

# Jemena Northern Gas Pipeline Pty Ltd

## Northern Gas Pipeline

### Draft Environmental Impact Statement

## CHAPTER 8 HISTORIC AND CULTURAL HERITAGE

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## 8. HISTORIC AND CULTURAL HERITAGE

This chapter describes the historic and cultural heritage values that characterise the existing environment within and surrounding the Project footprint, and assesses the potential impacts to historic and cultural heritage value as a result of Project activities. Risks associated with potential impacts to heritage values are evaluated using the environmental risk assessment process described in Chapter 5 of this EIS. The controls are described that will minimise potential impacts on heritage values and reduce residual risk to As Low As Reasonably Practicable (ALARP).

The content of this chapter has been developed specifically to address Section 5.6 of the *Terms of Reference (ToR) for the preparation of an EIS* for the Jemena NGP. Other heritage risks identified through the environmental risk assessment process are also discussed.

The purpose of this chapter is to demonstrate that Jemena has fully considered all potential impacts to heritage values and has effective heritage management strategies in place. These strategies are designed to ensure that all heritage values are identified, assessed and protected through each phase of the Project. Ground surveys were completed during May to July 2016 and heritage survey reports are now in preparation (as at 1 August 2016). These surveys have focused on defining the locations of Aboriginal Sacred Sites and archaeological sites with the intent of re-routing the pipeline (referred to as the 'NGP') during the planning and design phase where possible. This chapter presents the heritage background to the Project area and a summary of the field survey results. The field survey has indicated that avoidance of minor sites and background scatters may not be possible in some areas, and appropriate management measures should be put in place to deal with this situation.

Jemena's approach to management of cultural heritage is through the development and implementation of a comprehensive Cultural Heritage Management Plan (CHMP). A framework plan is presented at Appendix Q and this chapter summarises the key controls from that plan.

The information presented in this chapter and the framework CHMP was developed by various professionals with experience and qualifications relevant to assessment and management of heritage. Details of personnel involved, their experience and qualifications, are provided in Appendix D.

The abbreviations, acronyms and terminology used throughout this chapter are defined in the Contents, Acronyms and Glossary component of this EIS.

### 8.1 HERITAGE LEGISLATION & EXISTING HERITAGE ENVIRONMENT

This section establishes the context for assessment of potential impacts and risks to heritage by describing the existing historic and cultural heritage characteristics of the environment in the Project footprint and surrounds.

Cultural heritage legislation is complicated in Australian jurisdictions. This is the result of the evolution of the Australian constitutional framework, particularly the inclusion of new themes, such as Aboriginality, heritage and the environment into an existing regulatory framework. The result of this developmental change is that while the Commonwealth retains responsibility for Indigenous issues, including last resort Indigenous cultural heritage protection, the States and Territories also have control of cultural heritage protection and management, particularly in relation to land use and development control. The consequence of this is that some aspects of Commonwealth, Queensland and Northern Territory legislation applies across the Project area.

### 8.1.1 COMMONWEALTH LEGISLATION

Native Title Act 1993: The NTA was established for the purposes of the recognition of Aboriginal native title in Australia and to provide the basis upon which Aboriginal Native Title Holders could claim native title to land, except where it had been validly extinguished. The NTA has a number of provisions relating to how developments can occur where native title exists and consequently, affords various levels of rights to Native Title Holders relating to the impacts that such developments, e.g. the NGP, might have on their native title rights. The NTA allows for agreements to be made between parties in relation to native title and often this will include matters relating to Aboriginal cultural heritage.

Aboriginal Land Rights (Northern Territory) Act 1976 (ALRA): The ALRA was established to recognise existing land held by Traditional Owners based on Aboriginal Tradition and to provide the basis upon which Aboriginal people in the Northern Territory could claim rights to land. The ALRA has a number of provisions relating to the conditions upon which access to and use of Aboriginal Land can occur, including mining developments and developments such as the NGP Project.

The ALRA also defines Sacred Sites as places 'sacred or otherwise of significance in the Aboriginal Tradition'. A part of the functions of the Land Councils established under the ALRA is to "to assist Aboriginals in the taking of measures likely to assist in the protection of Sacred Sites on land (whether or not Aboriginal land) in the area of the Land Council" (s23(1)(ba)).

Aboriginal and Torres Strait Islander Heritage Protection Act 1984: This Act is a site protection act of 'last resort', meaning that the Act is meant to provide emergency protection for Aboriginal and Torres Strait Islander heritage sites when all other avenues have been exhausted. Generally, an Indigenous group must apply to the relevant minister to have protective covenants placed over an area or site. The power to provide such protection resides in Section 51 of the Constitution giving the Commonwealth powers on Aboriginal issues. Therefore, this Act may override all State and Territory cultural heritage acts but is rarely called upon.

Environmental Protection and Biodiversity Conservation Act 1999 (EPBC): The EPBC established criteria for listing National Heritage places and Commonwealth Heritage places along with management principles for the management of cultural heritage places. The Heritage Division of Department of Environment and Heritage is the Commonwealth agency responsible for the administration of the EPBC and providing support to the Australian Heritage Council. The Australian Heritage Council is to be supported by an Indigenous Heritage Committee to advise the Council on sites of Aboriginal significance. The new Commonwealth heritage regime has created two new heritage registers, and is retaining the Register of the National Estate as a database.

### 8.1.2 TERRITORY LEGISLATION

Northern Territory Aboriginal Sacred Sites Act 1989: This Act protects sites that are 'sacred and otherwise of significance in the Aboriginal Tradition'. Sacred Sites are protected whether the location of the sites are known or not by any person or company seeking to do work on lands.

The Act is administered by the Aboriginal Areas Protection Authority (AAPA). The AAPA maintains two site registers: one for Registered Sacred Sites and another for recorded Sacred Sites. A Registered Sacred Site is a site that has been identified by the site custodians as being highly significant in the Aboriginal tradition. In some cases the site custodians have requested a site be added to the register. Recorded Sacred Sites are those that have been recorded during Sacred Site surveys undertaken by the AAPA but have not been requested to be Registered.

The Authority can issue a Certificate indemnifying any proponent for an area upon application and payment of a fee. The Certificate will contain conditions limiting or preventing works in and around registered and

recorded Sacred Sites. The Authority Certificate will contain maps outlining any restricted work areas in the area of application.

Northern Territory Heritage Act 2011: The Act provides protection for the same classes of places as the previous NT Heritage Conservation Act 1991, with some changes. As under the previous Act, members of the community can nominate areas, places, sites, buildings, shipwrecks and heritage objects to the register. If the Minister agrees that these features are of special significance to the heritage of the Northern Territory, the place is added to the register and receives statutory protection. The Act allows for processes to approve works and maintenance for a heritage place.

As under the previous Act, the Heritage Act provides a 'blanket' or 'presumptive' protection for Aboriginal and Macassan archaeological places and objects until a decision by the Minister to either permanently protect these places or permit their disturbance or destruction. This decision making process is triggered by an application to disturb these places. There are penalties for accidental or deliberate destruction of Aboriginal and Macassan archaeological places and objects is sites.

### 8.1.3 HERITAGE LISTINGS

The Commonwealth and Northern Territory legislation provides protection to a range of different heritage site types as listed below:

- places inscribed on the World Heritage Register (Listed by UNESCO)
- places on the National Heritage Register (Listed under the EPBC)
  - places on the Commonwealth Heritage Register (Listed under the EPBC, only applies to Commonwealth owned or leased properties)
- places or objects on the Northern Territory Heritage Register (Declared heritage places or objects under the NT Heritage Act 2011)
- sites that are significant according to Aboriginal Tradition (NT Aboriginal Sacred Sites Act 1989)
- in Aboriginal archaeological sites (Listed under the Northern Territory, Archaeological Database, NT Heritage Act 2011) under Section 17 and 18 of the NT Heritage Act 2011. These places are given automatic protection until a decision is made under the Act to permanently conserve or disturb a site or object.

Table 8-1 provides the search results for heritage surveys conducted on the Northern Territory and Commonwealth Heritage Registers. Table 8-2 provides the search results of the NT archaeological database records within 20 km of the Project footprint; the results are displayed in Figure 8-1.

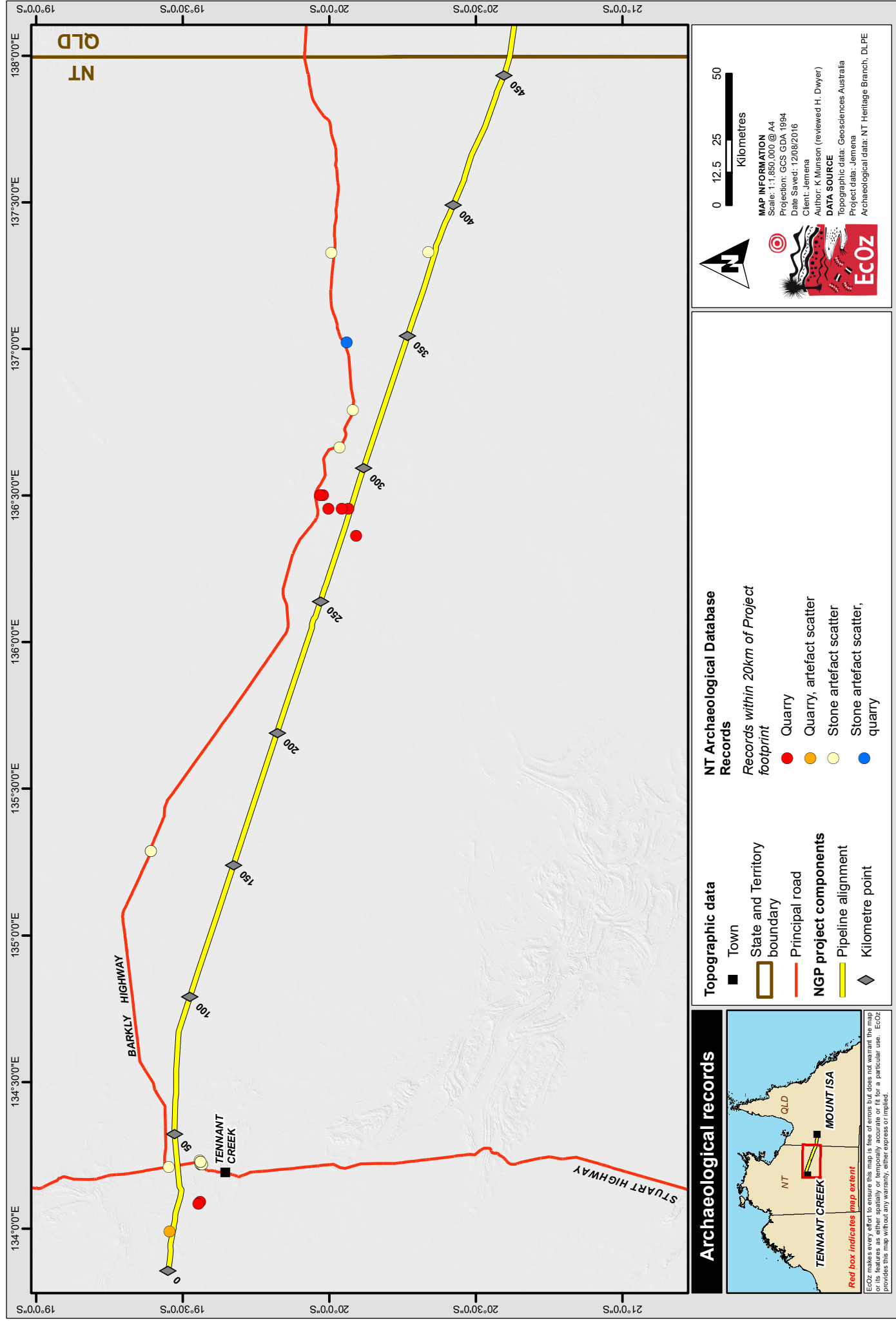
Table 8-1. Results of Heritage Register Searches

Register	No. of Places	Name of Place	Distance from Proposed NGP Right of Way
World Heritage Register	0	-	-
National Heritage Register	0	-	-
Commonwealth Heritage Register	0	-	-
Aboriginal Sacred Sites Register	15	AAPA Site #: 5959-1, 6058-1, 6158-3, 6257-10, 6257-11, 6257-12, 6257-1A, 6257-1B, 6257-3, 6257-7, 6257-8, 6257-9, 6257-9, 6456-13, 6457-2	Various
NT Archaeological Database ( <i>Heritage Act</i> )	30	Various quarries and artefact scatters.	Within 20 km radius
NT Historic Places	4	Tennant Creek Telegraph Station	8km south
<i>Declared Heritage Places</i>		Burramurra ELDO Rocket Shelter	15km south west
		Austral Downs ELDO Rocket Shelter	3.6km (0.6km from access track upgrade)
		Avon Downs Pastoral Station	46km (8km from access track upgrade)
NT Historic Places	2	North Star Mine Battery Complex Reserve	17km north of RoW
<i>Parks and Reserves</i>		Tennant Creek Telegraph Station Reserve	8km south of RoW
Queensland Aboriginal Cultural Heritage Register	16	Artefact scatters, rock art, culturally modified trees, ceremonial grounds	Various distances up to 20 km radius
Queensland Heritage Register	0	-	-



**Table 8-2. NT Archaeological Database Sites within 20km km of Project Footprint**

Site Name	Site Type	Site Condition	Site Significance	Notes
Orlando Dam	Quarry, artefact scatter	Good	Moderate	
Tennant Creek	Stone artefact scatter	Not recorded	Not recorded	Site salvaged, date not recorded
Tennant Creek SW	Stone artefact scatter, quarry	Not recorded	Not recorded	Site salvaged, date not recorded
Tennant Creek NW Site 1	Stone artefact scatter	Not recorded	Not recorded	
Tennant Creek NW Site 2	Stone artefact scatter	Not recorded	Not recorded	Site salvaged, date not recorded
Tennant Creek NW Site 3	Stone artefact scatter	Not recorded	Not recorded	Site salvaged, date not recorded
Tennant Creek NW Site 4	Stone artefact scatter	Not recorded	Not recorded	Site salvaged, date not recorded
Tennant Creek NW Site 5	Stone artefact scatter	Not recorded	Not recorded	Site salvaged, date not recorded
Lance Site 6	Stone artefact scatter	Not recorded	Not recorded	
Tennant Creek Site 1	Stone artefact scatter	Not recorded	Not recorded	
Tennant Creek Site 2	Stone artefact scatter	Not recorded	Not recorded	
Tennant Creek Site 3	Stone artefact scatter	Not recorded	Not recorded	
Warrego Quarry Complex	Quarry	Good	Low	Site salvaged, date not recorded
Warrego Quarry 2	Quarry	Good	Moderate	Maximum artefact density 7/m2
Three Ways Site 1	Stone artefact scatter	Not recorded	Not recorded	
Site 1 Barkly Highway	Stone artefact scatter, quarry	Not recorded	Not recorded	Site salvaged, date not recorded
Site 2 Barkly Highway	Stone artefact scatter	Not recorded	Not recorded	
AW1	Quarry	Good	Moderate	
AW2	Quarry	Fair	Low	
AW3	Quarry	Good	Low	
AW4	Quarry	Good	Low	
AW5	Quarry	Fair	Low	
AW6	Quarry	Fair	Low	
Barry Caves	Stone artefact scatter	Not recorded	Not recorded	Also contains buried deposit
Barry Caves	Stone artefact scatter, unrestricted mythological site, ceremonial ground	Not recorded	Not recorded	Also contains buried deposit
Lance Site 7	Stone artefact scatter	Not recorded	Not recorded	
Sudan Crossing Lance Site 8 - Ranken River	Stone artefact scatter, quarry	Not recorded	Not recorded	
Red Waterhole	Stone artefact scatter	Not recorded	Not recorded	Site salvaged, date not recorded
6 Mile Creek	Stone artefact scatter	Not recorded	Not recorded	



### 8.1.4 ABORIGINAL SACRED SITES

The Aboriginal language groups represented across the modern Barkly Region include the Warumungu, the Wakaya, the Arruwurra (a subset land owning group of the Wakaya), the land owning groups associated with the Burramurra Native Title Claim, the Indjalandji-Dhidhanu and the Kalkadoon. The latter two groups have Native Title Determined Areas within the NGP footprint in Queensland.

As noted above, the Aboriginal Sacred Sites Act (NT) sets out clear processes for developers who wish to undertake works that may disturb the land surface of the Northern Territory. Anyone proposing to use or work on land in the Northern Territory may apply to the AAPA for an Authority Certificate to cover their proposed activities. Such authority certificates are based on consultations with custodians and provide clear instructions on what can and cannot be done in and around Sacred Sites. An Authority Certificate provides a statutory indemnity against prosecution in relation to the works or uses covered by the Authority Certificate, provided the applicant complies with any conditions imposed to protect Sacred Sites. Authority certificates are voluntary and provide an effective risk management tool for developers while providing a level of site protection for Aboriginal custodians.

In May 2016, Jemena submitted an application to the AAPA for an Authority Certificate for the Project. The following section sets out the processes that Jemena has undertaken to date in consulting about the protection of Sacred Sites.

### 8.1.5 SACRED SITE CONSULTATION, SURVEYS AND MANAGEMENT

The NGP traverses the regions covered by the Central Land Council (CLC), the Northern Land Council (NLC) and the land owned by the Arruwurra Aboriginal Corporation (AAC). The Sacred Sites clearance processes put in place with each of these organisations is described below.

#### 8.1.5.1 Central Land Council

##### [Pipeline route and above-ground facilities](#)

During the Northern Territory Government competitive bid process for the Project, Jemena commenced consultations with the CLC around May 2015. In August 2015, Jemena entered into a Cultural Heritage Survey Agreement (CHSA) with the CLC through which Jemena commissioned the CLC to undertake consultations with the relevant Traditional Aboriginal Owners and Native Title Parties regarding its preferred pipeline route for the NGP and associated above-ground facilities sites. This Sacred Sites Survey and consultation was undertaken over a 1 km wide corridor within the 20 km wide planning corridor nominated by Jemena.

The Traditional Owners, through the CLC, then provided a recommended preliminary route the NGP could follow which avoided Sacred Sites within the CLC region. Jemena's initial preferred route, at the request of the Traditional Owners, was amended to avoid some Sacred Sites.

On the basis of the above, the CLC provided Jemena with a CLC-issued Sacred Sites Clearance Certificate that provided Jemena with an indication that the Project could be constructed without any damage to Sacred Sites.

##### [Access tracks](#)

When the Project was awarded to Jemena in November 2015, Jemena commissioned the CLC through its existing arrangements to carry out a Sacred Sites Clearance Survey over all of the associated access tracks for the NGP, in accordance with the existing CHSA. In doing so the CLC consulted extensively with the relevant Traditional Owners and Native Title Parties.

Jemena is now in the process of finalising an agreement with the CLC that will see the construction of the Project in a manner that protects Sacred Sites throughout all phases of the Project. The Agreement will underpin Jemena's application to the AAPA for an Authority Certificate.

#### 8.1.5.2 Northern Land Council

Consistent with the approach taken with the CLC, Jemena entered into arrangements with the NLC in April 2016 and commissioned the NLC to undertake a Sacred Site Clearance Survey which was completed in May and June of 2016.

The NLC survey identified a number of Sacred Sites in the vicinity of the proposed NGP pipeline alignment and access roads and as a result, alterations have been made to avoid the Sacred Sites identified.

Jemena is now in the process of finalising an agreement with the NLC that will see the Project constructed in a manner that protects Sacred Sites throughout all phases of the Project. The Agreement will underpin Jemena's application to the AAPA for an Authority Certificate.

#### 8.1.5.3 Arruwurra Aboriginal Corporation

In December 1989 an agreement was reached between the Northern Territory Government and Jack Punch (deceased) of the Arruwurra land owning group, as a party of the Wakaya/Alyawarre Land Claim, for the grant of freehold title to the Arruwurra Aboriginal Corporation (AAC). The terms of the grant included reference to the members of the AAC being those Arruwurra claimants and those Aboriginal people entitled to use, enter or occupy the land in accordance with Aboriginal tradition.

The area of land held by the AAC also lies within the CLC region and so in accordance with section 23 (1) (ba) of the ALRA, the CLC asserts a responsibility "...to assist Aboriginals in the taking of measures likely to assist in the protection of Sacred Sites on land (whether or not Aboriginal land) in the area of the Land Council".

Jemena's approach to managing the respective responsibilities of both the AAC and the CLC has been to enter into Cultural Heritage Agreements with both the AAC and the CLC (as referred to above) to allow them to fulfil their responsibilities to their respective constituents.

Jemena's consultations and negotiations with the AAC are expected to result in an agreement that will see the NGP able to be constructed in a manner that protects Sacred Sites, from the perspective of the Arruwurra, throughout all phases of the Project and also to underpin its application to the AAPA for an Authority Certificate.

This approach is intended to satisfy both the responsibilities of the CLC and the AAC in relation to the protection and management of Sacred Sites in that area.

The resulting conditions contained in the Authority Certificate, when granted, in relation to Arruwurra Freehold will form a part of Jemena's CHMP, Appendix Q to the EIS, for the protection of Sacred Sites on the Arruwurra Freehold land.

Throughout the Planning Phase of the NGP Jemena has successfully undertaken its Project activities without incursion onto or any damage to any Sacred Sites within the CLC region or the Arruwurra freehold land.

#### 8.1.5.4 Authority Certificate Application

Jemena formally applied to the AAPA for an Authority Certificate in May 2016. The resulting conditions contained in the AAPA issued Authority Certificate for the CLC and NLC region will form a part of Jemena's

CHMP. A framework CHMP is provided at Appendix Q to this EIS; prior to construction this document will be updated to reflect the conditions contained in AAPA Authority Certificates.

### 8.1.6 ARCHAEOLOGICAL SURVEYS AND HERITAGE MANAGEMENT

Jemena engaged archaeological specialists with significant experience in the Northern Territory to carry out field archaeological surveys and prepare reports on their findings suitable to underpin the legislative requirements and also to provide the foundation for any Work Approvals sought pursuant to the Heritage Act (NT). Details of the qualifications and experience of personnel involved in the heritage consultations and surveys, and preparation of the CHMP, are provided in Appendix D.

Archaeological field surveys commenced in late April 2016 and continued throughout the period May to July sufficient to cover the entire Project footprint known to date. Systematic field surveys were undertaken to:

- identify the presence or absence of archaeological material within the Project area
- assess the significance of any archaeological material located
- assess options for minimising the impact on the cultural heritage found by the survey
- develop a predictive model for management and monitoring of cultural heritage during design, construction and operation
- inform the development of the NGP CHMP (Appendix Q).

#### 8.1.6.1 Survey methods

An archaeological survey based on the predictive model outlined below has been undertaken across the Project area. The predictive model is based on previous archaeological work in the region (David, 1991), (David, 1992) (Lance, 1990), landform, outcropping geology, history, hydrology and the expert knowledge of the archaeological team conducting the Project. This data has been analysed using a GIS to indicate areas likely to have higher archaeological sensitivity against areas of medium and low archaeological sensitivity (see Figure 8-2). The resulting model establishes three tiers of landscape archaeological sensitivity as per Table 8-3 below.

Level 1 Landscapes include an intersection of Land Systems (Christian, 1954) (CSIRO, 2014) and outcropping geology that is likely to have relatively high concentrations of rock suitable for the manufacture of flaked and ground stone tools. These will typically include cherts, silcretes, quartz, quartzite and silicified tuffs. It is expected the Level 1 Landscapes zones will extend some distance from the lithic sources as materials are likely to have been transported from the quarry sites to secondary reduction bases. Additional criteria such as proximity to water courses, hills, ridges and other topographic highs were added to the model during the survey.

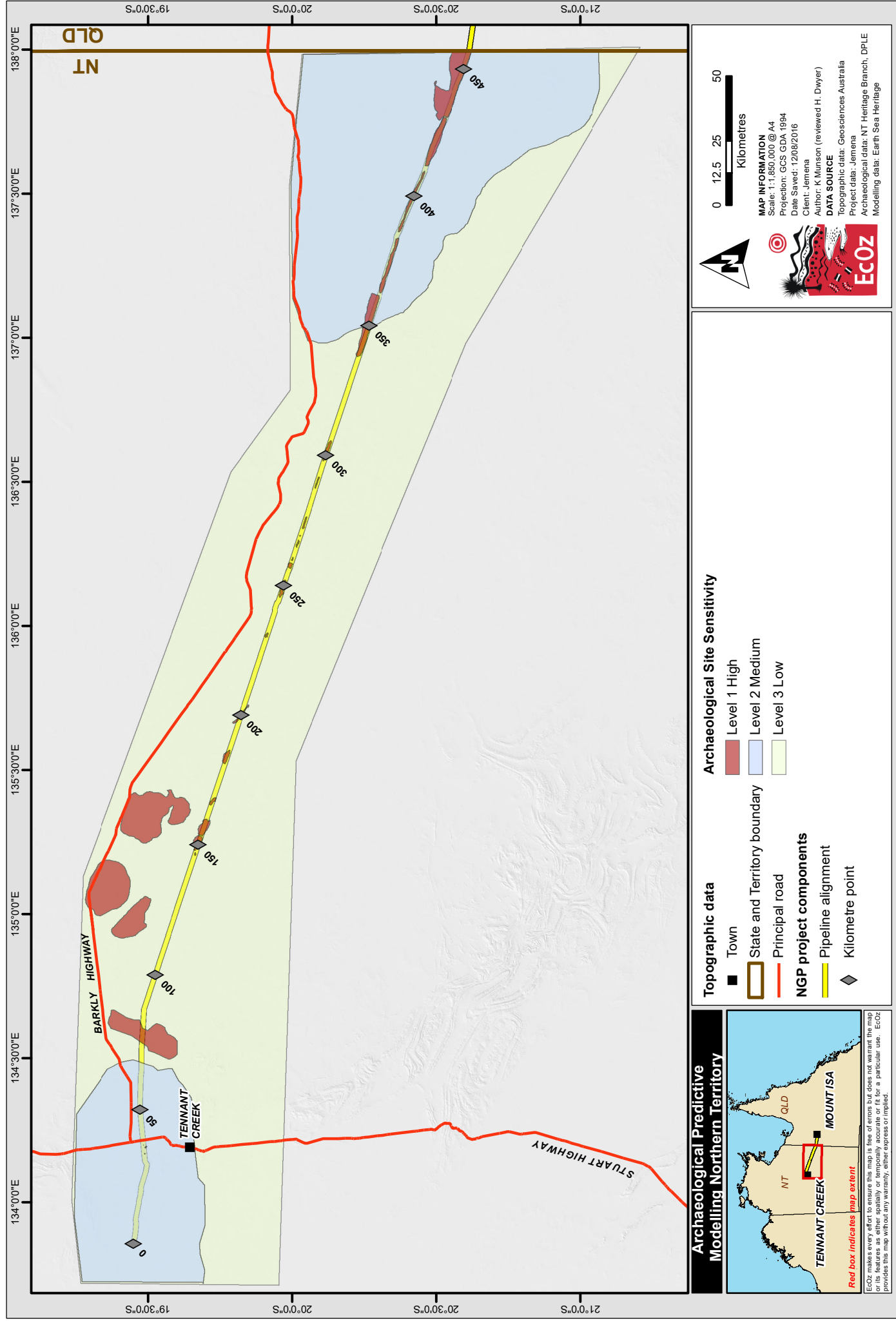
Level 2 Landscapes include at least one of the above criteria, such as outcropping rock suitable for the manufacture of stone tools.

Level 3 Landscapes are areas of low archaeological sensitivity that satisfy none of the above criteria.

**Table 8-3. Archaeological Survey Predictive Model**

Landscape Level	Criteria	Example Areas	Survey Strategy
Landscape Level 1	Combination of: Outcropping lithology suitable for raw materials and intersection of Land Systems.	Outcropping chert areas on the Mitchell Downs (Mitchell Grass Plains) Land System.	Survey entire pipeline route plus sampling of outcrop areas near the route. Access tracks are surveyed by slow vehicle. Rock outcrops close to access track are surveyed by foot.
Landscape Level 2	Outcropping lithology suitable for stone tool manufacture	Rock outcrops in the Wonorah Land System.	Survey proposed NGP route where possible and safe. No sampling in areas outside of the ROW other than rock outcrops close to the alignment. Existing Access Tracks surveyed by slow vehicle.
Landscape Level 3	No criteria	Wonorah Land System (Turpentine Scrub), areas of dense scrub land with few or no watercourses, no outcropping rock.	Survey proposed NGP route where possible and safe. No sampling in areas outside of the ROW. Existing Access Tracks surveyed by slow vehicle only.





Path: Z:\01 EcOz\_Documents\04 EcOz Vantage GIS\JEMENA\EIS (NT)\01 Project Files\Ch8\Figure 8-2. Map of archaeological sites predictive model results.mxd

### 8.1.6.2 Results

The archaeological survey has identified a suite of sites with variations in site abundance in different landforms across the Project area. The vast majority of sites are stone artefact scatters, quarry sites, background scatters and isolated stone artefacts. Several major sites and site types were located along the proposed route:

1. a large stone artefact quarry in the Wonorah Land System. The specialist archaeological reports will recommend avoiding this site
2. a background scatter of artefacts occurs across the Mitchell Grass Downs areas of the alignment on both sides of the border. This background scatter will be fully documented in the specialist reports. The specialist report for the Northern Territory jurisdiction will likely recommend a works approval under Section 72 of the Heritage Act (NT).
3. several large artefact scatters were recorded in the Mitchell Grass Downs areas, primarily located on higher land. The specialist report for the Northern Territory jurisdiction will likely recommend a works approval under Section 72 of the Heritage Act (NT).

The specialist archaeological reports are currently in preparation (as at 1 August 2016). Four reports are being prepared:

- two reports for the Northern Territory side of the border
- one report for the Indjalandji-Dhidhanu country on the Queensland side of the border
- one report for the Kalkadoon country on the Queensland side of the border.

Following completion of site documentation and assessment, prior to commencement of construction, all necessary approvals will be obtained. Relevant approvals are discussed in Section 8.1.

## 8.1.7 HERITAGE APPROVAL REQUIREMENTS

Arising from the work undertaken to date, the relevant heritage approvals which Jemena is required to secure prior to commencement of works are detailed below.

### 8.1.7.1 Authority Certificate

An Authority Certificate is required pursuant to the Aboriginal Sacred Sites Act (NT). Jemena applied to the AAPA for an Authority Certificate in May 2016.

### 8.1.7.2 Works Approvals

In relation to the protection and proper management of Aboriginal archaeological places and objects identified within the Project footprint, Work Approvals may be required for the Project in accordance with the Heritage Act (NT).



## 8.2 HERITAGE RISK ASSESSMENT

Risks associated with each potential impact to heritage values were assessed using the procedures and criteria described in Chapter 5. The complete environmental risk register, incorporating historic and cultural heritage risks, is presented in Appendix F1.

The likelihood and consequences of each potential heritage impact were assessed in relation to the following objective defined by Section 5.6.1 of the EIS ToR:

*“To identify and protect items or places which have historic and/or cultural heritage values.”*

The potential impacts and associated risks to historic and cultural heritage values identified through the risk assessment process are further discussed below.

### 8.2.1 POTENTIAL IMPACTS

Assessment of risks to heritage first involved identifying potential causes of impact associated with the Project activities described in Chapter 2 and subsequent impacts that could occur to historic and cultural heritage sites, objects and places that are known or expected to occur within the Project footprint and surrounds. The key references used to identify potential impacts were the EIS ToR (Appendix A), Project description (Chapter 2), Cultural Heritage Management Plan (Appendix Q) and the contextual information presented earlier in this chapter.

The Project planning phase has and will continue to involve survey works and consultations with Traditional Owners and their representatives for the purpose of identifying and where possible, avoiding Aboriginal Sacred Sites and archaeological sites.

Through this process, impacts on Aboriginal Sacred Sites and archaeological sites have been avoided by making changes to the NGP route and, by end July 2016, Sacred Site and archaeological surveys had been completed over all of the facilities areas, the pipeline construction corridor and the large majority of the access tracks. Any further land requirements will undergo the same processes.

Construction of the NGP and facilities will involve ground disturbance, which will pose some risk to heritage sites and objects. Operational activities will not involve any additional disturbance outside of the areas already disturbed during the construction phase. For the purpose of identifying potential impacts associated with decommissioning, it is assumed the NGP will be decommissioned in situ i.e. it will be made safe but left in the ground, and above-ground facilities will be removed; all activities will be in accordance with regulatory requirements applicable at the time.

Based on the above context, Project activities have potential to give rise to impacts on cultural heritage as follows:

- impacts associated with physical disturbance or desecration of Aboriginal Sacred Sites, and/or Aboriginal archaeological heritage sites
- impacts on Aboriginal people and culture associated with unauthorised entry to Aboriginal Sacred Sites or disturbance of skeletal remains.

These potential impacts are listed below according to the Project phase in which they may occur.

#### 8.2.1.1 Planning

Activities during the planning phase have potential to cause the following impacts to historic and cultural heritage:

- Aboriginal Archaeological sites, places or objects not identified for protection due to insufficient heritage consultation, surveys and clearances
- unauthorised entry onto Aboriginal Sacred Sites
- damage to archaeological sites, places or objects.

#### 8.2.1.2 Construction

Activities during the construction phase have potential to cause the following impacts to historic and cultural heritage:

- unauthorised entry, or damage, to Aboriginal Sacred Sites
- damage to archaeological sites, places or objects
- disturbance of skeletal remains and sub-surface archaeological objects.

#### 8.2.1.3 Operations

Activities during the operations phase have potential to cause the following impacts to historic and cultural heritage:

- unauthorised entry onto Aboriginal Sacred Sites
- damage to archaeological sites, places or objects.

#### 8.2.1.4 Decommissioning

Activities during the decommissioning phase have potential to cause the following impacts to historic and cultural heritage:

- unauthorised entry onto Aboriginal sacred sites
- damage to heritage sites, place or objects

These potential impacts are noted; however, no further assessment is undertaken in this chapter. Details of the decommissioning process and legislative requirements that will be applicable at the time (forecast to be in excess of 30 years from now) are not known with enough certainty to inform assessment of risk. The identification of potential impacts does, however, indicate that impacts to heritage are unlikely in the decommissioning phase as works are generally restricted to within the Project footprint.

## 8.3 ASSESSMENT OF RISKS

For each identified potential impact to historic and cultural heritage, associated risks in each Project phase are further discussed in the sections below.

### 8.3.1 INSUFFICIENT HERITAGE CONSULTATION, SURVEYS AND CLEARANCES

#### Context and assumptions

The Project activities will occur in remote areas, parts of which may not have previously been subject to targeted assessment and survey of Aboriginal Sacred Sites or archaeological heritage sites. It is assumed

the low number of sites recorded in the AAPA Register of Sacred Sites and Northern Territory Archaeological Database reflects limited survey, recording and registration, not necessarily a paucity of sites. In order to protect Sacred Sites and archaeological heritage sites and comply with legislative requirements applicable under the ASSA and the Heritage Act (NT), consultation, surveys and clearances must be undertaken and obtained in accordance with the established protocols and procedures, also in collaboration with Aboriginal parties

#### Inherent risk

Insufficient attention to the processes referred to above may lead to some sites not being identified or not being adequately recorded, which would result in a deficient risk assessment process. Also, any assumption made or process used to conclude that sites are not present may not be defensible according to the law. This impact has occurred on projects in the Northern Territory in the past where proponents have assumed, for example, that the absence of any Registered or Recorded sites means that sites of cultural and heritage significance are unlikely to occur. If insufficient attention is paid to consultation, survey and clearances, there is a **SIGNIFICANT** risk that some sites will not be identified and therefore may not be adequately protected.

#### Controls

Jemena has engaged with the CLC, NLC, the Arruwurra Aboriginal Corporation and the AAPA to undertake Sacred Site consultations, surveys and clearances. The adequacy of these processes and outcomes will then be assessed by the AAPA in their consideration of Jemena's Application for an Authority Certificate. With respect to Aboriginal archaeological sites, Jemena has engaged experienced archaeologists to undertake surveys and assessments of the Project footprint consistent with the Burra Charter. The resultant Archaeological Heritage Reports will be assessed by the Northern Territory Heritage Branch, including any applications made for Work Approvals associated with the management of specific sites

#### Assessment of effectiveness

The methods adopted for the purpose of identifying Aboriginal Sacred Sites and archaeological sites are well established and undertaken by 3rd parties with appropriate qualifications and experience in anthropology and archaeology. The effectiveness of the consultations and surveys will be subject to further assessment by the AAPA and Northern Territory Heritage Branch, and clearances/approvals will not be issued unless the level of consultation and survey is deemed to have been undertaken in accordance with accepted standards.

#### Residual risk

It is possible that some individual archaeological sites or objects will be missed during the archaeological field surveys (due to poor ground visibility or sub-surface location) and are therefore not identified for protection or management. There is a high degree of confidence however that significant sites will not be missed as the surveys and consultations are being undertaken by qualified and experienced archaeologists. Sacred Sites are unlikely to be missed during the clearance process, which is undertaken in consultation with Aboriginal custodians identified by the CLC, NLC, AAC and the AAPA.

Potential impacts are expected to be limited to minor or repairable damage to sites of low significance that are missed during the field surveys. Subject to effective implementation of the proposed controls, there is a **LOW** residual risk that the level of consultation and survey is insufficient for the purpose of identifying cultural heritage sites requiring protection.

### 8.3.2 UNAUTHORISED ENTRY ONTO SACRED SITES

#### Context and assumptions

Sacred Site register searches and consultation, survey and clearances undertaken by the CLC, NLC and AAC indicate that the Project footprint contains Aboriginal Sacred Sites yet to be formally recorded or registered with the AAPA. Project activities, including planning phase field surveys and mobilisation of the construction workforce, will involve personnel accessing areas where Aboriginal Sacred Sites may exist. Personnel who are unaware of the locations of Aboriginal Sacred Sites, or the legal requirement to protect these sites from disturbance, could enter onto sites without authorisation.

During the Project construction phase, there will be large numbers of vehicles, personnel and equipment moving through remote areas where Aboriginal Sacred Sites exist and works that involve clearing of vegetation and ground disturbance could occur in proximity to sites. Personnel may inadvertently or deliberately enter Aboriginal Sacred Sites without authorisation. Direct or indirect impacts to sites could occur in association with vegetation removal and ground disturbance, vibration and alteration of surface water or groundwater conditions. For the purpose of assessing inherent risk for the construction phase it is assumed that an Authority Certificate has been obtained.

Project activities during the operational phase will not involve access to, or disturbance of, any areas not previously cleared during the Project construction phase.

#### Inherent risk

It is possible that unauthorised entry to Sacred Sites will occur during the NGP planning phase when Project personnel are unaware of the location of sites or the restrictions which apply. As the early survey works are largely confined to non-intrusive field surveys, any unauthorised entry onto Sacred Sites is unlikely to result in direct physical damage. However, it is accepted that unauthorised entry to a Sacred Site can indirectly cause impacts to Aboriginal culture and constitutes an offence under the ASSA. Therefore, it is considered that any unauthorised entry could cause a minor level of cultural impact to site custodians but is unlikely to cause long-term damage. The inherent risk (without controls) during the planning phase is assessed as **MODERATE**.

During the Project construction phase, both the likelihood and consequences of unauthorised entry to Aboriginal Sacred Sites is increased. There will be large numbers of personnel, vehicles and equipment moving around in areas where sites may occur, and clearing of vegetation and earthworks are intrusive activities that could serious irreversible damage to Sacred Sites. During the Project construction phase there is also the potential that personnel could deliberately access and/or damage sites. Experience on other large construction projects in the Northern Territory indicates that without controls unauthorised entry to and/or damage to Aboriginal Sacred Sites is likely to occur. The inherent risk (without controls) during the construction phase is assessed as **HIGH**.

Unauthorised entry to Aboriginal Sacred Sites is unlikely to occur during the Project operations phase as activities will be confined to areas that were previously subject to Sacred Sites clearances during the construction phase and no major ground disturbance will occur. The inherent risk (without controls) during the operations phase is assessed as **LOW**.

#### Controls

Jemena has engaged specialist consultants to manage land access approvals for Aboriginal and non-Aboriginal land. All field surveys undertaken during the planning phase are subject to approvals procedures through these established points of contact within the Project team. The land access approvals consultants have established procedures for engaging with the CLC, NLC and AAC for approval of field surveys. In addition, on Aboriginal Land, the permitting requirements under the Aboriginal Land Act are applied. This

process provides for potential impacts on Sacred Sites to be avoided by providing information to survey teams in relation to areas where restrictions apply, prior to an Authority Certificate being formally issued by the AAPA.

Aboriginal Sacred Sites surveys and clearances were completed across the Project footprint by the CLC, NLC and AAC. These surveys identified the locations of Sacred Sites, and associated requirements for protection through designation of Exclusion Areas or Restricted Works Areas. The reports prepared by the CLC, NLC and AAC will be submitted to the AAPA. Jemena has applied for an Authority Certificate for the Project pursuant to the ASSA. Construction activities will not commence prior to the issue of an Authority Certificate.

All access restrictions included on the AAPA Authority Certificate will be incorporated into the Project Construction Environmental Management Plan and communicated to Project personnel through the Construction Line List and inductions. Specific site protection requirements will be detailed in the CHMP, which will be developed to provide the Construction Contractor with adequate detail for practical implementation of the controls required to protect sites that occur in close proximity to works areas. Traditional Owners will participate in clear and grade team ahead of construction in Restricted Work Areas.

During the Project operations phase, any access restrictions for Aboriginal Sacred Sites that occur in close proximity to the above-ground facilities will be incorporated into the Project Operational Environmental Management Plan (OEMP) and will be communicated to staff through the procedures set out in that plan.

#### Assessment of effectiveness

The Sacred Sites clearance process put in place for planning phase survey works (i.e. prior to the issue of an AAPA Authority Certificate) is considered to be working effectively in practice. A number of NGP field surveys have already been facilitated using this process. Aboriginal groups, through the CLC, NLC and AAC, provided approvals for these surveys to proceed and there has been no unauthorised entry to Sacred Sites.

An Authority Certificate is anticipated to be effective in ensuring Sacred Sites are not entered or damaged by Project activities, subject to the requirements of the Authority Certificate being effectively communicated to Project personnel and compliance with those requirements being achieved. It is acknowledged that it is possible some personnel could choose not to comply with the restrictions and this has occurred on other Projects; however, it is Jemena's intention that compliance with Sacred Sites restrictions will be closely monitored.

#### Residual risk

Subject to effective implementation of the proposed controls, the likelihood that unauthorised entry to sites would occur during the Project planning phase is substantially reduced and therefore the residual risk is assessed as **LOW**.

During the construction phase, effective implementation of the proposed controls is anticipated to greatly reduce the likelihood of Aboriginal Sacred Sites being subject to serious damage; therefore the residual risk is assessed as **LOW**.

Operational phase risks to Sacred Sites are inherently **LOW** and communication of site restrictions to personnel through the OEMP will further reduce the likelihood of unauthorised entry occurring over the life of the Project.

### 8.3.3 DAMAGE TO ARCHAEOLOGICAL OR HISTORIC PLACES OR OBJECTS

#### Context and assumptions

The NGP archaeological predictive model prepared by the Project heritage consultants (refer section 8.1.6.1) identified areas within the Project footprint that have a moderate to high likelihood of containing Aboriginal archaeological sites. Jemena has undertaken a ground-based archaeological survey of the Project footprint; however, some early survey works occurred prior to completion of the archaeological surveys. These early survey works were confined to non-intrusive field surveys.

The archaeological survey of the Project footprint was completed in July 2016 and has identified a suite of sites with variations in site abundance in different landforms. The vast majority of sites are stone artefact scatters and isolated stone artefacts. These are currently being documented in order to assess their significance consistent with the requirements of the Heritage Act (NT). In assessing the inherent risk of damage to archaeological sites, places or objects, it has been assumed that sites of medium to high significance may require protection through avoidance or specific site mitigation, e.g. salvage of objects. Applications for permits to disturb as required will be sought under the Heritage Act (NT) for sites of low to medium archaeological significance.

Construction activities involving vegetation clearing and earthworks could impact on these heritage sites.

#### Inherent risk

During the planning phase, it is possible that archaeological sites, places or objects could be disturbed by field survey activities; however, this type of disturbance is not expected to occur because survey activities will be mainly limited to visual assessments with access by vehicle or foot. There will be a small number of geotechnical test pits drilled over a large area and a number of soil sampling activities. However, there is a low possibility that these activities will disturb an archaeological site, as the location of all known sites has been recorded, and these areas will be avoided. If disturbance of a site were to occur either through vehicle movements or other ground disturbance, it is possible that the damage would be serious and potentially irreparable. The inherent risk (without controls) of damage to archaeological sites during the planning phase field surveys was assessed as **SIGNIFICANT**.

During the Project construction phase, the likelihood of damaging archaeological sites is increased. There will be large numbers of personnel, vehicles and equipment moving around in areas where sites may exist, and clearing of vegetation and earthworks are intrusive activities that could readily cause destruction of archaeological heritage sites. As sites protected under the Heritage Act (NT) are known to occur within the Project footprint, it is considered likely that these sites will be directly damaged or destroyed by construction activities if they are not actively avoided or managed in accordance with a Works Approval. The risk is greatest during the clear and grade phase, as this is the first activity that involves significant ground disturbance. The inherent risk (without controls) during the construction phase is assessed as **HIGH**.

Damage to archaeological sites is unlikely to occur during the Project operations phase as activities will be confined to areas where any archaeological heritage sites present would have been managed in accordance with a Works Approval prior to commencement of construction activities. The inherent risk (without controls) during the operations phase is assessed as **LOW**.

#### Controls

Jemena has engaged specialist consultants to manage land access approvals for Aboriginal and non-Aboriginal land. All field surveys undertaken during the planning phase are subject to approvals procedures through these established points of contact within Jemena's Project team. Land access approval procedures include review of the archaeological survey data compiled from the completed survey of the



Project footprint undertaken by qualified and experienced archaeologists. In the event that archaeological sites or objects have been located in proximity to the proposed survey areas, no-go areas will be included in field data and survey maps.

As all sites are protected under the Heritage Act (*NT*), prior to commencement of construction activities, Archaeological Heritage Reports will be provided to the Heritage Branch and will include recommendations for all archaeological heritage site management.

At the same time, the Archaeological Heritage Reports will be discussed with Traditional Owners and Site Custodians either directly or through the relevant representative bodies, such as the Central and Northern Land Councils and the Arruwurra Aboriginal Corporation.

Where possible any significant archaeological sites, places or objects identified through the field surveys will be avoided through realignment of the NGP pipeline corridor. Where this is not possible, applications will be made for Works Approvals from the Heritage Branch for site damage mitigation, e.g. through the salvage of archaeological materials. Works Approval applications will be made for permits to disturb sites of low to medium significance. All site specific protection requirements will be prescribed in the final CHMP, which will provide sufficient detail for the Construction Contractor to practically implement the measures prescribed in Works Approvals.

In addition, processes will be established for the survey and clearance of any additional work spaces required for the Project that have not been identified at this stage. For these areas, the CHMP will contain the detailed procedures to be followed; at a minimum, the areas will be surveyed by an archaeologist and the processes established under the Heritage Act (*NT*) for Work Approvals will be followed.

Any sites identified for protection that occur in close proximity to the works will be marked as no-go areas on the Construction Line List. Any requirements for marking out, fencing or sign posting sites will be prescribed in the CHMP for implementation by the Construction Contractor.

During the clear and grade activities, archaeological field hands may be engaged to monitor works in areas where heritage sites are known to occur, or where there is considered to be an increased likelihood of previously unrecorded sites (for instance due to low ground visibility at the time of survey). This process will be overseen by an experienced and qualified archaeologist.

#### Assessment of effectiveness

Through undertaking archaeological surveys of the Project area, there is a reasonable level of certainty that the location of significant heritage sites and items is known and therefore the land access approvals process in place for the planning phase can be used to ensure these sites are avoided. A number of field surveys have already been facilitated using this process. The approach therefore is considered to be working effectively in practice.

Where direct impacts to archaeological sites are unavoidable, the Works Approval process established under the Heritage Act (*NT*) is considered the best-practice approach to ensuring the heritage values of a site are recorded. The Works Approvals process will apply a level of scrutiny to the archaeological site management methods and as it is administered by the Heritage Branch is expected to provide for maintaining heritage values to the fullest extent practicable.

#### Residual risk

Subject to effective implementation of the proposed controls, the likelihood that heritage sites or objects would be disturbed by planning phase field survey activities is greatly reduced and any impacts that do occur could be expected to be limited to sites of low significance that by their nature were inadvertently missed by the field surveys. The residual risk is assessed as **LOW**.

During the construction phase, the proposed controls are expected to ensure that heritage sites are protected either through avoidance or compliance with the conditions of Works Approvals. Some minor damage to sites of low significance could still occur; however, it is considered unlikely that this impact would be of consequence to heritage protection more broadly. The residual risk is assessed as **LOW**.

Operational phase risks to heritage sites, places and objects are inherently **LOW** and communication of site restrictions to personnel through the OEMP will further reduce the likelihood of damage occurring over the life of the Project.

### 8.3.4 DAMAGE TO SKELETAL REMAINS AND SUB-SURFACE HERITAGE OBJECTS

#### Context and assumptions

There is potential that sub-surface archaeological material exists within the Project area which would not be identified by archaeological surveys, which focus on observation of the ground surface. Specifically in the Warumungu traditional land area there is potential for tree burials to exist. Skeletal material may also be buried in other areas, particularly sandy country.

There is also potential for archaeological objects to be buried by transported sediments. This is especially the case on floodplains and on the banks of watercourses.

Vegetation clearing and trench activities have potential to disturb tree burials, skeletal remains and other sub-surface archaeological objects. The risk of disturbing this type of archaeological evidence is confined to the construction phase. For the purpose of assessing inherent risk it is assumed that no controls are in place to educate personnel on how to minimise the impact on these objects should they be uncovered.

#### Inherent risk

Considering the fact that all construction works will be undertaken following Sacred Site and archaeological surveys and clearance work, the inherent risk of skeletal remains discovery is considered **LOW**. As such no specific mitigation measures are required. However, the following mitigations will be implemented to provide further assurance that damage to skeletal remains or sub-surface heritage objects is minimised:

- During the initial clearance of treed areas Traditional Owners will be engaged to join the clear and grade team ahead of construction.
- The CHMP will include procedures for the discovery of skeletal remains, or other sub-surface archaeological objects.

The proposed controls are anticipated to be effective in ensuring that if any skeletal remains are uncovered, they are managed to minimise disturbance, and in accordance with the law. The controls may not prevent the remains from being damaged but will minimise the amount of damage



## 8.4 MITIGATION AND MANAGEMENT

The strategies being employed presently and those that will be employed in the management of risk to culture and heritage include:

- implementing Cultural Heritage Survey Agreements and Cultural Heritage Management Plans with the Aboriginal Parties involved
- defining the route through the planning phase carefully to avoid Sacred Sites, in collaboration with the Aboriginal parties
- strictly controlling access to Aboriginal Land and the NGP pipeline corridor generally until Sacred Site, archaeological and cultural heritage surveys are undertaken
- complying with the Aboriginal Land Act (NT)
- complying with the Sacred Sites Act (NT) and the Heritage Act (NT)
- including procedures in CHMP for management of further site discovery during construction activities
- incorporating the provisions of any Authority Certificate and Work Approval into contractual provisions for all contractors
- inducting Jemena, the Construction Contractor, and sub-contractor work crews in Cultural Heritage awareness specific to the works and CHMP
- engaging Traditional Owners and trained Aboriginal field hands as required to support construction works.

Detailed management and mitigation measures are provided in the Project CHMP (Appendix Q) and these are summarised below in relation to the abovementioned risks. These measures have also been incorporated into the framework Environmental Management Plan (Chapter 13).

### 8.4.1 SACRED SITES PROTECTION

The statutory processes undertaken in accordance with the Sacred Sites Act (Northern Territory) provide for the protection of Sacred Sites, and underpin the mitigation measures for the protection of Sacred Sites that are included in the CHMP.

Sacred Sites Clearance Surveys were completed by the CLC, NLC and the AAC to ensure NGP activities do not result in unauthorised entry to, or damage to, Sacred Sites. The resulting reports to the AAPA will inform the conditions placed on the Authority Certificate applied for by Jemena.

The surveys, subsequent reports and close working relationships with the CLC, NLC and the AAC have allowed for the provision of maps and spatial data containing Restricted Work Areas and Exclusion Zones. These have applied during the planning phase and will continue to apply during the construction and operations phases.

Specific measures during the construction and operations phases of the Project will include:

- Project activities in Restricted Work Areas only undertaken in accordance with agreed conditions
- Exclusion Zones being designated as “No-Go Zones”
- any No-Go Zones in close proximity to the Project footprint y be cordoned off if necessary

- the conditions of the Authority Certificate, when granted, will form a part of the contractual conditions of all contractors and subcontractors on the Project
- all workers on the Project will undergo inductions that will include information regarding the Sacred Sites protection.

The detailed controls and processes established in the final CHMP, e.g. Authority Certificate conditions, will be incorporated into the Construction Environmental Management Plan (CEMP).

#### 8.4.2 DAMAGE TO ARCHAEOLOGICAL SITES, PLACES OR OBJECTS

During the planning phase (May to July 2016) a program of archaeological survey was undertaken over the whole known Project footprint, including the compressor station sites, construction ROW, access roads and known additional work areas.

The resulting reports will include recommendations in relation to the management of specific archaeological sites, places and objects discovered.

Jemena will make the required applications, considering the recommended site management conditions, to the Heritage Branch (Northern Territory) for Work Approvals, in accordance with the Heritage Act (NT).

Work Approval conditions may include:

- site protection, e.g. through marking out and fencing off heritage site areas in close proximity to construction activities, i.e. the establishment of No-Go Zones
- relocating and/or reinstating heritage objects
- destruction of sites.

The detailed controls and processes established in the final CHMP, e.g. Work Approval conditions, will be incorporated into the Construction Environmental Management Plan (CEMP).

#### 8.4.3 DAMAGE TO PREVIOUSLY UNDISCOVERED ARCHAEOLOGICAL SITES

During construction the development of infrastructure and access for the NGP requires the disturbance of the earth surface and so alterations to the natural environment, i.e. through clearing and grading of the ROW and access tracks, trenching for the pipeline or the requirement for additional work spaces that have not yet been surveyed.

In relation to additional work spaces, as these are identified and prior to any non-low impact disturbance to the land, they will undergo archaeological survey and as required, they will be located to avoid areas of high archaeological significance or Work Approvals will be sought in accordance with the *Heritage Act*.

In relation to areas already surveyed, land clearing may expose shallow sub-surface material or cultural materials that were previously obscured by vegetation. With the exception of skeletal remains discovery (see 8.4.4 below), such previously undiscovered heritage places or objects will be managed in accordance with any Work Approvals granted.

Implementation of any Work Approvals granted will be overseen by an archaeologist with good standing in the Northern Territory, the practical implementation of which may be undertaken through the employment of trained and experienced Aboriginal archaeological field survey hands.

The detailed controls and processes, e.g. Work Approval conditions, established in the final CHMP will be contained in the CEMP.

#### 8.4.4 SKELETAL REMAINS DISCOVERY

While the inherent risk is low, in the event that remains are discovered during the planning and construction phase of the Project, immediate compliance with the Coroner's Act (NT) will apply. The procedure will be as follows:

- immediate cessation of work in the area
- establishment of a 50 m radius exclusion zone for all personnel and activities
- immediate notification of the Northern Territory Police
- immediate notification of the Heritage Branch CEO.

In the event the Northern Territory Police advise that no further police investigation is warranted, Jemena will comply with the instructions of the Heritage Branch CEO regarding procedures to investigate and secure the remains and only resume works on the site after receiving a Works Approval from the CEO.

## 8.5 SUMMARY AND RESIDUAL RISK

The Project will involve activities which do have the potential to impact on historic and cultural heritage within the vicinity of the Project area. Each identified risk has been reduced to As Low As Reasonably Practicable (ALARP) through the application of management and mitigation measures. The mitigation measures prescribed in this chapter are expected to reduce all risks to low. The detailed protection measures are set out in the CHMP, which will cover all phases of the Project and be implemented throughout.

The residual risk profile for heritage related risks is shown below.

PROJECT PHASE	Low	Moderate	Significant	High	Extreme
PLANNING	3	0	0	0	0
CONSTRUCTION	3	0	0	0	0
OPERATIONS	2	0	0	0	0

### 8.5.1 PLANNING PHASE RESIDUAL RISKS

During the planning and design phase access will be required to the construction footprint for both non-ground disturbance works, and low impact ground disturbance works. Existing regulatory requirements in combination with the Sacred Site and Archaeological surveys undertaken for the Project, reduce these risks to **LOW**.

### 8.5.2 CONSTRUCTION PHASE RESIDUAL RISKS

Construction activities which pose potential impacts to Sacred Sites and archaeological sites include mobilisation and transportation to, and around, the construction footprint, ground disturbance, and trenching works. All required permits for accessing Aboriginal Land, Authority Certificates for Sacred Sites will be obtained prior to construction commencing. Agreements with Traditional Owners and their representative bodies will further outline the requirements for construction activities and land access. All relevant conditions of permits, Authority Certificates, agreements and Work Approval requirements will be incorporated into the CHMP and Construction Environmental Management Plan (CEMP). All staff will be inducted and trained in the requirements of these management plans and specific cultural heritage management requirements. The implementation of these mitigation measures are required by legislation and are proven effective, and will reduce residual risks to **LOW**.

### 8.5.3 OPERATIONAL PHASE RESIDUAL RISKS

There are few operational phase risks to historic and cultural heritage as access to operational areas, and activities within them will largely be restricted to the compressor stations, facilities and approved access tracks. No works are expected to occur outside of areas already approved under the Aboriginal Land access permits, Traditional Owner agreements and AAPA certificates. The conditions of these permits, certificates and agreements will remain in place throughout the operational phase and be included in the Operational EMP, which all staff will be inducted into. Compliance with all permits, certificates and agreements is expected to reduce the residual risk to **LOW**.

