Central Queensland Coal Project

Chapter 18 – Cultural Heritage

Environmental Impact Statement

CDM Smith

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Central Queensland Coal Project

Chapter 18 - Cultural Heritage

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18 Cultural Heritage

This chapter describes the existing environment and potential effects of construction and operation of the Project upon Indigenous and non-Indigenous (European) cultural heritage. It provides a context for assessing Indigenous and non-Indigenous cultural heritage and an overview of the framework in which Central Queensland Coal will manage statutory obligations and mitigate potential impacts.

18.1 Project Overview

The Project is located 130 km northwest of Rockhampton in the Styx Coal Basin in Central Queensland. The Project will be located within Mining Lease (ML) 80187 and ML 700022, which are adjacent to Mineral Development Licence (MDL) 468 and Exploration Permit for Coal (EPC) 1029, both of which are held by the Proponent.

The Project will involve mining a maximum combined tonnage of up to 10 million tonnes per annum (Mtpa) of semi-soft coking coal (SSCC) and high grade thermal coal (HGTC). Development of the Project is expected to commence in 2018 and extend for approximately 20 years until the current reserve is depleted.

The Project consists of three open cut operations that will be mined using a truck and shovel methodology. The run-of-mine (ROM) coal will ramp up to approximately 2 Mtpa during Stage 1 (Year 1-4), where coal will be crushed, screened and washed to SSCC grade with an estimate 80% yield. Stage 2 of the Project (Year 4-20) will include further processing of up to an additional 4 Mtpa ROM coal within another coal handling and preparation plant (CHPP) to SSCC and up to 4 Mtpa of HGTC with an estimated 95% yield. At full production two CHPPs, one servicing Open Cut 1 and the other servicing Open Cut 2 and 4, will be in operation.

A new train loadout facility (TLF) will be developed to connect into the existing Queensland Rail North Coast Rail Line. This connection will allow the product coal to be transported to the established coal loading infrastructure at the Dalrymple Bay Coal Terminal (DBCT).

The Project is located within the Livingstone Shire Council (LSC) Local Government Area (LGA). The Project is generally located on the “Mamelon” property, described as real property Lot 11 on MC23, Lot 10 on MC493 and Lot 9 on MC496. The TLF is located on the “Strathmuir” property, described as real property Lot 9 on MC230. A small section of the haul road to the TLF is located on the “Brussels” property described as real property Lot 85 on SP164785.

18.2 Relevant Legislation, Plans and Guidelines

Protection of existing Indigenous and non-Indigenous cultural sites are governed by several legislative acts, policies and guidelines which are described in Chapter 1 – Introduction and below. The Project’s EA will not provide for Indigenous and non-Indigenous cultural heritage conditions. Central Queensland Coal will be responsible for obtaining any separate Indigenous and non-Indigenous cultural heritage approvals, as appropriate.

18.2.1 Commonwealth Legislation

18.2.1.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) provides protection for items and places with world, national or Commonwealth heritage values. Natural, historical and Indigenous heritage sites, either nominated or approved, are protected under this Act. Heritage places are listed in the World Heritage List, National Heritage List and the Commonwealth Heritage List.

The World Heritage List provides protection for areas around the world that are of such outstanding universal value that its conservation is important for current and future generations. The National Heritage List provides protection for areas that demonstrate outstanding heritage value to the nation and the Commonwealth Heritage List provides protection for areas that have significant values to the Commonwealth land. The criteria used for inclusion on these lists is outlined in Part 10 of the *Environment Protection and Biodiversity Conservation Regulation 2000* (EPBC Regulation). The World, National and Commonwealth Heritage Lists are within an online database maintained by Department of the Environment and Energy (DotEE). It is a single point of access containing a summary of information about places listed in State, Territory and Commonwealth heritage registers and lists.

18.2.1.2 Australian Heritage Council Act 2003

The *Australian Heritage Council Act 2003* (Cth) established the Australian Heritage Council to administer the National Heritage List and Commonwealth Heritage List. The Australian Heritage Council is the principal advisory body to the Australian Government for heritage matters, particularly in relation to administering the lists now created under the EPBC Act. The Australian Heritage Council undertakes an assessment against the National or Commonwealth Heritage criteria and provides this information to the Minister before the listing becomes finalised.

18.2.1.3 Native Title Act 1993

The *Native Title Act 1993* (Cth) (NT Act) recognises the land rights and interests of Indigenous people where they have historically resided and regulates the conduct of 'future acts', including development. The Act provides for the determination of Native Title claims, the treatment of 'future acts' that may impact on Native Title rights and the requirement for consultation and/or notification to relevant claimants where 'future acts' are involved. The provisions of the NT Act are administered by the National Native Title Tribunal.

The National Native Title Tribunal is established under the NT Act to work with people to understand Native Title and reach outcomes that recognise everyone's rights and interests in land and waters. The Barada Kabalbara Yetimarala People #1 have a current Native Title claim over the area where the mine pits and ancillary infrastructure are proposed (Tribunal Number: QC2013/004). A second Native claim held by the Barada Kabalbara Yetimarala People #2 (QC2013/005) exists over land where the TLF is proposed. That claim is described as a shared country claim with the Darumbal People's active native title claim (QC2012/008) which is over the TLF area. The Darumbal People also have a determined Native Title claim to the east of the Project (see Figure 18.1).

Central Queensland Coal is in the process of negotiating a Cultural Heritage Management Agreement (CHMA) which covers the protection and management of all Indigenous cultural heritage in the Project area for the purposes of the Project activities.

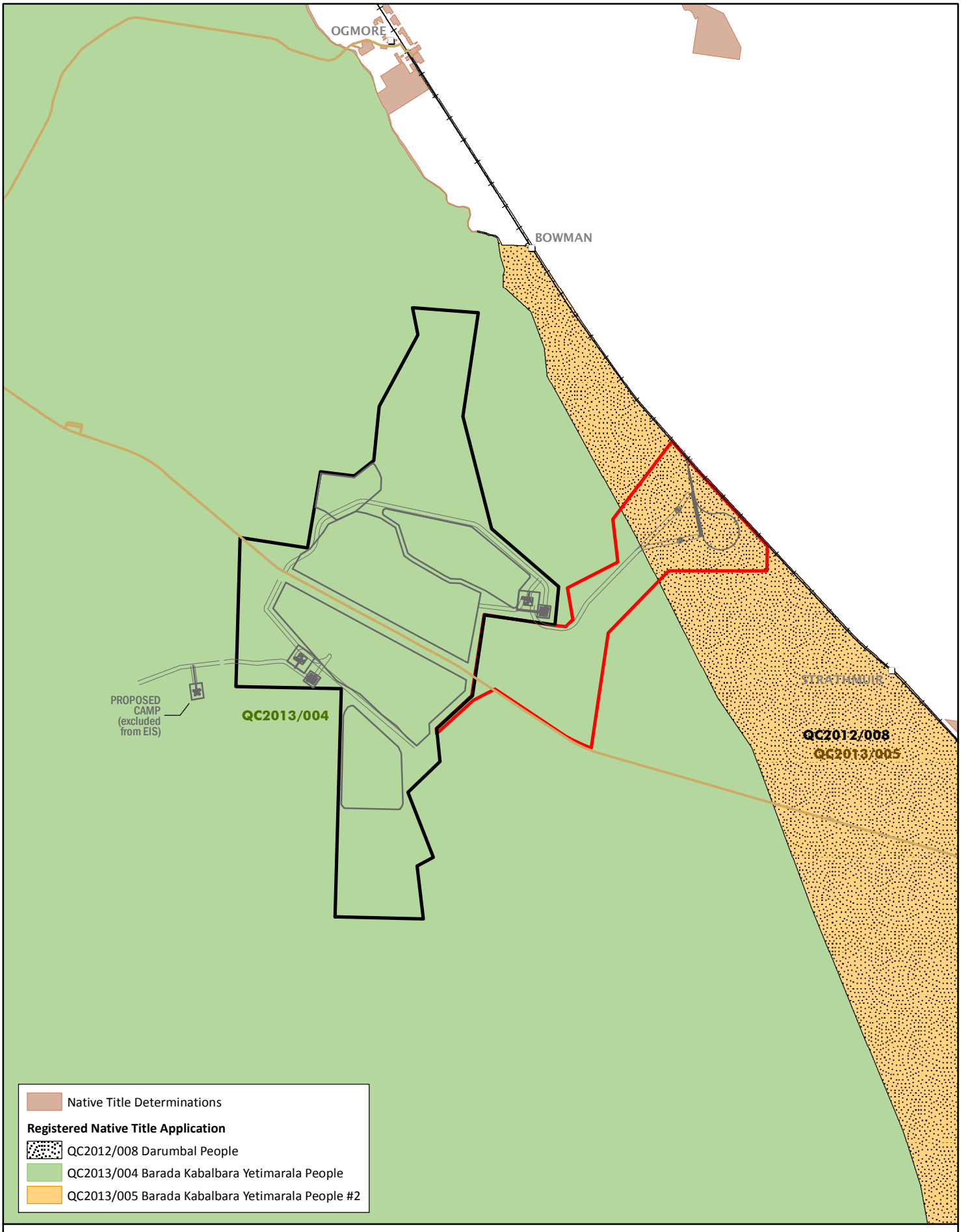

Figure 18-1
Native Title within the broader region

N

0 1 2 km

Legend

- ML 80187
- ML 700022
- Proposed mine infrastructure
- North Coast Rail Line
- Main road

Scale @ A4 1:80,000
Date: 21/07/17
Drawn: Gayle B.

DATA SOURCE
National Native Title Tribunal, 2017
QLD Spatial Catalogue (QSpatial), 2017

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18.2.1.4 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) (ATSIHP Act) aims to preserve and protect places, areas and objects of significance to Aboriginals and Torres Strait Islanders in accordance with their traditions. The Act provides that an Aboriginal or Torres Strait Islander person or group of people may apply to the Minister for preservation or protection of a specified area or object. This includes general and emergency declarations that may be made in relation to significant Aboriginal or Torres Strait Islander areas or objects under threat of harm or desecration. It is an offence under the ATSIHP Act to contravene a declaration. Declarations can stop activities and override other approvals including Indigenous Land Use Agreements, although their use is intended as a last resort.

Should Central Queensland Coal identify anything that they have 'reasonable grounds to suspect to be Aboriginal or Torres Strait Islander remains' (section 20(1)), Central Queensland Coal will report the discovery to the Commonwealth Environment Minister in accordance with part 2, division 3 of the ATSIHP Act. Notwithstanding the ATSIHP Act, Central Queensland Coal will notify the police in the first instance if human remains are found in accordance with the *Coroners Act 2003*, Guidelines for the Discovery, Handling and Management of Human Remains and *Aboriginal Cultural Heritage Act 2003* (see below).

18.2.2 State Legislation

18.2.2.1 Aboriginal Cultural Heritage Act 2003

The main piece of Queensland legislation governing Aboriginal cultural heritage is the *Aboriginal Cultural Heritage Act 2003* (ACH Act). The purpose of the Act is to provide effective recognition, protection and conservation of Aboriginal cultural heritage and the Act achieves this by placing a 'duty of care' on proponents whose activities may impact Aboriginal cultural heritage rather than permits. This duty of care provides that:

"A person who carries out an activity must take all reasonable and practicable measures to ensure that the activity does not harm Aboriginal cultural heritage."

The Act provides for an assessment of significance to be undertaken by identified Aboriginal parties, decided in a manner consistent with tradition and emphasises that the definition of areas and objects goes beyond archaeological sites to include those where there are no physical traces.

Major elements of the Act are:

- Protection of areas and objects of traditional, customary and archaeological significance;
- Recognition of the primary role of Aboriginal parties in cultural heritage protection and management;
- Establishment of a Cultural Heritage Register and Cultural Heritage Database;
- The provision of a general duty of care with the onus on developers to manage their duty of care; and
- Mandatory requirement to prepare CHMA in situations where an EIS is required for any Project approvals.

Individuals and corporations may be prosecuted should they fail to fulfil the duty of care, or be found responsible for damaging Aboriginal cultural heritage.

When an Environmental Impact Statement (EIS) is required, the Act requires that a Cultural Heritage Management Plan or Agreement (referred to as CHMA in this EIS) or Native Title agreement be developed in accordance with Part 7 of the ACH Act to protect and manage Aboriginal cultural heritage. Central Queensland Coal is committed to working with the relevant Aboriginal parties and is in the process of negotiating appropriate CHMA for the Project. The CHMAs will provide management strategies for the protection of identified Indigenous cultural heritage.

18.2.2.2 Queensland Heritage Act 1992

The *Queensland Heritage Act 1992* (QH Act) primarily provides for the protection of non-Indigenous heritage places for the benefit of the community and future generations. It also provides for the protection of cultural heritage (including archaeological artefacts and protected areas) and regulates certain types of development affecting the cultural heritage significance of registered places.

The aims of the QH Act are primarily achieved by:

- Establishing the Queensland Heritage Council;
- Keeping the Queensland Heritage Register;
- Keeping local heritage registers;
- Regulating, in conjunction with other legislation, development affecting the cultural heritage significance of Queensland heritage places;
- Providing for heritage agreements to encourage appropriate management of Queensland Heritage Places; and
- Providing for appropriate enforcement powers to help protect Queensland's cultural heritage.

Queensland Heritage Register

The Queensland Heritage Register is a list of places that have cultural heritage significance to the people of Queensland. Places entered in the Queensland Heritage Register reflect the pattern of Queensland's history and regional development. They illustrate the key human endeavours that have determined economic development, as well as the fundamental political, social and cultural forces that have shaped our society (EHP, 2014). Places listed on the Queensland Heritage Register are registered as either two categories:

- State Heritage Places—these places are significant as they contribute to our understanding of the wider pattern and evolution of Queensland's history and heritage. Criteria are used to evaluate the significance of heritage places and their values; or
- Protected Areas—these areas have strong heritage values that are vulnerable and under threat. A permit is required to enter or conduct work within a protected area.

The Queensland Heritage Council is an independent statutory authority which provides advice to the Queensland Government on strategic and high priority matters relating to Queensland's heritage. The Queensland Heritage Council decides which places are entered in or removed from the Queensland Heritage Register. The Council also provides advice about the development of heritage places owned by the State. The Queensland Heritage Council receives administrative and professional support from the Department of Environment and Heritage Protection (EHP, 2014).

Schedule 4 of the QH Act sets out the criteria and application of cultural heritage significance indicators and the thresholds for determining State and Local level features of significance. Guidance on interpreting this information is provided in Assessing Cultural Heritage Significance: Using the Cultural Heritage Criteria (EHP, 2013).

18.2.2.3 National Trust of Queensland Act 1963

The *National Trust of Queensland Act 1963* established the Queensland National Trust to protect non-Indigenous cultural heritage in Queensland. Listing on the Register of the Queensland National Trust represents a major indication of a community's feeling about the value of buildings, precincts, places of natural environment and culturally significant artefacts. The aim of the Trust is to promote the preservation, maintenance, access and enjoyment of places of non-Indigenous cultural heritage. Listing on the Register of the Queensland National Trust provides no legal protection for places or buildings or obligations on owners to conserve these properties.

18.2.2.4 Survey and Mapping Infrastructure Act 2003

The *Survey and Mapping Infrastructure Act 2003* states that, under Part 4, it is an offence to interfere with any permanent survey mark, of which the person knows or ought reasonably to know. In the case where a survey mark must be removed or disturbed an application must be made to the Department of Natural Resources and Mines (DNRM) under s43 of the Act. If a survey mark is identified, DNRM will be contacted to determine the type and significance of the survey mark. This Act is relevant to the protection of non-Indigenous historical survey marks that may occur within the Project and broader area.

18.2.2.5 Planning Act 2016

As of 3 July 2017, the *Planning Act 2016* replaced the SP Act. The new Act is Queensland's principal planning legislation and comprises of three main elements: plan making, development assessment and dispute resolution. In comparison to the SP Act, the *Planning Act 2016* is very similar. The *Planning Act 2016* still provides provisions for local government to develop an approved list of locally significant places for protection. The places form part of heritage overlays, which are used during the approval process under the Act. The Livingstone Shire Council has not yet fully developed lists or processes for assessing non-Indigenous cultural heritage places.

18.2.3 Local Plan

Under the QH Act local government authorities are required to establish and maintain a register of places of local cultural heritage significance and include policies for the protection of such places in their planning schemes. The Livingstone Shire Council has a draft planning scheme that includes places of local cultural heritage significance. These culturally significant sites are represented on an overlay map that is publicly available.

18.2.4 Guideline

18.2.4.1 Burra Charter

Indigenous Cultural Heritage in Queensland is protected by the ACH Act. Similar to all Australian states and territories, Queensland's ACH Act is consistent with the philosophical principles outlined in the ICOMOS Charter for the Conservation of Places of Cultural Significance (The Burra Charter) 1977. The Burra Charter describes criteria for defining significance for Indigenous cultural heritage. The Burra Charter was developed by Australia International Council on Monuments and Sites

(ICOMOS) and is endorsed by UNESCO for this purpose. In the Burra Charter, cultural significance means "aesthetic, historic, scientific or social value for past, present or future generations".

The criteria by which the significance of cultural heritage areas, objects and values is assessed under the Burra Charter include:

- Cultural and social significance – all places of traditional, historical or contemporary significance, as well as clearly defined archaeological sites can be of great social significance to Aboriginal people. For Indigenous cultural heritage areas or objects as defined under the ACH Act the primary determinant of significance resides with the Aboriginal parties, consistent with their tradition;
- Scientific significance – the scientific significance of areas and objects represents their ability to furnish data on, and insights into, either past cultural activity (social, technological and ecological) and/or past natural/environmental conditions. In general, the scientific significance of sites increases as their potential information content increases. As a general rule, the rarer the area or object is, the greater its significance;
- Historical significance - an area or object has historical significance if it is associated with a significant person, event or theme. Historical significance may also include the ability of an area or object to be representative of major historical themes or cultural patterns from a historical period. As a rule, it can be taken that the more intact an area or object, including its setting, the greater its significance;
- Educational and economic significance – cultural heritage areas and objects may have important educational significance by providing opportunities for people to visit, examine and better appreciate the nature of these for themselves; and
- Aesthetic significance – the aesthetic qualities of areas includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture and material of the fabric and the smells and sounds associated with the place and its use.

The Burra Charter definitions of significance have also been applied to the non-Indigenous historical cultural heritage assessment within the EIS.

18.3 Environmental Objectives and Performance Outcomes

18.3.1 Environmental Objective

The objective is to preserve the Indigenous and non-Indigenous cultural heritage values that have the potential to be impacted by Project activities.

18.3.2 Performance Outcomes

The performance criteria for Indigenous cultural heritage management is:

- Avoidance, where possible, of all identified Indigenous and non-Indigenous heritage sites and places;
- Development of a CHMA in consultation with the relevant Aboriginal parties; and
- Compliance with the requirements of the ACH Act and the CHMA during Project activities.

18.4 Indigenous Cultural Heritage

This section describes the existing Indigenous cultural heritage environment and potential effects of construction and operation of the Project upon Indigenous cultural heritage. It provides a context for assessing Indigenous existence of the area and provides an overview of the framework in which Central Queensland Coal and the relevant Aboriginal parties will manage statutory obligations.

18.4.1 Assessment Methodology

Assessing and minimising the potential impacts of the Project development to Indigenous cultural heritage values has been a multi-staged process. The initial phase of this study was the collation of site information. This included an overview of:

- Online resources, principally for heritage site databases and regional history;
- A search of the Australian Heritage Place Inventory which includes Commonwealth Heritage lists (World Heritage List, National Heritage List, and Register of the National Estate) for sites of international and national significance and the Queensland Heritage Register;
- Indigenous Cultural Heritage Register and Database;
- Register of the National Trust of Queensland;
- Data in heritage studies previously carried out in nearby areas;
- Consideration of the landscape context, land use history and archaeological record of the region; and
- Data obtained during surveys of exploration areas within the Project location.

While register searches and literature reviews provide a small catalogue of sites to be considered and avoided during infrastructure planning, the results of these searches cannot be construed as a comprehensive record of the Indigenous cultural heritage sites in the region. Site registers document unusual or important sites known to the community, or Indigenous objects and areas identified during previous intensive cultural heritage clearances. Many sites are known to Indigenous people but information on their location and importance is not publicly available.

18.4.2 Overview of Regional Indigenous Cultural Heritage

An understanding of landscape context is an accepted method through which predictions can be made on the likelihood of Indigenous cultural heritage being present in a given area. The following sub-sections explore the soils, geology, fluvial, botanical and ethnographic contexts of the Project area and their influences on the likelihood for Indigenous cultural heritage to be found within the Project area.

18.4.2.1 Soils and Geology

Through an understanding of the geology, predictions can be made regarding what types of raw materials were available for use by Aboriginal people. Similarly, an understanding of the idea that soils are derived from the underlying geology, or deposited via fluvial or alluvial processes, and have the potential to cover or expose cultural heritage sites is important when making predictions on the likelihood of Indigenous cultural heritage being present. These factors influence the raw materials available for stone artefacts, land surfaces available for suitable campsites, and landforms and rock

surfaces upon which rock art could be made. They also affected the ease with which people could travel across the land.

The most likely physical traces of Indigenous cultural heritage are stone artefacts made of cryptocrystalline sedimentary stone and basalt. They can be found on the surface, but also in subsurface, possibly stratified deposits. The potential for finding artefacts is highest in areas where deep soil profiles are present. Owing to the regular transport of sediments in alluvial contexts, the detectability of artefacts within such deposits is often constrained.

18.4.2.2 Fluvial Context

Deep Creek and Tooloombah Creek are located to the east and west of the Project. Both creeks flow to the north and connect with the Styx River before flowing into Broad Sound. The alignment of the haul road connecting to the TLF crosses Deep Creek at an existing crossing point.

The fluvial context of the site is an important feature given the human need for reliable water supplies. Given the presence of two creeks, it is probable the physical evidence of Indigenous cultural heritage could be found in the Project area.

18.4.2.3 Vegetation

By understanding the vegetation communities that are present in the Project area, predictions can be made regarding what plant species were available in the past for use by Aboriginal people. The presence of remnant, undisturbed vegetation communities increases the likelihood of encountering culturally significant material. There is one area with remnant vegetation to the west of both pits and remnant vegetation exists within Deep Creek and Tooloombah Creek riparian area. There appears to be minimal anthropogenic disturbance in this area and the current plant species may have had cultural uses and/or significance.

18.4.2.4 Ethnographic Background

The earliest descriptions of the Indigenous groups of central Queensland occurred in the journals of explorers Cook and Flinders. In 1770, Captain James Cook observed an Aboriginal camp at Bustard Bay. Further observations were made of inhabitants of Keppel Bay in 1802 by Matthew Flinders who described the Aboriginal people of Port Curtis. Other observations were also described by Flinders' companion, Lieutenant Murray, regarding the Aboriginal people of Shoalwater Bay. The first interactions between the local Aboriginal groups and European explorers occurred when the first explorers began entering the region between 1843-1845. The first of whom was Ludwig Leichhardt on his travels between Jimbour Station (27 km north of Dalby) through to Cape York Peninsula (Carpenter, 1991)

Aboriginals, prior to European influence, existed as hunters, collectors and fishers, adapting to conditions of their environments. Personal identity was demarcated by age, gender, kinship ties and a sense of belonging to place. Residential groups consisted of relatives and kin who were not always related and varied in size. These groups would range their regions which also varied in size. Governance of life was organised through religious beliefs and authority was based on age, gender and religious status. Water was crucial for subsistence and settlement and as such, where water was scarce or unreliable, Aboriginal tribal territory was larger.

In a nomadic hunting society, the leanest season was the true gauge of the capacity of the country to sustain a population. Few colonists recorded population estimates of Aboriginals and population of the Fitzroy region with the introduction of European settlement is unlikely to have been determined. Estimates of total Aboriginal populations in 1788 is disputed, but likely to have been

under one million. Populations across Australia did; however, declined rapidly after European settlement from violence, disease and disruption. Smallpox first experienced in Sydney in 1789 was known to have reached Queensland by 1829 (Mulvaney and Kamminga, 1999).

Essentially as hunter-gatherers, Aboriginals were self-sufficient and mobile. In areas of great abundance, often coastal regions, base camps were semi-permanent. Regions with harsher environments required more frequent movements over great distances. Groups came together when food and water supplies were abundant and to participate in ceremonial obligations, but during leaner times they scattered. Much of the time men hunted the larger animals and birds as well as fishing. Aboriginal women and children mainly gathered vegetable food, caught birds and small animals and shellfish. Women were also known to fish, and hunt large animals on their own and also participate in communal hunts. Children too were a part of such lager activities. As dictated by local clan or ritual taboos, all Australian animals were eaten. Typically, small marsupials and reptiles provided the greater protein diet throughout much of Australia. Small prey was more common and easier to catch. Fire was used in communal hunting. Fish were caught where available using a variety of regional technology such as canoes, weirs, traps, nets, special fish-spears, and hook and line. Saltwater turtles and dugong were hunted in tropical waters. Birds and insects were also a part of the Aboriginal diet. Termites, moths, honey ants were a useful protein source and honey from stingless bees was collected and consumed (Mulvaney and Kamminga, 1999).

Plants were also integral to the Aboriginal diet and consisted of many regional foods. Seeds, tubers, fruit, fungi and nuts were consumed. Edible bulbs and tubers were widespread and available all year round. In tropical Australia, roots and tubers were the staples of the wet season, particularly yams. Several of the different kinds of starchy plant foods required processing before they were edible. Starch flour was extracted from the fibrous roots of ferns in regions with higher rainfalls. Some plants had to be leached in water first, such as certain types of yams, mangrove seeds and cycads. Cycads were a staple in Queensland rainforests where alternative plant foods were limited. Evidence of cycad consumption dates to within the last 4,500 years in Queensland. Seeds and spores could be ground into flour using stones to make a cake or damper. A grindstone was an essential component of Aboriginal existence and an archaeological indicator of seed food exploitation (Mulvaney and Kamminga, 1999).

A wide range of natural materials were used across Australia to make Aboriginal artefacts such as stone, plants parts and compounds, shell and animal tissue (skin, fur, teeth, bone, blood, sinew, fat and dung). Bark was used for multiple purposes to make canoes, huts and shelters and hunting blinds. Paperbark was used for water containers and blankets. Due to traveling, most artefacts needed to be lightweight and multi-purposed. Women usually carried household equipment and men travelled with spears and woomera (spear-thrower). The Woomera served many purposes and could be also used for cutting, a friction tool for making fire, a parrying stick and a digging / scooping tool and a clapstick for music. Some were decorated and used as maps. Being curved the woomera was also useful as a food receptacle, a palette for mixing ochre or for collecting blood. Also used for hunting was the boomerang, typically used to obtain birds and large mammals. It was also used a fighting weapon and an instrument of sport (Mulvaney and Kamminga, 1999).

From the first entry into the region by Europeans, cattle and to a much lesser extent sheep, were introduced into the broader Marlborough area. Areas of well-watered land were the first to be taken up, which likely impacted on the relationships between early pastoralists and local Aboriginal people who relied on watercourses for their survival. The introduction of sheep and later cattle grazing has caused impacts on the ground through land clearing and over time erosion caused by hard hoofed stock traversing cleared land. Other impacts occurred to the native flora and fauna, with riparian vegetation communities being adversely affected (L'Oste-Brown et al. 1998).

Most of the Project area has been subject to previous ground surface disturbance through land clearing (including blade ploughing), construction of tracks and water infrastructure such as dams, cattle grazing and soil erosion. These areas provide less value to identify likely plant species which were used by Aboriginal people. Plant species that may have cultural heritage significance include those that can be used for food (such as retrieval of native honey), the production of tools (such as scarred trees), medicine or as boundary markers.

18.4.2.5 Local Surveys - Marlborough Nickel Project

Unlike other coal mining locations in central Queensland which have undergone significant Indigenous cultural heritage investigation, the Styx basin has not. Notwithstanding, early mining in the region undertook Indigenous cultural heritage investigations. The only publicly available information related to the Indigenous cultural heritage investigations undertaken in the vicinity of the Central Queensland Coal mine was for the Marlborough Nickel Project.

In late 1997 and early 1998, representatives of the Darumbal people conducted a cultural heritage assessment for the Marlborough Nickel Project. This study included archaeological, anthropological as well as historic heritage investigations. A field team identified 89 areas containing cultural material during the survey of four study areas totalling 28 km^2. The surveys located 48 stone artefact scatters, 39 isolated finds, one scarred tree and a rock shelter considered to potentially contain occupation deposits (debris indicative of human activity). These results were consistent with previous survey work undertaken throughout the more general area, with most finds being in areas containing creek lines and their alluvial flats than in the hilly areas.

18.4.3 Results of Register Searches

Register and database records held by government have been searched to identify the existing Indigenous cultural heritage in the Project area. The following sub-sections present the findings of these Indigenous cultural heritage searches.

18.4.3.1 Australian Heritage Database

The Australian Heritage Database (AHD) is an online search tool that utilises databases maintained by the Commonwealth such as the National Heritage List (NHL), the Commonwealth Heritage List (CHL) and the non-statutory Register of the National Estate (RNE). A search of the AHD was undertaken on the 30 January 2017. The results of the AHD search are provided in Table 18-1. No designated sites are recorded under these databases. The Project will not impact on any Commonwealth listed heritage site. No items of Indigenous or non-Indigenous cultural heritage significance were identified as being present with the Project area on the NHL, CHL or the RNE.

Table 18-1 Australian Heritage Database search results

Register	Description	Result
National Heritage List	Provides protection to places of cultural significance to Australia.	No culturally significant items identified
Commonwealth Heritage List	Comprises natural, Aboriginal and historic heritage places owned and controlled by the Commonwealth.	No culturally significant items identified
Register of the National Estate	A non-statutory archive of heritage places across Australia. There are no management constraints associated with this listing unless the listed place is owned by a Commonwealth agency.	No culturally significant items identified

18.4.3.2 Aboriginal Cultural Heritage Register and Database

Under the ACH Act, the Department of Aboriginal and Torres Strait Islander Partnerships are required to keep an Aboriginal Cultural Heritage Register and an Aboriginal Cultural Heritage Database. Searches of these systems were undertaken for the Project area on 3 January 2017. There are no entries recorded in the Aboriginal Cultural Heritage Register within the Project area and there are no sites recorded in the Aboriginal Cultural Heritage Database within the Project area. The nearest registered Indigenous cultural heritage sites are located between 20 – 30 km to the south and southeast of the Project area.

18.4.3.3 Local Heritage Register

The Livingstone Shire Council Draft Plan 2016 was consulted 30 January 2017. A search of the Livingstone Shire Council Overlay Map 25-01 Heritage - Local Heritage Register Sites did not identify any local Indigenous cultural heritage places within the Project area.

18.4.4 Disturbance Area Surveys

No Indigenous cultural heritage surveys of the Project disturbance areas have been undertaken. Engagement with the Aboriginal parties is currently underway and had not been completed for the project at the time of preparing the EIS. A systematic Indigenous cultural heritage assessment of the Project disturbance area will be undertaken in accordance with the CHMA once finalised.

18.4.5 Potential Impacts

The nature of the soils and geology of the Project area means that there is a likelihood that the physical evidence of Indigenous cultural heritage will be found where deep soil profiles are present, or where the surface is aggrading. As much of the Project area has been previously cleared and used for grazing, any evidence of Indigenous cultural heritage is likely to be in a very disturbed context. Extensive clearing by graziers across most the Project area means a low probability of resource areas, but it is possible for some values (including stone artefacts) to remain, particularly in remnant vegetation areas near the creeks or other likely gathering points or travelling routes.

The proximity of the Project area to the Broad Sound suggests that there is a strong probability of shell middens being located within the broader area. It is more likely that any middens will be located closer to the Styx River than at Tooloombah Creek and Deep Creek. Notwithstanding, there is a moderate to low probability that middens exist within the Project area. Similarly, if hearths exist in the area they are more likely to be occur in proximity to shell middens. As the Project will not be disturbing the remnant vegetation within Tooloombah Creek and Deep Creek the overall likelihood of disturbance to any middens that may be located within the watercourses is considered low.

Surveys undertaken for the Marlborough Nickel Project identified a single scarred tree within the study area. Given evidence of this type of cultural heritage in the broader area, there is a moderate probability that scar trees will be present within the Project area. However, noting the Project area has been subjected to extensive vegetation clearance associated with cattle grazing, it is anticipated that should scar trees be present, they will occur in the remnant vegetation associated with the creek lines and generally outside of the Project's disturbance footprint. It is therefore considered the overall probability of a scar tree being present within the Project area is low.

A rock shelter considered to potentially contain occupation deposits was identified during surveys for the Marlborough Nickel Project. Given the geology of the disturbance area the presence of rock shelters and rock art is unlikely.

An Aboriginal burial site was identified in a sandy, alluvial area on the south bank of the Fitzroy River on Armagh Station, approximately 20 km to the north of Westwood, 50 km to the west of Rockhampton. This site included several sets of remains identified as being buried in traditional Aboriginal manner. Aboriginal burials can exist in many environments and are usually unmarked. Undisturbed burials have a low likelihood of occurring within the disturbance footprint of the project given the extensive land clearance and soil disturbance associated with cattle grazing activities. Any undisturbed burials are likely to be in the undisturbed areas associated with Tooloombah Creek and Deep Creek. As ground breaking activities are not proposed in these areas, impacts to Aboriginal burials are not anticipated.

The probability of encountering Indigenous cultural heritage within the Project area is presented at Table 18-2.

Table 18-2 Probability of encountering physical cultural heritage within the Project area

Potential aspect	Probability of occurrence
Stone artefacts	High probability
Quarries	Low probability
Shell middens	Moderate probability
Scarred or culturally modified trees	Low probability
Rock art - stone arrangement	Low probability
Burials	Low probability

18.4.6 Mitigation and Management Measures

The management and mitigation of impacts on Indigenous cultural heritage will be established in the CHMA that is currently being negotiated with the relevant Aboriginal parties. The CHMA will apply to all land within the Project area.

The mitigation and management measures to be implemented include the following:

- Undertake comprehensive cultural heritage surveys to assess Project impacts on cultural heritage;
- Undertake management recommendations, contained within the survey report as required;
- Place Indigenous cultural heritage sites on all construction and design plans;
- If items of Indigenous cultural heritage values are identified during the Project works, then all works will stop and measures set out in the approved CHMA will be undertaken;
- Cultural heritage awareness training of all personnel undertaking mining activities, with the training program; and
- Monitoring of the effectiveness of the mitigation and management measures.

18.5 Non-Indigenous Cultural Heritage

Non-Indigenous cultural heritage refers to archaeological places and cultural heritage sites that were established post-European arrival. The non-Indigenous cultural heritage assessment assessed the presence of historical cultural heritage within the Project area and identified values that may be impacted by the Project.

18.5.1 Assessment Methodology

The approach to assessing non-Indigenous cultural heritage is broadly similar at local, regional, State and National levels. Standard criteria (s35 QH Act) were used to identify the non-Indigenous cultural values of a place depending on the level of significance. The difference was a matter of threshold and if a place was significant at a local, regional, state or national level. The criteria for assessing non-Indigenous cultural heritage significance ensures that the place:

- Is important in demonstrating the evolution or pattern of history of a locality, region, state or Australia;
- Demonstrates rare, uncommon or endangered aspects of cultural heritage of a locality, region, state or Australia;
- Has potential to yield information that will contribute to an understanding of the history of a locality, region, state or Australia;
- Is important in demonstrating the principal characteristics of a particular class of cultural places in a locality, region, state or Australia;
- Is important because of its aesthetic significance in a locality, region, state or Australia;
- Is important in demonstrating a high degree of creative or technical achievement at a particular period in a locality, region, state or Australia;
- Has a strong or special association with a community or cultural group for social, cultural or spiritual reasons in a locality, region, state or Australia; and
- Has a special association with the life or work of a person, group or organisation of importance in the history of a locality, region, state or Australia.

While register searches and literature reviews provide a small catalogue of sites the results of these searches cannot be construed as a comprehensive record of the non-Indigenous cultural heritage sites in the region. Site registers document unusual or important sites known to the community, or artefacts and areas identified during previous intensive cultural heritage clearances. Many parts of the study area have not yet been examined for traces of prior non-Indigenous activities, and despite the remote nature of the site further heritage aspects may be uncovered during site surveys.

18.5.1.1 Desktop Review

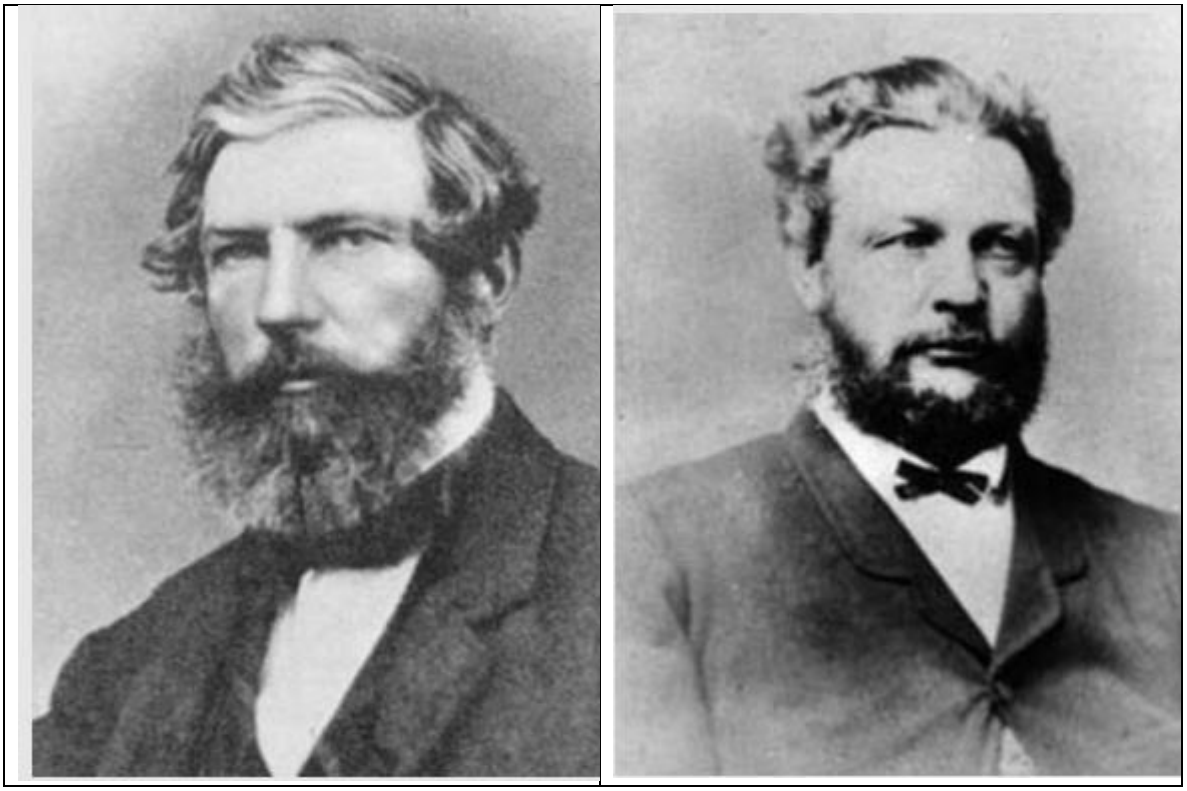
Assessing and minimising the potential impacts of the Project development to non-Indigenous heritage values has been a two-staged process. The initial phase of this study was the collation of site information and the second stage involves an assessment against the criteria for entry in register as State heritage place as outlined in s35 of QH Act. The following sources were used:

- Online resources, principally for heritage site databases and regional history;
- A search of the Australian Heritage Place Inventory which includes Commonwealth Heritage lists (World Heritage List, National Heritage List, and Register of the National Estate) for sites of international and national significance and the Queensland Heritage Register;
- Register of the National Trust of Queensland; and
- Data in heritage studies previously carried out in nearby areas.

18.5.2 Historical Background

18.5.2.1 Early Exploration

Captain James Cook aboard the Endeavour in 1770 first recorded the inhabitants of Keppel Bay on his journey north. Later naval explorers, Flinders and King, docking in Port Curtis in 1802 and 1819 also recorded the region and its inhabitants, but it was Ludwig Leichardt who as one of the first Europeans to traverse the Fitzroy region in his expedition from Moreton Bay to Port Essington in 1844-45 recorded its discovery. During this expedition, Leichardt found and named the Comet, Dawson, Isaac and Mackenzie tributaries of the Fitzroy River. The Fitzroy River itself was later discovered by the Archer brothers, also explorers, following their friend Leichardt's directions in 1853. The river was named by Charles and William Archer in honour of the Governor of New South Wales, Sir Charles Fitzroy. The Archers (see Figure 18-2) had come from Norway in the 1840s and had established runs at Durundur, and then further north at Eidsvold. On their exploration through the Fitzroy region they mapped and marked out blocks in anticipation of settlement (Noyes, 1991).



Source: State Library of Queensland, 2017

Figure 18-2 Charles and William Archer

18.5.2.2 Settlement

The *Waste Lands Occupation Act 1846* was passed giving pastoralists the right to a lease rather than licence land, for a period of up to 14 years, in settled and unsettled districts and the right to pre-emptively purchase the land. As such the exploration of the Fitzroy River system opened up grazing country to the first generation of explorer-pastoralists. The new pastoral districts of Port Curtis and Leichhardt (the inland catchment area of the Fitzroy) were proclaimed open for settlement in early 1854 by the New South Wales Government. Speculator Henry Holt Brown of Gayndah took the first leases of 'Tartarus, Manases and Apis Creek' on the Mackenzie River, but did not stock them before he re-sold them. As did many others such as John Peter Campbell, who purchased several blocks in the region, including that of 'Tooloombah, Tivoli and Waverley' (Noyes, 1991).

Early settlement in the region began with the Archer family in July 1855 who established the property of 'Gracemere', named after Grace Archer and a lagoon fondly remembered from Norway. The Archers stocked Gracemere with 8,000 sheep which initially did well. Other settlers then began to arrive in the region, representing the first wave of pioneering pastoralists. Friends of the Archer family, William 'Hobby' Elliot and his nephew George, arrived at Gracemere in January 1856, bringing with them 4,000 sheep that would be placed on their runs of 'Canoona and Tilpal' further north. The Elliot's were the first pastoralists to take up residency on the northern side of the Fitzroy River in the Livingstone Shire area. Whilst residing at Gracemere the Elliot party was attacked by Aborigines leaving a stockman dead and William Elliot was wounded.

During the period, as grazing country was wrested from its Indigenous owners, Aboriginal groups responded vigorously. Relations were inflamed by the presence and actions of the Native Mounted Police, comprising native troopers (recruited outside the region) and European officers, empowered by law to violently "disperse" Indigenous populations of all descriptions (Reynolds, 1987).

18.5.2.3 Pastoralism

The grazing of stock began as early as 1927 around the Darling Downs region as New South Wales squatters had moved further and further and further north in search of suitable land in contravene to Government decree. The 1830s found the Liverpool region over-populated and squatters were known to be in the New England district (Ware, 1976). Many took their stock beyond the limits of occupation set by the government, but they contributed financially to the colony and enforcement of the law was not strongly upheld and as such new legislation was passed to assist occupation of unsettled lands. The *Crown Lands Unauthorised Occupation Act 1839,* allowed for a licensing system that would cater for squatters to obtain vacant crown land and give the government a measure of control over land settlement.

Moreton Bay, originally established as a secondary penal settlement in 1824, was opened-up for general settlement in 1842 and by 1850 the population was still relatively small at 8,000 people (Macintyre, 2009). Pastoral runs in the Fitzroy region did not begin until after the 1854 official Government opening of the region. A census performed by the Archer family in April 1856 records the European population of the region as having only 35 occupants (Noyes, 1991).

Ipswich resident John Arthur Macartney, and his companions George Murray, John Murray and Dan Connor came to the region in 1858. John Macartney purchased 'Glenmore Station' and John Campbell's 'Waverley Station' which he initially thought to establish a sheep run, which he later deemed inappropriate as it was too far north. 'Waverley' was run by John Macartney for 40 years. John Campbell at this time in partnership with Francis Newbold took up two runs known as 'Toorilla Plains'. Francis Newbold became the sole lease holder in 1860. The Elliot's sold 'Canoona' after only two years in 1858 and eventual ownership went to Thomas William Vicary who remained at the station until his death and burial there in 1905. Peter Fitzallan McDonald, also an early pastoralist to the region had several years' experience in Victoria before settling on the station 'Yemeappo', which was still in the family's hands in 1988 (Noyes, 1991). The explorer William Landsborough, famed for his search for Burke and Wills took possession of one of the best runs of the region, 'Glen Prairie', but did not settle in the region and had to sell the property whilst undertaking his search to pay his incurred debts.

Many of the early leases in the area were taken up by speculators and ensured leases changed hands often with little improvement attempted on the properties. Current regulations specified that the landholders had a period of 21 months to stock and run at least 25 per cent of the property's capacity or forfeiture of the lease would occur. When separation of Queensland from New South Wales occurred in 1860, at least ten land acts were passed by 1884 to address pastoral leases. The first act

was aimed to encourage exploration and gave pastoralists continued land grants of up to 14 years at a nominal rent to encourage expansion. Unoccupied land considered viable could be occupied, stocked and leased at 10 shillings per square mile for one year. Within three months of the expiration a lease could be obtained for 14 years if each square mile had been stocked with at least 25 sheep and 5 cattle. This was to promote capital development of the land (Noyes, 1991).

John Douglas, a politician from Sydney and one of the early settlers of region, bought several properties including 'Tivoli, Borenia, Dundee, Monrose, Panuco and Tooloombah', collectively known as 'Tooloombah'. To acquire these properties, Douglas was financed by Gilchrist, Watt & Co. Douglas ran cattle on the property and installed his cousin as the manager of the property, living there himself for a short while, before finding more comfortable accommodation in Brisbane. Douglas became the member for Port Curtis in the Queensland Legislative Assembly in 1863, but became insolvent through the 1866 stock crash and lost the property to Gilchrist, Watt & Co (Noyes, 1991 and Joyce, 1972).

Gilchrist, Watt & Co, were a Sydney firm with many interests and in addition to financing ownership of 'Tooloombah' the company also owned 'Glen Prairie'. 'Glen Prairie' ran from Herbert Creek to the Styx River and included 'Stoodleigh', known as one of the best runs in the area. 'Tooloombah' was again financed by Gilchrist, Watt & Co who in 1868 sold to it Owen Charles Joseph Beardmore, who would remain on the property until 1907 (Noyes 1991, Johnston 1990 and Rutledge 1990). Droughts, floods, cyclones, cattle tick and market over-supply caused much concern for Beardmore. These took their toll on the productivity of the station and in 1902 he abandoned parts of his property. Thus, a large part of 'Tooloombah' Station was resumed by the government in 1905. This included the runs of 'Riverview, Anglewood, Mamelon, Montrose and Nullegai' (C. Noyes, 1991). The remainder of 'Tooloombah' changed hands several times during the early part of the twentieth century until 1930 when it was purchased by J.B. Jonty Shannon. The Shannon's sold part of the property in the 1950s and up until 1988 it was known to still be in the hands of the Shannon family (C. Noyes, 1991).

For at least the first decade of settlement in the Fitzroy region, land use meant sheep grazing and wool production, despite the climate and conditions. By the mid-1860s sheep profits were low, and most pastoralists realised the region was not conducive for their survival. Spear Grass rendering wool useless combined with lung-worm and footrot taking their toll. It became an accepted fact that cattle were more durable for the conditions. Problematic was the lack of markets for cattle in the early years, other than the boiling-down process to obtain tallow and as draft animals or breeding stock. The Lakes Creek Meatworks in Rockhampton changed the value of cattle as a resource in 1871 and by 1880 the meatworks offered canning and freezing processes that changed the face of the cattle industry in the region (McDonald, 2003).

The Archers of Gracemere first introduced a future cattle platform to their property in 1856 with a breeding program of Shorthorn Cattle, and a Hereford Stud in 1862. John Macartney of 'Waverley' also turned to cattle production and purchased his first stock from the Archers in 1860 (McDonald, 1985). Owen Beardmore of Tooloombah in 1871 also introduced cattle on his run, notably the Hereford and Durham breeds. District records of 1860 show that sheep were the predominant livestock of the region with approximately 13,000 cattle to 304,000 sheep, which by 1879 had changed dramatically to reflect approximately 155,000 cattle to 7,000 sheep (McDonald, 1985).

The cattle industry was not without threat and faced significant impact from the effects of two major parasites, the buffalo fly and the cattle tick coming to the region from imported infected cattle from the Indonesian region in 1838 and 1872 respectively (Carpenter, 1991). The cattle tick created a devastating impact on the regional cattle population, and led to the use of arsenic dips for treatment and the questioning of traditional breeds suitability for the region. The result was a change in the

genetic base of cattle, and the introduction of Zebu cattle, *Bos indicus*, in cross breeding programs over several generations providing a greater tolerance to ticks and hardier in drought condition. By the 1980s the region was well known for the new breeds of Braford, Brangus and Belmont-Red.

The *Crown Lands Alienation Act 1868* made significant impact to the pastoralists by introducing the capacity for the Government to obtain half of the holders run, by resumption or voluntary surrender. An additional classification measure was also introduced, dividing land into three tiers and selling the land accordingly. This change in legislation was to encourage farmer's access to the area with smaller lots with the intent of facilitating a dual use of lands for pastoral and agricultural purposes (QHATLAS, 2017). Agriculture in the Fitzroy region had greater success in the coastal regions, compared to the central regions, whose major crops were for the purposes of feeding stock (Carpenter, 1991). Dairy cattle were also introduced to the region in the early twentieth century, but due to transport issues were usually on farms closer to towns. The implementation of the railway line to St Lawrence, allowed dairy cattle to be introduced in the Ogmore region at 'Strathmuir' around 1920, which was railed to the Rockhampton Dairy Co-operative (Carpenter, 1991).

The early runs established within the Project area are shown at Figure 18-3 to Figure 18-6.

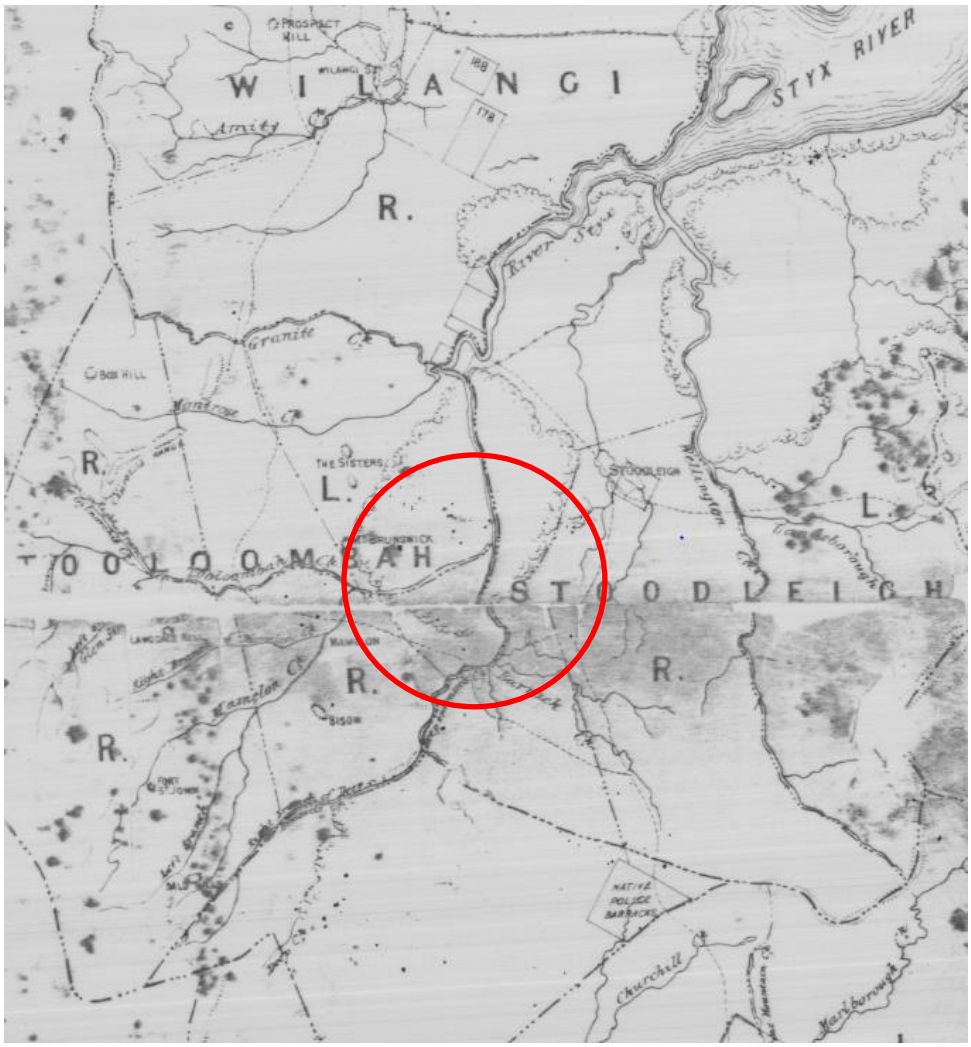


Figure 18-3 Port Curtis District Map Sheet 3 outlining consolidated runs (1874)

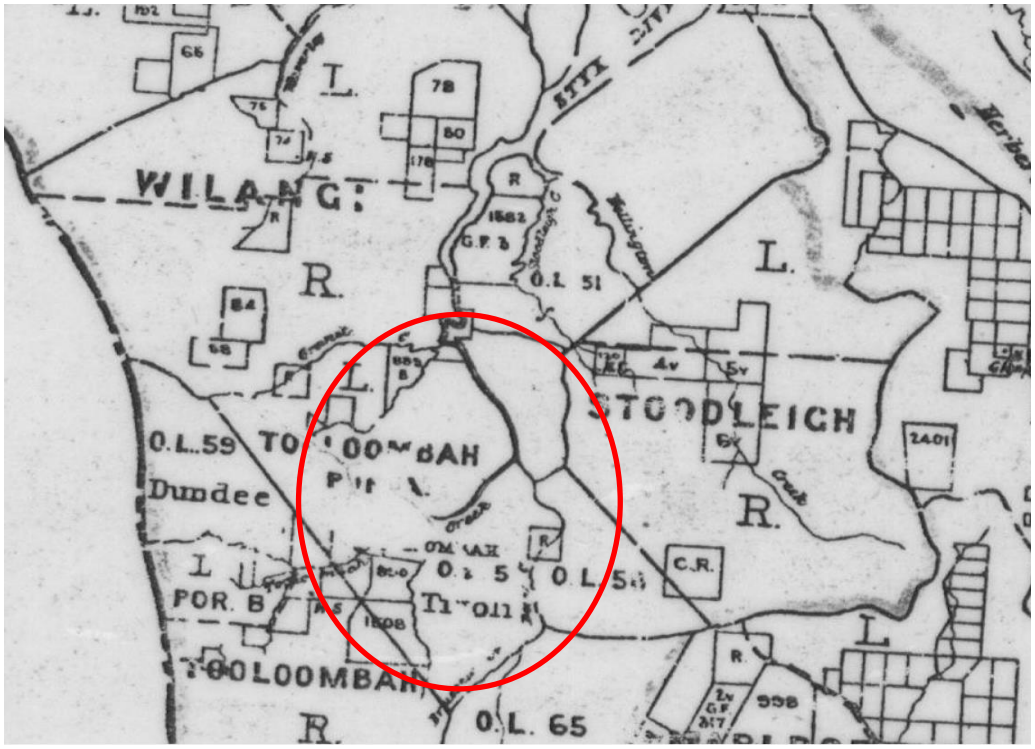


Figure 18-4 Port Curtis District outlining consolidated runs (1899)

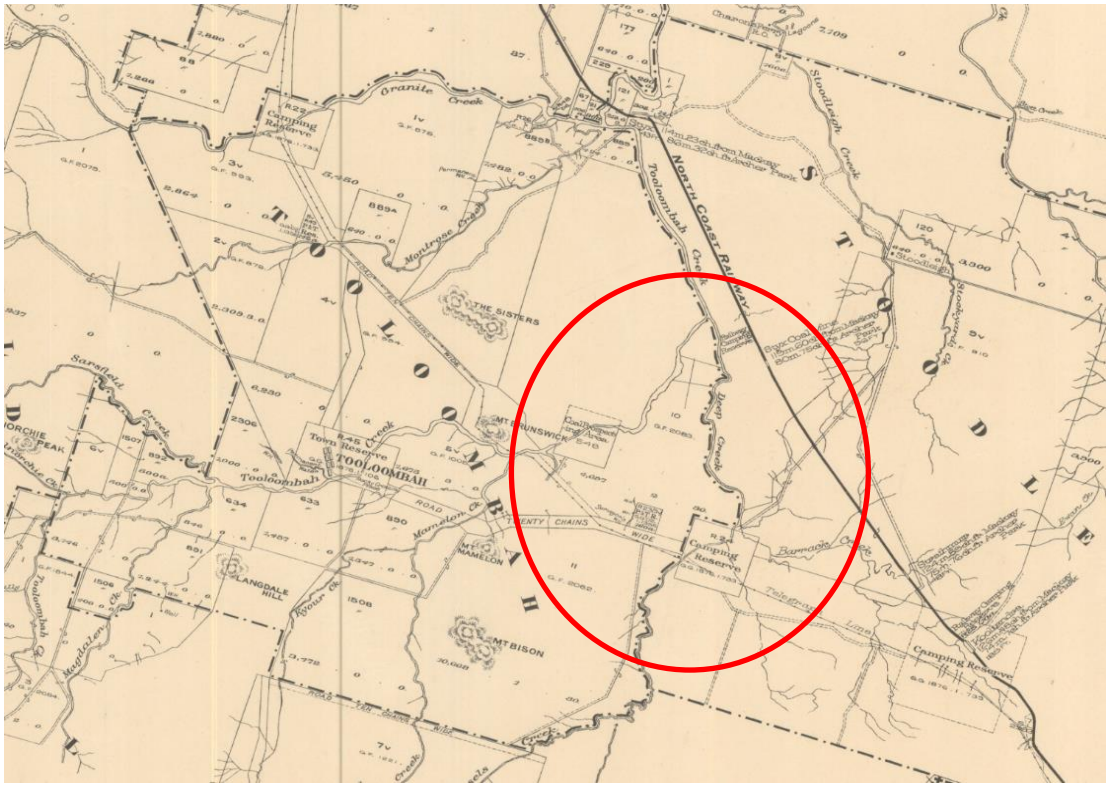


Figure 18-5 Parish Map County of Murchison Sheet 2 (1922)

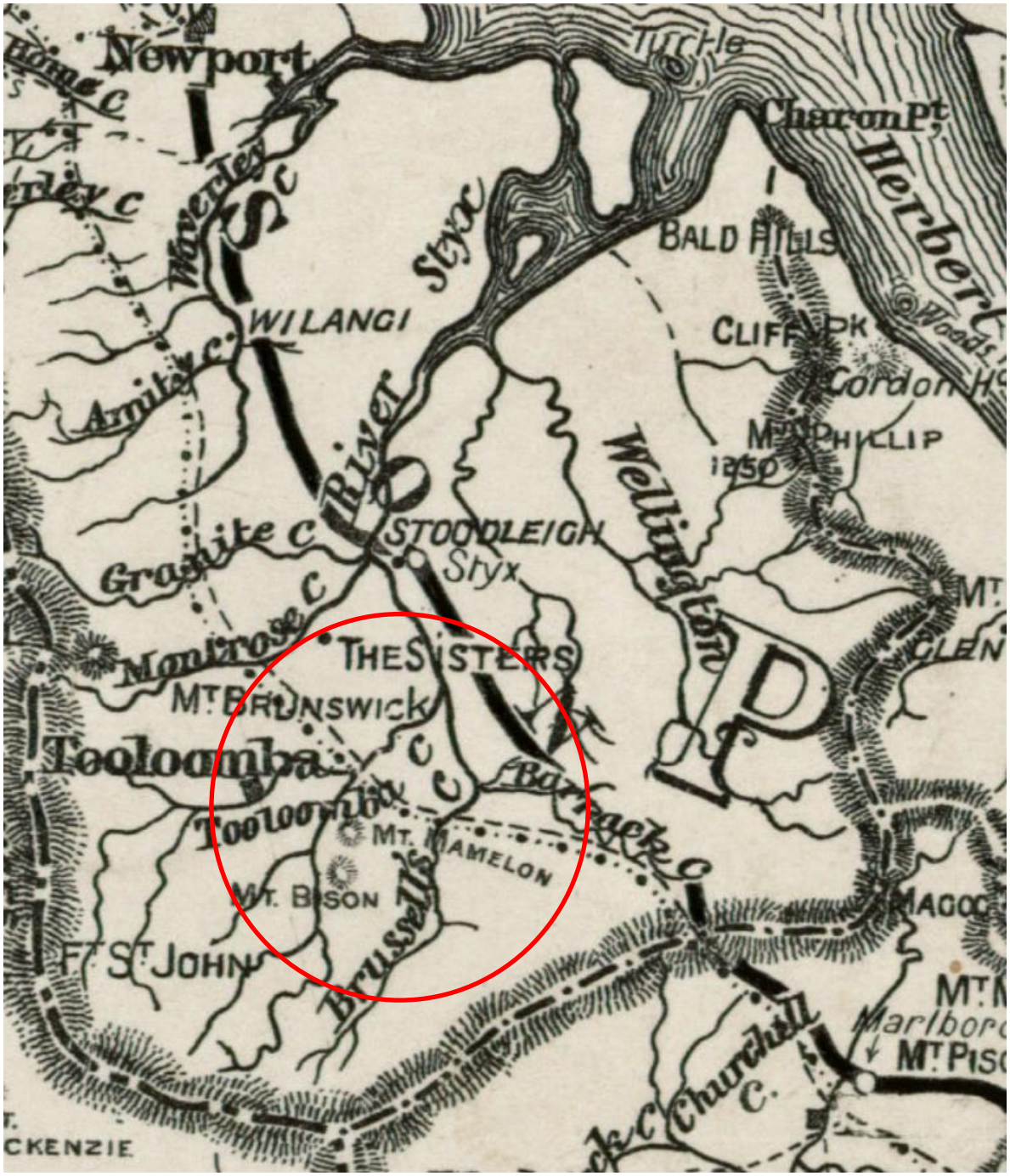


Figure 18-6 QLD 16 mile series showing roads, rivers, towns, railways and homesteads

18.5.2.4 Mining

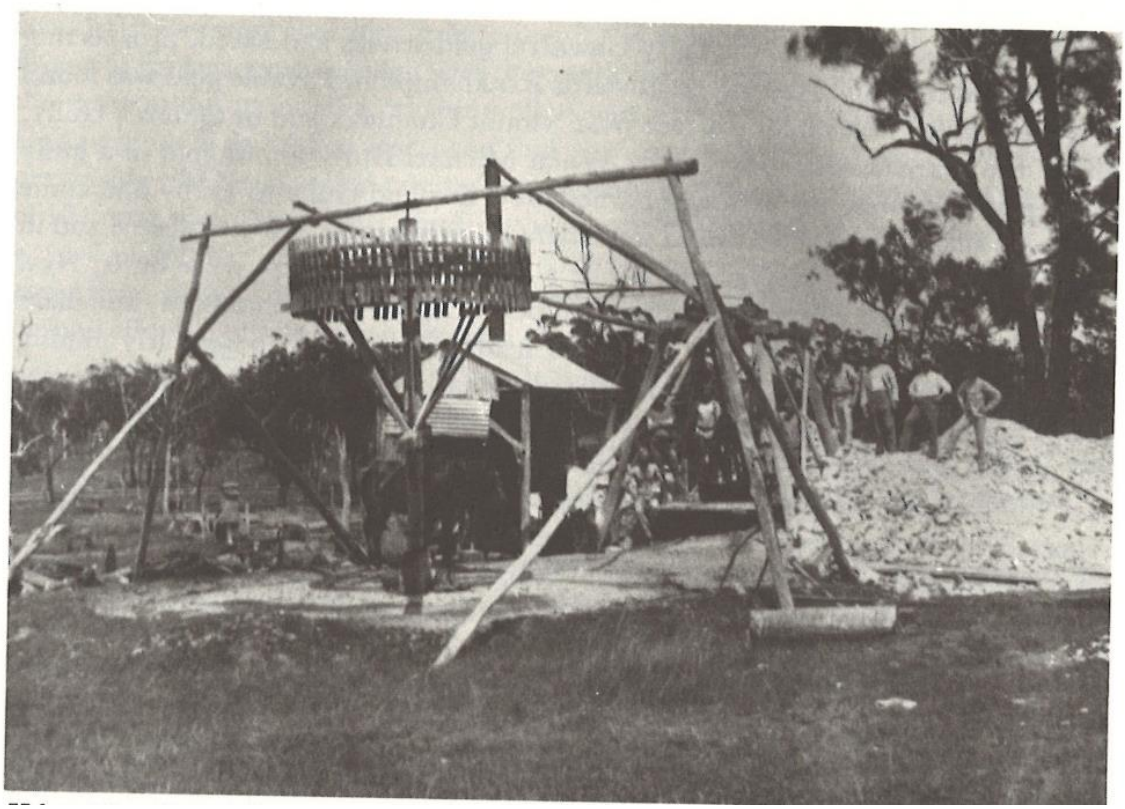
Gold was discovered on the 'Canoona' run in mid-1858 at Bonnie Doon Creek, by William Chappel, bringing a rush of people to the Fitzroy region. Amid widespread rumour and misinformation, the 1858 discoveries initiated the so-called "duffer rush" in the last part of that year. An estimated 16,000 prospectors flooded the region until the meagre returns were quickly exhausted. The resultant population of impoverished, displaced prospectors were shipped back to the colonies of New South Wales and Victoria by government chartered vessels (Carpenter, 1991). Further deposits were found, in small quantities through the area, sparking new rushes of diggers and other characters to the region. The notorious Bushranger Frank Gardiner looking for a place to hide was tracked and arrested at Apis Creek, in 1863. Gardiner and his mistress, (the sister in-law of Ben Hall)

were running a public house and store, commonly described as a 'roadside shanty'. Gardiner, known as Francis Christie, was considered to be a respectable man by the locals, and would often safeguard the diggers gold. It was two New South Wales Detectives who found Gardiner in Queensland, who was on the run for the 1862 armed robbery of a gold escort, worth £14,000, near Eugowra New South Wales. When found, Gardiner was still in possession of a thoroughbred race horse he had stolen from Swan Hill, Victoria.

Gold findings of 1868 at Cawarral Flat (see Figure 18-7 and Figure 18-8), were significant enough to continue mining until 1900, but was considered only marginally profitable. Gold continued to be found sporadically in the region, and a discovery near Canoona again in 1903 instigated a mining operation that lasted until 1912, but in total only 4,695 ounces were recovered. Mount Wheeler was considered more successful with large nuggets found resting on alluvial soil just under the grass; however, the Mount Chalmers mine showed greater returns, producing 51,022 ounces of gold, 181,027 ounces of silver and 10,059 tons of copper until its closure in 1915 (Carpenter, 1991).

Source: Carpenter, 1991

Figure 18-7 Gold panning at Cawarral



Source: Carpenter, 1991

Figure 18-8 Helena gold mine at Cawarral

In addition to Mount Chalmers, copper was mined in the Fitzroy region in the nineteenth century at Clermont and Mount Morgan. The turn of the century also saw the discovery of the following; metallurgical chromite at Mount Redcliffe, Glen Geddes, Balnagowan, Princhester and Tungamull; manganese at Cawarral, Mount Barmoya and Yaamba; gypsum at The Caves and Water Park Creek; ironstone, haematite and magnetite at Iron Island; silica at Stockyard Point; limestone at Johansen's Caves and Mount Etna; and chrysoprase at Marlborough Creek (Carpenter, 1991).

Coal was first noticed in the Fitzroy region by Carlos Birkbeck of 'Glenmore Station' possibly at Deep Creek during the 1880s. Additional finds in the region were at Water Park Creek, Byfield, north of Yepoon in 1901. The Birkbeck find led to the later development of the Styx Coalfields in 1918, which proved to be one of the limited Australian coalfields holding Cretaceous age coal. This coal was high-volatile, bituminous, weakly coking and was found in several lenticular seams (Carpenter, 1991). Earlier limited mining operations were known to have existed near the junction of Mamelon and Tooloombah Creeks to assist the Railway Department complete the Marlborough to Styx section of the North Coast Line railway.

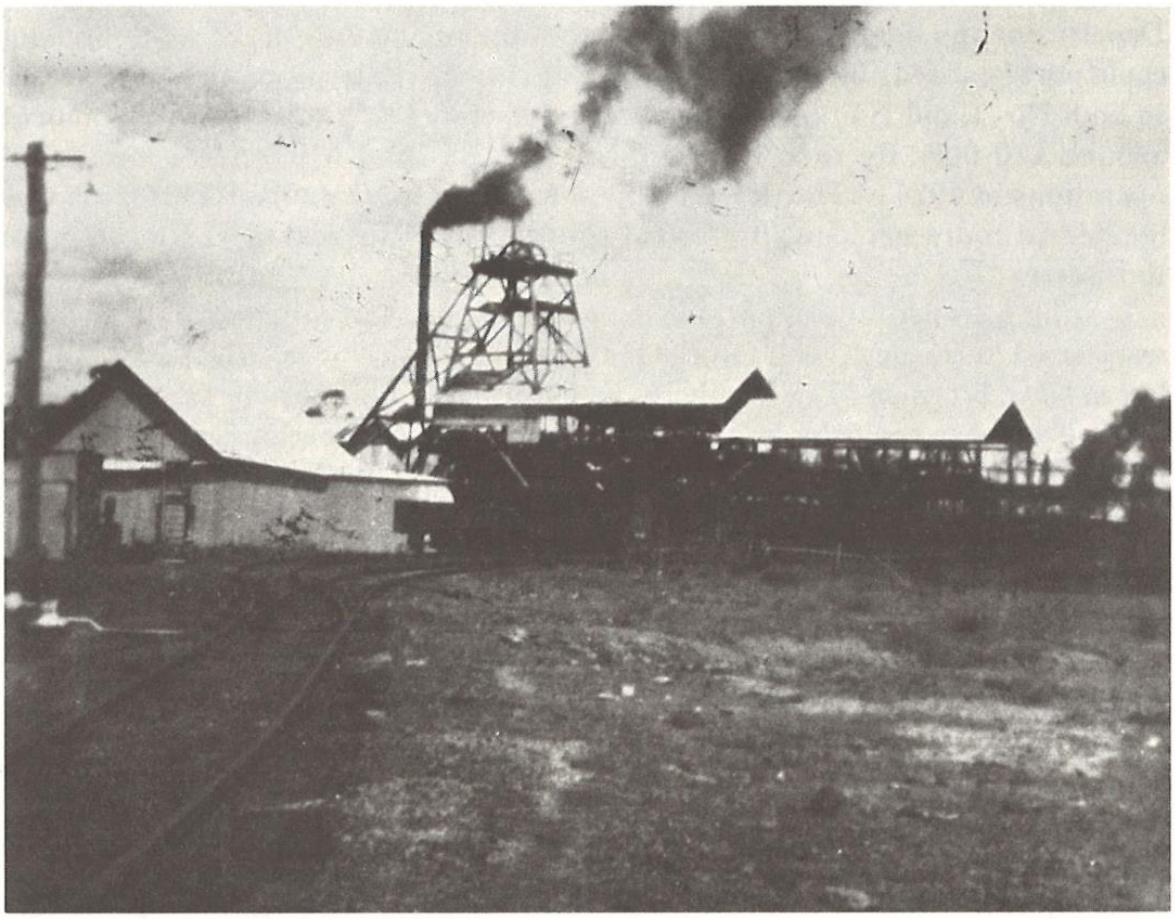
The Central Queensland Coal mines began at Bowman between 1918 and 1920. This first mine was known as Styx No.1 State Coal Mine and would form the basis for the community of Bowman. Bowman was named for David Bowman, Parliamentary Labor Leader and Member of the Legislative Assembly (MLA) for Fortitude Valley, Brisbane. Not long after a second shaft was sunk a short distance south of the first. This new mine was named Styx No.2 State Coal Mine. The coal from both mines supplied the Railway Department and the Navy. By 1925 these entities were abandoned due to the excessive fire damp detected in both mines. Styx No. 3 State Coal mine, located at Hartley / Ogmore, a few miles north of the two previous mines, began production in 1924. Most of the miners and their families transferred to Hartley, leaving Bowman behind. The town of Hartley was named in recognition of H.L. Hartley, Labor MLA for the electorate of Fitzroy (Carpenter, 1991).

Many of the miners that came to work at the Styx coalfields came from other coal mining communities in Australia and from Britain. The nature of the Styx shafts also brought 'hard-rock' miners to the coalfields. These miners were usually associated with gold mining. Early living conditions were considered primitive and harsh, leading to an outbreak of Typhoid Fever, in 1923 which required Government action to address the sanitation of the communities. The mines were also hazardous work environments, due to the physical labour required to remove coal, typically using pick and shovel, bad roof conditions and methane gas was constantly detected. The Great Depression (1929-39) had a major impact on the mining community of Hartley, and as production slowed shifts were cut to try and keep all employed. A percentage of miners left the region, under a government incentive payment, to allow for the mine to offer more shifts to the remaining miners, to sustain incomes through the troubled times. The Depression years were harder in Australia than many other westernised economies due to its large reliance on it export industry. Unemployment rates were higher than those of Britain rising to 28 percent by the end of 1931 (Macintyre, 2009).

The Bowman mine was re-opened in November 1930 (see Figure 18-9 and Figure 18-10) by a small private syndicate of miners who had suffered through wage losses at the Hartley mine. They formed the Bowman Coalmining Syndicate, which mined over 173,000 tons of coal before it closed in 1948. Further disruption to the mining community occurred in August 1934, when Styx No. 3 suffered an explosion at the bottom of the mine seam, closing the mine for over seven months. After re-opening, the mine continued to produce coal until the Government decided to close the mine, coming into effect in July 1964. Total production at the expiration of the mine was over 1.75 million tons. The town of Ogmore, previously known as Hartley until 1933, was made redundant in a matter of months. Miners were re-trenched and with their families had to re-locate for employment. Without the mine in operation the town lacked electricity generation and water pumping facilities. The government later rectified these services to the town, but it very quickly became a ghost town (Carpenter, 1991).

Source: Carpenter, 1991

Figure 18-9 Miners at Bowman (Ogmore) c1950s



Source: Carpenter, 1991

Figure 18-10 Bowman (Ogmore) Coal Mine c1950s

18.5.2.5 Railways and Roads

Formal road infrastructure of the Fitzroy region was slow in progressing during the nineteenth century. There were three main roads coming out of Rockhampton, and the northern road was the route to St Lawrence. This road was a coach road and was the main transport route to Marlborough, Kooltandra, over Deep, Mamelon and Tooloombah Creeks, then onto St Lawrence and beyond. Changing stations used by coaches stopped at various stations along the route and often bush inns and public houses were established at their locations. The facilities at the changing stations were also used by drovers. The Styx River coach road came off the main northern road near Kooltandra and passed the properties of 'Strathmuir, Old Stoodleigh, Charon's Ferry' and across to 'Tooloombah'. Other routes went onto Waverley and Wilangi (Carpenter, 1991).

South of Mackay there was a road that ran to Sarina following the coast and then down to St Lawrence and beyond (Mackay Historical Society, 2006). However, major road infrastructure did not come to the region until after 1934, with the increase in demand for motor transport and the creation of the Bruce Highway (O'Keefe, 2009). Droving sheep and cattle on the 'hoof' to market was the way stock made it to market and abattoirs until the advent of the railway and motor transport. Droving was an integral part to the cattle industry of the area as it was the cheapest option and continued in Australia until after World War II (McDonald, 2003).

The first part of the railway from Rockhampton to St Lawrence was the Glenmore Junction to Millman section, opening in July 1913. Further extensions were completed to Kunwarara in August 1915, Marlborough in March 1917 (Figure 18-11) and St Lawrence in 1921. There were stopping

points at Kooltandra, opposite 'Strathmuir' homestead, and at a point where the Styx coalmine was being developed. In 1919 a rail siding was created for the mine and coal began being railed to Rockhampton. The railway was a vital service to both the mining and pastoralist sectors of the early twentieth century in the region, but it was also necessary for the postal service and general transportation. In 1876 the post was delivered via a coach service from Rockhampton to the region once a week. With the advent of the railway this service became a daily occurrence (Carpenter, 1991). Special fares were often made available to the residents of Styx, Strathmuir and Koolltandra to attend the Rockhampton Show 160 miles away and in 1920, the cost was eight shillings (Carpenter, 1991).

Source: Carpenter, 1991

Figure 18-11 Opening of North Coast Railway at Marlborough 1917

18.5.2.6 Community

The coalmining towns of Ogmore (nee Hartley) and Bowman were established along the railway line in the early part of the twentieth century and offered facilities for all industries of the area. These towns by the close of the century, had all but ceased to exist. The town of Ogmore, named by Welsh miners in honour of a coal mining town of Wales was a small community with a vibrant history in an isolated environment. Schooling was provided for the regions children first at the Styx School at Bowman, by miner Bruce McMurtrie and then in a more formal nature as the Styx Coal Mine Provisional School at Half-Way House. After the closure of the Bowman mine operations, most families re-located to Hartley (Ogmore), where the state school began in 1924 (Cagney, 1991). The school operated for 75 years and closed in 1999.

Sport was of chief concern to the local community and in the 1920s Ogmore had four different cricket teams. The cricketing community was assisted by the devotion of the local schoolmaster Mr Hagen, who was known to place coins on the stumps as incentive for the boys to bowl him out. In difficult times, he was often bowled out by boys who had little chance of their own pocket money (Carpenter, 1991).

Tennis and horse racing were also popular in Ogmore (nee Hartley). Ogmore had five courts which created surfaces of fine coal shale and ash from the mine boiler fires. Horse racing was first recorded at Hartley in December 1929 with the first race meeting held on the Styx River flat near Jock Hard's

Farm and was called the 'Hartley Cup'. The main race of the day was won by 'Highland Lad'. Racing was not prominent in the area again until 1941, when the Ogmore Amateur Race Club constructed a course at Charon's Ferry. In later years, an Ogmore trainer and jockey brought merit to the region by riding the winner of five events at a local meeting (Carpenter, 1991).

Community entertainment was often found at the Myora Hall. Built by the Thomas Family, the Hall was integral to the town and was used for movies, concerts, roller skating, dances, and other formal events such as Anzac Day. The Hartley Brass Band also played there on May Day and the Ogmore R.S.L held the Annual Diggers Ball there. A special rail service was arranged to ferry those from Rockhampton and back for the event (Carpenter, 1991).

Medical services were scarce in the region and in 1948-1849 the Rockhampton hospitals board opened an emergency hospital at Ogmore in Carbon Street (Figure 18-12). The hospital's board closed it down in 1974 and sold the building. The building later re-emerged as the homestead of 'Cerberus' Station. The community was initially visited by travelling hawkers, but later times produced a business community that comprised three boarding-houses, a butcher, bakery and hotels until the eventual closure of the town after 1964 (Carpenter, 1991).

Source: Carpenter, 1991

Figure 18-12 Ogmore hospital during operation

18.5.3 Results of Register Searches

Registers and databases maintained by the Commonwealth, State and local governments were searched for historical cultural heritage places relevant to the Project area. The results from these desktop studies found that:

- No items of cultural significance were identified on Commonwealth heritage lists and databases;
- No registered sites were detected by the Queensland Heritage Register search; and
- No cultural heritage places were identified in the Livingstone Shire Council Draft Plan 2016.

The closest location listed in the AHD to the Project area is the Great Barrier Reef World Heritage Area (GBRWHA). The GBRWHA is listed as a World Heritage Property and National Heritage Place.

The boundaries and heritage attributes of the GBRWHA are the same as those for the National Heritage Place. The nearest point of the GBRWHA to the Project is 8 km to the north at the approximately location of where the Styx River enters Broad Sound. The values of the GBRWHA are discussed in detail in Chapter 16 - MNES.

No places listed on the Commonwealth Heritage List are located within the Project area. The Shoalwater Bay Military Training Area (SWBTA) is the nearest listed Commonwealth Heritage List place and its nearest point is located approximately 50 km to the east of the Project area. The SWBTA represents the largest coastal wilderness between Nadgee in southern New South Wales and the Cape Melville/Starke Holding Area on Cape York Peninsula. The place is significant in demonstrating a range of coastal, sub-coastal and aquatic landscapes and ecosystems, which occur in a relatively natural state and which generally, exhibit a high degree of integrity and diversity. As such, the place is of national importance to the maintenance and demonstration of geomorphological, ecological and biological processes of the coastal and coastal hinterland environment. The Project is not anticipated to impact the heritage values of the SWBTA due to the distance from the SWBTA and the absence of connectivity between the Project area and the boundary of the SWBTA.

No Queensland Heritage Register places are located within or near to the Project area. The nearest listed site to the Project is located approximately 105 km east on Byfield Road (listed as the Old Byfield Road and Stone-Pitched Crossing).

18.5.4 Results of Field Surveys

Targeted field surveys, informed by the results of the desktop assessment, were undertaken within the Project area. The field surveys included:

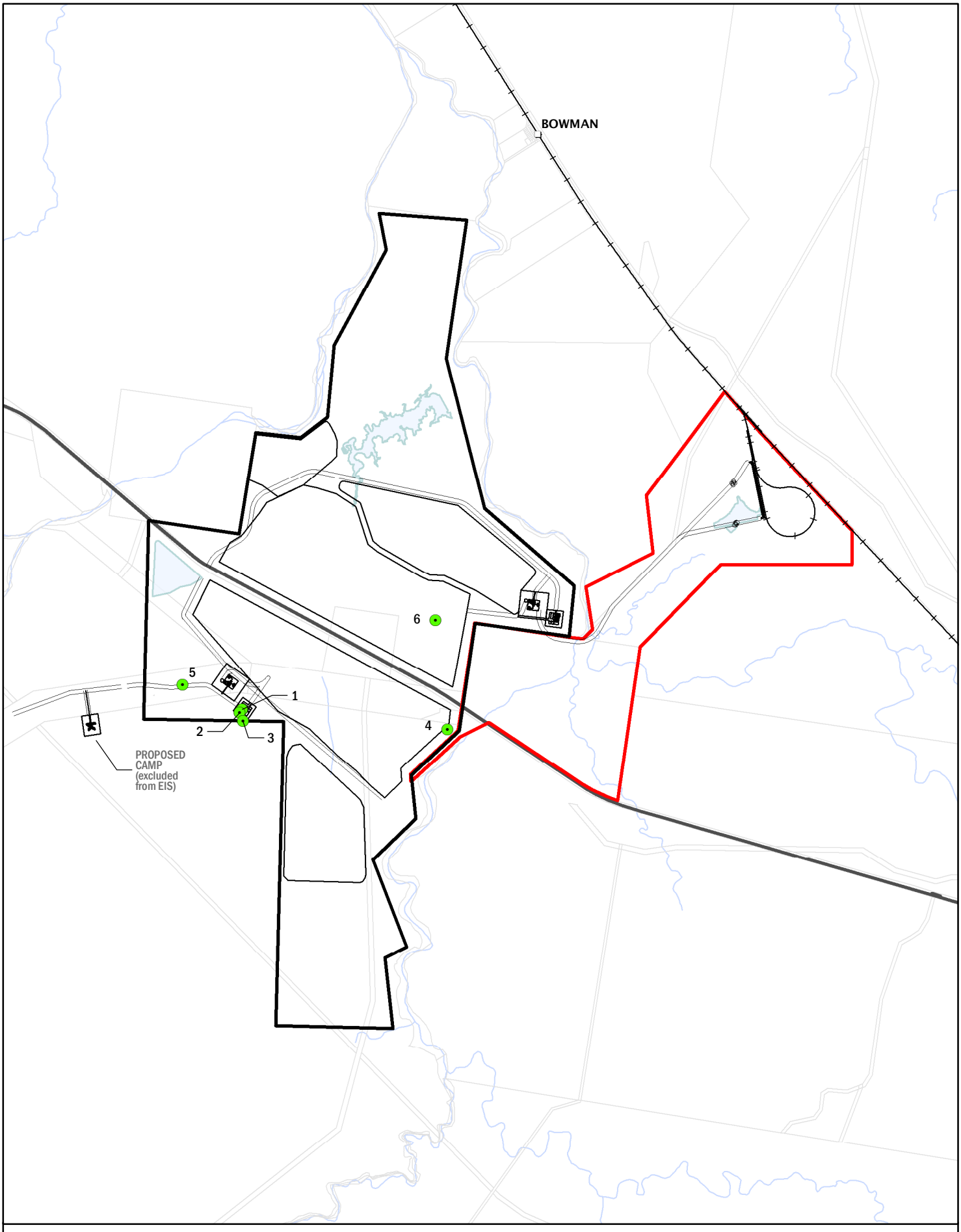
- Verifying the locations of potential features (homesteads, cattle yards, windmills) identified during the desktop assessment and site investigations for the EIS;
- Traversing tracks and creeks within the Project area; and
- Assessing the significance of any identified historical sites / objects.

All features identified during the field surveys were recorded with a GPS unit and a photographic record and brief description made. During field surveys within the Project area, six features were identified as having potential cultural heritage value. These features are presented in Figure with references to the features shown on the Figure 18-13 provided in Table 18-3.

Table 18-3 Historical features map reference

Reference ID	Description
1	Main farm residence
2	Main farm residence complex
3	Workers residence
4	Stockyards
5	Windmill no. 1
6	Windmill no. 2

The results of the field survey were measured against the criterion set out in Assessing Cultural Heritage Significance: Using the Cultural Heritage Criteria (EHP 2013) to determine their significance. These criterions are provided in Table 18-4.



N

0 0.5 1 km

Scale @ A4 1:60,000
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Legend

- Cultural heritage location
- ML 80187
- ML 700022
- Proposed mine infrastructure
- North Coast Rail Line
- Main road
- Cadastral boundary
- Dam Catchment
- Watercourse

Figure 18-13
Historical elements identified during field survey

DATA SOURCE
QLD Spatial Catalogue (QSpatial), 2017
Esri Basemaps

CDM Smith

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Table 18-4 Threshold indicators for cultural heritage

Criterion reference	Criterion
A	The place is important in demonstrating the evolution or pattern of Queensland's history.
B	The place demonstrates rare, uncommon or endangered aspects of Queensland's cultural heritage.
C	The place has potential to yield information that will contribute to an understanding of Queensland's history.
D	The place is important in demonstrating the principal characteristics of a particular class of cultural places.
E	The place is important because of its aesthetic significance.
F	The place is important in demonstrating a high degree of creative or technical achievement at a particular period.
G	The place has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
H	The place has a special association with the life or work of a particular person, group or organisation of importance in Queensland's history.

Once a site has been assessed using the above-listed criteria, the thresholds presented in Table 18-5 are applied to determine the level (i.e. local, state or national) at which the place or element is considered significant.

Table 18-5 Hierarchy of significance

Definition	Threshold
Element of outstanding / exceptional significance or heritage value - embodies national or state heritage significance in its own right and makes an irreplaceable contribution the significance / heritage value of the place as a whole.	Likely to fulfil national heritage entry criteria.
Element of high significance or heritage value - embodies state heritage significance in its own right and makes an irreplaceable contribution to the significance / heritage value of the place as a whole.	Likely to fulfil state heritage entry criteria.
Element of moderate significance or heritage value – embodies state or local heritage values in its own right and makes an irreplaceable contribution to values of the place as a whole.	Likely to fulfil state and / or local heritage entry criteria.
Element of low significance or heritage value - embodies local heritage values in its own right and makes a significant contribution to the significance / heritage value of the place as a whole.	Likely to fulfil local heritage entry criteria.
Element is neutral, with little or no heritage value.	Unlikely to fulfil local heritage entry criteria. May contribute to other elements of heritage value.
Intrusive element which detracts, or has the potential to detract, from the significance of the place.	Does not have heritage value. Does not contribute to other elements of heritage value.

Based on the above criteria no sites within the Project area are considered to have significant cultural heritage values. A detailed description of each of these sites, including the history, photographs and assessment of the historical significance criteria is provided is provided in Table 18-6 to Table 18-11.

Table 18-6 Statement of significance – main farm residence

ID No. 1 Main Farm Residence	
Site Description	Main farm residence, estimated to be of 1960's construction. Materials used include fibre sheeting, tin roofing, brick and timber. A metal framed communication tower is a more recent addition to the residence.
Archaeological Potential	None
Site Condition / Integrity	Good condition / high integrity
Historical Notes	The land has been continually used for pastoral purposes from the early 1850's to the present. The features identified during the field survey are associated with the pastoral industry. The farm residence is situated in the central farm infrastructure area. At the cessation of farming, the residence has been used as a site office for the exploration activities associated with the Project. A more recent addition to the residence is the fenced tennis court, located to the north of the residence. The main farmhouse appears in good condition and is estimated to have been built in the 1960's. The house is believed to have been relocated from Ogmore township and is most likely associated with the mining enterprise that occurred there. The main farmhouse is not associated with the early function of the property and therefore affords little historical value. For a more detailed history see Section 18.5.2.
Significance statement	Not of cultural heritage significance
Significance Criteria	
Criterion A	Pastoralism was instrumental to the development pattern of the region. The main farm residence is a product of that industry. However, much of the region had been a pastoralist stronghold since 1861 and the main farmhouse is not reflective of earlier farm dwellings given its relocation from Ogmore. Therefore, the main farm residence is not a particularly early example of its type. It is not of cultural heritage significance for this criterion.
Criterion B	Although the main farm residence is of good condition and high integrity, it is not of particular importance due to its young age. As such the residence, does not demonstrate rare, uncommon or endangered aspects of Queensland's cultural heritage regarding cattle grazing. It is not of cultural heritage significance for this criterion.
Criterion C	The main farm residence does not have potential to yield or reveal information that would contribute to our understanding of the pastoral industry or the development of the region. It is not of cultural heritage significance for this criterion.
Criterion D	Although the main farm residence is of good condition and high integrity, it is not of particular importance due to its young age and the number of pre-1900's examples of traditional Queenslander style farmhouses that may better demonstrate the principle characteristics of the type of farmhouse that existed in the region (i.e. timber slab hut or landmark homestead). It is not of cultural heritage significance for this criterion.
Criterion E	The main farm residence does not have aesthetic or architectural value. It is not of cultural heritage significance for this criterion.
Criterion F	The main farm residence does not demonstrate a high degree of technical achievement. It is not of cultural heritage significance for this criterion.
Criterion G	The main farm residence does not demonstrate a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. It is not of cultural heritage significance for this criterion.
Criterion H	The main farm residence does not have any known special associations with a person or group of importance to the state or local area. It is not of cultural heritage significance for this criterion.

ID No. 1 Main Farm Residence

Plate 18-1: ID No. 1: Main farm residence northerly aspect

Plate 18-2: ID No. 1: Main farm residence south easterly aspect

ID No. 1 Main Farm Residence


Plate 18-3: ID No. 1: Tennis courts adjacent to main farm residence south easterly aspect

Table 18-7 Statement of significance – main farm residence complex

ID No. 2 Main Farm Residence Complex	
Site Description	Separate to the main farm residence, the farm residence complex includes equipment and storage sheds constructed of tin and fibre sheeting, timber post and rail house yards and ancillary sheds associated with the yards
Archaeological Potential	None
Site Condition / Integrity	Good condition and integrity
Historical Notes	The land has been continually used for pastoral purposes from the early 1850's to the present. The features identified during the field survey are associated with the pastoral industry. The main farmhouse complex infrastructure includes a variety of associate farming infrastructure such as sheds / workshops, timber yards, machinery, and in this case a modern tennis court and associated lighting. All infrastructure appears in good condition and are estimated to have been established post-1960's. The main farmhouse complex is not associated with the early function of the property and therefore affords little historical value. For a more detailed history see Section 18.5.2.
Significance statement	Not of cultural heritage significance
Significance Criteria	
Criterion A	Pastoralism was instrumental to the development pattern of the region. The main farm residence complex is a product of that industry. However, much of the region had been a pastoralist stronghold since 1861 and the main farmhouse complex is not reflective of earlier farming given the young age of the infrastructure. Therefore, the main farmhouse complex is not a particularly early example of its type. It is not of cultural heritage significance for this criterion.
Criterion B	Although the farm residence complex is of good condition and integrity, it is not of particular importance due to its young age. As such the farm residence complex, does not demonstrate rare, uncommon or endangered aspects of Queensland's cultural heritage regarding cattle grazing. It is not of cultural heritage significance for this criterion.
Criterion C	The main farm residence complex does not have potential to yield or reveal information that would contribute to our understanding of the pastoral industry or the development of the region. It is not of cultural heritage significance for this criterion.

ID No. 2 Main Farm Residence Complex	
Criterion D	Although the main farm residence complex is of good condition and integrity, it is not of particular importance due to its young age and the number of pre-1900's examples of traditional Queenslander style farmhouses that may better demonstrate the principle characteristics of the type of farmhouse complex that existed in the region. It is not of cultural heritage significance for this criterion.
Criterion E	The main farm residence complex does not have aesthetic or architectural value. It is not of cultural heritage significance for this criterion.
Criterion F	The main farm residence complex does not demonstrate a high degree of technical achievement. It is not of cultural heritage significance for this criterion.
Criterion G	The main farm residence complex does not have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. It is not of cultural heritage significance for this criterion.
Criterion H	This main farm residence complex does not have any known special associations with a person or group of importance to the state or local area. It is not of cultural heritage significance for this criterion.

Plate 18-4: ID No. 2: Machinery shed to the west of the main farm residence, easterly aspect

Plate 18-5: ID No. 2: House yards at the rear of the main farm residence north westerly aspect

ID No. 2 Main Farm Residence Complex


Plate 18-6: ID No. 2: House yards at the rear of the main farm residence north easterly aspect

Table 18-8 Statement of significance – workers residence

ID No. 3 Workers Residence	
Site Description	The worker's residence is constructed of fibre sheeting and tin roof and was likely constructed c1930s-1940s. The original structure of the residence has been extended to the right facing side and rear using similar sheeting and tin roofing. A tin roofed veranda to the rear of the residence, poly tank for domestic water supply, wall mounted air conditioning units, television antennae and satellite dish are more recent additions to the original structure.
Archaeological Potential	None
Site Condition / Integrity	Good condition / high integrity
Historical Notes	The land has been continually used for pastoral purposes from the early 1850's to the present. The features identified during the field survey are associated with the pastoral industry. The residence is likely to have been main farm residence from between the 1940's to when the existing main residence was relocated to the site. The residence appears in good condition. The residence is not associated with the early function of the property and therefore affords little historical value. For a more detailed history see Section 18.5.2.
Significance statement	Not of cultural heritage significance
Significance Criteria	
Criterion A	Pastoralism was instrumental to the development pattern of the region. The worker's residence is a product of that industry. However, much of the region had been a pastoralist stronghold since 1861 and the worker's residence is reflective of earlier farm dwellings in the region, including the more contemporary extensions, most likely associated with expansion in the use of farm workers. Therefore, the worker's residence is not a particularly early example of its type. It is not of cultural heritage significance for this criterion.
Criterion B	The worker's residence is of good condition and integrity. It is; however, not of particular cultural heritage importance as the residence does not demonstrate rare, uncommon or endangered aspects of Queensland's cultural heritage regarding cattle grazing. It is not of cultural heritage significance for this criterion.
Criterion C	The workers residence does not have potential to yield or reveal information that would contribute to our understanding of the pastoral industry or the development of the region. It is not of cultural heritage significance for this criterion.

ID No. 3 Workers Residence	
Criterion D	Although the worker's residence is of good condition and integrity, it is not of particular importance due to its age and the modifications that have occurred to the original 1930's structure. There is also likely to be number of pre-1900's examples of traditional Queenslander style farmhouses in the broader region that may better demonstrate the principle characteristics of the type of farmhouse that existed in the region (i.e. timber slab hut or landmark homestead) prior to the 1900's. It is not of cultural heritage significance for this criterion.
Criterion E	The worker's cottage does not have aesthetic or architectural value. It is not of cultural heritage significance for this criterion.
Criterion F	The worker's cottage does not demonstrate a high degree of technical achievement. It is not of cultural heritage significance for this criterion.
Criterion G	The workers' cottage does not have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. It is not of cultural heritage significance for this criterion.
Criterion H	This worker's cottage does not have any known special associations with a person or group of importance to the state or local area. It is not of cultural heritage significance for this criterion.

Plate 18-7: ID No. 3: Workers residence front view and southerly aspect

Plate 18-8: ID No. 3: Workers residence rear view and northly aspect

Table 18-9 Statement of significance – stockyards

ID No. 4 Cattle yards	
Site Description	Large modern timber pole and slab stockyards with galvanised roofing and water tank.
Archaeological Potential	None
Site Condition / Integrity	Good condition / high integrity
Historical Notes	The land has been continually used for pastoral purposes from the early 1850's to the present. The features identified during the field survey are associated with the pastoral industry. The stockyards appear in good condition and the good condition of the wood indicates they are less than 30 years old. These stockyards are associated with the pastoral industry on the property; however, it is considered these stockyards would not be associated with the early historical function of the property. For a more detailed history see Section 18.5.2.
Significance statement	Not of cultural heritage significance
Significance Criteria	
Criterion A	Pastoralism was instrumental to the development pattern of the region. These stockyards are a product of that industry. However, much of the region had been a pastoralist stronghold since the early 1850's and the stockyard is modern probably less than 30 years old. Therefore, the stockyard is not a particularly early example of its type. It is not of cultural heritage significance for this criterion.
Criterion B	Stockyards are common as they are still widely used on farms and pastoral properties. This stockyard is of a modern age. It is not of cultural heritage significance for this criterion.
Criterion C	The stockyard does not have potential to yield or reveal information that would contribute to our understanding of the pastoral industry or the development of the region. It is not of cultural heritage significance for this criterion.
Criterion D	Although the stockyard is of good condition and high integrity, it is not of particular importance due to its young age the vast number of other similar examples that may better demonstrate the principle characteristics of the type. It is not of cultural heritage significance for this criterion.
Criterion E	The stockyard does not have aesthetic or architectural value. It is not of cultural heritage significance for this criterion.
Criterion F	The stockyard does not demonstrate a high degree of technical achievement. It is not of cultural heritage significance for this criterion.
Criterion G	The stockyard does not have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. It is not of cultural heritage significance for this criterion.
Criterion H	This stockyard does not have any known special associations with a person or group of importance to the state or local area. It is not of cultural heritage significance for this criterion.

ID No. 4 Cattle yards

Plate 18-9: ID No. 3: Timber post and slab stockyards

Plate 18-10: ID No. 3: Timber post and slab stockyards

Table 18-10 Statement of significance – windmill no.1

ID No. 5 Windmill No. 1	
Site Description	This place consists of a windmill (brand could not be identified). Next to the well are two cement water tanks. The windmill pumps water from the bore into the two adjacent tanks. Pump equipment is in an adjacent shed which directs water to several troughs via underground pipes.
Archaeological Potential	None
Site Condition / Integrity	Good condition / high integrity
Historical Notes	The land has been continually used for pastoral purposes from the early 1850's to the present. The features identified during the field survey are associated with the pastoral industry. Given the good condition of this windmill it is considered this windmill would not be associated with the historical function of the property. For a more detailed history see Section 18.5.2.
Significance statement	Not of cultural heritage significance
Significance Criteria	
Criterion A	Pastoralism was instrumental to the development pattern of the region. This windmill and associated infrastructure are a product of that industry. However, as much of the region had been a pastoralist stronghold since the early 1850's the place is not considered to represent a particularly early example of windmill, bore or well technology. There are other windmill, bore and well features outside of the Project area, on the same pastoral holding and on neighbouring holdings of a similar age or possibly older. It is not of cultural heritage significance for this criterion.
Criterion B	Several wells, bores and windmills were constructed across the pastoral holding that the Project area is located within, and on neighbouring pastoral properties. Windmills, bores and wells were identified outside the Project area during the field investigations. It is likely that several similar aged and style places to this windmill exist within the region. Therefore, this windmill is not uncommon. It is not of cultural heritage significance for this criterion.
Criterion C	This windmill does not have potential to yield or reveal information that would contribute to our understanding of the pastoral industry or the development of the region. It is not of cultural heritage significance for this criterion.
Criterion D	Windmills, bores and wells are a common element found on pastoral properties in central Queensland. This windmill is in good condition and has high integrity; however, the windmill is not of particular importance due to the vast number of other similar examples that may better demonstrate the principle characteristics of the type. It is not of cultural heritage significance for this criterion.
Criterion E	This windmill does not have aesthetic or architectural value. It is not of cultural heritage significance for this criterion.
Criterion F	Although windmills and bores demonstrate technology that is important to pastoral properties, the technology of this windmill, was well known at the time of its construction and therefore the technology of the place is not of particular importance. It is not of cultural heritage significance for this criterion.
Criterion G	This windmill does not have any known special associations with particular cultural or community groups. It is not of cultural heritage significance for this criterion.
Criterion H	This windmill does not have any known special associations with a person or group of importance to the state or local area. It is not of cultural heritage significance for this criterion.

ID No. 5 Windmill No. 1


Plate 18-11: ID No.4: Windmill No. 1

Table 18-11 Statement of significance – windmill no.2

ID No. 6 Windmill No.2	
Site Description	This place consists of a windmill (brand could not be identified). Next to the well is a cement water tank. The windmill pumps water from the bore into the adjacent tank. Pump equipment directs water to an adjacent dam and several troughs via above and underground pipes.
Archaeological Potential	None
Site Condition / Integrity	Good condition / high integrity
Historical Notes	The land has been continually used for pastoral purposes from the early 1850's to the present. The features identified during the field survey are associated with the pastoral industry. Given the good condition of this windmill it is considered this windmill is not associated with the historical function of the property. For a more detailed history see Section 18.5.2
Significance statement	Not of cultural heritage significance
Significance Criteria	
Criterion A	Pastoralism was instrumental to the development pattern of the region. This windmill and associated infrastructure are a product of that industry. However, as much of the region had been a pastoralist stronghold from the early 1850's the place is not considered to represent a particularly early example of windmill and bore/well technology. There are other windmill, bores and well features outside of the Project area, on the same pastoral holding and on neighbouring holdings of a similar age or possibly older. It is not of cultural heritage significance for this criterion.
Criterion B	Several windmills, bores and well were constructed across the pastoral holding that the Project area is located within, and on neighbouring pastoral properties. Windmills, bores and wells were identified outside the Project area during the field investigations. It is likely that several similar aged and style places to this windmill exist within the region. Therefore, this windmill is not uncommon. It is not of cultural heritage significance for this criterion.
Criterion C	This windmill does not have potential to yield or reveal information that would contribute to our understanding of the pastoral industry or the development of the region. It is not of cultural heritage significance for this criterion.

ID No. 6 Windmill No.2	
Criterion D	Windmills, wells and bores are a common element found on pastoral properties in central Queensland. This windmill is in good condition and has high integrity; however, the windmill is not of particular importance due to the vast number of other similar examples that may better demonstrate the principle characteristics of the type. It is not of cultural heritage significance for this criterion.
Criterion E	This windmill does not have aesthetic or architectural value. It is not of cultural heritage significance for this criterion.
Criterion F	Although bores and windmills demonstrate technology that is important to pastoral properties, the technology of this windmill, was well known at the time of its construction and therefore the technology of the place is not of particular importance. It is not of cultural heritage significance for this criterion.
Criterion G	This windmill does not have any known special associations with particular cultural or community groups. It is not of cultural heritage significance for this criterion.
Criterion H	This windmill does not have any known special associations with a person or group of importance to the state or local area. It is not of cultural heritage significance for this criterion.

Plate 18-12: ID No. 5: Windmill No. 2

18.5.5 Potential Impacts

The non-Indigenous cultural heritage assessment revealed that there were no known sites of non-Indigenous cultural heritage significance within or in the immediate vicinity of the Project area. The closest site listed on a National, State or local register is the GBRWHA, with the nearest boundary located approximately 8 km to the north of the Project area. It is therefore anticipated that there will be no predictable adverse impacts on any sites of non-Indigenous cultural heritage because of the Project activities.

This study has focused on assessing places that have potential non-Indigenous cultural heritage significance. Despite the lack of listed sites within or in proximity of the Project area, there is still the potential for discovery of non-Indigenous artefacts during all stages of the Project. The history

of land suggests that significant archaeological finds are unlikely to be discovered; however, the possibility of a find cannot be completely discounted. Therefore, there is a low risk that potential impacts may occur on undiscovered sites of non-Indigenous cultural heritage significance to an extent that is unpredictable.

Potential impact to the GBRWHA are discussed in Chapter 16 - MNES.

18.5.6 Mitigation and Management Measures

The QH Act contains provisions relating to the discovery of archaeological artefacts and the responsibilities of Central Queensland Coal and the finder. Central Queensland Coal will implement the following measures to manage potential impacts to non-Indigenous cultural heritage:

- A 'stop' and 'report' process whereby if any unrecorded items or sites of possible non-Indigenous heritage significance are found, work that may impact the find will cease until the significance of the item or site can be confirmed by a suitably qualified person. If the item or site is confirmed as having non-Indigenous heritage significance, it will be reported to EHP as per s89 of the QH Act; and
- In the event heritage values are discovered during Project activities, an assessment by a suitably qualified person, including site survey and consultation with key local stakeholders, will be conducted to determine the best management strategy for the site and to prepare a site-specific management plan if required.

18.6 Conclusion

The assessment of Indigenous and non-Indigenous cultural heritage collated site data throughout the Project area from a range of sources including database searches, consultation with relevant Aboriginal parties and field surveys. There are no registered or known significant Indigenous or non-Indigenous sites within the Project area.

The potential historical heritage places identified during the field survey were assessed as being below the threshold for places of either local or state heritage significance. No areas within the Project are were identified as having any non-Indigenous archaeological potential.

The closest site listed on a National, State or local register is the GBRWHA, with the nearest boundary located approximately 8 km to the north of the Project area. With the lack of known non-Indigenous cultural heritage at the site there is a low risk of discovery of unknown sites during construction and operation. Management and mitigation measures will be implemented as a precaution to identify any items and, where necessary, appropriately deal with any discovery in accordance with the QH Act.

Central Queensland Coal commits to continue to engage to develop the Project specific CHMA. This will include pre-clearance surveys where required. Central Queensland Coal aims to promote an understanding of Indigenous cultural heritage in the workplace through employee induction programs and other specific training activities.

18.7 Commitments

In relation to managing cultural heritage, Central Queensland Coal's commitments are provided in Table 18-12.

Table 18-12 Commitments – cultural heritage

Commitment
Be responsible for obtaining any separate Indigenous and non-Indigenous cultural heritage approvals, as appropriate.
Report discovery of Aboriginal or Torres Strait Islander remains to the Commonwealth Environment Minister in accordance with part 2, division 3 of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984.*
Notify the police in the first instance if human remains are found in accordance with the *Coroners Act 2003*, Guidelines for the Discovery, Handling and Management of Human Remains and *Aboriginal Cultural Heritage Act 2003.*
A 'stop' and 'report' process whereby if any unrecorded items or sites of possible non-Indigenous heritage significance are found, work that may impact the find will cease until the significance of the item or site can be confirmed by a suitably qualified person. If the item or site is confirmed as having non-Indigenous heritage significance, it will be reported to EHP as per s89 of the *Queensland Heritage Act 1992*.
In the event heritage values are discovered during Project activities, an assessment by a suitably qualified person, including site survey and consultation with key local stakeholders, will be conducted to determine the best management strategy for the site and to prepare a site-specific management plan if required.
Work with the relevant Aboriginal parties and progress negotiations so that a Cultural Heritage Management Agreement is agreed and implemented.
Promote an understanding of Indigenous cultural heritage in the workplace through employee induction programs and other specific training activities.

18.8 ToR Cross-reference Table

Table 18-13 ToR cross-reference table

Terms of Reference	Section of EIS
Conduct impact assessment in accordance with the EHP's *EIS information guideline—Indigenous cultural heritage and non-Indigenous cultural heritage*.	Noted
Unless section 86 of the *Aboriginal Cultural Heritage Act 2003* applies, the proponent must develop a Cultural Heritage Management Plan in accordance with the requirements of Part 7 of the *Aboriginal Cultural Heritage Act 2003*.	Section 18.2.2.1
For non-Indigenous historical heritage, study, and describe, the known and potential historical cultural and landscape heritage values of the area potentially affected by the project. Any such study should be conducted by an appropriately qualified cultural heritage practitioner.	Section 18.5
Provide strategies to mitigate and manage any negative impacts on non-Indigenous cultural heritage values and enhance any positive impacts.	Section 18.5.6