9 CULTURAL HERITAGE IMPACT ASSESSMENT

This section provides an overview of indigenous and non-indigenous cultural heritage within the QCLNG Project area, assesses the potential impacts the Project may have on these values and provides strategies for mitigation.

9.1 INDIGENOUS CULTURAL HERITAGE

9.1.1 Introduction

This section provides a description of the process for:-

- identification of the Aboriginal cultural heritage values of the Project area and, where relevant, the surrounding landscape;
- the processes proposed to meet Aboriginal cultural heritage duty of care for the Project.

QGC is committed to taking a long term view, by supporting a sustainable future for Indigenous communities in the Project area, and by adopting an avoidance or harm minimisation approach to Aboriginal cultural heritage.

9.1.2 Relevant Legislation and Policy

Knowledge of cultural heritage legislation is essential when assessing sites, places or items of cultural heritage significance. The following section discusses Commonwealth, State and local government requirements relevant to cultural heritage in Queensland

9.1.2.1 *Commonwealth Legislation*

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)* is intended to preserve and protect areas and objects in Australia and Australian Waters that are of particular significance to Aborigines and Torres Strait Islanders in accordance with their traditions. The Act permits Aborigines and Torres Strait Islanders to apply to the Commonwealth Government to protect areas or objects of significance to them if any are threatened.

Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (*EPBC Act*) prescribes the Commonwealth's role in environmental assessment, biodiversity conservation and the management of protected areas. The *EPBC Act* is the key national heritage legislation, administered by the Commonwealth Department of the Environment, Water, Heritage and the Arts. The *EPBC Act* also promotes diversity conservation and heritage protection and recognises the role of indigenous people in the conservation of Australia's biodiversity.

In addition, the *EPBC Act* provides for the registration of places considered of national significance on the National Heritage List and the Commonwealth Heritage List. The National Heritage List includes natural, historic and indigenous places of outstanding heritage value to the nation. The Commonwealth Heritage List includes areas that have natural, historic or indigenous significant value to Australia.

Australian Heritage Council Act 2003

The *Australian Heritage Council Act 2003* (Cth) provides for the establishment of the Australian Heritage Council, which is the principal advisory group to the Australian government on heritage issues. This Act also provides for the registration of places considered of national significance on the Register of the National Estate (RNE) or the Australian Heritage Places Inventory (AHPI).

9.1.2.2 Queensland Legislation

Aboriginal Cultural Heritage Act 2003

The principal legislation in Queensland with regard to Aboriginal cultural heritage is the *Aboriginal Cultural Heritage Act 2003* (Qld) (ACHA*)* which states that 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'). ACHA requirements are discussed in *Volume 1, Chapter 6*.

Under the ACHA, a Cultural Heritage Management Plan (CHMP) is required when an environmental impact statement is required under other legislation. The Project has been designated as a project of significance under the *State Development and Public Works Organisation Act 1971* (Qld) for which an EIS is required. Accordingly, the Project must develop an 'approved' cultural heritage management plan/s for activities covered by the EIS. Cultural heritage is not tenure dependent. It can exist as an issue on freehold land, where native title cannot.

The ACHA sets out the process of definition of the parties to the CHMP and the mandatory components of that plan. The Chief Executive, Department of Environment and Resource Management (DERM) approves the plan once agreement is reached between the parties.

As an alternative, ACHA compliance can be achieved when a cultural heritage agreement forms part of an Indigenous Land Use Agreement (ILUA) that is registered for an area of the Project. Both a CHMP and a cultural heritage agreement within an ILUA are recognised under the ACHA as meeting the duty of care obligations.

Indigenous cultural heritage under the ACHA comprises any:

- significant Aboriginal area
- significant Aboriginal object
- place with evidence of archaeological or historic significance to Aboriginal occupation.

Cultural heritage legislation is designed to provide 'blanket' statutory protection to Queensland's entire Aboriginal cultural heritage, irrespective of whether that heritage has been previously identified.

To achieve this, an Aboriginal cultural heritage 'duty of care' is imposed by which anyone doing anything on any land (including freehold) anywhere in Queensland is required by law to take all reasonable and practicable measures to ensure their activity does not harm Aboriginal cultural heritage.

Individuals and corporations may be prosecuted should they fail to fulfil the duty of care, or be found responsible for damaging Aboriginal cultural heritage. Fines range up from $75,000 for individuals to $750,000 for corporations.

9.1.2.3 Local Government Regulations

Planning scheme outcomes, with respect to Aboriginal heritage in the Gladstone region, include:

(a) respect and incorporate relevant aspects of indigenous cultural interests and values

(b) recognise, conserve and maintain places possessing cultural heritage values including significant trees

(c) conserve and maintain cultural heritage values within development sites

(d) incorporate items or places of cultural heritage significance into new development where appropriate

(e) all reasonable and practicable measures undertaken ensure activities do not harm Aboriginal and Torres Strait Islander cultural heritage.

Post-amalgamation and pre-integration of planning schemes, the Western Downs Regional Council currently operates with six planning schemes, and Roma Regional Council five, which broadly include similar provisions.

9.1.3 Cultural Heritage Assessment Methodology

The strategy adopted to assess the Aboriginal cultural heritage associated with the Project included:

- issue letters of notification (written notice/proposed plan) to all registered native title claimants for the area
- liaise with representatives of all the relevant indigenous communities and/or native title claimant groups concerning:
  - appropriate involvement in field surveys
  - selection of consultants and confidentiality of site data
  - significance assessment of any Aboriginal areas or objects located
  - development of Cultural Heritage Management Plans (CHMP) to address the recommendations from the specific cultural heritage surveys

- review relevant cultural heritage registers and databases against a Geographical Information System (GIS) shape file of the Project area, with a buffer of 500 m either side of the proposed route (as discussed below)
- compile a database of historic heritage including places:
  - identified in the literature review
  - recorded in databases and registers
  - noted by communities and other informants (e.g. property management officer advice and indigenous cultural heritage surveys)
- field surveys and investigations of places entered in the database and spot checks of portions of the Project area
- consult relevant agencies for the management of registered and noted places
- develop CHMPs based on the findings of the various surveys.

9.1.3.1 *Ethnographic Assessment*

A Project-specific ethnographic survey has been undertaken to inform native title-cultural heritage negotiations and infrastructure placement. The use of an ethnographic study, combined with a consultative approach to impact assessment also seeks to mitigate two potential Project delay risks, namely:

- unintentionally leaving people out of what could be significant Project benefits and receiving objections upon ILUA registration; and
- unknowingly breaking indigenous law and custom by violating sacred areas and story places through ill-placed and insensitive infrastructure development.

The ethnographic methodology included:

- reviewing documentary resources from the National Native Title Tribunal and anthropological reports that are in the public domain; analysis of the material; and selection of relevant material for inclusion in the report
- reviewing court documentation including case law pertinent to the relevant groups (particularly in the Gas Field area)
- reviewing Register Extracts and verification of extract information with relevant applicants to ensure to the extent possible that all relevant families have been included in discussions
- developing with the Project's Native Title and Cultural Heritage team a reference group for the Gas Field area representative of all family interests
- working with de-registered applicants to clarify anomalies in kinship and connection material
- providing advice to the Project's Native Title and Cultural Heritage team on those with established connection, those who may hold connection and mechanisms to ensure that all are included

- meetings with members of the National Native Title Tribunal familiar with the groups, particularly in the Pipeline and Gas Field area
- working closely with claimant groups to determine sites of anthropological significance.

9.1.3.2 *Consultation with Indigenous Community*

The following native title claimant groups with interests in the Project area have been identified to underpin this SIA, ILUA negotiations and Cultural Heritage management:

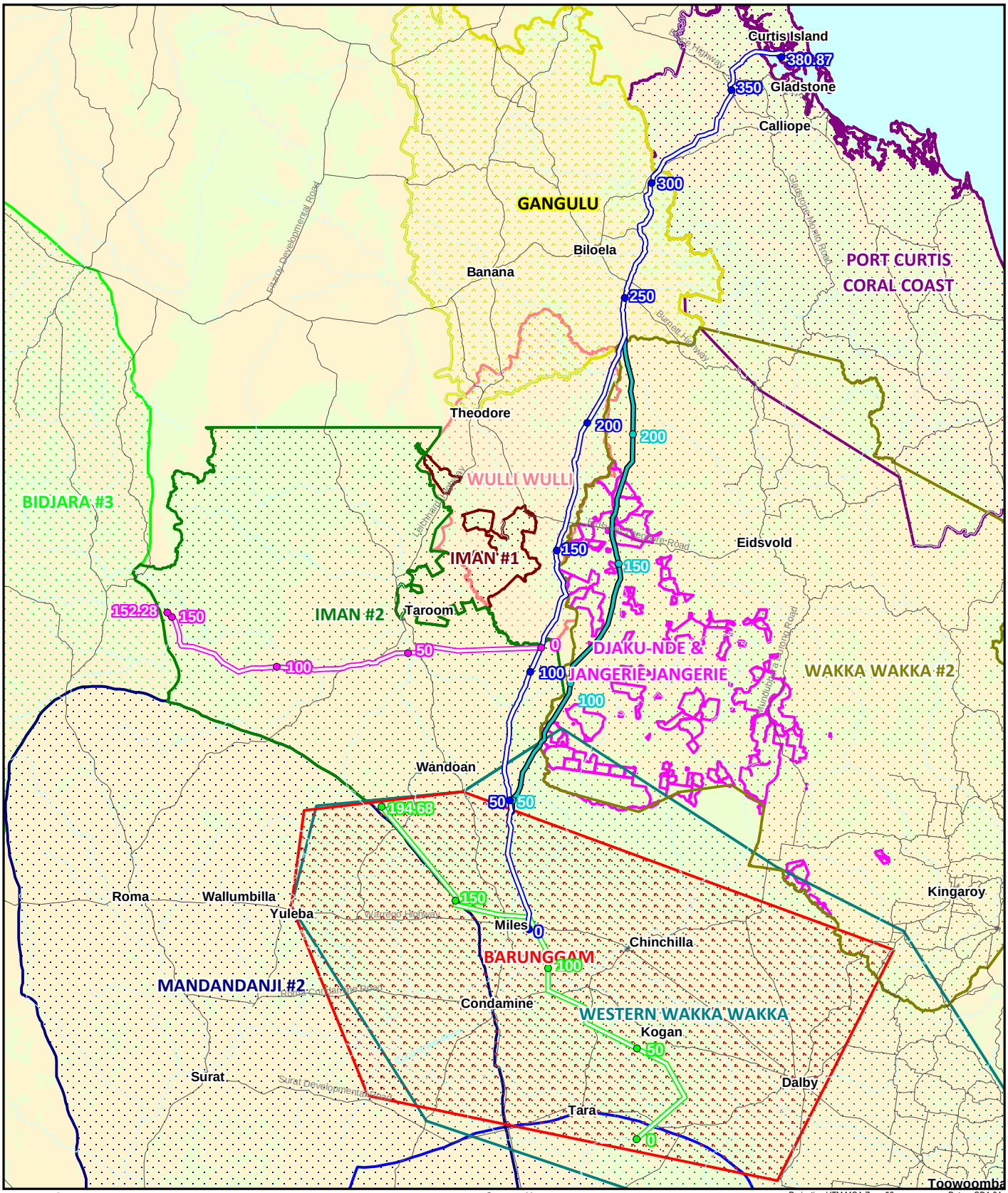
- Wulli Wulli/Djaku-nde and Jangerie Jangerie
- Gangulu
- Wakka Wakka
- Port Curtis Coral Coast (an amalgamated claim of 4 previously registered claims, being Gooreng Gooreng, Bailai, Taribelung Bunda and Gurang)
- Iman
- Mandandanji
- Bigambul
- BCJMY (a combined ILUA group, inclusive of Western Wakka Wakka, Barunggam and Jarowair, which are previous individual claimant groups).

QGC is consulting with all these groups, both because of the Project's commitment to inclusivity as consistent with the ILUA provisions of the *Native Title Act 1993 (Qld)*, and also because members from each of these groups reside in the Project area.

The ACHA states that if a project area is within the external boundaries of a registered native title claim, then the native title party for that area is the Aboriginal party with whom consultation occurs. Hence, in this context, native title bodies were consulted with regard to the Aboriginal cultural heritage process to be implemented. The overall native title representative body (NTRB) and the consultations are described in *Chapter 5* of *Volumes 3, 4* and *5*.

The ACHA is consistent with the *Native Title Act 1993 (Qld) (NT Act)*, in that the claimants to registered native title claims (or registered claims that have subsequently failed and where there is no other registered claim in the area, or where the registered claim has been compulsorily or otherwise extinguished) become the 'cultural heritage parties' for the area. Aboriginal cultural heritage values should not, however, be confused with native title. As with non-Aboriginal heritage values, Aboriginal cultural heritage can exist regardless of the nature of land tenure.

A map showing Native Title Claim areas (at May 2009) is enclosed as *Figure 8.9.1*.



Legend:

- Export Pipeline & Kilometre Point
- Export Pipeline Option 2
- Lateral Pipeline & Kilometre Point
- Upstream Infrastructure Corridor & Kilometre Point

Source Note:

1:250,000 Topographic vector copyright Geoscience Australia
Native Title data copyright Native Title Tribunal

Projection UTM MGA Zone 56 Datum GDA 94

0 20 40 60 80
Kilometres

N

QUEENSLAND CURTIS LNG A BG Group business	Project: Queensland Curtis LNG Project		Title: **Native Title Claims**
	Client: QGC - A BG Group business		
ERM Environmental Resources Management Australia Pty Ltd	Drawn: Mipela	Volume: 8 Figure: 8.9.1	Disclaimer: Maps and Figures contained in this Report may be based on Third Party Data, may not be to scale and are intended as Guides only. ERM does not warrant the accuracy of any such Maps and Figures.
	Approved: CDiP	File No: EO5-P-MA-96142	
	Date: 23.06.09	Revision: A	

9.1.3.3 *Cultural Heritage Assessment and CHMP development*

A detailed process has been developed and is being implemented to ensure that indigenous cultural heritage is identified and managed in accordance with legal requirements and in a respectful manner to Aboriginal communities and traditions. Cultural Heritage Management Plans are being developed with each of the Traditional Owner groups.

From the perspective of management and protection of Aboriginal cultural heritage, the process of developing CHMPs was undertaken in several broad (and overlapping) ways:

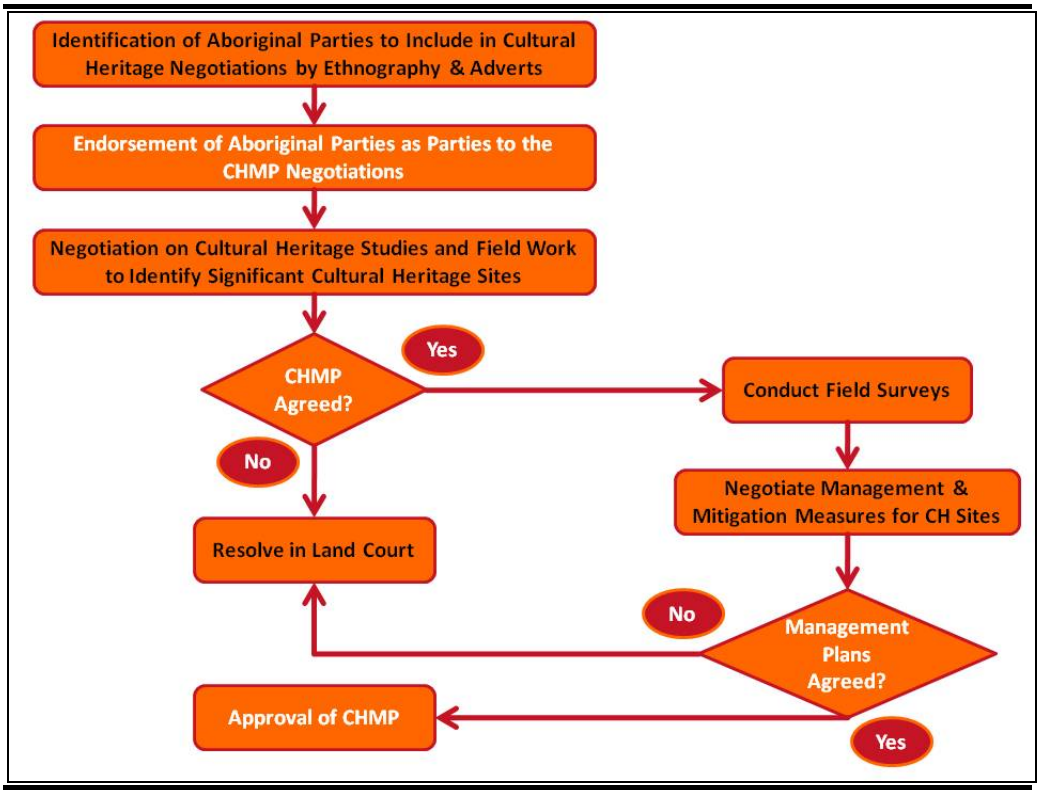
- the ongoing management of cultural heritage within existing QGC Authorities to Prospect and petroleum leases, according to previously agreed and established cultural heritage protocols
- the management of initial geotechnical ground investigation programs undertaken to inform the design process on and around Curtis Island. (As potential to harm Aboriginal cultural heritage existed during the geotechnical ground investigation program, consultation was conducted with the Port Curtis Coral Coast (PCCC) native title claim group representing the relevant Aboriginal Parties.) This included on-site supervision of geotechnical investigations.
- the negotiation and implementation of CHMPs to guide Project activities during construction and operations across the Project footprint.

Key steps in the cultural heritage process adopted by the Project are as follows:

- identification of parties for potential inclusion in negotiation
- advertisement, where required, seeking Aboriginal parties for 'endorsement' in accordance with the ACHA
- endorsement of Aboriginal parties (Aboriginal parties are given a 30-day notice period)
- Preparation of an agreement through which the relevant Aboriginal parties participate in the protection and management of indigenous cultural heritage through comprehensive cultural heritage surveys resulting in mitigation and management plans for the construction and operational phases of the Project
- execution of CHMP agreement
- approval of CHMP in accordance with *ACHA*
- implementation of CHMP .

Key steps in the process are set out in the diagram below.

Figure 8.9.2 The Cultural Heritage Management Plan Process



The following schedule (refer to *Table 8.9.1*) has been adopted by the Project for cultural heritage and native title clearances:

Table 8.9.1 Schedule of Cultural Heritage Assessment Activities

Step No.	Cultural Heritage Assessment Activities	Timing of Activities
1	Commencement of engagement with indigenous interests and groups	August to September 2008
2	Issue of cultural heritage notices required by Part 7 of the *ACH Act*	September 2008
3	Endorsement of indigenous parties for negotiation of CHMPs/Cultural Heritage Agreements	October 2008
4	Negotiation of CHMPs/Cultural Heritage Agreements to do cultural heritage fieldwork with each indigenous group, or groups	October to November 2008
5	Fieldwork in three Project areas: Gas Field, Pipeline and LNG Facility	November 2008 to August 2009
6	Preparation of cultural heritage reports outlining results of the cultural heritage fieldwork	January 2009 to September 2009
7	Negotiation of recommendations for management of identified cultural heritage	by end of September 2009
8	Should agreement not be reached in particular circumstances, the matter would be referred to the Land Court for resolution at this time	
9	Approval of CHMPs, either at step 3 or after step 6, depending on the indigenous interests and Project timeframes	by end of October 2009

9.1.3.4 *Field Survey Activities*

Cultural heritage clearance surveys are being undertaken for the entire Pipeline route, as well as the LNG Facility site on Curtis Island. Cultural heritage clearance activities in the Gas Field area are an ongoing process based on existing CHMPs and protocols previously established with indigenous communities for ongoing Gas Field development activities.

The field surveys included Traditional Owner representatives (typically five to seven people for the Pipeline route and 11 people for the Facility), their chosen archaeologists, a surveyor and field personnel. A corridor of at least 100 m in width was investigated along the Pipeline route and the entire area within the boundaries of the designated LNG Facility on Curtis Island has been subjected to detailed investigation.

The outcomes of the preliminary Cultural heritage surveys inform the development of CHMPs that have been or are currently being negotiated between the Project and the relevant Aboriginal parties.

A broad CHMP is being developed for the Gas Field area, based on the accumulated knowledge of several years of cultural heritage monitoring operations.

CHMPs are being drafted in accordance with the requirements of the ACHA. CHMPs will be concluded with each Traditional Owner group across the Project footprint and completed by late 2009. If any ground-breaking or other potentially intrusive activities are undertaken prior to the agreement and implementation of CHMPs, Traditional Owners will be consulted and appropriate management and mitigation measures agreed and implemented with the involvement of Traditional Owner representatives.

9.1.4 *Existing Environment and Cultural Heritage Values*

9.1.4.1 *Indigenous Cultural Heritage – Project Area*

The Project area is situated across a wide geographical area. While the Gas Field area is located on flat undulating plains, the Pipeline route will also cross mountainous terrain on its route to Gladstone Harbour and Curtis Island.

Prior to European settlement, the Project area would have been considered an important area by indigenous people due to well-watered grassy plains and sub-tropical coastal areas which provided an abundance of flora and fauna. The Project area and surrounding land has undergone considerable modification and disturbance from a range of agricultural activities since European arrival. This modification and disturbance has included the removal of native vegetation and the introduction of non-native grasses and invasive flora and fauna pest species.

Under the arrangements for the development of the CHMP which are being prepared for the Project, information on specific locations and sites will remain confidential and therefore have not been described in the EIS.

An examination of relevant cultural heritage registers and databases for items or places of Queensland and national significance was undertaken as part of the assessment. Relevant cultural heritage registers and databases were reviewed against a Geographical Information System (GIS) shape file of the Project area, with a buffer of 500 m either side of the proposed route. Specific registers reviewed included:

- World Heritage List
- Commonwealth Heritage List
- National Heritage List
- CHCU ATSI Register and Database
- Register of the National Estate
- Queensland Heritage Register
- local government heritage registers.

A table of cultural heritage places of significance identified through this review was prepared and is provided below (*Table 9.9.2*).

The Port Curtis, Central Queensland and Darling Downs regions contain a wealth of Indigenous cultural heritage, and a number of places of significant heritage have been identified and recorded throughout the region.

Stone Artefact Scatters

Stone artefact scatters consist of more than one stone artefact. Activities associated with this site type include stone tool production, hunting and gathering or domestic sites associated with campsites. Stone artefacts may be flakes of stone, cores (flakes are removed from the stone cores) or tools. Some scatters may also contain other material such as charcoal, bone, shell and ochre. Stone artefact scatters represent one of the more common site types for indigenous archaeology and are associated with drier areas close to water.

Isolated Finds

Isolated finds refer to a single artefact. These artefacts may have been dropped or discarded by its owner once it was of no use. This site type can also be indicative of further sub-surface archaeological deposits. These site types can be found anywhere within the landscape, however, they are more likely to occur within contexts with the same favourable characteristics for stone artefact scatter sites. Isolated finds can be found in nearly every environment type.

Scarred Trees

It is known that the wood and bark of trees have been used for a variety of purposes, such as carrying implements, shield or canoes. The removal of this raw material from a tree produces a ‘scar’. The identification of a scar associated with Aboriginal custom as opposed to natural scarring can be difficult. The scar should be of a certain size and shape to be identifiable with its product; the tree should also be mature in age, from a time that Aboriginal people were still active in the area.

Shell middens and shell scatters

A shell midden is a location where the debris from eating shellfish has been discarded and accumulated over time. Freshwater Mussel *Velesunio* species were commonly linked with midden sites found along inland waterways. A shell scatter consists of superficial scattered shell. Several factors are associated with the separation of natural deposits of shell including size and species of the shell, the presence of other cultural material and general environment and appearance. Middens are generally associated with areas close to water.

Aboriginal Burials

Aboriginal communities strongly associate burial sites with a connection to country and are opposed to disturbance of burials or their associated sites.

General considerations for the presence of burial sites are the suitability of sub-surface deposits for digging purposes; with soft soil and sand being the most likely. They are more likely near water courses or in dunes near old lake beds or near the coast. Burials are often located near other sites such as oven mounds, shell middens or artefact scatters.

Aboriginal Quarries

Stone quarries were used to procure the raw material for making stone tools. Quarries are rocky outcrops that usually have evidence of scars from flaking, crushing and battering the rock. There may be identifiable artefacts near or within the site such as unfinished tools, hammer stones, anvils and grinding stones.

Contact sites

Contact sites include sites where European settlement disturbed the traditional lifestyles of the Aboriginal people. These sites include massacre sites, graves, and any other place connected with historic events. Where European settlement took over Aboriginal land, Aboriginal people were forced to move to the outskirts of these settlements. Fringe camps were situated on the very edge of country towns or near homesteads. Corrugated iron, bark and sacking were all used to construct shanty huts. Bottles and other glass containers were used as containers, but were also used to flake into tools. Mission sites, reserves and workhouses also have significance to Aboriginal people.

Significant places

These include any site that is considered to be sacred, also encompassing mythological sites. This also includes ‘non visible’ sites such as ‘good food’ places, ‘men’s places,’ ‘women’s places’ and ‘dangerous places’, where a manifestation of a spirit may be present. Mountains, rock outcrops, swamps, lagoons, creeks, waterholes and other natural places that are linked with Aboriginal stories or myths may be considered mythological sites. In addition to this, dreaming sites with associations to creation stories and ancestors are highly significant sites in the Aboriginal community.

9.1.5 Search Results

Searches of World, National, State and local Aboriginal and Torres Strait Islander registers were undertaken in June 2009 to determine places of known Indigenous heritage value.

The searches undertaken and their results are presented in *Table 8.9.2.* The majority of identified sites derive from the Department of Environment and Resource Management (DERM), (formerly Natural Resources and Water) Cultural Heritage Co-ordination Unit's Aboriginal and Torres Strait Islander database and register.

Register searches do not provide a definite result as to whether there is Aboriginal cultural heritage on site as they only contains places which have previously been identified through surveys and research, and are therefore not a full depiction of the Aboriginal cultural heritage values of the area. Searches of Local Government registers in the project area did not identify any known places of indigenous cultural heritage, apart from in the former Calliope Shire, as listed in the table.

Table 8.9.2 Register Searches of known Indigenous Heritage Values

Search	Place Identified	Location	Description/ Site Type
World Heritage List	Great Barrier Reef Place ID: 105060	Boundary incorporates whole of Curtis Island and Narrows area, but specific sites are not identified.	Listing reports a number of known sites of Indigenous and archaeological value within whole area.
Commonwealth Heritage List	nil		
National Heritage List	Great Barrier Reef Place ID: 105709	Boundary incorporates whole of Curtis Island and Narrows area, but specific sites are not identified.	Listing reports a number of known sites of Indigenous and archaeological value within whole area.
Register of the National Estate	Curtis Island (part) Place ID: 14675	Boundary incorporates 25,000 hectares along northern and eastern areas of Island.	Listing reports Indigenous values known to exist in this area.
	Rundle Range Natural Area Place ID: 15842	Rundle Range National Park	Area thought to contain cultural heritage values.
	Bogmosses Area No 1 and 2 Place ID: 101008, 101033	Glebe Weir Road, Taroom, 25km south west Cracow.	Listing reports Indigenous values likely to exist.
	Hornet Bank Homestead, Place ID 9281	Hornet Bank Road, 40km south west of Taroom.	Contact site
	Robinson Gorge National Park (former), Taroom	Part of Expedition National Park, North west of Taroom	Significance heritage values, includes burials and rock art sites.
	Indigenous Place ID: 13810	Kogan.	Ceremonial Site
	Indigenous Place ID: 13812	Kogan	Ceremonial Site

Search	Place Identified	Location	Description/ Site Type
	Indigenous Place ID: 13813		Ceremonial Site
Queensland Heritage Register	Hornet Bank Station Place ID: 602075	Hornet Bank Road, Taroom	Contact Site
	Bundulla Aboriginal Mission (Taroom) Reported Place #25109	Bundulla Road, Taroom	Mission
	Aboriginal Axe Grinding Grooves, Reported Place #25330	West of Taroom	Grinding grooves
DERM CHCU ATSI	1,920 Indigenous Places	Project Area	Artefacts (e.g. stone flakes, axe grinds, axes) Paintings and engravings Trees of significance Burial grounds Quarries Rock shelters Middens Mounds Ceremonial Places
Former Calliope Shire Planning Scheme	Wild Cattle Island	Wild Cattle Island National Park	Shell midden
	Wild Cattle Island	Wild Cattle Island National Park	Shell (mudwhelk)
	Wild Cattle Island	Wild Cattle Island Lease Hold	Shell midden
	Ramsays Crossing	Ramsays Crossing Reserve	Artefact scatter
	Telegraph Creek	Telegraph Creek State Forest	Artefact scatter
	Telegraph Creek	Telegraph Creek State Forest	Quarry core
	Connor Creek	Connor Creek Reserve	Earthen arrangement
	East Beach Curtis Island	East Beach Curtis Island Lease Hold	Shell midden
	East Beach Curtis Island	East Beach Curtis Island Lease Hold	Linear midden
	East Beach Curtis Island	East Beach Curtis Island Lease Hold	Linear midden
	East Beach Curtis Island	East Beach Curtis Island Lease Hold	Linear midden (containing Brachidontes)
	Monte Cristo Creek, Curtis Island	Monte Cristo Creek Reserve, Curtis Island	Quarry artefact

9.1.6 *Discussion*

Aboriginal cultural heritage areas or objects are a record of the occupation of the landscape by Aboriginal people. The Port Curtis, Central Queensland and Darling Downs regions contain a wealth of Indigenous cultural heritage, and a number of places of significant heritage have been identified and recorded throughout the region. For example, the DERM Cultural Heritage Co-ordination Unit Aboriginal and Torres Strait Islander Database and Register include 1,920 identified places in or near the Project area where Aboriginal cultural heritage has been recorded. This is not a definitive list of sites in the study area as many sites remain unidentified or recorded, and much knowledge may also be retained by the Traditional Owner groups. There is potential for the existence of other sites, which will be identified in co-operation with Traditional Owners as required.

Findings along the Pipeline route and the Facility site were predominantly artefact scatters or isolated artefacts, although there were occasionally other findings including scar trees, campsites, ochre and stone quarries and specific artefacts such as grinding stones and stone axes.

Typically the findings are adjacent to watercourses, reflecting the importance of water and the associated faunal and floral resources. Some watercourses were notable for their lack of artefacts but this probably reflected the nature of the watercourse rather than a lack of use by Traditional Owners. These watercourses are generally highly flood-prone with high volume and high flow-rate water movement resulting in severe movement of the bed and banks of the watercourse (e.g. Cracow Creek).

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Contact sites

Contact sites include sites where European settlement disturbed the traditional lifestyles of the Aboriginal people. These sites include massacre sites, graves, and any other place connected with historic events. Where European settlement took over Aboriginal land, Aboriginal people were forced to move to the outskirts of these settlements. Fringe camps were situated on the very edge of country towns or near homesteads. Corrugated iron, bark and sacking were all used to construct shanty huts. Bottles and other glass containers were used as containers, but were also used to flake into tools. Mission sites, reserves and workhouses also have significance to Aboriginal people.

Significant places

These include any site that is considered to be sacred, also encompassing mythological sites. This also includes ‘non visible’ sites such as ‘good food’ places, ‘men’s places,’ ‘women’s places’ and ‘dangerous places’, where a manifestation of a spirit may be present. Mountains, rock outcrops, swamps, lagoons, creeks, waterholes and other natural places that are linked with Aboriginal stories or myths may be considered mythological sites. In addition to this, dreaming sites with associations to creation stories and ancestors are highly significant sites in the Aboriginal community.

9.1.6.2 Determining Aboriginal Cultural Heritage Significance

The *ACHA* guides the way in which the significance of Aboriginal cultural heritage is assessed. It states that Aboriginal cultural heritage is a significant

Aboriginal area or object, or 'evidence, of archaeological or historic significance, of Aboriginal occupation of an area of Queensland' (Section 8).

A significant Aboriginal area or object is 'of particular significance to Aboriginal people because of either or both Aboriginal tradition, or the history, including contemporary history, of any Aboriginal party for the area' (Sections 9 to 10). Section 12 (5) states that 'for identifying a significant Aboriginal area, regard may be had to authoritative anthropological, biogeographical, historical and archaeological information'.

QGC's approach to the assessment of significance meets the principles of the *ACHA*, namely that 'the recognition, protection and conservation of Aboriginal cultural heritage should be based on respect for Aboriginal knowledge, culture and traditional practices', and that 'Aboriginal people should be recognised as the primary guardians, keepers and knowledge holders of Aboriginal cultural heritage' (Section 5(a) and (b)).

The process of field survey works is ongoing. If any ground-breaking or other potentially intrusive activities are undertaken prior to the agreement and implementation of CHMPs, Traditional Owners are consulted and appropriate management and mitigation measures are agreed and implemented with the involvement of Traditional Owner representatives.

9.1.7 *Potential Impacts and Mitigation Methods*

QGC is in the process of agreeing CHMPs with the relevant Traditional Owners, for all sections of the Pipeline route, Gas Field and LNG Facility site. These plans are of a similar overall nature and will be implemented prior to construction.

Potential impacts on cultural heritage as a result of the pipelines, gas compression infrastructure, Facility, water treatment and other Project works could include damage to shallow artefacts, subsurface material and significant vegetation (e.g. scar trees) as a result of clear and grade and trenching activities and general site preparation works. Impacts could also include disturbance to story places and other non-physical cultural heritage.

More detailed 'on-ground' assessment of impacts on indigenous cultural heritage will be carried out within the proposed CHMPs.

Cultural heritage management requires negotiated strategies that are deemed appropriate by the Traditional Owners and which are technically feasible. Measures that may be considered within these negotiations include:

- where practicable, the final alignment avoids areas or objects of significant cultural heritage value
- salvage and relocation or post-construction return of artefacts potentially affected by the proposed construction activities
- locations of associated site works (e.g. horizontal directional drill of major watercourses) that avoid impact to potential sites
- flagging, protective fencing or erosion control measures to protect sites near the easement, which will not be directly affected by construction
- appropriate authorisation for unavoidable site disturbances necessary to

permit the construction of the proposed pipeline.

Appropriate construction management protocols will be developed, in consultation with affected Traditional Owner and/or native title claimant groups, during the detailed design phase. These may include:

- onsite monitoring by representatives from the relevant Traditional Owner group in areas of identified sensitivity during clear and grade and/or trenching operations on the Pipeline and during preliminary ground disturbance activities for the Facility
- strategies for assessment of any artefact occurrences (identified during construction) by experienced/qualified archaeologists
- site-specific management measures
- strategies for salvage of items of significant Aboriginal objects identified during construction
- cultural heritage inductions to ensure all construction personnel are adequately aware of the required cultural heritage management procedures.

QGC will conduct a comprehensive environmental and cultural heritage induction program. All field personnel will attend the induction program prior to entering the easement area or the Facility site. The program will include an introduction to heritage values along the route and management plans to be implemented. These activities are already embedded in the operation of the Gas Field.

9.2 NON-INDIGENOUS CULTURAL HERITAGE

9.2.1 Introduction

Non-indigenous or historical cultural heritage includes significant buildings, places and artefacts of European origin. According to the *Queensland Heritage Act 1992*, the cultural heritage significance of a place or feature of a place means it has 'aesthetic, architectural, historical, scientific, social, or other significance, to the present generation or past of future generations'.

Information obtained in the baseline studies (refer to *Appendix 8.4)*, including results of heritage register searches and thematic contextual history of the area, provided some background knowledge of the potential historic heritage values of the Project area. A field survey was subsequently undertaken as a ground-truthing exercise, and to determine the potential impact of the Project on the area's known and potential heritage values.

This section provides a summary of places identified within the Project area during the field survey, assesses potential direct and indirect impacts on their heritage values, and provides recommendations for mitigation of any impacts.

9.2.2 Methodology

9.2.2.1 Scoping and Baseline Studies

Searches of all relevant heritage registers within the area were carried out in August 2008 and included searches of the following:

- World Heritage List
- National Heritage List
- Commonwealth Heritage List
- Register of the National Estate
- National Shipwrecks Database
- Queensland Heritage Register
- National Trust of Queensland Register
- local government planning schemes and heritage registers.

A thematic history for the study areas was prepared which highlighted key themes within the Gas Field, Pipeline and Facility areas. This provided valuable information regarding the historical development of each of the three study areas.

The results of the searches and thematic histories provided valuable baseline information as to the types of known heritage places within the three areas or additional types of places likely to be found.

Once GIS shape files for the study area were available, a search of the Department of Environment and Resource Management (DERM) Cultural Heritage Information Management System (CHIMS) database identified 17 State heritage places within the study area, and nearly 200 reported places. Of these identified sites, none of the state heritage places are located in the vicinity of the Pipeline as shown at *Figure 8.9.3*. Several of the reported heritage places were found to be close to the Pipeline corridor. These are shown at *Figure 8.9.4.* However, this database is not a comprehensive list of historic heritage places in the area.

Field Survey

While the baseline data provided key information about the historic heritage values of the study area, ground-truthing was necessary to determine further sites within it. It was also essential in order to assess the impact of the proposed development and recommend mitigation strategies.

A field survey was undertaken between 29 October and 12 November starting at Curtis Island and concluding at the gas fields. Additional research and consultation were carried out in conjunction with this fieldwork.

Places identified during the survey were given a site identification number and marked using a Magellan Mobile Mapper using UTM Zone 56s, datum WGS84. Where sites were unable to be accessed such as in the gas fields, locations of heritage places were noted in as much detail as possible.

A photograph of each of the sites was also taken using a digital camera and where specific areas were able to be accessed, such as Curtis Island, more detailed sketches were undertaken. Further detail is provided below.

Curtis Island

A targeted survey was undertaken at Curtis Island at the site of the proposed Facility. Areas targeted included those identified during the research phases of the Project, and areas identified during ecological fieldwork which were highlighted during the site orientation. Places identified were given the prefix CINICH (Curtis Island Non-Indigenous Cultural Heritage) and numbered accordingly.

Some consultation was also undertaken with local residents, and further research was undertaken at Gladstone.

Pipeline

The Pipeline area was surveyed in conjunction with a land access agent over a period of six days travelling north to south from Gladstone to Miles. The survey followed the preferred route of the Pipeline as at October 2008, and was primarily undertaken from publicly accessible roads. Places identified within or adjacent to the corridor were given the prefix PLNICH (Pipeline Non-Indigenous Cultural Heritage) and numbered accordingly.

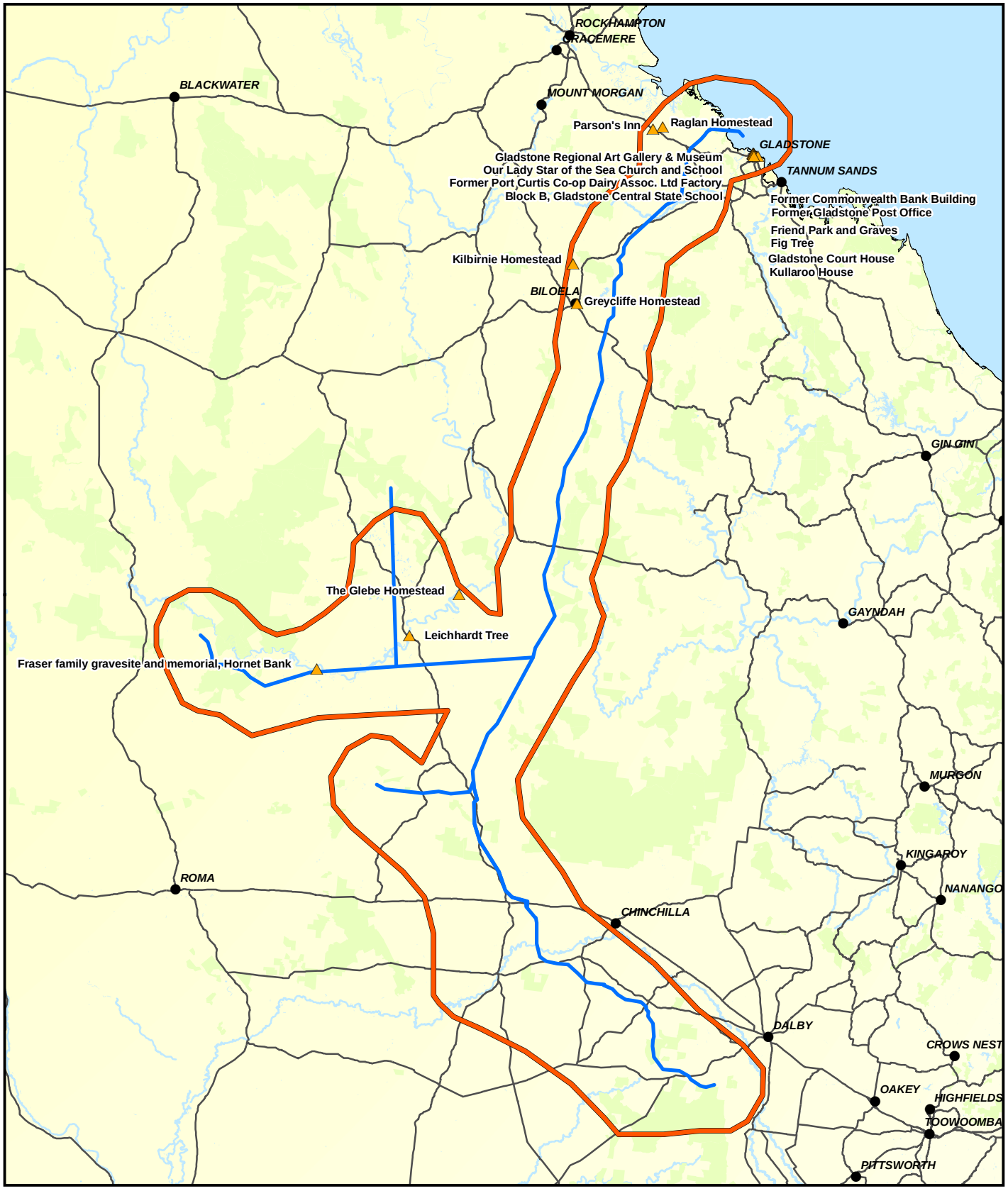
Additional research and consultation with historical societies, museums and specific landholders was also carried out along the Pipeline but limited due to time constraints.

Gas Field

The gas fields were surveyed over a period of four days and comprised research and consultation at the Chinchilla Historical Village and Historical Society, and the local studies' room at the Chinchilla Library.

The survey of this area was limited to a 'windscreen survey', and photographs, locational details and descriptions of heritage places within this area are consequently not as detailed as those in Pipeline and Facility areas.

The locations of places identified were noted and a short description made of each. Each site was assigned a site identifier with the prefix GFNICH (Gas Fields Non-Indigenous Cultural Heritage) and numbered accordingly.



Legend

- State Heritage Listed Places
- Study Boundary
- Proposed Export Pipeline

Source Note:

StreetPro Australia - Pitney Bowes MapInfo

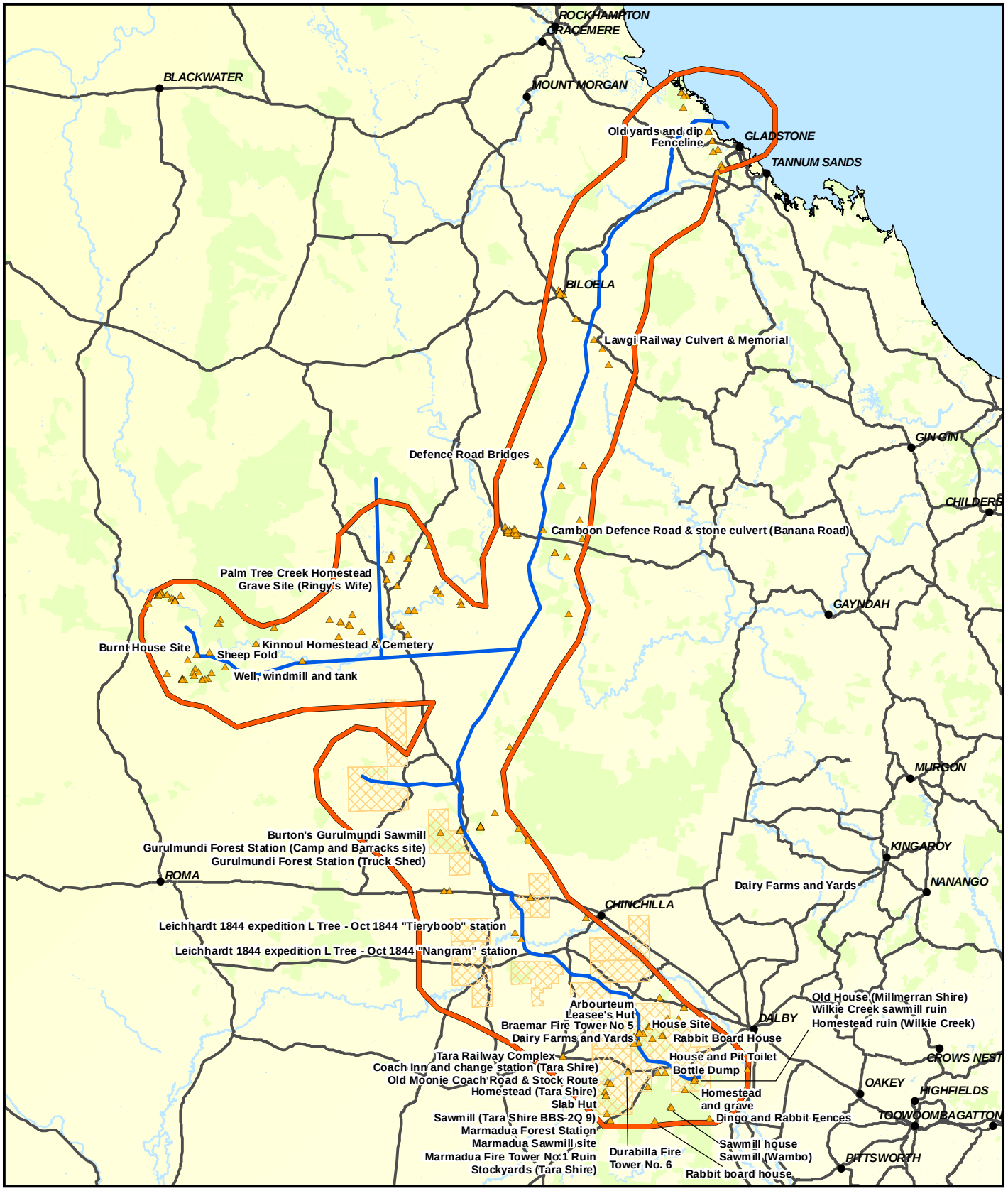
Projection: UTM MGA Zone 56

Datum: GDA 94

0 12.5 25 50 km

N

QUEENSLAND CURTIS LNG A BG Group business	Project	Queensland Curtis LNG Project	Title State Heritage listed Places within the Study Area
	Client	QGC - A BG Group business	
ERM Environmental Resources Management Australia Pty Ltd	Drawn JF/JB	Volume 8 Figure 8.9.3	Disclaimer: Maps and Figures contained in this Report may be based on Third Party Data, may not to be to scale and are intended as Guides only. ERM does not warrant the accuracy of any such Maps and Figures.
	Approved TK	File No: 0086165b_EIS_NCH_GIS005_F8.9.3	
	Date 26.03.09	Revision 1	



Legend

- Reported Heritage Sites
- Study Boundary
- Proposed Export Pipeline
- QGC Mining Tenements

Source Note:
StreetPro Australia - Pitney Bowes MapInfo

Projection: UTM MGA Zone 56 Datum: GDA 94

0 12.5 25 50 km

N

QUEENSLAND CURTIS LNG A BG Group business	Project Queensland Curtis LNG Project		Title Reported Places within the Study Area
	Client QGC - A BG Group business		
ERM Environmental Resources Management Australia Pty Ltd	Drawn JF/JB	Volume 8	Figure 8.9.4
	Approved TK	File No: 0086165b_EIS_NCH_GIS004_F8.9.4	
	Date 26.03.09	Revision 1	

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9.2.2.2 *Consultation and Research*

Consultation and research was undertaken in conjunction with the field survey with the following parties:

Table 8.9.3 Consultation and Research Details

Name/Organisation	Address
Various residents	Curtis Island
Peter Neven, Unidel Land Access Officer	
Gladstone Museum staff	Cnr Goondoon and Bramston Streets
Gladstone Maritime Museum and Maritime Historical Society members	6 Short St, Gladstone
Gladstone Library	
Miriam Vale Historical Society Museum	PO Box 160. Agnes Water QLD 4677
Calliope River Historical Village staff	Bruce Highway, Calliope
Biloela Library staff	Cnr Grevillia and Milton Streets, Biloela
Banana Historical Society	Cnr Gladstone and Lawrence Rds, Biloela
Theodore Library	The Boulevard, Theodore
Dawson Folk Museum	Cnr Second Ave and Dawson Pde, Theodore
Eidsvold Library and Information centre staff	25 Moreton St, Eidsvold
Richard and Sarah Cox, property owners	
Taroom Historical Society and Historical Village	Kelman St, Taroom
Taroom Library	
Colin Kehl, property owner	Cockatoo
Juandah Heritage Society Lyn Zillman	Thorn Hill, Wandoan
Miles Library and Dogwood Crossing	
Miles Historical Village and Historical Society	Murilla St, Miles
Hugh Brown, Unidel Land Access Officer	Toowoomba
Chinchilla Historical Museum and Historical Society staff	Villiers St, Chinchilla
Chinchilla Library	80-86 Heeney St, Chinchilla
Paul Greenup, QGC	5286 Kogan–Condamine Road Condamine.

9.2.2.3 *Impact Assessment*

In order to adequately assess the impacts of the proposed developments, knowledge of heritage sites within the area and an understanding of the proposed development were required.

A tour of the QGC Facility at Windibri on the Kogan–Condamine Road and consultation with QGC staff was undertaken on 11 November 2008 and provided an abundance of information on the construction and operation of the Gas Field Component. Information regarding the construction phase of the Pipeline was obtained from the Project's land access agent, while information on the location, construction and operation of the Facility was obtained internally.

Both direct and indirect impacts of the proposed development on identified heritage places were assessed in terms of the effect of the construction and operation of the Gas Field, Pipeline and Facility.

9.2.2.4 Mitigation

In Australia, the conservation of heritage places is guided by the Australian International Council on Monuments and Sites (ICOMOS), Burra Charter. The charter has been widely adopted as the standard for heritage conservation practice in Australia, providing a guiding philosophy for the care of places of cultural heritage significance.

Under the *Queensland Heritage Act 1992* and associated *Queensland Heritage Regulation 2003*, there is also a requirement to report places and items of historic cultural heritage. Furthermore, if the place is not protected with a statutory listing, the developer has a duty of care to mitigate impact on the heritage values of a place in accordance with the principles of the Burra Charter.

The mitigation recommendations in this section have been guided by the principles and philosophy of the Burra Charter, and follow conservation principles of retention, relocation and recording.

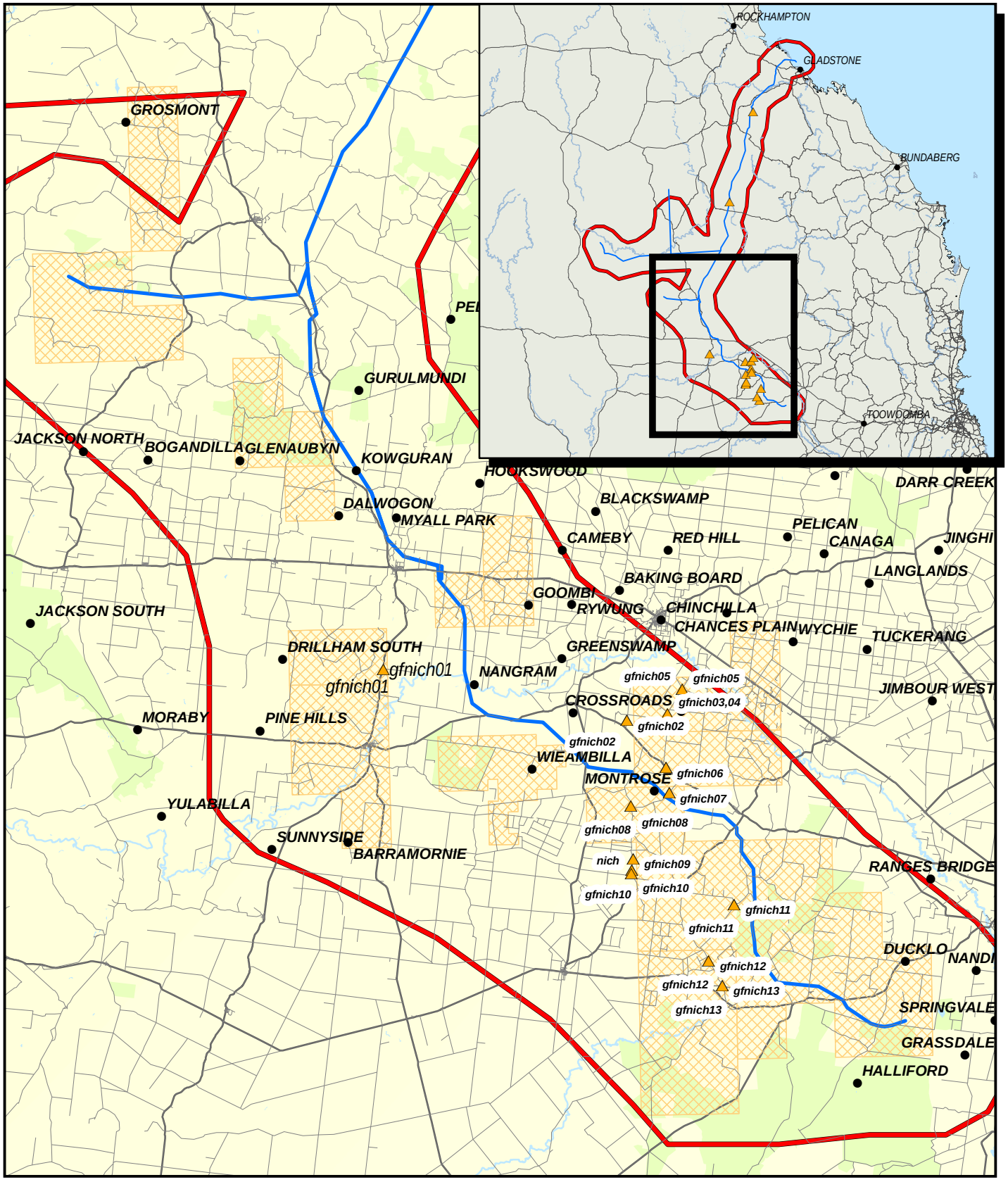
9.2.3 Places of Historic Cultural Heritage Value

This section outlines the places identified during the field survey and lists a number of places that may be impacted upon by the Project.

Information on the sites identified during the survey of the Gas Field, Pipeline and Facility areas, including their location, a brief description and history (where available), are detailed below.

9.2.3.1 Gas Field

Places identified during the field survey for the Gas Field are shown in *Figure 8.9.5* and are described in the tables below.



Legend

- Historic Heritage Sites
- Study Boundary
- Proposed Export Pipeline
- QGC Mining Tenements

Source Note:
StreetPro Australia - Pitney Bowes MapInfo

Projection: UTM MGA Zone 56 Datum: GDA 94

0 5 10 20 km

N

QUEENSLAND CURTIS LNG A BG Group business	Project	Queensland Curtis LNG Project	Title Identified Sites within the Gasfield Study Area
	Client	QGC - A BG Group business	
ERM Environmental Resources Management Australia Pty Ltd	Drawn JF/JB	Volume 8 Figure 8.9.5	Disclaimer: Maps and Figures contained in this Report may be based on Third Party Data, may not to be to scale and are intended as Guides only. ERM does not warrant the accuracy of any such Maps and Figures.
	Approved TK	File No: 0086165b_EIS_NCH_GIS007_F8.9.5	
	Date 26.03.09	Revision 1	

Table 8.9.4 Known Heritage Sites – Site ID: GFNICH01

Site ID: GFNICH01 **Name: Murilla Shire Council Aerodrome**

Location: Leichhardt Highway, south of Miles

Photograph

Description

The Murilla Shire Council Aerodrome is a single-storey post-war building with a rectangular footprint measuring approximately 15 m x 5 m. It is clad in weatherboard and has a simple shallow, pitched gable roof made of corrugated metal.

A water tank is positioned at the rear of the building on the north-west elevation, and the landing strip is situated north-east of the building.

History

Unknown

Table 8.9.5 Known Heritage Sites – Site ID: GFNICH02

Site ID: GFNICH02 **Name: Wambo Creek Causeway**

Location: Kogan–Chinchilla Road approximately 300 m north of Kogan–Condamine Road

Photograph

Description

The Wambo Creek Bridge along the Kogan–Chinchilla Road is a stone construction with an asphalt road surface. The roadway slopes downwards into the creek bed, giving the stone bridge a height of approximately 1 m. The bridge is approximately 15 m in length and features nine drainage openings of varying sizes.

History

Unknown

Table 8.9.6 Known Heritage Sites – Site ID: GFNICH03

Site ID: GFNICH03 **Name: Garage**

Location: Kogan–Chinchilla Road

Photograph

Description

The timber garage has a rectangular footprint and corrugated iron roof. It is constructed of timber with large double doors on its southern elevation fronting the road.

Two more recent buildings are situated north of the garage.

History

Unknown

Table 8.9.7 Known Heritage Sites – Site ID: GFNICH04

Site ID: GFNICH04 **Name: Hopeland Church of Christ Hall**

Location: Kogan–Chinchilla Road

Photograph

Description

The Hopeland Church of Christ Hall is rectangular in plan with an annex along the eastern elevation the building. The timber building has a corrugated iron roof and timber casement windows.

History

Unknown

Table 8.9.8 Known Heritage Sites – Site ID: GFNICH05

Site ID: GFNICH05 **Name: Hopeland State School**

Location: Kogan–Chinchilla Road

Photograph

Description

The Hopeland State School was originally built during the 1930s and has been added to several times. The two-storey timber building has a corrugated iron roof.

A tennis court and associated shed is situated south of the school building, and principal's residence is south of this. Aerial photography shows additional buildings to the rear of these structures.

History

The Hopeland State School first opened in 1937 and extended several times to cater for the growing community as shown below. In the 1950s a principal's residence was constructed and further works undertaken in the 1970s and 1990s to partially enclose the lower level and add awnings to the first-floor verandah.

Site ID: GFNICH05 **Name: Hopeland State School**

Hopeland State School 1937

1946—9ft extension to building

Table 8.9.9 Known Heritage Sites – Site ID: GFNICH06

Site ID: GFNICH06 **Name: Remnant structures and scatter**

Location: North of Kogan–Condamine Road east of the Fourteen Mile Creek Bridge

Photograph

Description

The complex comprises five structures situated between 150 m and 250 m north of the Kogan Condamine Road, timber yards and an artefact scatter on the road reserve fronting the property.

The three structures in the north-west of the site appear to be the oldest (top photo). A small square timber building with corrugated pyramidal roof may be a cream shed or meat house. East of this building is a rectangular plan timber building with corrugated gable roof which is potentially an engine room or pump house, while the remains of an additional structure are situated east of this.

Two more recent weatherboard clad buildings are present in the western part of the complex (bottom left) and timber yards in the north-east (bottom right). Remnant fence posts and vegetation indicate other structures may have been present in this complex in the past.

The artefact scatter in the road reserve south of the structures contains glass, ceramic and metal artefacts, a number of which were noted as being pre-1900.

History

Unknown

Table 8.9.10 Known Heritage Sites – Site ID: GFNICH07

Site ID: GFNICH07 **Name: House**

Location: Lot 12 Montrose Road, Tara

Photograph

Description

This asymmetrical bungalow-roofed house with gable roofed front extension is constructed of timber and fibrous cement sheeting with a corrugated metal roof. The verandah along the western elevation has no balustrading and a sleep-out exists on the southern elevation (bottom left). A number of additions have also been made to the rear (bottom right).

History

Unknown

Table 8.9.11 Known Heritage Sites – Site ID: GFNICH08

Site ID: GFNICH08 **Name: Woolshed and Yards**

Location: Weitzels Road, Montrose

Photograph

Description

The woolshed is rectangular in plan with two additions on the northern and north-western elevations. The hipped roof and walls of the structure are clad in corrugated iron.

Timber yards extend from the woolshed's northern and western elevations and a number of artefacts were noted close by.

History

Unknown

Table 8.9.12 Known Heritage Sites – Site ID: GFNICH09

Site ID: GFNICH09 **Name: Boondoola Homestead**

Location: Weitzels Road, Tara

Photograph

Description

The Boondoola Homestead is a timber structure with red corrugated iron gable roof and verandah along the western elevation of the building.

History

Unknown

Table 8.9.13 Known Heritage Sites – Site ID: GFNICH10

Site ID: GFNICH10 **Name: Old Topwater Homestead**

Location: Weitzels Road, Tara

Photograph

Description

The Old Topwater Homestead is a timber-framed and timber-clad house with a pyramid roof of corrugated iron surrounded by a verandah.

A number of earlier structures remain on site south of the homestead and are in a deteriorated condition.

History

Unknown

Table 8.9.14 Known Heritage Sites – Site ID: GFNICH11

Site ID: GFNICH11 **Name: Hut**

Location: Junction of Steinhorts and Kerrs Road, Kogan

Photograph

Description

The timber frame structure is situated on the western side of Steinhorts Road, approximately 60 m from the road. The building is supported by timber stumps and measures approximately 4 m x 4 m. The hut features casement windows along the eastern elevation fronting the road and a pyramidal corrugated iron roof.

History

While the historical details of the building are unknown, it is likely that it was used to house workers. A number of Rabbit Board Huts are present in the area, and it is possible that this structure was also associated with the Rabbit Board who used similar buildings to house workers contracted to repair the nearby Rabbit Fence (GFNICH14).

Being on the border of state forest, another possibility is that this hut housed those working in the forest perhaps for timber milling.

Table 8.9.15 Known Heritage Sites – Site ID: GFNICH12

Site ID: GFNICH12 **Name: House**

Location: Lot 20, Weranga North Road

Photograph

Description

The building is situated on the eastern side of Weranga North Road and is set back approximately 100 m. It is a single-storey Queenslander on timber stumps with red pyramidal roof and verandah along the western elevation.

History

Unknown

Table 8.9.16 Known Heritage Sites – Site ID: GFNICH13

Site ID: GFNICH13 **Name: Ridgewood Homestead and Yards**

Location: Weranga North Road, approximately 350 m from the highway

Photograph

Description

The Ridgewood Homestead is a timber structure of rectangular plan with a corrugated gable roof. The building is approximately 15 m long and 5 m wide and has aluminium framed windows. East of the house are the remains of earlier buildings which may be associated with the Weranga Siding which was located in this area. Two of these structures still stand and are of timber construction with skillion roofs.

On the western side of Weranga North Road are timber stockyards.

History

Unknown

Table 8.9.17 Known Heritage Sites – Site ID: GFNICH14

Site ID: GFNICH14 **Name: Dingo Fence**

Location: Gurulmundi State Forest, North Dulacca

Photograph

Description

Dingo fencing was found in the north-western part of the study area around the Gurulmundi State Forest. While standard dingo fencing had star pickets spaces approximately 9 m apart, fencing in this area comprises timber posts spread 3 m apart, and mesh which extends 1.8 m high and 30 cm underground[1]. The area 5 m on either side of the fence is also cleared and grids are set up at road crossings.

History

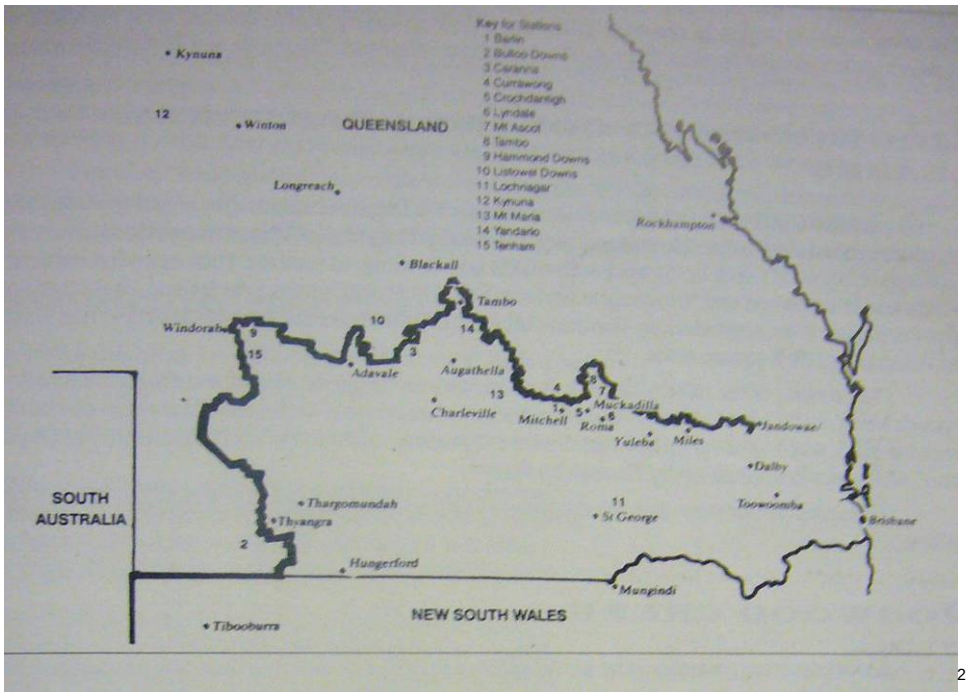
Prior to the Dingo Barrier Fence Scheme, 38 dingo boards were set up around Queensland and bonuses were given for the destruction of marsupials, dingoes and foxes. By 1930 it was estimated that there were some 32,000 km of dog netting in the state, much of which was constructed as top netting on rabbit fences.

In 1948 the Dingo Barrier Fence Scheme was first proposed after a report by the Coordinated Board recommended the fence be established around the main sheep areas or potential sheep areas of Queensland. These barrier fences were maintained until the early 1970s and in 1982 the state government implemented a program through the board to upgrade parts of the existing fence and to realign the fence to exclude previously protected areas in central-western Queensland and north-western Queensland. In addition to the main barrier fence, a number of check fences were reconstructed and renewed in the southern Darling Downs area.

The barrier fence now only provides protection from wild dogs and dingoes to central southern Queensland. The fence is 2,500 km long and has been totally reconstructed. It protects 26.5 million hectares of sheep and cattle grazing country, and is currently controlled by the Department of Employment, Economic Development and Innovation (Primary Industries and Fisheries)

1 Wild Dog Barrier Fence, Wambo Shire council, http://www.wambo.qld.gov.au/visitors_thedingofence.html

Site ID: GFNICH14 **Name: Dingo Fence**



[2]

2 Newbery (E) 1992 What's in a Name

Table 8.9.18 Known Heritage Sites – Site ID: GFNICH16

Site ID: GFNICH16 **Name: Rabbit Fence**

Location:

Various locations within the Gas Field study area

Photograph

Description

Rabbit fencing is generally constructed of timber posts separated approximately 3 m apart. Netting is spaced between the posts as well as below the surface of the ground to ensure rabbits are unable to enter the fenced area. This particular fence (as shown in the photograph) is lined with timber rails along the top of the fence but not all rabbit fences have this feature.

History

Domestic rabbits were introduced to Australia with the First Fleet and wild rabbits were released in Victoria in 1859. The rabbit spread rapidly at rates of up to 100 km per year. The rabbit fences were first established in Queensland during the 1880s, in an attempt to prevent the invasion of rabbits over the border. In 1930 all existing rabbit boards were abolished except the Leichhardt, Darling Downs and Moreton. In 1963, the Darling Downs and Leichhardt Rabbit Boards amalgamated and took over 80 km of the fence, extending it west of Chinchilla. The following year, the Darling Downs Rabbit Board and the Moreton Rabbit Board merged and became the Darling Downs–Moreton Rabbit Board (DDMRB).

Today the DDMRB controls 19 local authorities and continues to prevent the spread of rabbits into Queensland. The fence is 555 km long and stretches from Lamington National Park in the east, to Goombi in the south-west where it connects to the wild dog barrier fence. It protects approximately 28,000 km² of southern Queensland, including agricultural lands.

Potential Heritage Sites

The majority of potential heritage sites at *Table 8.9.19* derive from the DERM list of reported places within the study area, previous cultural heritage studies and historical mapping. These places were unable to be surveyed, but fall within the study area and have potential to be impacted on when the Gas Field Component is established.

Table 8.9.19 Potential Heritage Places Within Gas Field Area

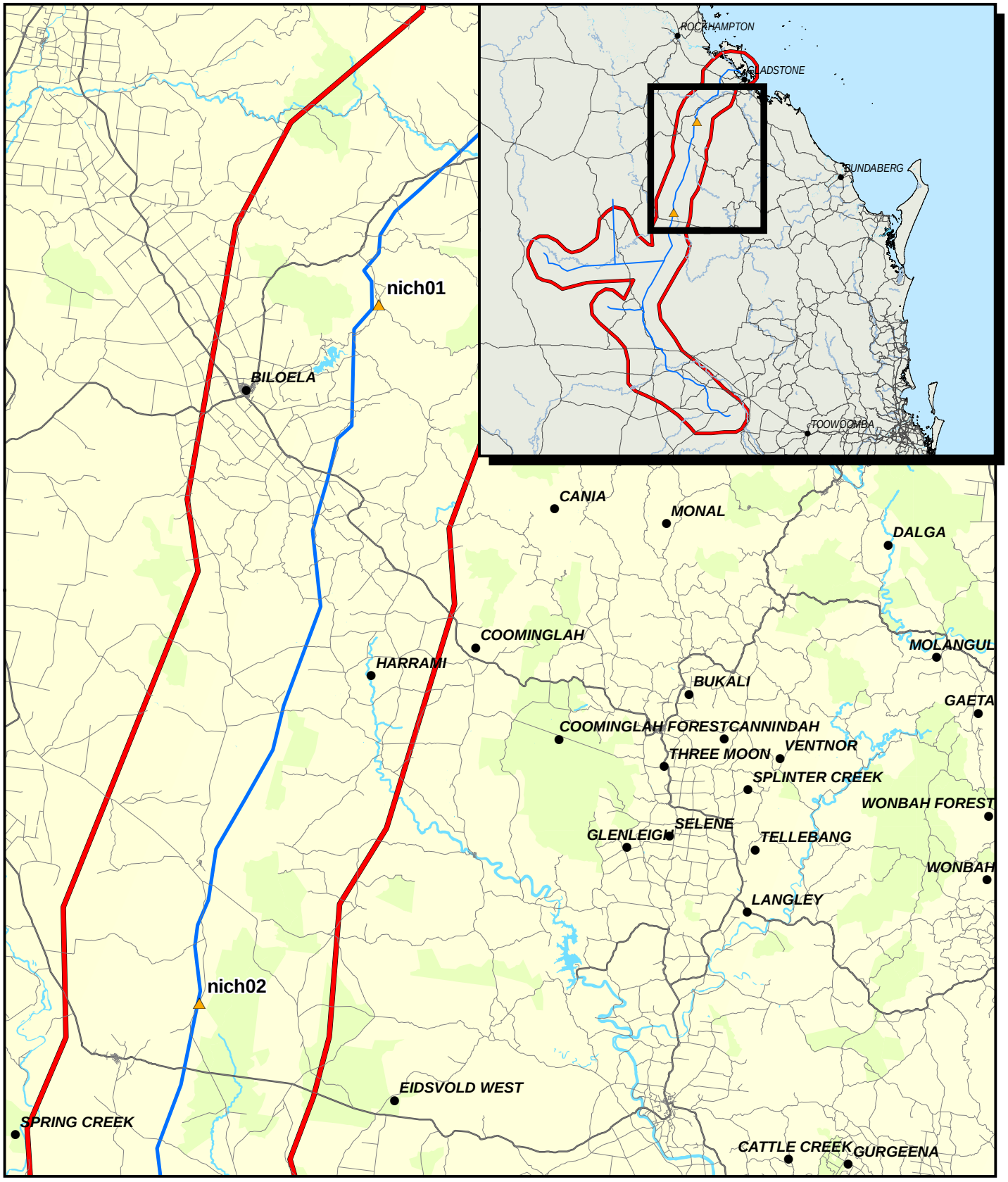
Name	Location	Source: DERM Reported Place No and Other
Leichhardt's 1844 Expedition route – Charley Creek Crossing	Lat -26.751920 Long 150.570120	24245
Hut and Camp	Lat -27.056950 Long 150.872220	24906
Hut (Burt's Brothel)	Lat -27.136110 Long 150.906950	24905
Boundary Fence	Lat -27.137500 Long 150.952780	23456
Sheep Folds (Wambo Shire)	Lat -27.166670 Long 150.916670	23457
Sleeper Cutter's Hut and Exchange	Lat -27.168060 Long 150.825000	24904
House Site	Lat -27.172220 Long 150.829160	24912
Leasee's Hut	Lat -27.194450 Long 150.781940	23460
Arboretum	Lat -27.191670 Long 150.787500	23455
Dairy Farm	Lat -27.201390 Long 150.881950	24909
Rabbit Board House	Lat -27.211120 Long 150.840280	23459
Large Spotted Gum (Wambo Shire)	Lat -27.204160 Long 150.887500	24907
Braemar Fire Tower No 5	Lat -27.203889 Long 150.765556	24908
Braemar Live Firing Range	Lat -27.232778 Long 150.761389	24903
Dairy Farm and Yards	Lat -27.227780 Long 150.780560	23458
Tara Railway Complex	Lat -27.275663 Long 150.460516	2532
Old Moonie Coach Road and Stock Route	Lat -27.338889 Long 150.735278	24895
Coach Inn and Change Station	Lat -27.338880 Long 150.736110	23440
House and Pit Toilet	Lat -27.343050 Long 150.862500	23441
Bottle Dump	Lat -27.343050 Long 150.891670	23442
Timber Camp and Reserve	Lat -27.333333 Long 151.241667	23451
Wilkie Creek Sawmill Ruin	Lat -27.366690 Long 151.018660	24695
Old House (Millmerran Shire)	Lat -27.370830 Long 151.015280	23448
Homestead Ruin (Wilkie Creek)	Lat -27.373622 Long 151.013311	28619
Slab Hut	Lat -27.373610 Long 150.650000	23115
Homestead (Tara Shire)	Lat -27.376390 Long 150.661110	23439
Durabilla Fire Tower No 6	Lat -27.394444 Long 150.818889	24896
Homestead and Grave	Lat -27.408330 Long 150.973610	23446
Marmadua Forest Station	Lat -27.411389 Long 150.636667	24894
Sawmill (Tara Shire)	Lat -27.426390 Long 150.638890	24033
Marmadua Sawmill Site	Lat -27.426944 Long 150.638056	24902
Sawmill House	Lat -27.472220 Long 150.913890	23443
Sawmill (Wambo)	Lat -27.476380 Long 150.915280	23444
Marmadua Fire Tower No 1 Ruin	Lat -27.495830 Long 150.641670	23454
Stockyards (Tara Shire)	Lat -27.519450 Long 150.658330	23452

Name	Location	Source: DERM Reported Place No and Other
Rabbit Board House	Lat -27.523670 Long 150.844380	24899
Dingo and Rabbit Fences	Lat -27.519440 Lat 151.077780	23450
Argyle Station	Lot 2 on RP 854515	Spring Gully to Braemar 330 kV Transmission Line Project EIS
Robinson Homestead Site	Lot 21 RG27	Spring Gully to Braemar 330 kV Transmission Line Project EIS
Change Station Remnants	Lot 2 RP106647	Spring Gully to Braemar 330 kV Transmission Line Project EIS
Kumbarilla State Forest Fire Tower	East of Moonie Highway, Kumbarilla	Topographic Map
Braemar State Forest Fire Tower	South of Kerrs, Road, Braemar State Forest	Topographic Map
Braemar State Forest Fire Station	South of Kerrs, Road, Braemar State Forest	Topographic Map

9.2.3.2 *Pipeline*

The following list provides information on places identified during the fieldwork for the Pipeline area, and the location of these is shown at *Figure 8.9.6*.

As a comprehensive survey was not undertaken in the Pipeline area, this is not a complete list of historic heritage places. An additional list at *Table 8.9.4* provides further details of places identified during the research and consultation phases of the Project which also have potential to be impacted by the proposed development.



Legend

- Historic Heritage Sites
- Study Boundary
- Proposed Export Pipeline

Source Note:
StreetPro Australia - Pitney Bowes MapInfo

Projection: UTM MGA Zone 56 Datum: GDA 94

0 5 10 20 km

N

QUEENSLAND CURTIS LNG A BG Group business	Project Queensland Curtis LNG Project		Title Identified SItes within the Pipeline Study Area
	Client QGC - A BG Group business		
ERM Environmental Resources Management Australia Pty Ltd	Drawn JF/JB	Volume 8 Figure 8.9.6	Disclaimer: Maps and Figures contained in this Report may be based on Third Party Data, may not to be to scale and are intended as Guides only. ERM does not warrant the accuracy of any such Maps and Figures.
	Approved TK	File No: 0086165b_EIS_NCH_GIS006_F8.9.6	
	Date 26.03.09	Revision 1	

Table 8.9.20 Known Heritage Sites – Site ID: PLNICH01

Site ID: PLNICH01	**Name:** O'Reilly Graves and Former Rainbow Hotel Site[3]	
Location: Coal Road, Dumgree	**Easting:** 267839.540	**Northing:** 7312496.873

Photograph

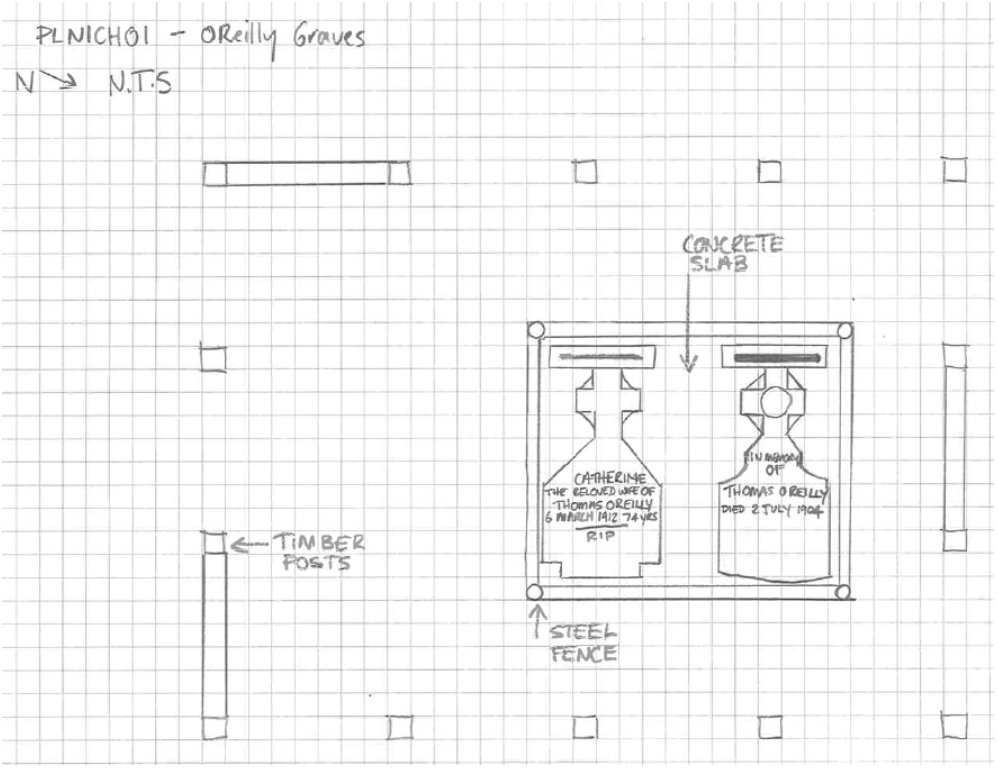
3 The Big Valley Story, Golden Jubilee Biloela 1924-1974

Site ID: PLNICH01 **Name:** O'Reilly Graves and Former Rainbow Hotel Site[3]

Description

The O'Reilly graves are situated on the eastern side of the Coal Road at Dumgree, approximately 500 m north of Zangaris Road.

The two graves are situated in a small cemetery marked by remnant timber posts. The gravestones have been damaged and were laid on a concrete slab by the local historical society on a SW-NE axis. Steel tube fencing surrounds the concrete slab.



The most recent grave is that of Catherine O'Reilly who died on 6 March 1912. The oldest grave is that of Thomas O'Reilly (Jnr) who died at the age of 37 in 1904. The inscription on the tablets read:

Site ID: PLNICH01 **Name:** O'Reilly Graves and Former Rainbow Hotel Site[3]

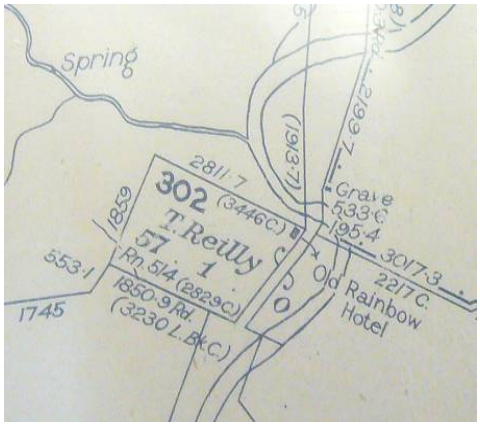
IN MEMORY OF
THOMAS OREILLY
DIED 2ND JULY 1904
AGED 37 YEARS
R.I.P.

"CAN I FORGET THE AGONISING HOUR
WHEN THOSE LOVED EYES WERE
CLOSED TO WAKE NO MORE"

IN
LOVING MEMORY OF
CATHERINE
THE BELOVED WIFE OF
THOMAS OREILLY
DIED 6TH MARCH 1912,
AGED 74 YEARS

R.I.P

The Rainbow Hotel was constructed on the opposite side of the road from the O'Reilly graves as shown below.



The Rainbow Hotel was a long slab structure with a verandah and shingle roof, and handmade nails. At one end was an outbuilding which was the blacksmith's shop and at the other end was the horse yards. The bar was pitsawn and consisted of one gum tree, and faced the road. There were two-inch holes bored at appropriate places to take rifles barrels throughout the building.

While no structures remain today, a bottle dump and yards are believed to indicate the position of the former hotel.

The grave of William Brooks who died at the Rainbow Hotel in 1891 is also believed to be in close proximity to the former hotel site, while the grave of a horse team hand named Gassman is also believed to be across Rainbow Creek from the hotel in a location where teamsters were known to camp. Wooden crosses marking these sites have since been destroyed by bushfires.

History

Irish immigrants Catherine Tracey and Thomas O'Reilly (also recorded as Catherine and Thomas O'Reilly in historical documents) were married in Sydney in 1861 and travelled north to the Old Prairie Homestead where Catherine was a housemaid and Thomas a shepherd. Their first child, Margaret, was born on December 1861 and was the first European child to be born in the district. The O'Reillys had an additional five children who grew up in the district.

In 1865 Thomas O'Reilly was granted a licence for the Rainbow Inn and was situated on a 57-acre block. An 1870 survey plan of the Parish of Thalberg shows that it was constructed by this time.

The Rainbow Hotel was one of three hotels constructed along the Gladstone Road, the others being situated at Catfish Creek near Calliope and Banana. The Rainbow Hotel was known to be

Site ID: PLNICH01 **Name:** O'Reilly Graves and Former Rainbow Hotel Site[3]

the largest and most popular of the three, however the road fell into disuse around the turn of the century as a result of the closure of the Mt Rainbow mines and the decline of wool hauling to Gladstone. The Rainbow Hotel closed in 1904, but the O'Reillys remained on the property.

In 1904 the third child, Thomas (Jnr) died of pneumonia and was buried in a small cemetery on Rainbow. Catherine died at the age of 74 in 1912 and was also buried there, while Thomas O'Reilly (Snr) died in Gladstone in 1913 and was buried there before his family received the news.

Table 8.9.21 Known Heritage Sites – Site ID: PLNICH02

Site ID: PLNICH02	**Name:** Defence Road and Associated Infrastructure	
Location: Defence Road	**Easting:** 240884.448 239652.679	**Northing:** 7207605.872 720770.599

Photograph

Site ID: PLNICH02 **Name:** Defence Road and Associated Infrastructure

Description

The 40 km-long road is situated east of the towns of Theodore and Cracow and runs through Camboon. Along the road area are a number stone culverts and timber bridges with stone abutments.

The abutments are handmade with local stone and remain in good condition today. However timber decking on the bridges has deteriorated resulting in many of the bridges not being used today. Bridges currently in use have had timber elements replaced.

History

Before the outbreak of World War Two, a defence road was planned across Queensland.[4] A tentative proposal was made in November 1938 for a military road from South to North Queensland, the first stage being from Goondiwindi to Rockhampton. An alternative route was proposed in March 1939 which was to run south from Cairns via Atherton, Charters Towers, Clermont, Emerald, Duarings, Baralaba, Rannes, Banana, Eidsvold, Gayndah, Blackbutt, Esk and Fernvale to Ipswich. Surveys were undertaken and work commenced with new roads built on existing road reserves and existing roads improved to carry the large military convoys to create this inland defence road.

The Civil Aliens Corps was established on 3 May 1943 under the National Security (Aliens Service) Regulations to come under the control of the Director-General of Allied Works. War Cabinet had approved this step as a means of giving relief to Australia's worsening manpower shortage as the war progressed. Under the regulations any male refugee alien or enemy alien between the ages of 18 and 60 could be directed to serve in the Civil Aliens Corps.

Allied Works Councils, which came under the Director-General of Allied Works, were established in all states and the Northern Territory in February 1942 to administer the work of the Civil Aliens Corps and other works' labour forces, such as the Civil Constructional Corps.

Aliens, who were required to register with authorities following the outbreak of war, were classified according to their nationality in the following categories: Allied, Neutral, Indeterminate and Enemy. Many of those who joined the Civil Aliens Corps were internees who were released from internment camps and sent back to their home states to await call up to the Corps. Out of some 15,601 registered aliens 1,671 were accepted into the Corps. Members of the Civil Aliens Corps were required to work on projects of a non-combatant nature managed by the Allied Works Councils. These included projects such as road construction, or the forestry industries. [5]

In the Banana region, a 78 km-long Defence Road east of Theodore and Cracow and west of Eidsvold was constructed by Italian and Albanian detainees during World War Two.

4 From Bulldust to Beef Roads – Main Roads – the First 50 Years, p.78

5 http://www.diggerhistory.info/pages-conflicts-periods/ww2/civil-cc.htm

Potential Heritage Sites

The following list of potential heritage sites also includes places noted during the walkover for the indigenous heritage survey.

Table 8.9.22 Potential Heritage Places Within Pipeline Area

Name	Details	Source
Mount Larcom Provisional Mine Field	Mount Alma Road, Mount Alma. West of Scoria Hill and approximately 4 km north of Calliope River	Fire Warden Map
Unmarked graves	Within close proximity to the Rainbow Hotel site	Various publications
Lone Hand Mine (Glandore Provisional Gold Field)	North of Rawbelle Road and south of Dingley Dell Road at Camboon.	Topographic map and historical map
Camboon Homestead	Crowsdale–Camboon Road, Camboon	Topographic map, various historical societies, Queensland Studies Authority (QSA) maps and publications
QGC H1	Timber cutting/Sawmill area	Davies Heritage Consultants Pty Ltd Draft Summary Results
QGC H2	Yards	Davies Heritage Consultants Pty Ltd Draft Summary Results Consultation with landholders
Old Yards and Dip	Lat -23.786490 Long 151.131220	DERM Reported Place # 23601
Fenceline	Lat -23.788390 Lone 151.130750	DERM Reported Place # 24077
Lawgi Railway Culvert and Memorial	Lat -23.571274 Long 150.648984	DERM Reported Place # 2587
Cracow Gold Mill	Lat -25.287859 Long 150.291923	DERM Reported Place # 5059
Leichhardt's 1844 Expedition Camp 14	Lat -26.350280 Long 150.198560	DERM Reported Place # 24242
The Tin Hut	Lat -26.399830 Long 150.133660	DERM Reported Place # 23055
Well	Lat -26.399870 Long 150.133500	DERM Reported Place # 24688
House Site (Stumps)	Lat -26.399680 Long 150.133880	DERM Reported Place # 24015
Old Walloon Homestead	Close to the Defence Road bridges, Camboon	Dawson Folk Museum

Research also indicated there is potential for lone unmarked graves to exist in some areas of the study area[6].

6 Ken White, Banana Shire Isolated Grave Sites

9.2.3.3 *Bridge*

Once the Pipeline leaves the mainland it will travel across The Narrows to Laird Point on Curtis Island. A bridge is currently proposed to be constructed at this location.

Initial heritage searches revealed a number of shipwrecks in the Gladstone area, and further research was required to obtain the precise locations of these in terms of the study area. The locations of shipwrecks are shown at *Figure 8.9.7* and demonstrate that there is no historic heritage located close to the proposed bridge.

9.2.3.4 *LNG Facility*

The following is a list of places identified during the fieldwork for the Facility area. The field survey was undertaken over two full days and was targeted to places of known heritage and potential heritage places which were identified during consultation and research.

Places identified during the survey are shown at *Figure 8.9.8* below, which has been overlaid with the refined Project area boundary.

Legend

Known Shipwrecks

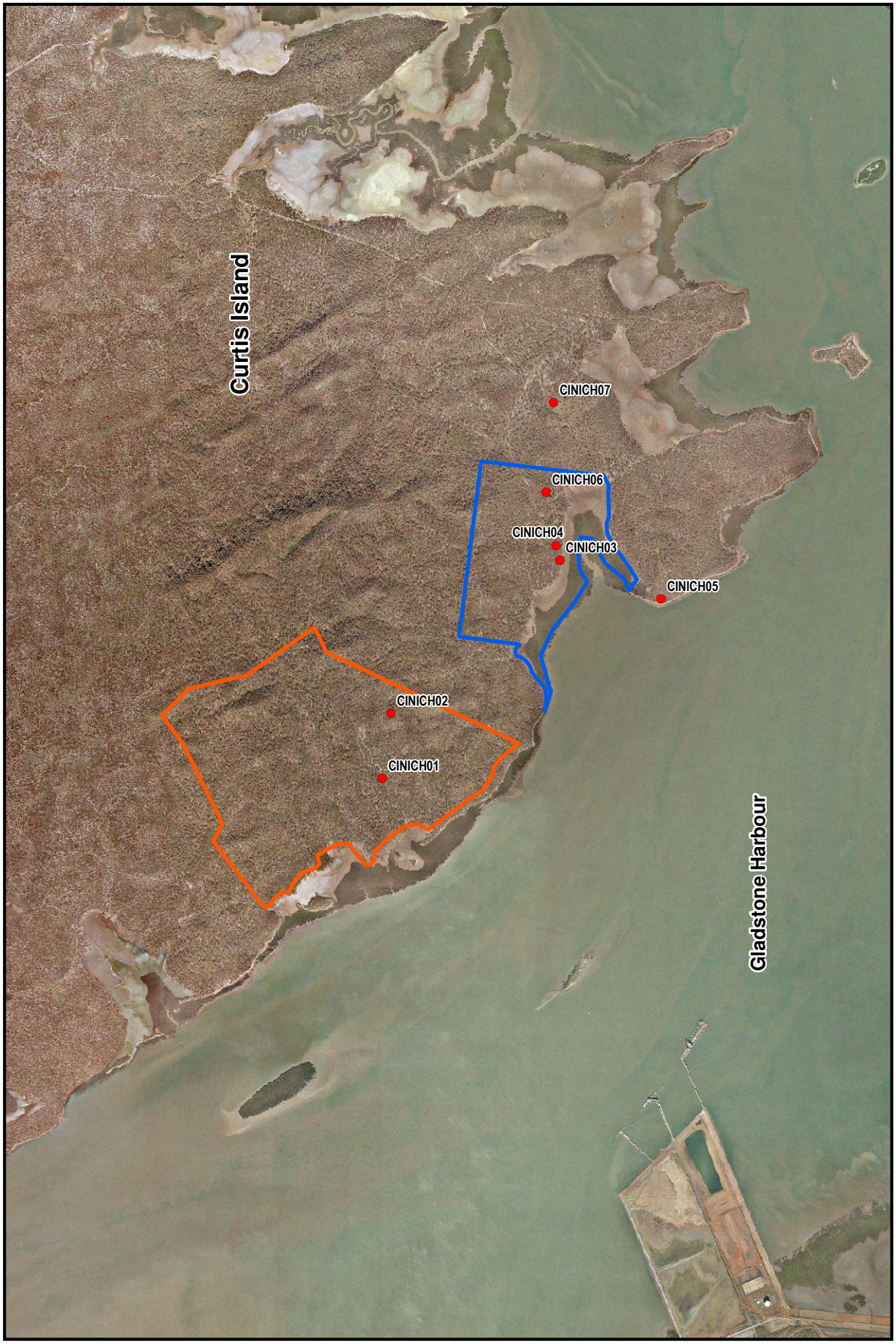
Source Note:
StreetPro Australia - Pitney Bowes MapInfo
Gladstone Maritime Museum Shipwreck Wall

Projection: UTM MGA Zone 56 Datum: GDA 94

0 1.25 2.5 5 km

N

QUEENSLAND CURTIS LNG A BG Group business	Project Queensland Curtis LNG Project		Title Known Shipwrecks in Port Curtis Region
	Client QGC - A BG Group business		
ERM Environmental Resources Management Australia Pty Ltd	Drawn JF/JB	Volume 8 Figure 8.9.7	Disclaimer: Maps and Figures contained in this Report may be based on Third Party Data, may not to be to scale and are intended as Guides only. ERM does not warrant the accuracy of any such Maps and Figures.
	Approved TK	File No: 0086165b_EIS_NCH_GIS001_F8.9.7	
	Date 26.03.09	Revision 1	



Projection: UTM MGA Zone 56
Datum: GDA 94

0 250 500 1,000 m

N

Source Note:
Aerial Photo - Department of Infrastructure and Planning for QCLNG Project

Legend

- Proposed QCLNG Site Boundary
- Santos Land
- Historic Heritage Sites

QUEENSLAND CURTIS LNG A BG Group business	Project	Queensland Curtis LNG Project	Title: Identified Sites within the Curtis Island Study Area
	Client	QGC - A BG Group business	
ERM Environmental Resources Management Australia Pty Ltd	Drawn JF/JB	Volume 8 Figure 8.9.8	Disclaimer: Maps and Figures contained in this Report may be based on Third Party Data, may not to be to scale and are intended as Guides only. ERM does not warrant the accuracy of any such Maps and Figures.
	Approved TK	File No: 0086165b_EIS_NCH_GIS003_F8.9.8	
	Date 26.03.09	Revision 1	

Table 8.9.23 Known Heritage Sites – Site ID: CINICH01

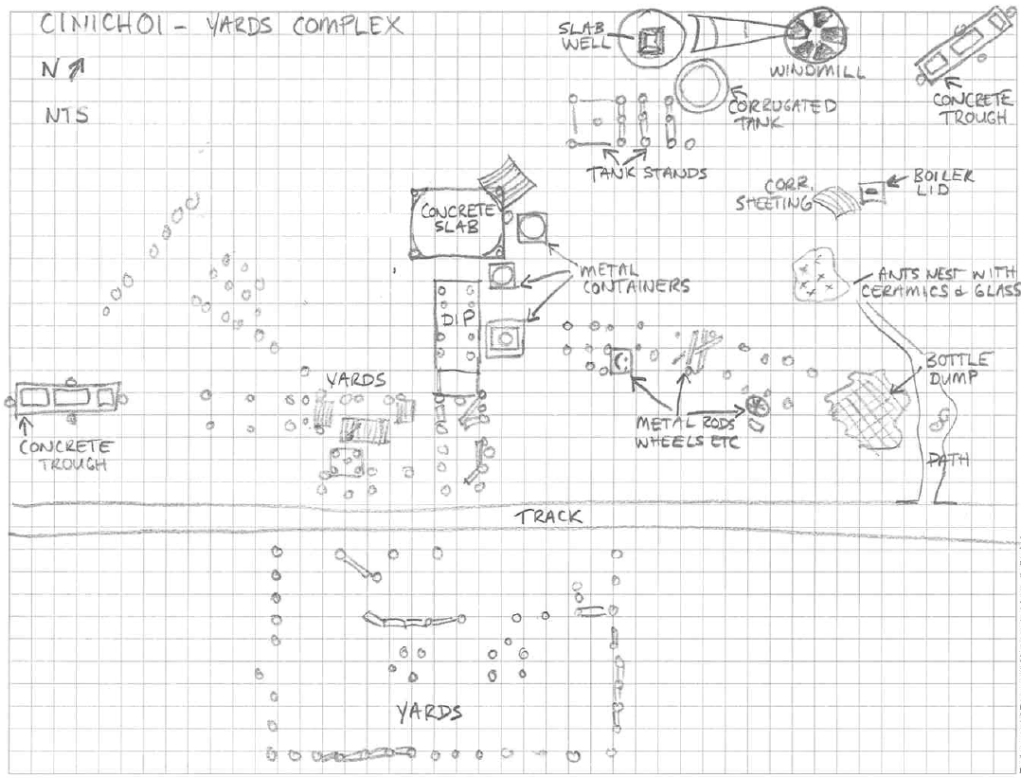
Site ID: CINICH01	**Name: Former Yards Site**	
Location: Either side of the main access track	**Easting:** 316514.40	**Northing:** 7370015.12

Photograph

Site ID: CINICH01 **Name: Former Yards Site**

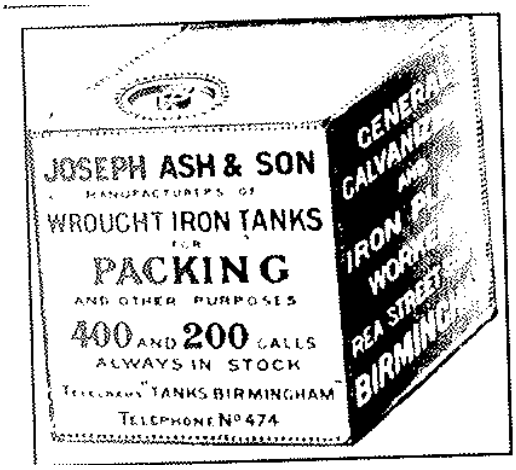
Description

Large complex including yards, dip, troughs, tanks and tank stands, windmill, slab well, bottle dump and various pieces of machinery and metal artefacts.



Bottles in the bottle dump date to the interwar period which is consistent with the site's early occupation as a soldier settlement block in the 1920s.

A number of square tanks[7] also remain around the site which were originally used by early settlers for packing belongings and could be sealed before being shipped. When empty these became useful items on the farm.



7 Ken Arnold Farmyard Relics Identification Guide, 2004, p.11

Site ID: CINICH01 **Name: Former Yards Site**

History

The area has been used for grazing since the establishment of Monte Christo in the mid-nineteenth century. The southern portion of Curtis Island was subdivided into soldier settlement blocks in the 1920s and continued being used for pastoral purposes.

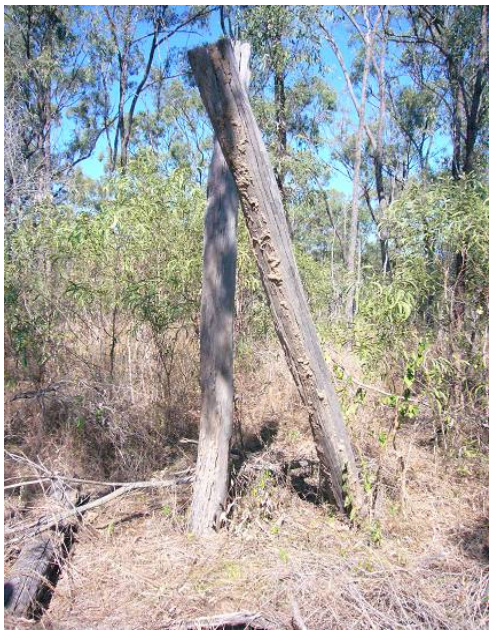
In 1983 the land was granted as a Grazing Homestead Perpetual Lease. The current lessee has been grazing on the land since the mid-1990s, and photos of the dip and yards complex at this time (see below) show the site as being much more intact. Much of the material was subsequently salvaged and reused elsewhere[8].

8 Winn R. (2002) High Tides and Hard Rides, Boolarong Press p. 22

Table 8.9.24 Known Heritage Sites – Site ID: CINICH02

Site ID: CINICH02	**Name:** Timber Posts	
Location: On a ridge line south of the main access track	**Easting:** 316975.02	**Northing:** 7369933.25

Photograph



Description

Two sets of posts on top of the ridge line situated approximately 10 m apart. The area is highly vegetated and ground surface visibility is poor.

Each timber post is approximately 2 m in height above the ground and their positioning suggests their association with a bore or shaft. However there was no evident depression in the area between the posts and no additional structures or artefacts were observed in the surrounding area.

History

These posts are not associated with the soldier settlement era of the site and appear to be of more recent origin.

Table 8.9.25 Known Heritage Sites – Site ID: CINICH03

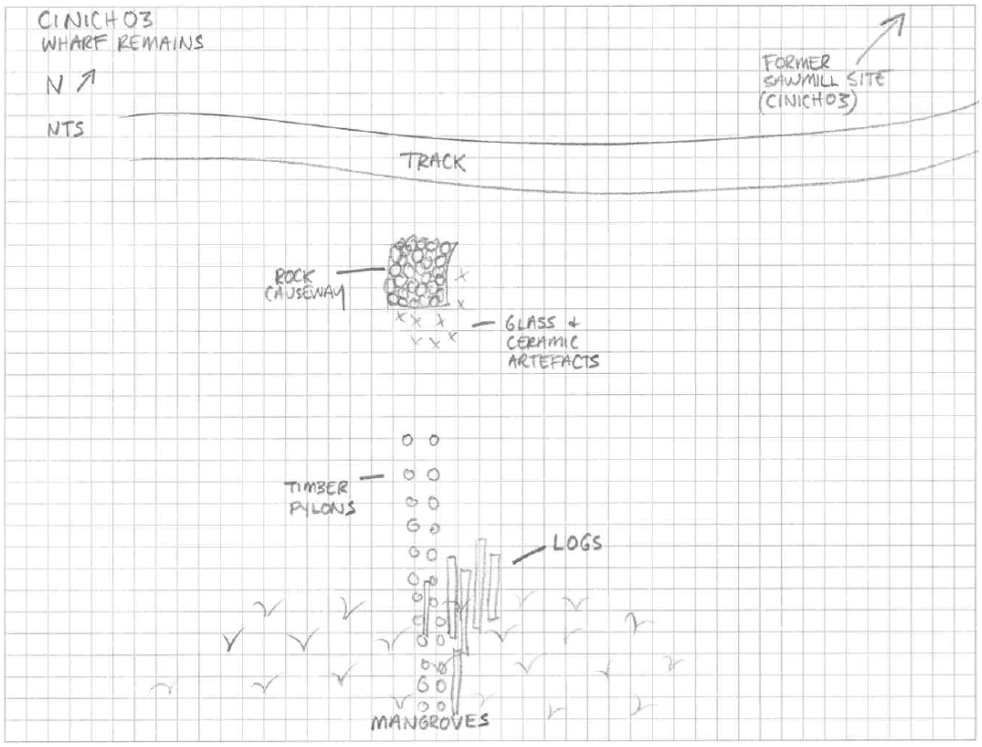
Site ID: CINICH03	**Name:** Wharf Remains	
Location: South of main access track and extending into the mangroves	**Easting:** 318098.64	**Northing:** 7368723.64

Photograph

Site ID: CINICH03 **Name:** Wharf Remains

Description

The wharf remains are likely to be linked to the former sawmill site (CINICH04) situated approximately 100 m north of the site.



Remains of a stone causeway leading out to timber jetty extend out into the mangroves. Fragments of glass and ceramics are scattered around the causeway and date to the 1920s.

Extant timber pylons are in pairs spaced approximately 1 m apart. These pylons extend for approximately 50 m into the mangroves before disappearing from sight. Timber pylons in the mangroves are in a more deteriorated condition than those further towards the causeway.

A number of milled logs also sit adjacent to the timber pylons on the eastern side of the jetty remains.

History

It is likely that the jetty was associated with the sawmill (CINICH04), north-west of the site. Aerial photography from 1970 shows that by this time the jetty was already in a deteriorated condition.

Site ID: CINICH03 **Name:** Wharf Remains

Table 8.9.26 Known Heritage Sites – Site ID: CINICH04

Site ID: CINICH04	**Name:** Former Sawmill Remains	
Location: North of access track, approx 100 m east of wharf remains	**Easting:** 318098.64	**Northing:** 7368723.64

Photograph

Site ID: CINICH04 **Name:** Former Sawmill Remains

Description

The former sawmill site is located approximately 100 m north-east of the wharf remains (CINICH03) and approximately 50 m north of the access track. The complex contains a number of timber posts attached to a pulley system used to haul pieces of timber.

A series of smaller posts run south towards the water and are likely to be the remans of a circular saw bench. Timber posts are in poor condition due to fire damage. Machinery associated with a steam powered boiler is scattered throughout the site including steel cord, cogs, chains and wheels and associated water tanks and square steel tanks are also extant.

A large depression in the ground east of the pulley system may be the remains of an earlier sawpit.

History

Information pertaining to the date and use of the sawmill at this location is unknown, however during the site's use as a sawmill it is likely to have looked similar to that of the open-air sawmill at Hurstbridge Victoria, shown below.

Historical aerial photography demonstrates the site remained clear of vegetation and with extant structures throughout the 1960s and 1970s, however by the 1980s the site became overgrown with vegetation.

Table 8.9.27 Known Heritage Sites – Site ID: CINICH05

Site ID: CINICH05	**Name:** China Bay Yards	
Location: China Bay Landing Area	**Easting:** 317817.889	**Northing:** 7367990.35

Photograph

Description

Remains of yards at China Bay landing area. Various pieces of machinery and rubbish are spread around the immediate vicinity.

Site ID: CINICH05 **Name:** China Bay Yards

History

These yards are of recent construction and were constructed by the current lessee for transferring stock to the mainland.

Site ID: CINICH06 **Name:** New Yards

Location: Adjacent to main access track near dam **Easting:** 318589.85 **Northing:** 7368824.46

Photograph

Description

Set of steel yards of modern construction

History

Associated with the site's use as grazing property

Table 8.9.28 Known Heritage Sites – Site ID: CINICH07

Site ID: CINICH07	**Name:** Former Dairy Site	
Location: On a rise south of the main access track	**Easting:** 319239.37	**Northing:** 7368768.95

Photograph

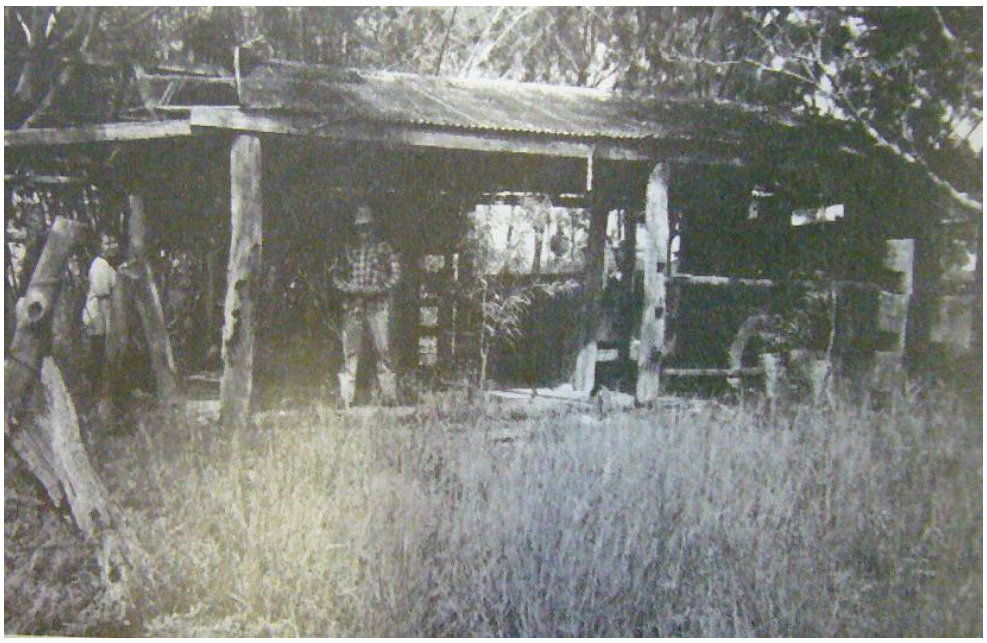
Site ID: CINICH07 **Name:** Former Dairy Site

Description

Former dairy building has a concrete base, clad in timber slabs with a corrugated iron roof.

Another building is situated 4 m south-west of the former dairy shed and is constructed of a variety of materials including corrugated sheeting, milled logs. The yard contains a number of water tanks, concrete slabs, machinery and rubbish. A concrete dip and yards is also extant.

History



Potential Heritage Sites

Table 8.9.29 Potential Heritage Places Within LNG Facility Area

Name	Details	Source
Musterers' Hut	Timber and corrugated iron – materials may have been salvaged.	High Tides and Hard Rides, 2002 p22
Watering Facility	Well of semi-rounded handmade bricks	High Tides and Hard Rides, 2002 p24 Local consultation
Survey Trees and Hut	Two survey trees bearing the mark "^ NII" and "^NIII" and a hut were marked as being within the study area.	1869 Survey Plan of Curtis Island

9.2.4 Impacts

9.2.4.1 Gas Fields – Construction, Operation

Direct Impacts

The field survey and background research identified a number of heritage places within the gas fields study area, which indicates potential for impacts during the construction and ongoing operation of the Gas Field.

Direct impacts are likely to be associated with the drilling of wells, construction of drill camps and compressor stations and the establishment of access tracks.

Wells

Wells will be sunk throughout the Gas Field Project area and a number of environmental factors, including the presence of places of cultural significance, will influence their location. In the construction phase five wellheads are grouped together approximately 750 m apart. An area of approximately 100 m x 100 m is pegged out for the pad of the well which is laid with gravel. In the centre of this pad the wellhead and separator and in some cases, a motor is situated, which in turn connects to a compressor station some distance away which may obtain gas from up to 100 of these wells. Although the locations of future wells are unknown at this stage, they take up a large area and require levelling of the ground surface and subsurface drilling, and consequently have potential to have a large impact on places of historic cultural heritage.

Drill Camps

When drilling the wells a drill camp is set up close to the well and comprises a gravel pad approximately 60 m x 40 m with a septic tank. The ground also needs to be levelled for these camps and there is potential for impact on places of historic heritage.

Compressor Stations

Compressor stations are larger than other infrastructure and also have potential to impact on places and items of historic heritage. Potential for impact also occurs where pipe works are proposed to be carried out to connect the compressor stations to the gas supply.

Access Tracks

Access tracks also have the potential to impact on the historic heritage values of a place if they are proposed to go through, be in proximity of, or diminish the context of a heritage place.

Subsurface Impacts

There is the potential for historical archaeological places to exist within the study area, and these also have the potential to be impacted upon during the construction phase of the development. The presence of subsurface material may or may not be indicated by surface artefacts.

Indirect Impacts

General

Infrastructure associated with the Gas Field also has potential to impact on the historic heritage of a place, for example through loss of context, change of use or reduction of aesthetic or architectural qualities.

Vibrations

Indirect impacts during the construction and ongoing operation of the Gas Field also includes vibrational impacts and this may occur where heavy machinery such as drilling rigs are used close to sensitive or unstable heritage places.

Neglect

QGC has resumed a number of properties in the area which contain places of historic heritage value. Change or loss of use of a building or item often leads to lack of maintenance and neglect which results in the loss of heritage values of place. There is potential for this to occur within the gas fields where land has been resumed by QGC.

9.2.4.2 *Pipeline – Construction, Operation*

Direct Impacts

The direct impacts of the Pipeline are associated with the construction phase of the Project because post-construction the surrounding ground will be restored.

Initially a large corridor in the proposed location of the Pipeline is cleared to provide access for heavy machinery and allow the excavation of a trench. The trench is then dug to a depth of approximately 1 m and pipes laid end to end alongside the open trench. Pipes are bent as necessary and welded together

with joints sealed before being lowered into the trench in sections. The trench is subsequently backfilled and compacted and the ground restored.

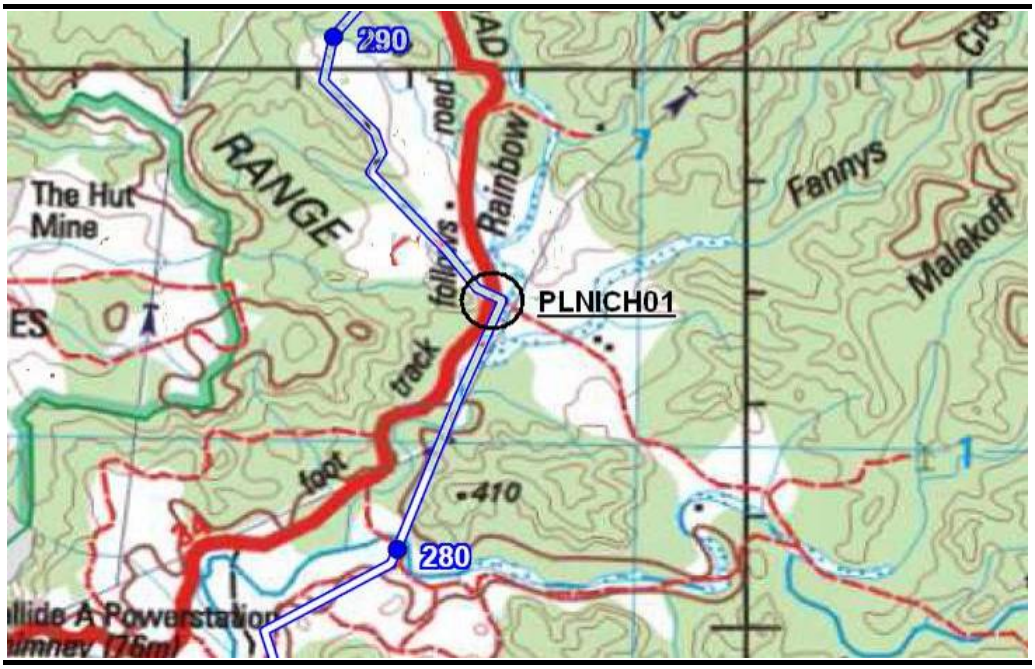
The field survey identified two heritage places which will be directly impacted upon by the Pipeline construction, according to the proposed route. They are discussed below.

Once the Pipeline is constructed, there will be no additional impacts during operation or maintenance.

PLNICH01 – O'Reilly Graves and Former Rainbow Hotel Site

The current route will destroy the O'Reilly graves which are situated on the eastern side of Coal Road as shown at *Figure 8.9.9.* A re-alignment along the western side of the road could potentially impact on the former Rainbow Hotel site. Research has also identified two unmarked burials in the area – one in close proximity to the hotel site, the other across Rainbow Creek from the hotel.

Figure 8.9.9 Location of O'Reilly Graves in Relation to Proposed Pipeline



Defence Road and Infrastructure

The Pipeline is proposed to run parallel to the Defence Road from Camboon south to the Eidsvold–Theodore Road. This will have a negative impact on the Defence Road infrastructure as the Pipeline will cross the road in two locations close to a stone bridge and culvert.

A number of additional bridges and culverts were identified along the Defence Road but were more than 100 m away from the proposed Pipeline route, and therefore not considered to directly impact in the heritage features. However, road upgrades and additional access tracks may be required for the Pipeline construction, which has the potential to impact on these additional features. Identified features are demonstrated at *Figure 8.9.10.*

Figure 8.9.10 Historic Heritage Features Associated with the Defence Road

The DERM is currently undertaking a statewide survey of heritage places throughout Queensland, and the Defence Road was identified as part of this process. As a result of this, the Defence Road and associated infrastructure have the potential to be entered in the Queensland Heritage Register which will have legislative implications for future development within and adjacent to the heritage register boundary. At this stage it is unknown whether the site will become a state heritage place, however it demonstrates considerable historical, aesthetic, social and technological heritage values which would be impacted upon by the proposed Pipeline. During the field survey, survey staff noted that the Pipeline is likely to be moved away from the road.

Associated Infrastructure

Access tracks and temporary fencing will also be built during the construction phase, and while the locations of these are not currently available, they too have potential to impact on historic heritage places within the study area.

Research also indicates there is potential for lone unmarked graves to exist close to the current Pipeline corridor. Associated development such as the construction of roads and gates has potential to impact on these places.

Indirect Impacts

Vibrations

The poor condition of many bridges along the Defence Road south of Camboon has resulted in their disuse. However a number of culverts and bridges are still used along this road and there is potential for vibrations caused by a high volume of heavy vehicles and machinery to impact on their historic heritage values.

9.2.4.3 *Bridge – Construction, Operation*

There are no historic heritage places within or close to the study area which will be directly or indirectly impacted upon by the proposed bridge development.

9.2.4.4 *Facility – Construction, Operation*

Direct Impacts

The field survey identified a number of historic heritage places within a larger study area for the Project. However, the Facility boundary has since been refined and only two of the identified heritage places fall within this boundary as shown at *Figure 8.9.11*.

These two places are likely to be heavily impacted upon during the construction of the Facility, and the remaining places also have potential for indirect impacts such as looting and vibrational impacts.

Identified heritage places are only likely to be impacted upon during the construction of the Facility, but not during its ongoing operation.

QUEENSLAND CURTIS LNG A BG Group business	Project Queensland Curtis LNG Project		Title Known Historic Heritage Sites within LNG Plant Boundary
	Client QGC - A BG Group business		
ERM Environmental Resources Management Australia Pty Ltd	Drawn JF/JB	Volume 8 Figure 8.9.11	Disclaimer: Maps and Figures contained in this Report may be based on Third Party Data, may not to be to scale and are intended as Guides only. ERM does not warrant the accuracy of any such Maps and Figures.
	Approved TK	File No: 0086165b_EIS_NCH_GIS002_F8.9.11	
	Date 26.03.09	Revision 1	

CINICH01 – Former Yards Complex

The former yards complex is located close to the centre of the proposed Facility boundary. It is likely that the whole area including vegetation and structures will need to be cleared for the development, which will result in the demolition of the heritage place.

CINICH02 – Timber Posts

The timber posts are situated on a ridgeline on the eastern area of the proposed Facility boundary. This indicates that the timber posts will be outside of the footprint of the Facility, but their closeness to it and position within the study boundary indicates that this area may be completely cleared prior to construction.

Indirect Impacts

Although the majority of places identified are outside the current Facility boundary, they still have potential to be indirectly impacted upon by the proposed development. If the area to the east of the proposed boundary has increased traffic as a result of the proposed development, there is potential for heritage places identified in these areas to be looted or damaged.

9.2.4.5 Summary – Construction, Operation

This study has identified a number of places on Curtis Island and within the Pipeline corridor that are likely to be heavily impacted upon by the proposed development. These are likely to cause considerable damage and loss of heritage value, or complete destruction of the heritage place. There is also potential for associated activities such as the construction of access tracks to directly impact on known heritage places.

There is also potential for indirect impacts on heritage places, such as damage caused by vibrations of heavy machinery close to heritage places, and looting and vandalism to sites as a result of increased traffic in the area.

At the gas fields, the location of future development is unknown, and therefore the impacts are also unknown at this stage. However, there are a number of known and potential heritage sites within this study area that have potential to be impacted upon in the future.

Once the Gas Field, Pipeline and Facility have been established, it is unlikely that there will be any further impacts on identified heritage features.

9.2.5 *Management and Mitigation*

Mitigation of impact on heritage places generally follows the following process:

1. Alter the proposed development to ensure retention of the known heritage place.

This is the best outcome for the retention of a heritage place. Where the development is relocated so that it does not directly impact on the heritage place, there is still potential for indirect impacts, particularly if the development remains close to the identified feature.

Where indirect impacts are likely to occur, further mitigation measures may be required such as fencing off and restricting access during construction phases or monitoring the site.

2. Relocation of the heritage place or item where there is no prudent or feasible alternative to the development.

If there is proven to be no prudent or feasible alternative to the proposed development there may be opportunity to relocate the heritage place or item. While this places the heritage feature out of its original context, it ensures its retention and in some cases may be beneficial in encouraging public involvement in the Project, for example where local historical societies are involved.

Relocation of the heritage place should also include archival recording of the heritage place in its original context prior to being moved.

3. Salvage and archival recording if there is no prudent or feasible alternative to the development.

If there is no prudent or feasible alternative to the development and the heritage places are unable to be retained, an archival recording process should be undertaken. Articles 31 and 32 of the Burra Charter recommend documenting changes and keeping records of a heritage place for the benefit of future generations.

The DERM standard for archival recording seeks to provide a record that is a true reflection of the existing condition of a place. This aim is achieved through measured drawings and photography and the standards for this are contained in three guidelines, these are:

- Guidelines for Measured Drawings
- Guidelines for Photographic Recording
- Guidelines for Digital Photographic Recording.

4. Interpretation

Where proposed development results in significant loss of heritage value, interpretation is a way of retaining important information about the site's history for future generations.

Heritage interpretation is a means of sharing culture and history within the

local and wider community. It is also a means of passing on knowledge and appreciation of a place's cultural heritage to future generations so this is not lost and can take many forms including activities and events such as open days, information signs, publications, video, artworks, trails and interactive displays. These can enhance the understanding of a place by appealing to different levels of experience and knowledge, as well as different learning styles. References to the heritage of the site can also be included in new development, such as the selection of names for new buildings, precincts and roads.

Examples for the interpretation of historic heritage sites are detailed below:

- Internal Promotion – There is opportunity for internal promotion showing the protection and conservation of heritage places by QGC. This could include internal publications such as newsletters and annual reports or information on their website.
- Open Day – A public open day could coincide with a salvage excavation, archival recording or clean-up of a site. The exercise would also be valuable in creating goodwill between the developer and the local community and in generating public interest in local heritage.
- Local Exhibition – Information gathered in the archival recording or salvage of a site may be donated to a local historical society or museum and could be used to create a display exhibiting the items or place's heritage values. This could be housed in a public area in one of the regional council libraries.

9.2.5.1 Gas Field

The location of future infrastructure at the gas fields is at this stage unknown, therefore only potential impacts have been assessed at *Section 9.2.3.1*, and only generic mitigation recommendations can be provided.

Direct impacts

In the design process, known and reported places of historic heritage should be taken into consideration when planning the positioning of wells, compressor stations, roads and other associated infrastructure. The list of known and reported heritage places in the area do not provide an absolute assessment of the heritage value of the gas fields and it is recommended that historic heritage places or items are taken into consideration during the initial site walkover with environmental scientists and Traditional Owners.

There is approximately 100 m lenience when pegging out the pad, Therefore, if something of importance is identified, it is likely that the impact can be mitigated by moving the development away from the identified feature.

Access to the feature should be restricted during the construction phase when there is a high volume of traffic around. This should include erecting a temporary fence around the feature.

If artefacts are present on the surface of the area proposed to be developed, there is potential for additional subsurface material, and therefore relocation of

the development is recommended. If there is no prudent or feasible alternative to relocating the development, a heritage specialist should undertake an assessment and carry out a salvage and/or archival recording exercise.

If archaeological material is discovered during excavation and construction phases of the proposed development, there is a statutory requirement to stop work and report the find to the DERM to seek further advice.

Indirect impacts

Heavy Machinery

If the identified place is in poor condition and likely to be impacted upon by vibrations from heavy machinery, the development should be repositioned further away. If the 100 m repositioning is not sufficient the layout may need to be redesigned, or vibration monitoring carried out to ensure the protection of the heritage place.

Neglect

Neglect of historic heritage places can have a detrimental impact on the place's heritage values. To mitigate this impact, heritage places on QGC land should be subject to a conservation strategy maintenance program to ensure future protection and conservation.

9.2.5.2 Pipeline

Direct Impacts

PLNICH01 – O'Reilly Graves and Former Rainbow Hotel Site

The current Pipeline corridor will have a negative impact on the heritage site, resulting in the destruction of the O'Reilly graves. While the land on the other side of Coal Road was not surveyed as part of the field inspection, research into the history of the site indicated that a bottle dump and building remnants remain on site.

A subsequent inspection identified extant yards in the approximate location. While the extent of the former Rainbow Hotel site is unknown, there is potential for the Pipeline to be realigned on this side of the road and not impact on the site's historic heritage values. A comprehensive survey by a heritage specialist is recommended in order to provide advice regarding the proximity of the Pipeline and potential for its realignment.

PLNICH02 – Defence Road

As demonstrated at *Figure 9.10,* the proposed Pipeline corridor is likely to have an impact on the Defence Road and associated infrastructure. To mitigate this impact, the Pipeline should be realigned to cross the road at areas where there are no identified heritage features such as bridges and culverts. Additionally, any bridges that are still in use on this part of the road should be assessed by an engineer to ensure they are capable of increased traffic and heavy machinery.

Associated Infrastructure

To mitigate the potential impact on heritage places where additional infrastructure such as roads and gates will occur during the construction phase of the Pipeline, it is recommended that a site walkover be undertaken prior to survey and construction.

Locations of potential heritage places, including approximate locations of unmarked graves should be taken into consideration when planning associated development such as access tracks. However, if human remains are located during the construction phase of the development, it is essential to stop work and not cause further disturbance. Further information on how to deal with this can be found on the DERM factsheet found at *Annex 8.1*.

Indirect Impacts

Heavy Machinery

Heavy machinery should not be used around heritage places of an unstable nature. Access tracks should be designed to stay clear of heritage places to ensure minimal impact from vibrations from heavy machinery.

9.2.5.3 LNG Facility

Direct Impacts

CINICH01 – Former Yards Complex

The proposed Facility is unable to be repositioned to avoid the former Yards Complex and will impact heavily on it, so, mitigation should involve a salvage and recording exercise.

Prior to any changes being made to the place, an archival recording should be undertaken in accordance with DERM guidelines (*Annex 8.2*), and should be forwarded to the DERM Cultural Heritage Branch for retention in their archives.

As the site contains a number of movable heritage items, there is also the opportunity for a salvage exercise to be undertaken, potentially in accordance with a local historical society who may be interested in displaying or storing the artefacts. If there is no interested party, significant items should be gathered and catalogued and stored in a suitable keeping place.

These artefacts also provide an opportunity for interpretation of the site's history.

CINICH02 – Timber Posts

The timber posts also fall within the proposed LNG Facility boundary and will be impacted upon by the proposed development. Recommendations for the mitigation of this impact involve archival recording of the site. However, the location and photographic recording of the posts was undertaken as part of the field survey exercise, and no further action is recommended.

Indirect Impacts

Looting/Vandalism

During the construction of the LNG Facility the number of people on the island will increase, and therefore the potential for looting or vandalism of identified heritage sites.

To mitigate this impact, it is recommended that heritage places on the Project land be fenced off and signage erected to prevent unauthorised access.

Vibration

There is also likely to be an increase in the use of heavy machinery during the construction phase. The current access tracks are far enough away from identified sites not to have an impact, however if new access tracks are proposed, care must be taken to ensure they are far enough away from heritage features so not to cause vibrational impacts.

9.2.6 Conclusions

If archaeological material is discovered during excavation and construction phases of the proposed development, there is a statutory requirement to report the find to the DERM and seek further advice.

Research indicated there is potential for lone graves to exist in some areas of the study area. However, if human remains are located during the construction phase of the development, it is essential to stop work and not cause further disturbance. Further information on how to deal with this can be found on the DERM factsheet found at *Annex 8.1*.