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Title: Search for the Independence Construction Site, American River, Kangaroo Island

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During July 2006, students and staff of the Program in Maritime Archaeology at Flinders University conducted an archaeological survey near American River, Kangaroo Island, South Australia, to attempt to locate the US schooner *Independence* construction site. The purpose of this report is to summarize the methodology and findings of these investigations. Based on historical documentation, the construction site was suspected to be located along the present day shore line near American River (Figure 16).



Figure 16. Map of Survey Area (TerraMetrics 2007)

Although the survey did not find the exact location for the *Independence* construction site, it did establish three target areas (Figure 17) that would have been most ideal for this activity in the survey area: the *Independence* Point Site (Site A), the American River Township Site (Site B) and the Fish Cannery Track Site (Site C). These locations were based on several assumptions about characteristics of shipbuilding sites: closeness to channel, relationship to flat or gently sloping land for ease of launching, closeness to fresh water, protection from the elements, and presence of early 19th century cultural material. In addition to attempting to locate the site of construction, this research sought to address two central questions: what factors, such as environmental resources, influenced Captain Pendleton to choose American River as a location to construct *Independence*, and what were the different types of timbers available to the shipbuilders of *Independence*? As part of answering these questions, the field crew initiated a vegetation survey to sample prominent timber specimens.

This archaeological survey provided a valuable source of information on several levels. The survey represented the first archaeological survey conducted in the American River area, and this cultural assessment provides a baseline for future studies and management. This study was also one of the first studies to attempt to locate such an ephemeral shipbuilding site. The knowledge gained from the investigation could provide a foundation for similar studies that target short occupation ship construction sites.

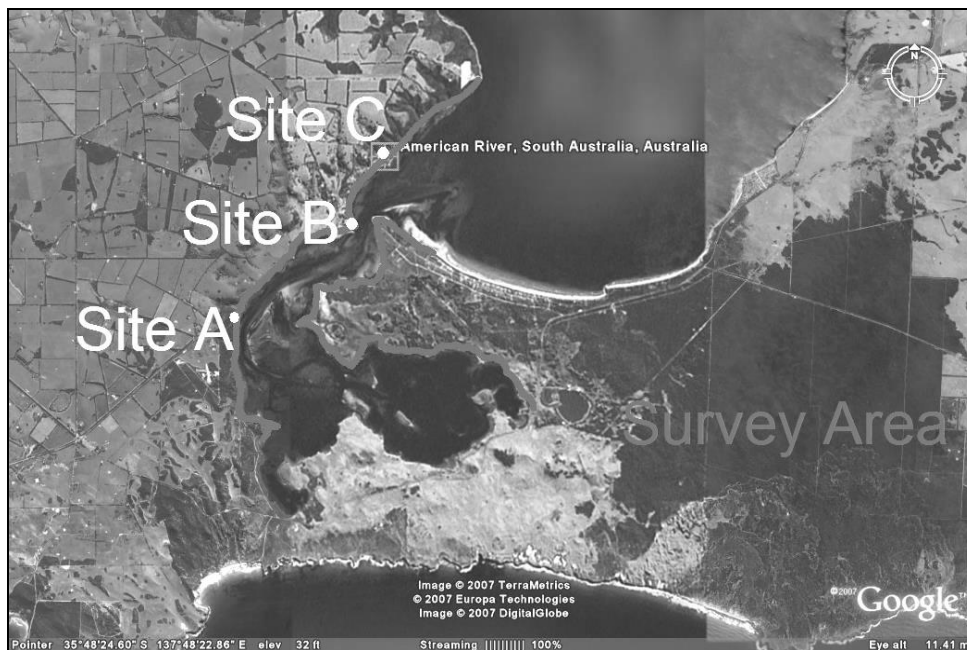


Figure 17. Survey area showing Site A, Site B and Site C (TerraMetrics 2007)

History of US Schooner *Independence*

Independence, which was the first non-indigenous vessel constructed in South Australia, was built in 1803 by the crew of US brig *Union*. *Union* was outfitted by Fanning & Co. of New York in 1802 for a sealing expedition to the southeast coast of New Holland (Fanning 1989:230).

Edmund Fanning, who owned a part share in the vessel, stated,

Never, perhaps, was a voyage entered upon with brighter, and never did a vessel sail with more encouraging prospects than this brig. Her commander (Captain Isaac Pendleton) was ...left unrestricted, and at perfect liberty to act on all occasions as his judgment should direct, to make the most profitable voyage he could of it for his owners. (Fanning 1989:230-231)

On February 18, 1803, the vessel arrived at Seal Island in King George III Sound. The crew then went ashore to procure seal skins, but because the chief part of the sealing season had already passed, they only obtained a small amount (Fanning 1989:231-232). Two days later, Pendleton happened upon the French explorer Nicolas Baudin of *Le Géographe* who was surveying the coast of New Holland. Baudin recorded the details of their rendezvous:

And before seating ourselves he begged me to give him, if possible, a chart of the coast of New Holland, not possessing any information to guide him in the course he desired to take in the search for the places frequented by seals, nor for the direction of the coast nor of the dangers to be met with there. I gave him two charts...as well as the position of King Island. (Cumpston 1970:26)

Baudin and his officers reassured Pendleton that he would find enough seals to complete his cargo at Kangaroo Island, and he proceeded to tell him the best place for anchorage and to procure sealskins. Previous to this encounter, Baudin and his corvette *Le Géographe* had sailed around Kangaroo Island. Baudin had lost a longboat, and his carpenters had combed the island for suitable timber. It was only when they reached the area near what is now called American River that the carpenters were able to procure suitable timber, and then

construct a longboat aboard Baudin's vessel. Although not historically documented, it is possible that Baudin shared this information with Pendleton.

Pendleton set sail for Kangaroo Island, and decided to winter at American River, where they constructed the 30-ton schooner *Independence* (Sydney Gazette 8 January 1804). Here the crew "found both the hair and fur seals, extensive forests, good water, and much game; fowls and birds of various kinds in abundance; and also excellent fish and oysters in great plenty" (Fanning 1989:231-232). They stayed for almost four months, during which time they "set about and built a small vessel, 30 tons burthen, named the *Independence*" (Fanning 1989:232; Sydney Gazette 8 January 1804).

The timbers utilized to construct *Independence* have been debated. Edmund Fanning's (1989) historical narrative and The Sydney Gazette reported that the scantlings used to construct *Independence* were hewn and sawn from the local pine tree, which resembled Swedish timber and contains turpentine (Fanning 1989:232; Sydney Gazette 1 July 1826). Another source states,

The first officer, D. Wright, a man of mechanical ingenuity, the carpenter and armourer directed preparation of the native pine, eucalypt and casuarina timber. With this and spare sails, rigging and other materials from the Union they were able to launch the *Independence* early in 1804. (Nunn 1989:20)

Upon completing the vessel, Pendleton and the crew of *Union* parted company with the newly appointed crew of *Independence*, while *Union* got underway to Port Jackson. Isaiah Townsend, who was a seaman aboard *Union* wrote to his brother Samuel in New York:

We have been cruising on the Southwest Coast of New Holland but to little advantage. We have built a fine schooner of about 30 tons. We call her the *Independence* which...our crew is now cruising in Bass's Straits... Captain Pendleton myself and the remainder of the crew is in here with the ship for supplies. (Townsend 1804)

Union left Sydney during April 1804, to rendezvous with *Independence* at Kangaroo Island (HRA 1804:5.122). They both arrived back in Sydney during June 1804 (HRA 1804:5.120). At this time Captain Pendleton sold a part share of *Independence* to the prominent Sydney trader Simeon Lord. The Articles of Agreement listed Isaiah Townsend as master of the vessel (Fowler 1980:72). Pendleton also sold his cargo of seal skins to Simeon Lord for which he was to procure payment from the sale of the sandalwood in China. He was to obtain the sandalwood at a secret location in Fiji.

The presence of American vessels in Port Jackson had the Governor of the Colony, Phillip King, worried. He wrote to the Secretary of the State for the Colonies, asking him how far he would be "justified in preventing the American intrusion and the resultant intercourse with them." (HRA I 1804:5.92-93). King issued a General Order on August 11, 1804 stating:

... no vessel under foreign colours, or belonging to any foreigner, be cleared from this port for any sealing voyage within the limits of this Territory or its dependencies, and for the purpose of returning hither, but that all such vessels after their necessities are relieved, be cleared out from this Port to any other Port of Discharge. (HRA I 1804:5.92-93)

Pendleton, rather than reveal his true destination, cleared Port Jackson for China. John Boston, sailing as supercargo, was to take *Union* to Fiji to procure sandalwood for the China markets, which was to be the first attempt at trading sandalwood with China. While stopping at Tonga for supplies, Pendleton and six other crewmen were murdered by the local Indigenous population. Daniel Wright, who became acting captain, returned to Sydney to report the news and to procure provisions. Then, he continued the expedition to Fiji. *Union* struck a reef along the coast of Fiji near Sandalwood Bay, and those that were not drowned were massacred by the local Indigenous population.

Independence, on the other hand, did not have to clear Port Jackson for a foreign port because Simeon Lord owned a part share of the vessel. Townsend sailed the vessel to Antipodes Island, which was south of New Zealand and where they procured 59,000 skins. Captain Townsend wrote to his brother in New York:

I take this opportunity to inform you...that I have been very successful since I left the Union. On a sealing expedition I have at present several vessels and a large number of men under my direction

in this business. Besides my little schooner the *Independence* which I command and have now mated with Captain Jonathan Paddock in the ship *Favorite* of Nantucket. (Townsend 1805) *Independence* and *Favorite* set sail on another sealing expedition on the 15 June 1805. The two vessels parted company at New Zealand planning to rendezvous again at the Antipodes Islands. The crew of *Favorite* arrived, procured skins, and sailed back to Port Jackson. *Independence* was never heard of again. Captain Paddock stated:

We are sorry to report the probable loss of the American schooner *Independence*, which...was for some time conjectured to be traveling on discovery of advantageous situations for procuring seal; but has unfortunately never since been seen or heard of. (Sydney Gazette 15 May 1806)

“He had not more than six or seven weeks provisions on board of the schooner...I think from every circumstance we have reason but to think he was lost.” (Paddock 1807). Simeon Lord had in his hands everything that Townsend had obtained during his sealing expeditions, which amounted to about 18,000 skins. Paddock did not know what share was Townsend’s or Lord’s (Paddock 1807).

Previous Investigations

No previous archaeological investigations have been conducted near American River. Historical evidence indicates the vessel was constructed in this area. A chart composed by Captain George Sutherland in 1819 depicts a general location for construction; however, the inscription, “Where a schooner was built by shipwrecked Americans,” was incorrect in that the Americans were not shipwrecked. Thus, its validity is rather dubious (Sutherland 1831).

A local historian, J. S. Cumpston, visited the American River region in the 1960s (Figure 17 and Figure 18). He claimed to have identified the *Independence* construction site near a small point along the western shore of American River (Figures 18 and 19).

Some pieces of coal picked up on the point were found to be dissimilar from that mined in Australia. That suggests that a shipwright’s forge was in use there. While the vessel was under construction the Union was almost certainly anchored in Eastern Cove, off American Beach, where water is available. (Cumpston 1970:28)

Based on this cartographic and coal evidence, the present day *Independence* Point was chosen as a primary target area.



Figure 18. Photo taken by J.S. Cumpston in 1960s showing *Independence* Point (Cumpston 1970)

Environment

Kangaroo Island is the second largest island in Australia. It is located approximately 140 km southwest of Adelaide near the mouth of the Gulf St. Vincent. Separated from Cape Jervis on the mainland by a narrow waterway called Backstairs Passage and from the Yorke Peninsula by Investigator Strait, the island is 50 km wide and has a coastline of 496 km. Most of the island consists of plateau with steep cliffs to the north and low-lying limestone bedrock along the south coast. Much of the soil has gravely limestone inclusions overlaying limestone bedrock, and the predominant overgrowth consists mostly of dense mallee scrub. Rainfall averages 50-60 cm each year. Most streams and lagoons are saline during the spring and dry up during the summer months. Most settlement has centred near these waterways where the soil has more depth before hitting bedrock (Tyler *et al.* 1979:39).



Figure 19. *Independence Point as it appears today (Karson Winslow 2006)*

Methodology

Site investigations included a combination of pedestrian surveys, magnetometer surveys, and a vegetation survey.

Pedestrian survey

The pedestrian survey covered nearly 11 km along the foreshore and identified three target sites based on closeness to a deep water channel, relationship to flat or gently sloping land for ease of launching, closeness to fresh water, protection from the elements, presence of early 19th century cultural material, and availability of timber suitable for ship construction. Target areas were then further investigated by a series of systematic shovel tests (Figure 20). Shovel tests were laid out in a 5 m or 10 m grid, depending on testable terrain, and all soil constituents were recorded with a Munsell soil chart.



Figure 20. Jennifer McKinnon (right) and Karson Winslow investigate a shovel test (Mark Staniforth 2006)

Geophysical survey

A magnetometer was selected as the most appropriate tool for the expected targets with reference to the American Society of Testing and Materials (ASTM) standard D6329-99 (ASTM 1999:2). While other geophysical methods such as ground penetrating radar or electromagnetic induction may have been successful at locating non-ferrous material associated with the site, the complexity of the site history, the expected low level of relict material culture and the closeness of the salt/fresh water interface to the survey areas would make their use problematic given available field resources. The use of magnetometers to detect direct ferrous evidence of cultural material (Black and Johnston 1962) evidence of burning (Abbot and Frederick 1990; Frederick and Abbot 1992) or disturbances in soil stratigraphy (Field et al. 2001; Nobes 2006) has a long and established history within archaeology and so this method was deemed appropriate for use.

Magnetometer data was collected using a Geometrics G-856 proton precession magnetometer automatically collecting data at five second intervals. During data acquisition the sensor was kept at a constant height of 2 m and orientated towards north at all times. The magnetometer was tuned to 60 000 nT prior to data acquisition and the clock was calibrated to the GPS prior to each survey. Positioning data was collected with a Garmin 76 GPS as a track point at five second intervals. Data collection locations were chosen based on ease of access rather than on the basis of a regular grid.

This kind of reconnaissance survey provides an ideal precursor to further investigations as it focuses on covering large areas quickly rather than providing definitive anomaly locations or character (Moffat and Wallis 2005). This is because of the coarse nature (estimated at +/- 5m) of the accuracy of data collected with a navigational GPS and the lack of any diurnal corrections applied to the data set through the used of a second, stationary magnetometer, which does not appear to result in a significant reduction in data quality in surveys of a small duration (Silliman et al. 2000). Furthermore, by relying on a single method of geophysical investigation for initial investigations; survey, processing and interpretation time are greatly reduced.

Such a survey philosophy is founded on the premise that the use of inexpensive, widely available instruments without being slowed down by the need to accurately spatially locate the data provides an initial assessment of whether targets exist in the area. If appropriate targets are found, more detailed survey or direct investigation can be used to further define their character and location. Should no anomalies be located during the reconnaissance phase, other more prospective locations can be analysed rather than directing resources towards a probably barren location.

All surveys suffered from a generally low data quality. Plots of data values versus station numbers show a large variation of data points from the mean. This could be the result of noisy diurnal conditions during the survey, heading errors (failing to keep the instrument upright and pointing north at all times during survey) or the large amount of anthropogenic material (one site was a former garbage dump) on site. Despite the large range of points, data for the *Independence* Site magnetometer survey one, the *Independence* Site magnetometer survey two and the Cannery Track magnetometer survey is interpretable.

Vegetation survey

A vegetation survey was also conducted to determine areas that would have been suitable for supporting timber stands large enough for building a 35-40-ton vessel. Vegetation associations, which have been loosely defined as the combination of canopy, understory and ground layer species that form a discrete vegetation community, and species descriptions only included prominent woody species. Herbaceous species would have no bearing on the survey objectives (Bullers 2006:1). Samples of mature leaves, juvenile leaves, buds, fruit and bark as well as a field guide (Holliday 2003) were utilized to establish timber species. After identification, the vegetation structure, or community, of each area was determined. This allowed for the whole survey area to be compared to other environmental attributes (Bullers 2006:3).

There are several key factors that affect timber growth and its location, and an understanding of this was essential to make informed judgments about timber that may have been available at the time of *Independence*'s construction. These include geology and land surface processes, soils, aspect and slope, fire regime, and disturbance (for a full discussion see Bullers 2006).

Seven woody species were identified during the survey; however, their suitability for shipbuilding purposes (such as maximum dimension of planks and quality) varies greatly. All together, 10 vegetation communities were identified in the survey area and are shown in Figure 21. Of these ten vegetation communities, only six were considered as capable of producing timbers suitable for shipbuilding. Accordingly, the 10 potential timber-producing species identified in the American River survey area and their characteristics include:

Sugar Gum, *Eucalyptus cladocalyx* F. Muell.: Strong and durable hardwood timber suitable for many building tasks. Stems are often very straight, and it is considered as one of the best Australian hardwoods.

Common uses include poles and fence posts (Bonney 1997:82).

Narrow-leaved Mallee, *Eucalyptus cneorifolia* DC.: Not generally suited for construction timbers. Stems are very thin and crooked, making them unsuitable for construction. Common uses include the distillation of eucalyptus oil (Bonney 1997:83).

Brown Stringybark, *Eucalyptus baxteri* (Benth.) Maiden and Blakely: Often used in construction and for general farm uses including poles and fence posts (Bonney 1997:74).

Black Cypress Pine, *Callitris gracilis* R.T. Baker: Reddish brown with a compact, fine grain and piney odour (Holliday 2002:102). Valued because it is termite resistant. Used for construction of houses, flooring, poles, and fencing (Bonney 1997:54).

Drooping She-oak, *Allocasuarina verticillata* (Lam.) L. Johnson: Not generally used for construction purposes, but it is used for fence posts or other minor structures.

Golden Wattle, *Acacia pycnantha* Benth: This species has many ancillary uses including tanning, wool dye, bush food, firewood, and shelters, but it is not used in the construction industry (Bonney 1997:16).

South Australian Paperbark, *Melaleuca halmaturorum* F. Muell. Ex Miq.: This species has many ancillary uses including fencing, weaving, bush food and firewood, but it is not used in the construction industry (Bonney 1997:149).

SA Coast Mallee, *Eucalyptus diversifolia* Bonpl.: Timber characteristics are unknown, but given that it only occurs as an occasional with other mallee communities, it was not likely easily available for shipbuilding purposes (Bullers 2006:13).

Narrow-leaved Red Mallee, *Eucalyptus foecunda* Schau.: Slender stems of narrow diameter make this species unlikely to provide suitable shipbuilding timbers (Bullers 2006:13).

Moonah, *Melaleuca lanceolata* Otto: Bushy shrub or rough-barked, low-branching tree. Can have substantial stems (Bullers 2006:13).

Although these communities could change over time, particularly as a result of historic clearing activities, fire or other types of cultural or natural disturbance, remnant timber species provide a means to extrapolate what types of timbers were available to the shipbuilders of *Independence*?

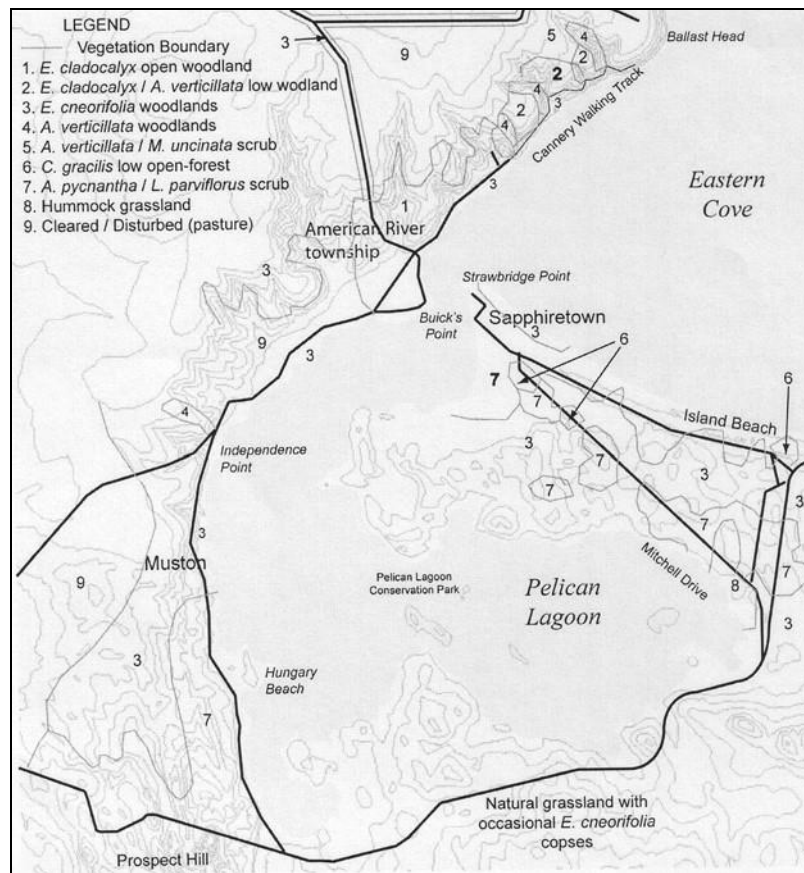


Figure 21. Map of survey area showing vegetation communities (Bullers 2006)

As mentioned previously, three historical sources, Fanning (1989), Townsend (1804), and the *Sydney Gazette* as well as one contemporary source, Cumpston (1970), state that *Independence* was constructed from native pine. The only native pine species observed in the survey area was Black Cypress Pine (*C. gracilis*). Interestingly, Cumpston stated the Latin name of the native pine as *C. propinqua*, which is a former name of *C. gracilis*. This species was observed intermittently within the survey area, but there were no prominent stands of *C. gracilis* observed at *Independence* Point or anywhere along the eastern and southern shores of Pelican Lagoon. The exception to this was a single shrubby individual at the entrance of the car park and a few individuals at Hungary Beach (Bullers 2006:29).

Since Cumpston utilized the scientific binomial for the local species, he probably positively identified the species. It can also be inferred that since he visited this area during the 1960s and since then there has been much development, *C. gracilis* probably grew in this area at least until that time. The present day vegetation pattern, however, does not support this. Only three intensive stands of this species were observed, and all three were on the northern side of Pelican Lagoon. One stand was near Strawbridge Point, which is across the channel from American River Township. Thus, either the vegetation at *Independence* Point has changed drastically, or Cumpston was mistaken in his identification. He could have confused she-oak for native pine (Bullers 2006:29).

In addition to the claims that *Independence* was constructed of native pine, Nunn states that *Allocasuarina* and *Eucalyptus* species were also utilized. The only casuarinas species identified within the survey area were Drooping She-oak (*A. verticillata*). It occurs commonly throughout the region both as a co-dominant and dominant species. The majority of identified individuals were rather short and slender, but it can grow quite

large, as several examples were observed with trunks approximately 30 cm in diameter. These larger individuals could yield excellent shipbuilding timbers (Bullers 2006:29).

Nunn also states that *Independence* was constructed from a *Eucalyptus* species; there were five types of *Eucalyptus*, three with a tree habitat and two with a Mallee habitat, identified during the survey. The most predominant vegetation association was woodland dominated by Narrowleaved Mallee (*E. cneorifolia*), a species present in nearly all communities except shrublands and grasslands. The other Mallee species, Mallee sp. 1, *Eucalyptus* sp. (no identification) was only observed as a single individual. Since the Mallee growth form does not allow for anything other than the production of small, slender poles, this species should be discounted (Bullers 2006:2930). This species, however, can grow in tree form (Costermans 1983:375), and it is possible that some substantial timber stands were available in 1803.

The three *Eucalyptus* tree species observed included two isolated individuals of South Australian Coast Mallee (*E. diversifolia*), near Muston and Tree sp. 1, *Eucalyptus* sp. (no identification) near Strawbridge Point. Despite the ephemeral presence of these two examples, it is possible that more extensive stands were present during the 19th century (Bullers 2006:30).

The *Eucalyptus* most capable of producing timbers suitable for shipbuilding is Sugar Gum (*E. cladocalyx*) (Figure 22), a species common to Kangaroo Island but only occurring in a limited range of the study area. This species occurred along the coast in a limited band from American River Township north to Ballast Head. Its growth form varied from stands of short, twisted communities of little value for construction purposes to tall straight stands ideal for shipbuilding (Bullers 2006:30).



Figure 22. Sugar Gum (*E. cladocalyx*) found near American River Township with a base greater than 1m. Sugar Gum was one of the few tree species that would have been suitable for the construction of a 40-ton vessel such as *Independence* (Rick Bullers 2006)

This vegetation analysis finds that there are three species that were most likely to have been utilized for the construction of *Independence*:

- Black Cypress Pine (*C. gracilis*)

- Drooping She-oak (*A. verticillata*)
- Sugar Gum (*E. cladocalyx*)

Because of the limited range of two of these species, there are several locations based on vegetation alone that would have been ideal for the construction of *Independence*. Furthermore, because the crew of *Union* was small and had a limited time range to construct the vessel (three months), the crew probably would not have transported large timbers great distances. Thus, the availability of suitable timber within a close range was probably a factor in its construction location (Bullers 2006:30). These ideal locations include: Between *Independence* Point and the American River Township; at, or near, Strawbridge Point on the northern side of Pelican Lagoon, opposite American River; and near one of seven gullies between American River Township and Ballast Head (Bullers 2006:30). All three target sites were located within these boundaries (See Figure 23).

Site Interpretation

Independence Point (Site A)

Independence Point (Site A) was identified as a target area based on the claim made by Cumpston that he had found coal at this location. *Independence* Point is relatively close to the channel. The coastline at low tide is approximately 50 m from the present day channel. Because there is nearly a 2 m tide, the water depth between the coast and the channel at high tide could have been sufficient for launching a small schooner.

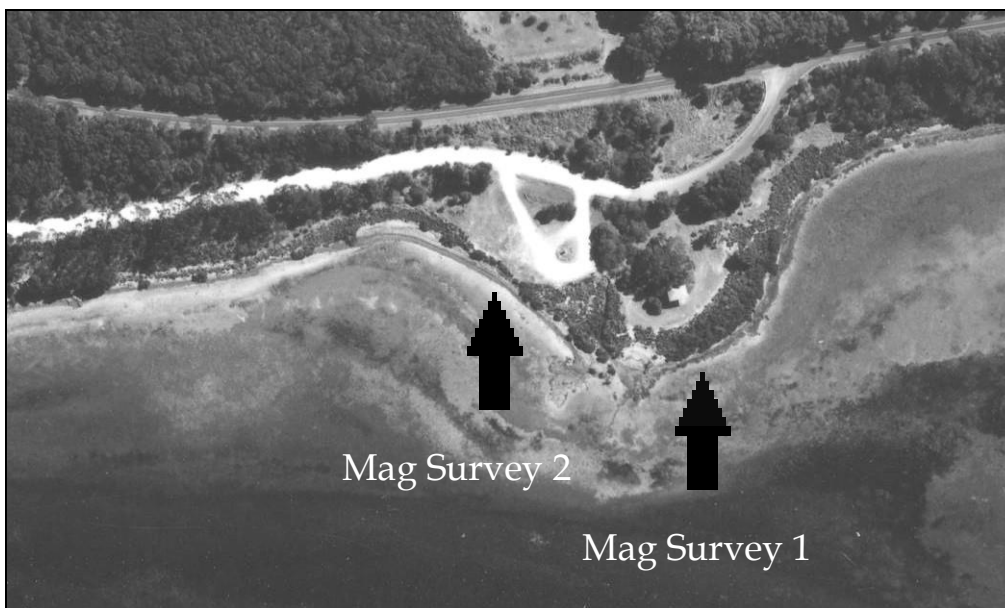


Figure 23. Aerial photograph showing *Independence* Point magnetometer surveys (Adapted from American River Aerial Photographs, South Australia Department of Environment and Heritage 2001)

Because the National Trust has turned *Independence* Point into a park, it was necessary to test the land formation to see if it was natural or culturally deposited. A series of shovel tests and cutbanks determined that most of the formation was natural. As the shovel tests neared the road, the ground appeared to be disturbed. The natural part of the landform of *Independence* Point appears to have formed as a result of alluvial deposition from a small creek. This geologic process has endowed the area with relatively flat to gently sloping land, which would have been ideal for launching a vessel.

The creek is tidal, having little fresh water except during periods of heavy rain; however, the dynamic nature of the tide entering and exiting the creek mouth has scoured a small channel perpendicular to the shore. This small channel could have provided a natural slipway for a newly launched vessel to reach deeper water.

Independence Point sits on the west side of Pelican lagoon. It is partially protected from the south easterly winds that usually blow during the winter by Hungry Beach and High Barbaree, peninsula like land formations to the south. Additionally, the creek extends into a small valley that could have provided additional protection from the wind (Figure 10).

Pedestrian surveys located three areas in close proximity of *Independence* Point that had cultural material. The first location was adjacent to the creek. Two magnetometer surveys were established on either side of the creek because of the presence of a slag-like deposit on the shore. Magnetometer survey one (Figure 24) was conducted over an area of approximately 60 m x 40 m with survey lines being placed in accessible locations within the site. A zone of anomalous response of approximately 20 m x 10 m was observed in the western extent of the survey area (Anomaly I1-1), and several small magnetic highs were observed in the eastern extent of the survey area including anomalies I1-2, I1-3 and I1-4 (which also exhibits a magnetic low).

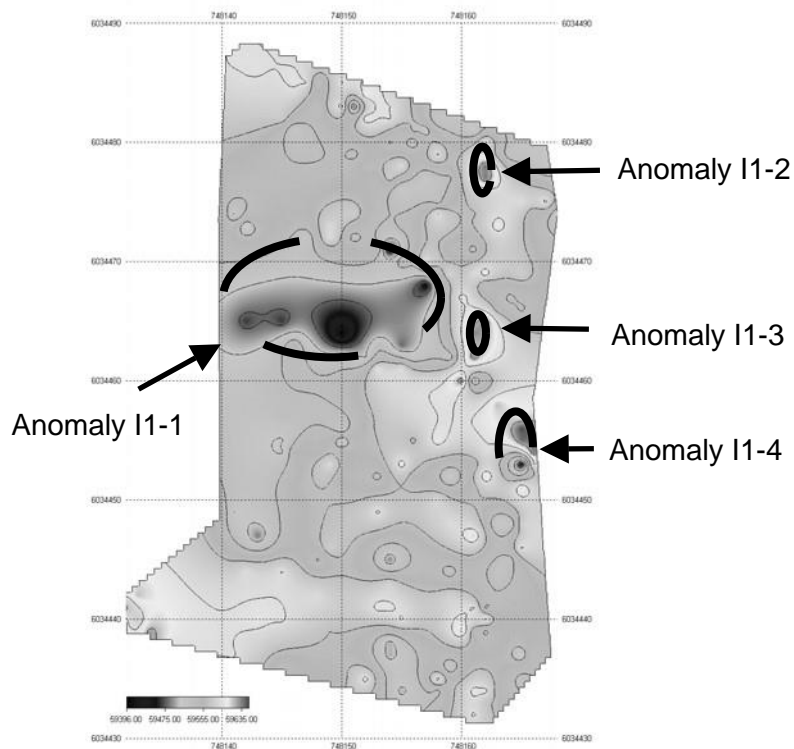


Figure 24. *Independence* Point magnetometer survey one showing anomalies (Ian Moffat 2006)

Magnetometer survey two (Figure 25) was conducted over an area of approximately 40 m x 140 m with survey lines being placed in accessible locations within the site. Two small magnetic lows were identified within the site (contained within areas showing a wider trend of magnetic low) and are designated I2-1 and I2-2. The second location at approximately 100 m south of *Independence* Point was defined by a light scatter of coal. The coal was photographed and sampled. A systematic shovel test grid did not reveal any cultural material below the surface. All anomalies were investigated but were found to be relatively modern material, including a fish hook, barbed wire fencing and various sized iron nails.

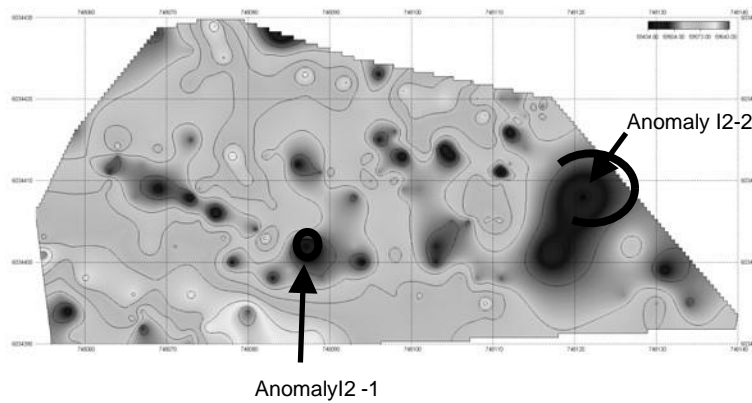


Figure 25. *Independence* Point magnetometer survey two showing anomalies (Ian Moffat 2006)

At approximately 200 m south of *Independence* Point, the surveyors found more coal, very dark green bottle glass associated refined earthenware, as well as another piece of refined earthenware (Figure 26). However, these objects were located amongst a scatter of other cultural material that dated to the later part of the 19th century. This material included amethyst glass and brown transferwares. These materials were photographed and sampled.



Figure 26. Refined shell edge earthenware near *Independence* Point (Karson Winslow 2006)

The coal scatter spread from *Independence* Point to the site of Muston, a small historic village whose inhabitants operated a steam engine in the late 19th and early 20th century salt trade. The coal scatter was very light in density near *Independence* Point and was moderate in density approaching the Muston jetty. There was much cultural material associated with the Muston jetty and the small village; however, most of it dated from the turn of the century to relatively modern, and because of this it was not sampled.

The vegetation survey revealed that substantial stands of *E.cladocalyx* grow near *Independence* Point. Additionally, the land between *Independence* Point and the American River Township is characterized by *E. cneorifolia* woodland along the foreshore, but it is mostly cleared pastureland on the western side of the highway. These pasturelands have remnant *E. cneorifolia* stands, but it is undetermined whether this would have been the only community during 1803 (Bullers 2006:31-32).

Site A could have been a likely location for the construction of *Independence*, but its distance from the channel and the results of the shovel tests and magnetometer survey refute this.

American River Township (Site B)

The American River Township Site (Site B) probably would have been ideal for a habitation area, as it affords almost complete protection from the south easterly winds. During a pedestrian survey a very dark green glass fragment and an associated refined black transferware ceramic was found. Because of time limitations this area was not shovel tested.

The American River Township Site (Site B) magnetometer survey was conducted over an area of approximately 60 m x 20 m with the survey lines being placed opportunistically on the basis of areas of available access (Figure 27). Two zones of anomalous magnetic intensity response were observed through the survey; one being a magnetic high and another being a diffuse magnetic low. Both of these targets are considered prospective as locations for archaeological material; however due to time limitations the targets were not investigated.

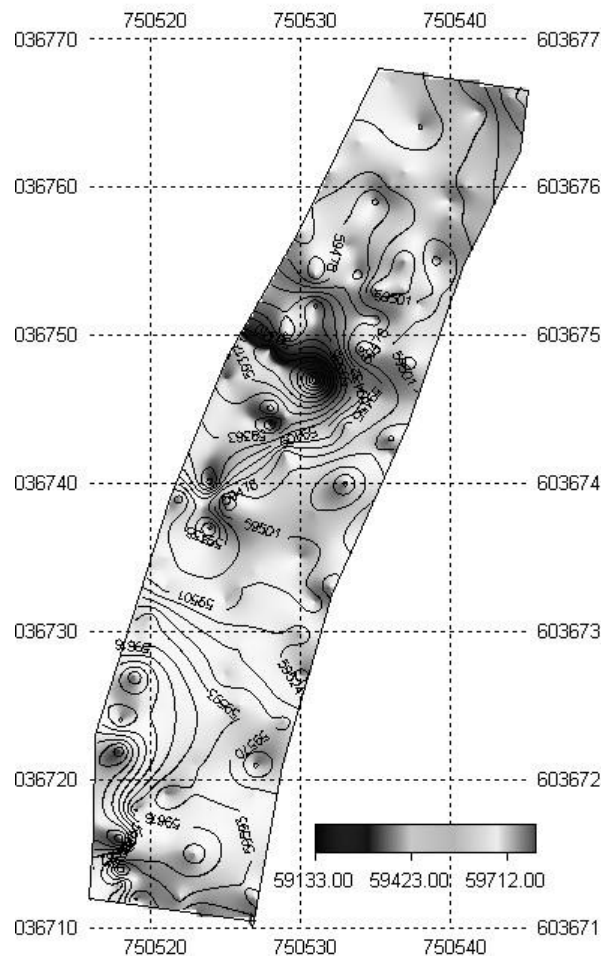


Figure 27. American River Township magnetometer survey two showing anomalies (Ian Moffat 2006)

This immediate area probably could not have served as a ship construction site because it rests adjacent to mud flats that exhibit little water depth even at high tide. Site B, however, is relatively close to the modern wharf area (Buick's Point), which would have been ideal for launching a vessel (Figure 28). This association is important; however, it could not be assessed as it exhibits much cultural development and disturbance. A paved road runs parallel to the coast, and there is a paved parking lot with a convenience store in this area.

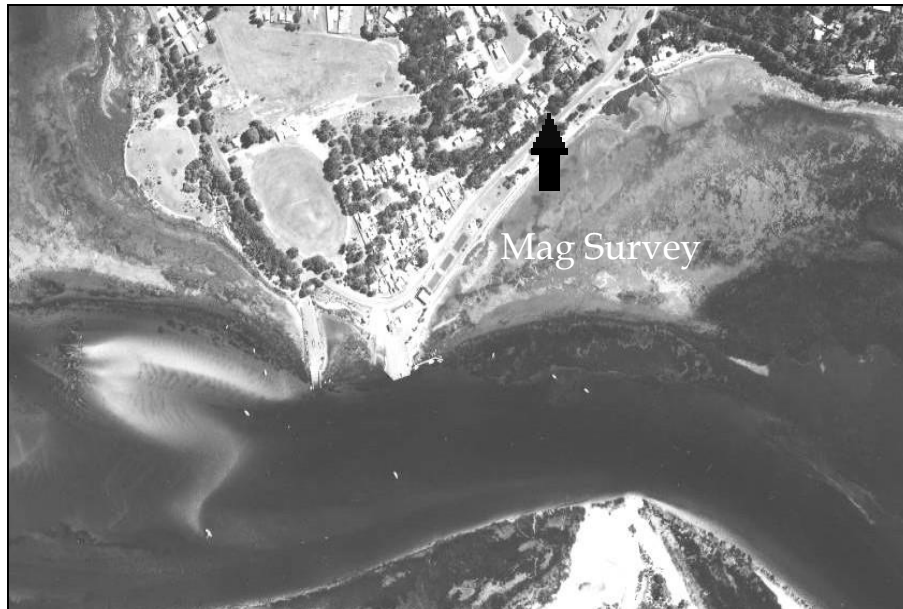


Figure 28. Aerial photograph showing American River Township (Site B) magnetometer survey (Adapted from American River Aerial Photograph, South Australia Department of Environment and Heritage 2001)

Substantial stands of *E. cladocalyx* grow in the American River Township. As mentioned previously, the land between the American River Township and *Independence* Point is characterized by *E. cneorifolia* woodland along the foreshore, but it is mostly cleared pastureland on the western side of the highway. There are remnant *E. cneorifolia* stands in these pastures, but it is undetermined whether they would have been the only community during the time of *Independence*'s construction (Bullers 2006:31-32). Towards the north end of the township, the dominant vegetative community is *A. verticillata*, low open-woodland with occasional *E. cladocalyx* emergents.

It is interesting to note that across the channel at the present day Strawbridge Point there are lowlying dune formations with dense stands of *E. cneorifolia* and *Acacia pycnantha* scrubland. Although these communities are considered unsuitable for shipbuilding, there were three isolated stands of *Callitris gracilis* near this location. These stands would produce a limited quantity of quality shipbuilding timbers. One possibility is that the crew of *Union* cut *Callitris gracilis* at this location and floated it across the narrow channel from Strawbridge Point to Buick's Point (Bullers 2006:31).

Overwhelmingly, Site B appears to be the most ideal as a ship construction site; however, because of modern development it could not be investigated. Buick's Point lies on relatively flat land and is adjacent to the channel. It would have afforded sufficient protection from the elements, and there is a freshwater creek. It is the only site surrounded by all three native timbers identified during the vegetation survey that would have been ideal for constructing a small vessel.

Fish Cannery Track (Site C)

The Fish Cannery Track Site is located to the north of American River Township. It rests on gently sloping land adjacent to a small creek. The Fish Cannery Track Site is protected from the south easterly winds, as it lies in a large cove. The site, however, was the farthest from the channel compared to the other two sites, and launching a vessel the size of *Independence* would not have been likely as the shoreline is adjacent to a large mudflat.

One piece of very dark green, hand-blown, bottle base fragment was located in this vicinity. Based on this cultural evidence and its relation to environmental attributes, a series of shovel tests were conducted to determine if there was any cultural material *in situ*. All shovel tests were void of cultural material.

The Cannery Track magnetometer survey (Figure 29 and Figure 30) was conducted over an area of approximately 25 m x 25 m with survey lines being placed in accessible locations within the site. A zone of anomalous response of approximately 10 m x 10 m with a number of discrete magnetic lows was observed in the magnetic data (Anomaly C-1). A second smaller zone was observed to the west of this zone, however it was poorly defined due to its presence on the edge of the survey grid (Anomaly C-2).

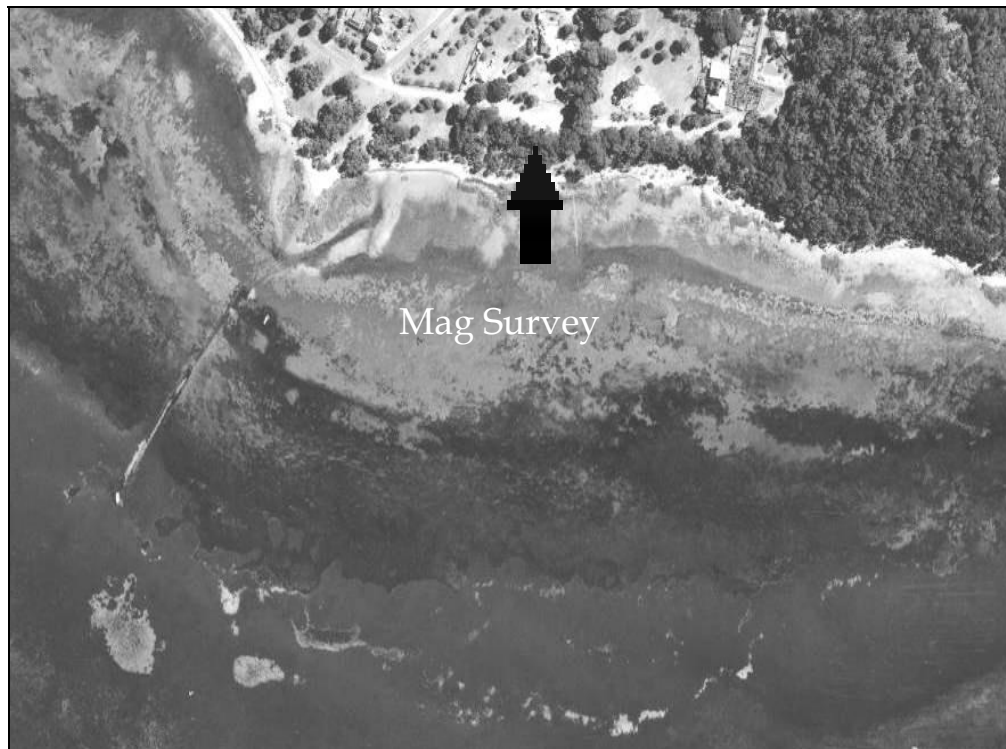


Figure 29. Aerial photograph showing Fish Cannery Track Site (Site C) magnetometer survey (Adapted from American River Aerial Photographs, South Australia Department of Environment and Heritage 2001)

Because the GPS had an inaccuracy level of approximately 10 m, the targets were investigated with a metal detector and trowel. Several pieces of lead sheathing and a lodging knee (Figure 31) were identified. The lead sheathing was collected, while the lodging knee was recorded *in situ*. A timber sample was taken from the lodging knee, and the results are forthcoming. The presence of this lodging knee is rather dubious. It could have been leftover after the construction of *Independence*, but a lodging knee would probably not have been left behind, especially when quality timber was difficult to find. It should also be noted that outer hull planking was observed on the western shore of American River and Pelican Lagoon during the pedestrian survey. Considering this, the knee could have floated to shore from a nearby shipwreck or abandoned vessel. Therefore, it is not indicative of a shipbuilding site location.

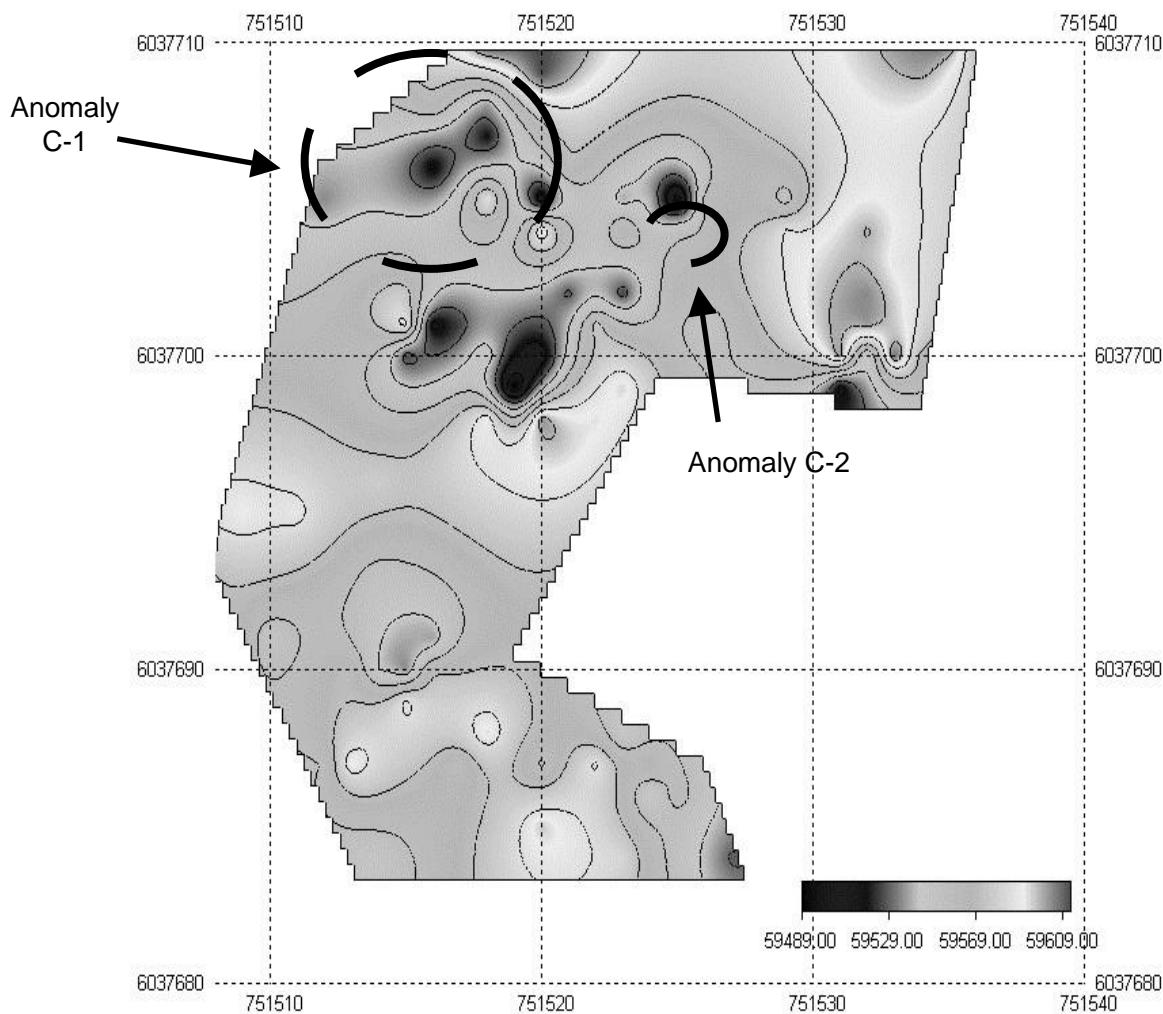


Figure 30. Fish Cannery Track Site magnetometer survey one showing anomalies (Ian Moffat 2006)

The vegetation survey revealed that this area is dominated by *A. verticillata* low open-woodland with occasional *E. cladocalyx* emergents. On the southeast facing slopes the understory was very sparse but became very dense as the track traversed the north east facing slope. The southern sides of the gullies were dominated by she-oak canopies. The first gully north of American River Township had a relatively gently fall and seemed to provide a suitable habitat for tall, straightstemmed Sugar Gum individuals, but the second gully which had a steep fall supported no Sugar Gums along the creek line. Additionally, the Sugar Gums on the southeast facing slope were much more stunted, likely as a result of shallow, rocky soils on steep slopes. Thus, the potential for good timber along the coastline of this area reduced further north of American River, and this area is considered least likely for the location of ship construction (Bullers 2006:31).

Despite the presence of a lodging knee buried in the foreshore area, this area does not seem suitable for constructing a vessel the size of *Independence*.

Conclusion

Although this survey did not find the exact location of the *Independence* construction site, it did establish a methodology for approaching ephemeral shipbuilding locations. This project also refuted the claim that *Independence* was constructed at the area that is now known as *Independence Point*. No cultural material was found that could have been directly associated with shipbuilding activities.

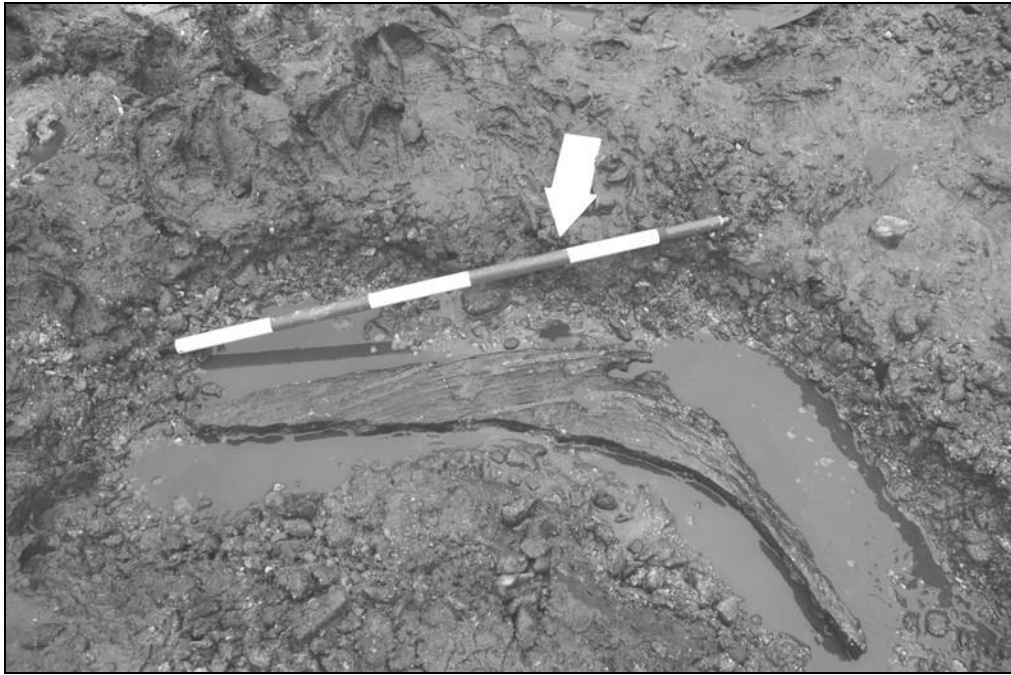


Figure 31. Lodging Knee located at Fish Cannery Track Site (Karson Winslow 2006).

Previous research on ephemeral shipbuilding locations is limited, and, thus, archaeological evidence relating to this sort of activity has not been well documented. It appears that little evidence relating to this activity survives in the archaeological record for a number of reasons. Timber decomposes rather quickly, unless it is in an anaerobic environment. Thus, timber scabs do not survive as archaeologically recognizable surface scatters. Similarly, launching ways and supportive timbers were probably broken down and stowed aboard the vessel as spare timber or firewood, and carpentry tools were probably not left behind, as these items were often considered valuable commodities aboard a working vessel. Forging activities, on the other hand, are probably the most likely to be identified in the archaeological record.

Even though the *Independence* construction site remains unknown, the legend of the vessel being constructed near American River plays a significant role in the maritime heritage of Kangaroo Island and South Australia. As the first non-indigenous vessel constructed in South Australia, *Independence* also represents an important aspect of Australian history. This is exemplified in the construction of a monument dedicated to its construction. It also has international significance, as the era of sealing in the Pacific represented an important component of the globalization of US trade during the 19th century.

None of the anomalies discovered through magnetometer surveying yielded features of archaeological interest. While not all features were systematically tested it is thought that those that were and did not yield a source for the anomaly may be the result of heading errors or anthropogenic noise due to the complex site history. In addition, surveys in other areas have shown that reconnaissance geophysical surveys should be groundtruthed with detailed surveys with multiple methods over the identified anomalies (the bi-partite survey methodology) to ensure that positional accuracy and level of information about each site is high enough to accurately guide intelligent excavation (Moffat *et al.*, 2006). Should further investigation of this site be conducted, detailed geophysical survey over the identified anomalies would form part of the investigation strategy.

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