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**Peer Review Response to  
Bylong Coal Project Heritage Review Report  
prepared for Planning Assessment Commission  
by GML Heritage May 2017**



*A report prepared by*  
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*for*  
**Hansen Bailey Pty Ltd**  
*on behalf of*  
**WorleyParsons and KEPCO Bylong Australia Pty Ltd**

**8 June 2017**

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**SPECIALISTS IN THE IDENTIFICATION, ASSESSMENT, MANAGEMENT AND INTERPRETATION OF CULTURAL HERITAGE**

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## Executive Summary

The GML Heritage Report "Bylong Coal Project: Heritage Review", commissioned by the Planning Assessment Commission (PAC) in response to a request on 9 January 2017 by the then Minister for Planning for a review of the Bylong Coal Project (SSD 14\_6367) ('The Project') is peer reviewed by Chris Betteridge, Director, Betteridge Consulting Pty Ltd t/a **MUSEcape**.

This Peer Review of the GML Heritage Report has been commissioned by Hansen Bailey on behalf of WorleyParsons and the Project Proponent, KEPCO Bylong Australia Pty Ltd, to provide them with advice as to whether the GML Heritage Report has been prepared in accordance with an appropriate methodology, whether there are any errors of fact and/or omission in the report and whether the report satisfies the PAC terms of reference including additional heritage matters for consideration requested by the then Minister for Heritage.

It is assumed that the GML Heritage Report was prepared by heritage practitioners with relevant skills but details of the authors' qualifications and experience are not provided, nor is the report signed. The methodology used and perceived limitations are supplied, The lack of an Executive Summary, Conclusions and Bibliography in the GML Heritage Report make its findings more difficult to analyse.

Those NSW Historical Themes identified in the GML Heritage Report are considered relevant but there are several other potentially relevant themes which should have been considered in the assessment of significance. The GML Heritage Report does address the issues of Natural Sequence Farming (NSF), horse breeding and cattle breeding at Tarwyn Park and Iron Tank as identified in their brief and preparation of the report did include consultation with some relevant stakeholders. A number of case studies where NSF techniques have been applied on other properties are discussed in the report.

There are a number of errors of fact and omission in the GML Heritage Report relating to matters such as the accurate location of heritage features and these are listed and discussed in Table 1 in this Peer Review.

The Tarwyn Park Farm Complex (comprising Tarwyn Park and Iron Tank) is assessed in the GML Heritage Report as satisfying a number of criteria for State heritage listing and / or Local listing but the inclusion and exclusion guidelines for testing places against the criteria are not mentioned or discussed. No Statement of Significance for Tarwyn Park Farm Complex has been compiled from the analysis of significance against the assessment criteria. The Comparative Analysis does not focus enough on truly comparable properties and includes listed heritage items of widely different age and type from Tarwyn Park Farm Complex. There is insufficient information provided to justify the levels of significance assessed.

The GML Heritage Report states that the 'fabric' of Tarwyn Park and Iron Tank has been considered but there is little consideration in the text of the physical fabric of the built or landscape elements of the property.

The report includes considerable research findings about the history of Tarwyn Park Farm Complex and its associations but does not provide sufficient information to warrant the significance assessments reached.

There is inadequate consideration of either the nature or degree of the impacts on heritage values requested by the former Minister in the Terms of Reference. Further there is no acknowledgement or reference to the mitigation measures proposed in the EIS and the AECOM Historic Heritage Impact Assessment to address potential heritage impacts. These are enumerated and discussed in Table 2 of this Peer Review.

## 1.0 Introduction

### 1.1 Background

On 9 January 2017, the then Minister for Planning, The Hon Rob Stokes MP issued a request to the Planning Assessment Commission (PAC), pursuant to Section 23D of the *Environmental Planning and Assessment Act 1979* and Clauses 268R and 268V of the *Environmental Planning and Assessment Regulation 2000*, to:

1. Carry out a review of the Bylong Coal Project (SSD 14\_6367) ('the Project'), and:
  - (a) consider the EIS for the project, additional information provided to the Department, all issues raised in public and agency submissions, and any relevant information provided during the course of the review;
  - (b) assess the merits of the project as a whole having regard to all relevant NSW Government policies, and paying particular attention to:
    - the impacts on the water and agricultural resources of the Bylong Valley;
    - the social impacts on the Bylong village and surrounds;
    - impacts on heritage values associated with the Tarwyn Park property, including natural sequence farming; and
    - the justification for the open cut stage of the project; and, if necessary;
  - (c) recommend appropriate measures to avoid, minimise and /or manage significant impacts of the project.
2. Conduct public hearings during the review as soon as practicable after the Department of Planning and Environment provides its preliminary assessment report to the Commission.
3. Submit its final report on the review to the Department of Planning and Environment within 12 weeks of receiving the Department's preliminary assessment report, unless the Secretary agrees otherwise.

In March 2017, the PAC commissioned GML Heritage Pty Ltd (GML) to provide advice with regard to specific heritage matters as part of the PAC's review of the Bylong Coal Project. In addition to the heritage matters identified in the terms of reference, GML's report also responds to correspondence dated 15 December 2016 from the former Minister for Heritage, the Hon. Mark Speakman to the Hon. Rob Stokes, requesting that the PAC's terms of reference include a requirement to complete an independent assessment of the heritage significance of the Tarwyn Park properties as part of its consideration. Consequently, GML's scope of works included provision of independent advice on the following heritage matters:

- the impacts of the proposed Bylong coal mine on the heritage values associated with Iron Tank and the Tarwyn Park property, including natural sequence farming, thoroughbred horse breeding and cattle breeding history; and

- the eligibility of Iron Tank and Tarwyn Park to be considered as items of state heritage significance under the New South Wales heritage assessment criteria.
- Bylong Coal Project Environmental Impact Statement Historic Heritage Impact Assessment, prepared by AECOM, for Hansen Bailey Environmental Consultants, 20 April 2015;
- correspondence from Ms Katrina Stankowski, Acting Manager, Conservation, Heritage Division, Office of Environment and Heritage, to Mr Stephen O'Donoghue, A/Director Resource Assessments, Department of Planning and Environment, re 'Heritage Division comments on State Significant Development Application 6367—Bylong Coal Project', 11 November 2015;
- request to the Planning Assessment Commission Bylong Coal Project, Section 23D of the *Environmental Planning and Assessment Act 1979*, Clauses 268R and 268V of the Environmental Planning and Assessment Regulation 2000 from the Hon. Rob Stokes MP, Minister for Planning, 9 January 2017;
- Department of Planning and Environment's State Significant Development Assessment: Bylong Coal Project (SSD-6367), March 2017;
- submissions and documentation from the Office of Environment and Heritage—Heritage Division;
- State Heritage Register Nomination Form, Tarwyn Park Homestead and stables, and its associated property Tarwyn Park and Iron Tank;
- National Trust Bylong Landscape Conservation Area, August 2013; and
- Heritage Council of NSW, Historical Themes 2001.

## **1.2 The Brief for the Peer Review**

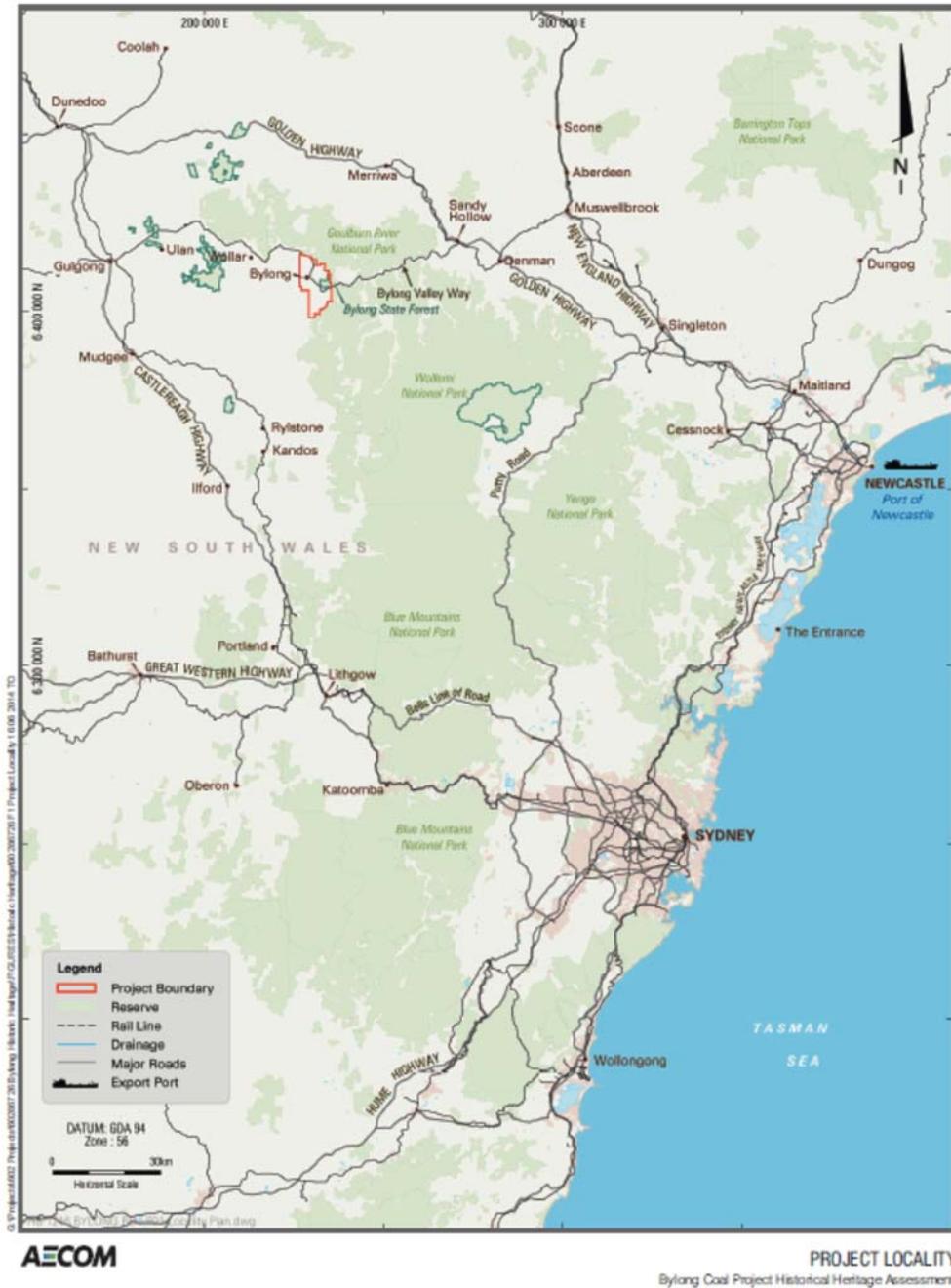
Hansen Bailey, on behalf of WorleyParsons and KEPCO, have commissioned Chris Betteridge, Director, Betteridge Consulting Pty Ltd t/a **MUSEcape** to complete a Peer Review of the GML Report to assess whether it adequately addresses the terms of reference, including the following:

1. Any errors of fact or omission;
2. The methodology used by GML to assess the "*heritage values associated with the Tarwyn Park property, including natural sequence farming*";
3. Further information on the potential impacts of the Project as identified by GML;
4. Explanation of where these impacts have been identified within the EIS (and supporting information) (where relevant); and
5. How these impacts will be managed and mitigated by the Project.

## 1.3 The Project Area and its Context

### 1.3.1 State Context

The location of the Project in the context of Sydney, Newcastle and eastern NSW is shown in Figure 1 below.

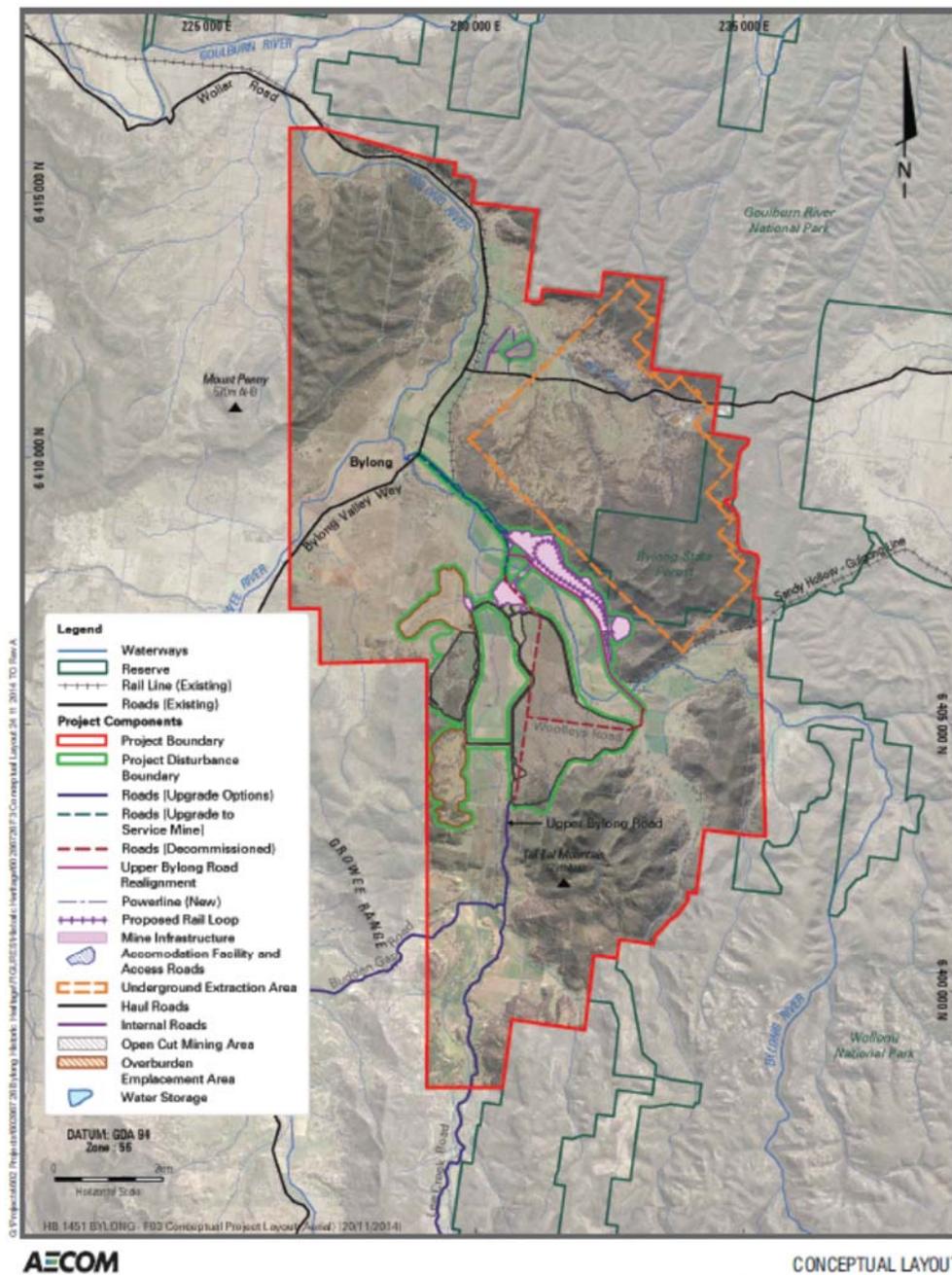


**Figure 1** The Project area (edged red) in its regional context within NSW. (Source: Figure 1, AECOM HHIA)



### 1.3.3 The Bylong Valley context

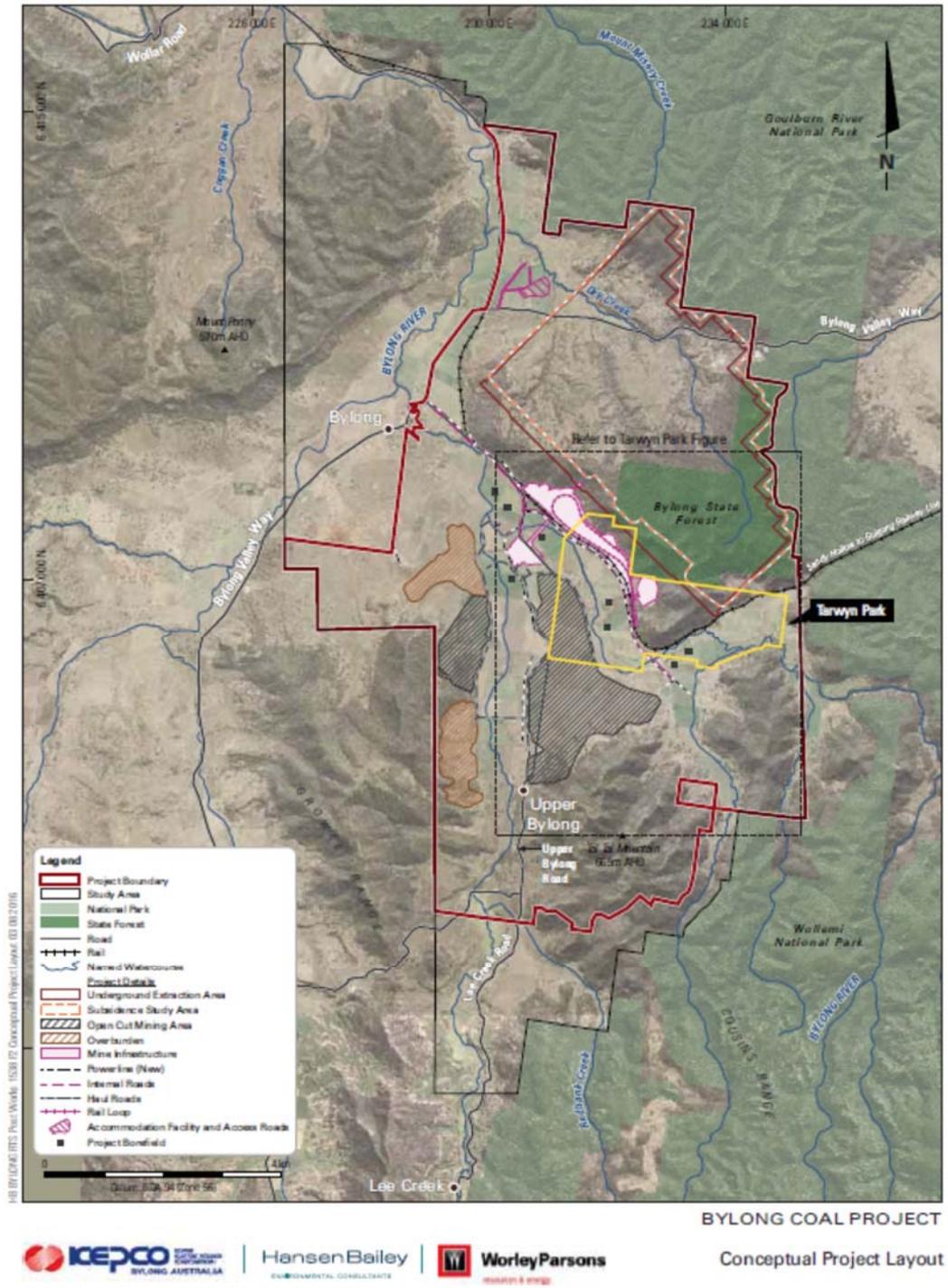
The Conceptual Project Layout of the Project within the Bylong Valley is shown in Figure 3 below.



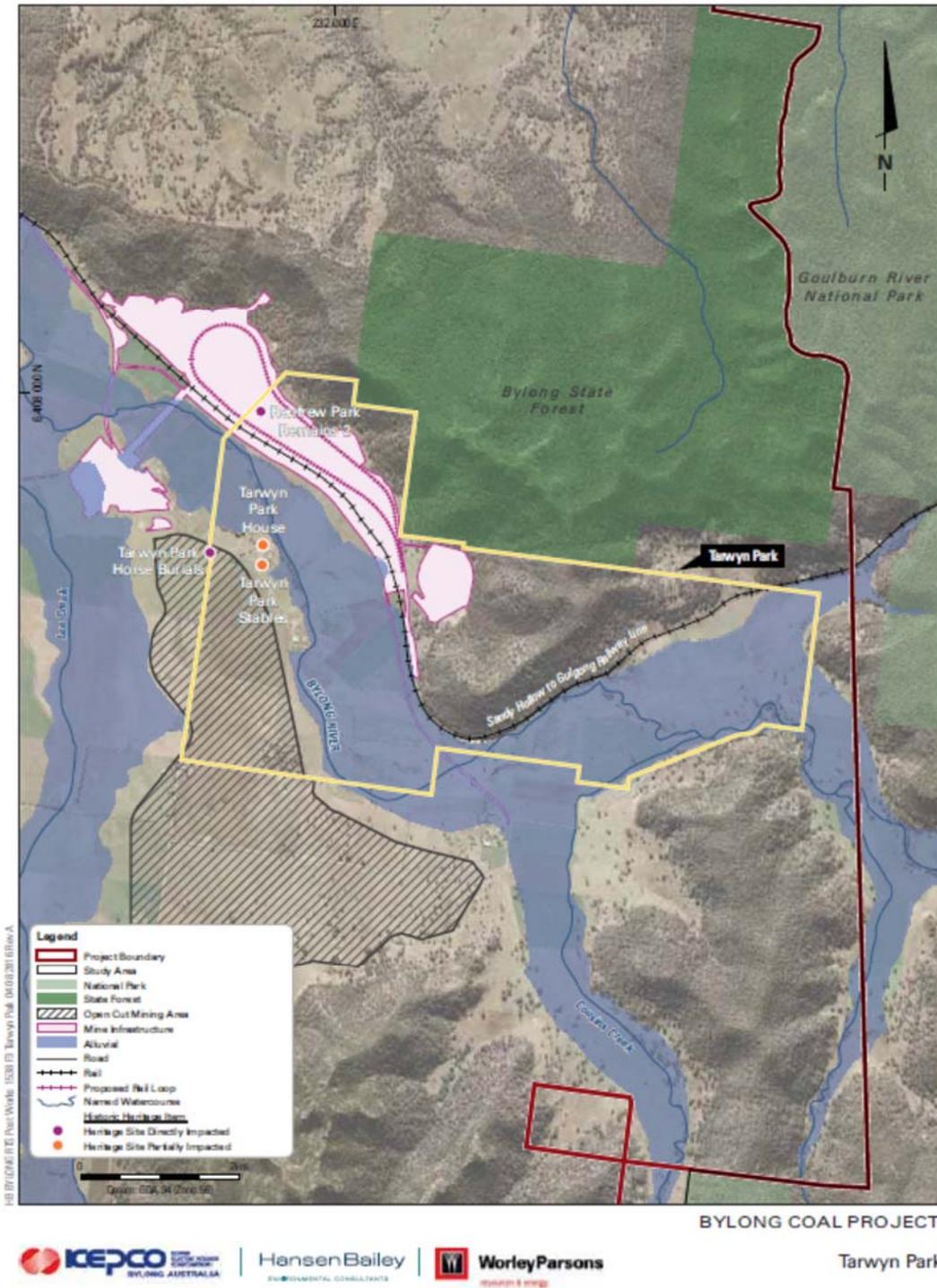
**Figure 3:** The Conceptual Layout of the KEPCO Bylong Coal Project in the context of the Bylong Valley. (Source: AECOM HHIA Figure 3)

### 1.3.4 The Tarwyn Park Farm Complex

The Tarwyn Park Farm Complex, comprising Tarwyn Park and Iron Tank, is shown in Figures 4 and 5 below.



**Figure 4:** The Tarwyn Park Farm Complex in relation to the Project Boundary.  
 (Source: KEPCO, Hansen Bailey, WorleyParsons Conceptual Project Layout, Figure 2)

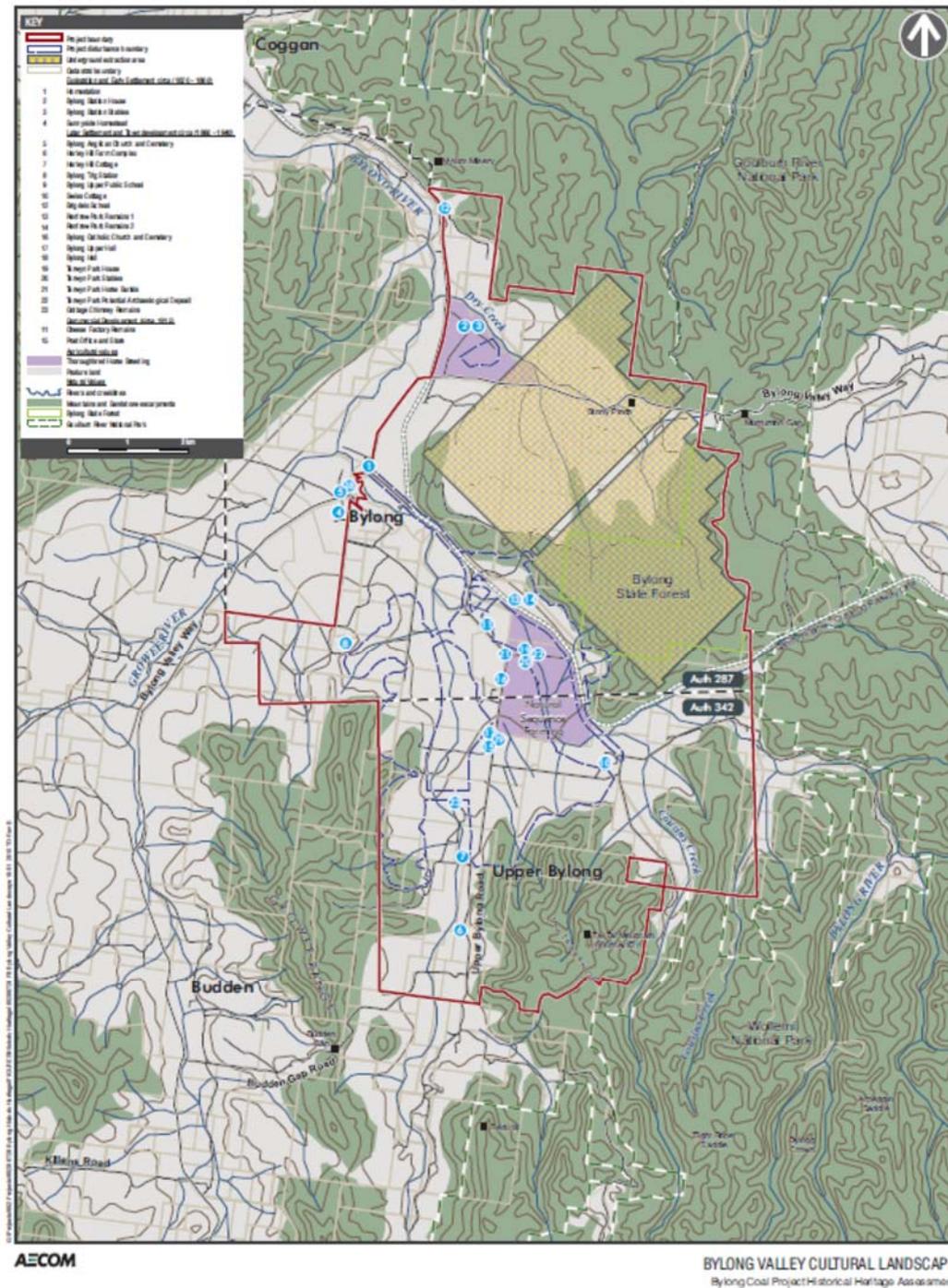


**Figure 5** The boundaries of the Tarwyn Park Farm Complex, showing the locations of the homestead and the stables. (Source: KEPCO, Hansen Bailey, WorleyParsons Bylong Coal Project: Tarwyn Park, Figure 2)

**1.3.6 Bylong Valley Cultural Landscape**

For the purposes of the Historic Heritage Impact Assessment (HHIA) which AECOM prepared as part of the Environmental Impact Statement for the Project, AECOM identified an area which they described as the Bylong Valley Cultural Landscape as the context for their assessment of potential heritage items in the area affected by the Project.

This area includes the Project Authorisations A287 and A342 and is shown on Figure 6 below. Most of the potential heritage items identified in the HHIA are located within one of the Authorisations but a few, particularly the cluster of items in Bylong village are just outside the Project boundary.

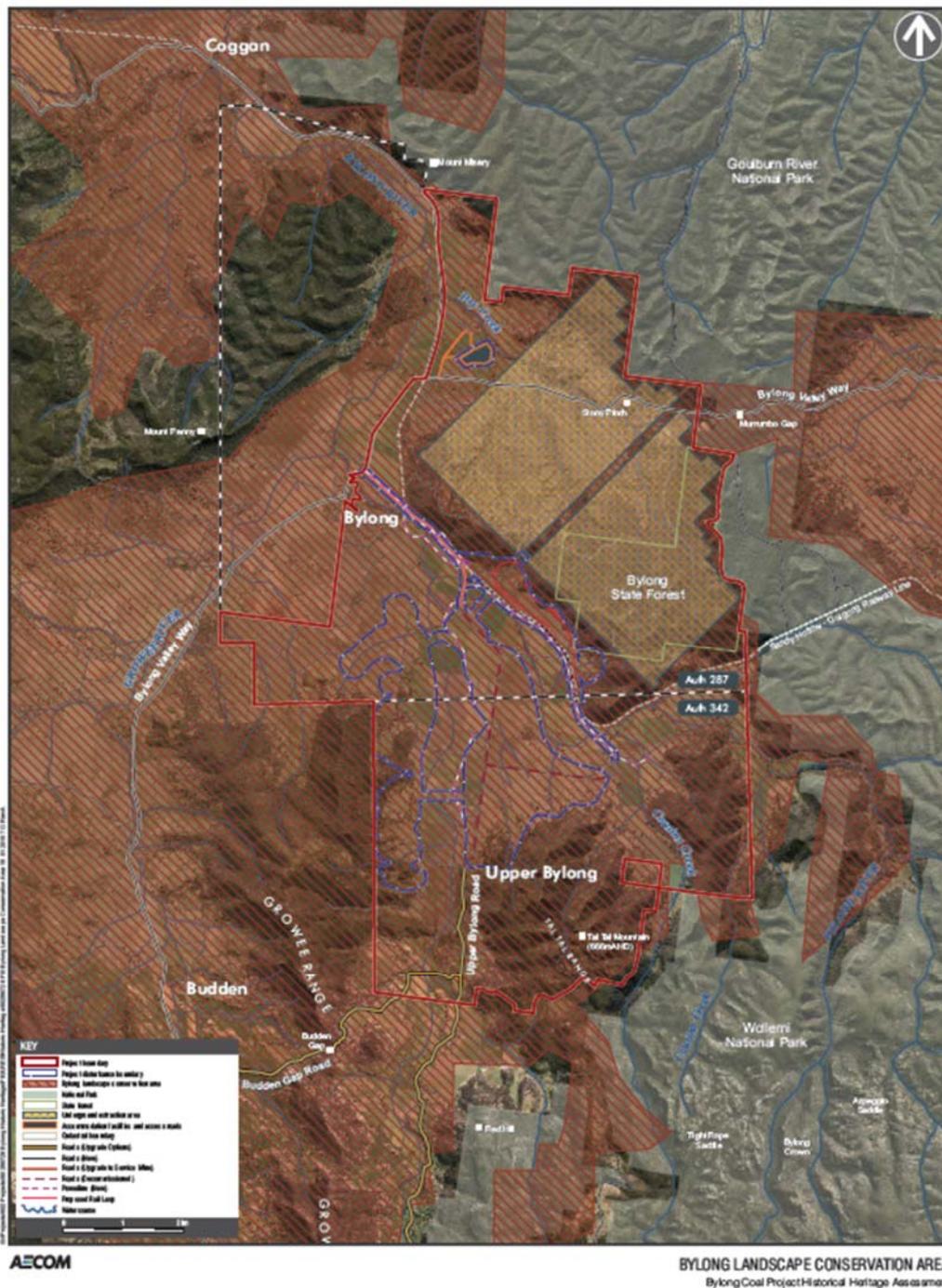


**Figure 6** Bylong Valley Cultural Landscape, with the Project boundary, edged red. (Source: AECOM HHIA, Figure 9)

### 1.3.7 Bylong Landscape Conservation Area

The National Trust of Australia (New South Wales) is a long-established community-based heritage assessment and advocacy organisation, founded in 1945 and incorporated since 1970.

The Trust compiles and maintains a Register of items and places of heritage significance in NSW, which, until the establishment of the State Heritage Register and Local Environmental Plan heritage schedules, was the most comprehensive list of heritage places in this state. Trust members include many built and landscape professionals, some of whom provide their services voluntarily on committees which identify and assess places for their heritage value and potential listing on the Trust's Register. One of these committees is the Landscape Conservation Committee which has assessed numerous landscape conservation areas for listing on the Register. While listing on the Register carries no statutory force it is recognition of the significance of a listed item or area as assessed by a recognised community and professional organisation.



**Figure 7** The Bylong Landscape Conservation Area listed on the Register of the National Trust of Australia (NSW), shown hatched red. (Source: AECOM HHIA, Figure 11)

The Bylong Landscape Conservation Area was listed on the Trust's Register on 28 August 2013, with the author listed as Graham Quint. A copy of the listing is included in Appendix A 'National Trust Listings' in the AECOM HHIA. The area appears to cover the lower lying areas of private land in the Bylong valley (excluding National Parks and other public land). The listing does not provide a figure for the actual area which it covers apart from providing a map with red boundary line. It is anticipated that the 1,160 hectares of proposed surface disturbance arising from the Project (as illustrated on Figure 18 of EIS) is only a small proportion of the wider Bylong Valley Landscape Conservation Area. The boundary of the Bylong Landscape Conservation Area in proximity to the Project is shown on Figure 7 above.

#### **1.4 Author identification, qualifications and experience**

This Peer Review has been prepared by Chris Betteridge, BSc (Sydney), MSc (Museum Studies, Leicester), AMA (London), MICOMOS, a Sydney-based heritage consultant in private practice since 1991. Prior to that, for ten years Chris was Specialist – Environmental / Landscape with the NSW planning agencies, advising the Heritage Council of NSW on matters relating to cultural landscape conservation and for four years he was Assistant Director (Community Relations), Royal Botanic Gardens Sydney. For four years, Chris was also part of the senior management team at The Earth Exchange (formerly the Geological and Mining Museum). The author has considerable recent experience in the assessment of heritage values and heritage impact assessment on many significant buildings and cultural landscapes in NSW including the following:

- Planning proposals in the Camden, Campbelltown, Wollondilly, Blacktown and Hills local government areas (LGAs), including Glenlee employment lands, Menangle Park release area, Elizabeth Macarthur Agricultural Institute, Menangle Village landscape, East Leppington release area, Emerald Hills, Spring Farm extractive operations, Oran Park House and two tranches of the Oran Park urban release, Clydesdale historic homestead and the Hunting Lodge, Rouse Hill.
- Advice in relation to the implications of SHR listing of historic properties affected by housing and mining proposals in the Hawkesbury and Muswellbrook LGAs respectively.

This author was previously commissioned by Hansen Bailey on behalf of WorleyParsons and Kepco Australia Pty Ltd to prepare a Peer Review of the AECOM Historic Heritage Impact Assessment (HHIA) for the Project.

#### **1.5 Acknowledgments**

The author would like to thank the following individuals for their kind assistance in the preparation of this report:

Nathan Cooper, Hansen Bailey;  
 Roderick Gordon, WorleyParsons;  
 Rob Power, WorleyParsons;  
 Kwanpill Park, Kepco Australia;  
 William Vatovec, Kepco Australia;

## **1.6 Methodology**

Preparation of this Peer Review is based on critical review of the GML Report in the context of the reference documents identified in their report, their approach to addressing the heads of consideration in their brief and their findings.

## **1.7 Limitations**

This Peer Review is limited to analysis of non-Aboriginal historic heritage and does not include review of Aboriginal or non-Aboriginal archaeological heritage values.

## **1.8 Disclaimer**

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### **1.10 Some Definitions**

Conservation terms used in this Peer Review are those used in the Burra Charter of Australia ICOMOS, the body representing professional heritage practitioners in this country. Key definitions are listed below.

**Place** means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

**Cultural significance** means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Places may have a range of values for different individuals or groups.

**Fabric** means all the physical material of the place including components, fixtures, contents, and objects.

**Conservation** means all the processes of looking after a place so as to retain its cultural significance.

**Maintenance** means the continuous protective care of the fabric and setting of a place, and is to be distinguished from repair. **Repair** involves restoration or reconstruction.

**Preservation** means maintaining the fabric of a place in its existing state and retarding deterioration.

**Restoration** means returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.

**Reconstruction** means returning a place to a known earlier state and is distinguished from restoration by the introduction of new material into the fabric.

**Adaptation** means modifying a place to suit the existing use or a proposed use.

**Use** means the functions of a place, as well as the activities and practices that may occur at the place.

**Compatible use** means a use which respects the cultural significance of a place. Such a use involves no, or minimal, impact on cultural significance.

**Setting** means the area around a place, which may include the visual catchment.

**Related place** means a place that contributes to the cultural significance of another place.

## 2.0 The Project

The Project life is anticipated to be approximately 25 years, comprising a two-year construction period and a 23-year operational period, with underground mining operations indicatively commencing in Project Year (PY) 7. Various rehabilitation and decommissioning activities will be undertaken during both the course of, and following the approximate 25 years of the Project.

The Project is to be developed on land within the Project Boundary as illustrated on Figure 3 of the AECOM HHIA and land listed in Appendix A of the HHIA. Key features of the Project are also conceptually shown on Figure 3 and include:

- The initial development of two open cut mining areas with associated haul roads and Overburden Emplacement Areas (OEs), utilising a mining fleet of excavators and trucks and supporting ancillary equipment;
- The two open cut mining areas will be developed with coal extraction and related activities operating 24 hours a day, 7 days a week over an approximate 10-year period and will ultimately provide for the storage of coal processing reject materials from the longer term underground mining activities;
- Construction and operation of administration, workshop, bathhouse, explosives magazine and other open cut mining related facilities;
- Construction and operation of an underground coal mine operating 24 hours a day, 7 days a week for an approximate 20-year period, commencing mining in around PY 7 of the Project;
- A combined maximum extraction rate of up to 6.5 Million tonnes per annum (Mtpa) Run of Mine (ROM) coal;
- A workforce of up to approximately 665 during the initial construction phase and a peak of 470 full-time equivalent operations employees at full production;
- Underground mining operations utilising longwall mining techniques with primary access provided via drifts constructed adjacent to the rail loop and Coal Handling and Preparation Plant (CHPP);
- The construction and operation of facilities to support underground mining operations including personnel and materials access to the underground mining area, ventilation shafts, workshop, offices and employee amenities, fuel and gas management facilities;
- Construction and operation of a CHPP with a designed throughput of approximately 6 Mtpa of ROM coal, with capacity for peak fluctuations beyond this.

## 3.0 Critique of GML Report

### 3.1 GML Study Scope

The scope for GML's advice to the PAC is shown in Section 1.1 of this Peer Review.

In addition to review of the listed documents, the GML Report involved additional targeted historical research and focused and limited consultation on natural sequence farming, horse breeding and cattle breeding at Tarwyn Park and Iron Tank. A site inspection was conducted by the authors, Sharon Veale and Minna Muhlen-Schulte of GML Heritage on 20 April 2017. During the site inspection, various buildings that comprise Tarwyn Park and Iron Tank were inspected. Select areas where natural sequence farming (NSF) are evident were also inspected.

With regard to the project scope, work undertaken for the GML Report involved the investigation of significance and assessment according to the NSW heritage management system and its guidelines. Towards the investigation of cultural significance, the broader historical context of Tarwyn Park and Iron Tank was considered, as was its history and fabric. As part of their heritage assessment for Tarwyn Park and Iron Tank, GML reviewed the State Heritage Register Nomination that was submitted to the NSW Heritage Division and the assessment by AECOM for Hansen Bailey set out in Section 8: Significance Assessment of the *Historic Heritage Impact Assessment Report*.

No detailed investigation of the social values of Tarwyn Park and Iron Tank was undertaken. Consideration of the area's Aboriginal history and heritage was not within the scope of the GML assessment.

Consultation was undertaken with members of the Rylstone and District Historical Society and Dr Sarah Mika from the University of New England.

## 3.2 Peer Review

### 3.2.1 Errors of Fact / Omission and Confusing Statements

Listed in Table 1 below are sections of the GML Heritage Report in which there are errors of fact or omission and confusing statements. Additional comments on the adequacy of the report by this author are provided.

**Table 1**

Ref	Where	Issue/Error
1	Section 1.3	This section explains that consultation had been undertaken with various stakeholders, namely members of the Rylstone and District Historical Society and Dr Sarah Mika from the University of New England. No mention is made of the fact that WorleyParsons, on behalf of KEPCO, delivered a letter to Stuart Andrew's property providing GML Heritage's contact details should he wish to meet with them. No mention is made as to whether such contact was attempted.
2	Figures 2.8-2.9	The figures referenced in relation to the land bought by H S Thompson (and subsequently named Tarwyn Park) do not appear to be showing the correct portions of land. The figures are illustrating land further to the west within the Growee Valley areas over the Wingarra property, which was also owned by the Thompsons (see Figure 3.1 of the GML Heritage Report). As explained in Section 8.16.2 of the HHIA (Appendix T of the EIS), Herbert Thompson purchased part of the property which was originally part of William Lee's land grant in the 1920s. He subsequently named this property "Tarwyn Park". In addition to the parish maps illustrating land within the Growee River valley, to the west of "Tarwyn Park", the various parish maps utilised within the GML Heritage Report are dated prior to the date that Mr Thompson is believed to have purchased the property in question. It would have been more robust to use parish maps of a later date.

Ref	Where	Issue/Error
3	Section 2.4.2 (page 12)	<i>"Identification of the burials has been unsuccessful in determining precisely which remains are linked to each horse"</i> . This statement is not entirely correct. Based on consultations undertaken by the Project team with the former landholder, the general locations of each horse are known by Project personnel.
4	Section 2.4.4 (page 17)	Wording is unclear within this section. The issues that GML Heritage state are addressed by NSF are extrapolated from qualitative analysis only.
5	Section 2.4.6	No comment is made on the legality of the structures installed within the named creeks.
6	Section 2.4.7	The opening paragraph implies that the authorisations were new in 2010. These authorisations have been in place since the 1980s, with Government exploration occurring before this in the early 1970s.
7	Section 2.4.7	The open day was not held on 31 August 2016, but on Sunday 31 July 2016.
8	Figure 2.20	Horse Burials: Rain Lover and Eloisa (incorrect spelling on figure) are shown in the wrong location. They should be at the main entrance. The Swiss Cottage is also shown in an incorrect location on the figure. It is further to the north west of the location shown.
9	Figure 2.20	The structure shown as a "cottage" is in fact a hay shed. Additionally, it is unclear why this particular cottage is shown as a 'heritage feature' – there is no comment in the text regarding the heritage significance of this structure. Additionally, there is no text or commentary in the text related to the "Horse Racing Track", which is also identified as a 'heritage feature'.
10	Section 2.4.2	There are two typographical errors in the last paragraph on page 11.
11	Section 3.1, Table 3.1	In the table under the NSW Theme "Convict", William Lee is listed as a former convict servant but he was not a convict. He is discussed more accurately in Section 2.2 as the son of convict Sarah Smith and William Pantoney, alias Panton. The information under the NSW Theme "Exploration" is inaccurate: Tindale was a convict assigned to Cox. Lee was not a road maker with Cox but was recommended by Cox as a suitable settler to receive a grant, as described more correctly in Section 2.2. The relevant NSW historic themes cited by GML Heritage do not include the following:

Ref	Where	Issue/Error
		<p>Science (activities associated with systematic observations, experiments and processes for the explanation of observable phenomena);</p> <p>Towns, suburbs and villages (activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages);</p> <p>Land Tenure (activities and processes for identifying forms of ownership and occupancy of land and water, both Aboriginal and non-Aboriginal);</p> <p>Accommodation (activities associated with the provision of accommodation, and particular types of accommodation – does not include architectural styles which come under the theme of Creative Endeavour);</p> <p>Education (activities associated with teaching and learning by children and adults, formally and informally);</p> <p>Domestic Life (activities associated with creating, maintaining, living in and working around houses and institutions); and</p> <p>Creative Endeavour (activities associated with the production of literary, artistic, architectural and other imaginative, interpretive or inventive works)</p> <p>All the above themes appear to have some relevance to Tarwyn Park Farm Complex and need to be investigated before a thorough assessment of the significance of the property can be made.</p>
12	Section 3.3	The Heritage Items listed on Schedule 5 Mid-Western Regional LEP 2012 or on the State Heritage Register (SHR) and cited as comparable with Tarwyn Park and Iron Tank are very varied and include a number of urban examples and examples of very different date and architectural style from Tarwyn Park and Iron Tank. It would have been more useful to narrow the comparative analysis down to those listed properties more directly comparable with Tarwyn Park and Iron Tank.
13	Section 3.4	St Stephen's Anglican Church and Cemetery listed by the National Trust is not located within the Project Boundary, but does fall within the Study Area.
14	Section 4.1 Table 4.2 generally	The GML Report assesses Tarwyn Park and Iron Tank to satisfy criteria A, B, C and E at a State level, Criterion D likely at a Local level, Criterion F not at a State level and Criterion G at a Local Level. No mention is made of the Inclusion or Exclusion Guidelines used in assessing whether or not the property satisfies these criteria.

Ref	Where	Issue/Error
15	Section 4.1, Table 4.2, Criterion E	The statement that “ <i>NSF is no longer practised at Tarwyn Park and Iron Tank, yet the properties still retain the potential to yield new information</i> ” is incorrect. The weir structures remain intact and the property is being utilised for grazing activities, similar to those practised prior to KEPCO taking occupation of the property.
16	Section 5.0, Table 5.1	The potential impacts outlined by GML Heritage in this table are qualitative only at best and there is no consideration of the mitigation / management measures proposed to be implemented for the Project or the fact that the open cut mining component is short term in nature. Additionally, the table includes a number of measures in relation to the impacts of the Project on the broader region, rather than the impacts on Tarwyn Park itself. The meaning of the fourth dot point against Tarwyn Park, namely “ <i>Blasting activity will impact the ability to appreciate the historic agricultural values and that associated sounds</i> ” is unclear.
17	Section 5.0, Table 5.1, Tarwyn Park Driveway and Entrance	The statement “Direct impacts to historic driveway and entrance to Tarwyn Park that is a key element of the functional rural industrial landscape that retains the ability to demonstrate historic patterns of movement across the land” ignores the fact that the current brick gateway to the Tarwyn Park Farm Complex was only constructed within the last seven years and cannot be considered to have significant heritage value. Similarly, the plantings along the driveway also date from the last seven years and are not significant.
17 cont.	Section 5.0, Table 5.1, Tarwyn Park Driveway and Entrance	<p>The image below, sourced from Google Earth and dated March 2010 illustrates the entry to Tarwyn Park at that time (i.e. just over 7 years ago).</p>  <p>This can be contrasted with the image below, taken by this author on 24 January 2017, which shows the current entrance to Tarwyn Park.</p>

Ref	Where	Issue/Error
		 <p data-bbox="539 775 1222 837">If it is the location and alignment that are considered significant, this should be stated.</p>
18	Section 5.0, Table 5.1, Tarwyn Park stables	Nowhere has KEPCO indicated that the Stables will be used for mine accommodation. This is not KEPCO's intention. KEPCO's stated commitment is to protect / conserve the stables in their current form, subject to a Conservation Management Plan.
19	Section 5.0, Table 5.1, Renfrew Park Remains (1900)	The second site related to the Renfrew Park Remains (incorrectly labelled as the Cheese Factory Remains in Figure 2.20) is located outside the Tarwyn Park property, hence potential impact on it does not warrant being considered as an impact on Tarwyn Park. Additionally, the Renfrew Park Remains (both 1 and 2) are located within the area proposed for the Coal Handling and Preparation Plant (CHPP) and rail loop, not in the Eastern Open Cut as the table incorrectly states.
20	Section 5.0, Table 5.1, Cheese Factory Remains (1910)	The Cheese Factory is located outside the Tarwyn Park property, hence potential impact on it does not warrant being considered as an impact to Tarwyn Park. As mentioned above, the Cheese Factory Remains are incorrectly labelled in Figure 2.20 of the GML Report and are located further to the south west, adjacent to the existing Site Office (outside of the Tarwyn Park office).

### 3.2.2 Assessed Potential Impacts v Proposed Mitigation Measures

In Table 2 below, the GML Heritage Report's assessment of potential heritage impacts posed by the KEPCO Coal Project on the Tarwyn Park Farm Complex are compared with the Proponent's comments and the Mitigation Measures proposed in the Project.

**Table 2**

Ref	Heritage Feature	Impact of Project as reported by GML Heritage (19 May 2017)	Comment/Mitigation Measures Proposed by the Bylong Coal Project
1	Bylong Valley Historic Cultural Landscape (including Tarwyn Park and Iron Tank)	<ul style="list-style-type: none"> <li>• Impact on the historic and evolving rural agricultural landscape of the Bylong Valley with historic land grants located adjacent to water courses throughout the alluvial and river valleys, with complexes of agricultural buildings, both domestic and agricultural, set in open grazing landscapes.</li> <li>• Impact on the research potential associated with the historical archaeological evidence associated with human occupation and agricultural activities since colonisation.</li> </ul>	<ul style="list-style-type: none"> <li>• The Project's open cut mining operations and associated surface infrastructure are located within an area comprising the Bylong River and Lee Creek waterways and hidden away from the wider Bylong Valley.</li> <li>• Around 11.3% of the Tarwyn Park property (including Iron Tank) will be directly impacted by the open cut mining areas. This area is remote from the Bylong River Alluvial lands.</li> <li>• The conceptual final landform for the Project has been designed to integrate into the surrounding landscape and facilitate an available agricultural land use post-mining, similar to those utilised historically and most recently on this land.</li> <li>• KEPCO has committed to the preparation of a Conservation Management Plan (CMP) for the Tarwyn Park Farm Complex (as well as the Bylong Station Farm Complex and Homestation (c 1848 Lee)) to guide the conservation of the features identified to contain heritage values. The CMP(s) will be appended to the Historic Heritage Management Plan (HHMP) and prepared in accordance with James Kerr's <i>The Conservation Plan</i> (7<sup>th</sup> ed., 2013) and the Burra Charter.</li> <li>• As per Section 7.12.4 of the EIS, the HHMP "will include: <ul style="list-style-type: none"> <li>○ A list and map indicating the location of historic heritage sites identified within the Project Boundary;</li> <li>○ A final significance assessment and Statement of Significance for each historic heritage site;</li> <li>○ Procedures for archival recording of impacted heritage items in accordance with Heritage Branch Guidelines <i>How to prepare</i></li> </ul> </li> </ul>

Ref	Heritage Feature	Impact of Project as reported by GML Heritage (19 May 2017)	Comment/Mitigation Measures Proposed by the Bylong Coal Project
			<p><i>Archival Records of Heritage Items (1998) and Photographic Recording of Heritage Items using Film or Digital Capture (2006);</i></p> <ul style="list-style-type: none"> <li>○ <i>Management procedures, including dilapidation reports, impact prevention measures, and remediation strategies for potentially impacted heritage items;</i></li> <li>○ <i>Details and procedures, including research design, for carrying out test and salvage excavations (if required) for the Cheese Factory Remains; and</i></li> <li>○ <i>Unexpected finds procedure, including a specific procedure for human remains."</i></li> </ul> <ul style="list-style-type: none"> <li>● In addition to the above, and in response to a submission from the Heritage Council of NSW, KEPCO has also committed to the completion of an Interpretation Plan for the broader Bylong Precinct which is proposed to be appended to the HHMP.</li> <li>● Condition 46 of Schedule 4 of the Recommended Development Consent conditions specify the requirements for this HHMP, including the requirement for this plan to include an Interpretation Plan.</li> <li>● The extensive historic heritage management and mitigation measures and conservation regime that KEPCO have previously committed to implement will ensure that the impacts of the Project to the Historic Cultural Landscape will be appropriately managed.</li> </ul>
2	Bylong National Trust Landscape Conservation Area	<ul style="list-style-type: none"> <li>● Direct impact to the natural landscape, aesthetic value of views and vistas (Goulburn River National Park) to the north of Tarwyn Park that is part of the Bylong Conservation Area.</li> </ul>	<ul style="list-style-type: none"> <li>● The Project will not result in any impacts to the Goulburn River National Park nor will it significantly impact available views and vistas towards this area (which is located to the north east of the Project Boundary). Limited views exist towards the Goulburn River National Park from Tarwyn Park Farm Complex. Refer to Figure 3 of the EIS for the location of the Goulburn River National Park.</li> <li>● As explained in Section 9.5.1 of the Historic Heritage Impact Assessment (Appendix T of the EIS), the Project is located roughly within the centre of the Bylong Landscape Conservation Area and is likely to have impacts on only 2.3% of the total listed area.</li> </ul>

Ref	Heritage Feature	Impact of Project as reported by GML Heritage (19 May 2017)	Comment/Mitigation Measures Proposed by the Bylong Coal Project
			<ul style="list-style-type: none"> <li>• The Tarwyn Park property (including Iron Tank) comprises only ~1.0% of the Bylong Landscape Conservation Area, of which only 11.3% of this will be impacted by the open cut mining areas.</li> <li>• Once the open cut mining areas have been rehabilitated and appropriate mitigation measures have been completed, as identified in the Bylong Coal Project Rehabilitation Strategy and the Visual Impact Assessment, the Project is predicted to result in minimal impact to the Bylong Valley Landscape Conservation Area listing.</li> <li>• The timespan within which the Project (a permissible land use) will “suspend” the current land use (also permissible) is only some 9 years due to the progressive rehabilitation program. This is relatively short in terms of the European use of the area.</li> <li>• In respect of views from the Tarwyn Park Homestead, views to the south towards Tal Tal Mountain will continue to be available during and at the final rehabilitation of the mine. Refer to Section 3.1.3 of the PAC Public Hearing Response for cross sections.</li> <li>• Views from Tarwyn Park to the north and east towards the elevated areas of the Bylong State Forest and neighbouring land (proposed for underground mining) will also not be significantly affected by the Project. The proposed rail loop, CHPP and underground Mine Infrastructure Area (MIA) will be constructed on the top side of the existing Sandy Hollow to Gulgong Railway Line at the footslopes of the elevated areas of Bylong State Forest. The underground mining area has also been specifically designed to avoid adverse impacts to the most prominent cliff lines within this elevated area which are closest to and visible from the Tarwyn Park Homestead.</li> </ul>
3	Tarwyn Park Driveway and Entrance	<ul style="list-style-type: none"> <li>• Direct impacts to historic driveway and entrance to Tarwyn Park that is a key element of the functional rural industrial landscape that retains the ability to demonstrate</li> </ul>	<ul style="list-style-type: none"> <li>• As explained in Section 3.2.2 of the PAC Public Hearing Response, the brick gateway into the Tarwyn Park Farm Complex has only been constructed within the last seven years.</li> <li>• Similarly, the vegetation corridor along the driveway entrance into Tarwyn Park has also been planted within the last seven years.</li> </ul>

Ref	Heritage Feature	Impact of Project as reported by GML Heritage (19 May 2017)	Comment/Mitigation Measures Proposed by the Bylong Coal Project
		<p>historic patterns of movement across the land.</p> <ul style="list-style-type: none"> <li>• Adverse material impact to driveway's connection to Upper Bylong Road and on historic land use and layout/pattern of use and circulation between the properties, including patterns of movement within the properties and relationships to other items in the Bylong Valley including the church and post office.</li> <li>• Direct impact that will adversely impact physical evidence associated with Tarwyn Park's historic association with the Melbourne Cup evidenced by the burial at the entry to Tarwyn Park of Rain Lover (winner of 1968 and 1969 Melbourne Cups). Adverse impact on physical evidence associated with thoroughbred horse breeding through proposed removal of other horse burials including Eloisa and a possible third horse near the current entry gates</li> </ul>	<ul style="list-style-type: none"> <li>• Accordingly, the features can clearly not be considered to have significant heritage value.</li> <li>• Whilst the proposed driveway is located within an area to be directly disturbed by the proposed open cut activities associated with the Project, the conceptual final landform will only result in an increase of less than 2 m in the post mining landform in this area of the existing driveway. In the context of the broader landscape, this slight increase in elevation will not be noticeable once fully rehabilitated. Further, this outcome is accepted from a conservation perspective in the context of a modified cultural landscape.</li> <li>• The connection of the driveway to Upper Bylong Road and other items with assessed heritage value located within the Project Disturbance Boundary will be documented within the Interpretation Plan to be prepared for inclusion within the HHMP for the wider Bylong Precinct.</li> <li>• As explained in Section 5.16.2 of the Response to Submissions (RTS), a Horse Burials Management Plan has been prepared, in consultation with key stakeholders, which outlines the necessary regulatory processes and appropriate management protocols and strategies for the excavation and relocation of the burials.</li> <li>• Excavation and relocation of the horse burials will occur following Development Consent approval in consultation with key stakeholders. It should be noted that the horses were originally unceremoniously buried in unmarked locations on the property.</li> <li>• Condition 46(c)(iv) of Schedule 4 of the Recommended Development Consent conditions specify the requirement for this Horse Burials Management Plan.</li> </ul>
4	Tarwyn Park	<ul style="list-style-type: none"> <li>• Adverse impact on the historic setting and agricultural cultural landscape pattern associated with Tarwyn Park homestead and stables and Iron Tank.</li> </ul>	<ul style="list-style-type: none"> <li>• Approximately 192.2 ha of the Tarwyn Park Farm Complex is located within the Project Disturbance Boundary for the Project and is therefore likely to be directly disturbed by the Project. Of this, approximately 71 ha (or 11% of the property) is proposed for the open cut mining areas</li> </ul>

Ref	Heritage Feature	Impact of Project as reported by GML Heritage (19 May 2017)	Comment/Mitigation Measures Proposed by the Bylong Coal Project
		<ul style="list-style-type: none"> <li>• Mine infrastructure will give rise to a material impact on the surrounding rural agricultural landscape setting associated with the homestead complex.</li> <li>• Detrimental visual impacts to views to and from the homestead complex. Visual impacts to the setting of homestead's associated aesthetic, historic and social cultural values of the locality and its wider setting due to haul roads and surrounding open cut mines.</li> <li>• Blasting and blast-related operations will give rise to aural impacts on the rural agricultural setting and sensory qualities of the cultural landscape. Blasting activity will impact the ability to appreciate the historic agricultural values and that associated ambient sounds.</li> <li>• Some subsidence impacts on farm structures considered likely. Depending on the nature and extent of these impacts they could be material and adverse and further impact the ability of the property to demonstrate its cultural significance related to agricultural land use.</li> <li>• Impact on the research potential associated with the historical</li> </ul>	<p>and a further 19.5 ha (or 3% of the property) for the associated mine haul road and disturbance boundary for ancillary infrastructure.</p> <ul style="list-style-type: none"> <li>• The proposed rail loop, CHPP, water management infrastructure and the proposed realignment of Upper Bylong Road (East Link Road) will disturb an additional 101.7 ha (or 16.2% of the property) of the Tarwyn Park property (including the disturbance boundary buffer).</li> <li>• Approximately 15 ha (or 2.4%) of the Tarwyn Park Farm Complex is located within the Subsidence Study Area which is predicted to be impacted by subsidence related effects from underground mining.</li> <li>• Whilst the Project will result in visual impacts throughout the life of open cut mining activities, the proposed rehabilitation of these areas will minimise the visual impacts to low as the rehabilitation on the Conceptual Final Landform. The Conceptual Final Landform will not contain haul roads or active open cut mines post-mining.</li> <li>• Similarly, during open cut mining operations, there will be blasting and other noise impacts associated with the operation of mining equipment. However, at the completion of mining operations for the Project, it is proposed for the rehabilitated Conceptual Final Landform to be capable of facilitating the reinstatement of the current pre-mining agricultural activities. This post-mining use of the Conceptual Final Landform will ensure that the rural agricultural setting and sensory setting of the cultural landscape will be restored post-mining.</li> <li>• As mentioned above, approximately 15 ha of the Tarwyn Park Farm Complex falls within the Subsidence Study Area. This portion of the Tarwyn Park Farm Complex is located on the northern side of the Sandy Hollow to Gulgong Railway Line within wooded undulating country. As explained within Section 7.1.3 of the EIS, fence posts may be affected by tilt and the wires may be affected by strains. However, impacts to the fence lines are expected to be minor in nature and will be able to be remediated by re-tensioning the wire, straightening the fence posts or replacing some sections of fencing (if necessary). No other built structures exist on this parcel of land.</li> </ul>

Ref	Heritage Feature	Impact of Project as reported by GML Heritage (19 May 2017)	Comment/Mitigation Measures Proposed by the Bylong Coal Project
		archaeological evidence associated with Tarwyn Park.	<ul style="list-style-type: none"> <li>As mentioned above, the Tarwyn Park Farm Complex is proposed to be subject to the preparation of a Conservation Management Plan. This CMP will identify and assess heritage items within the Project Disturbance Boundary and include a conservation management regime to be implemented for the remaining areas of the Tarwyn Park Farm Complex. Future research potential associated with the historical archaeological evidence associated with Tarwyn Park will be maintained for the areas outside of the Project Disturbance Boundary.</li> </ul>
5	Tarwyn Park Stables	<ul style="list-style-type: none"> <li>Impact on historic use of Tarwyn Park as thoroughbred horse stud and stables in early twentieth century and connection to network of studs in the Bylong and Widden Valleys and around Mudgee.</li> <li>Likely positive impacts associated with adaptive re-use of stables for mine accommodation. Though it is noted that the proposed adaptive reuse may necessitate the removal of significant historic fabric which may give rise to a material impact on significance.</li> </ul>	<ul style="list-style-type: none"> <li>The Tarwyn Park stables are located outside the Project Disturbance Boundary and will therefore not be physically impacted by the Project. Any impacts on the stables from blasting will be assessed through dilapidation reports and managed through implementation of the proposed HHMP and CMP.</li> <li>Nowhere has KEPCO indicated that the Stables will be utilised for mine accommodation. This is not KEPCO's intention. KEPCO's stated commitment is to protect/conservate the stables in their current form.</li> </ul>
6	Equine Facilities	<ul style="list-style-type: none"> <li>Direct impact on other equine facilities within the Bylong Valley which will more broadly impact on the significant pattern of use associated with horse breeding.</li> </ul>	<ul style="list-style-type: none"> <li>The Project will directly impact on approximately 700 ha of regionally mapped Equine Critical Industry Cluster (CIC) within the Project Disturbance Boundary, which is 29% of that mapped within the Study Area. The Biodiversity Offset Strategy will impact on a further 515 ha of Equine CIC.</li> <li>As explained within Section 5.20.3.1 of the RTS and within Section 2.2 of Appendix K of the Supplementary RTS, whilst the Bylong Valley has historically been used for thoroughbred breeding and other horse enterprises, available research indicates that this industry experienced</li> </ul>

Ref	Heritage Feature	Impact of Project as reported by GML Heritage (19 May 2017)	Comment/Mitigation Measures Proposed by the Bylong Coal Project
			<p>the vast majority of its decline within the Valley prior to KEPCO land purchases.</p> <ul style="list-style-type: none"> <li>• There has been a history of more than 150 years of various agricultural pursuits within the Project Boundary including grazing enterprises, areas of historical cropping and horse breeding businesses. The businesses operating immediately prior to KEPCO purchasing the land within the surrounding locality included cattle grazing, some fodder cropping, improved pastures, irrigated cropping and equine related activities (Australian stock horse and pleasure and performance horses).</li> <li>• KEPCO purchased a single property in 2012 which was being utilised for thoroughbred horse breeding. The operations on this property were subsequently relocated to Denman, closer to the centre of the mapped Equine CIC. Further, it must be stressed that this property is not proposed to be directly disturbed by mining activities and remains available for agricultural pursuits, including thoroughbred horse breeding.</li> </ul> <p>Given that the Bylong Valley does not currently support equine related activities, it is unlikely that the Project will further impact</p> <ul style="list-style-type: none"> <li>• upon the significant pattern of use associated with horse breeding.</li> <li>• The proposed rehabilitation of the Conceptual Final Landform aims to establish a range of soil profiles and land capabilities. These targets are consistent with land used for equine grazing businesses, and therefore the use of the land for such an endeavour will not be limited by the physical landform, soil profile or pasture established on site.</li> </ul>
7	Natural Sequence Farming	<ul style="list-style-type: none"> <li>• Direct impact on a section of the alluvial floodplain by access road and mine infrastructure including haul road and bore fields. This will materially impact on the historic patterns use and management of land and water.</li> </ul>	<ul style="list-style-type: none"> <li>• Approximately 14.4 ha of the Project Disturbance Boundary occurs on the alluvial floodplain.</li> <li>• The proposed Realignment of Upper Bylong Road (East Link Road) will be constructed along the southern extent of the Sandy Hollow to Gulgong Railway Line and cross the Bylong River alluvial floodplain to join up with the eastern section of Wooleys Road.</li> </ul>

Ref	Heritage Feature	Impact of Project as reported by GML Heritage (19 May 2017)	Comment/Mitigation Measures Proposed by the Bylong Coal Project
		<ul style="list-style-type: none"> <li>• Material impact on NSF infrastructure through the removal of NSF features (crushed limestone, hay bale and boxthorn vegetation) in southwest corner of the property where Eastern Open Cut Mine is proposed.</li> </ul>	<ul style="list-style-type: none"> <li>• With exception of the crossing of Bylong River, the East Link Road is proposed to be constructed on the fringes of the alluvial floodplain which is currently constrained by the Sandy Hollow to Gulgong Railway Line.</li> <li>• The road crossing over the Bylong River floodplain will not directly impact upon the existing NSF features and will be designed to ensure only minor flooding impacts.</li> <li>• The Project proposes the installation of three bores (and associated pipeline network) within the alluvium on the Tarwyn Park Farm Complex to supplement water supplies for the CHPP processing. Impacts from the construction and use of this infrastructure will be appropriately managed to ensure no long-term impact on the management of water.</li> <li>• The three locations identified as NSF features which will be impacted by the proposed open cut mining area comprise: <ul style="list-style-type: none"> <li>○ One of the many piles of decomposing hay bales located on the property (which aims to distribute nutrients across the property);</li> <li>○ A stockpile area of rock phosphate and lime which was utilised to supplement phosphorous and calcium across the property; and</li> <li>○ An area of Coastal Grey Box Woodland which is heavily infested with African Boxthorn (nutrients and carbon supplies within the highland areas feeding down into the alluvial).</li> </ul> </li> <li>• The impact to these three locations identified as NSF features is not anticipated to result in material impacts to the wider application of NSF on the Tarwyn Park Farm Complex. This is due to the following reasons: <ul style="list-style-type: none"> <li>○ The hay bales to be impacted are one of four existing locations on the Tarwyn Park Farm Complex where this method of nutrient application has been applied. This method can be applied to other locations on the Tarwyn Park Farm Complex (or neighbouring landholdings) to achieve the same outcome. Also the existing haybales will gradually decompose and disappear.</li> </ul> </li> </ul>

Ref	Heritage Feature	Impact of Project as reported by GML Heritage (19 May 2017)	Comment/Mitigation Measures Proposed by the Bylong Coal Project
			<ul style="list-style-type: none"> <li>○ The stockpile area of rock phosphate and lime was simply a convenient location to dump the material for respreading elsewhere on the property. Such a stockpile can be relocated to an alternate location on the Tarwyn Park Farm Complex to facilitate the delivery and then application across the site.</li> <li>○ The Coastal Grey Box Woodland comprises only a small area of woodland located within the Tarwyn Park Farm Complex. The area to the north of the Sandy Hollow to Gulgong Railway Line and south-eastern areas adjacent to the property supports areas of woodland (outside of the Project Disturbance Boundary) which would continue to contribute nutrients and carbon to the alluvial floodplain areas.</li> <li>○ “African Boxthorn is a serious exotic intrusion and causes loss of production, harbours feral animals and replaces native vegetation. The plant also alters watercourses and infers stream flows and has the ability to grow on all soil types. African Boxthorn seed is easily spread by birds, animals and water. In places, it can form impenetrable clumps. It has the ability to make infested areas inaccessible and can also harbour vermin. African Boxthorn often grows under trees and along fence lines, which makes removal difficult. African Boxthorn is expensive to control and control opportunities are limited due to seasonal conditions. African Boxthorn is now an important weed throughout NSW, particularly in the western pastoral areas. • It is recognised as a major weed and now is a “declared” noxious weed in most States. • Where little competition exists, it can quickly become established, especially on disturbed lighter country or over-grazed native pastures. African Boxthorn, with ideal weather conditions, can rapidly become the dominant species in these situations. The Macquarie Valley Weeds Advisory Committee members regard African Boxthorn as a significant weed of the area. African Boxthorn’s status in the <i>Noxious Weeds Act 1993</i> requires it to be fully and continuously</li> </ul>

Ref	Heritage Feature	Impact of Project as reported by GML Heritage (19 May 2017)	Comment/Mitigation Measures Proposed by the Bylong Coal Project
			<p>suppressed and destroyed and this objective can only be achieved through substantial commitment of their own resources and grant funding.”<sup>1</sup></p> <ul style="list-style-type: none"> <li>The main features of NSF are the unlicensed leaky weir structures and the wetland areas on the alluvial floodplain which will not be physically impacted by the Project.</li> <li>The water table will be recharged during high rainfall periods.</li> <li>Indirect impacts of the Project will need to be managed to ensure that the long-term integrity of these areas is not adversely affected. In this regard, the design of the East Link Road and the three bores to be located on the floodplain will be designed and managed to ensure the long-term integrity of these areas is not adversely affected.</li> </ul>
8	Renfrew Park Remains (1900)	<ul style="list-style-type: none"> <li>Renfrew Park remnant on the outside border of Tarwyn Park where the Eastern Open Cut mine area is proposed. Adverse impact on cultural significance through the proposed removal as the ability to demonstrate the historic agricultural land use pattern in this area of the Bylong Valley will be lost.</li> </ul>	<ul style="list-style-type: none"> <li>The Renfrew Park Remains (both 1 and 2) are located within the area proposed for the CHPP and rail loop, not in the Eastern Open Cut.</li> <li>Figure 2.20 of the GML Heritage Report also incorrectly labels Renfrew Park Remains 1 as the 1910 Cheese Factory. The Cheese Factory remains are located further to the south west, adjacent to the existing Site Office (outside of the Tarwyn Park property).</li> <li>Renfrew Park Remains 1 is located outside of the more contemporary property boundary of Tarwyn Park Farm Complex. It is also noted that the Renfrew Park Remains 2 (as shown as 1900 Renfrew Park House Remains) was historically not included as part of the Tarwyn Park property.</li> <li>The HHMP will comprise a description of the photographic and archival recording to be undertaken for all heritage sites within the disturbance boundary (including the Renfrew Park Remains). Further to this, the HHMP will detail an additional archaeological investigation of the Renfrew Park Remains prior to disturbance in the vicinity of these items.</li> <li>The measures proposed to be included within the HHMP (in accordance with Schedule 4, Condition 46 of the recommended Development</li> </ul>

<sup>1</sup> African Boxthorn Regional Management Plan, p.3

Ref	Heritage Feature	Impact of Project as reported by GML Heritage (19 May 2017)	Comment/Mitigation Measures Proposed by the Bylong Coal Project
			Consent conditions) will ensure that the historic agricultural land use pattern in this area of the Bylong Valley will be appropriately recorded (in accordance with the relevant Heritage Council of NSW guidelines) for later reference.
9	Cheese Factory Remains (1910)	<ul style="list-style-type: none"> <li>The remains of the Cheese Factory on the border of Tarwyn Park will be directly impacted as it is proposed for removal. This will impact the significance of the Bylong Valley's historic patterns of agricultural use in the area.</li> </ul>	<ul style="list-style-type: none"> <li>Figure 2.20 of the GML Heritage Report also incorrectly labels Renfrew Park Remains 1 as the 1910 Cheese Factory. The Cheese Factory remains are located further to the south west, adjacent to the existing Site Office (outside of the Tarwyn Park property).</li> <li>As mentioned above, the HHMP will include details and procedures, including research design, for carrying out test and salvage excavations (if required) for the Cheese Factory Remains.</li> <li>The measures proposed to be included within the HHMP (in accordance with Schedule 4, Condition 46 of the recommended Development Consent conditions) will ensure that the historic agricultural land use pattern in this area of the Bylong Valley will be appropriately recorded (in accordance with the relevant Heritage Council of NSW guidelines) for later reference.</li> </ul>

## 4.0 Conclusions

In my opinion, the GML Heritage Report 'Bylong Coal Project: Heritage Review' has been prepared in accordance with an appropriate methodology for such a document but no details are provided about the skills and experience of the two authors. The report is not signed.

The Report does not include an Executive Summary of its scope, methodology and key findings but it is well referenced, with numerous endnotes (to section 3 at least) but there is no separate Bibliography. The findings in the GML Heritage Report are not summarised in a Conclusion. These omissions make the findings more difficult to assess.

The NSW Historical Themes identified in the GML Heritage Report are considered relevant but there are several other potentially relevant themes which should have been considered in the assessment of significance.

There are a number of errors of fact and omission in the GML Heritage Report and these are listed and discussed in Table 1 of this Peer Review.

The Tarwyn Park Farm Complex (comprising Tarwyn Park and Iron Tank) is assessed in the GML Report as satisfying a number of criteria for State heritage listing and / or Local listing but the inclusion and exclusion guidelines for testing places against the criteria are not mentioned or discussed. No Statement of Significance for Tarwyn Park Farm Complex has been compiled from the analysis of significance against the assessment criteria.

The Comparative Analysis at section 3.3 of the GML Report does not focus enough on truly comparable properties and includes listed heritage items of widely different age and type from Tarwyn Park Farm Complex.

The GML Report does address the issues of natural sequence farming, horse breeding and cattle breeding at Tarwyn Park and Iron Tank as identified in their brief and preparation did include consultation with some relevant stakeholders. A number of case studies where NSF techniques have been applied on other properties are discussed in the Report.

The GML Report states that the 'fabric' of Tarwyn Park and Iron Tank has been considered but there is little consideration in the text of the physical fabric of the built or landscape elements of the property.

In my opinion, the report includes considerable research findings about the history of Tarwyn Park Farm Complex and its associations but does not provide sufficient information or critical analysis to warrant the significance assessments reached.

There is inadequate consideration of either the nature or degree of the impacts on heritage values requested by the former Minister in the Terms of Reference or the mitigation measures proposed in the EIS and the AECOM HHIA to address potential heritage impacts. These are discussed in Table 2 of the Peer Review.



Chris Betteridge  
Director, Betteridge Consulting Pty Ltd t / a **MUSEcape**, 8 June 2017

## 5.0 References

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**WorleyParsons** 2016, historic Structures – Mining Blast Ground Vibration: Resistance to Vibration, consultant report KEPBYL-218-CI-REP-6000 dated 27 June 2016 prepared for KEPCO.

**WorleyParsons** 2017, 'Bylong Significant Structures – Dilapidation', consultant report KEPBYL-010-REP-0115, prepared for KEPCO.