Australia Pacific LNG Project

Volume 2: Gas Fields

Chapter 19: Non-Indigenous Heritage

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19. Non-Indigenous heritage

19.1 Introduction

19.1.1 Purpose

The purpose of this chapter is to describe the potential effects of construction and operation of the Australia Pacific LNG Project (the Project) gas fields on non-Indigenous (shared) cultural heritage, and identify suitable management and mitigation measures to minimise impacts. The assessment of potential impacts has been conducted according to the environmental impact statement (EIS) terms of reference for the Project. The detailed shared cultural heritage assessment is provided in Volume 5 Attachment 39.

In the preparation of the EIS and going forward with the Project, Australia Pacific LNG will be guided by the 12 Australia Pacific LNG sustainability principles when identifying potential impacts the Project may have on non-Indigenous heritage values and sites, and in the development and implementation of mitigation measures. Of these 12 sustainability principles, those relevant to non-Indigenous heritage include:

- Minimising adverse environmental impacts and enhancing environmental benefits associated with Australia Pacific LNG's activities, products or services; conserving, protecting, and enhancing where the opportunity exists, the biodiversity values and water resources in its operational areas
- Respecting the rights, interests and diverse cultures of the communities in which Australia Pacific LNG operates
- Engaging regularly, openly and transparently with people and communities affected by its activities, considering their views in its decision-making and striving for positive social outcomes
- Working cooperatively with communities, governments and other stakeholders to achieve positive social and environmental outcomes, seeking partnership approaches where appropriate.

Under these principles, non-Indigenous heritage values are reflected in a number of ways. Australia Pacific LNG has consulted widely during this assessment to identify, avoid, protect and manage non-Indigenous sites. Australia Pacific LNG commits to implementing appropriate procedures to further identify, avoid, protect and/or record areas of significant heritage value.

These principles guide the way in which Australia Pacific LNG proposes to mitigate any potential impacts that the Project may have to non-Indigenous shared heritage values and sites. Australia Pacific LNG commits to identifying and avoiding, protecting and/or recording areas of significant heritage value or likely to contain artefacts and/or human remains.

19.1.2 Scope of work

As part of the overall assessment of development impacts, the non-Indigenous heritage of the gas fields' area has been investigated. This chapter describes the non-Indigenous heritage and post-contact land-use history of the gas fields' study area. It documents the registered heritage places and potentially significant site locations in and around the gas fields' area and proposes measures to mitigate any impacts that might result from the Project. The specific aims of this non-Indigenous heritage assessment are to:

- Identify historical themes relevant to the non-Indigenous use of the gas fields' study area
- Identify known non-Indigenous heritage sites within the gas fields' study area
- Assess the likelihood of further items of heritage significance occurring in the gas fields' study area
- Assess the significance of sites located in the gas fields' study area, in terms of these meeting criteria defined for inclusion in local, state or national heritage registers
- Provide advice about appropriate measures for the mitigation of impacts to identified heritage sites, appropriate to the level of significance
- Propose a methodology for the management of non-Indigenous heritage sites identified during construction on the gas fields.

19.1.3 Legislative framework

In Queensland, both Commonwealth and state legislation protects non-Indigenous heritage sites. The following section discusses both Queensland and Commonwealth legislation of relevance to this assessment.

Commonwealth legislation

Two pieces of Commonwealth legislation serve to protect Australia's heritage. These are the *Environment Protection and Biodiversity Conservation Act 1999* and the *Australian Heritage Council Act 2003*. The Commonwealth authority responsible for the administration of this legislation is the Department of Environment, Water, Heritage and the Arts (DEWHA).

Environment Protection and Biodiversity Conservation Act

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides protection for items and places with world, national or Commonwealth heritage values. It is the primary piece of Federal environmental legislation in Australia, providing the legal framework for the protection and management of nationally and internationally recognised flora, fauna, ecological communities and cultural heritage places defined under the Act as being of national significance.

Nominated or listed cultural heritage sites can be protected under this Act, either through inclusion on the National Heritage List, or on the Commonwealth Heritage List if these are within Commonwealth land or waters. The criteria used for inclusion on the National (and Commonwealth) Heritage List include:

- Importance in the course of Australia's natural or cultural history
- Possession of uncommon or endangered aspects of Australia's natural or cultural history
- Potential to contribute to an understanding of Australia's natural or cultural history
- Importance in demonstrating the key characteristics of a class of natural or cultural places
- Importance in exhibiting aesthetic characteristics valued by a community or cultural group
- Importance in demonstrating creative or technical achievement at a particular period
- Special association with a particular community for social, cultural or spiritual reasons
- Special association with the life or works of persons of importance in Australia's history

- Importance as part of Indigenous tradition.

Australian Heritage Council Act

The *Australian Heritage Council Act 2003* established the Australian Heritage Council, as the principal advisory body to the Australian Government for heritage matters, particularly in relation to administering the heritage registers now created under the EPBC Act. It replaced the Australian Heritage Commission, the authority previously responsible for assisting in the administration of Commonwealth Heritage legislation. The role of the Australian Heritage Council is to:

- Assess cultural heritage items and places for inclusion in the National Heritage List or Commonwealth Heritage List
- Advise the Minister in relation to the inclusion of places in, and the removal of places from, the List of Overseas Places of Historic Significance to Australia
- Advise the Minister about matters relating to the condition of places included in the National Heritage List or Commonwealth Heritage List
- Advise the Minister about the Commonwealth's responsibilities for historic shipwrecks
- Promote the identification, assessment, conservation and monitoring of heritage
- Keep the Register of the National Estate.

The National Heritage Places Inventory is maintained by DEWHA and contains summary information about places listed in state, territory and Commonwealth heritage registers and lists. It is an online, searchable database.

Queensland cultural heritage legislation

The Queensland body responsible for non-Indigenous cultural heritage protection is the Cultural Heritage Branch of the Department of Environment and Resource Management. It keeps a register of significant heritage places and sites known as the Queensland Heritage Register, and administers the *Queensland Heritage Act 1992.*

Queensland Heritage Act

For non-Indigenous heritage, the *Queensland Heritage Act 1992* provides specific pathways to protection. Its stated aim is 'to provide for the conservation of Queensland's cultural heritage for the benefit of the community and future generations'.

The Queensland Heritage Register is a record of Queensland heritage places and protected areas and since amendments in 2008 also includes archaeological sites. Register entries include details of the boundaries of the area or place, its history, a description of its fabric and whether it is the subject of a heritage agreement.

The development of state heritage listed sites requires government approval. Section 68 of the Act provides for the assessment of development applications for heritage listed sites under the *Sustainable Planning Act* 2009 to be consistent with the purposes of the Act. This Act is discussed in more detail in Volume 1 Chapter 2.

Not all places and objects of heritage value are known prior to development. This is particularly the case with archaeological sites, sometimes unearthed during construction. A person must advise the Chief Executive about any archaeological artefacts discovered and considered an important source of

information about an aspect of Queensland's history. Once artefacts have been reported under the Act, it is an offence to interfere with these artefacts.

Places of heritage significance are not always listed on the register, but may be known to members of the public. A place can be nominated for inclusion on the Queensland Heritage Register at any time. The Minister may issue a stop order to protect from damage any place (entered within the register or not) considered to be of cultural heritage significance.

The *Queensland Heritage Act 1992* deals only with non-Indigenous heritage places and those with joint Indigenous and non-Indigenous values.

National Trust of Queensland Act

Listing by the Queensland National Trust under the *National Trust of Queensland Act 1963* provides a major indication of a community's feeling about the value of individual buildings, precincts, natural environment places or culturally-significant artefacts. However, despite being established by an Act of Parliament, listing on the Register of the Queensland National Trust provides no legal protection for places or buildings, or an obligation to owners to conserve these properties.

The Burra Charter, adopted in 1979 by the Australian Chapter of the International Council of Monuments and Sites (ICOMOS), defines the basic principles and procedures to be followed for the conservation of Australian heritage places and became a guide for inclusion on the National Trust Register. The Charter has wide-ranging application for heritage protection in Australia, defining conservation as '…the processes of looking after a place so as to retain its cultural significance' (Article 1.4). A place is considered 'significant' if it possesses aesthetic, historic, scientific or social value for past, present or future generations (Article 1.2). Conservation of a place should identify and take into consideration all aspects of its cultural significance without unwarranted emphasis on any one aspect at the expense of others (Australia ICOMOS 1999).

Local government legislation

Amendments to the *Queensland Heritage Act 1992* introduced in 2008, required local government agencies to establish registers of heritage places.

A further amendment also provides for the integration of state and local government assessment and approval processes under the integrated development assessment system of the *Sustainable Planning Act 2009* (Section 121 *Queensland Heritage Act 1992* and Schedule 3 Sustainable Planning Regulation 2009). Sites listed on local and state government heritage schedules within the gas fields' area are subject to assessment provisions specified under this Act.

19.2 Methodology

19.2.1 Method

To ensure a thorough identification and assessment of the potential impacts the Project may have on the heritage values of the gas fields' study area, a number of methods were employed including desktop research, consultation and site survey. These methods are further detailed below:

- Literature review including use of on-line resources
- A search of the Australian Heritage Places Inventory for listed sites of international and national significance (World Heritage List, National Heritage List and Register of the National Estate)

- A search of the Queensland Heritage Register. A global information system layer was created for recorded sites in and around the gas fields' area and compared with planned project infrastructure
- A search of the register of the National Trust of Queensland, with the help of the Trust's heritage information officer
- A search of the Origin Energy cultural heritage database
- A search of data within heritage studies previously carried out in the area
- A search of data in EIS cultural heritage assessments previously carried out in the area
- Requests for information to local councils and historical societies
- Publicly available books and histories
- Discussions with individuals and organisations with an interest in the region's heritage
- Localised field survey in the gas fields, in areas where landowner access has been granted.

A contextual history of the area has been provided and previous studies reviewed. Site information from the various site databases and data sources have then been collated and mapped. To provide a context in which to assess the heritage values of sites in those parts of the gas fields that will be impacted by construction, heritage locations in the whole of the gas fields' study area have been investigated.

While this has resulted in the inclusion of sites away from specific planned development, it provides a predictive context and site distribution models for site types to be expected during specific field inspection or possibly uncovered during construction and, as plans change, allows for flexibility of construction plans within the study area.

Details regarding the methodological limitations of the non-Indigenous heritage assessment are provided in Volume 5 Attachment 39.

Field investigations

To test the validity of the site distribution models, a program of field inspection was undertaken through the gas fields to identify locations with non-Indigenous heritage values. This was valuable, in identifying locations along road and rail corridors and around the fringes of settlement, which contained locally-significant non-Indigenous heritage sites. The field investigations also revealed invaluable information about heritage sites from members of the local community. While field inspections revealed a few previously unrecorded sites, community members were able to identify numerous sites and locations of local heritage significance that are currently not listed on any public registers. These have been included in this analysis and are detailed within the technical report in Volume 5 Attachment 39.

Field inspections were carried out in the southern portion of the gas fields, known for its connection with Leichhardt's 1847 expedition and more recently for forestry operations. Field studies took place at Brigalow Creek, Teatree Gully, Weir River and Cattle Creek. Other areas were examined in the Condamine district, near Cooloomala Creek, Sandy Creek, Wieambilla Creek and the Condamine River. No non-Indigenous sites were discovered in any of these locations.

An area near Cattle Creek, north of Wallumbilla, was also examined and an abandoned soldier settlement homestead was located. A number of properties were visited in the Chinchilla district with the owners. The location where Leichhardt crossed Charlies Creek south of Chinchilla, the

Cactoblastis breeding station at the Bug Farm and the site of the first Chinchilla bush swimming pool on Charley's Creek, were recorded.

Figure 19.1 Remaining shed used for Cactoblastis breeding at Chinchilla's 'Bug Farm'

Consultation

Information about non-Indigenous heritage sites within the gas fields' study area came from a wide range of sources, including consultation with long-term residents involved in the collection of and involvement with local history. Many of the sites that residents identified, were recorded in no other source, or were only known from vague written references.

Additionally, representatives of organisations charged with protecting heritage sites, including Regional Council officers and the National Trust of Queensland, provided valuable insights into the listed sites in the gas fields' study area. The people contacted as part of this investigation are listed in Table 19.1.

Table 19.1 List of heritage contacts for the gas fields' region of the Australia Pacific LNG Project

Contact	Organisation or location	Region
Beryl and Harold Rennick	Chinchilla Field Naturalist	Chinchilla district
Beryl Dwyer	Chinchilla - resident	Chinchilla, Kogan and district
Merlene Coates Freeman	Miles and District Historical Village and Museum Committee	Miles and district
Dinah Frazer	Wandoan Heritage Society	Wandoan District
Gail Taylor	Chinchilla and District Historical Society and Museum Committee	Chinchilla district
John Gray	The Shanti (Bug Farm), Clarks Road, Chinchilla	Cactoblastis research and breeding station

Contact	Organisation or location	Region
Kel Gaske	Greenswamp, Chinchilla	Sites associated with the old Chinchilla swimming pool.
David Fuller	Chinchilla – resident	Leichhardt sites south of Chinchilla
Hilda Heffernan	Miles and District Historical Village and Museum Committee	Miles district
Dr Val Dennis Heritage Information Officer	National Trust of Queensland	Entire gas fields' area
Information officer	Maranoa Regional Council	Eastern portion of gas fields
Information officer	Western Downs Regional Council	Western portion of the gas fields

Assessing site significance

The evaluation of site significance undertaken in this study derives from a framework identified in the Burra Charter which urges consideration of the aesthetic, historic, scientific, social and spiritual values of places in the past, present and in the future (Australia ICOMOS 1999). Within this framework, the significance assessment of locations identified in the Australia Pacific LNG gas fields has been carried out using criteria laid down in Section 35 of the *Queensland Heritage Act 1992* to identify heritage items of state significance. These criteria are:

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

In addition to locations deemed to be of national, state or local significance, and recognised through the listing within relevant heritage lists and registers, there are other sites that do not meet register listing criteria, yet still provide a setting in which to understand the historical land-use of a region. These sites, while adding to the understanding of a region's past land use, do not uniquely add to that understanding. These sites are described in some recent studies (e.g. Archaeo Cultural Heritage Services 2009) as being of 'historical interest'. This assessed 'low heritage value' does not warrant the level of protection necessary for sites of local, state and national heritage significance.

In addition to the criteria specified in the *Queensland Heritage Act 1992* for the assessment of site significance, archaeological sites can also be assessed using additional criteria. These address the scientific values of archaeological sites and refer to site integrity, site contents and site structure.

19.2.2 Study area

The coal seam gas fields near the Central Queensland town of Miles encompass a landscape characterised by the undulating downs of the Brigalow Belt. This area was formerly covered with forested areas with dense Brigalow (*Acacia harpophylla*) scrub, with surrounding areas characterised by grassland. The Brigalow forests have been substantially cleared during the last century for agriculture uses including cattle grazing. The area is traversed by numerous permanent and semi-permanent creeks, many of which drain into the Condamine River, located in the southern portion of the gas fields.

19.3 Non-Indigenous heritage values

19.3.1 Historical context

The existing environmental values and shared heritage sites present in the study area have been shaped by the complex history of exploration and settlement of the regions encompassed by the gas fields. There are a number of key themes which help establish an understanding of the historical context of the study area and the resulting shared heritage values. These themes are:

- Exploration and mapping
- Contact with Indigenous people
- Pastoral settlement
- Cobb and Co
- Rail
- Prickly pear
- War and depression
- World War II.

All of these aspects of history contribute to an understanding of the non-Indigenous use of the gas fields' study area and provide a context in which to evaluate known heritage sites and predict the location of potential heritage sites within it. A detailed discussion of the study area's history in the context of the key themes is provided in Volume 5 Attachment 39.

19.3.2 Heritage sites

Site information includes sites listed on Commonwealth, national and state heritage registers and local heritage lists. Local heritage sites are sometimes included in a local heritage register or a heritage overlay or a schedule of historic cultural places used in local planning schemes. The National Trust of Queensland lists additional sites, while others are identified from local histories, previous heritage surveys, conversations with local people and fieldwork carried out for this review as detailed in the methodology.

Registered sites

Sites in this category include those registered on Commonwealth, national and state heritage lists. These are contained in the Australian Heritage Places Inventory and associated contributing lists such as the World Heritage List, National Heritage List, Register of the National Estate and the Queensland Heritage Register.

Within the gas fields' study area there are no cultural heritage sites registered on the World Heritage List, Commonwealth Heritage List, or National Heritage List. Jimbour Station Homestead is listed on the Register of the National Estate, which is located 32km east of the study area. This site has been described in this review as it has particular relevance to the history of exploration at the eastern side of the study area.

Two sites of state heritage significance are found in the study area and listed on the Queensland Heritage Register, neither of which would be affected by development in the gas fields. These sites are:

- Chinchilla Digger Statue, Heeney Street Chinchilla (Queensland Heritage Register) – one of 55 surviving digger statues, of the 61 erected throughout Queensland shortly after World War I
- Nostalgic Queens Theatre at George Street Wallumbilla (Queensland Heritage Register, nominated site in Maranoa Regional Council/Bendemere Shire Planning Scheme) – built in 1939, this theatre is an example of early picture theatres, first showing silent films, common to rural towns. It still retains its original purpose.

Figure 19.2 is an example of historical timber milling in the Chinchilla area. In 1911, the temporary mill was built on Rocky Creek to cut sleepers for the tramline to Barakula. This site will not be affected by the gas fields' development.

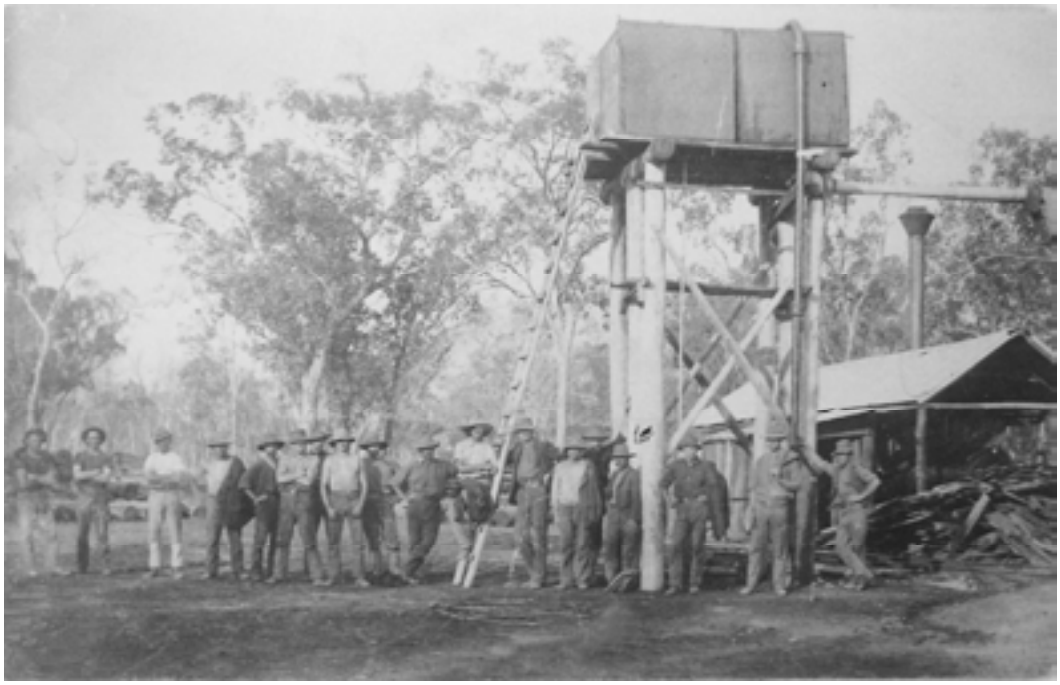

Figure 19.2 Sleeper mill at dam on Rocky Creek, 1912. (Chinchilla Library photographic collection number 8)

19.3.3 Sites of local heritage significance

Sites of local heritage significance listed in local heritage registers and planning schemes, those listed by the National Trust of Queensland and others recorded in local histories are shown in the Figure 19.3b map series, and discussed in more detail in Volume 5 Attachment 39.

In some cases while the sites have been identified, their exact locations are unknown. In some cases references to sites have been found, but their exact locations are unknown. Detailed field inspection will take place throughout the gas field, to ensure that known and previously unrecorded non-Indigenous heritage sites are protected from construction impacts.

19.3.4 Review of existing reports

As detailed in the methodology, a number of existing non-Indigenous heritage studies and reports were reviewed to identify relevant information for this assessment. These provide valuable information about the history of land use in the region, and site lists indicating the range and distribution of heritage sites that may occur in the gas fields. Key studies and reports reviewed were:

- Strong, M. (2005) *Historical assessment of the Durham Downs Gas Field Project*
- Archaeo Cultural Heritage Services (2009) *Non-Indigenous Cultural Heritage Investigation for the Gladstone GLNG Project*
- Central Queensland Cultural Heritage Management Pty Ltd (2009) *Non-Indigenous Cultural Heritage. Surat to Gladstone Pipeline Project*
- Environmental Resources Management Australia (2009) *Cultural Heritage report for the Queensland Curtis LNG Project*
- Xstrata (2008*) Wandoan Coal Project EIS*
- Xstrata (2008) *Wandoan Coal Project Water Supply Impact Assessment.*

Heritage sites identified from the review of these existing reports are detailed in Volume 5 Attachment 39, and are illustrated in the Figure 19.3b map series.

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Expedition (Limited Depth) National Park
Belington Hut State Forest
Expedition Resources Reserve
Hallett State Forest
Combabula State Forest
Yuleba State Forest

Injune
Taroom
ROMA

Pony Hills Graves
Pony Hills Homestead
Brumby trap
Wybara sheep folds
Surveyor's Camp 2
Dray road
Cattle ramp

Petrol Tin Shed (Approx location)
Railway Station (Wandoan)
Old Juandah Cemetery
Wandoan
Juandah massacre burial site (Approx)
Leichhardt Tree Downfall Creek (approx)
Leichhardt Monument (Guluguba)
Giligulgul School
Welsh's Blitz Truck
Welsh's Dump
Welsh's Huts
RAAF Area Explosives Reserve
Dingo Fence
Kowguran Siding
Cobb and Co Road
Dalwogan Siding
Christianberg Fence
Murilla Oil Bore
Miles Cemetery
Drillham Fettlers Camp
Drillham Creek Graves
Miles
Giles Brickworks
Goonalah School Site
Miles Cemetery
Dogwood Creek
Old Miles Cemetery
Murilla Shire Aerodrome
Horton School
Tieryboo Homestead
Tieryboo Corduroy Crossing
Pioneer Cemetery Condamine
Condamine River Bridge, Condamine
Cemetery Condamine
Nangram Corduroy Crossing

Cottage 2
Workers Quarters
Cottage 1
Wallumbilla Railway Complex
Wallumbilla Hospital
Nostalgic Queens Theatre
Yuleba Railway Complex
Rocky Creek Bridge
Combidiban Creek Bridge
Mud Brick Homestead
Jackson Railway Station
Dulacca experimental station
Telegraph poles
Old Ulebah

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SCALE - 1 : 600,000 (at A3)
Latitude/Longitude
Geocentric Datum of Australia 1994
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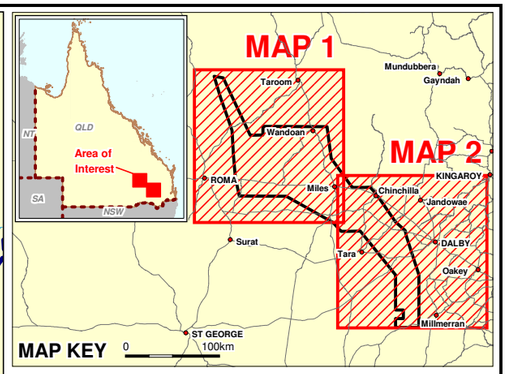

LEGEND

- Major towns
- Fairview gas plant
- Existing infrastructure
- Pipeline compressor station
- Road
- Railway
- Major watercourses

Proposed Infrastructure

- Gas pipeline route
- High pressure gas pipelines
- Alternative high pressure gas pipelines
- Water transfer pipelines
- Alternative water transfer pipelines
- Brine pond
- Gas processing facility
- Alternative gas processing facility
- Water transfer station
- Water treatment facility
- Gas fields study area

Protected Areas

- Conservation park
- Forest reserve
- National park recovery
- National park
- National park scientific
- Resources reserve
- State forest
- Timber reserve

Non-indigenous Cultural Heritage

- Commonwealth listed site
- Queensland Heritage Register site
- Unlisted

Walloons gas fields development areas

- Combabula / Ramyard
- Woleebee
- Carinya
- Condabri
- Talinga / Orana
- Dalwogan
- Kainama
- Gilbert Gully

Source Information

Cadastre and Easements
Department of Natural Resources and Water, Queensland 2009
Protected Areas (Queensland_estates)
Environmental Protection Agency 2009
Non-Indigenous Cultural Heritage Sites
Heritage Consulting Australia 19/11/2009, 08/12/2009 and 19/01/2010
Archaeo Cultural Heritage Services 25/11/2009

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Figure 19.3a Non-indigenous Cultural Heritage Sites - Map 1 of 2

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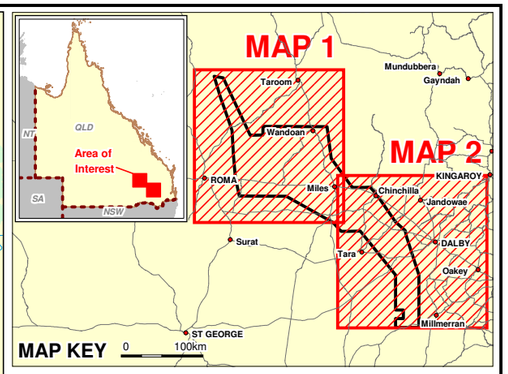
Columboola Ammunition Dump
Leichhardt Camp 8
Chinchilla Cheese Factory
Baking Board
Baking Board Cemetery
Chinchilla Butter Factory
Goombi School Site
Chinchilla Pioneer Cemetery
Unity school
Chinchilla
Chinchilla Digger Statue
Chinchilla Cactoblastus Research Station
Leichhardt Charleys Creek Crossing
Chinchilla's First Swimming Pool
Horton School
Water tank (SGP7)
Scarred tree (SGP6)
Nangram Leichhardt Tree
Hopeland State School
Garage
Hopeland Church of Christ Hall
Scarred Tree
Scarred tree (SGP5)
Wambo Creek Causeway
Machinery Dump
Buildings and artefact scatter
Old Rugged Cross Shooters Camp
Sleeper Cutting Camp
Woolshed and yards
Hut and Camp
Scarred tree (SGP1)
Sleeper Cutter's Hut and Exchange
Hut (Burt's Brothel)
Boondoola Homestead
Rabbiter Fencers Hut
House site
Arboretum
Perth Cattle Yards
Sheep Folds (Wambo Shire)
Dairy Farm
Leasee's Hut
Large Spotted Gum (Wambo Shire)
Braemar Fire Tower No 5
Braemar Live Firing Range
Rabbit Board House
Dairy Farm and Yards
House (GFNICH12)
House and Pit Toilet
Ridgewood Homestead and Yards
Bottle Dump
Wilkie Creek Sawmill Ruin
Old Moonie Coach Road and Stock Route
Old House (Millmerran Shire)
Homestead Ruin (Wilkie Creek)
Coach Inn and Change Station
Homestead and Grave
Durabilla Fire Tower No 6
Sawmill House
Sawmill (Wambo)
Rabbit Board House
Dingo and Rabbit Fences

Tara
Jandowae
Nanango
KINGAROY
Yarraman
DALBY
Crows
Oakey
TOOWOOMBA
Millmerran



LEGEND

- Major towns
- Fairview gas plant
- Existing infrastructure
- Pipeline compressor station
- Road
- Railway
- Major watercourses

Proposed Infrastructure

- Gas pipeline route
- High pressure gas pipelines
- Alternative high pressure gas pipelines
- Water transfer pipelines
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- Water transfer station
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- Gas fields study area

Protected Areas

- Conservation park
- Forest reserve
- National park recovery
- National park
- National park scientific
- Resources reserve
- State forest
- Timber reserve

Non-indigenous Cultural Heritage

- Commonwealth listed site
- Queensland Heritage Register site
- Unlisted

Walloons gas fields development areas

- Combabula / Ramyard
- Woleebee
- Carinya
- Condabri
- Talinga / Orana
- Dalwogan
- Kainama
- Gilbert Gully

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Environmental Protection Agency 2009
Non-Indigenous Cultural Heritage Sites
Heritage Consulting Australia 19/11/2009, 08/12/2009 and 19/01/2010
Archaeo Cultural Heritage Services 25/11/2009

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SCALE - 1 : 600,000 (at A3)
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Geocentric Datum of Australia 1994
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AUSTRALIA PACIFIC LNG PROJECT

Volume 2 Chapter 19
Figure 19.3b Non-indigenous Cultural Heritage Sites - Map 2 of 2

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19.4 Potential impacts

19.4.1 Potential impacts to known sites

When preparing this assessment, preliminary plans for the location of facilities in the gas fields had been completed. Eight identified sites are within 1km of proposed infield pipeline routes and as such, the potential that these may be impacted must be assessed.

Table 19.2 lists the eight sites, the proximity of the proposed infrastructure, and the potential impact. All other identified sites are found more than 1km from the proposed pipeline and gas fields' infrastructure developments. These would not be affected by construction activities.

Table 19.2 Potential impacts associated with gas fields' construction and operation

Site name	Significance	Proximity to development	Impacts
Horton Downs Provisional School No. 1148 site	Low (Local)	100m from infield pipeline route	Potential impact
Murilla Shire Aerodrome	Low (local)	Property boundary 80m from proposed infield pipeline route	Avoided
Nangram Corduroy Road	Moderate (local)	50m from infield pipeline route	Potential impacts
Old Ulebah	High (local)	100m from infield pipeline route	Potential impacts
Surveyors Camp 2	Low (local)	120m from infield pipeline route	Potential impacts
Telegraph poles	Low (local)	<50m from infield pipeline route	Potential impacts
Wambo Creek Causeway	Low (local)	120m from alternative infield pipeline route	Avoided
Wybara Sheep Folds	Low (local)	70m from infield pipeline route	Potential impacts

While impacts from proposed pipelines and plant sites can be predicted, the location of gas wells within the field is currently unknown. As the first stage in the Project, existing heritage sites have been identified in a constraints analysis to assist project facility planning.

Known heritage sites have been mapped and avoided. The sites of greatest significance in the study area are located in towns and settlements.

The second stage of this heritage assessment and site avoidance process has been the review of the region's history and consultation with interested parties about the non-Indigenous heritage resources of the region to identify potential locations of heritage significance. These sites, locations and town heritage precincts have been mapped and incorporated into the project planning process to ensure that facilities are placed to avoid sites.

Following the front-end engineering and design phase, locations will be selected for facilities and infrastructure. These locations will be surveyed for unidentified non-Indigenous cultural heritage sites where necessary.

Where cultural heritage sites are identified, the mitigation measures outlined in Section 19.5 will be implemented.

19.4.2 Potential impacts to undetected sites

While only localised field surveys were undertaken as part of the present investigation, previous studies have confirmed that numerous traces of prior non-Indigenous habitation do exist in the gas fields' study area. It is also inevitable that further non-Indigenous sites and heritage places remain undetected in the gas fields' study area. These will mostly be of local heritage significance.

Sites that are located during this additional survey will be managed in accordance with the mitigation measures detailed in Section 19.5.

19.4.3 Potential cumulative impacts

In addition to impacts that will arise from construction in the gas fields, additional infrastructure in the form of the main transmission pipeline is planned at the northern end of the gas fields. Flexibility in placement of the pipeline will ensure the avoidance of any yet to be detected non-Indigenous heritage sites.

The potential effects of several other projects planned by other proponents to the east and west of the Project need to be considered. These other gas field developments could potentially place other non-Indigenous heritage sites at risk, but the proponents involved in these developments are also managing possible heritage issues in a similar manner, through avoidance of identified sites.

Through a range of measures, as detailed in Section 19.5, and those committed to by other project proponents, it will be possible to minimise the cumulative effects of development on non-Indigenous sites in this region.

19.4.4 Matters of national environmental significance

Two items with nationally recognised heritage values are found in the area surrounding the gas fields' study area. These sites, listed on the Register of the National Estate, are the Boonarga Cactoblastis Memorial Hall (RNE 16252 QHR 601273), located 1.6km outside the gas fields' study area and 15.4km from the nearest planned development, and Jimbour Station Homestead (RNE 9258, QHR 600941) situated 32km to the east of the study area and 34km from the nearest development.

Neither site has been transferred to the National Heritage List, although both are protected by their inclusion on the Queensland Heritage Register. Neither site will be impacted by the proposed works.

19.5 Mitigation and management

There are five options available for the management of development impacts to heritage sites. These encompass: avoidance, relocation, salvage, archival recording and interpretation. In most cases, a combination of these measures is the best approach to preserving a site's heritage values.

Avoidance

The simplest means of protecting heritage sites from development impacts entails relocation of facilities so the sites are avoided. Where the sites remain in close proximity to construction activities it may be necessary to erect barriers to protect the site from accidental impacts.

Relocation

In some instances where impacts are unavoidable, it may be possible for relocation of the heritage items, either to a nearby area that is not threatened by construction impacts, or to a museum. This will be managed in consultation with the appropriate authorities.

Salvage

Controlled archaeological excavation may be an option for recovery of information and relics from sites threatened by construction impacts. Once the site has been investigated and the information or relics recovered, development will progress in the site area.

Archival recording

Detailed archival recording of heritage items that are to be impacted by development is a minimum requirement. Queensland's Department of Environment and Resource Management has guidelines for archival photographic recording and plan drawings for heritage sites to ensure that these records accurately document threatened sites.

Interpretation

The pubic interpretation of a site likely to be impacted by development can inform the community of the heritage values of sites that might be lost or damaged through development either as part of a salvage and recovery program, or in isolation. In some instances, it is possible to incorporate elements of the archaeological features in public displays as part of the development.

19.5.1 Mitigation and management of potential impacts to known sites

Ideally, all non-Indigenous heritage sites would be protected during construction of the Project in the gas fields' study area, but impacts to previously undetected non-Indigenous heritage sites may still occur. Through the initial constraints analysis stage of the Project and through the selective fieldwork stage, every effort has been made to relocate the gas fields' pipelines and related infrastructure through areas distant from known sites.

Australia Pacific LNG commits to implementing the procedures discussed below, to manage the potential effects of the construction and operation of the Project's gas fields on non-Indigenous heritage sites.

Design

- Field investigations will be conducted prior to construction to document any non-Indigenous heritage sites likely to be impacted.
- A heritage management plan will be prepared to manage the potential impacts identified in Table 19.3 as well as any likely impacts identified during field investigations. The heritage management plan will be prepared in consultation with relevant stakeholders, including the Department of Environment and Resource Management and/or the relevant local authority, as required.
- Previously recorded non-Indigenous heritage sites will be avoided, wherever practicable, through careful placement of infrastructure.

Table 19.3 Non-Indigenous heritage impact mitigation measures

Site name	Proximity to development	Proposed protection measures
Horton Downs Provisional School No. 1148 site	100m from infield pipeline route	Realignment of pipeline route if any archaeological traces are located and if practicable, otherwise archival recording and salvage if not practicable

Nangram Corduroy Road	50m from infield pipeline route	Detailed recording and possible pipeline realignment, if practicable, to avoid archaeological traces.
Old Ulebah	100m from infield pipeline route	Detailed recording and possible pipeline realignment, if practicable, to avoid archaeological traces.
Surveyors Camp 2	120m from infield pipeline route	Detailed recording and possible pipeline realignment, if practicable, to avoid archaeological traces.
Telegraph poles	<50m from infield pipeline route	Detailed recording and possible pipeline realignment, if practicable, to avoid archaeological traces.
Wybara Sheep Folds	70m from infield pipeline route	Detailed recording and possible pipeline realignment, if practicable, to avoid archaeological traces.

Construction and operation

- Heritage management plans will be developed and implemented as required.
- Procedures will be put in place to provide for the timely reporting and protection of heritage items and archaeological artefacts discovered during construction, consistent with requirements under the *Queensland Heritage Act 1992.*
- All workers in the gas fields will be inducted about the importance of non-Indigenous heritage sites and the procedures to be followed sites are discovered.

Assessment of non-Indigenous site significance will be undertaken using criteria established under the *Queensland Heritage Act 1992*, to determine the appropriate protection measures for identified sites.

Further to these broad protection and mitigation measures, Table 19.3 outlines protection measures for the five sites identified as being potentially impacted by constructing and operating the Project's gas fields.

19.5.2 Mitigation and management of potential impacts to undetected sites

Previously undetected non-Indigenous heritage sites may exist in the gas fields' area. If so, these are likely to include archaeological sites associated with a variety of historical land use practices. To ensure that these are recorded and the heritage values assessed, the following steps will be implemented if such sites are discovered during construction:

- All work in the vicinity of the suspected heritage site must cease and a temporary buffer of at least 50m established to ensure that impacts are avoided.
- The Australia Pacific LNG Project Manager and Cultural Heritage Department Manager will be notified.
- Australia Pacific LNG Project's cultural heritage personnel will be advised of the finding, and will inspect the suspected heritage items to assess them and ensure that the provisions of the *Queensland Heritage Act 1992* in relation to non-Indigenous archaeological sites are met.

- The Australia Pacific LNG Project Manager or Cultural Heritage Manager will liaise with Department of Environment and Resource Management officers to ensure heritage items are properly recorded, their significance assessed and appropriate management measures implemented. These measures may include the protection and avoidance of the site; investigation and recording of the heritage items; removal of the heritage items, advising about relocating facilities; or excavation of the historical items and the removal for safekeeping.

19.6 Conclusion

19.6.1 Assessment outcomes

The assessment of non-Indigenous heritage in the gas fields involved a comprehensive review of publically available information together with significant stakeholder consultation and limited site inspections.

The assessment has identified eight sites of cultural significance within 1km of the proposed gas fields' development. Of these, six sites may be impacted by the Project. A summary of the environmental values, sustainability principles, potential impacts and mitigation measures in relation to non-Indigenous heritage is presented below in Table 19.4.

This table also includes the residual risk levels for non-Indigenous heritage. Mitigation measures to reduce the risk have been nominated and the residual risk has been calculated. Further details on the risk assessment methodology are provided in Volume 1 Chapter 4.

Table 19.4 Summary of values, sustainability principles, potential impacts and mitigation measures

Values	Sustainability principles	Potential impacts	Possible causes	Mitigation and management measures	Residual risk level
Preservation of existing heritage sites of local, state and national significance	Minimising adverse environmental impacts and enhancing environmental benefits associated with Australia Pacific LNG's activities, products or services; conserving, protecting, and enhancing where the opportunity exists, the biodiversity values and water resources in its operational areas Respecting the rights, interests and diverse cultures of the communities in which Australia Pacific LNG's operates Engaging regularly, openly and transparently with people and communities affected by its activities, considering their views in its decision-making and striving for positive social outcomes	Loss of or damage to non-Indigenous heritage sites or values	Project personnel are not aware of location of non-Indigenous heritage sites and inadvertently damage sites Project infrastructure is located in close proximity to heritage sites.	**Design** • Avoidance, wherever practical, of previously recorded non-Indigenous heritage sites through careful placement of infrastructure. • Conduct field investigation prior to construction to fully document non-Indigenous heritage sites. • Preparation of a heritage management plan to manage potential impacts identified in Table 19.3 and risks identified to sites if field inspections reveal the potential for construction impacts. • Prepare heritage management plans in consultation with relevant stakeholders, including the Department of Environment and Resource Management, as required. **Construction and operation** • Implement heritage management plans. • Implement procedures to ensure timely reporting of heritage items uncovered during construction. • Induct all workers in the gas fields on the	Low

Values	Sustainability principles	Potential impacts	Possible causes	Mitigation and management measures	Residual risk level
	Working cooperatively with communities, governments and other stakeholders to achieve positive social and environmental outcomes, seeking partnership approaches where appropriate.			importance of non-Indigenous heritage sites and the procedures to be followed on their discovery. • Assess the significance of heritage sites and liaise with the appropriate regulatory authority to implement appropriate management, as required • Undertake assessment of non-Indigenous site significance using criteria established under the *Queensland Heritage Act 1992*, to determine the appropriate protection measures for identified sites.	

19.6.2 Commitments

Australia Pacific LNG commits to avoiding adverse impact on non-Indigenous (shared) cultural heritage where practicable. Where Australia Pacific LNG is unable to avoid impacts, a heritage management plan will be developed in consultation with the relevant regulatory bodies.

References

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Strong 2005, *Historical Assessment of the Spring Gully Coal Seam Gas Project, Durham Downs district, Bungil Shire, South Queensland*, report to Origin Energy.

Central Queensland Cultural Heritage Management Pty Ltd (CQCHM) 2009, *Non-Indigenous Cultural Heritage Impact Assessment Study. For the Surat Gladstone Pipeline Project Environmental Impact Statement,* prepared for Surat Gladstone Pipeline Pty Ltd, Appendix 6J-1 and Appendix 6J-2.

Environmental Resources Management Australia (ERM) 2009, *Historical Setting and Cultural Heritage Draft Report for the Queensland Curtis LNG Project*, BG International Limited (BG) and Queensland Gas Company Limited (QGC), Appendix 8.

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