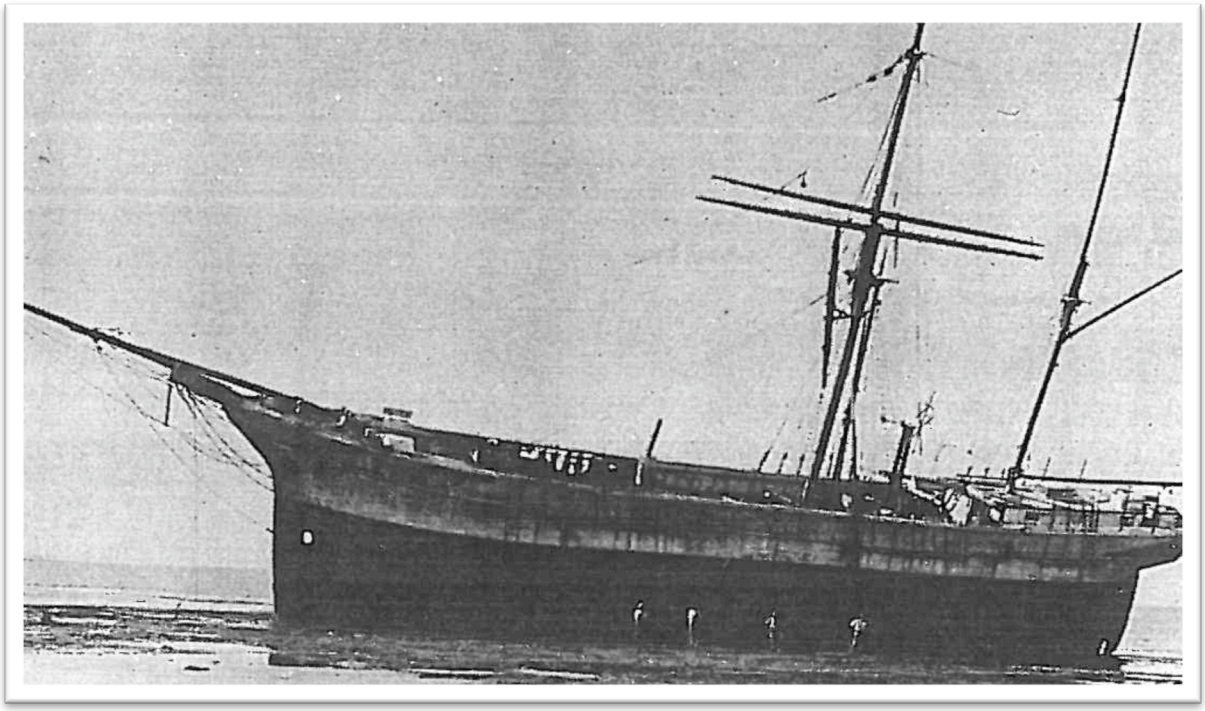
Survey of the *Solveig* (1903) shipwreck site, Point Samson



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WESTERN AUSTRALIAN museum

Government of Western Australia
Department of Culture and the Arts

Cover image: The barque *Solveig* high and dry at Point Samson c. 1900 (Pilbara Scrapbook 1984)

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1. Technical Data

Site name: *Solveig*

Date lost: 19 February 1903

Date inspected: 25 & 28 June 2012

Personnel:
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Approximate location: Point Samson beach at Port Walcott, south of Cape Lambert Jetty.

GPS location: (donkey boiler)
Lat: 20° 62. 39188' S
Long: 117° 19. 66847' E

Datum: WGS84

Chart number: Aus 55 Approach to Port Walcott, 1:50,000 (May 2002).

Map of area:

Figure 1. Location of Point Samson in north-west Western Australia (Google Earth).

File number: MA-4/79, MA-11/09 (TRIM 20009/0050/SG)

File name: Dampier Area (North West)

Access directions:
Drive along the road from Roebourne to Point Samson. Once in the town, turn on the left into Mears Drive and follow the road until the end, keeping the sea on the right side and houses on the left side. When coming in sight of a bay where the Cape Lambert jetty can be seen at the end of the road, there is a Bicentennial of Western Australia plaque commemorating the loss of the *Solveig* (at the corner between Mears Drive and Cliff Street), just under a former observatory or customs office with a tall antenna on top of which a large eagle nest can be observed. The wreck site is spread out below, to the east and south-east from the plaque.

Figure 2. Detail of Point Samson foreshore area showing location of the donkey boiler on the *Solveig* shipwreck site (Google Earth).

Visual transits:
N/A

Site photographs:
Digital colour photos were taken by Patrick Baker (Nikon D7000 DSLR, and Fuji W3-3D).

Site conditions on inspection:
Weather Conditions: Sunny with moderate breeze; approximate temperature was between 20 and 25°C.
Wind: Approximately 4 on the Beaufort scale, with wind speed ranging from 20 to 28 km/h
Water temperature: N/A
Water visibility: N/A

Seabed coverage: The site is spread over an area composed of sandy beach but mainly of rock and reef platform extending from below the low water mark to above the high water mark. Most of the site lies within the inter-tidal zone.

Chemical measurements:
N/A

Biological data:
Colonizing flora and fauna: Mainly barnacles, but also small algae and sponges can be observed on surfaces of the ferrous features.

Figure 3. View of the site environment from the top of sand dunes (Photograph: R. Anderson)

2. The 1995 Site Inspection

The Department of Maritime Archaeology of the Western Australian Museum first inspected the site on 12 September 1995. The site was described as follows (McCarthy 1998: 4):

'The remains consist of a large proportion of ironwork (frames, windlass, winch, wire rigging, rudder gear, chain, iron fastenings, fittings and fixtures) of a part iron framed wooden hulled sailing vessel which has been fitted with a donkey boiler.
A trail of debris consisting of this material covers an area of drying reef top 120 m by 60 m, with an iron crutch, the rudder-head and worm gear, to the seaward or eastern end of the site. This appears to mark the position in which the stern of the wreck disintegrated. A capstan lies to the west of this area followed by a broken line of chain cable, and other ironwork, including a deck knee. The eastern extremity of the cable finishes at the shoreline and it appears to mark the position of the bow of the

wreck. Wreckage also lies in a shallow depression, which runs from the bow area parallel to the beach. It also lies up against a low jagged rock platform just above high water mark on the beach parallel to the modern shoreline. Some materials have been forced over this barrier in very heavy seas, to lie above it and to remain totally dry under all but times of high tides and very strong seas and swell.

It appears from this evidence that the wreck once lay bows to shore on a NW/SE axis with the stern on the outer edge of the drying reef platform. As it began to break up the vessel was forced beam on to the sea to finish parallel to the shore in a shallow depression and against the low jagged platform just above the high water mark on the beach. In this position the wreck totally broke up depositing the donkey boiler, a capstan, fastenings, fittings and most of the iron knees. Heavy seas eventually deposited sections of the vessel onto the rock platform adjacent the wreck itself.'

3. The 2012 Site Inspection

The site was inspected on 25 and 28 June 2012. The objective was to accurately position-fix and photograph all the main structural feature/debris visible along the rock platform, within the sandy depression, and on the reef top.

On the 25 June 2012, an attempt was made to conduct the survey using a total station (Leica TCR 305) placed from the top of the sand dune, adjacently to the *Solveig* Bicentennial of Western Australia plaque. However a technical malfunction of the theodolite's laser on the day caused this method to be abandoned. Alternatively, positions of the features were recorded using a handheld GPS unit by M. McAllister. Concomitantly, a mud map of the entire site and a brief sketch of each positioned feature was carried out by N. Bigourdan, along with a photographic record by P. Baker (see Figures 4 and 5, and Appendix).

Figure 4. M. McAllister and N. Bigourdan surveying the donkey boiler (Photograph: P. Baker).

Due to the rising tide some of the features located on the seaward edge of the reef platform, below

the low water mark could not be accessed, which entailed a second visit to complete the survey which was conducted on 28 June 2012 by R. Anderson.

Site description

During the inspection, the layout and dispersal of artefacts seemed overall very similar to the 1995's description and mud map. However, it the extent of *Solveig* debris is greater than previously reported in 1995. The area covers from east to west an approximate maximum distance of 250 m, and from north to south an approximate maximum distance of 120 m. Most of the key structural features reported in 1995 are still visible and seem to be located in the same position. Additional features (not mentioned in the 1995 wreck inspection report) have been identified including a hawse pipe and mast fittings. A number of features are embedded along the edge of the rock platform at the base of the sand dunes. Along this edge numerous small clusters of concreted bolts (Figure 6) can be seen in gaps between rocks just above the limit of the high water mark. The feature referred to as the capstan has been identified as a fragment of the mechanism, namely the capstan base. Different types of knees have been identified including crutches, rider knees, right-angle knees and staple knees.

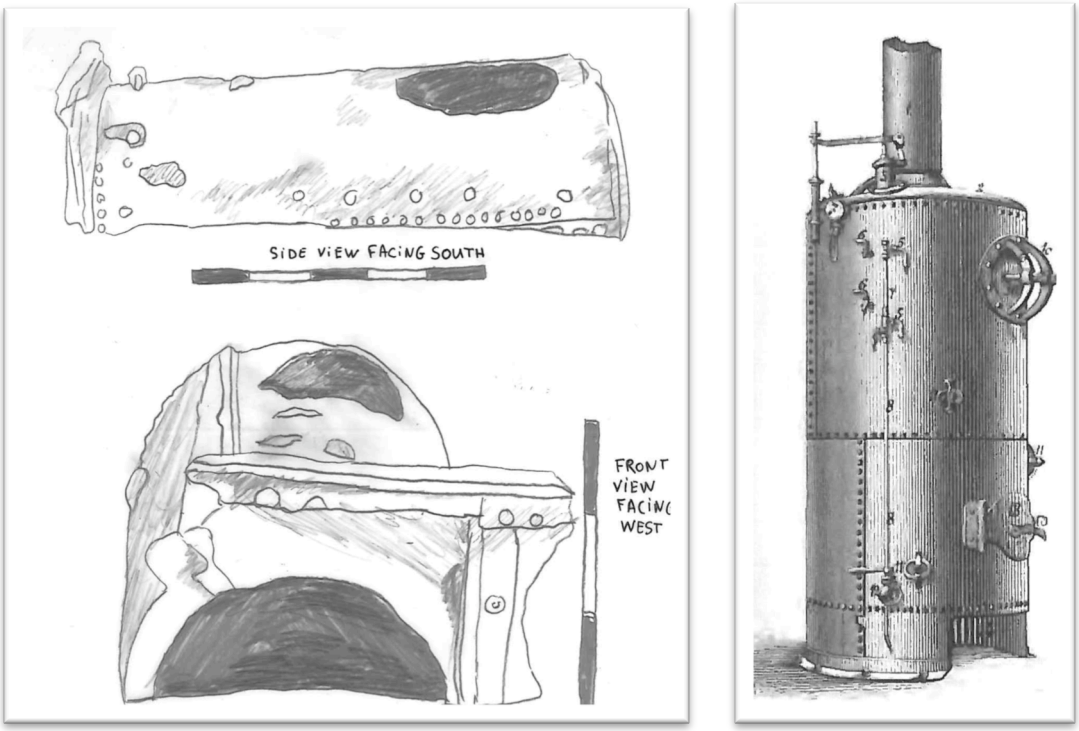

Figure 5. Sketch of the *Solveig* donkey boiler (N. Bigourdan) and example drawing of full donkey boiler (Paasch 1885: 149).

Site condition and integrity

The majority of features are heavy non-portable items that remain concreted to the reef and rock platform. The site is fully exposed to sea-water and air, and the features are actively corroding.

Material raised

No material was raised during this inspection.

Figure 6. Concreted bolts assemblage visible among gaps between rocks (Photograph: P. Baker).

4. Management Considerations

Site environment

The majority of the site is located in the inter-tidal zone (from below the low water mark to above the high water mark), consequently different parts of the site are subject to different, variable, degrading effects of intermittent coverage and exposure from sea-water. The site's seabed and shore environments encompass: reef platform, sandy depression/ beach and rock shelf.

Present and future human impacts

The site is easily accessible at low tide to reef walkers and beachcombers. A large number of ferrous artefacts of various size and shape were observed during the site inspection and survey. Even though, most structures or artefacts could potentially be deemed portable because of their non-conglomerated nature, the majority is either partly buried, strongly concreted to the rocks and reef or too heavy to be easily removed.

(a) Contemporary salvage: Due to the close proximity of the wreck to the shore cargo and/or valuable material would have been easily accessible for salvage at the time of the wrecking.
(b) When discovered and by whom: William (Bill) Miller reported to the Western Australian Museum on 12 November 1987 the location of debris related to a wreck, known for many years at Port Samson and thought to be the remains of the *Solveig*.
(c) Modern salvage: Not known.
(d) Casual diver interference, if any: Not known.
(e) Modern use, if any: The site is part of the Emma Withnell Heritage Trail (State and Commonwealth funded as an Australian Bicentennial project).
(f) Government and/ or private development: In the vicinity around Cape Lambert there is currently a development for the establishment of the Anketell Port (Anderson & Green, 2011), which should not have impact on the site.

Projected general site stability

As described during the 1995 survey, since most of the loose artefacts have been removed or have

disappeared, only very minimal impacts are to be expected from human visitations to the site. For instance, no anchors have been recorded from the site, however an anchor is observable in the Samson Caravan Park and a plaque (erected as part of the Emma Withnell Heritage Trail funded by the State and Commonwealth as an Australian Bicentennial project (Figure 8). The presence of distinctive features such as the capstan or the donkey-boiler suggests that they were abandoned due to damage sustained and/or the vessel's age (McCarthy 1998). The patent windlass is longer on the site, and may have been salvaged for re-use. Although the site is considered to be stable, monitoring is recommended, as the area can be seasonally affected by strong winds and storms.

5. Site Plan

A site plan (Figure 7) was created by downloading GPS points into the Department of Maritime Archaeology's Geographic Information System (GIS) and overlaid onto a geo-referenced aerial photograph. Feature numbers were allocated to individual site features and labeled on the site plan (e.g. S1, S2 etc). The feature numbers can be correlated with the feature descriptions and photographs listed in Appendix 1. The plan shows the site formation process from the ship being initially being stranded on the reef platform, with material subsequently washed into the rock shelf as the vessel broke up.

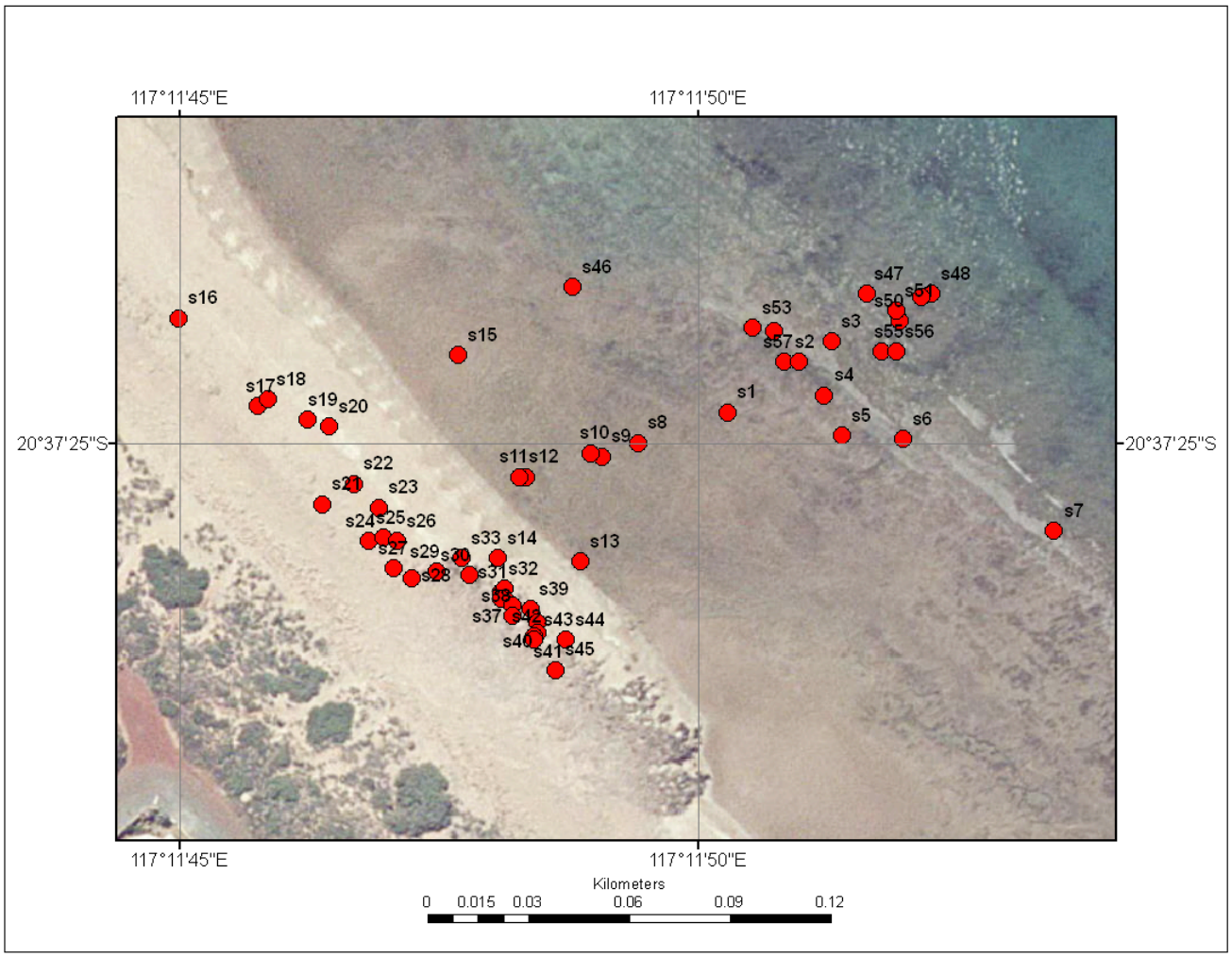

Figure 7. *Solveig* site plan (see Appendix 1 for details)

Figure 8. Anchor from the *Solveig* (Photograph: Anita Cheeseman)

6. Historical Information and Site Identification

Historical information

The *Solveig* was a three-masted wooden barque built at Porsgrund (Norway) in 1877. 'Solveig' is a female name from the Old Norse, which was derived from the words 'sun' and 'strength'. The vessel was registered in Trondheim (Norway), and had a gross tonnage of 619 t and a net tonnage of 574 t. Its dimensions were 48.2 m in length, 10.1 m in breadth with a draft of 5.4 m. The vessel was known to transport cargo back and forth between Fremantle and Albany, being for instanced commissioned by the Millar's Karri and Jarrah Forests Ltd (*The Inquirer & Commercial News* 1898). According to Lloyd's shipping register (*Lloyds Register* 1898), the vessel had one deck with two tiers of deck beams, and it had been re-sheathed in March 1897.

As the time of its loss, the *Solveig* was transporting wooden jetty piles (valued at £2,000) for the construction of the Point Samson jetty. It was owned by H. Guderson (Acties Solveig), mastered by Captain R. Ostreddt, and had thirteen crewmembers on board. The steamer *Minilya* first reported the information of its loss to Fremantle, as explained in the following newspaper article (*West Australian* 1903a):

> RECENT LOSSES ON THE COAST. THE *SOLVEIG*
>
> From news brought down from the Nor'-West by the Singapore steamer *Minilya*, which arrived at Fremantle on Friday there seems to be little likelihood that the barque *Solveig*, which went ashore near Cossack recently, will be got off. The cargo she took from Bunbury was principally piles for the Point Sampson jetty. When the vessel parted her cables and was driven on the Point in the gale, about half of it was still on board, so that the effect would be disastrous when she took the ground. The *Solveig* was an old wooden ship, built in the year 1877.

The occurrence of the wrecking event was detailed in a newspaper article (*West Australian* 1903b), and is described as followed:

> THE WRECK OF THE *SOLVEIG*. ARRIVAL OF THE CREW AT FREMANTLE. THE STORY OF THE WRECK.
>
> The captain and crew of the barque *Solveig*, which was wrecked at Cossack last month arrived at Fremantle by the steamer *Sultan* on Sunday. The crew was accommodated at the Sailors' Rest. Captain Ostreddt states that the vessel is a total wreck, and that there is no possibility of her being re-floated. The story of the disaster, as detailed to a reporter of the "West Australian" yesterday, may be briefly told. The cargo, which consisted of long piles for the new jetty at Port Sampson, was about half unloaded. At about 11 o'clock on the morning of the 17th ult. a fresh breeze was blowing from the north-east. The wind then dropped, and the sea became as smooth as glass, with the rays of the sun striking down with a fierce heat, and reflected with a blistering glare from the surface of the water. This lasted until about 4 o'clock in the afternoon, when, without any warning, the hurricane came down on the barque from the south-east. As darkness came on the heavens seemed to open, and, with thunder and lightning, the rain poured down in torrents. It was an anxious night for those on board. Sleep was impossible, and all remained on deck waiting for daylight. The cables stood, however and day broke with no diminution of the fury of the tempest. All that day the storm continued, and in the middle of the night the starboard cable parted. The spare anchor was got out, but shortly afterwards the barque broke adrift, and was heading straight for the shore. As the timber had been discharged from the bow parts, the *Solveig* was deep aft, and she swung round bow on to the shore. She had been anchored about a mile off, but had dragged in considerably, so that it was not long before she struck the ground heavily huge seas breaking over her. In the morning it was seen that she was high up on the shore, and with a swiftly receding tide the men were able to walk to dry ground.

Site Identification

Since the site discovery (by W.A. Miller in 1987) and the first identity hypothesis, enhanced by the historical background and site inspection (1995-1998); the location and nature of the remains have indicated 'beyond doubt that of the Norwegian Barque *Solveig*' (McCarthy 1998: 5).

7. Assessment of Site Significance

Historical

The *Solveig* shipwreck site has historical significance for its association with the construction of the Point Samson jetty, the development of port infrastructure, and the development of the Pilbara region generally. Additionally, the *Solveig* is part of a group of large international sail traders (such *Mariano* (1878) and *Glenbank* (1911)- both yet to be discovered) from the late 19th-century and early 20th-century, lost in the Port Walcott/Cape Lambert area. The wreck site demonstrates the difficulties of trade and navigation along this stretch of the coastline, which is subject to powerful cyclones. The *Solveig* is part of a wider resource of Norwegian-owned sailing ships used in the Western Australian timber trade including the *Dato*, *Solglyt*, *Katinka*, *Mandalay* and *August Tellefsen* that were wrecked along Western Australia's coastline.

Archaeological

Although disarticulated and heavily broken up, the *Solveig* site has some relative degree of

archaeological significance as a late 19th-century wooden/composite sailing cargo vessel, which was using a donkey boiler in a Western Australian context. From a research point of view, the site has potential to inform as a case study in site formation processes, and provide additional information on the practice of abandonment and shipwreck site salvage in northern Australian waters e.g. the study of the SS *Brisbane* (Steinberg 2008).

Technological
The site has representative technological significance for its ability to demonstrate the range of fastenings, ironwork, and machinery typical of a late 19th-century wooden/composite sailing cargo vessel. Labour saving machinery such as the steam-powered donkey boiler and a windmill-powered bilge pumps (visible in the photograph) were typical technological modifications installed to allow Norwegian sailing vessels to run on a minimal crew, thereby saving labour costs and maintaining Norway's international merchant sailing ship fleet into the 20th century. The range of iron knees is useful to compare with other, as yet unidentified shipwreck sites to assist in structural analyses.

Educational
The site has educational significance as an easily accessible wreck site for educational and school groups, in order to conduct historical and social activities.

Recreational
The site has recreational significance as a useful and easily accessible heritage site, that is included as part of the established Emma Withnell heritage trail.

Cultural
The site is culturally significant as a maritime heritage site in the Port Walcott area, and part of a maritime cultural landscape that includes the historic port of Cossack, modern Cape Lambert iron ore port, Jarman Island lighthouse and keepers quarters and Point Samson jetty.

8. Recommendations

i) Further research (including a visit to the WA State Records Office) should be conducted to expand the knowledge in relation to the characteristics, life and activity (such as: what was the purpose of a relatively small donkey boiler on a large ship?) of the *Solveig* prior to its wrecking (1903) and more specifically between its construction in Norway in 1877 and its first recorded involvement as a coastal cargo trader in Western Australia during the late 1890s. Additionally, because further archaeological features remains in the water (below the low water mark) or buried under the sand both associated with the loss of this vessel, a survey of the surrounding area underwater could be undertaken to attempt locating further features and complete the site plan.

ii) The location of the site (being scattered from below the low water mark up to above the high water mark) and age (post 1900) makes it a difficult candidate for legislative protection. As alleged during the 1995 site inspection, the full wreck site cannot be protected entirely under either the *Maritime Archaeology Act* 1973 (being post 1900) or the *Commonwealth Historic Shipwreck Act* 1976 (being located mainly above the low water mark). However technically, it could be argued that a small section of the site, namely the few features located below the low water mark could be protected. Notwithstanding this remark, and while waiting for the proposed amendments to the *Maritime Archaeology Act 1973* that would allow the site to be protected with a 75 year old rolling

date, the site should be added to the Municipal Heritage Inventory of the Shire of Roebourne as part of Point Samson port precinct together with the remains of Point Samson town jetty, and other potential features related to the port activity of Point Samson.

iii) Even though the site is relatively stable, and requires minimal management, liaison with the local community should be continued to monitor the condition of the site. Furthermore, a copy of this report should be sent to the Shire of Roebourne for information, management and planning purposes.

9. References

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