Houston visual bund during its 16 month construction time between Year 3 and Year 5. It is predicted that some viewing locations

in this sector that are situated within 7.5 km of the Project Boundary, such as Plashett Homestead, Strowan Homestead and Arrowfield Cottage, will have a high sensitivity to the changes in the existing landscape.

The construction of the Houston visual bund will have a high visual effect on the front elevation of Strowan Homestead. This visual effect will be reduced to moderate and then low as progressive rehabilitation is completed and the bund is integrated with the surrounding landscape. Similarly, the visual impact levels will be reduced from high to moderate.

The views anticipated at Arrowfield Cottage will be substantially reduced compared to Strowan Homestead as a result of its location and orientation on Coolmore Stud. As such, the visual effect is assessed as low and the visual impact is moderate.

An existing hill shields the majority of the views from Plashett Homestead (rear elevation) during the construction of the Houston visual bund. Due to the limited views from the rear elevation of the homestead the visual effect is assessed as low and the visual impact is moderate. There are no visual impacts from the front elevation of the homestead.

Western Sector

Woodlands Homestead, Randwick Homestead and Bowfield Homestead are situated in the Western Sector of the visual study area. Woodlands Homestead and Randwick Homestead are situated on Woodlands Stud and located 3.8 and 1.4 km, respectively from the Project Boundary. Bowfield Homestead is situated on land owned by Anglo American and located within the Project Boundary. On account of the existing topography, the vast majority of Woodlands Stud, including Woodlands Homestead and Randwick Homestead, is entirely screened from views of the Project. However, it is predicted that some viewing locations in this sector that are situated within 7.5 km of the Project Boundary and that are not screened by topography, such as Bowfield Homestead, will have a high sensitivity.

Given that there are no views of the Project at Woodlands Homestead or Randwick Homestead, it has been assessed that there is no visual impact.

Due to the proximity of Bowfield Homestead to the Project, it will experience high visual impacts until approximately Year 10 when the visual effect will be gradually reduced to moderate and then low by Year 20 with the completion of mining and progressive rehabilitation in the Blakefield area. Similarly, the visual impact levels will be reduced from high to moderate.

7.3 Avoidance

The following items identified during the field survey will not be impacted by the Project, including:

- The stockyard, which is situated outside and to the south of the Drayton South;
- Woodlands Homestead, which is situated outside and to the south west of Drayton South; and
- Randwick Homestead, which is located outside and to the south west of Drayton South.

There will be no direct or indirect impacts to the items outlined above and therefore no impact on their significance. As such no mitigation or management measures have been proposed.

8.0 Mitigation and Management

Where feasible, engineering design measures have been incorporated to avoid impacts, however, where these are unavoidable, mitigation and management measures for each impact are proposed to reduce the magnitude of the impacts as far as practicable.

8.1 Directly Impacted Items

As the Project is seeking approval under Part 3A of the EP&A Act, heritage items may be disturbed without the need for the proponent to obtain permits under the Heritage Act.

The fence and Nissan hut with stockyard are within the Drayton South disturbance footprint. The impacts of mining and construction activities within the area are unavoidable. In the event that the items are destroyed or removed, it is recommended that a photographic archival recording be undertaken; given their age and limited historical significance. In addition, it is recommended that the Nissan hut with stockyard site be recorded through scaled drawings and archived, prior to destruction or removal. The recordings should comply with the Heritage Office (now known as the Heritage Branch, within the Office of Environment and Heritage) guidelines *How to Prepare Archival Records of Heritage Items* (1998) and *Photographic Recording of Heritage Items using Film or Digital Capture* (2006).

8.2 Indirectly Impacted Items

8.2.1 Blasting

The acoustic impact assessment (Bridges Acoustics, 2012) (Appendix G of the EA) provides management and mitigation measures to ensure all relevant blast vibration criteria are met at each heritage item identified, including:

- A qualified geotechnical, building or engineering expert should inspect and assess all other identified buildings or structures of heritage, to determine appropriate ground vibration and overpressure limits. Confirmation of appropriate vibration and overpressure limits for each building or structure would be included in the blast management plan;
- Blasting should not occur closer than 500 m to any occupied or sensitive building or structure, including heritage items, unless adequate controls are implemented to minimise the risk of fly rock; and
- All blasts should be monitored at receiver locations or alternative representative locations, including heritage items, to confirm acceptable blast impacts and to assist in predicting future blast effects as the blast sites approach sensitive receivers.

It is also recommended that a pre-blasting structural survey / dilapidation survey of heritage items be undertaken to document current conditions and that ongoing structural surveys are conducted on a risk-based frequency to monitor the item's condition over time. Remedial measures should be implemented, where necessary, when blasting impacts are shown to be the underlying cause.

Any future conservation or development efforts specific to Plashett Homestead should be undertaken in accordance with the principles of the Burra Charter and the existing conservation plan (Anne Bickford and Associates, 1995) prepared for Pacific Power.

8.2.2 Visual

The visual impact assessment for the Project (JVP, 2012) (Appendix I of the EA) confirmed that the landscapes within view of Edderton Homestead, Strowan Homestead, Arrowfield Cottage, Plashett Homestead and Bowfield Homestead will be modified to various degrees as a result of the Project.

As outlined in the visual impact assessment (JVP, 2012), several mitigation measures to reduce visual impacts at sensitive viewing locations, including heritage items, have been incorporated into the design and operation of the Project, including:

- Maintaining existing topography (i.e. southern ridgeline);
- Development of the Houston visual bund;
- Tree screening; and
- Progressive rehabilitation of overburden emplacement areas and disturbed areas.

If required, offsite mitigation measures, such as tree screening or plantings, can be implemented to reduce the visual impact to landscapes surrounding heritage items further.

8.3 Non-Aboriginal Heritage Management Plan

The management of heritage items within the study area should be undertaken through a non-Aboriginal heritage management plan. The plan should be prepared prior to construction and operation and should include, but not be limited to, the following:

- A list and map indicating the location of sites identified within the study area;
- A significance assessment and Statement of Significance for each heritage item;
- Management and mitigation measures for visual and blasting impacts, including risk-based dilapidation surveys; and
- Unexpected finds procedure, including a specific procedure for human remains.

9.0 Conclusion

Based on the information drawn from the field survey, historical research and other technical study aspects, the conclusions of the non-Aboriginal impact assessment for the Project are summarised below.

Two heritage items identified in the field survey, the fence and Nissan hut with stockyard, are located within the Drayton South disturbance footprint. These items are of historical significance on a local scale and provide a good representation of rural development and land use of the Upper Hunter region. Both items will be removed as a result of the construction and operation of the Project. Due to significance of the items and the impact, it is recommended that each item be documented, in accordance with the relevant guidelines, to capture an accurate record of past settlement and land use prior to removal.

Several listed heritage items are situated within the study area, including Plashett Homestead, Edderton Homestead and Strowan Homestead. These items are of historical significance on a local scale, with Strowan Homestead being recognised at national level. Plashett Homestead and Strowan Homestead are a classic representation of the architecture style established during the early to mid-nineteenth century period. The homesteads also retain a strong association with eminent local pioneering families in the region. Edderton Homestead provides a good example of an early twentieth century rural homestead and associated farming complex, which would once have been characteristic of the area. These heritage items hold high research potential as they provide an understanding of the lifestyle and operations associated with major mid-nineteenth and twentieth century pastoral properties. These heritage items, along with other items identified in the field survey will be indirectly impacted by the Project to various degrees.

With regard to potential blasting impacts, the acoustics impact assessment for the Project undertaken by Bridges Acoustics (Appendix G of the EA) concluded that all relevant criteria could be met at each of the identified heritage items by implementing relevant blast management techniques.

The Project will result in the modification of the existing visual environment surrounding Edderton Homestead, Strowan Homestead, Arrowfield Cottage, Plashett Homestead and Bowfield Homestead. As outlined in the visual impact assessment (JVP, 2012) (Appendix I of the EA), several mitigation measures to reduce visual impacts at sensitive viewing locations, including heritage items, have been incorporated into the design and operation of the Project. If required, offsite mitigation measures, such as tree screening or plantings, can be implemented to further reduce the visual impact to landscapes surrounding heritage items.

There will be no direct or indirect impacts to the stockyard, Woodlands Homestead or Randwick Homestead and therefore no impact on their significance. As such no mitigation or management measures have been proposed.

The management of heritage items within the study area should be undertaken through a non-Aboriginal heritage management plan.

10.0 References

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Appendix A

Heritage Inventory Sheets

Heritage Data Form

ITEM DETAILS						
Name of Item	Fence					
Other Name/s Former Name/s	NA					
Area, Group, or Collection Name	NA					
Street number						
Street name						
Suburb/town	Muswellbrook				Postcode	2333
Local Government Area/s	Muswellbrook					
Property description						
Location - AMG (if no street address)	Zone	56	Easting	300906	Northing	6412958
Owner	Unspecified					
Current use	Fence					
Former Use	Fence					
Statement of significance	This fence is of limited historical significance on a local level as it provides an example of a popular fencing style employed in the early, formative years of farming and settlement in the Upper Hunter region. Farming and agriculture are highly significant activities which have contributed greatly to defining the character of the local region, from the settlement of the area in the 1800s, through to the present day. It provides physical evidence of the former land use patterns.					
Level of Significance	State <input type="checkbox"/>			Local <input type="checkbox"/>		

DESCRIPTION						
Designer	Unknown					
Builder/ maker	Unknown					
Physical Description	This item consists of a post and rail fence, located to the west of the ROM hopper, crusher and stockpile area. The fence is not listed on a heritage inventory. The fence originally had two rails; however, these have subsequently been replaced by barbed and plain wire. There is evidence of a tree having been cut down to create either the posts for the fence or for a former slab hut, although the former is more likely. The fence terminates at what appears to be a property boundary and a stockyard of dimensions 10 m x 15 m. There are no internal divisions within the stockyard; it has a simple rectangular form. The post and rail fence forms the western side of the stockyard. The section of the fence to the south of the starting point has more replacement star pickets than the rest of its length.					
Physical condition and Archaeological potential	The item is in a reasonable physical condition. It possesses limited archaeological potential.					
Construction years	Start year		Finish year		Circa	<input type="checkbox"/>
Modifications and dates	Unknown					
Further comments	NA					

Heritage Data Form

HISTORY	
Historical notes	There is no specific historical information available pertaining to this site; however, there is information available which pertains to post and rail fencing more generally. Post and rail fencing was the most popular type of fence used in the early days of farming. This fencing method was characterised, as the name suggests, by the use of split posts and wooden rails. Much preparation work was needed prior to constructing a fence of this type. Logs were cut to a length of approximately 6 ft (1.8 m) for the posts and 9 ft (2.7 m) for the rails. They were then split into radial segments using steel wedges and may have required some shaping and trimming. The ends of the rails had to be shaped to fit the posts, probably with an adze. Posts were morticed (holes cut through them) to support the rails. This was done with a mortice axe or an auger. Fences usually had either two or three rails, depending on the type of animal to be restrained.

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of limited historical significance on a local level as it provides an example of a popular type of fencing employed in the early, formative years of farming and settlement in the Upper Hunter region. Farming and agriculture are highly significant activities which have contributed greatly to defining the character of the local region, from the settlement of the area in the 1800s, through to the present day.
Historical association significance SHR criteria (b)	This item is not of historical association significance on a state or local level as it does not have a strong or special association with the life or works of a person, or group of persons, of importance in state or local cultural history.
Aesthetic significance SHR criteria (c)	This item is not of aesthetic significance on a state or local level as it does not demonstrate aesthetic characteristics and/or a high degree of technical achievement in the state or the local area.
Social significance SHR criteria (d)	This item is not of social significance on a state or local level as it does not have a strong or special association with a particular community or cultural group in the state or local area for social, cultural or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item is not of technical/research significance on a state or local level as it does not possess the potential to yield information that will contribute to or enhance our understanding of state or local cultural history.
Rarity SHR criteria (f)	This item does not possess uncommon, rare, or endangered aspects of state or local cultural history and so does not qualify as significant under this criterion.
Representativeness SHR criteria (g)	This item is not of representativeness significance as it is not important in demonstrating the principal characteristics of a class of state or local places or environments.
Integrity	This item has undergone modifications, including the replacement of the original rails with barbed and plain wire, which have compromised the items integrity. It can be said to possess only limited archaeological integrity.

HERITAGE LISTINGS	
Heritage listing/s	NA

RECOMMENDATIONS	
Impact	The fence is in the vicinity of the ROM hopper, crusher and stockpile area. It is likely that the fence will be removed.
Recommendations	It is recommended that a brief photographic archival recording be undertaken prior to removal. This mitigation is considered adequate given the limited historical significance of the fence.

Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Fence, view south west				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM





Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Fence – yard at southern end. View south west				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



Heritage Data Form

ITEM DETAILS						
Name of Item	Nissan Hut with stockyard					
Other Name/s Former Name/s	NA					
Area, Group, or Collection Name	NA					
Street number						
Street name						
Suburb/town	Muswellbrook				Postcode	2333
Local Government Area/s	Muswellbrook					
Property description						
Location - AMG (if no street address)	Zone	56	Easting	296856	Northing	6410145
Owner	Unspecified					
Current use	Unused stockyard and Nissan Hut					
Former Use	Potential stockyard and storage/shearing shed					
Statement of significance	This item is of historical significance on a local level as it provides evidence of the rural development and use of the area. The association of the Nissan hut and stockyards and the farming context of the item further contributes to its significance, demonstrating how a widespread architectural innovation was able to be modified and adapted to address the needs of the local area.					
Level of Significance	State <input type="checkbox"/>			Local <input checked="" type="checkbox"/>		

DESCRIPTION						
Designer	Nissan Hut based on the original design of Peter Norman Nissan(1871-1930), British army officer and mining engineer.					
Builder/ maker	Stanley Mackenzie and Robert Bowman					
Physical Description	<p>This site consists of one galvanised iron Nissan hut set on wooden stumps. The site is located central to the Project, within the proposed mining area and is not listed on a heritage schedule. It has an elevated wooden floor at the rear (south-east) end, whilst the front section has no floor, and is more like a verandah. The rear of the hut has a weatherboard facing. There is a square, galvanised iron lean-to also at the rear of the hut which has a brick fireplace/barbeque with a rusted fire box. The floor of this lean-to is composed of rough rocks and blue metal.</p> <p>There is evidence that water was once supplied to the internal sink of the Nissan hut. A pressure tank located in the south-west corner may also have had a shower underneath. There are two in-ground tanks present at the site, both of which are concrete lined. The hut has double opening doors in front, and may also have been used for storage.</p> <p>The hut may have been used as short term accommodation, but it does not appear to have been lived in long term.</p> <p>A sheep shower – Sunbeam Cooper HH model – is located to the north-east of the Nissan hut with associated runs. There are small yards present with link fencing.</p>					
Physical condition and Archaeological potential	The Nissan Hut and Stockyard are in quite poor condition, the Nissan Hut in particular having fallen into a state of disrepair. The items possess limited archaeological potential.					
Construction years	Start year	1950	Finish year	1950	Circa	<input type="checkbox"/>

Heritage Data Form

Modifications and dates	NA
Further comments	NA

HISTORY

Historical notes	In 'The History of the Bowman Family' (2000:50) Stanley Mackenzie Bowman (known as Mac) states that he and his brother Robert built the stockyard and Nissan Hut in 1950.
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APPLICATION OF CRITERIA

Historical significance SHR criteria (a)	This item is of historical significance on a local level as it provides evidence of the rural development and use of the area. The adaptation of the Nissan Hut form for use in farming life further contributes to the items significance, demonstrating how a widespread architectural innovation was able to be modified and adapted to address the specific needs of the local area.
Historical association significance SHR criteria (b)	This item is not of historical association significance on a state or local level as it does not have a strong or special association with the life or works of a person, or group of persons, of importance in state or local cultural history.
Aesthetic significance SHR criteria (c)	This item is not of aesthetic significance on a state or local level as it does not demonstrate aesthetic characteristics and/or a high degree of creative or technical achievement in the state or local area.
Social significance SHR criteria (d)	This item is not of social significance on a state or local level as it does not have a strong or special association with a particular community or cultural group in the state or local area for social, cultural, or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item is not of technical/research significance as it does not possess the potential to yield information that could contribute to or enhance our understanding of state or local cultural history.
Rarity SHR criteria (f)	This item does not possess uncommon, rare or endangered aspects of state or local cultural history and so does not qualify as significant under this criterion.
Representativeness SHR criteria (g)	This item does not demonstrate the principal characteristics of a class of state or local cultural place or environment.
Integrity	This item is in quite poor condition and the Nissan Hut specifically, whilst still standing, has fallen into a state of disrepair. However, the item does still retain a moderate to high level of integrity.

HERITAGE LISTINGS

Heritage listing/s	NA
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RECOMMENDATIONS

Impact	The Nissan Hut and Stockyard sit inside the potential Whynot mining area. Mining will require the removal of the site. Given the age and significance of the site, removal is acceptable, following the completion of the mitigation measures provided below.
Recommendations	It is recommended the Nissan Hut and Stockyard site be archivally recorded, with both photographic and scale drawings, prior to removal. The recording must comply with the Heritage Branch, Office of Environment and Heritage guidelines <i>How to Prepare Archival Records of Heritage Items</i> (1996) and <i>Photographic Recording of Heritage Items using Film or Digital Capture</i> (2006).

Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Nissan Hut, front elevation, view south east				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Rear view of Nissan Hut, view north west				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Sheep dip associated with Nissan Hut. View east.				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



Heritage Data Form

ITEM DETAILS						
Name of Item	Bowfield					
Other Name/s Former Name/s	NA					
Area, Group, or Collection Name						
Street number						
Street name						
Suburb/town	Jerrys Plains				Postcode	2330
Local Government Area/s	Singleton					
Property description						
Location - AMG (if no street address)	Zone	56	Easting		Northing	
Owner	Anglo American					
Current use	Homestead, farm and archaeological site.					
Former Use	Homestead, farm, shearing shed					
Statement of significance	Bowfield is of local historical and research significance. The homestead is evidence of the continuing development of the rural economy during the 1920s. The former shearing shed and former house/cottage site is of archaeological research interest, having the potential to answer questions regarding shearing technology of the 1930s.					
Level of Significance	State <input type="checkbox"/>			Local <input checked="" type="checkbox"/>		

DESCRIPTION	
Designer	NA
Builder/ maker	NA
Physical Description	<p>The site consists of a homestead, and three archaeological sites situated on the former Bowfield property. The archaeological sites are a c.1970s rubbish dump, the former site of the shearing shed complex and the site of a former house/cottage.</p> <p>Homestead A c.1928 house composed of Besser-type blocks and painted white with a red tile roof was erected on the property. The homestead is rectangular in form and has an internal organisation of rooms opening off either side of a central corridor. A verandah extends along the front (southern) side of the house and is supported on cast iron pillars with Corinthian capitals. The western elevation of the house has a brick chimney, which services a large fireplace in what is now a sitting room. The wooden floor boards are in excellent condition and of a very high quality dark wood. Approximately 5 m north-west of the house is a brick foundation of a small room said to have been constructed of bottles laid on their side with the bases facing outwards.</p> <p>c.1970s Dump The c. 1970s dump predominantly consists of bottles, wire and other common household and farm refuse. The dump is located in the erosion gullies associated with Saddlers Creek. The dump is not considered to be of heritage significance, but is noted as being in the vicinity of the former shearing shed site.</p> <p>Former Shearing Shed Site In the vicinity of the dump there is an avenue of peppercorn trees, a concrete slab approximately 1.2 m x 2 m, local stone slabs and a sizable brick scatter. A concrete drain, not dissimilar to the sheep dip at the Nissan hut and an introduced hawthorn tree/shrub are also present. There is evidence of a sewer/water pipe in situ. To the south-west is a concrete, rectangular slab, approximately 1.2 m x 2.5 m, with an outline of a square room evident. This could possibly indicate the previous presence of a slab building at this location. To the north-west is a Neem tree.</p> <p>Former House/Cottage The site consists of a concrete foundation slab, approximately 8 m x 11 m. A pile of cream bricks is located to the south-west. A small pressure tank is located in the north-western area of the site.</p>
Physical condition	<p>The physical condition of the Homestead is good.</p> <p>The archaeological potential of the shearing shed area is high.</p>

Heritage Data Form

and Archaeological potential	The archaeological potential of the Former House/Cottage is moderate, potentially having been disturbed during demolition. The c.1970s dump has high archaeological potential, but not of heritage significance					
Construction years	Start year	1928	Finish year		Circa	<input checked="" type="checkbox"/>
Modifications and dates	NA					
Further comments	NA					

HISTORY

Historical notes	<p>Bowfield comprises part of George Blaxland's land grant, later part of W.H. White's property, while the Saddlers Creek portion is part of the grant to George Bowman, of Arrowfield (approximately 2,600 acres in 1832). The total area is approximately 5,000 acres. W.H. White sold his portion to Squire Bowman (of Balmoral) which he occupied, and the property subsequently became known as Bowfield. The property was later acquired by 'Mac' Bowman.</p> <p>The original Bowfield Homestead was built c.1928. Allegedly there was also an old weatherboard house in the vicinity of the Bowfield Homestead.</p> <p>Bowfield has since been purchased by Anglo American and is currently leased as a working pastoral property primarily for cattle grazing.</p> <p>An article in the Muswellbrook Chronicle on 14 October 1938 (p.88) exclaims over the recently completed shearing shed on Bowfield that it was "believed to be the largest shed of its kind in the district." The shed was said to be 80 by 24 feet (24 by 7 m), which provided enough space to house 800 sheep underneath in the event of wet weather during shearing. The shearing equipment was powered by electricity from the Muswellbrook Coal Co – a first for the district. In the vicinity were new shearers' quarters of six bedrooms each with two beds. The Former House/Cottage site is not large enough to have contained six</p>
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APPLICATION OF CRITERIA

Historical significance SHR criteria (a)	Bowfield is of local significance as a modest homestead of the late 1920s, indicating the continued development of the rural industry during the period.
Historical association significance SHR criteria (b)	This item is not of historical associative significance on a state or local level as it does not have a strong or special association with the life or works of a person, or group of persons, of importance in state or local cultural history.
Aesthetic significance SHR criteria (c)	This item is not of aesthetic significance on a state or local level as it does not demonstrate aesthetic characteristics or a high degree of creative or technical achievement.
Social significance SHR criteria (d)	This item is not of social significance on a state or local level as it does not have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item is of local research significance as it has the potential to yield information that could contribute to or enhance our understanding of local farming practices, in particular the construction and operation of a shearing shed considered in its time to be state of the art. The c.1970s rubbish dump is not considered to be of research significance.
Rarity SHR criteria (f)	This item does not qualify as significance under this criterion as it is not rare.
Representativeness SHR criteria (g)	This item is not of representative significance as it does not demonstrate the principal characteristics of a class of state or local cultural places or environments.
Integrity	This item appears to retain limited integrity.

HERITAGE LISTINGS

Heritage listing/s	NA
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Heritage Data Form

RECOMMENDATIONS	
Impact	Due to the proximity of Bowfield Homestead to the Project, it will experience high visual impacts until approximately Year 10 when the visual impact will be gradually reduced to moderate and then low by Year 20 with the completion of mining and progressive rehabilitation in the Blakefield area.
Recommendations	<p>Bridges Acoustics (2012) concluded that the blast vibrations generated by the Project will not exceed the recommended vibration and overpressure criteria (10 mm/s and 120 dBL). However, it is recommended that a pre-blasting structural survey / dilapidation survey of the heritage item be undertaken to document current conditions and that ongoing structural surveys be conducted on a risk-based frequency to monitor the item's condition over time. Remedial measures should be implemented, where necessary, when blasting impacts are shown to be the underlying cause.</p> <p>As outlined in the visual impact assessment (JVP, 2012), several mitigation measures to reduce visual impacts have been incorporated into the design and operation of the Project, including:</p> <ul style="list-style-type: none"> • Tree screening; and • Progressive rehabilitation of overburden emplacement areas and disturbed areas. <p>If required, offsite mitigation measures, such as tree screening or plantings, can be implemented to reduce the visual impact to landscapes surrounding heritage items further.</p>

Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Front elevation of Bowfield Homestead. View north west				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM





Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Former shearing shed site, Bowfield. View south west				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Site of Former House/Cottage. View north east				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



Heritage Data Form

ITEM DETAILS						
Name of Item	Plashett Homestead					
Other Name/s Former Name/s	NA					
Area, Group, or Collection Name	NA					
Street number						
Street name	Golden Highway					
Suburb/town	Jerrys Plains		Postcode	2330		
Local Government Area/s	Muswellbrook					
Property description						
Location - AMG (if no street address)	Zone	56	Easting	300292	Northing	6406687
Owner	Unspecified					
Current use	Vacant House and farm					
Former Use	House and farm					
Statement of significance	Plashett Homestead is of state historical significance as it is a rare, almost intact survivor of the mid-19 th century period in the region. The item is also of aesthetic significance, as the homestead has a sophisticated building design set in a carefully conceived garden. The property is of local significance thanks to its association with the eminent local pioneering Robertson and Pearse families. The property has excellent research potential, as it is likely to be able to reveal information which could contribute to an understanding of the conduct of a major mid-19 th century pastoral property and of the manner in which wealthy pastoralists lived at that time.					
Level of Significance	State <input checked="" type="checkbox"/>			Local <input type="checkbox"/>		

DESCRIPTION	
Designer	Bickford & Associates believe the homestead was designed by an architect, however, the architect is unknown
Builder/ maker	
Physical Description	<p>Plashett includes a homestead, a small residence and slab garage, a manager's residence, stables group, dairy group, a hayshed and the remains of a bridge. A comprehensive physical description of the elements is provided by Anne Bickford & Associates (1994) in the Conservation Management Plan for the property. A brief overview is provided below.</p> <p>Homestead (Easting: 300292 Northing: 6406 687) Plashett Homestead is a single storey ashlar sandstone building, constructed in a simplified Victorian Regency style in the late 1860s. It appears to have been built in two key phases, with the first being the construction of a sandstone house with attached kitchen wing (c1866), and the second being the addition of a large timber frames extension to the north-west (20th century). While minor modifications and verandah infill additions have occurred, the main body of the house retains a good level of integrity.</p> <p>The main house is simple and symmetrical in form, with a hipped corrugated iron roof, although there is evidence to suggest it was originally shingle-clad. An original kitchen wing, of similar construction, connects to the main house at the northern corner. The main body of the homestead is almost square in shape and is oriented towards the Golden Highway and the Hunter River, roughly to the south. The original kitchen was semi-detached on the north west corner of the house. In the 'L' shape formed by the Main house and the Kitchen is located an underground water reservoir. The house has two sandstone chimneys and the kitchen wing has one. An L shaped courtyard verandah addresses the courtyard and well. The c.1866 house and kitchen wing have direct access to this.</p> <p>Various additions have been made to the homestead, as detailed by Anne Bickford and Associates (1994). The large timber framed addition is clad in weatherboards and has a 'colorbond' corrugated steel roof with a lower pitch than the main house. There are two additional brick chimneys in this addition, and the exterior walls display a variety of different</p>

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weatherboard profiles.

The interior of the homestead has a central, dual chamber hallway extending from the front verandah to the rear courtyard. The main rooms of the house lead from this hallway. The entry hall is divided by a semi-circular arch with decorative plaster mouldings. The formal end of the hall at the SW end of the house is wider, it is narrower and more informal to the rear (NE) of the house. The attached kitchen wing contemporary with the main house, is connected by a hallway. Most of the internal surfaces of the homestead are rendered and plastered. Ceilings are generally lath and plaster with decorative cornices and ceiling roses to the two front rooms. The floors are all hardwood boards and joinery is clear finished cedar, although some joinery has been painted over. All of the original fireplaces and their surrounds remain intact and in good condition. It is not difficult to determine the original paint schemes from the damaged areas of plastered wall. No original freestanding furniture is apparent inside the homestead.

The homestead is situated above a cellar. This cellar is stone walled and accessed from the NW verandah of the homestead by a single run of well worn stone steps. It is a coursed stone room comprising two chambers. The innermost section has no direct access to the outside, and is divided by a vertical timber slab wall with a door. It is entered through a doorway from the main chamber and receives indirect ventilation through an iron barred 'window'. The floors are red sandstone brick laid in a herringbone pattern and is generally in good condition. Significant deterioration of the face of the stone walls to a height of approximately 1,200mm suggests deterioration due to the effects of flooding. Several meathooks hang from the beams of the ceiling.

The general layout of the homestead buildings and garden exhibit characteristics of the major garden styles of the mid-19th century.

Meat Shed

(Easting: 300350 Northing: 6406712) (GDA94)

The Plashett Meat Shed consists of a vertical timber slab shed, approximately 5m x 4m, with a corrugated iron roof. It is situated approximately 52m east of Plashett house.

The wall structure of the shed consists of squared posts with infill vertical timber slabs. The slabs are axed split logs, butt jointed, end chamfered, dropped into sleeper at base and nailed to top plates. The door is on the western elevation and is constructed of tongue and groove boards screwed to a frame. While the door threshold is sandstone blocks, the floor itself is concrete (possibly render on bricks) inside perimeter sleepers. Door threshold of sandstone blocks. There is a series of c.1920-1950s fridges inside the meatshed. In the south-east corner is an enclosed section with hooks and a refrigerated section. A workbench is built into one corner, around which sheet iron is nailed across the joints between the slabs. Iron hooks with sheet iron 'rodent caps' also hang from the ceiling joists.

Since 1994 the shed has developed a significant lean to the south and it is currently structurally unsound, although this can be rectified. During the field inspection the shed was observed to be surrounded by farm equipment, including ploughs, farrows, and a windmill head. The former cottage site, located between the meat shed and Plashett house, is believed to be the former structure seen in photographic records from 1975. The south-western area is demarcated by sandstone worked blocks, while along the eastern side is a rough, sandstone cobbled area. Behind this is evident a square depression. To the south-east a single post exhibiting the same joinery style as 'Stockyard 1' was identified. Farther to the south-east is a sewerage outlet. Farther to the south-east again are located gallows for meat slaughter and a small holding pen.

The overall condition of this building is fairly poor. In addition to the significant lean, there is evidence of termite attack to some of the remaining slabs and weatherboards, and a ceiling joist has also collapsed.

Stockyards and Barns

(Easting: 300411 Northing: 6406810)

To the north-west is located a sandstone and brick fireplace, two concrete slabs and two standing dressed poles with nails and joinery for fitting of crossbeams. There are two sets of concrete 'rails', the first just under 1m high and set 800mm apart and 1.2m long. There is a second set similar in form but higher and set further apart. Brick path leads back to a stockyard, which has a small hut on the northern side, which may possibly have been a blacksmiths.

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	<p>There is also a vertical slab barn with a corrugated iron loft accessed via external stairs. It has a pitched roof with a gable at loft access. There is a lean-to section on the northern and southern elevations. The southern section is divided into two compartments, which are open on the western side as some slabs have fallen out. The floors are timber slab, with sandstone footings in some sections. There is a newer extension which forms a T shape to the east. The concrete floor has been poured in sections with incised squares. The central section of the structure appears to have been used as a poultry house for a time. Each corner appears to be a stall of approximately 2m x 2m, with a trough built into the diagonal.</p> <p>There is also a complex of yards built of bush timber located to the north, with some more recent fixes in dressed timber and galvanised iron, and there is a stock shed to the west of the barn, which has a pitched roof, and is oriented east/west and open to the barn on the eastern side.</p> <p>Dairy Complex (Easting: 300463 Northing: 6406453)</p> <p>This item consists of a rectangular building, approximately 10m long x 11m wide. This structure is roofed with a centre gable which changes pitch to skillions on either side.</p> <p>The dairy building has two distinct sections. One contains 12 milking stalls, and the other an open area with two stalls, the purpose of which is unclear. The dairy can be entered from either the north or south through open paling gates. The structure of the building is a combination of round and squared posts, with rough sawn beams and rafters. Fixings include iron straps and bolts, wire and nails. In the dairy, the stalls are separated by split rails rather than being either tenoned and tied to the posts by wire, or housed into or bolted to the posts. There are large wooden troughs on the northern side, and metal on the south of the dairy building. No machinery is present. There is also an annex on the southern side of the structure, which may possibly have been used for storage purposes. The building overall is in quite poor condition.</p> <p>To the south of the dairy building is located a large, which is filled with metal, wire, machinery and car parts, c. 1970s/80s and later washers, dryers, fridges and other electronic appliances. Building debris is also present and includes blocks of sandstone. To the south-west there is a partially in-ground concrete tank. To the west there is a concrete slab and a peppercorn tree. To the south-west in the next paddock is located a 3m x3m feed shed with a food trough on the eastern wall. This has a flat roof and a wood log foundation. It has the same concrete slabs with incised squares as barn extension. The building is in poor condition; the bottom plate sleepers are rotten, and many slabs are missing or loose.</p> <p>Hayshed (Easting: 300792 Northing: 6406074)</p> <p>This structure has a pitched roof with a lean-to to the south. It has been constructed of dressed bush timber, and is essentially a high hayshed. It is structurally unsound, and has mostly collapsed. The roof is remnant in only a small portion. A wagon and plough was observed to have once been stored inside.</p> <p>Workers Cottages Sites (Easting: 300222 Northing: 6407114)</p> <p>At the workers cottage sites was observed a roughly rectangular formation of peppercorn trees. A surface scatter comprising brown and clear moulded glass and refined earthenware was identified. One earthenware fragment had a green vine leaf pattern. Vertically embossed on the side of an intact bottle from the site was the: 'H. Jones and Co. Sydney' – 'Pick me up' registered trademark. This bottle is the property of Pick me up condiment// Co Ltd. AGM on base. Brick and metal fragments were also noted in the vicinity. The scatter appears to continue into the adjacent horse paddock. The site is located to the north of a dam and the current manager's house.</p>				
Physical condition and Archaeological potential	Plashett Homestead itself is in excellent physical condition and retains a high degree of integrity and archaeological potential. The physical condition of the other items comprising the Plashett Homestead complex is variable, however the overall archaeological potential is high.				
Construction years	Start year	Main House c.1866	Finish year		Circa <input type="checkbox"/>

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Modifications and dates	The modifications have been discussed in the physical description.
Further comments	All of the co-ordinates provided above are in GDA94.

HISTORY	
Historical notes	<p>Plashett was granted to James Robertson, of Renfrew, Scotland, in 1827. Robertson had arrived in the colony in 1822 accompanied by his wife, Anna Maria and six children. In London Robertson had been a watch and mathematical instrument maker for Grimaldi and Johnson of The Strand. In this capacity Robertson had made friends with Thomas Brisbane, who was a keen astronomer. When Brisbane was appointed Governor of NSW he encouraged Robertson to immigrate too.</p> <p>On arrival, Robertson and his family lived in George Street, Sydney, and James established a jewellery and watchmaking business. Prior to his arrival in the colony, Brisbane had arranged with Governor Macquarie that Robertson be given a 500 acre grant, which Brisbane increased to 1000 acres. Robertson took half of this at Baulkham Hills and the other at Broken Bay. He made substantial improvements to the Baulkham Hills property and it was stocked with sheep and cattle. He had just begun building a house for his family on his Broken Bay property when the 1826/7 drought began. Robertson's Baulkham Hills property did not have sufficient pasture to support his livestock. On 24 August 1824 Robertson applied for an additional grant, which he was entitled to for completing a specified amount of improvements to his current land holdings, and on the 19 November Governor Brisbane authorised a grant of 1000 acres and reserved a further 1000 acres as a purchase. James Robertson took up his 1000 acre grant on the northern side of the Hunter River at Jerry's Plains in early 1827, naming the property Plashett after his father-in-laws property in Essex, England. The 1828 Census lists Robertson as holding 2,000 acres of land (Plashett), on which 170 acres were cleared, 80 cultivated, with 5 horses, 250 cattle, and 800 sheep.</p> <p>A map of the Hunter River Land Grants produced in October 1829 shows the Robertson 1000 acres with a house built on it. This house is thought to be the slab cottage which remained standing until 1993, when it was reportedly demolished. On the 15 September 1854, Plashett was advertised for sale in the Maitland Mercury, and was described as being "an excellent Stone House, not finished inside, which was located near to where the old homestead stood." Plashett was purchased from Robertson in November 1854 by Joseph Pearse, who in turn transferred ownership to his son William Pearse in 1864. William Pearse married Catherine Langley in 1866. By the 1890s, the property was supplying sheep and cattle for both Sydney and Hunter Valley abattoirs. Cattle were sent to the Hunter from the Pearse properties in Queensland to be fattened up for the Sydney market. Corn, horse breeding, and shearing also took place at the property. By 1910 Plashett was producing milk from a herd of approximately 100 cows for the Jerry's Plains butter factory.</p> <p>When William Pearse died in 1927 a probate valuation describes the property as pastoral, with 18 grazing paddocks, 3 for cultivation, and a few others as well. Timber had been left in the paddocks to provide shade for the cattle, and this included kurrajong and box species.</p> <p>Plashett remained in the Pearse family for 117 years, until 1971, when a portion of the property was transferred to Caroon Pty Ltd. In 1982, this portion was transferred to the Electricity Commission of New South Wales (Pacific Power). In that same year, Lot 2 DP 616024, which comprised half of the land owned by Pacific Power, was transferred to Mount Arthur Coal Pty Ltd. In 2000 the property was purchased by Anglo American. Plashett remains a pastoral property, managed now on behalf of Anglo American.</p>

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of State historical significance as it is an almost intact farming complex of the mid-nineteenth century period in the region.
Historical association significance SHR criteria (b)	This item is of local historical associative significance due to its association with the eminent local pioneering Robertson and Pearse families.
Aesthetic	This item is of aesthetic significance on a local level, as the homestead has a

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significance SHR criteria (c)	sophisticated building design set in a carefully conceived garden. It is also of potential State significance, however, further comparative research would be required to confirm this.
Social significance SHR criteria (d)	This item is not of social significance on a State or local level as it does not have a strong or special association with a particular community or cultural group in the State or local area for social, cultural, or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item has excellent research potential at a State level, as it has the potential to contribute to an understanding of the conduct of a major mid-nineteenth century pastoral property and of the manner in which wealthy pastoralists lived at that time.
Rarity SHR criteria (f)	This item is rare on a State level, being an intact example of a rural 1860s homestead.
Representativeness SHR criteria (g)	This item is of local representative significance as it demonstrates the principal characteristics of a mid-nineteenth century farm complex. It is potentially of State significance, however further comparative research would be required to confirm this.
Integrity	The integrity of Plashett Homestead itself is quite good, although the integrity of other items within the property is highly variable.

HERITAGE LISTINGS

Heritage listing/s	Register of National Trust (NSW); Muswellbrook LEP 2009.
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RECOMMENDATIONS

Impact	The Plashett Homestead falls outside of the Project Boundary and will not experience direct or indirect impacts.
Recommendations	Bridges Acoustics (2012) concluded that the blast vibrations generated by the Project will not exceed the recommended vibration and overpressure criteria (10 mm/s and 120 dBL). However, it is recommended that a pre-blasting structural survey / dilapidation survey of the heritage item be undertaken to document current conditions and that ongoing structural surveys be conducted on a risk-based frequency to monitor the item's condition over time. Remedial measures should be implemented, where necessary, when blasting impacts are shown to be the underlying cause.

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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Plashett Homestead, front elevation. View north				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM





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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Plashett Homestead, rear. View south				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Plashett Homestead – entrance hall.				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM





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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Plashett Homestead, sandstone fireplace				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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Please supply images of each elevation, the interior and the setting.

Image caption	Plashett meat shed. View north east				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Plashett barn, view north east				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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Please supply images of each elevation, the interior and the setting.

Image caption	Plashett – workers cottage site. View south				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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ITEM DETAILS						
Name of Item	Edderton Homestead Complex					
Other Name/s Former Name/s	NA					
Area, Group, or Collection Name	NA					
Street number	1477					
Street name	Edderton Road					
Suburb/town	Muswellbrook				Postcode	2333
Local Government Area/s	Muswellbrook					
Property description						
Location - AMG (if no street address)	Zone	56	Easting	295664	Northing	6413020
Owner	Mt Arthur Coal					
Current use	Rural residential					
Former Use	Rural residential					
Statement of significance	<p>The Edderton Homestead Complex is of local historical and representative significance as it provides a good example of an early twentieth century rural homestead and associated farming complex, which would once have been characteristic of the local area. It is also historically significant for its association with the expansion of the wool industry in the Upper Hunter, and it has a strong association with pastoralism and the growth of sheep farming in the Muswellbrook area. Furthermore, the Edderton Homestead Complex is of research significance on a local level as it possesses the potential to yield information that may contribute to an understanding of the scale and nature of wool growing carried out on a major regional property around the turn of the century.</p> <p>The Edderton Homestead itself is also of local aesthetic significance, as its design is unique in the region employing a range of details from different architectural styles in a most accomplished way.</p>					
Level of Significance	State <input type="checkbox"/>			Local <input checked="" type="checkbox"/>		

DESCRIPTION	
Designer	Unknown
Builder/ maker	Unknown
Physical Description	<p>Edderton Homestead</p> <p>The homestead is a substantial single storey, timber framed, Federation style bungalow, with weatherboard cladding and a corrugated iron roof. The homestead was constructed in the early twentieth century, c. 1908, and is today set in a curtilage that is enhanced by a number of associated extant outbuildings and a garden.</p> <p>The homestead has a T-shaped floor plan, and the structure has a complex roofline of double pitch with a separate verandah. The apex has a circular air vent and is filled with painted shingles. Together with the complex roofline, these elements are suggestive of the 'Arts and Crafts' style, common during the late nineteenth and early twentieth century's, around the time the homestead was built.</p> <p>The front elevation of the structure has a centred, double arched door and two symmetrical bay windows. These are possibly later additions, as there is another door with an arched fan light located to the left of the main, central door. This door is not consistent with the symmetry of the rest of the facade of the house, indicating that the layout has been</p>

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	<p>modified over time.</p> <p>The verandah may also be a later addition to the homestead, as it is constructed on a base support of red brick. Furthermore, the U shaped rear of the residence has an enclosed verandah which was renovated during the 1970s. It would appear that there were also other, earlier renovations to the residence, as the current tenants located a fireplace inside that does not align with the chimneys of the north-western room.</p> <p>Outbuildings</p> <p>The outbuildings of the Edderton Homestead Complex include a weatherboard meat shed, a rubble tank stand with wooden storage underneath, and three weatherboard farm storage sheds with associated stockyards.</p> <p>There is also a weatherboard house situated on the hill behind Edderton homestead. This house looks out over Saddlers Creek and the proposed mine site, and also has view over Bowfields. This house is currently being renovated for occupation.</p>					
Physical condition and Archaeological potential	Edderton homestead is good physical condition, whilst the physical condition of the outbuildings associated with the homestead varies considerably. The Edderton Homestead Complex overall possesses good archaeological potential.					
Construction years	Start year	1908	Finish year	NA	Circa	<input checked="" type="checkbox"/>
Modifications and dates	The modifications have been discussed in the physical description.					
Further comments	<p>The original holding was built up buying out numerous small holdings and selectors. The homestead portion was made up of a large area which originally had been part of 'Arrowfield'. It joined the 'Saddlers Creek', 'Bowfield', 'Plashett' and the back of 'Edinglassie' properties. Hector McDonald moved to Edderton in 1913 from Cessnock where he had been since 1902 where he arrived driving bullocks from Southern Queensland for his father. The bullocks were put on land belonging to the Bells of 'Pickering' and later he purchased the land from the Bells.</p> <p>Edderton was a large property until in 1958 a large area was sold off. Together with Bowfield, Saddlers Creek, Edderton and Plashett were taken over by the Mount Arthur South Coal Company in 1980.</p>					

HISTORY

Historical notes	<p>Edderton was originally part of the historic Arrowfield estate. The lands upon which the Edderton Homestead is situated were formally granted to George Bowman as part of a land grant of 2,560 acres. The property was subsequently purchased by a Mr Ryder, and Edderton Homestead was then built in 1908. Ryder named the property after the Edderton Meat Works in Brisbane, one of his business interests.</p> <p>The property was later acquired by the Hector Cameron McDonald c. 1910 and then passed on to his son Douglas. When first purchased by McDonald, the property was approximately 4,000 acres. Over a period of 25 years, McDonald consolidated Edderton with other lands into a large pastoral property, increasing it to about 13,000 acres. Originally, McDonald ran about 16,000 sheep and today a six stand galvanized iron shearing shed remains, together with the old shearers quarters. After some time, sheep were replaced by cattle as a result of the damage caused to the land. The homestead was extended by the McDonalds from its original four rooms. The building is of quite unusual detail and is in excellent condition.</p> <p>Following WWII, the Edderton property steadily became less economically viable and was gradually broken up. Edderton has since been acquired by Mt Arthur Coal and is currently leased as a working pastoral property primarily for cattle grazing. The homestead was originally a four room house, and was progressively enlarged over the years by Hector McDonald, although it retained the strong Federation lines of the original extension of c1910.</p>
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APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of local historical significance as it provides a good example of an early twentieth century rural homestead and associated farming complex, which would once have been characteristic of the area. The item is important in the course of local history, as farming and agricultural activities were highly significant in defining the growth and development of the local area from the nineteenth century through to the present day.
Historical association significance SHR criteria (b)	This item is not of historical association significance on a local or State level as it does not demonstrate a strong or special association with the life or works of a person, or group of persons, of significance in the course of local or State history.
Aesthetic significance SHR criteria (c)	This item is of local aesthetic significance as it demonstrates the aesthetic characteristics of the 'Arts and Crafts' style of the late nineteenth and early twentieth century incorporated into a rural residential structure.
Social significance SHR criteria (d)	This item is not of social significance on a local or State level as it does not possess a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item is of research significance on a local level as it possesses the potential to yield information that may contribute to an understanding of rural farming life in the local area in the early twentieth century, and how it has evolved over the decades through to the present day.
Rarity SHR criteria (f)	This item is not considered to be rare as it does not demonstrate uncommon, rare or endangered aspects of local or State cultural history.
Representativeness SHR criteria (g)	This item is of representative significance on a local level as it provides a good example of an early twentieth century rural homestead and associated farming complex, which would once have been characteristic of the area.
Integrity	Whilst Edderton homestead has undergone a number of modifications over the years, it retains much of its original form and fabric, and so retains a moderate to high level of integrity, as do the associated outbuildings.

HERITAGE LISTINGS	
Heritage listing/s	Muswellbrook LEP 2009 (RO57)

RECOMMENDATIONS	
Impact	Due to the proximity of Edderton Homestead to the Project Boundary, it will experience high visual impacts during the early stages of the Project. From Year 10 and for the remainder of the Project life, the visual impact will be reduced to moderate and then low, with the northern extent of the overburden emplacement areas rehabilitated and mining advancing further south.
Recommendations	<p>Bridges Acoustics (2012) concluded that the blast vibrations generated by the Project will not exceed the recommended vibration and overpressure criteria (10 mm/s and 120 dBL). However, it is recommended that a pre-blasting structural survey / dilapidation survey of the heritage item be undertaken to document current conditions and that ongoing structural surveys be conducted on a risk-based frequency to monitor the item's condition over time. Remedial measures should be implemented, where necessary, when blasting impacts are shown to be the underlying cause.</p> <p>As outlined in the visual impact assessment (JVP, 2012), several mitigation measures to reduce visual impacts have been incorporated into the design and operation of the Project, including:</p> <ul style="list-style-type: none"> • Tree screening; and • Progressive rehabilitation of overburden emplacement areas and disturbed areas. <p>If required, offsite mitigation measures, such as tree screening or plantings, can be implemented to reduce the visual impact to landscapes surrounding heritage items further.</p>

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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Edderton Homestead, front elevation. View east				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Edderton Homestead, rear. View south west				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Edderton Barn, view south west				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM





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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Edderton – hut. This hut will have a direct view of the open pit. View south				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM





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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption					
Image year		Image by		Image copyright holder	

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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Weatherboard house associated with Edderton Homestead				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	A second house associated with Edderton. View north west				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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ITEM DETAILS						
Name of Item	Stockyard					
Other Name/s Former Name/s	NA					
Area, Group, or Collection Name	NA					
Street number	132					
Street name						
Suburb/town	Muswellbrook				Postcode	2333
Local Government Area/s	Muswellbrook					
Property description						
Location - AMG (if no street address)	Zone	56	Easting	299756	Northing	6407897
Owner	Anglo American					
Current use	Stockyard					
Former Use	Stockyard					
Statement of significance	This item is of local historical significance as it is associated with farming activities which have defined the development of the local area over an extended period of time. It is also of local representative significance as it is a good, largely intact example of a stockyard which demonstrates the key characteristics of a stock run typical of those used in the local area.					
Level of Significance	State <input type="checkbox"/>			Local <input checked="" type="checkbox"/>		

DESCRIPTION						
Designer	Unspecified					
Builder/ maker	Unspecified					
Physical Description	The Stockyard consists of a stock run constructed from bush timbers with cut-in joints. The stock run is L-shaped in plan. Telephone insulators have been re-used as electrical fence insulators.					
Physical condition and Archaeological potential	The item is in fairly good physical condition. It possesses limited to low archaeological potential.					
Construction years	Start year		Finish year		Circa	<input type="checkbox"/>
Modifications and dates	Unknown					
Further comments	NA					

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HISTORY	
Historical notes	There is no specific historical information available for this site.

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of local historical significance as it is associated with farming activities which have defined the development of the local area over an extended period of time.
Historical association significance SHR criteria (b)	This item is not of historical association significance on a local or State level as it does not possess a strong or special association with the life or works of a person, or group of persons, of importance in local or State cultural history.
Aesthetic significance SHR criteria (c)	This item is not of aesthetic significance on a local or State level as it does not demonstrate aesthetic characteristics and/or a high degree of creative or technical accomplishment on a local or State level.
Social significance SHR criteria (d)	This item is not of social significance on a local or State level as it does not possess a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item is not of technical/research significance on a local or State level as it does not possess the potential to yield information that could contribute to or enhance our understanding of local or State cultural history.
Rarity SHR criteria (f)	This item is not considered to be rare as it does not possess uncommon, rare or endangered aspects of local or State cultural history.
Representativeness SHR criteria (g)	This item is of local representative significance as it is a good, largely intact example of a stockyard which demonstrates the key characteristics of a stock run typical of those used in the local area.
Integrity	This item is in good physical condition and appears to possess a moderate to high level of archaeological integrity.

HERITAGE LISTINGS	
Heritage listing/s	NA

RECOMMENDATIONS	
Impact	The stockyard falls outside of the Project Boundary and will not experience direct or indirect impacts.
Recommendations	No mitigation or management recommendations are required.

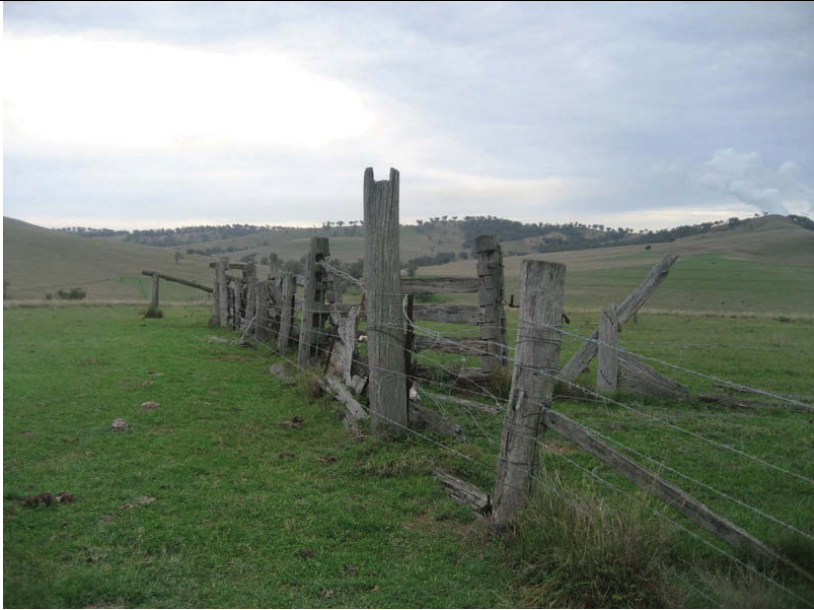


Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Stockyard, view east				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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ITEM DETAILS						
Name of Item	Strowan					
Other Name/s Former Name/s	Strachan; Straun					
Area, Group, or Collection Name	NA					
Street number						
Street name	Denman Road					
Suburb/town	Jerrys Plains		Postcode	2330		
Local Government Area/s	Singleton					
Property description						
Location - AMG (if no street address)	Zone	56	Easting		Northing	
Owner	Coolmore Australia					
Current use						
Former Use	Homestead					
Statement of significance	<p>Strowan Homestead is of national historical significance as is a rare, almost intact surviving homestead of a mid-nineteenth century in the region. The property is also of local historical associative significance due to its association with eminent local pioneering and business families in the Upper Hunter region. Strowan Homestead has very good research potential, as it has the potential to contribute to an understanding of the conduct of a major mid-nineteenth century pastoral property and of the manner in which wealthy pastoralists lived during that time. Furthermore, the homestead is of local representative and aesthetic significance as it provides a largely intact, early Victorian style homestead in a regional context and retains a high level of integrity.</p>					
Level of Significance	State <input checked="" type="checkbox"/>			Local <input type="checkbox"/>		

DESCRIPTION	
Designer	O.H Lewis (son of Mortimer Lewis)
Builder/ maker	Unspecified
Physical Description	<p>Strowan Homestead was designed by O.H Lewis, the son of Mortimer Lewis, and was built in 1860 in an early Victorian style. It consists of a single storey main section constructed from rendered handmade bricks, shuttered French windows, flagged verandah, cast iron columns and trellis and originally with a shingled roof, since replaced by corrugated galvanised iron, and a rear, two storied sandstone kitchen and loft (for storage) section</p> <p>Strowan Homestead is of similar symmetrical design to Plashett, with a central door flanked by side lights and two sets of French doors. The windows and French doors have arched tops. The French doors were also observed to have shutters on them. The house has a simple, pitched roof with a separate verandah. It is missing the gable over the front entry that Plashett has. The sandstone verandah pairing is in quite poor condition. The house is painted white and has ornate, metal verandah supports.</p> <p>Internally the homestead is more resolved than Plashett, mainly due to a lack of unsympathetic additions. All of the rooms have fireplaces. The entry hall is tiled in marble and slate diamonds. These are probably a later insertion over floorboards. Multi-coloured diamond side lights around the windows are also probably later insertions. There is evidence of a rear addition to the house that has been recently removed. In the rear room a bathroom/toilet has been inserted. This is entirely contained and could be removed without damage to the fabric of the homestead. While in relatively good condition, there is evidence internally of rising damp.</p> <p>Outbuildings associated with the homestead in 1980 were observed to be of ironbark slab construction, and include stables, a hayshed, a buggy shed, and a workman's cottage.</p> <p>There was also said to be another structure, similar to the Arrowfield cottage, situated behind Strowan, that has since been relocated to Pokolbin as a church. To the south-west is</p>

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	located a stable/barn, constructed from well dressed vertical slabs, with original feed troughs and a wooden floor. The over-loft of the barn can be accessed via external stairs on the northern side. During the field inspection the loft area was not inspected as the stairs were deemed to be unsafe. Despite this, this structure is overall in very good condition.					
Physical condition and Archaeological potential	This item is in relatively good condition and possesses moderate to high archaeological potential.					
Construction years	Start year		Finish year		Circa	<input type="checkbox"/>
Modifications and dates	Unspecified					
Further comments	NA					

HISTORY	
Historical notes	<p>The property on which Strowan Homestead sites was originally two portions of land located on the southern side of the Hunter River. The first portion of land was granted to John Hosking in 1820, and became known as Hosking Park. Hosking was an absentee owner, and in 1836 he sold the land to George Bowman. The second portion of land was granted to James Robertson, the father of Sir John Robertson, in 1825. This land grant comprised 1000 acres, and Robertson subsequently purchased a further 1,000 acres. The 1,280 acres situated on the southern bank of the Hunter River became Strowan, so named after the ancient barony of Clan Robertson. The land on the northern bank became Plashett. Strowan remained in Robertson hands for 30 years.</p> <p>In 1840 James Robertson transferred Strowan to his son John, who had joined his father on the property in 1835. John was a victim of the Great Depression, and in 1843 was declared bankrupt and Strowan was sequestered. Eventually the property reverted to James and his wife. They then sold it to George Bowman in 1854. George made his sixth son, James, manager of Strowan. James would later become the owner of this property as well. The property subsequently passed to Walter Bowman, and on his death, it was inherited by his nephews, brothers Robert and Mackenzie. On dissolution of the partnership, Robert Bowman became the sole owner of the property. The 'chief glory' of Strowan during the Bowman Years was its Clydesdale Stud. Strowan remained in the Bowman family for more than 130 years, until it was purchased by the Arrowfield Group Ltd in 1986.</p> <p>In 1985, John Messara gained controlling interest in ARABS. He later purchased Arrowfield and the adjacent properties, including Strowan, for the establishment of what is now a leading horse stud. The property is now owned and operated by Calogo Bloodstock Ag trading as Coolmore Australia.</p>

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APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of national historical significance as is a rare, almost intact surviving homestead of a mid-nineteenth century in the region.
Historical association significance SHR criteria (b)	This item is of local historical associative significance due to its association with eminent local pioneering and business families, including the Bowman family.
Aesthetic significance SHR criteria (c)	This item is of local aesthetic significance, being a well-proportioned and elegantly executed house of the 1860s.
Social significance SHR criteria (d)	This item is not of social significance on a State or local level as it does not have a strong or special association with a particular community or cultural group for social, cultural, or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item has very good research potential, as it has the potential to contribute to an understanding of the conduct of a major mid-nineteenth century pastoral property and of the manner in which wealthy pastoralists lived at that time.
Rarity SHR criteria (f)	This item does not meet this criterion as it is not rare.
Representativeness SHR criteria (g)	This item is of local representative significance as it provides a largely intact, early Victorian style homestead in a regional context.
Integrity	This item retains a high level of integrity.

HERITAGE LISTINGS	
Heritage listing/s	Register of the National Estate (place ID 1395); Singleton LEP 1996

RECOMMENDATIONS	
Impact	The construction of the Houston visual bund will have a high visual impact on the front elevation of Strowan Homestead between Year 3 and Year 5. This visual impact will be reduced to moderate and then low as progressive rehabilitation is completed and the bund is integrated with the surrounding landscape.
Recommendations	<p>Bridges Acoustics (2012) concluded that the blast vibrations generated by the Project will not exceed the recommended vibration and overpressure criteria (5 mm/s and 115 dBL). However, it is recommended that a pre-blasting structural survey / dilapidation survey of the heritage item be undertaken to document current conditions and that ongoing structural surveys be conducted on a risk-based frequency to monitor the item's condition over time. Remedial measures should be implemented, where necessary, when blasting impacts are shown to be the underlying cause.</p> <p>As outlined in the visual impact assessment (JVP, 2012), several mitigation measures to reduce visual impacts have been incorporated into the design and operation of the Project, including:</p> <ul style="list-style-type: none"> • Tree screening; and • Progressive rehabilitation of overburden emplacement areas and disturbed areas. <p>If required, offsite mitigation measures, such as tree screening or plantings, can be implemented to reduce the visual impact to landscapes surrounding heritage items further.</p>

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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Strowan – front elevation. View south west				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Strowan – barn. View south west				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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ITEM DETAILS					
Name of Item	Arrowfield				
Other Name/s Former Name/s	NA				
Area, Group, or Collection Name	NA				
Street number					
Street name	Golden Highway				
Suburb/town	Jerrys Plains	Postcode	2330		
Local Government Area/s	Muswellbrook				
Property description					
Location - AMG (if no street address)	Zone	56	Easting		Northing
Owner					
Current use	Guest House				
Former Use	Residence				
Statement of significance	<p>Arrowfield is of local historical significance due to its strong association with the history and development of pastoralism and particularly horse breeding in the Upper Hunter Region. This item is further of historical association significance on a local level due to its association with the eminent local pioneering family of the Bowmans, and other key influential pastoral and business families and figures in the region. This item is also of technical/research significance on a local level as the house and former homestead site retain a good level of integrity and possess the potential to contribute to and enhance our understanding of the nature and history of pastoralism and horse breeding, and their development and evolution in the Upper Hunter Region from the nineteenth century through to the present day.</p>				
Level of Significance	State <input type="checkbox"/>		Local <input checked="" type="checkbox"/>		

DESCRIPTION					
Designer	Unknown				
Builder/ maker	Unknown				
Physical Description	<p>The location of Arrowfield consists of a two storey sandstone cottage, which has been renovated for use as a guest house. The structure is not the original homestead, and may originally have been used as the stables. There is a cellar underneath the building, with chains on the walls. These do not appear to be substantial enough to restrain convicts though, as has been suggested.</p> <p>The original Arrowfield homestead is said to have been located behind (to the south) this cottage. A memorial in the form of a bathtub with a plaque marks the location of the former homestead. The view from the cottage and former homestead site to the mine location is limited by local trees and the range.</p>				
Physical condition and Archaeological potential	The cottage and former cottage site are in quite good condition. They possess moderate to high archaeological potential.				
Construction years	Start year	1840	Finish year		Circa <input checked="" type="checkbox"/>
Modifications and dates	The Stone Cottage has been renovated as a guest house within the last 5 years.				
Further comments	NA				

HISTORY	
Historical notes	<p>Richmond Inn Keeper and landholder George Bowman arrived in Sydney in 1798 at three years of age. His father John had immigrated to Australia on the recommendation of Sir Joseph Banks. George Bowman settled in the Hawkesbury.</p> <p>In August 1824 George Bowman was granted 250 acres in the Hunter Valley. He then purchased a further 800 acres to make 'Archerfield'. In 1820 he married Eliza Pearce, and together they had 11 children. George continued to live at Richmond while his sons George and William managed his holdings in the Hunter Valley.</p> <p>Arrowfield consists of the majority of 3 portions in the Parish of Wynn, which Bowman had acquired by 1841. His son John Woodward Bowman was his tenant. The land had originally been granted to Crawford Logan Browne, an immigrant who had arrived in Australia in 1827 at the age of twenty-two. Soon after, he</p>

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	<p>was granted 1,280 acres in the Hunter Valley. In the 1828 census Browne was farming at 'Black Field', Patrick's Plains (probably 'Blakefield') when the property was obtained by Bowman.</p> <p>Browne had interests at Williams River, Dungog, also in the Hunter Valley, and so concentrated his efforts there, selling 'Blakefield' to George Bowman on the 20 April 1837. In 1825 Bowman had been given the right to buy 2,000 acres, and had taken 1,120 acres next to Brownes grant. While the deed was not issued until 1834, he was paying rent on the property from 1820. By 1837 Bowman owned Brownes land as well as the purchased section.</p> <p>In 1841 Bowman bought 1,274 acres to the north. This essentially comprised the land which would come to be known as Arrowfield, with the exception of some purchases north of 'the road' (possibly the Golden Highway). By 1842 the property was known as 'Arrowfield'.</p> <p>John Woodward was the second son of George Bowman, and in 1844 the Browne portion was transferred to him. George's other son James managed 'Strowan'. John subsequently bought his own portions of land to the north of Arrowfield as well, and on the death of George, James became the owner of the entirety of Arrowfield and 2,560 acres adjacent to Bowfield. By the 1850s he was living at Arrowfield, and in July 1852 he married Jane Alexandria, the daughter of John Johnston of Clydesdale, Singleton.</p> <p>John ran cattle and sheep, and farmed feed and cash crops at Arrowfield.</p> <p>Arrowfield was later sold to William Rupert Raleigh, who had been leasing and working the property. Raleigh then sold the property to brothers William and Frederick Albert Moses in April 1912. They operated it as an outstandingly successful thoroughbred stud, and it was put up for auction on the 12 April 1924. The horses were sold and new records were set for the prices that they fetched on the market. As the Moses brothers were getting on in age, the property was predominantly managed by Jack Honnery.</p> <p>In July 1925 Arrowfield was purchased by William Pearce Bowman in the name of two of his underage sons – Major Millington and Ray Millington Bowman. His third son, Tristan, eventually became the sole owner, however. The property was then used as Jersey Stud, for dairy and sheep grazing. A piggery was also established, and during World War II an airstrip was built on the property. In 1946 Tristan sold the property to John Norman Lawson of Muswellbrook. Lawson was a member of the House of Representatives for the United Australia Party from 1931-1940, and was the Minister for Trade and Customs for the last two years of this term before losing his seat. Lawson also kept racehorses on the property.</p> <p>When Lawson dies in 1956 his sons John Gordon and Rodney Beaumont inherited the property, which they used for dairying, cattle breeding, and ewes for meat.</p> <p>In the 1970s vines were planted on the property and it appears that Carpenter's Ltd acquired and set about planting the grapes in partnership with Penfold Wines through Francis Investments Pty Ltd. Carpenter's eventually bought out Francis and established their own winery, as opposed to just selling grapes. The quality of the wine produced, however, was not good and there was not a strong market for red wine at the time. As they were not profitable, the focus was changed to white wine production, and the property was taken over once again, this time by Griffin Holdings.</p> <p>In the meantime, John Messara had been building the Australian Racing and Breeding Stables Ltd (ARABS). In 1986, Griffin Holdings sold to ARABS and in 1987 changed their name to the Arrowfield Group. They also purchased Oak Range, Strowan and Riverview in the local area, and the focus of the property once again returned to operating as a horse stud (Driscoll 1989). A portion of the property was later sold in 1989 to the Whitlam, Simon and Gilbert Group, which was led by Nick Whitlam, a merchant banker. At the time, wine was distributed under the Mount Arrow label as the group did not hold the rights to the Arrowfield brand.</p> <p>In 1991, the property was acquired by the Inagaki family; the controlling interest in the Hokuriku Coca Cola Bottling Co Ltd. The Arrowfield viticulture operations went on to be owned and operated by The InWine Group Australia Ltd of which Hokuriku Coca Cola Bottling Co Ltd was the leading stakeholder. The property has since been listed on the market for private sale.</p>
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APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of local historical significance due to its strong association with the history and development of pastoralism and particularly horse breeding in the Upper Hunter region.
Historical association significance SHR criteria (b)	This item is of historical association significance on a local due to its association with the eminent local pioneering Bowman family and other key influential pastoral and business families in the region.
Aesthetic significance SHR criteria (c)	This item is not of aesthetic significance on a State or local level as it is not an important demonstration of aesthetic achievements and/or a high degree of creative or technical achievement.
Social significance SHR criteria (d)	This item is not of social significance on a State or local level as it does not have a strong or special association with a particular community or cultural group in the State or local area.
Technical/Research significance SHR criteria (e)	This item is of technical/research significance on a local level as it possesses the potential to contribute to and enhance our understanding of the nature and history of pastoralism, and its development and evolution in the Muswellbrook area from the nineteenth century through to the present day.
Rarity	This item does not meet this criterion as it is not rare.

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SHR criteria (f)	
Representativeness SHR criteria (g)	This item is not of representative significance on a State or local level as it does not demonstrate the principal characteristics of a class of cultural place in the State or region.
Integrity	The cottage and former homestead site retain a good level of integrity.

HERITAGE LISTINGS	
Heritage listing/s	NA

RECOMMENDATIONS	
Impact	The Arrowfield Homestead falls outside of the Project Boundary and will not experience direct or indirect impacts.
Recommendations	Bridges Acoustics (2012) concluded that the blast vibrations generated by the Project will not exceed the recommended vibration and overpressure criteria (5 mm/s and 115 dBL). However, it is recommended that a pre-blasting structural survey / dilapidation survey of the heritage item be undertaken to document current conditions and that ongoing structural surveys be conducted on a risk-based frequency to monitor the item's condition over time. Remedial measures should be implemented, where necessary, when blasting impacts are shown to be the underlying cause.

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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Arrowfield Cottage, view north				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM





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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Arrowfield homestead bath, now set up as a memorial. View south.				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Arrowfield homestead bath plaque.				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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ITEM DETAILS						
Name of Item	Woodlands Stud					
Other Name/s Former Name/s	NA					
Area, Group, or Collection Name	NA					
Street number	3933					
Street name	Golden Highway					
Suburb/town	DENMAN				Postcode	2328
Local Government Area/s	Muswellbrook					
Property description						
Location - AMG (if no street address)	Zone	56	Easting	291702	Northing	6405496
Owner	Darley					
Current use	Horse Stud – Offices					
Former Use	Horse Stud – Home					
Statement of significance	Woodlands Homestead is of historical and aesthetic significance at State level, as the substantial 1830s dwelling sits in outstanding condition alongside the later residence, indicating the earliest phase of Hunter region development. The item is also of associative significance on a local scale as it is associated with eminent pioneering and business families of the Muswellbrook area. Scientifically, the property is also of State significance for its rare potential to reveal information which could contribute both to an understanding of thoroughbred horse breeding and cattle raising over a period of a hundred and fifty years, and to the lifestyle of the wealthy initial settlers of the Hunter region.					
Level of Significance	State <input checked="" type="checkbox"/>				Local <input type="checkbox"/>	

DESCRIPTION						
Designer	Unknown					
Builder/ maker	Unknown					
Physical Description	The item consists of a dressed sandstone house in Colonial Georgian style, oriented to the south. The exterior consists of stone walls with metal roofing. Simple sandstone columns support the older, front verandah, whilst timber columns support those of a subsequent extension. There are seven symmetrical French doors across the front of the residence, with the central door being flanked by two small rectangular windows. To the north-west side of the house is located a sandstone set of outbuildings, which form part of an L shape. Behind the main house is located a small, square kitchen, which was renovated two years ago in 2009. There are limited to no original internal fittings extant in the main building.					
Physical condition and Archaeological potential	The item is in excellent physical condition and is well maintained as it is currently used by Darley as the main offices in the Hunter Region for their horse stud. Overall the homestead possesses excellent archaeological potential.					
Construction years	Start year	1830/1860	Finish year		Circa	<input checked="" type="checkbox"/>
Modifications and dates	There are c. 2009 extensive internal modifications with some external as well, with evidence existing of a new window in the western wall of the kitchen, and a new opening central east wall of out buildings.					

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	The rear extensions and glass doors to the patio were added in 1986.
Further comments	The item is situated on the southern face of an incline on the lower third of the hill.

HISTORY	
Historical notes	<p>Woodlands was the name of a small land grant of 960 acres on the Goulburn River given to James Arndell, the son of First Fleet surgeon Thomas Arndell, in 1824. The property was held by the Arndells until c. 1860, when it was bought from them by James White, who passed it on to his son H.C White in 1868. It was used by the White's as a Shorthorn cattle stud, but also used for thoroughbred horses. In 1908 the property was subdivided and the homestead lot passed to E.G Blume, who made it famous as a thoroughbred stud. He subsequently sold it to A.E Grace of Grace Bros., and it then passed from him to E. McManamin who ran sheep there.</p> <p>From 1971, when Lord Derby bought it, Woodlands was developed as part of the largest private racing enterprise in Australasia according to its then owners, Inghams Enterprises. The homestead is said to date from the early decades of the nineteenth century.</p> <p>The item is currently owned by Darley – HH Sheikh Mohammed bin Rashid Al Maktoum's global horse breeding operation.</p>

APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	This item is of historical significance on a State level, as the substantial 1830s dwelling sits in outstanding condition alongside the later residence, indicating the earliest phase of Hunter region development.
Historical association significance SHR criteria (b)	This item is of associative significance on a local scale as it is associated with eminent pioneering and business families of the Muswellbrook area.
Aesthetic significance SHR criteria (c)	This item is of State significant aesthetic value. It is a superbly sited and proportioned building with unique and unequalled views of the Hunter River. The renovations undertaken are sympathetic and do not detract from the significance of the item.
Social significance SHR criteria (d)	This item is not of social significance on a State or local level as it does not have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
Technical/Research significance SHR criteria (e)	This item is of scientific significance as the property has unique potential to contribute to and enhance our understanding of thoroughbred horse breeding and cattle raising over a period of a hundred and fifty years, and to the lifestyle of the wealthy initial settlers of the Hunter region land.
Rarity SHR criteria (f)	This item is rare on a regional level.
Representativeness SHR criteria (g)	This item does not meet this criterion as it does not demonstrate the principal characteristics of a class of cultural places or environments.
Integrity	This item retains a moderate to high level of integrity.

HERITAGE LISTINGS	
Heritage listing/s	Hunter REP; Muswellbrook LEP.

RECOMMENDATIONS	
Impact	The Woodlands Homestead falls outside of the Project Boundary and will not experience direct or indirect impacts.
Recommendations	Bridges Acoustics (2012) concluded that the blast vibrations generated by the Project will not exceed the recommended vibration and overpressure criteria (5 mm/s and 115 dBL). However, it is recommended that a pre-blasting structural survey / dilapidation survey of the heritage item be undertaken to document current conditions and that ongoing structural surveys be conducted on a risk-based frequency to monitor the item's condition over time. Remedial measures should be implemented, where necessary, when blasting impacts are shown to be the underlying cause.



Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Woodlands, front/side elevation. View south east				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	View from Woodlands to Project. View north.				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



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ITEM DETAILS						
Name of Item	Randwick					
Other Name/s Former Name/s	NA					
Area, Group, or Collection Name	NA					
Street number						
Street name	Golden Highway					
Suburb/town	Jerrys Plains				Postcode	2330
Local Government Area/s	Singleton					
Property description						
Location - AMG (if no street address)	Zone	56	Easting	292420	Northing	6407834
Owner	Darley					
Current use	House					
Former Use	House					
Statement of significance	There is currently insufficient information to accurately assess the item according to the NSW Heritage Office <i>Assessing Heritage Significance</i> criteria.					
Level of Significance	State <input type="checkbox"/>			Local <input type="checkbox"/>		

DESCRIPTION						
Designer	Unknown					
Builder/ maker	Unknown					
Physical Description	'Randwick' house consists of a weatherboard house oriented to the south. The main house has a brick chimney and semi-circular roof vents. The front door has lead-light side windows. Extensions to the west and north forms a T-shaped plan.					
Physical condition and Archaeological potential	This item is in fair physical condition. It possesses limited archaeological potential.					
Construction years	Start year		Finish year		Circa	<input type="checkbox"/>
Modifications and dates	Unspecified					
Further comments	NA					

HISTORY	
Historical notes	There is no specific historical information available pertaining to this item.

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APPLICATION OF CRITERIA	
Historical significance SHR criteria (a)	There is currently insufficient information to assess Randwick against this criterion.
Historical association significance SHR criteria (b)	There is currently insufficient information to assess Randwick against this criterion.
Aesthetic significance SHR criteria (c)	There is currently insufficient information to assess Randwick against this criterion.
Social significance SHR criteria (d)	There is currently insufficient information to assess Randwick against this criterion.
Technical/Research significance SHR criteria (e)	There is currently insufficient information to assess Randwick against this criterion.
Rarity SHR criteria (f)	There is currently insufficient information to assess Randwick against this criterion.
Representativeness SHR criteria (g)	There is currently insufficient information to assess Randwick against this criterion.
Integrity	There is currently insufficient information to assess Randwick against this criterion.

HERITAGE LISTINGS	
Heritage listing/s	NA

RECOMMENDATIONS	
Impact	The Randwick Homestead falls outside of the Project Boundary and will not experience direct or indirect impacts.
Recommendations	Bridges Acoustics (2012) concluded that the blast vibrations generated by the Project will not exceed the recommended vibration and overpressure criteria (5 mm/s and 115 dBL). However, it is recommended that a pre-blasting structural survey / dilapidation survey of the heritage item be undertaken to document current conditions and that ongoing structural surveys be conducted on a risk-based frequency to monitor the item's condition over time. Remedial measures should be implemented, where necessary, when blasting impacts are shown to be the underlying cause.



Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	View from Randwick Park to project area				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM



Heritage Data Form

IMAGES - 1 per page

Please supply images of each elevation, the interior and the setting.

Image caption	Randwick front elevation, view east				
Image year	2011	Image by	Susan Lampard	Image copyright holder	AECOM

