

A DESK-TOP CULTURAL HERITAGE ASSESSMENT OF THE PROPOSED CENTREX METALS LTD SHEEP HILL PORT FACILITY, EYRE PENINSULA, SOUTH AUSTRALIA.

A report to

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ACKNOWLEDGEMENTS

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- David Nutley, Principal Maritime Heritage Officer, Heritage Branch, Department for Environment and Heritage, for his assistance with information on the *Three Sisters* shipwreck.
- Mrs Pat Carr, volunteer with the National Trust's Tumby Bay Museum, who provided assistance with historical material relating to the study area.
- Mr Graham Rogers, local resident, who provided information on *The Three Sisters* shipwreck as well as other aspects of the local history.
- Vanessa Edmonds, archaeological consultant, who provided the consultants with a copy of her report containing details of previously recorded archaeological sites in the area.

EXECUTIVE SUMMARY

This report comprises a desktop heritage assessment for the proposed Centrex Sheep Hill Port facility, located north of Lipson Cove, Eyre Peninsula. The assessment pertains to both Indigenous and non-Indigenous cultural heritage, including maritime heritage.

The assessment has involved a review of relevant heritage registers, a literature review and consultation with a range of governmental agencies and individuals. This work was supplemented with a brief field reconnaissance of the proposed project area on 20 November 2008.

A number of sites and locations archaeologically sensitive areas were identified during both the background research and field reconnaissance. The majority of these are located outside of the proposed development area, or are regarded as having no specific heritage value.

Three sites of heritage value have been identified within, or immediately adjacent to, the proposed development area, including one non-Indigenous site (SHPF_02) and two Indigenous sites (SHPF_01 and _02). It is recommended that potential impacts to these sites be mitigated through an appropriate project design. Ministerial approval will be required to disturb any Indigenous heritage site within the project area.

Further sites may be present on the subject land and should be identified through a thorough physical inspection of the area.

Consultation with the relevant Aboriginal authority/organisation should be undertaken in order to ascertain whether any sites of anthropological or historical significance are be present within the subject land.

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1. INTRODUCTION

Centrex Metals Ltd has engaged Golder Associates Pty Ltd to undertake an Environmental Impact Assessment (EIA) of their proposed deep water cape class marine port facility and transport corridor. The proposed port facility is located in the vicinity of Lipson Cove, between Tumby Bay and Port Neill, on the east coast of the Eyre Peninsula (see Figure 1).

The study area comprises a 260 hectare site which will become the port facility, as well as a 5km transport corridor linking the proposed port facility to the Lincoln Highway via Swaffers Road (see Figure 2).

The consultants have been engaged by Golder Associates Pty Ltd to undertake a preliminary desk-top cultural heritage assessment of the defined study area, on behalf of Centrex Metals Ltd. The study aims to identify whether any previously recorded cultural heritage sites, including both Indigenous and non-Indigenous cultural heritage, occur in the study area and provide some advice on the distribution and types of heritage items that may be present, based on a collation of broader, regional site information. The study was to include maritime heritage.

The assessment has been undertaken through:

- Collation of existing archival and published information relating to both Indigenous and non-Indigenous cultural heritage.
- Searches of archives and registers pertaining to both Indigenous and non-Indigenous cultural heritage, including maritime sites.
- Development of predictive statements regarding the likely nature and distribution of Indigenous sites within the project area, based on a collation of existing site data.
- A brief reconnaissance of the study area undertaken on 20 November 2008.
- Interviews with local residents and historical societies.

Included in this report is information on the legislative requirements relating to Indigenous and non-Indigenous cultural heritage (including maritime heritage), together with contextual information relating to the environmental and cultural landscapes.

It should be noted that this report is a desktop assessment only. No consultation has been undertaken with the relevant Indigenous community regarding the project. It is envisaged that a formal assessment of the area will be undertaken with the relevant Aboriginal community representatives.

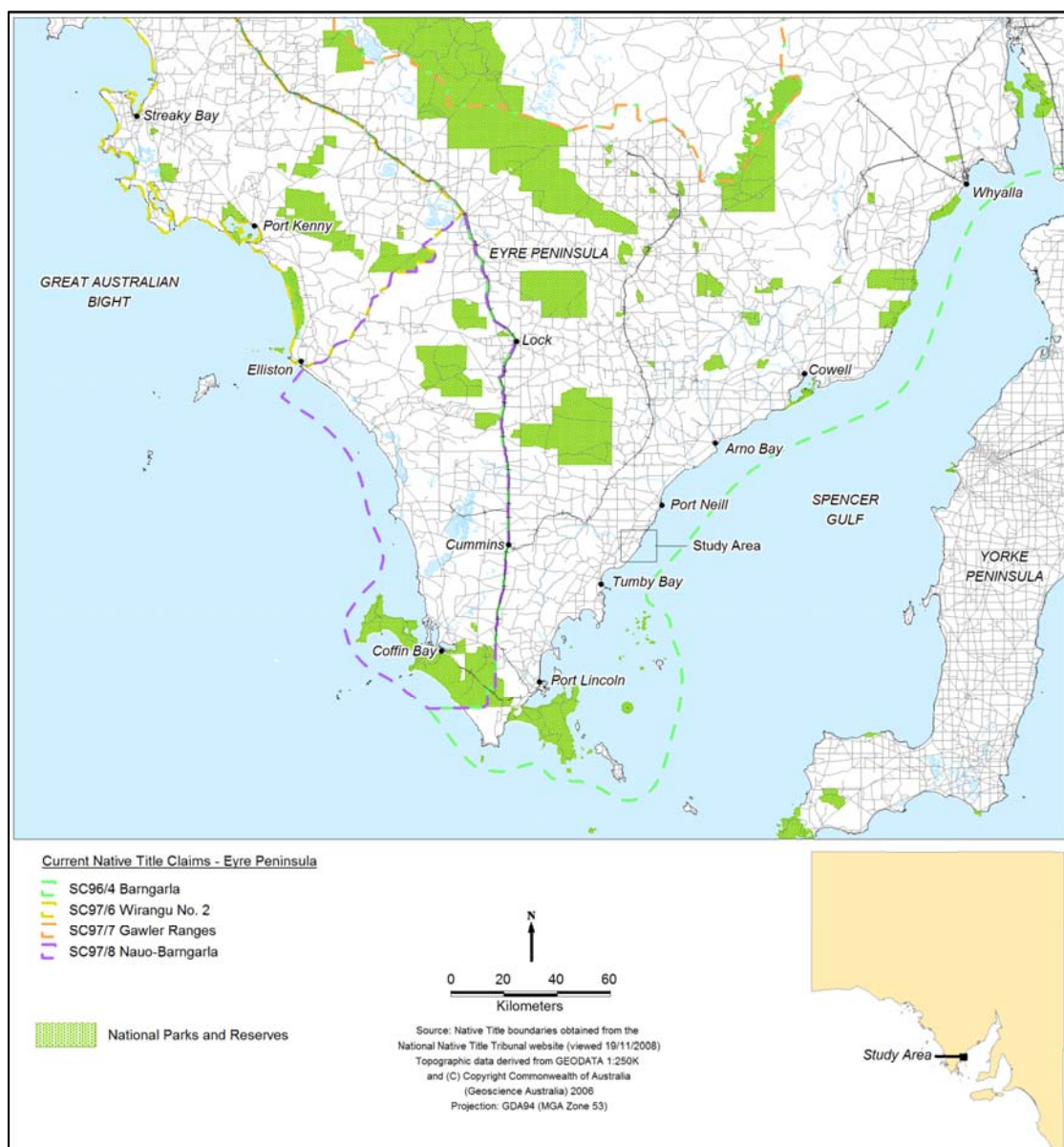


Figure 1: The location of the study area as well as the Barngarla Native Title claim area.



Figure 2: The study area (image supplied by Golder Associates).

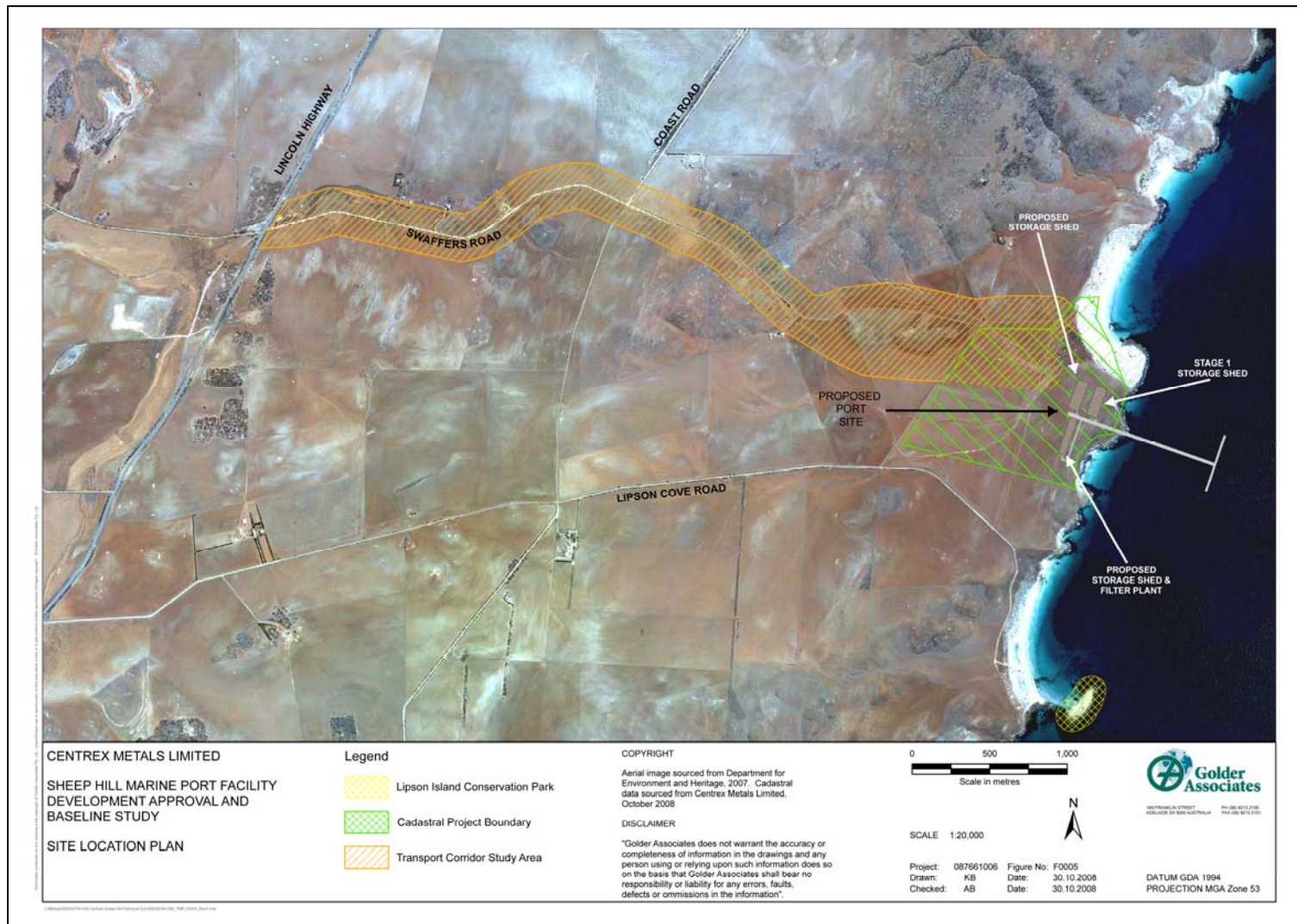


Figure 3: The study area in detail (image supplied by Golder Associates).

2. RELEVANT LEGISLATION

Indigenous and non-Indigenous cultural heritage is protected at both the State and Commonwealth levels. The Australian government's power and role in heritage place management is, however, strictly limited. Except in the case of Indigenous place protection and World Heritage, it does not impinge upon state powers, cannot usually stop states from destroying places and cannot legislate to actively protect them. The essential protective legislation is state-generated (Pearson and Sullivan 1995:56). Following are details of relevant legislation in South Australia as well as federally.

2.1 Indigenous cultural heritage legislation

South Australian legislation

South Australian Aboriginal Heritage Act 1988

The *Aboriginal Heritage Act 1988* provides blanket protection for all Aboriginal sites and objects in South Australia. An Aboriginal site is defined by the Act as being an area of land:

- a) That is of significance according to Aboriginal tradition;
or
- b) that is of significance to Aboriginal archaeology, anthropology or history.

An Aboriginal object is defined by the Act as an object:

- a) that is of significance according to Aboriginal tradition
or
- b) that is of significance to Aboriginal archaeology, anthropology or history.

The Aboriginal Affairs and Reconciliation Division (AARD) is required to keep a Register of Sites and Objects (RASO) but all sites are protected, irrespective of whether they are on the Register or not.

Section 7 of the Act establishes an Aboriginal Heritage Committee, now referred to as the State Heritage Committee. This committee includes representatives from local heritage committees and its functions are to advise the Minister on the significance of sites and objects, their preservation and protection and other matters relating to the Act.

Section 12 allows for a person proposing any action near a site to apply for a determination from the Minister as to the site's significance. Under Section 12(6), the Minister may then accept advice from an 'expert' on this matter and then make a determination as to whether the site is to be retained on the Register of Aboriginal Sites or whether it should be removed from the Register. Sites or objects that are determined not to be significant may be excluded from the operations of the Act (Section 13). Partial disturbance or clearance of a site may be possible through the determination process.

Section 20 states that all people who 'discover' Aboriginal sites or objects must report them to the Minister, through AARD. Details providing particulars of the nature and location of the site, object or remains must be included. The penalty for such an offence is \$50,000 for a body corporate, or \$10,000 or imprisonment for 6 months in the case of an individual.

It is an offence, under Section 23 of the Act, to collect, damage or destroy Aboriginal sites, objects or remains without the written authorisation of the Minister for Aboriginal Affairs. The penalty for such an offence is \$10,000 or imprisonment for six months in the case of an individual and \$50,000 in the case of a corporate body. Where a corporate body commits an offence under the Act, each member of the governing body is guilty of the same offence and is liable to the same penalty as an individual.

Under Section 24, the Minister may prohibit or restrict access to a site and also prohibit or restrict activities at or near a site. Prohibitions and restrictions made under this section require the approval of the Governor.

Contact details for AARD are as follows:

Aboriginal Affairs and Reconciliation Division
GPO Box 2343
ADELAIDE SA 5001
Ph: (08) 8226 8900

Commonwealth legislation

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

Aboriginal sites are also protected by Commonwealth legislation. The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* and subsequent amendments provide for the preservation and protection of sites and objects of traditional significance to Aboriginal people. Sites and objects can be protected both from physical threat and from the threat of desecration. Aboriginal tradition means the body of traditions, observances, customs and beliefs of Aboriginal people generally or of a particular community or group of Aboriginal people and includes any such traditions, observances, customs or beliefs relating to particular persons, areas, objects or relationships. The Commonwealth Act takes precedence over State legislation where there is conflict.

Aboriginal people can apply to the Federal Minister for Aboriginal Affairs for an emergency declaration to protect a threatened site or area. Emergency declarations would only be made if it was considered that State heritage legislation did not adequately protect a site or object. Before making a declaration, the Federal Minister must consult with the State Minister for Aboriginal Affairs to determine whether State legislation gives the necessary protection to the site or objects. If the Federal Minister is satisfied that the State or Territory laws offer protection, then a declaration will not be made.

Emergency declarations, giving temporary protection to a site or object, can apply for 30 or 60 days. If the Minister is satisfied that the site or objects are still under threat, long-term protection can be provided. Contravention of

declarations made in relation to significant Aboriginal areas or objects is an offence. At present, there are no areas or sites under the protection of this Act within the study area.

Environment and Heritage Legislation Amendment Act (No. 1) 2003, Australian Heritage Council Act 2003, Australian Heritage Council (Consequential and Transitional Provisions) Act 2003

Together, these three Acts provide protection for Australia's natural, Indigenous and non-Indigenous cultural heritage. Features include:

- A new National Heritage List of places of national heritage significance.
- A Commonwealth Heritage List of heritage places owned or managed by the Commonwealth.
- The creation of the Australian Heritage Council, an independent expert body to advise the Minister on the listing and protection of heritage places.
- Continued management of the Register of the National Estate, although this register is now frozen meaning no new places can be added or any removed.

The first of the Acts amends the *Environmental Protection and Biodiversity Conservation Act 1999* to include 'national heritage' as a new matter of National Environmental Significance and protects listed places to the fullest extent under the Constitution. It also establishes the National Heritage List and the Commonwealth Heritage List.

The second of the Acts establishes a new heritage advisory body to the Minister for the Environment and heritage, the Australian Heritage Council, and retains the Register of the National Estate.

The third of the Acts repeals the *Australian Commission Act 1975*, amends various Acts as a consequence of this repeal and allows the transition to the new heritage system.

Following are details of each of the Heritage Lists and the protection offered to places on them (www.deh.gov.au/heritage/law/heritageact/index.html).

National Heritage List

The National Heritage List is a list of places with outstanding heritage value to our nation, including places overseas. So important are the heritage values of these places that they are protected under the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This means that a person cannot take an action that has, will have, or is likely to have, a significant impact on the national heritage values of a national heritage place without the approval of the Australian Government Minister for the Environment and Water Resources. It is a criminal offence not to comply with this law and there are significant penalties.

The National Heritage List is a list of places with outstanding natural, Indigenous or historic heritage value to the nation. When heritage experts assess if a National Heritage List nominated place is considered to have heritage value they will check to see if the place meets one or more of the following criteria:

- (a) The place has outstanding heritage value to the nation because of the place's importance in the course, or pattern, of Australia's natural or cultural history.
- (b) The place has outstanding heritage value to the nation because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history.
- (c) The place has outstanding heritage value to the nation because of the place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history;
- (d) The place has outstanding heritage value to the nation because of the place's importance in demonstrating the principal characteristics of:
 - (i) A class of Australia's natural or cultural places; or
 - (ii) a class of Australia's natural or cultural environments.

- (e) The place has outstanding heritage value to the nation because of the place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group.
- (f) The place has outstanding heritage value to the nation because of the place's importance in demonstrating a high degree of creative or technical achievement at a particular period.
- (g) The place has outstanding heritage value to the nation because of the place's strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
- (h) The place has outstanding heritage value to the nation because of the place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.
- (i) The place has outstanding heritage value to the nation because of the place's importance as part of Indigenous tradition.

Commonwealth Heritage List

The Commonwealth Heritage List is a list of places managed or owned by the Australian Government. The list will include places, or groups of places, that are in Commonwealth lands and waters or under Commonwealth control, and are identified by the Minister as having Commonwealth heritage values. These places will be protected under the EPBC Act, which requires that actions:

- Taken on Commonwealth lands which are likely to have a significant impact on the environment will require the approval of the Minister.
- Taken outside Commonwealth land which are likely to have a significant impact on the environment on Commonwealth land, will require the approval of the Minister.
- Taken by the Australian Government or its agencies which are likely to have a significant impact on the environment anywhere, will require approval by the Minister.

As the definition of 'environment' in the EPBC Act includes the heritage values of places, these provisions of the Act in the context of their operation, provide protection for the values of Commonwealth Heritage places.

A place meets the Commonwealth Heritage listing criterion if the place has significant heritage value because of one or more of the following:

- a. The place's importance in the course, or pattern, of Australia's natural or cultural history.
- b. The place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history.
- c. The place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history.
- d. The place's importance in demonstrating the principal characteristics of:
 - i. A class of Australia's natural or cultural places; or
 - ii. a class of Australia's natural or cultural environments.
- e. The place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group.
- f. The place's importance in demonstrating a high degree of creative or technical achievement at a particular period.
- g. The place's strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
- h. The place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.
- i. The place's importance as part of Indigenous tradition.

Register of the National Estate (RNE)

Under the new system, the Register of the National Estate is retained as an evolving record of Australia's natural, cultural and Aboriginal heritage places that are worth keeping for the future. The Register was frozen in February 2007 meaning that no places can be added or removed. Places on the Register that are in Commonwealth areas, or subject to actions by the Australian Government, are protected under the EPBC Act by the same provisions that protect Commonwealth Heritage places.

There is now a significant level of overlap between the Register of the National Estate, and heritage lists at the national, State and Territory, and local government levels. In early 2007, changes were made to the EPBC Act,

to address this situation. There will be a transition period of five years to allow governments to consider whether there are places on the Register that should receive protection under another statutory list or a local government heritage register. After this period, the Register's statutory basis will be removed.

Native Title Act 1993

The main purpose of the Commonwealth Native Title Act is to recognise and protect native title. Native Title is the rights and interests in land and waters that Aboriginal and Torres Strait Islanders have under their traditional laws and customs. The following list is indicative of the type of land which might be subject to Native Title:

- Vacant Crown land.
- State forests.
- National Parks.
- Public reserves.
- Beaches and foreshores.
- Land held by government agencies.
- Land held in trust for Aboriginal communities.
- Any other public or Crown lands including oceans and inland waterways.
- Pastoral leases.

Under the amended Act, Native Title is extinguished by the following:

- Private freehold land.
 - Valid grants of private freehold land or waters.
 - Residential or commercial leases.
 - Exclusive possession leases.
 - Mining dissection leases.
 - Community purpose leases (e.g. religious, sporting or charitable purposes).
 - Scheduled interests that give exclusive possession.
 - Public works (e.g. schools, public amenities, hospitals, etc.).
-

The Native Title Act contains a process for 'determining' or deciding whether or not Native Title exists and whether the people who have title have exclusive possession. If they do not have exclusive possession the person who makes the determination may say what kinds of rights the title holders have.

People who have land and want to find out if anyone has native title rights to that land are called 'non-claimants'. Non-claimants can ask for a determination about Native Title and if there is no opposition over their application then any future acts over the land or water in question are valid.

The recent amendments to the Act mean that all Native Title applications lodged on or after the 27th June, 1996 (starting date of the Native Title amendment process in Parliament), must be considered for registration under the new registration test as soon as is reasonably practicable. Passing the registration test allows Native Title applicants to:

- Access the right to negotiate.
- Oppose non-claimant applications over the same area.
- Confirm pastoral lease access rights where these rights existed on 23.12.96.
- Gain certain other procedural benefits such as the right to enter into a registered Indigenous Land Use Agreement.

There is currently a Native Title application in place over the study area, the Barngarla Native Title claim (SC96/4). The Native Title claim relates not only to the land, as shown on Figure 1, but also includes an area extending five nautical miles into the Spencer Gulf/Great Australian Bight. Following are contact details for the Barngarla legal representative:

Philip Teitzel

Teitzel & Partners

Ph: (02) 9416 3138

2.2 Non-Indigenous cultural heritage legislation

South Australian legislation

Heritage Act 1993

The Act is designed to protect the built and maritime heritage of South Australia and is administered by the Heritage Branch of the Department for Environment and Heritage (DEH). The South Australian *Heritage Places Act 1993* established a Heritage Register and Inventory. All State Heritage Places and Areas listed on the South Australian Heritage Register are protected by the provisions of the Act, which makes it an offence to damage or destroy relics without the written permission of the Minister for Environment and Conservation.

The South Australian Heritage Register, maintained by the Heritage Branch, allows for inclusion on the register, of sites and/or places which meet, to some level, the following criteria:

- It demonstrates important aspects of the evolution or pattern of the State's history.
- It has rare, uncommon or endangered qualities that are of cultural significance.
- It may yield information that will contribute to an understanding of the State's history, including its natural history.
- It is an outstanding representative of a particular class of places of cultural significance.
- It demonstrates a high degree of creative, aesthetic or technical accomplishment or is an outstanding representative of particular construction techniques or design characteristics.
- It has strong cultural or spiritual associations for the community or a group within it.
- It has a special association with the life or work of a person or organisation or an event of historical importance.

The Heritage Branch is not responsible for the listing of places or areas of local heritage significance. The protection of local heritage is dealt with through the *Development Act 1993*, and local councils are responsible for initiating the statutory process by which a Development Plan is amended to include lists of significant individual places or create heritage areas. The Development Plan amendment process entails the preparation of a Plan Amendment Report (PAR) and includes statutory requirements for consulting the community.

A Development Plan may designate a place as a place of local heritage value if it satisfies one or more of the following criteria (from section 23(4) of the *Development Act 1993*):

- a. It displays historical, economic or social themes that are of importance to the local area.
- b. It represents customs or ways of life that are characteristic of the local area.
- c. It has played an important part in the lives of local residents.
- d. It displays aesthetic merit, design characteristics or construction techniques of significance to the local area.
- e. It is associated with a notable local personality or event.
- f. It is a notable landmark in the area.
- g. In the case of a tree (without limiting a preceding paragraph) - it is of special historical or social significance or importance within the local area.

Following are contact details for the Heritage Branch:

Department for Environment and Heritage
Ground floor, 1 Richmond Rd
KESWICK SA 5035

Historic Shipwrecks Act 1981

This Act is designed to protect the maritime heritage of South Australia and is administered by the Heritage Branch of the Department for Environment and Heritage. The remains of ships (and relics from these ships) that have been situated in territorial waters of the State for 75 years or more are considered to be historic shipwrecks for the purposes of the Act. The Minister for Environment and Conservation may declare an area (not exceeding 100 hectares) of water, or partly water and land (and includes the airspace above that area), within which the historic shipwreck is, to be a protected zone. In the case of as yet unlocated shipwrecks, these may be declared Historic Shipwrecks once their significance has been determined.

The Register of Historic Shipwrecks contains details of all known historic shipwrecks. It is an offence to damage, destroy, interfere, dispose of and/or remove historic shipwrecks without the permission of the Minister. The maximum penalty for any infringements is \$5,000 or imprisonment for five years, or both.

It is a requirement of the legislation that Heritage SA be notified of any new shipwreck discoveries and that all relics recovered from historic wrecks, irrespective of how long ago, be registered by Heritage SA.

The agreed criteria used to determine the significance of a shipwreck are as follows (after DEH 2002):

- a. Historic: Is relevant to a particular person, phase or event of historical importance.
- b. Technical: Demonstrates the development of new technology or innovative design or the perfection of established technical or creative achievements.
- c. Social: Valued by a present-day community for social, cultural, religious, aesthetic or educational associations beyond the normal regard for local heritage.

- d. Archaeological: Contains material evidence which potentially contributes to an understanding of the past (e.g. ship construction and design, trade, settlement or transport) and which is not readily available through other research techniques.
- e. Scientific: Contributes information about natural sciences or the effect of immersion on manufactured materials and includes sites where testing and evaluation of *in situ* protective measures is possible.
- f. Interpretive: Has the accessibility, setting and integrity to contribute to public education through on-site interpretation which highlights its heritage value.
- g. Rare: Is an example of a distinctive way of life, process, custom, use or design which is no longer practiced.
- h. Representative: Demonstrates the characteristics of a range of human activities or achievements.

Certain activities are prohibited within the prescribed protection zone and these include the following:

- The bringing into a protected zone of equipment constructed or adapted for the purpose of diving, salvage or recovery operations, or of explosives, instruments or tools the use of which would be likely to damage or interfere with a historic shipwreck or a historic relic situated within that protected zone.
- The use within a protected zone of such equipment, explosives, instruments or tools.
- Causing a ship carrying such equipment, explosives, instruments or tools to enter, or remain within, a protected zone.
- Trawling, or diving or other underwater activity, within a protected zone.
- The mooring or use of ships within a protected zone.

Commonwealth legislation

Environment and Heritage Legislation Amendment Act (No. 1) 2003

Australian Heritage Council Act 2003

Australian Heritage Council (Consequential and Transitional Provisions) Act 2003

See details above in the Indigenous section.

Historic Shipwrecks Act 1976

This Act is similar to the *State Historic Shipwrecks Act 1981*.

3. THE PHYSICAL ENVIRONMENT

The study area incorporates approximately 1.2km of coastline with the proposed access corridor continuing to the Lincoln Highway, 6km to the west of the proposed port facility. The access corridor extends 150m either side of Swaffers Road, traversing a low range of hills via a shallow, ephemeral gully (see Figure 4).

The coast is characterised by a series of narrow sandy coves separated by low rocky headlands. The cove immediately north of the proposed port facility is backed by a shore-level dune formed over a cobble chenier (see Plate 1) a small area of samphire continuing inland from the dune (see Plate 2). Dunes are also found perched on top of a basement headland on the southern edge of this cove with extensive deflation of these areas having occurred (Plate 3).

The remaining coast sections are characterised by steep cliffs formed on Lincoln Complex meta-sediments, granitoids and dolerite dykes (Parker *et al.* 1985). Narrow boulder ledges continue around most cliff sections and dip steeply into relatively deep water with no substantive platforms present (Plate 3, 4).

Basement outcrops continue inland in a series of low, isolated knolls together with a more substantial range of hills continuing to the north of the study area and dissected by a series of short, ephemeral channels (see Plates 2 and 5). The lower-lying intervening land is formed on alluvial clays with fluvial sand/silt splays extending from shallow drainage lines around the base of the hills. Much of the surface drainage converges on the cove on the northern side of the proposed port facility or flows west from the hills, paralleling the proposed access corridor and Swaffers Road to the Salt Creek course, located west of the Lincoln Highway.

The landscape has been extensively modified through a long history of pastoral and agricultural development. Much of the native vegetation has been cleared. The alluvial soils have been targeted for the cultivation of cereal

crops with ploughing continuing to a narrow coastal reserve, extending 20-50m from the shoreline. Large piles of rubble are found at various locations around the edges of cultivated paddocks. The adjoining hills are used exclusively for grazing.

Fence lines, dams, tracks and various farm infrastructure and buildings occur throughout the area.



Plate 1:
Cove, dune and chenier located on the northern side of the proposed port facility.



Plate 2: View looking west across samphire to the access corridor and low hills.



Plate 3:
Perched dune overlooking a steep boulder/outcrop slope and narrow boulder ledge.



Plate 4:
Proposed wharf location (the small headland in middle left of image).



Plate 5: View looking north across the proposed port site. The proposed shed locations are on the low rise on the right side of the vehicle track.

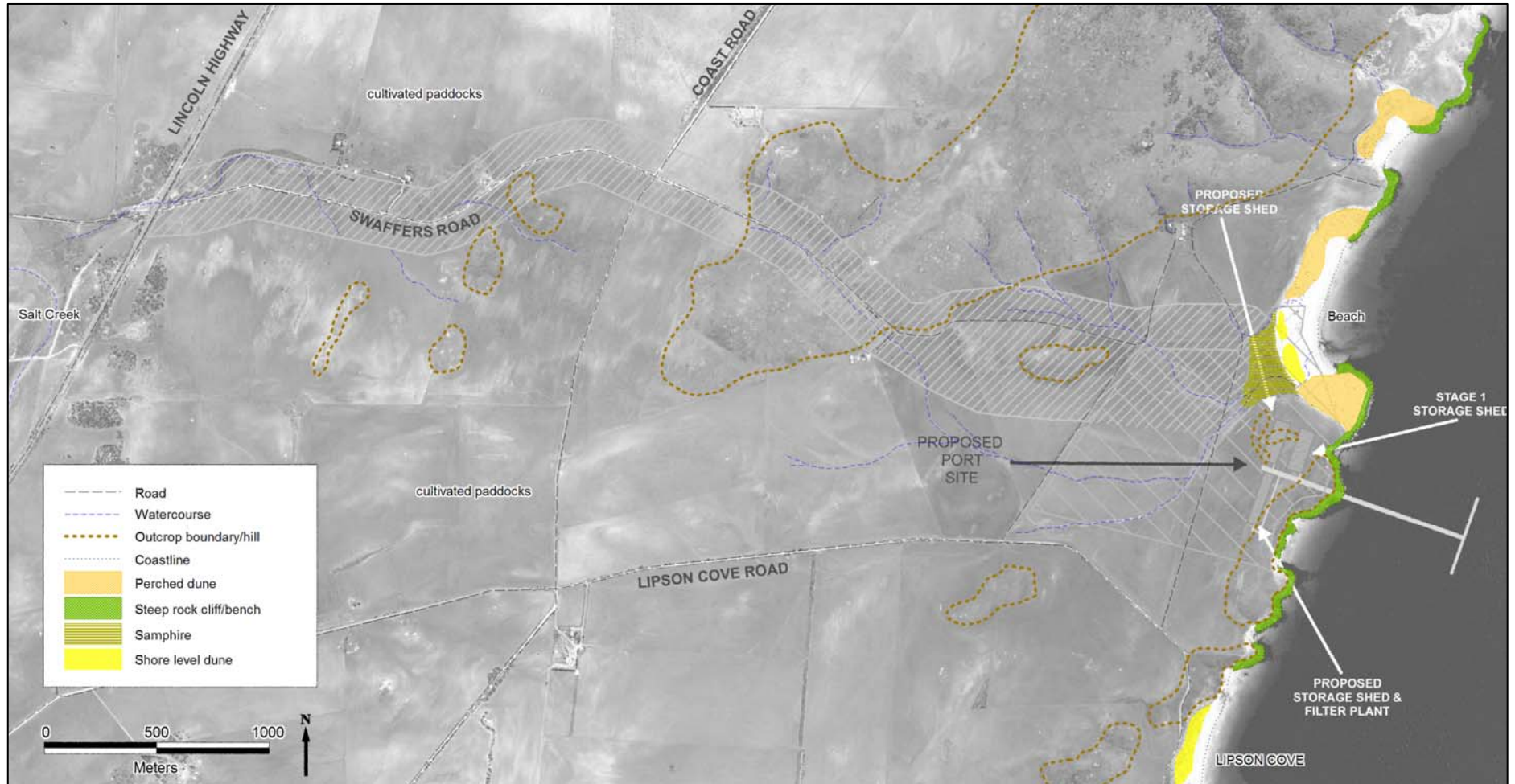


Figure 4: The main elements of the physical landscape.

4. THE CULTURAL ENVIRONMENT

Information for this section has been gathered from a range of sources including:

- archival and documentary material held in libraries,
- collections held at the South Australian Museum,
- the South Australian State Heritage Register,
- the Register of Historic Shipwrecks (Australian National Shipwrecks database),
- the Register of the National Estate,
- advice from AARD,
- previously conducted cultural heritage studies,
- the Development Plan and Plan Amendment reports for the Tumby Bay District Council,
- the Australian Heritage Places Inventory (viewed 17 November 2008),
- discussions with the DEH,
- discussions with local residents, and others.

Access to the AARD Register of Sites and Objects has been by way of a statement as to whether there are previously recorded sites in the study area or not. More detailed access to the Register requires a letter of permission from the relevant Indigenous organisation and this has not been sought at this stage. Previously held information relating to Aboriginal sites in the region has been used for the development of the predictive statements.

See Appendix I for definitions of Indigenous archaeological site types.

4.1 Indigenous cultural heritage

4.1.1 Historical background

a. *Populations and language groups*

Norman Tindale, previous ethnologist with the South Australian Museum, produced a catalogue of Aboriginal tribes in Australia (1974). In his work, Tindale attempted to reconstruct the pattern which existed prior to white settlement. According to this publication, the study area lies within the territory of the *Nauo*. They ranged north to Franklin Harbor where the territory of the *Pangkala* or *Barngarla*, as they are now known, commenced.

Tindale (1974) goes on to state that due to pressure from the Barngarla at the time of first white settlement, the Nauo were being pushed to the south-west, with the Barngarla replacing the Nauo in the Port Lincoln area. Tindale (1974:216) states that it is likely that pressure from the *Kokatha*, the Barngarla's northern neighbours, possibly for food resources, resulted in the Barngarla's movement south. He states that once this expansion commenced, the Barngarla ventured as far south as Tumby Bay to obtain whipstick mallee wood for spears (Tindale 1974:216).

This movement possibly accounts for the fact that C.W. Schurmann, missionary and Deputy Protector of Aborigines resident at Port Lincoln from 1840, believed the Barngarla inhabited the western shore of Spencer Gulf down to Port Lincoln, and the Nauo, who spoke a similar language, inhabited the country around Coffin Bay (quoted in Martin 1988:28).

Schurmann however recorded the presence of both the Barngarla and Nauo people in Port Lincoln in the 1840s. He wrote in a report to the Protector, Moorhouse, in 1842:

The natives of Port Lincoln are divided into two tribes called Nauo and Parnkalla. The former live on the coast to the south-west of the settlement and live chiefly on fish ... The Parnkalla spread to the north beyond Franklin Harbour and

the interior. It is divided into two smaller tribes, Wambiri Yurrarri (Coast people) and Battara Yurrarri (Gum tree people) from their living in the interior where gums are plentiful. The two tribes mix occasionally (Schurmann 1987:152-153 cited in Lucas 1991:7).

Tindale (1974) believed there to be two divisions amongst the Barngarla: the *Wartabanggala*, originally occupying country north of Port Augusta and extending almost to Quorn and Beltana, and the *Malkaripanyuala*, being located along the western side of Spencer Gulf.

Tindale (1974), Berndt (1985), (Elkin 1931) and others believe the Barngarla and Nauo to be in a language group called *Thura-Yura* or *Thura-Meyu* which was associated with a specific culture, the Central Lakes cultural bloc. This block is distinct from the Western Desert cultural bloc, which extends beyond the border of South Australia, well into Western Australia. The Central Lakes bloc, extends from the Eyre Peninsula into south-east Queensland (Wood *et al.* 2007).

The main distinguishing features of the two cultural blocs are summarised as follows (after Wood *et al.* 2007):

Central Lakes bloc	Western Desert bloc
• Named matrilineal moieties.	• Generational divisions.
• Patrilineal and matrilineal totemism.	• Birth place based totemism.
• Moiety exogamy in marriage.	• Arranged marriages.
• Generalised mythologies (<i>murra</i>).	• Totemic based mythologies (<i>tjukurpa</i>).
• Final stage of male initiation rite called <i>Wilyaru</i> .	• Final stage male initiation is the man (<i>wati</i>) making rite.
• <i>Thura</i> language group.	• Western Desert language group.

Both Elkin (1931) and Berndt and Berndt (1942-1944) concluded that the basis of Aboriginal life in both cultural blocs is the 'physiographic mythology' or 'dreaming', rather than tribal identity.

Whilst it is uncertain how many Nauo and Barngarla there were prior to European settlement, Mathew Flinders, during his investigations of the Port Lincoln area in 1802, noted that the area appeared to have a reasonably large population compared to the coast further west:

Many struggling bark huts, similar to those on other parts of the coast, were seen upon the shores of Port Lincoln, and the paths near our tents had been long and deeply trodden (Flinders quoted in Martin 1988:27).

In early December 1840 Schurmann and several other residents of Port Lincoln set out on a journey to the head of Spencer Gulf in a small cutter. On 5th December they reached Tumby Island and then continued on northwards along the coast. Schurmann recorded in his diary:

6th Dec. A favourable and moderate wind brought us in a few hours to Lipson Cove. For 8-10 miles we had noticed four natives running along the shore with the speed of the ship, until we anchored in Lipson Cove (Budlu). Except for one boy, they were all old acquaintances. One named Punalta, whom we took on board at his request, stayed with us for the full 14 days (Schurmann, C. W. 1838-1845 *Diary*, Lutheran Archives, Adelaide).

In his Aboriginal Place Names Index, Tindale has a listing for Lipson Cove. It is thought its Barngarla name was *budlu*, although the meaning is unclear (Tindale Place Names Index No. 1710). Port Lincoln Harbour was *Jarti worna* from *Jarti* being smooth, without stones and *worna* being belly (Tindale Place Names Index No. 1705). Port Lincoln itself was known by the Barngarla as

Kallinvala being the 'haunt of seagulls' (Tindale Place Names Index Nos. 1706 and 1707).

b. Subsistence and material culture

According to Berndt (1985:130), the people of the Eyre Peninsula region wore cloaks of kangaroo, possum and wallaby skin, particularly in cold weather. When raining they turned the fur-side outward. In hot weather, men and women smeared their bodies with fat and ochres, or with soot from burnt grass-trees. Both men and women carried with them a *nurti*, or knapsack, made of skin or of net and often lined with dry grass. Schurmann (quoted in Berndt 1985:130) provided a list of what a man's *nurti* usually contained: weapons, shell drinking-vessels, a wooden scoop (for roasting roots), a round stone (for breaking animal bones), quartz knives with handles, ochres, sinew, bone needles, sharpened bones (for peeling roots), tufts of feathers (for decoration), beard tips, string fibre, spear-barbs, and food.

Schurmann (1879:216-217) described a diversity of plants (*mai*) and animals (*baru*) that were used by the Aboriginal inhabitants of the Port Lincoln area. These include native peaches (quandongs), native cherries, various berries, beans, tubers, seeds, pig-face, and the roots of grass trees, as well as a wide range of animal foods:

Every description of game, from the kangaroo down to the smallest marsupial species, and all kinds of bird, from the emu to the wren, constitute food for the Aborigines of this district, nor are snakes and other reptiles by any means despised (Schurmann 1879:218 quoted in Nicholson 1994:76).

Fish were also an important part of the subsistence diet and the vocabulary recorded by Schurmann includes the names of 35 species of fish with the general name for fish being *kuja* (Martin 1988:29). Fish were caught by herding in shallow water or by using traps, either stone or wooden traps.

The larger kinds [of fish] are speared, while the smaller sorts, particularly those that move about in shoals, are surrounded by a number of natives, each being provided with a branch of tea tree, and slowly driven towards the shore, where they are secured by placing the branches round them and throwing them upon the sand. Some kinds of fish are attracted in the night by a light, knowing which, the natives go into the water with lighted torches of long, dry pieces of bark, and procure great quantities of them (Schurmann quoted in Martin 1988:29).

Although netting, hook and line fishing, along with watercraft, appear to have been absent from this region, spears and boomerangs were used to kill the herded fish (Nicholson 1994:78). The fish spear is:

The winna, which is only five feet long, very strong and clumsy, and only made use of in spearing large fish. ... The wadna, which is the boomerang of other Australian tribes, only that it is longer, thinner, and clumsier; it is used solely for striking fish in the water and seldom carried about by the natives, but is generally left at the fishing place (Schurmann quoted in Martin 1988:29).

According to Schurmann, fishing may have been seasonally important, rather than being undertaken all year round (Martin 1988:29).

As Nicholson (1994:82) states, the evidence for the exploitation of shellfish along the coast appears to be contradictory. Some early ethnographic accounts suggest that shellfish were not eaten (Eyre 1845/1997, Schurmann 1879), while later accounts (c. 1900) describe large middens on the coast (*Observer* 1912 quoted in Nicholson 1994:82).

Both Schurmann (1846:225-233) and Angas (1847:110, 115), testify to the broad use of quartz implements by the Aboriginal people of the Eyre

Peninsula. Sharpened quartz chips were used to let blood, both for the relief of headaches and during initiation rites. Another use was to clean the scraps of flesh off animal skins that were being prepared for rugs and cloaks (Schurmann 1846:210).

c. *Post-contact experience*

Following European settlement, it is clear from Schurmann's diaries that violence and antagonism between the new settlers and Aboriginal groups defined the contact period on Eyre Peninsula. As Brock and Kartinyeri (1989:6) state, the early violent contacts with the sealers and whalers who preceded white colonisation (many Aboriginal women were abducted and taken to Kangaroo Island and the south-east coast of South Australia), are likely to have made the Aboriginal people of Eyre Peninsula, particularly those along the coast, wary of white people and:

This impression was reinforced when white people settled permanently in the area. Many of the one hundred and ninety early settlers were ticket-of-leave men, rough and lawless (Brock and Kartinyeri (1989:6).

Religious and social taboos of the Aboriginal people were obviously transgressed and there was a gradual monopolising of water holes, the displacement of natural game and plant foods and increasing pressures on traditional subsistence enterprise and social structure. Schurmann documents numerous violent incidents including the use of flour poisoned with arsenic (Schurmann 1987:186-188 cited in Lucas 1991:25) occurring in the district throughout the 1840s and early 1850s as the Aboriginal people of the area resisted the usurpation of land and resources by European settlers.

Other changes to Aboriginal lives were recorded as well. In 1845 Schurmann noted the initial incorporation of Barngarla people into the pastoral economy which was to be their main source of livelihood in the years to follow:

The local settlers have made more use of the natives this summer as reapers and threshers, to the advantage of both sides. The colonists are learning the appreciate the usefulness of the natives, but still have to learn more of the natives' customs and to allow for the development of their working skills (Schurmann 1987:176-177 cited in Lucas 1991:25).

Schurmann secured use of six acres of land immediately north of Port Lincoln in 1843 where he hoped to interest Aboriginal people in the district in agriculture. He also intended to build a school for Aboriginal children and this was finally established in 1850 and had 24 pupils. It only ran for three years, after which it was transferred to the Poonindie Mission which had also been established in 1850. This mission was an experiment intended to mould Aboriginal people to a European vision of economic productivity and acceptable lifestyles (Lucas 1991:25):

Port Lincoln has been selected as the locality for the intended Institution. Our natives, from this part of the colony, will be there removed from the influences which the elders of their own tribes at present exercise over them (Anglican Archdeacon Mathew Blagden Hale, found of the mission and a missionary of the Society for the Propagation of the Gospel cited in Mattingley and Hampton 1992:179).

As Lucas (1991:26) states, Aboriginal customs were assailed directly during this period at Poonindie as Aboriginal people from many different groups from southern South Australia were brought to live together for the first time. English became the common language and traditional forms of social organisation were discouraged by the mission regime:

The Aboriginal community that grew up at Poonindie had no roots in any particular pre-European society ... Poonindie was not based on the local Pangkala population. White

recruitment militated against a community development which might adopt a particular traditional Aboriginal belief system or kinship structure ... The decision to take children of mixed descent ensured a generation would grow up at Poonindie which remembered no other cultural life (Brock and Kartinyeri 1989:30-31).

Barngarla people often used the mission as a temporary haven when food and water became scarce in the hinterland and would also often leave their children there while they sought employment or conducted ceremonies elsewhere (Lucas 1991:26). Port Lincoln itself was also a ration depot (through the police station) with 643 people registered (Berndt 1985:136).

Poonindie was able to support itself through its farming by 1868. By 1894 however pressure on the government from local landholders who wanted the well-cultivated land, forced its closure. Some of the residents were transferred to Point McLeay (Raukkan), in the Coorong, or to Point Pearce, on Yorke Peninsula. As Mattingley and Hampton (1992:182) state:

Once again the people were uprooted and dispossessed, pawns in the capitalist system which had taken over their country. Their family ties had been severed at an early age. Their kinship system had been flouted in their Goonya [white people] arranged marriages. Their spiritual links with their land had been destroyed. They had lost their language and their culture. Yet they had survived and developed a new identity from their own inner resources.

Lucas (1991:27) points out that the Barngarla experience during the late nineteenth and early twentieth century was one of displacement and movement. This forced a gradual modification and loss of ritual associations with increasingly inaccessible tracts of country.

By 1946, rations continued to be distributed in the area 'to old and inform Aborigines as and when required' (Berndt 1985:136), while a considerable number of men were employed at Port Lincoln. Today, Port Lincoln has a relatively high Aboriginal population.

4.1.2 Mythologies

Access to previously completed anthropological reports has, for the most part, not been possible as a letter from the relevant Aboriginal organisation is required prior to AARD releasing such information. It is also understood that an anthropological Work Area Clearance of a section of the study area has been undertaken, though the results of this survey have not yet been released to the proponents.

One study which is accessible to the consultants is that by Potter and Jacobs (1981) who undertook anthropological research for the Point Lowly area, near Whyalla, and documented a number of mythological song lines in the region. One of these relates to the Moon and the Seven Sisters, who travelled throughout the countryside, creating soaks wherever they camped and leaving convenient food supplies and minerals in particular places (Potter and Jacobs 1981:57).

One particular version of the story tells of the Moon's journey from Yardea to Tarcoola, then east through Roxby Downs, south to Port Augusta then along the coast to Cowell, south to Port Lincoln and then west to Streaky Bay and back to Yardea. As Potter and Jacobs (1981:57) state:

This route would appear to indicate the absolute limits of areas traversed at different times by the tribal Pangkala in their seasonal hunt for food.

A number of landforms were created along the journey but it is unknown at this stage if any are relevant to the present project.

Berndt (1985:132) presents a number of mythological stories which were collected by Schurmann (1879). Again, the myths relate to a number of landforms across the Peninsula but none make specific mention of the current study area.

4.1.3 Archaeological background

As far as has been ascertained, there has been no previous archaeological research undertaken specifically within the study area. However, archaeological research conducted in the broader region has included a number of studies conducted within coastal settings comparable to the Sheep Hill location (Edmonds 1990, Martin 1988, Nicholson 1991, 1994, Walshe *et al.* 1997, Westell *et al.* 2000). The results of this research can be readily applied to the current study area.

Martin (1988) carried out a broad regional study recording fish traps on the West Coast and Eyre Peninsula. She used a combination of oral histories and field survey, to locate and record a number of fish traps in the region. No traps were located in the present study area with the closest being located at Point Bolingbroke, approximately 50km south of the study area. Martin recorded both stone-walled traps as well as wooden traps. The stone-walled traps range from simple barriers across tidal creeks to more complex multiple barriers or semi-circular arrangements on rock platforms. The wooden structures were generally built across tidal channels.

Nicholson (1991, 1994) undertook a study on the subsistence economies along a 704km stretch of coastline, from Fowlers Bay to Elliston, on the West Coast of South Australia. While not directly concerned with the present study area, her findings are relevant to the broader region. Nicholson (1994:13) recorded 160 sites with 116 of these found immediately on the coast and 44 were set back from the shoreline. Of the coastal sites 52% were found on rocky coasts, 38% on sandy coasts and 10% in bays. The sites ranged in size from small scatters of stone artefacts and shell middens to large campsites represented by extensive scatters of stone artefacts and a range of other cultural material. Nicholson (1991:33) states:

Overall, most of the sites on the West Coast are open campsites consisting of scatters of stone artefacts and a limited amount of shell material. Middens are less common and are generally restricted to small scatters of deflated shell material. Sometimes this material is located in discrete clusters but often the shells are scattered at low densities across wide deflated surfaces.

Nicholson (1991:34) notes that the majority of the more extensive campsites, containing a wide range of cultural material and suggesting repeated and/or long term use, seem to concentrate in the wide deflations between fore dunes and large mobile dune fields on sandy coastlines, and on the relict dune ridges which border dry lake beds, immediately inland from the beach. Nicholson (1991:34) suggests that these locations may have been preferred due to the availability of fresh water from soaks and shallow wells within the sand bodies and around the margins of the salt lakes.

Nicholson (1991:35) goes on to say that the smaller campsites, which are represented by both stone artefact scatters and midden material, tend to be found in a range of locations including above rocky coastlines, on stretches of sandy coast, and adjacent to bays and estuaries. Those sites located on rocky coasts are generally located in small cliff top dunes above the rocky shoreline and contain predominantly periwinkles (*Nerita atramentosa* and *Austrocochlea* spp.) or turbans (*Turbo torquatus* and *T. undulates*). A small number of middens and open campsites are also found in estuarine environments (Nicholson 1991:35).

Nicholson found that water was of paramount importance in determining patterns of settlement in this region. As Nicholson (1994:75) states, Aboriginal occupation focused on:

... permanent water sources most of which were on the coast. When rains (predominantly in the winter months) filled

the inland rockholes, people dispersed more widely to hunt game and collect plant foods in areas inaccessible during the dry times. ... As the smaller, temporary waters dried up, people concentrated at the larger waterholes. When these started to dry up most people were once again drawn back to the soaks and wells of the kind described by Eyre and Bates along the coast (Nicholson 1994:75).

Coastal water sources include rockholes in the limestone pavement and springs on the margin of many of the salt lakes and soakages in the vast dune fields (Nicholson 1994:72). As Eyre (1997:216) however states, while water sources were abundant enough to allow passage along the coast, they were frequently a day's walk apart and sometimes of a limited nature.

Walshe *et al.* (1996) carried out a study for the then Department of State Aboriginal Affairs (now AARD), verifying the condition and details of previously recorded sites on the West Coast. They found that while sites occurred in a variety of landscape contexts, focal areas for sites on the coast were typically adjacent to intertidal platforms and/or within large dune fields. Areas with other specific resources, such as flint outcrops, also contain extensive occupation remains. In addition, it appeared that many of the previously recorded small open campsites were seen to form components of broader site complexes, often indistinguishable from adjacent areas and separated simply by a mosaic of vegetation cover and ground visibility. Site boundaries were often seen to be artificial constructs based on lower artefact densities or some physical feature, such as a dune deflation.

Walshe *et al.* (1997) also highlighted the degree to which occupational materials cluster around inland water sources. Westell *et al.* (2000:24) describe an obvious relationship between the nature of water supply and the style of site with the regional significance of more permanent water sources reflected in high volumes and broad ranges of occupation material.

A similar dependence on water has been noted for areas around the head of Spencer Gulf (see for example Martin 1991) and probably existed across the broader Eyre Peninsula. A common theme sees movement and habitation focused around major water points with the wetter winter months allowing wider habitation as the more broadly distributed though ephemeral water sources filled. It should be noted, however, that the use of water containers and knowledge of alternative water sources, such as certain *hakea* and mallee species, no doubt allowed movement beyond any strict seasonal constraints.

Of direct relevance to the present study is a survey carried out by Vanessa Edmonds for an optical fibre cable (OFC) between Tumby Bay and Port Neill (Edmonds 1990). A total of five sites, all stone artefact scatters, some with hearths, were recorded during the survey. One of these, AARD Site No. 6129-3038, is located on the western side of the Lincoln Highway, immediately opposite the Swaffers Road junction (see Figure 10). The site measures 25x5m and contains a total of 21 milky white to clear fine-grained quartz artefacts. The artefacts are scattered along exposed sections of the low southern bank of Salt Creek (Edmonds 1990:9-11).

South Australian Museum (SAM) collection records for the general study area are summarised in Table 1. The SAM data generally provides only cursory details of sites, with descriptions often little more than a brief account with little or no reference provided of the faunal content, site structure, landform association, etc. Most records also lack accurate positional detail, though can nevertheless provide a useful overview. A number of stone artefacts have also been donated to the Tumby Bay Museum (National Trust) including examples collected from the mouth of Salt Creek and Ponto Beach, locations to the south and north of the Sheep Hill development, respectively.

Table 1: Details of South Australian Museum artefact and skeletal remains collections made from the study area.

SAM Ref No.	Location	Description/content
A20481	Lipson Cove	Implement, stone, arapia type
A28423	Lipson Cove	No details
A28507	Myalpa, near Tumby Bay	Broken clay pipe
A37125	Port Neill	No details
A37127	Tumby Bay	No details
A43710	Lipson Creek	No details
A45479	Port Neill, 3 miles S	Stone chippings
A454800	Port Neill	No details
A47594	Lipson	No details
A47595	Port Neill	No details
A47597	Tumby Bay	No details
A47598	Tumby Bay	No details
A48867	Port Neill	No details
A50424	Lipson	No details
A50944	Port Neill	No details
A50945	Port Neill north	No details
A52718	Lipson	No details
A52786	Port Neill	No details
A52788	Lipson	No details
A62130	Port Neill	No details
A38213	Port Neill	Skull and lower jaw
A64967	Tumby Bay	Skull and skeleton

4.1.4 Previously recorded sites in the study area

There are currently no previously recorded sites, as defined under the *Aboriginal Heritage Act 1988*, currently listed on the Register of Sites and Objects maintained by AARD within the proposed development area. Advice from AARD shows the closest previously recorded site is located immediately west of the Lincoln Highway, in the vicinity of Salt Creek (Site No. 6129-3038). This site, as discussed above, is a stone artefact scatter.

Collections held at the South Australian and Tumby Bay (National Trust) museums, indicate site locations at or near Lipson Cove and Ponto Beach, both located outside of the Sheep Hill development area.

The Transcontinental newspaper of 1919 (21/2/1919, p. 4) reported the discovery of an Aboriginal skeleton in the sand hills about 5 or 6 chains from the Lipson Cove jetty (see also McCallum 2002:74). Embedded in one of the ankle bones was half a shark's tooth and there was a tip of another tooth embedded on the other side of the ankle. Holiday-makers had found the

skeleton, and, according to the article, surmised that the man had been attacked by a shark and managed to get away, but died from his wounds later. The article suggests that 'years ago the spot was a native cemetery', though does not indicate whether other burials had been found at this location or whether the 'cemetery' simply related to this individual. Again, this location is outside of the proposed port facility.

Several springs located along the immediate coast were significant enough to be mapped by early explorers and used by pastoralists. These water sources may have been named and utilised by Aboriginal people, and possibly even embedded in, and inked through mythological lines. Waterholes have been identified at Lipson Cove (see Burr 1840 – Figure 5 below) and toward the northern end of the cove on the northern side of the proposed port facility.

4.1.5 Predictive statements

It is generally found that within any regional setting, the distribution and style of archaeological sites will display a close relationship with landscape setting. Landform setting is likely to have had direct implications on the distribution of economic resources, limitations on movement, the availability of water, shelter, raw materials and suitable camping locations.

These factors are likely to have manifested in the archaeological landscape, and, as such, it is possible to provide a relative scaling of archaeological sensitivity, i.e. the likelihood of encountering archaeological material, based on the range of landforms present within any given setting. The reliability of any predictive statements will vary according to the degree to which the archaeology of a particular area is known or can be sampled. In areas which have been subjected to detailed study, there can be a high degree of confidence in the accuracy of the predictions of site distribution, in contrast to other areas where previous studies are few and where there is insufficient site data to discern patterns in the archaeological record. Sites not necessarily concerned with subsistence, e.g. ceremonial grounds, may lie outside this model as they cannot always be predicted with any degree of accuracy given

that they might be located in areas selected to fulfil requirements other than those imposed by physiographic or environmental setting.

Another factor which must be considered is that present day patterns of site distribution may not accurately reflect the full range or location of Aboriginal archaeological sites due to the differential destruction of archaeological remains resulting through landscape processes or modification (Byrne 1983). In this regard, it is clear that the long period of pastoral and agricultural development is likely to have compromised the preservation of archaeological materials throughout much of the study area.

On the basis of previous research, the distribution and style of archaeological sites and materials in the general study area is likely to include the following elements:

- The coastal margins, extending 50-100m inland, will have a generally moderate to high level of archaeological sensitivity, regardless of landform.
- Dune landforms, both perched on cliff tops and shore level dunes, will have a heightened level of archaeological sensitivity.
- Areas immediately adjacent to intertidal platforms tend to have an elevated sensitivity, reflecting the targeted exploitation of these high resource value habitats.
- Materials will be closely aligned along, or at, sources of fresh water, including rock holes, gnamma holes, creek lines and lagoons. This focus will be more pronounced in inland settings.
- Archaeological materials will most commonly comprise stone artefacts and shell middens. Burial remains will tend to occur within dunes,
- Fish traps will typically be located with the intertidal zone, in protected areas, across natural intertidal rock shelves or across estuary and tidal creek inlets.

When applied specifically to the Sheep Hill development area, a number of areas in which the archaeological sensitivity can be described as moderate to

high, are noted. In particular, the dunes located around the small cove on the northern side of the proposed port facility, are likely to represent a highly sensitive landform. This sensitivity is further enhanced by the presence of a water hole or soak, identified on early cadastral maps (see for example District of Lincoln – Tumby Ward 1895). In addition, the coastal margin in general, i.e. extending along the cliff top, has a heightened archaeological sensitivity.

It should be noted that this assessment is based on a relatively small sample of previously recorded sites, with few co-ordinated surveys having been previously undertaken in the study region. A need for a thorough physical investigation of the proposed development is strongly recommended below on the basis of the desk-top review and predictive assessment.

4.2 Non-Indigenous cultural heritage

4.2.1 Historical background

Mathew Flinders chartered the Eyre Peninsula coast during March – April 1802 onboard the *Investigator*. Flinders named many of the bays and islands after locations in his native county of Lincolnshire in England, including Boston Bay, Tumby Bay and Port Lincoln. American and English sealers and whalers had frequented the coast for decades prior to Flinders' expedition, establishing whaling centres across the lower Eyre Peninsula and Kangaroo Island (Danvers Architects 1987a:50, Casanova 1992:7, McCallum 2002).

Port Lincoln offered large, protected harbours, and was originally selected as a candidate for South Australia's capital by Governor Hindmarsh, the first Governor of South Australia. However, the lack of fresh water and depauperate nature of the hinterland prompted Colonel William Light to reject the site in favour of Adelaide. When Governor Hindmarsh sailed into Boston Harbour aboard *The Buffalo* on 24 December 1836, he was met by Captain Thomas Lipson, Master of *The Cygnet*, who informed him of Light's decision.

Thomas Lipson, born in 1783, entered the Royal Navy in 1794 and was appointed Collector of Customs and Harbour Master at Port Adelaide after arriving in the colony of South Australia in 1836 (Manning Index viewed 17/11/2008). Lipson Cove was named after this man. A nautical chart of Lipson Cove was produced in 1840 and was sketched by T. Burr, based on soundings taken by Captain Lipson (see Figure 5).

Port Lincoln, however, was regarded by many as a prime location for a settlement and within several years two Special Surveys had been completed in the area and a small settlement had been established. Early forays north of Port Lincoln were led by pastoralists Tod, Dutton and Hawson, among others.

The paucity of surface water and lack of suitable pastoral land within the surrounding districts continued to hinder broader settlement, with early exploration invariably returning unfavourable accounts of the region (Danvers

Architects 1987a:28). Robert Cock, for instance, working on behalf of the Adelaide Survey Association, travelled in the schooner *Victoria* north from Port Lincoln to Franklin Harbour in 1839. The party were reconnoitring for pastoral land but returned to Port Lincoln after several days surveying the harbour coast having found no surface water and with adverse impressions of the area (Freeman and Freeman 1987:8).

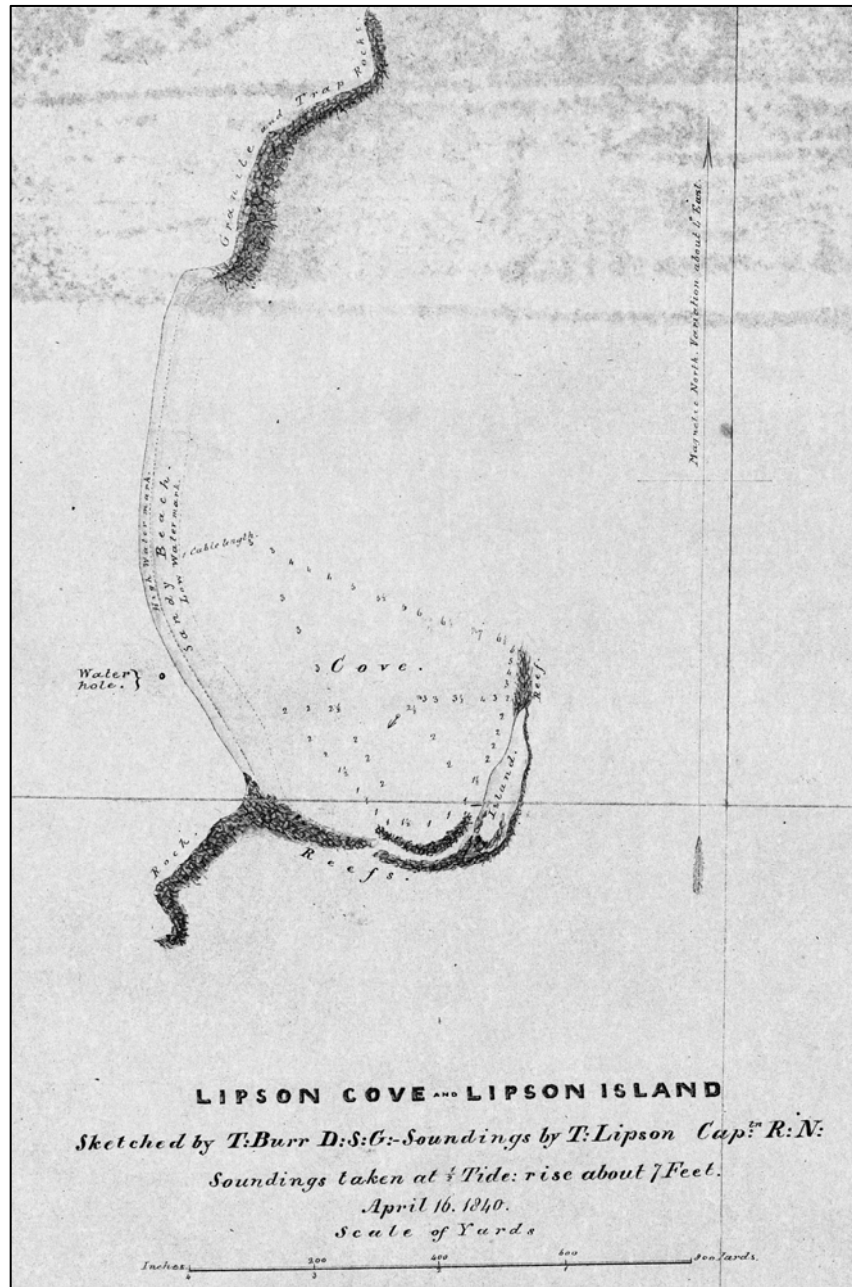


Figure 5: Original chart of Lipson Cove showing the location of a water hole behind the southern foreshore.

Eyre, overlanding from Port Augusta, travelled through the Tumby Bay district on his way to Port Lincoln during late September 1840. On September 29 and 30, Eyre rode to the top of Mount Hill, inland of Port Neill, finding water in a series of gnamma holes across the saddle of the granite hill (Eyre 1997:152-153). The following day, Eyre set out south, continuing through dense scrub inland of Lipson Cove before coming upon a brackish stream within a narrow valley at a distance of 12 miles from Mount Hill, most probably Salt Creek, in the vicinity of Warratta Vale. Eyre continued south, arriving on 1 October 1840 at Mr. Drivers Station, which was being managed at the time by Charles Dutton (Eyre 1997:153).

Port Lincoln struggled in attracting and retaining settlers due to a lack of reliable water, its isolation, difficulties in getting supplies and labour, and its inability to access markets (Eyre 1997:157). Eyre (1997:157) wrote in 1840:

The great mass of the peninsula is barren, arid, and worthless; and although Port Lincoln possesses a beautiful, secure, and capacious harbour, with a convenient and pretty site for a town, and immediately contiguous to which there exists some extent of fine and fertile soil, with several good grassy patches of country beyond; yet it can never become a large or important place, in consequence of its complete isolation, except by water, from every other, and the limited nature of its own resources.

Unfavourable accounts of the peninsula acted to discourage broad scale expansion over the next decade or so and the Port Lincoln area, together with several other coastal centres, remained the focus of early settlement (Twidale and Campbell 1985:7, Danvers Architects 1987a:32).

Attempts at agriculture and pastoralism also suffered with the economic depression of 1842-43 and were exacerbated by the deterioration in relations with local Aboriginal groups (Freeman 1981:4, 6). Violent encounters were on the increase as the settlers and their stock began to monopolise water holes,

displace natural game and plant foods, and place increasing pressures on traditional Aboriginal subsistence (Tindale 1974:136, Foster *et al.* 2001:44-73). By 1842, the Port Lincoln district was in a virtual state of siege with outlying stations under frequent attack (Foster *et al.* 2001:4).

Dutton was forced to abandon the Pillawortta run which had been located toward the northern edge of the pastoral activity, and attempted to drive 100 cattle overland to Adelaide, departing with a small party and escort on June 22, 1842. The escort left Dutton at Salt Creek, but Dutton never arrived in Port Augusta and several search parties failed to locate him or his stock. These included a party led by Tolmer, Police Commissioner, and accompanied by Eyre. Another search party headed north from Port Lincoln along the coast in a whaling boat, and then overlanded as far as the Middleback Ranges before returning via Lipson Cove in November without sighting Dutton (Freeman 1981:4-5).

While the searches had failed to locate Dutton, they had renewed interest in the region. Occupational licenses were granted in the same year, with crude, temporary structures of local sheoak and random rubble, being erected at various locations across the peninsula (Danvers Architects 1987a:33).

John Tennant acquired the Tallala run on Salt Creek in 1844 and brought sheep down from Mount Arden, north-west of Port Augusta, in 1846. Price and Hawker, both members of the original search party for Dutton, disputed the licence awarded to Tennant, with Price writing to the Commissioner of Lands in March 1847:

... Lipson Cove was surveyed by us as a permanent station in January 1846. In February we applied for a licence for it and not until June was it vacated by us, and then for the purposes of dressing the sheep which had been running upon it. In August Mr Tennant was there with his undressed and very badly diseased sheep (quoted in Freeman 1981:9).

According to Freeman (1981:9), Price and Hawker’s sheep may have been landed at Lipson Cove in January 1846, having been sent from Port Pirie by John Pirie (see also Casanova 1992:26). Tennant’s response noted that he encountered no structures, sheep or people when he arrived at Lipson Cove with his flock in August, and he had subsequently erected huts and yards (Freeman 1981:9). Later, Tennant relocated to a more permanent homestead at Salt Creek after the water at Lipson Cove failed. The homestead was built near a Police Station which had been erected in the 1850s (Casanova 1992:88-89).

Boundary disputes continued in the Lipson Cove area, until John McDougall Stuart undertook formal surveys in 1846 (Casanova 1992:26). Some of the early runs and leases are depicted in Figure 6. As can be seen, the current study area incorporates land originally leased by John Tennant.

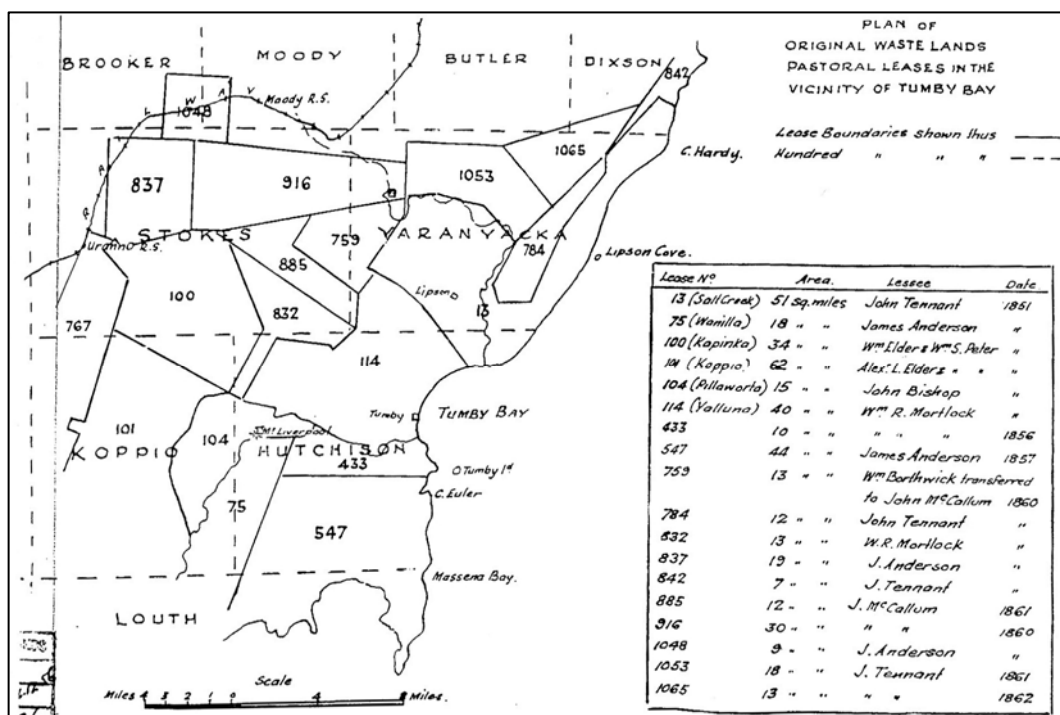


Figure 6: Early pastoral leases in the Tumbay Bay districts (Source: Casanova 1992).

The King Family were employed to shepherd Tennant’s stock, moving sheep between winter pastures in the Gawler Ranges and Tennant’s Salt Creek property during the summer months, where the stock could rely on natural

spring water (Casanova 1992:88-89). The Kings moved closer to the Salt Creek homestead in 1862, replaced by the Myers family who took up residence at Ponto Water, a deep gully 8km north of Lipson Cove.

Small rural settlements developed around the pastoral stations, with Port Lincoln remaining the only government town on the peninsula until the establishment of the Venus and Streaky Bay townships in 1864/65 (Danvers Architects 1987a:40). Tumby Bay, named by Flinders after the Parish of Tumby in Lincolnshire, was first settled in 1840. Land was gradually taken up through the 1850s, with a small, permanent farming settlement established by 1856 (Pearce 1956:9). The bay served as an important regional portage, with grain, wool, minerals and other products being loaded from the beach until the construction of the jetty in 1874 (Pearce 1956:11, Normandale 1986:42).

Early stock routes traversed the peninsula with property owners obliged to allow the passage of stock and access to identified watering points and reserves (Casanova 1992:51). According to Casanova (1992:50-54), a small branch of the major east coast route began near Lipson Cove, at Ponto Water, the starting point for Tennant's north bound drives. These stock routes acted to formalise transport corridors across the peninsula, and, together with the early lease boundaries, are partly preserved in the modern cadastral layout. A three chain stock route, for instance, passed through the current study area, though has been largely incorporated into modern cadastre.

The first Occupation Licences began to expire in the 1860s at a time when demand was growing for new lands by 2nd generation settlers (Danvers Architects 1987b:65). The introduction of the *Scrublands Act* of 1866 and *Strangways Act* of 1869 (also known as the *Wastelands Act*) saw land and improvements returned to the state for releasing at auction (Freeman 1981:7). Both Acts saw inducements to farm marginal country and, together with technological innovations in land clearing and cultivation, saw the expansion of agriculture in various parts of the state, and heralded the onset of closer settlement in the district (Danvers Architects 1987b:66).

Some of the original licensees regained their title though land was subsequently resumed and formally surveyed into Hundreds during the 1870s. William Mortlock, for instance, had established his Yalluna run in 1844 and later bought leases in the Hundreds of Hutchinson and Yaranyacka (Freeman 1981:9), including various parts of the current study area.

Settlement found additional stimulus from a number of small mineral booms. Copper had been located near Lipson Cove in 1860, roughly a kilometre south-west of the jetty (constructed in 1882), with the Lipson Cove Copper Mine operating from 1860-62 (Freeman 1981:6, Johns 1985:47). Further inland, copper was found in 1868 by William Lakin. Lakin sold his mineral lease to the Burrawing Copper Mining Company, who operated the mine until 1875 when the company was liquidated (Freeman 1981:6, Danvers Architects 1987a:51, Manning Index viewed 17/11/2008). Talc mining was also undertaken in the same area during the early 1900s (Johns 1985:52).

The influx of people to the mines saw greater demands for produce and materials and an increase in cross-gulf traffic (Casanova 1992:53). Copper ore was shipped from Tumby Bay, loaded into dinghies from drays or wagons and taken out to larger vessels waiting offshore in deeper water. The Tumby Bay jetty was built in 1874 to accommodate a perceived boom in mineral exports, and was the second jetty to be built on Eyre Peninsula (Danvers Architects 1987a:52).

The Hundred of Yaranyacka, probably derived from the Aboriginal word *Yakkara*, was proclaimed on 20 June 1872, and opened for selection on 29 August of that year. The survey included the Lipson township which was intended to service the Burrawing mining operations (Danvers Architects 1987a:51, Brougham 1993:7). Sixty four allotments were established over 104 acres with 82 farming blocks extending into the adjoining land (Pearce 1956:15). The town claimed the first licensed hotel in the district, the *Burrawing*, which opened in 1874.

The cadastral layout also included formalised stock routes, including the Lipson Cove/East Coast Route which passed through the current study area and linked several waterholes to the north toward Ponto Creek. A water reserve is shown on cadastral maps (see District of Lincoln - Tumby Ward published 1895) on the boundary of Sections 386 and 388, 600m inland from the proposed wharf site and adjacent to the stock route. Annotation on the map indicates a well and trough had been provided at this location.

Pastoralism continued to act as the mainstay of the local economy. Notable pastoralists in the area included Edmund Oswald, who acquired leases south from Arno Bay to Lipson Cove (Freeman 1981:261). Edward Daniel Swaffer leased land north of Lipson Cove from 1875, and was husband to Charles Dutton's daughter Julia. Swaffer would shear his sheep in a stone shed erected at Lipson Cove, parts of which are still visible. Lipson Creek was also used for a time as a sheep wash (Freeman 1981:13, McCallum 2002).

The Government took responsibility for water conservation measures following an Act of Parliament in 1882 and undertook to improve water security along significant stock routes (Danvers Architects 1987a:95). Two major reservoirs were planned between Port Augusta and Franklin Harbour along the peninsula's east coast stock route, resulting in the Ulabidnie and Yeldulknie Reservoir Schemes.

The development of these schemes, continuing improvements in local infrastructure, and the potential of super-phosphate to improve the production of cereal crops on otherwise sterile sandy soils, provided a stimulus to agriculture on Eyre Peninsula into the early 1900s (Parsons 1986:233). Transport improvements included the construction of the first bridge over Salt Creek in 1912, replacing the earlier causeway (Casanova 1992:229), and after three years of hearings conducted between 1909-12, a Parliamentary Commission finally recommended the construction of a rail network on the Peninsula (see Figure 7). Two lines were built, the first between Port Lincoln and Cummins, and the second between Cummins and Buckleboo, the latter being completed in 1926 (Danvers Architects 1987a:85).

Closer settlement and the viability of smaller acreages led to the inevitable sub-division of the Warratta Vale estate in 1913, owned at the time by the Mortlock family, and incorporating much of the land to the north, south and west of the current study area.

The Tod River reservoir scheme was devised in the 1920s and through an extensive distribution network, supplied much of the peninsula from Port Lincoln to Ceduna. The East Coast Main was constructed in 1930 and connected the Tod scheme to the previously established, though marginally reliable Ulabidnie and Yeldulknie reservoirs.

From 1948, the bulk of Port Lincoln's water was supplied by artesian sources in the Uley - Wanilla basin, and was later supplemented with the Port Lincoln basin from the early 1960s (Hammerton 1986:241). The Port Lincoln basin discharges along the coast in a series of springs visible between low and high tide marks. Mathew Flinders is likely to have used one of these in Boston Bay in 1802 (Hammerton 1986:241). The East Coast Main, which parallels the Lincoln Highway, transports water from the basin to Cowell and Cleve (Freeman 1981:23).

The Tumby Bay – Wanilla Soldier Settler Scheme saw the last major influx of people to the district. The Yalluna and Warratta Vale properties had been suggested as potential candidates for the scheme in 1946, and by 1949, 40 of the 69 blocks had been allocated. Further blocks were released in 1949 in the hundreds of Hutchinson and Yaranyacka (Casanova 1999:228, Qualmann 1999:1-4).



Figure 7: Part of Jones' 1906 assessment of mallee lands of northern Eyre Peninsula. Also shown is the overland telegraph service paralleling the main East Coast Road, the proposed Cummins rail line, the Government tanks and the jetty at Lipson Cove (Source: Twidale and Campbell 1985).

4.2.2 Maritime historical background

Sailing vessels were a major part of the early pastoral and agricultural development of the state, with ketches, cutters and schooners essential in moving grain and other produce between remote locations that lacked reliable or cost effective overland transport. The fleet expanded rapidly during the 1880-90s and continued to operate until the mid 1920s before the advent of cheap rail freight saw a general decline in the coastal trade (Kerr 1974:3, Parsons 1983:5, Parsons 1986:197-198). The Yorke and Eyre Peninsulas in

particular, relied heavily on the fleet, with a constant flow of vessels, both sail and steam, moving between ports.

Prior to the construction jetties, produce such as bailed wool and bagged wheat was transported by horse teams into the water, and loaded onto to small boats. These would then ferry materials to larger ships waiting offshore in deeper water (see Figure 8). The construction of jetties enabled the loading of materials directly onto larger craft, and formalised the layout of harbours and wharf areas (Colling n.d.:83). The Lipson Cove jetty was built in 1882 (see Figure 9).



Figure 8: A typical harbour scene prior to the construction of jetties. Wheat being loaded from dray teams onto boats at Mottled Cove in 1908, with a ketch waiting offshore (Source: Freeman 1983:9).

The ketch, *Three Sisters*, was built in Hobart in 1874. The ship measured L49' x B12.5' and had a draft of 4.7'. It arrived in Port Adelaide on 17 December 1875 (Parsons 1983:56). The ship was registered the following year under owner G.R. Selth, and began operating between Port Adelaide and Port Wakefield, though visiting various other ports, principally throughout the Gulf St Vincent and Kangaroo Island. In 1880 the ship was sold to J. Richards and a few years later (1880) to H.R. and A.G. Littlely (Gillespie 1994:214).

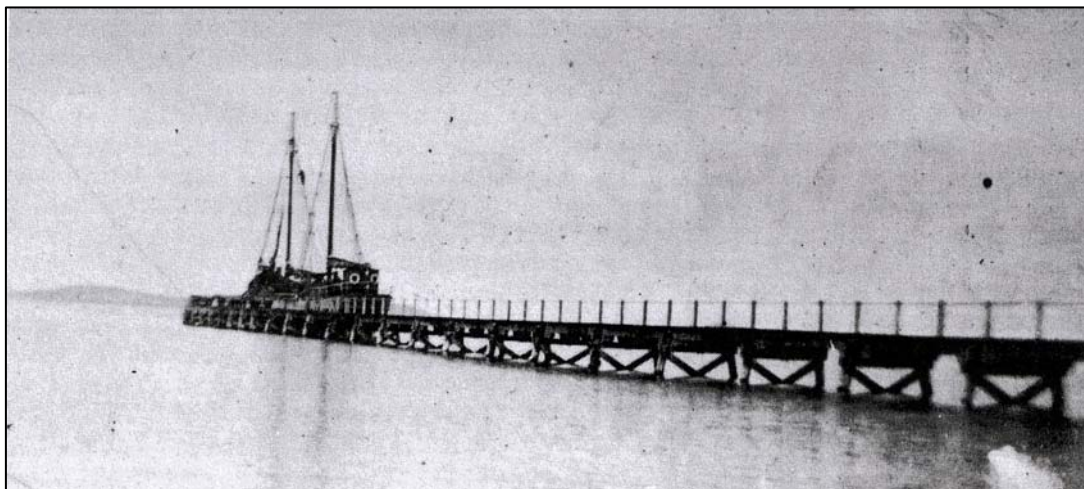


Figure 9: The Lipson Cove jetty. Date of the image is unknown (Source: Freeman 1981).

William Argent, a land holder on the Lower Eyre Peninsula, acquired the ship in 1897. Argent had worked as a labourer, teamster and shearer on stations, including Mikkira, in the early 1860s (Casanova 1992:255). In 1887, the family moved to Thistle Island and subsequently returned to Port Lincoln in 1894. The Argents owned a wood yard at Birkenhead, presumably shipping material there aboard the *Three Sisters*, until the ship was wrecked against the Lipson Cove jetty on March 10, 1899 (Casanova 1992:255, see also Parsons n.d.: 13, Gillespie 1994:214, Bullers 2006).

The incident is mentioned in *The Advertiser*, March 14 1899:

Mr. J. Darby, the Secretary of the Marine Board, has received a telegram worded as follows: - "William Argent reports total wreck ketch Three Sisters at Lipson Cove, Friday Morning. No lives lost." Lipson Cove is a sandy beach, with a rock running out from the point at the south end. It is about 10 miles away from Tumbly Island. The Three Sisters is a small ketch of 15 tons. (*The Advertiser* 14 March 1899:4i).

The Register also ran the story, noting that the *Three Sisters* was not insured, and that she had been a well known trader between Port Adelaide and Kangaroo Island (*The Register*, 14/3/1899: 5b). A week later, a more thorough account appeared in the *Advertiser*:

Our Yaranyacka correspondent, writing on March 16, says: -
“Mr Argent’s cutter The Three Sisters was completely wrecked at Lipson Cove last week. Mr Argent had gone into the cove with the intention of taking a scrub roller on board. A strong wind was blowing from the east, which proved too much for the little craft. The anchor carried away, and after bumping against the jetty she became embedded in the sand, and is reported to have broken up. (*The Advertiser* 21/3/1899:4i).

In May 1986, storm action severely eroded the beach at Lipson Cove and uncovered much of the remaining structure of The Three Sisters, including its ribs and decking (see Appendix II). Exposure of the site had occurred on a number of occasions previously (and subsequent - both Mr Graham Rogers, a local resident, and Mrs Pat Carr, volunteer with the National Trust’s Tumbly Bay Museum, reported having seen the wreck of the *Three Sisters* at various times in the past), though this event was particularly significant. The exposure of the wreck was reported in the media (*The Advertiser* 7/5/86, p.40), with Gill and Fran Robertson of the Axel Stenross Maritime Museum, Port Lincoln, undertaking mapping of the site on behalf of the then Department of Environment and Planning (DEP). Vandals had removed materials from the site including bolts and square headed nailing, while a brass lock had also been salvaged and passed on to the Museum (*The Advertiser* 7/5/1986, p.40). A map of the site was drawn by Bob Ramsay, with annotated notes on the map indicating that the ship had ‘sprung a plank’ after bumping against the jetty (see Appendix II).

A recent attempt to locate the wreckage was undertaken by Rick Bullers (currently Project Archaeologist with ENSR consulting, Sydney) (Bullers

2006). Rick has kindly provided the following details of his work (pers. comm. 19/11/08 and 21/11/08). Rick used documentation on the Heritage SA file (described above) to plan an air probe transect. The probing struck timber in the location identified on the earlier mapping, possibly the stern post (see GPS Point 5, Appendix II). However, as it was located at the low tide surf line and buried under nearly 2m of sand, no formal excavation was able to be undertaken of the site (Bullers 2006:26).

Rick asserts that the wreck located on the beach at Lipson Cove is undoubtedly the *Three Sisters* (see Figure 10 for its location). He also notes that no other wrecks have been identified in the immediate area with the nearest located south of Tumby Bay (the ketch *Malcolm*) and 20km north of Lipson Cove (the iron barque *Lady Kinnaird*).

4.2.3 Previously recorded Non-Indigenous sites in the study area

Several major historical themes emerge from the summary provided above. These include early exploration, pastoral and agricultural expansion, transport, maritime, mining and infrastructure development. Lipson Cove features prominently in a number of historical accounts of the region and sites within the proposed development area may relate to any of these themes.

Currently, there are four sites of heritage significance that have been previously identified in the Lipson Cove area, approximately 1.6km to the south of the present study area. These are:

The Wallaby Sam Monument

This comprises a small, stone monument erected near the foreshore of Lipson Cove to acknowledge a local identity, Wallaby Sam, who lived in a small cave in the Cove. The site is listed on the D.C. Tumby Bay Development Plan as a local heritage place. Danvers Architects (1987b) describe the cave as having 'practically fallen in' and refer to Wallaby Sam as a prospector who lived in the cave during the 1890s. Information obtained from archival materials held at the Tumby Bay National Trust, suggest that Wallaby Sam was the son of a Victorian clergyman, and travelled throughout the districts with his wheel

barrow, obtaining work of farms and prospecting. Sam lived in various caves and rough shelters throughout the area.

Lipson Cove Jetty

The jetty was built in 1882 and demolished in 1949. The jetty had measured approximately 100m in length (see Figure 8). This is likely to have significance under various criteria defined in section 23(4) of the *Development Act 1993* (see Section 2.2 above).

Lipson Island Conservation Park

The park is listed on the Register of the National Estate (ID 6728, Registered 21/10/1980) for its Natural Heritage values. The statement of significance notes that the island supports breeding colonies of fairy penguins, black faced cormorants, sooty oyster catchers, crested terns, pacific gulls and silver gulls.

The Three Sisters Shipwreck

National Shipwrecks Database ID: 2623

DEH Wreck Number: 215

Extensive documentation relating to this site is provided in Appendix II, including various media articles relating to the loss of the ship and subsequent exposure of the remains, mapping of the wreck undertaken during its exposure in 1986 and a subsequent air-probe survey undertaken by Rick Bullers, and the current listing of the wreck on the Historic Shipwrecks register. Whilst there was a discrepancy of approximately 1.6km between the DEH coordinate (617172 6209318) and the actual location of the wreck which is 41m north of the remains of the Lipson Cove jetty, this has since been resolved and the DEH have revised their records to show the wreck at the coordinate of 616170 6208100 (see Figure 10).

5. FIELD RECONNAISSANCE METHODOLOGY

A brief reconnaissance of the project area was undertaken on 20 November 2008. The visit was not intended as a thorough heritage survey or evaluation of the project area. The aims were to:

- Gain a clearer impression of the area in terms of its landscape, condition and heritage values.
- Visit local museums, interview local residents and others.
- Confirm the locations and status of a number of non-Indigenous sites recorded in heritage inventories and literature.

The visit was largely car based though some pedestrian survey was also conducted at various locations, and, in particular, the cove and headland sections in the area of the proposed wharf and sheds. A series of spot checks were also undertaken along the proposed access corridor, targeting exposures along the banks of shallow watercourses.

Locations were recorded using a handheld GPS (mapping datum GDA94, MGA Zone 53) and a photographic record made where appropriate.

6. RESULTS

The study has identified a number of locations and features relating to the cultural heritage landscape, both Indigenous and non-Indigenous, in the vicinity of the proposed Sheep Hill port facility. These include locations referred to in the historical literature, boundaries visible in historical and modern cadastre, and a range of extant archaeological materials and built structures which were identified during the field reconnaissance.

These locations are shown in Figure 10 and are summarised in Tables 2 to 4. Of the locations either within or immediately adjacent to the proposed development area, three are regarded as having some level of heritage significance, including two sites of Indigenous heritage value (SHPF_01 and _03) and one of non-Indigenous value (SHPF_02).

It should be noted that this may not represent a comprehensive list of heritage items found within the proposed port facility, and is simply based on the literature review and brief reconnaissance of the area, with limited on-ground sampling having been undertaken. A thorough physical inspection of the study area is required in order to provide a definitive listing.

It should also be noted (as above) that following from a series of correspondence, the Department of Environment and Heritage have accepted the documentary evidence placing the Three Sisters wreck at a location 40m north of the Lipson Cove jetty, compared to the registered location which had placed this site immediately south of the proposed wharf location (see Figure 10).

6.1 Indigenous cultural heritage

Indigenous archaeological materials were noted in a number of locations during the reconnaissance. These materials, including stone artefacts and shell midden, are considered to be typical of the regional archaeology in terms of material types and landform context, and conform closely with the predictive statements outlined in Section 4.1.5. No formal recording of these materials has been undertaken.

Two sites of Indigenous cultural heritage significance are shown in Figure 10 and described in Table 2. The first site, AARD No. 6129-3038 (labelled SHPF_01), lies to the west of the Lincoln Highway and outside of the proposed development area. The site was not re-visited and the location shown on Figure 10 is based on information supplied by AARD. AARD correspondence states that this position should be regarded as approximate only. No further details are known of the site as a letter from the relevant Indigenous organisation is required to access further information.

The second site, SHPF_03, comprises an extensive though generally low density scatter of stone artefacts and shell midden exposed across the surface of a narrow shore-level dune and adjoining swales, extending around the shoreline of the narrow cove on the northern side of the proposed port facility.

In addition, a small number of isolated stone artefacts were located across the dune surface perched on the headland to the south-east of SHPF_03 (see Figure 10). Whilst this dune is highly deflated, there remains a potential that sub-surface materials will be present in this area. A small number of stone artefacts were also noted along the high cliff line continuing through the proposed wharf location, again highlighting the general level of archaeological sensitivity of the coastal margins.

No locations of Indigenous anthropological significance relating specifically to the proposed Sheep Hill development area have been identified during the

literature review. However, a number of former waterholes were identified on early exploration and cadastral maps of the area, and the proponent should be aware that these features are often regarded as having some level of cultural significance. Similar features may, for instance, be related to the Moon and Seven Sisters mythology which travels down the east coast of Eyre Peninsula (see further details above).

A number of points can be made in regard to the Indigenous heritage landscape and potential impacts:

- The headland in the vicinity of the proposed wharf is atypical of situations where fish-traps are found (see Martin 1988). The steep drop-off, absence of any rock shelf and the wave-affected nature of the headland, limits the potential of fish-traps in this area.
- The hinterland retains limited archaeological sensitivity with the preservation of archaeological materials in these areas likely to have been severely compromised through a long history of agricultural land practice.
- In terms of the archaeology, the coastal fringe represents the most sensitive portion of the study area, and, in particular, the coastal dunes to the north of the wharf location and the cliff top/headland. Archaeological materials (stone artefacts and possible shell midden) were noted in this dune area, while an extremely low density of isolated artefacts continues south around the headland in the immediate vicinity of the proposed wharf. It should be noted that an extreme background effect is provided in this location by locally occurring fragmented quartz.
- No archaeological material was located within a number of exposures inspected along the proposed access corridor. It should be pointed out, however, that the rock exposures bounding the northern and southern edges of the narrow gully were not inspected.

6.2 Non-Indigenous cultural heritage

As expected, the majority of non-Indigenous heritage items located within the proposed development area relate to the theme of pastoral and agricultural development. Cadastral boundaries and fencing, stock piling of rubble around paddock margins, land clearance, infrastructure development, and the assortment of buildings and built structures found throughout the study area, can be considered a product of over a century and a half of agricultural and pastoral land use.

One site was recorded within the proposed study area, comprising a shearing shed and yard complex adjacent to Swaffers Road (SHPF_02). Whilst the site may have some local heritage value, it represents a typical example of agriculture-related sites and is therefore regarded as having limited representative value in terms of any regional context. The site is also in an extremely derelict state and is considered to have limited local significance, perhaps meeting criteria a and b as defined in section 23(4) of the *Development Act 1993* (see Section 2.2 above).

Additional locations of historical interest within the proposed development area are shown on Figure 10, and include:

- Various refuse dumps, most of which include abandoned farm machinery and building material.
- The former water reserve shown on early mapping and now located on Mr Graham Roger's property inland of the proposed wharf. This reserve drops out of cadastral mapping after 1900 and any evidence of it is presumed to have been totally erased.
- The former Stock Route. This reserve was leased by Mr Rogers and incorporated into larger paddocks.

Table 2: Indigenous heritage sites recorded within or adjacent to the proposed development area.

Site	Location	Detail
SHPF_01 AARD Site No. 6129-3038	611200mE 6210870mN The site is located west of the Lincoln Highway and outside of the proposed development area.	Further details relating to this site and the relevant reporting, requires a letter from the relevant Indigenous community to allow access to the AARD register.
SHPF_02	Southern edge 616640mE 6210130mN The site is located across a high foredune extending around the cove north of the proposed wharf and sheds location.	The site comprises a generally low density scatter of stone artefacts and possible shell midden, extending across the surface of a prominent, narrow foredune and continuing into swale depressions along the western side of the dune. Artefacts include quartz, granite and chert flakes, flaked pieces, hammerstones and cores. The midden includes a variety of rocky shoreline species included periwinkle (<i>Neritidae</i> spp.) and cartrut (<i>Thais orbita</i>).

Table 3: Non-Indigenous heritage sites recorded within the proposed development area.

Site	Location	Detail
SHPF_02 Shearing shed and yards	614660mE 6210390mN The site is located immediately adjacent to (south side) Swaffers Road, centrally located within the proposed access corridor.	The site incorporates a complex of shearing shed, yards, ramp and chicken house extending over an area of 75x40m and dissected by a shallow ephemeral channel. The shed comprises a random rubble construction with galvanised iron and a timber frame lean-to and shed attached. The flooring, pens and runs are largely intact though the stone portion of the shed has partially collapsed along the eastern wall. The auxiliary structures, including the yards and chutes, are in a generally degraded state. The site is in poor condition and retains only limited local significance.

Table 4: Other locations of interest noted in the general study area and shown in Figure 10.

Site	Location	Detail
Lipson Cove Jetty	The remains of the jetty are located at the southern end of Lipson Cove, 1.6km south of the proposed Centrex wharf.	A total of 10 upright wooden pylons remain visible. The site is in poor condition.
<i>Three Sisters</i> shipwreck	The wreck was not visible during the field visit. However, Bullers has provided detailed mapping of the wreck, including a mud map drawn when it was almost entirely uncovered by storm erosion in 1986 (see Appendix II). Bullers air-probed this location in 2005 and hit timber in the location depicted on the earlier map, possibly the stern post. The wreck is located 42m north of the concrete slipway at Lipson Cove, 20m north of the remains of the jetty. It should be noted that the interpretative signage provided by Tourism SA at the Lipson Cove camping ground wrongly places the wreck on the southern side of the jetty.	The lower part of the hull, stern post and frame were exposed during 1986. According to both Mr Rogers (local resident) and Mrs Carr (National Trust Volunteer, Tumby Bay Museum), the wreck was last exposed approximately 6 months ago, and is regularly uncovered every 5 or 6 years. Various media article attest to this.
Swaffer's Shearing Shed	The ruins are located immediately inland of the Lipson Cove jetty and camping ground.	The ruins include multiple foundations and partial random stone walling over an area of 40x40m. The remains include the shearing shed, kitchen and water tank. The site is in poor condition and has largely fallen down.
Wallaby Sam Monument	The monument and shelter are located at the northern edge of a small headland at the southern end of Lipson Cove.	The site comprises a small stone monument located above a narrow cave/shelter and erected by the Tumby Bay National Trust. The shelter is largely closed over by sand, rubble and vegetation.
East Coast Water Main	Adjacent and parallel to the Lincoln Highway.	The above ground, concrete water main has been continually maintained since its construction, and retains no specific historic value.
Former water reserve, well and trough	The reserve was formerly located on the boundary of sections 386 and 388, 60m inland of the proposed wharf location.	No evidence of the reserve could be found. The reserve does not appear on modern cadastral maps and is assumed to have been erased some time during the early 1900s. The site retains no specific heritage value.
Former stock route.	The route passes through the proposed port facility, crossing Lipson Cove Road and veering toward the coast at Swaffers Road. Sections of the route are preserved in the modern cadastre though the route has been leased to Mr Graham Rogers for some time.	The route is preserved on cadastral boundaries and fence lines. The site has no specific heritage significance value.

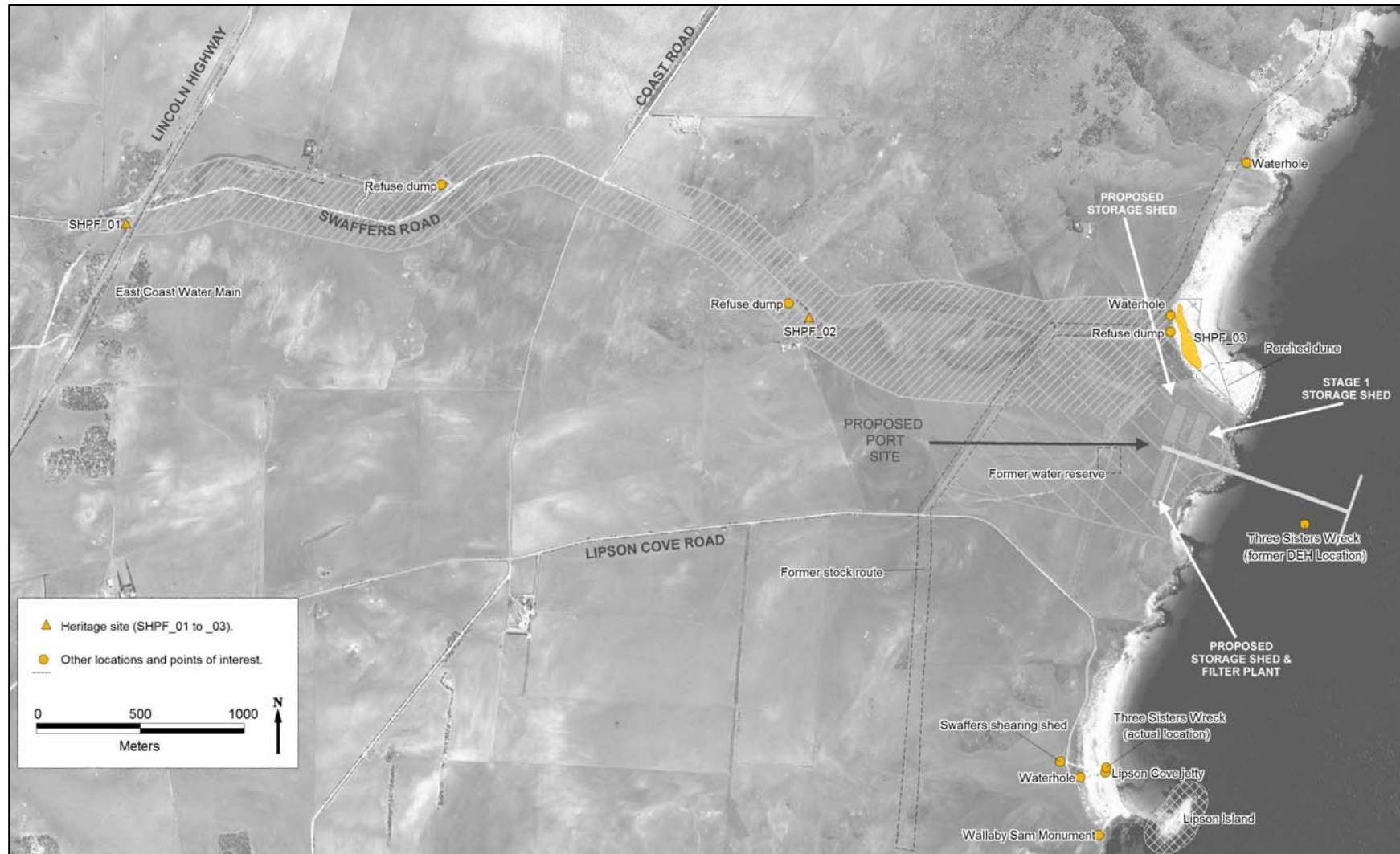


Figure 10: Heritage sites and other locations of interest in the general study area.

7. RECOMMENDATIONS

On the basis of the results presented above, the following recommendations are made in relation to the proposed Centrex Metals Ltd Sheep Hill port facility:

- A full archaeological survey be undertaken of the study area, recording in detail all cultural heritage material, both Indigenous and non-Indigenous.
- A detailed anthropological study be undertaken which will involve members of the relevant Indigenous organisations/Native Title claimant groups.

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APPENDICES

APPENDIX I

Definitions of Aboriginal archaeological site types found in the study region.

Burial	Burial sites can include isolated bone fragments believed to have come from burials, as well as definite burials, burial grounds and cemeteries. These sites generally occur in areas of loose sandy soil, especially in dunes or lunettes adjacent to lakes and rivers. They are also commonly found in the banks of watercourses and in mound sites.
Hearth	The site of a campfire represented by ash, charcoal, and sometimes hearthstones (burnt calcrete rubble etc.).
Midden	These are accumulations of shellfish remains and possibly other faunal material as well as the remains of fires in the form of baked clay or charcoal. Stone artefacts and grindstone fragments can also be present. They can occur as discrete, localised heaps or can stretch for hundreds of metres. Shell middens are most commonly found in close proximity to the location from which the shellfish were obtained.
Stone artefact scatter	This site type comprises areas where worked stone and other evidence of Aboriginal occupation (i.e. hearthstones, other transported stones called manuports, charcoal, baked clay and calcrete heat retainers from hearths, and food remains such as bone and shell), remains on exposed ground surfaces. Campsites are most often found in close proximity to water sources and on elevated locations, which would have provided elevated, well-drained positions.

APPENDIX II

Selected materials relating to the Three Sisters shipwreck.

Newspaper articles reporting the loss of the Three Sisters.

his residence at the Semaphore.

Mr. J. Darby, the secretary of the Marine Board, has received a telegram worded as follows:—"William Argent reports total wreck ketch Three Sisters at Lipson Cove, Friday morning. No lives lost." Lipson Cove is a sandy beach, with a rock running out from the point at the south end. It is about 10 miles away from Tumby Island. The Three Sisters is a small ketch of 15 tons.

On Monday morning Messrs. J. Miller

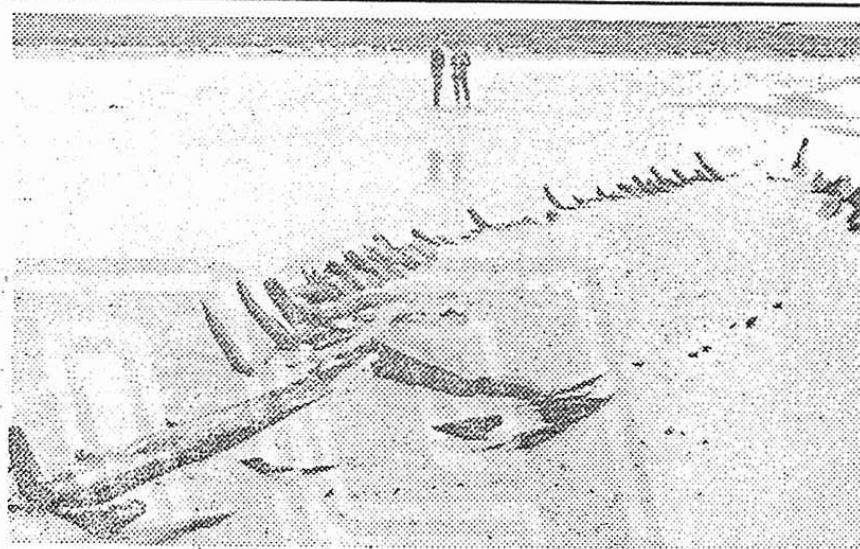
The Advertiser 14/3/1899, p.4i.

to take any steps in that direction on behalf of South Australia.

Our Yaranyacka correspondent, writing on March 16, says:—"Mr. Argent's cutter The Three Sisters was completely wrecked at Lipson Cove last week. Mr. Argent had gone into the cove with the intention of taking a scrub roller on board. A strong wind was blowing from the east, which proved too much for the little craft. The anchor carried away, and after bumping against the jetty she became embedded in the sand, and is reported to have broken up.

The Port Adelaide crew who rowed

The Advertiser 21/3/1899, p.4i.

Newspaper articles reporting the exposure of the Three Sisters.

The remains of the ketch Three Sisters, wrecked near Tumby Bay.

Erosion reveals wreck

History has been revealed, vandalised and once again hidden at Lipson Cove in recent days.

Rough weather and high tides stripped almost two metres of sand from the beach at Lipson Cove, north of Tumby Bay, to expose the remains of the ketch Three Sisters which was wrecked there in 1899.

A little of the wreck was last seen five years ago and previously in 1976.

Last week a considerable amount of the wreck was exposed including its keel, stone ballast and double hull planking.

Mr Gil Robertson of the Axel Stenross Maritime Museum in Port Lincoln took measurements and details of the wreck on behalf of the heritage branch of the Department of Environment and Planning. His wife Fran made sketches of the wreck.

Built in 1874, the 16-metre, two-masted, carvel-built ketch initially worked out of Hobart and was registered in Port Adelaide in January, 1876. In 1897 it was acquired by Captain William Argent, who — as owner and skipper — took the vessel into Lipson Cove on March 10, 1899, to load a scrub roller.

The ship's loss is described in maritime historian Ron Parson's book *Port Lincoln Shipping*.

"A strong wind was blowing and the anchor cable parted. The ketch was driven on to the jetty where she began to bump. She finally filled and became embedded in the sand and quickly went to pieces."

The wreck now lies north of the few remaining piles of the jetty.

Vandals broke sections from the wreck to souvenir bolts and square headed bronze nails.

The remains would be legally protected when it became declared a historic shipwreck.

The Department of Environment had expressed interest in the vessel as study was being undertaken of Tasmanian-built ketches which worked in SA waters.

Mr Robertson's report will detail construction features of the wreck which he said were unusual.

He suggested that the wreck be excavated and recorded, and said the preservation of the remains should be undertaken as a local project.

Local residents have described the erosion on the beach as the heaviest for 50 years.

The Advertiser 7/5/1986, p.40.

Three Sisters surfaces again
1986

by Tumby Bay correspondent
Jill Gibbons

The wreck of the wooden ketch the 'Three Sisters' has been clearly visible at Lipson Cove during the last week.

Due to the unusual climatic conditions, the sand covering the wreck has been eroded to such an extent that more detail of the Three Sisters had been exposed than possibly before.

Photographs of the wreck were taken earlier in the week, but by Saturday, vandals had already been busy removing pieces of the ketch.

A large copper bolt from the bow-pole was missing by Saturday since the original photographs were taken.

The vessel is in the process of being declared an historic wreck which makes it against the law for any pieces to be removed.

Mr Gil Robertson from the Axel Stenross Maritime Museum in Port Lincoln said that the Department of Environment, Heritage Division was interested in the ketch being preserved.

The Three Sisters was built and first registered in 1874.

She was part of the ketch fleet that operated in South Australian waters in the eighteen hundreds servicing mainly the rural communities.

Mr Robertson said when contacted during the week that it was one of the wrecks he would also like to see preserved.

"There are only a few remaining wooden ketches in SA.

"They are usually subject to plundering once discovered in accessible waters, so while there is enough remains, it would be good for action to be taken," he said.

"The erosion of the beaches has been greater this year than it has been for 10 years. We have more eroding conditions than replacement, and this is why it would be so clearly visible," Mr Robertson added.

The Three Sisters last captain/owner was a Mr William Argent who took the vessel to Lipson Cove on March 10, 1899 to pick up a scrub roller.

Strong winds and rough seas parted the anchor cable and she was blown against the jetty.

She was finally filled and became embedded in the sand close to the shore. The ketch partly broke up.

Now the ketch takes on an eerie appearance as she lies with ribs, bow-pole, side planks and some ballast partly covered.

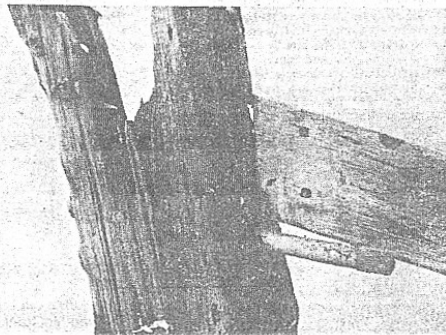
It is believed the ketch was probably built in Tasmania in a clinker design with the side planks in relatively soft wood.

Between the ribs, stones are packed with a cement type mixture with square-headed copper nails securing the planks.

It is believed also that the original anchor chain may still be hooked



Wooden ketch wreck exposed at Lipson Cove



• ABOVE: Linda Berryman at the bow pole of the remains of the Three Sisters. The sand covering the wreck has been eroded to such an extent that more detail of the Three Sisters had been exposed than possibly before.

• LEFT: A close-up of the bow pole with a large copper bolt. The bolt has since been removed by vandals. People with artifacts from the wreck have been asked

a long project involving considerable amounts of money and time," Mr Robertson said.

Mr Robertson measured and took particulars of the ketch on Saturday and a report will be forwarded to the Heritage Department and the Tumby Bay Progress Association.

Anyone who may have artefacts from the wreck are urged to bring them forward to be included in the study.

A lock found by a local farmer has already been passed on to be preserved and kept.

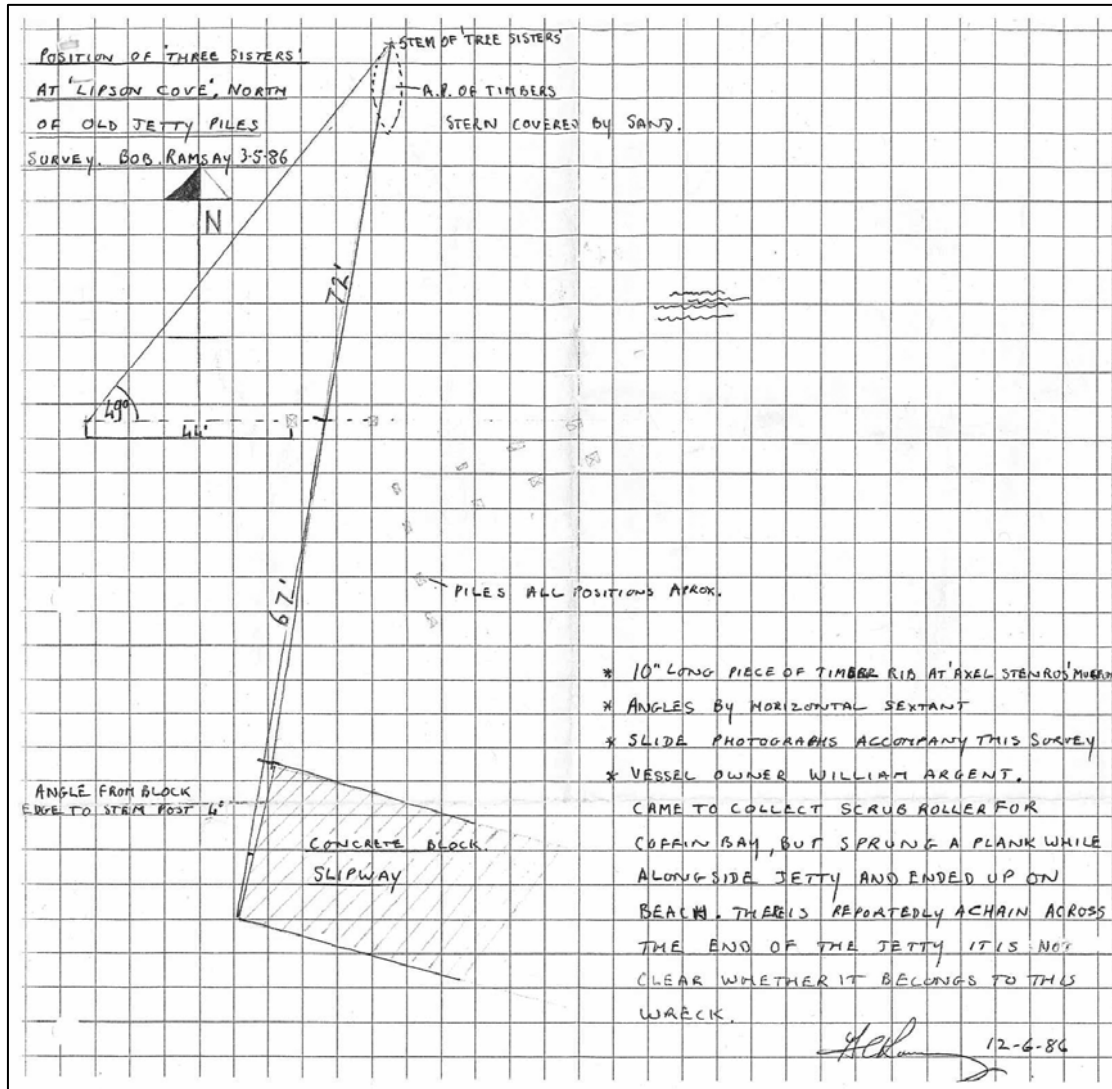
Artefacts can be given to Mr Robertson in Port Lincoln or Jill Gibbons in Tumby Bay.

The wreck was last reported and photographed in 1976 by Mr Aubrey Carr of Tumby Bay.

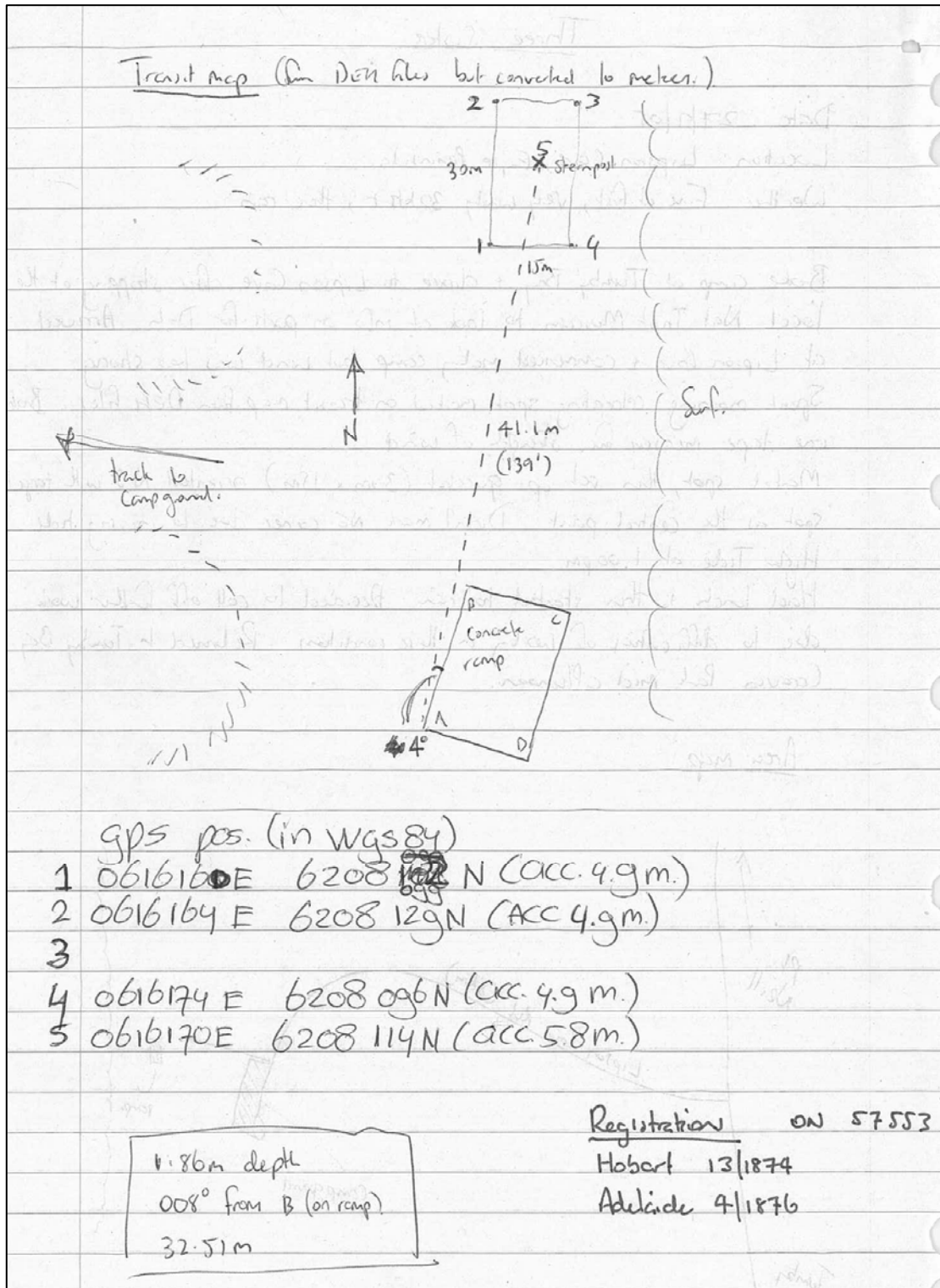
It was seen again briefly about five years ago but was not uncovered to

Photocopy of article obtained from the Tumby Bay National Trust, believed to be the *Port Lincoln Times*, May 1986.

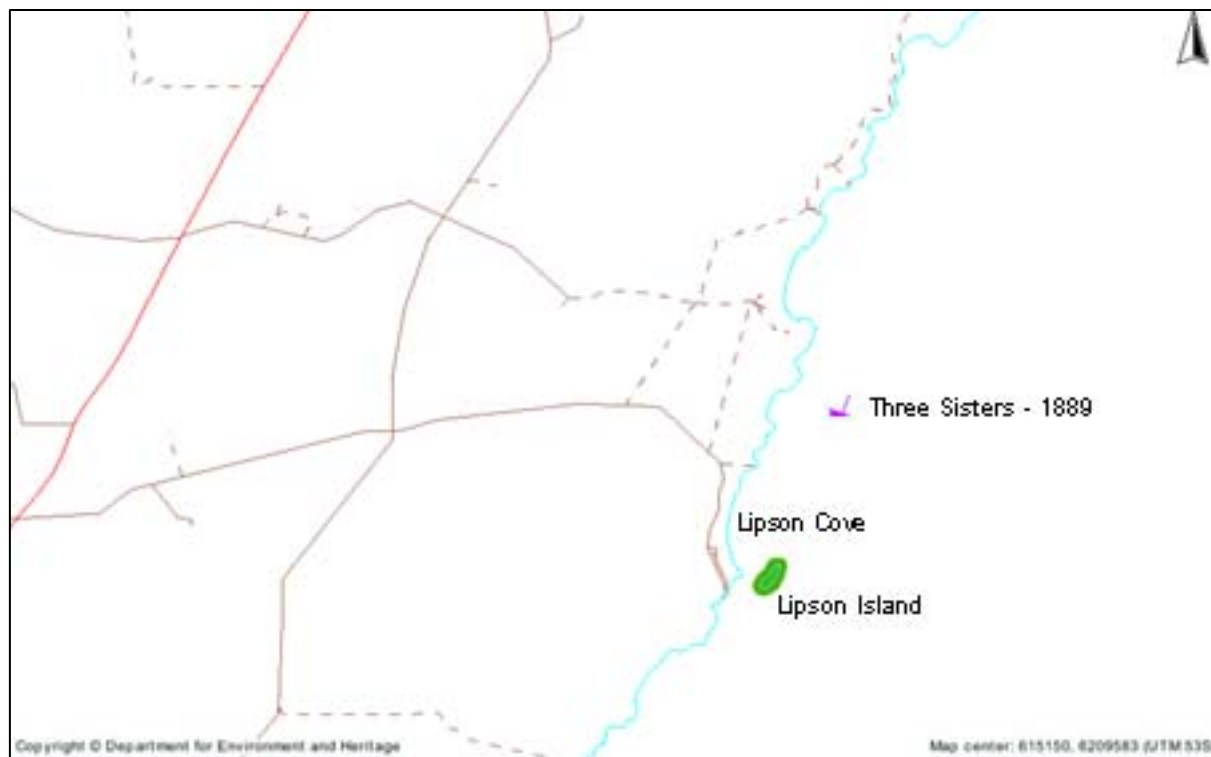
Mud map compiled by Bob Ramsay after the exposure of the wreck in 1986. The map is part the file collated by Rick Bullers' as part of his 2005 survey. The map is apparently held with the Heritage SA documentation.



Plan used during Rick Bullers' air probe survey of the Three Sisters wreck undertaken in 2005, showing his survey transect. The coordinates were converted from Ramsay's map and are in the mapping datum WGS84 (Zone 53). The map was kindly supplied by Rick Bullers.



Information obtained from the Department of Environment and Heritage website (viewed 18/11/2008).

**Coordinate Position**

UTM 53S: 617177, 6209335

Shipwrecks

WRECKNR: 215

WRECKNAME: THREE SISTERS

RIGDESC: KETCH

HULLDESC: WOOD

TONNAGEA: 14.7

TONNAGEDESC: Gross

LENGTH: 14.9

BUILDDATE: 1874

PORTBUILT: HOBART

COUNTRYBUILT: Australia

LOSSDATE: 13/03/1899

LOSSLOCATION: LIPSON COVE, 10 MILES FROM TUMBY ISLAND

LOSSCAUSE: WENT ASHORE IN EASTERLY WINDS AND BECAME TOTAL WRECK

IS_FOUND: Y

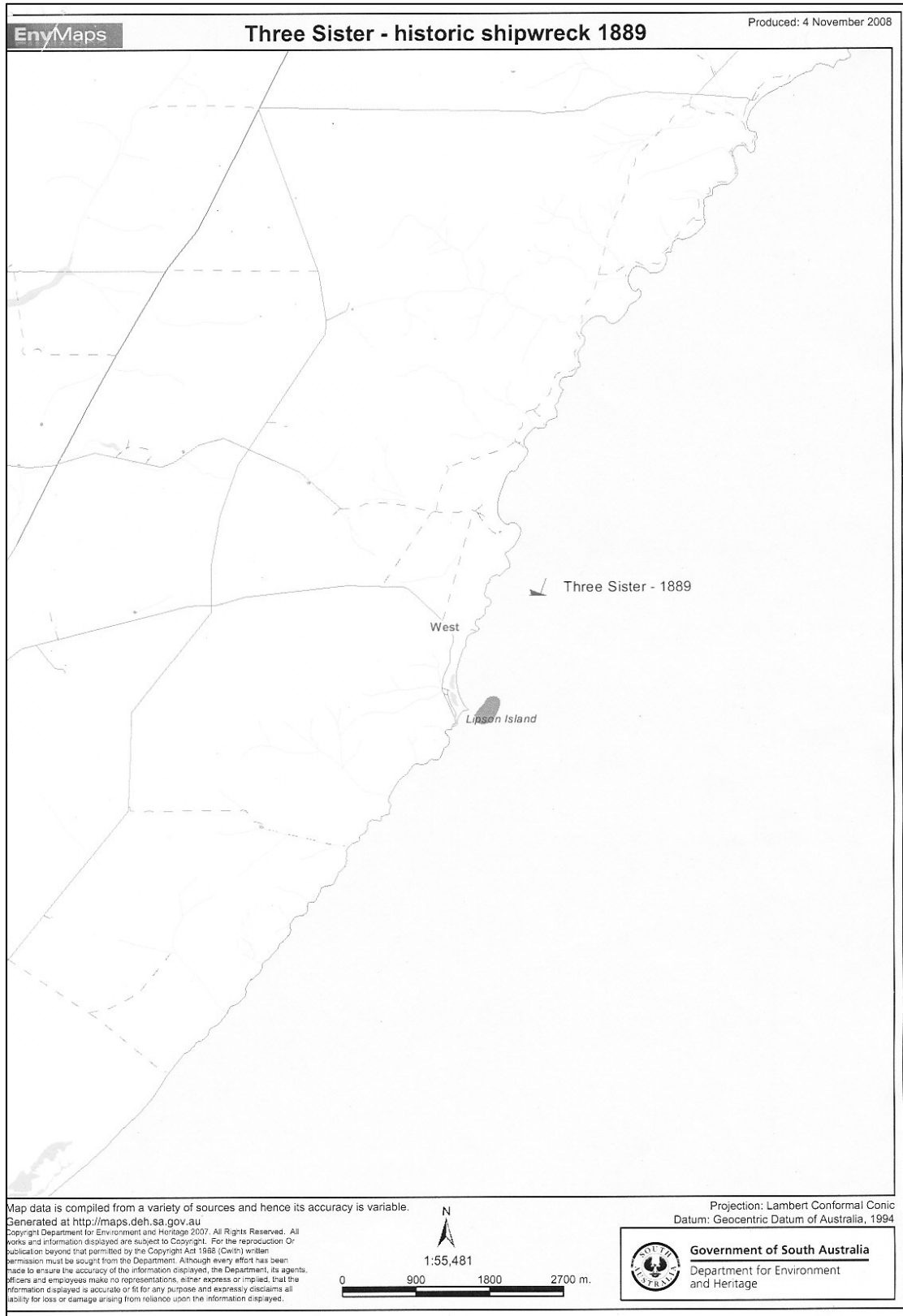
IS_INSPECTED: N

IS_PROTECTED: Y

JURISDICTION: State

REGIONDESC: SPENCER GULF

Information obtained by Golders from Heritage SA, November 2008.



Identify Results

Coordinate Position

UTM 53S: 617172, 6209318
Geographic: 136.272527, -34.250663

NPWSA Regions

REGION_ID: 1
REGION: West
MANAGER: Ross Belcher
OFFICE_ID: 18
OFFICE: Port Lincoln
OFFICE_TYPE: region
PARKS: 103
AREA_PARKS: 95736612434.4178
AREA: 301078327043.993
LEN: 3456850.99589159

Shipwrecks

WRECKNR: 215
WRECKNAME: THREE SISTERS
RIGDESC: KETCH
HULLDESC: WOOD
TONNAGEA: 14.7
TONNAGEDESC: Gross
LENGTH: 14.9
BUILDDATE: 1874
PORTBUILT: HOBART
COUNTRYBUILT: Australia
LOSSDATE: 13/03/1899
LOSSLOCATION: LIPSON COVE, 10 MILES FROM TUMBY ISLAND
LOSSCAUSE: WENT ASHORE IN EASTERLY WINDS AND BECAME TOTAL WRECK
IS_FOUND: Y
IS_INSPECTED: N
IS_PROTECTED: Y
JURISDICTION: State
REGIONDESC: SPENCER GULF

<http://maps.deh.sa.gov.au/imf-int/imfDrillIdentify.jsp?x1=1117016.972986501&y1=17...> 4/11/2008

Shipwrecks

Report : WRR010
Title : Full Wreck Detail
Filename : wrr010.pdf
Run by : NUTLEYD
Date : 04 November 2008

Wreck No : 215
Wreck Name : %
Vessel Type : %
Rig : %
Builder : %
Owner : %
State Built : %
Location of Loss : %
Master : %
Date Lost : %
Map Code : %
Industry : %

04 November 2008

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Wreck No : 215
 Wreck Name : THREE SISTERS
 Wreck Name Ref : DEP
 Found : Y
 Protected : Y
 Jurisdiction : State
 Date Protected :
 Statement of
 Significance :
 Significance Ref :
 Management Plan :
 Management Plan Ref :
 Photographed ? :
 AHC Theme :
 AHC Sub-Theme :
 Criteria :
 Criteria Ref :
 Former Name :
 Former Name Ref :
 Vessel Type :
 Rig : KETCH
 Hull : WOOD
 No. of Masts : 2
 Tonnage 1 : 14.7
 Tonnage 2 :
 Tonnage Ref :
 Date Built : 00001874
 Builder : THOMAS HORNE
 Builder Ref : P
 Port Built : HOBART
 Port Built Ref : P
 State Built : 7
 State Built Ref : DEP
 Official
 Official No. : 57553
 Register No. : 14/1876
 Register Date : 23011876
 Cons. Timbers : UNKNOWN
 Engine Type :
 Engine Type Ref :
 Owner(s) : WILLIAM ARGENT (1898)
 ALFRED GEORGE LITTLELY (1896)
 HILTON R.Y. LITTLELY (1895)
 JOHN RISHARDS (1881)
 GEORGE RAWDON SEITH (1877)
 WILLIAM LADE (1876)
 Owner Ref : MNL 3.8 metres
 Register Port : PORT ADELAIDE 1.4
 Register Port Ref : CHR
 Length : 49.0 feet 14.9 metres Length Ref : CHR
 Breadth : 12.5 feet Breadth Ref : CHR
 Depth : 4.7 feet metres Depth Ref : CHR
 Construction Detail : ONE DECK, SHARP STERN, CARVEL BUILT, SCROLL HEAD
 Construction
 Detail Ref : CHR
 Date Lost : 13031899 Date Lost Ref :
 Location Lost : LIPSON COVE, 10 MILES FROM TUMBY ISLAND
 Location Lost
 Ref : T

04 November 2008

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Cause Loss : WENT ASHORE IN EASTERLY WINDS AND BECAME TOTAL
WRECK
Cause Loss Ref : T
Master(s) :
Master Ref :
Crew :
Crew Ref :
Passengers :
Passengers Ref :
Port From :
Port From Ref :
Port To :
Port To Ref :
Cargo :
Cargo Ref :
Deaths :
Deaths Ref :
Industry 1 : Industry 1 Ref : ANHSD
Industry 2 : Industry 2 Ref : ANHSD
Salvage Detail : NO REPORT OF SALVAGE, WRECK PRESUMED STILL IN SITU
Salvage
Detail Ref : MS
Map : 6129-3 Map Ref : 1:50000
Maximum AMG Zone : 53 Minimum AMG Zone :
Maximum Easting : 617015 Minimum Easting :
Maximum Northing : 6209226 Minimum Northing :
Maximum Latitude : 34,15,05 Minimum Latitude :
Maximum Longitude : 136,16,15 Minimum Longitude :
Latitude Ref :
Site Condition :
Site Condition Ref :
Conservation :
Conservation Ref : Date Last Inspected :
Water Depth : Water Depth Ref :
Visibility : 0
Type of Bottom :
Site Affected by :
Best View Time :
Region : SPENCER GULF
Local Government
Site Description :
Site
Description Ref :
Reference Detail : ADVERTISER: 17/12/1880 (6D, 7C); 14/03/1899 (4I); 21/03/1899
(4I); 07/08/1986 (40)
REGISTER: 06/01/1881 (5A); 12/03/1881 (SUPPLEMENT 1C);
02/04/1881 (SUPPLEMENT 1E); 14/10/1881 (SUPPLEMENT 2E);
29/09/1893 (5F); 30/09/1893 (5H)
PARSONS, R. KETCHES OF SOUTH AUSTRALIA
PARSONS, R. PORT LINCOLN SHIPPING. P.59, 70
PARSONS, R. SHIPWRECKS IN SOUTH AUSTRALIA BOOK 2. P.57
GILLESPIE, J. 1994. TRADERS UNDER SAIL. P.214
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MERCANTILE NAVY REGISTER: 1876-1904