



5. Indigenous and Non-Indigenous Cultural Heritage

This section provides a summary of the Indigenous and non-Indigenous cultural heritage assessment undertaken for the Project, incorporating the Mine and Rail aspects. The cultural heritage assessment has been undertaken in accordance with the requirements of the Terms of Reference (ToR) and a table cross-referencing these requirements is provided in Volume 4 Appendix C ToR Cross Reference Table. Whilst detailed Indigenous cultural heritage reports have been prepared for the Project, these are considered confidential to the Indigenous parties and are not publicly available.

5.1 Indigenous Cultural Heritage

5.1.1 Introduction

5.1.1.1 Methodology

The Indigenous cultural heritage values relevant to the Project have been identified through the following method:

- ▶ A review of, and assessment against, the regulatory framework concerning Indigenous cultural heritage identification and management
- ▶ Review of existing management plans and agreements
- ▶ Consultation with relevant Indigenous representatives
- ▶ Cultural heritage searches and literature reviews
- ▶ Cultural heritage surveys and fieldwork

This approach has in turn provided the framework for defining and describing the objectives and practical measures for protecting or enhancing cultural heritage environmental values, which may be impacted by the Project.

5.1.1.2 Regulatory Framework

The principle legislation protecting indigenous cultural heritage in Queensland is the *Aboriginal Cultural Heritage Act 2003* (ACH Act). Under the ACH Act a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage (the 'cultural heritage duty of care'). The *Queensland Heritage Act 1992* may apply to the preservation of Indigenous cultural heritage where the place in question is a place of significance to Indigenous people and people of another culture and the trustees of the land consent.

The *Aboriginal and Torres Strait Island Heritage Protection Act 1984* preserves and protects areas and objects of particular significance to Aboriginals in accordance with Aboriginal tradition. Cultural heritage may also be protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as a matter of national environmental significance (NES) or under the *Native Title Act 1993* where a native title claim exists.

Further details on the relevant acts and associated approvals are provided in EIS Volume 4 Appendix D Project Approvals and Planning Assessment.



5.1.1.3 Consultation with Aboriginal Parties

The Project affects four native title/Aboriginal party areas (refer Figure 5-1):

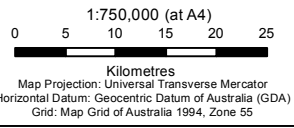
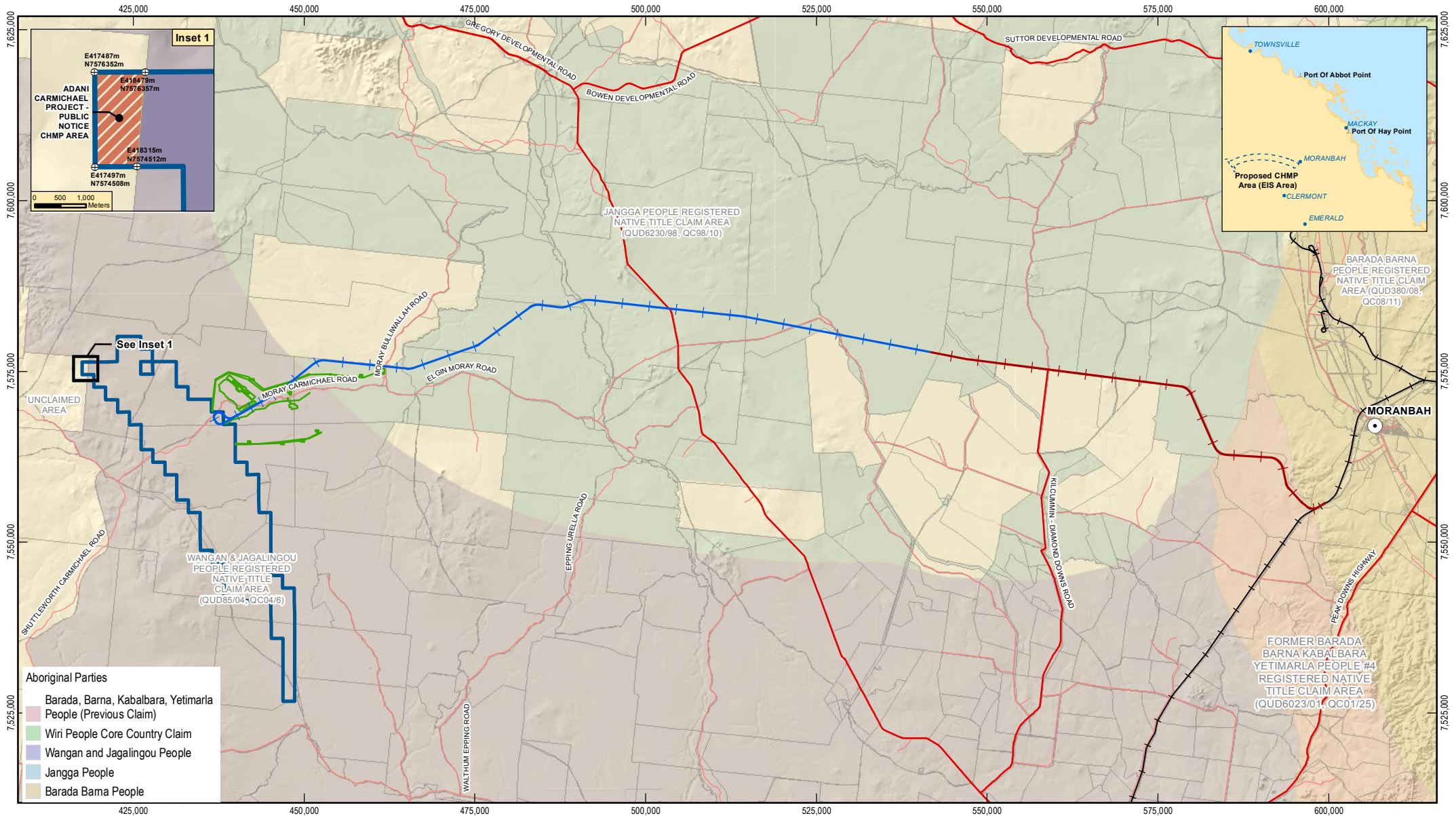
1. The Project (Mine) and first 17 km of the Project (Rail) are located within the external boundaries of the Wangan and Jagalingou People registered native title claim (QUD85/04, QC04/6)
2. Approximately 145 km of the Project (Rail) is located within the external boundaries of the Jangga People registered native title claim (QUD6230/98, QC98/10)
3. Approximately 17 km of the Project (Rail) is located within the external boundaries of the Barada Barna Kabalbara & Yetimarla People #4 (BBKY #4) former registered native title claim (QUD6023/01, QC01/25)
4. Approximately 3 km of the Project (Rail) is located within the external boundaries of the Barada Barna People registered native title claim (QUD380/08, QC08/11).

During the course of 2011 and 2012, Adani engaged with each of the above groups. During the consultation process, Adani established the following agreements with each party:

- ▶ Wangan and Jagalingou People
 - A terms of reference (ToR) was established in July 2011 for a cultural heritage work program undertaken from July to November 2011
 - A Cultural Heritage Management Plan (CHMP) for the life of the Project is established and approved by the Chief Executive of DERM in November 2011
- ▶ Jangga People:
 - An Early Works Agreement was established in July 2011 for cultural heritage clearances undertaken from July to November 2011
 - A Cultural Heritage Management Plan (CHMP) for the life of the Project was established and approved by the Chief Executive of DERM in November 2011
- ▶ BBKY #4 People:
 - An Early Works Agreement was established in July 2011 for cultural heritage clearances undertaken from July to November 2011
 - A Cultural Heritage Management Plan (CHMP) for the life of the Project has been agreed, signed and submitted for approval by the Chief Executive of the Department of Aboriginal and Torres Strait Islander and Multicultural Affairs (DATISMA) in September 2012
- ▶ Barada Barna People:
 - An Early Works Agreement was established in November 2011
 - A Cultural Heritage Management Plan (CHMP) for the life of the Project was executed in November 2011 and was submitted to be approved by the Chief Executive of DATISMA in September 2012

Details of CHMPs are confidential to the signatories and are not provided herein.

Figure 5-1 illustrates the parties with an interest in the area potentially affected by the Project. This area is defined as the Project Area for investigation as part of the cultural heritage assessment.



LEGEND

Town	Other Rail Network	Mine (Onsite)	Rail (West)
State Road	Cadastral Parcel	Mine (Offsite)	Rail (East)
Local Road			



Adani Mining Pty Ltd
Carmichael Coal Mine and Rail Project

Job Number 41-25215
Revision C
Date 29-08-2012

Aboriginal Party Interest Areas

Figure 5-1



5.1.1.4 Desktop Review

The desktop review included database and register searches and literature reviews. Searches were undertaken for the Project Area within the following databases and registers:

- ▶ DERM register and database
- ▶ Register of the National Estate (former)
- ▶ World Heritage List
- ▶ National Heritage List
- ▶ Commonwealth Heritage List
- ▶ Queensland Heritage Register

The searches did not identify Aboriginal cultural heritage values in the Project Area of sufficient significance to significantly alter the project design and development.

Due to the relatively recent expansion of mining and infrastructure projects in the vicinity of the Project Area, there is not a large volume of pre-existing literature available regarding cultural heritage in the Project Area. Rowland, Border and Smith (1994) published a paper briefly outlining the advantages of using a bio-geographical approach to archaeological research and management. The paper focuses on the cultural resources of two bio-geographic regions: the Mitchell Grass Downs and Desert Uplands.

In a desktop overview of the cultural heritage of the Desert Uplands, only 51 sites were recorded. "Hearths/ovens occurred eight times and artefact scatters twice as often as in the rest of Queensland" (Rowland, Border and Smith 1994:24). Limitations for this study include the fact that it was undertaken 17 years ago, there was only a very small sample size and no fieldwork was carried out.

Jim Smith (1991) undertook a study of subsistence/settlement patterns in the Lake Buchanan/Kyong region as part of this honours thesis in 1991. As part of the field work for his research, Smith identified various Aboriginal cultural heritage sites in proximity to the Project Area. Artwork was located within rock shelters along the north-east and south-west peripheries of Lake Buchanan (approximately 40 km north-west of the Project Area). These artworks included a series of hand and boomerang stencils. A silcrete quarry was also located along with chert and silcrete artefact and scatters. At a waterhole to the south of Lake Buchanan, grinding grooves were identified along with a large camp site along an old coach route.

5.1.1.5 Cultural Heritage Survey

Under the terms of the early works agreements and CHMPs, representatives of the Aboriginal parties have been involved in providing cultural heritage clearances for Project works. The scope of the work programs to date has been to:

- ▶ Identify the location of any Aboriginal cultural heritage identified
- ▶ Identify the value of any such sites to the Party
- ▶ Identify any likely impacts the Project may have on the identified values
- ▶ Provide recommendations for managing those values such that any harm to Aboriginal cultural heritage may be avoided and/or minimised.

Access to land within the rail corridor has been obtained and as a part of early works, preliminary Cultural Heritage assessments have been undertaken in support of the geo-technical tests (boreholes



and test pits) over approximately 70 per cent of the Study Corridor . The Cultural Heritage assessments involved traversing the length of the Study Corridor and inspecting boreholes at the likely locations of the structures and approximately 500 m interval test sites. No Culturally significant sites or artefacts have been identified within Wangan and Jagalingou or Jangga territories that are likely to impact on the proposed rail alignment. However, Adani will carry out a full Cultural Heritage Surveys with all Project (Rail)Aboriginal Parties at subsequent stage. The reports that these surveys will generate will provide more detailed assessment and provide management regimes.

As outlined in 5.1.1.3, a CHMP for the Project Area affecting the Jangga and the Wangan and Jagalingou People and has been approved by DERM. CHMP negotiations have also been finalised and executed with Barada Barna. CHMP negotiations are continuing with BBKY#4.

Planning and negotiation of a CHMP with the Wangan Jagalingou has also commenced for inclusion of parts of EPC1080 and the offsite mine infrastructure areas (mine village and airstrip).

Cultural heritage surveys are being undertaken in line with the scope of the work program, particularly ongoing agreed practices regarding cultural heritage finds. This process will allow for practical project design responses, particularly avoidance, when modification to the concept design is practical.

ARCHAEO Cultural Heritage Services (ARCHAEO) was nominated by the Wangan and Jagalingou native title claimants, and subsequently commissioned by Adani, to act as technical advisors to the Wangan and Jagalingou on cultural heritage matters relating to the Project (Mine). The aim of the cultural heritage assessment was to determine the extent of cultural heritage values and appropriate methods to minimise direct and indirect impact on these values.

Seven one-week field work programs were conducted by teams consisting of two Wangan and Jagalingou Traditional Owner Field Officers (TOFOs), an archaeologist (technical advisor) and an Adani field assistant. The time frames for the field work were as follows:

- ▶ Week 1 - 19/06 - 25/06
- ▶ Week 2 - 18/07 - 22/07
- ▶ Week 3 - 07/08 - 16/08
- ▶ Weeks 4 and 5 - 24/08 - 10/09
- ▶ Weeks 6 and 7 - 26/10 - 12/11.

Ongoing field work programs are now being conducted by teams consisting of three Wangan and Jagalingou Traditional Owner Field Officers.

Roles and protocols in the field were advised by Wangan and Jagalingou, and are as follows:

- ▶ Each team had one TOFO nominated as the senior cultural heritage officer, who held precedence over all matters of cultural heritage significance and management.
- ▶ The technical advisor provided technical advice on scientific aspects of cultural material, rather than to speak for their cultural significance.
- ▶ All found artefacts were valued as culturally significant.
- ▶ TOFOs were encouraged to raise any concerns or draw attention to features, such as scarred or carved trees, that may not have been considered significant by a technical advisor.



- ▶ These would then be subject to criteria developed by ARCHAEO to introduce an element of scientific rigour.

Field work proceeded on foot along the linear drilling exploration grid. The technical advisor walked in parallel with TOFOs 25 m to his left and right respectively and flanked by a field assistant. In addition to the immediate survey area, waterways within 100 m of either side of the centre line of the linear drilling exploration grid were approached.

Artefacts were recorded and left in-situ or 'on country' as they were encountered, in accordance with the principle of avoidance. If two or more artefacts were found no more than 30 m apart, all artefacts were flagged to establish a boundary around the 'artefact scatter' and thereby determine its density. Artefact scatters were photographed and recorded with GPS coordinates. The significance of artefact scatters was assessed with reference to three sources:

- ▶ Classification within set thresholds for low, medium and high densities
- ▶ Advice of TOFOs, including the senior cultural heritage officer
- ▶ Principles of the Burra Charter (if applicable, in line with scope of work)

The assessment allowed high level predictions regarding archaeological potential, however, further coverage will allow for the development of a detailed predictive model. As outlined by ARCHAEO, it was agreed between the parties that systematic surveys would be the standard methodology within the cultural heritage assessment and management regime.

Cultural heritage assessment work is on-going in relation to exploration drilling pads, associated access tracks/grid lines and a variety of early infrastructure areas such as water bores, helicopter landing pads, camp sites and tracks. The 2011 and 2012 cultural heritage fieldwork program resulted in the identification a number of culturally significant areas and objects located in varying densities across the Project Area, both as isolated artefact finds and within the context of larger site complexes. A number of sites and numerous isolated artefacts and small artefact scatters have been identified across the Project Area, including several larger areas highlighted as being particularly significant both culturally and scientifically.

5.1.2 Indigenous Cultural Heritage Values

5.1.2.1 Environmental Values

The Project Area is located within the Alice Tableland province of the Desert Uplands bioregion, which is characterised by Mesozoic sandstones, tertiary and quaternary sand sheets, minor shales and alluvial clays (Morgan in Sattler and Williams 1999:10/24). More specifically, the geology of the Project Area is dominated by sand, soil, gravel and rubble. Around the Carmichael River area, alluvial sands, silts and clays dominate and there are patches of labile to quartz sandstone, siltstone and mudstone across the Project area (Geoscience Australia 1:250,000 Jericho).

Lithic raw material suitable for the manufacture of stone artefacts appears to be scarce throughout the study area and is restricted primarily to very small areas of silicified mudstone and siltstone (suitable for poorer quality stone tool manufacture) along with occasional exposed sheet sandstone suitable for use as grinding plates.

Basalt is found to the south-east, but whether or not this was sourced for the production of stone tools such as axes has not yet been studied. Archaeological evidence from the Project Area and surrounds



indicates that small quantities of usable stone such as silcrete, chert and meta-sedimentary stone occur within gravel beds of the more substantial creeks and rivers, including the Carmichael and Belyando and that these pebbles were often utilised in the manufacture of stone tools.

Impact on the environment and flora of the region has been severe, particularly within the last 60 years and more specifically in the last few decades when the ability to utilise large scale machinery has seen the introduction of large scale chain clearing/pulling and blade ploughing techniques. These latter impacts are particularly noticeable across large swathes of the lower lying portions of the study area which have been almost entirely cleared of native vegetation and replaced by introduced pasture species such as buffel grass.

Large sections of the larger study area have been extensively cleared and ploughed for agricultural (primarily pastoral) purposes over an extended period. Subsequently, large portions of these areas, in particular large expanses of pulled and blade ploughed paddocks, are now dominated by grasses such as Spear Grass (*Heteropogon contortus*) and introduced Buffel Grass (*Cenchrus ciliaris*).

5.1.2.2 Cultural Landscape Values and Places

The Project Area is viewed as part of the broader cultural landscape and is fundamental to the Wangan and Jagalingou representatives. Culturally significant sites within the Project Area should be viewed as connected to the broader landscape outside the Project Area boundary, particularly known ceremonial grounds, rock art, pathways, camp sites, scarred trees and scattered artefacts.

The Carmichael River, Cabbage Tree Creek and other water sources, such as the northern creek system are significant, both culturally and scientifically. TOFOs identified a number of likely campsites, occasionally highlighted by the presence of scarred trees and grinding grooves in addition to high density artefact scatters. The Carmichael River, Cabbage Tree Creek and a network of creeks and the northern creek system were generally identified as seasonal camping areas and pathways through the broader landscape.

In addition, recent work conducted by ARCHAEO and Wangan and Jagalingou within a number of neighbouring coal exploration and mining leases has provided considerable evidence of the close association of discreet archaeological deposits associated with soaks and gilgai. These have the potential to reveal important information relating to the seasonal habitation and use of 'country' by Aboriginal people.

5.1.2.3 Cultural Artefacts or Items

To date cultural heritage finds have been dominated by a considerable variety of stone artefacts, with only three scarred trees and two occurrences of grinding grooves being noted. The majority of the scatters were low density; however, several scatters exhibited medium to high artefact densities, indicating that they may represent the locations of camping sites.

The large sites are located in areas associated with significant waterways, such as the Carmichael River, Cabbage Tree Creek and a network of creeks and associated gilgai running roughly southerly that area located across that area of the lease north of the Carmichael River (northern creek system). Each of these areas was noted as being of high significance to the Wangan and Jagalingou representatives present on the assessment program. Many of the artefacts along Carmichael River and Cabbage Tree Creek appeared to have been exposed by erosion. Further subsurface artefacts were expected to be present around these waterways.



The majority of remaining sites located outside these areas consist of background scatters of varying density and generally less than 50 artefacts. The types of artefacts discovered were flakes, a number of retouched flakes, hammer stones, single and multiplatform cores, flaked pieces and debitage associated with the manufacture of stone tools; flake and core tools such as choppers and burren adzes; grinding stones, plates, mullers and pounders associated with starch based food production; scarred trees associated with the manufacture of vessels; grinding grooves, reduced pebbles, waisted axes, axe blanks and a small number of glass artefacts. Raw materials used in the production of artefacts were also noted.

5.1.3 Potential Impacts and Mitigation Measures

The Mine contains varying densities of archaeological artefacts and cultural heritage across the site. While avoidance of cultural heritage and leaving material on country is the highest priority, the nature of Mine construction and operations means that this is not always practical. The span of the Mine is over 90 years, with the Mine being developed progressively. This offers the opportunity to undertake further systematic assessments over time.

Adani have designed the Project and selected a footprint that minimises impacts to a variety of environmental values. The Mine has been designed to include a 500 m wide buffer on either side of the Carmichael River, to protect the environmental and cultural values along the River from Mine activities. The site selection method for the Project (Rail) has been undertaken specifically to avoid such values where feasible.

Adani understands its duty of care to protect and manage Aboriginal cultural heritage values under the *Aboriginal Cultural Heritage Act 2003*, and is committed to the management of cultural heritage values in the Project Area. Adani will manage those values and mitigate project impacts through the CHMPs as executed with each of the relevant Aboriginal parties within the Project Area.

As outlined in 5.1.1.3 and 5.1.1.5, CHMPs have been negotiated with relevant Aboriginal Parties. Each CHMP is a confidential document between the signatories and as such, the full details cannot be provided herein. However, the following provides an overview of non-confidential matters which provide the basis for establishing the CHMPs. Each CHMP defines and describes the objectives and practical measures for protecting or enhancing Indigenous cultural heritage environmental values, these include:

- ▶ Provisions for review and amendment
- ▶ Commitment to implementing duty of care requirements
- ▶ Commitment to ongoing field assessment of areas to be disturbed
- ▶ Commitment to adopting a hierarchical policy of avoidance through to management of impact

Each CHMP contains provisions for periodic review and amendment to agreements to ensure they remain relevant and appropriate throughout the life of the Project.

The management and mitigation processes set out in the CHMPs with each Aboriginal party include:

- ▶ Cultural heritage awareness training
- ▶ Continued communication
- ▶ Continued cultural heritage assessment and associated reporting

They support the method of avoidance, further survey, mitigation and monitoring.



The CHMPs commit to ensuring that all relevant project personnel are aware of their duty of care requirements and the provisions of the CHMPs through cultural heritage awareness training. In particular:

- ▶ Plain language versions of the CHMPs have been produced
- ▶ Adani will work with relevant Aboriginal parties to include cultural heritage training into its induction materials for exploration, construction and operation
- ▶ Representatives from relevant Aboriginal groups will have the opportunity to present cultural heritage awareness training face to face with key project personnel

Adani maintains communication with each Aboriginal party through the establishment of implementation committees made up of representatives of both Adani and relevant Aboriginal parties. Such committees are tasked with overseeing the assessment and management of cultural heritage values of the Project Area.

The CHMPs commit to ensuring that full and comprehensive assessments of all Project Areas are undertaken prior to commencement project activities. Adani will continue to ensure that no project activities are commenced unless, and until, a full assessment of the relevant Project Area has been undertaken in line with the agreed survey methodology. Aboriginal parties will continue to work with their relevant archaeologists to produce reports on the outcomes of their surveys. Reports will:

- ▶ Identify the methodology employed during a particular survey
- ▶ Identify the nature and extent of Aboriginal cultural heritage observed
- ▶ Describe the significance of artefacts, items or places of conservation or cultural heritage values likely to be affected by the Project and their values at a local, regional and national level
- ▶ Assess the significance of such finds, both from a cultural as well as scientific perspective
- ▶ Identify the likely impacts the Project may have on those values
- ▶ Provide recommendations for management of those values so that any impacts are avoided and/or minimised

Based on the recommendations contained in survey reports and discussions between the parties, management arrangements will then be carried out for each part of the Project Area. Management arrangements may include:

- ▶ Avoidance – where the Project may proceed without any impacts on the identified values
- ▶ Further assessment – e.g. excavations in identified areas where there is a likelihood of further, sub-surface, cultural material being present
- ▶ Mitigation – the removal, recording and preservation of cultural heritage in areas where otherwise Project activities may have a direct impact on identified values
- ▶ Monitoring – inspections, audits and/or monitoring of project activities to ensure that project activities comply with agreed management arrangements.

Each CHMP contains provisions for the management of unexpected cultural heritage finds (contingencies), including the following arrangements:

- ▶ Stop work arrangements in the vicinity of suspected finds – establishment of buffer zones etc.
- ▶ Notification to the relevant Aboriginal party and Aboriginal party assessment of the find



- ▶ Management of all unexpected finds in accordance with CHMP management provisions

With regard to the discovery of human remains, each CHMP references DATSIMA's guidelines, *The Discovery, Handling and Management of Human Remains under the Provisions of The Aboriginal Cultural Heritage Act 2003 And Torres Strait Islander Cultural Heritage Act 2003*. Adani is aware of, committed to meeting statutory requirements, and associated processes regarding the management of any identified burials.

Each CHMP provides processes and procedures for avoidance of disputes and where disputes arise, resolution of such disputes. Adani favours use of 'expert determination', whereby an independent, relevantly qualified expert (e.g. archaeologist) may resolve disputes between the parties by making an independent, binding decision about how an issue in dispute is to be managed.

Adani will continue to undertake all of its project activities, both in relation to development and operation of its project, in accordance with the provisions of the DATSIMA chief executive approved CHMPs established for the Project. In this way, Adani continue to meet all of its legislative requirements, especially with respect to meeting its duty of care to avoid harm and, to the extent that harm cannot be reasonable avoided, minimising harm to cultural heritage.

Each of the CHMPs includes provisions for monitoring of activities and outcomes of implementation of the CHMPs.

5.2 Native Title

The Project is subject to the *Native Title Act 1993* (NT Act). As outlined in 5.1.1.3:

1. The Project (Mine) and first 17 km of the Project (Rail) are located within the external boundaries of the Wangan and Jagalingou People registered native title claim (QUD85/04, QC04/6)
2. Approximately 145 km of the Project (Rail) is located within the external boundaries of the Jangga People registered native title claim (QUD6230/98, QC98/10)
3. Approximately 17 km of the Project (Rail) is located within the external boundaries of the Barada Barna Kabalbara and Yetimarla People #4 (BBKY #4) former registered native title claim (QUD6023/01, QC01/25)
4. Approximately 3 km of the Project (Rail) is located within the external boundaries of the Barada Barna People registered native title claim (QUD380/08, QC08/11).

Adani are progressing native title negotiations with relevant parties. Indigenous Land Use Agreements (ILUAs) and extinguishment assessments are being progressed.

Details of ILUAs are confidential to the signatories and are not provided herein.



5.3 Non-indigenous Cultural Heritage

5.3.1 Introduction

5.3.1.1 Methodology

The non-indigenous cultural heritage existing within the Project Area has been identified through the following method:

- ▶ Cultural heritage database and register searches and literature reviews
- ▶ A review of, and assessment against, the regulatory framework concerning non-indigenous cultural heritage management

5.3.1.2 Regulatory Framework

The *Queensland Heritage Act 1992* is the principle legislation protecting non-indigenous cultural heritage in Queensland. The Act establishes the Queensland Heritage Council, which administers the Queensland and local heritage registers. Under the Act, penalties may apply for damage caused to places or items on the registers. Additional protection may be provided to places or items on the registers through local planning schemes.

Under the Act, a place that is entered as a State Heritage Place in the Queensland Heritage Register must satisfy one or more of the following criteria:

- 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.

Cultural heritage may also be protected under the EPBC Act as matters of National Environmental Significance.

Further details on the relevant acts and associated approvals are provided in EIS Volume 4 Appendix D Project Approvals and Planning Assessment.

5.3.1.3 Database and Register Searches

A desktop survey was undertaken to identify the likely presence of items of non-indigenous cultural heritage. Searches were undertaken for the Project Area within the following databases and registers:

- ▶ DERM register and database



- ▶ Register of the National Estate (former)
- ▶ World Heritage List
- ▶ National Heritage List
- ▶ Commonwealth Heritage List
- ▶ Queensland Heritage Register
- ▶ Australian Heritage Places Inventory

In addition, a local heritage search was undertaken. No lots have been identified as containing non-Indigenous cultural heritage on National, State, regional or local databases or registers.

The searches revealed two sites of European cultural heritage in proximity to the Project Area, being the Great Barrier Reef and the Tree of Knowledge.

5.3.1.4 Field Surveys

The Project (Mine) is located across three cattle stations, which have each been subject to clearing of native vegetation and establishment of infrastructure for operation of each of the properties. Walkovers and land use surveys of the properties have identified a number of cattle yards, watering troughs and dams reflecting the current use of the land for cattle grazing. One homestead, Labona, is located within the area of proposed impact; Mellaluka homestead is located in the southern portion of EPC1080 but outside areas of proposed disturbance. Based on the lack of likely places of non-indigenous cultural heritage a detailed survey by an archaeologist has not been undertaken to date. Section 7.3.3 describes the approach to be undertaken should matters be identified during construction or operation of the Project.

Due to limited access to land within the rail corridor a comprehensive assessment of the Project (Rail) has not been completed to date.

5.3.2 Non-indigenous Cultural Heritage Values

5.3.2.1 Historical Background

The Isaac Regional Council was formed in 2008 through the amalgamation of the Belyando, Nebo and Broadsound Shire Councils. The region has a long history of mining and cattle grazing. Mining began in the early late 1800's with gold and copper, continuing intermittently until coal mining was established in 1924 following extension of the Emerald to Clermont rail line. Cattle grazing was a constant through the uneven periods of mining activity.

As mining further developed in the region, mines in Dysart, Middlemount and Moranbah becoming far more extensive. A rail network was constructed for the purpose of carrying coal to the Hay Point terminal at Mackay. Another line was opened in 1971 from Hay Point to Goonyella. Further branches were added to the Gregory mines from 1972-1982. In 1980 the Gregory mine was also linked to the central line to Rockhampton, and in 1983 further branches were added south to Blair Athol.

The townships of Dysart, Glenden, Middlemount and Moranbah became dormitory areas for the coal industry workforces. This has impacted the areas throughout their history in terms of population, employment, income, housing affordability and availability of and the pressure experienced by social services and infrastructure.



The Project Area predominantly consists of agricultural land used for cattle breeding and fattening, with a number of homesteads situated within the Project area (refer to EIS Volume 4 Appendix M Mine Land Use Report and EIS Volume 4 Appendix AA Rail Land Use Report). Further details of the history of the area and local towns is provided in Volume 4 Appendix F Social Impact Assessment.

5.3.2.2 World Heritage and National Heritage Places

Great Barrier Reef

The Great Barrier Reef was one of Australia's first World Heritage Areas. It is the world's largest World Heritage Area, and is probably the best-known marine protected area in the world. It is the world's most extensive coral reef system and is one of the world's richest areas in terms of biological diversity.

The Great Barrier Reef World Heritage Area (GBRWHA) is identified as being of relevance to the Project (Mine) concerning the potential flow-on or downstream impacts associated with its development. As well as being a site of world heritage value, the GBRWHA is on the Register of the National Estate and extends to mean low water, from the top of Cape York to the north of Fraser Island. The *Great Barrier Reef Marine Park Act 2003* is the primary planning instrument for the conservation and management of the heritage values of the park.

The Great Barrier Reef was inscribed on the World Heritage List in 1981 and the National Heritage List on 21 May 2007.

Tree of Knowledge

The Tree of Knowledge listing is the site of the 150-year-old, 10 m Ghost Gum located in the centre of Barcardine in central west Queensland. It was a symbol of an important time in Australia's political development. It was used as the meeting place for shearers during their unsuccessful strike of 1891. During that strike, as well as the maritime strike of 1890, a crucial and historical connection was forged between unions and what was to become the Australian Labor Party. In April 2006 the Tree of Knowledge was poisoned and did not recover. It was felled on 29 July 2007 but the site remains an important place of National Heritage.

The Tree of Knowledge was included in the National Heritage List on 26 January 2006.

5.3.2.3 State Heritage Places

Table 5-1 provides details of the results from a search of the Queensland Heritage Register for the Isaac Regional Council area. None of the state heritage places are within the Project Area or likely to be directly or indirectly impacted by the Project.

Based on the walkovers of the Mine site it is not expected that any artefacts meeting the criteria for cultural heritage significance will be identified within areas of proposed disturbance. The site contains a single homestead, cattle yards, dams etc., which while reflecting historic development of the area for cattle grazing, they do not generally meet the being a cultural heritage place.



Table 5-1 Results of Queensland Heritage Register Search

Name	Registration Type	Street Name	Town / Suburb
Carmila Cane Lift	State Heritage	49 Hindles Road	Carmila West
Christ Church Anglican Church	State Heritage	Cannon Street	Saint Lawrence
Clermont Cemetery	State Heritage	Cemetery Road	Clermont
Irlam's Ant Bed Building	State Heritage	Clermont-Alpha Road	Oaky Creek
Meatworks and Wharf Site	State Heritage	Settlement Road	Saint Lawrence
Nebo Hotel	State Heritage	2 Reynolds Street	Nebo
Police Station and former Courthouse and Cell Block	State Heritage	Macartney Street	Saint Lawrence
Stone Farm Building	State Heritage	739 Fleurs Lane	Clermont

5.3.3 Potential Impacts and Mitigation Measures

Two areas of national heritage significance are identified through searches of relevant databases. The Great Barrier Reef (also listed as a World Heritage Place) and the Tree of Knowledge. Both these places are in excess of 200 km from the Project Area.

Impacts to the Tree of Knowledge will not occur as part of the Project. The Great Barrier Reef is downstream of the Project Area via the Belyando River and not expected to be impacted by the Project. Further, details of the potential impact of the Project to the world heritage and national heritage values of the Great Barrier Reef are included in Volume 1 Section 11 Matters of National Environmental Significance Report.

The Project is not expected to impact matters of state heritage significance as such, no mitigation measures are proposed. Where items of archaeological importance are identified during construction or operation of the Project the procedures identified in the DERM publication Onsite Procedures for Historical Archaeology will be implemented. These procedures are also reflected in draft environmental management plan included in Volume 2 Section 13 and Volume 3 Section 13.

5.4 Summary

Adani are committed to ensuring all practical measures are taken to avoid impacts on Indigenous and non-Indigenous cultural heritage.

To date a number of items of Indigenous cultural heritage value have been identified on the Mine site. Adani will continue to avoid, manage and mitigate cultural heritage values in line with the CHMPs developed with the relevant Aboriginal parties and approved by DERM. The CHMPs will continue to be refined as further survey work is undertaken. Where practical, the concept design will be amended to respond to significant cultural finds.



A search of cultural heritage registers has not identified any areas of non-indigenous cultural heritage value within the Project Area. Further, it is not expected that places meeting the criteria for cultural heritage significance.



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