

2nd Report on the
Maritime Archaeological Investigation
of the

Convict Transport
HIVE (1820-1836)

Mainland Australia's Only Convict Shipwreck

and the
Schooner
Blackbird
(1828-1836)



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Underwater Heritage Program

Convict Transport *HIVE* (1820-1835)

Mainland Australia's Only Convict Shipwreck

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HIVE WRECK INSPECTION REPORT 1995

BACKGROUND

The NSW Department of Urban Affairs and Planning conducts a program for the location, investigation and management of the State's underwater cultural heritage.

Previous investigation of the wreck site

As part of this program a search was undertaken in July 1993, involving the Department and Manly Hydraulics Laboratory. On that occasion, a visual search was conducted by a diver towed in shore-parallel runs. This search was conducted close to the beach and in the expected vicinity of anchors from the convict transport ship *Hive* (1835) and also the Moreton Bay built *Blackbird* (1836) which was lost during the salvage operations (Figure 3). No evidence of either shipwreck remains were sighted even though conditions were relatively clear and calm. It was concluded that any remains of either ship were buried under sand.

In December 1994, with the assistance of Australian Defence Industries (ADI) and Manly Hydraulics Laboratory (MHL), a second search, using remote sensing magnetometers, was conducted. The field work was carried out over a three day period (12-14 December 1994) and was successful in locating a large buried anomaly in the surf zone adjacent to Bherwerre Beach. The location of the find and a timber sample obtained from the buried wreck structure linked the remains to the convict transport *Hive*. This search also located some scattered pieces of metal under the beach sand. These were most likely to have been washed inshore from the *Hive* but there was a possibility that they could also have been part of the *Blackbird*. As a result, further inspection of the located sites was conducted in April, 1995. This report details the findings of that fieldwork.

The Department again enlisted the support of Australian Defence Industries (ADI) and Manly Hydraulics Laboratory (MHL) to assist in undertaking the additional survey of the area.

ADI enabled the Department to undertake the 1994 and 1995 surveys by donating the services of employees (six in 1994 and 1 in 1995) and advanced metal detection equipment.

During the 1994 survey an inspection of the sand dunes behind the beach resulted in observation of glass and porcelain fragments as well as numerous pieces of coke. This glass and ceramic were consistent with the period of the *Hive* shipwreck and the coke is consistent with supplies for the ship's fires. This material was all in a fairly discrete area and directly inland from the wreck site. The material is therefore likely to be the remains of the survivors camp. As part of the 1995 season, coke samples were submitted for petrological analysis to obtain additional indication of whether they were naturally occurring or possibly a part of the stores from the ship's cooking and heating fires. An account of the findings of this examination follows.

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Petrological examination of coke

A small sample of the coke was submitted for petrological examination to determine their probable source. The examination was conducted by Alan Cook of Kieraville Konsultants. The results of this examination follow and the full report is attached at Appendix 1.

The pieces of cokes and related materials were photographed prior to being cut for examination with a petrological microscope. Small sections of the pieces were then mounted and polished using normal polishing techniques for cokes.

Six of the pieces are cokes and two (F and H) are vesicular ash that could have been derived from the combustion of coke or coal. Of the cokes, five are very similar and represent cokes produced from low rank coals that are rich in vitrinite. They are similar to the cokes used in the town gas industry although the temperatures of carbonization appear to have been higher than those commonly used in the manufacture of town gas. Coke D was produced from a high rank coal (vitrinite reflectance in the range 1.55% to 1.8%). Such a coal would only have been used to manufacture coke for metallurgical purposes. It is probable that all of the cokes were sourced from metallurgical coke manufacture.

Inerts other than minerals comprise about 10% to 20% of the cokes. Small amounts of inertodetrinite-derived coal are present but most of the inerts are lenticular masses derived from semifusinite or fusinite. The general form of the inertinite is similar to the fusain bands found in Carboniferous coals from the Northern Hemisphere but generally absent from the Permian of Australia or South Africa. Mineral matter contents are generally high, probably due to a lack of coal washing procedures rather than hand picking.

The cokes were presumably used as a fuel in the ship with the primary use being for cooking. Cokes A, B, C, E and F would have relatively easy ignition characteristics and high reactivity provided the initial lump size was below about 6cm. Coke D would be more difficult to ignite and would burn more slowly. It appears to have been only a minor portion of the fuel.

Low rank coals such as those used to produce the majority of the cokes are found in a wide range of locations. It is possible that some Australian coals from the Hunter Valley could have been used. However, the coals near Newcastle would yield a fine mosaic and the coals from the Cessnock District would yield cokes with a higher content of inertinite. It is more probable that these cokes were made from Carboniferous coals from Europe or Great Britain. A number of coalfields in Great Britain would be possible sources, with the East Wales, Radstock and some of the Midlands coalfields being the most likely sources. Coke D has properties that indicate a source from the Western part of the South Wales coalfield. An origin from Wales for all the cokes is, therefore, the most probable. Coke D may have been a minor contaminant of the normal product.

PHOTOGRAPHIC CREDITS:

The photographs in this report were taken by

Sharon Hickey (ADI): page 7 (upper)

Michelle Darlington, (ADI): page 12, 13

Stuart Humphries (DUAP): pages 15, 17, 18

David Nutley (DUAP): 7 (lower), 18

Tim Smith (DUAP): pages 16

The line drawings at pages 3 and 9 are by Tim Smith (DUAP)

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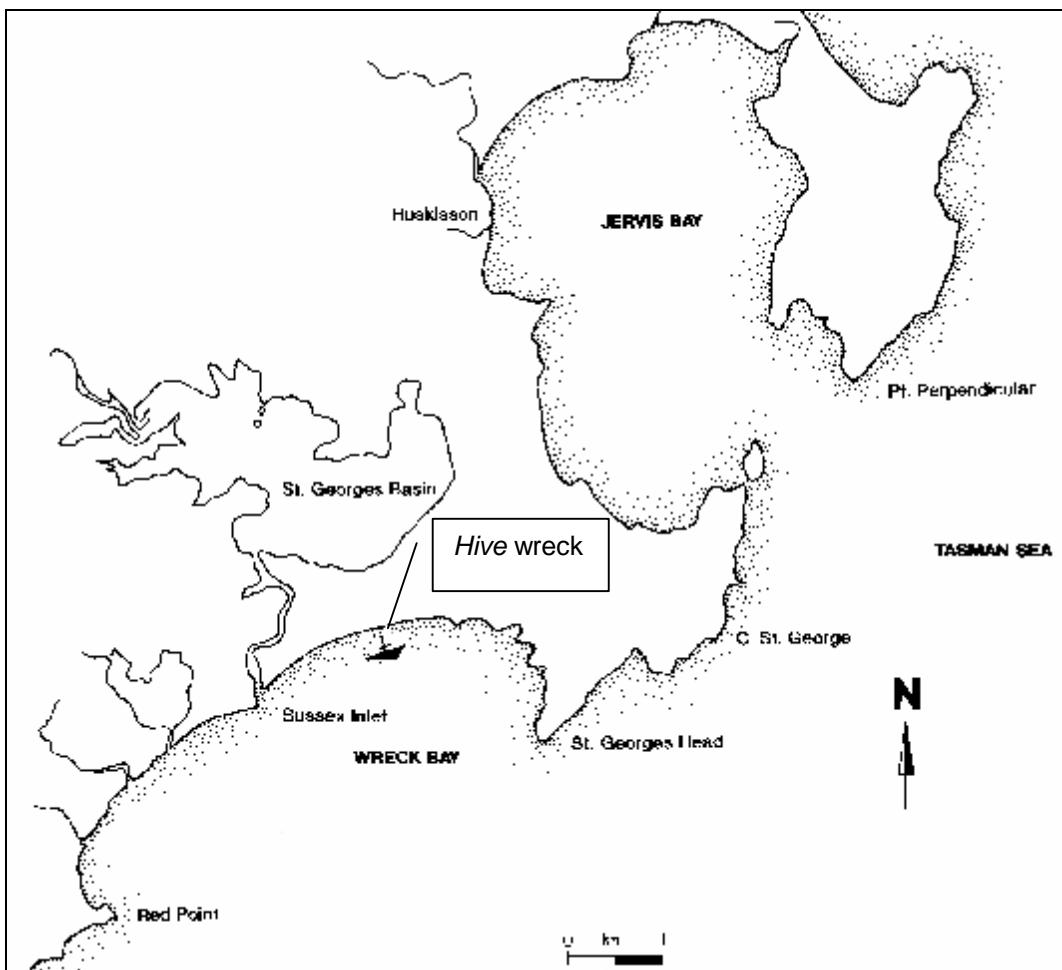


Figure 1: Location Map

OBJECTIVES

Major

- To accumulate data regarding the buried anomalies in *Bherwerre* Beach, following the 1994 fieldwork, in relation to their environmental and archaeological characteristics;
- To develop site interpretation and an assessment of the archaeological potential of the beach sites.

Secondary

- To re-locate the site of the *Hive* and the associated buried beach anomalies, and to record an accurate position for the remains; To re-locate the remains of the camp associated with the *Hive* survivors and examine its limits;
- To determine the general distribution and orientation of any remains attributed to the *Blackbird*;
- To assess the major environmental conditions impacting on the above shipwreck sites;
- To document local knowledge of the *Hive* and *Blackbird* wreck sites.

METHODOLOGY

BACKGROUND RESEARCH

Prior to the 1994 fieldwork, the Department's maritime archaeologist Timothy Smith prepared a background history of the *Hive* and *Blackbird*. The historic record consists of contemporary written accounts such as those of Alexander Berry, contemporary newspaper reports, shipping registers and the records of an inquiry conducted by the Harbour Master's Office following the loss of the *Hive*. The history provided some indication that the likely location of the wreck remains of both the *Hive* and the *Blackbird* was in the middle third of Bherwerre Beach in Wreck Bay.

FIELDWORK

The 1995 survey was conducted over a five day period. Details of the survey team are listed on page 9.

Notification of the aims of the project was provided to the Wreck Bay Aboriginal Community. Approval for 4WD beach access was obtained from the Jervis Bay National Park Administration

Position Fixing

The approximate positions of the buried anomalies in Bherwerre Beach were re-located using compass and tape measurements from survey pegs placed along the frontal dune at the end of the 1994 fieldwork. All pegs were re-located. To define the exact position of the buried anomalies, the Ferex Magnetometer, supplied by ADI and operated by Mick Gibbons, was employed. All five targets were accurately located and marked with survey pegs for the duration of the field program.

An accurate position for the targets was required and achieved using a Topcon EDM theodolite, supplied and operated by Phil Clark, of Manly Hydraulics Laboratory. On Tuesday 25 April, the theodolite was established near to the anomalies and ISG coordinates transferred from the Permanent Mark, previously located near the Jervis Bay Hotel via a control position at the Pro Dive Diver's Lodge, Huskisson. This allowed differential GPS positions to be obtained for the wreck site and buried anomalies on Bherwerre Beach.

At the beach, the positions of the located anomalies were related to the Permanent Mark by the EDM theodolite.

Excavation

After investigation of various caisson options, 3m sheet piles were hired from Shoreco Ltd. Formwork, consisting of a two 2x3m timber frames, was constructed to brace sheet piles. Hardwood was used to ensure that the frames did not float when the excavation reached below the water table. The upper frame was suspended from the top of the sheet piles and the lower frame was free to descend as the excavated whole deepened.

A backhoe removed the first metre of overburden prior to installing the sheet piles. Installation was supervised by senior personnel from Shoreco, who, while specialists in the use of the sheet piles, were uncertain of how the system would function in this particular application. When the limitations of the caisson were identified, Shoreco recommended, for any future work of this nature, the use of a dewatering system to lower the water table in the vicinity of the caisson.

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PERSONNEL:

The full survey team consisted of 12 people.

Day 1: Monday, 24 April 1995

Nutley, D	Maritime Archaeologist (OIC)	DUAP
Smith, T	Maritime Archaeologist	DUAP
Gibbons, M	ADI Search Supervisor	Australian Defence Industries
Lawler, J	Manager,	Manly Hydraulics Laboratory
Browne, C	Dive Supervisor & Surveyor	Manly Hydraulics Laboratory
Clark, P	Boat Handler and Surveyor	Manly Hydraulics laboratory

Day 2: Tuesday, 25 April

Nutley, D	Maritime Archaeologist (OIC)	DUAP
Smith, T	Maritime Archaeologist	DUAP
* Gibbons, M	ADI Search Supervisor	Australian Defence Industries
Lawler, J	Manager	Manly Hydraulics Laboratory
Browne, C	Dive Supervisor & Surveyor	Manly Hydraulics Laboratory
Clark, P	Boat Handler and Surveyor	Manly Hydraulics laboratory
Mawer, A	Independent Researcher	

* Returned to Sydney at completion of survey work on Bherwerre Beach

Day 3: Wednesday, 26 April

Nutley, D	Maritime Archaeologist (OIC)	DUAP
Smith, T	Maritime Archaeologist	DUAP
Stuart Humphries	Photographer	DUAP
Jim Lawler	Manager	Manly Hydraulics Laboratory
Browne, C	Dive Supervisor & Surveyor	Manly Hydraulics Laboratory
Clark, P	Boat Handler and Surveyor	Manly Hydraulics Laboratory
** Mawer, A	Independent Researcher	
Roy Orton	Supervisor, sheet piles	Shoreco LaserQuip
John Macleanan	Assistant, sheet piles	Shoreco LaserQuip
Laurie Hellyer	Back hoe operator	

** Returned to Bandalong at completion of site visitation

Day 4: Thursday, 27 April

Nutley, D	Maritime Archaeologist (OIC)	DUAP
Smith, T	Maritime Archaeologist	DUAP
Stuart Humphries	Photographer	DUAP
Jim Lawler	Manager	Manly Hydraulics Laboratory
Browne, C	Diver Supervisor & Surveyor	Manly Hydraulics Laboratory
Clark, P	Boat Handler and Surveyor	Manly Hydraulics laboratory
*** Laurie Hellyer	Back hoe operator	

*** Returned to Sydney at completion of excavation work on Bherwerre Beach

Day 5: Friday, 28 April

Remaining team returned to Sydney

ENVIRONMENTAL CONTEXT

The substrata of Bherwerre Peninsula consists predominantly of gently folded sandstone (Sullivan, 1977:3). In the vicinity of the study area, the substrata is completely covered by a mantle of wind blown sand. By the 1970's, these sand deposits had been severely destabilised as a result of grazing activities. A restabilisation program has helped to arrest this damage but has further altered the original appearance of the area. In some areas, Aboriginal midden sites are reported to have been either buried or destroyed by the actions of earthmoving machinery (Sullivan, 1977:11).

In most of the swales between the sand dunes pumice stone and pipi (*Plebidonax deltoides*) shells were exposed. Pipi are common to the exposed sandy beach area and Sullivan (1977:8) states that these bivalves 'were exploited along the entire 7km of the beach'. No attempt was made in the current survey to determine whether the shell deposits observed were midden material from this exploitation or whether they and the pumice stone were the result of natural processes.

Vegetation on the restabilised dunal area consists primarily of grasses and low coastal scrub (generally about 1-2m). Marram grass (*Ammophila arenaria*) is both sand and salt tolerant and has been planted since 1966. It is particularly dominant along the frontal dunes near the high water mark. Behind this other grasses and herbs include, *Spinifex hirsutus*, *Carpobrotus* sp., *Sonchus megalocarpus*, *Festuca littoralis*, *Senecio lautus*, *Stackhousa spathulata*, *Arctotis* sp. and *Lupinus varius*. There are also examples of *Acacia longifolia* and *Leptospermum laevigatum* (Ingwersen, 1976).

South of the dunes, the siliceous beach sands slope at a gentle 5° to the waters edge. The wreck site believed to be the *Hive* is located in the surf zone and is subjected to extreme wave and surge action. From the undulating sand banks in the surf zone, there is a very gradual grading of the sea bed into deeper water of the bay. There are no exposed rocks or visible reef.

David Hanslow of Public Works Department' Coastal Section examined aerial photographs of the area dating from the 1940's up to the present. He concluded that there had been few marked changes apart from a major scouring in 1974. As a result he concluded that the beach would have retreated or accreted + 50 metres since the time of the shipwreck event 159 years ago (Hanslow, pers com). The submerged shipwreck remains were located in approximately the same depth of water and distance from shore as reported by contemporary sources. This suggests that actual movement of the line of the beach has been minimal.

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Figure 2: Vegetation adjacent to the Hive wreck site.



Figure 3: Vegetation adjacent to the Hive wreck site.

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HISTORICAL CONTEXT

The Convict transport *Hive* represents the only known wreck, on mainland Australia, of a vessel carrying convicts. Only two other ships were wrecked while carrying convicts, these being the *George III* and *Neva*, lost in Tasmanian waters, all during the year 1835. Convicts from the *Three Bees*, burnt to the waterline at Circular Quay in 1814, had already been discharged some days earlier.

A colourful period of the colony's history, the loss of the *Hive* was an important event, occurring in the largely unsurveyed region of Jervis Bay, New South Wales. The valuable cargo of £10 000 of specie (coin) for the Commissariat was successfully salvaged, (Letter from John Lamb, 14 Dec, 1835), although later work resulted in the further loss of the Government schooner *Blackbird*. Local identities such as Alexander Berry, aided the rescue of some 300 people on board, including passengers, soldiers, crew and 250 convicts (SH: 14 Dec, 1835). (Note: Alexander Berry wrote that the value of the specie was £40 000. This appears to be error as later official references state the value as £10 000) (Major General Sir R Bourke's letter to Lord Glenelg 20 Dec 1835; SH: 17 Dec, 1835).

The wreck event contributed to the naming of the bight Wreck Bay, a name that was to become well earned.

The early days

Built in the United Kingdom at Deptford, Kent in 1820 the *Hive* was ship rigged with two decks, a square stern and quarter galleries. The vessel was 120 feet in length, 480 tons and had a female bust figurehead. (Lloyds Register: 1835, No. 536; British Register: London, 381 of 1833).

The *Hive*'s first voyage to Australia was in 1834. Sailing from Falmouth, United Kingdom, to Port Jackson on 8 February 1834, the *Hive* brought out its first cargo of 250 male prisoners. Suffering extreme conditions and a protracted 123 day voyage, the prison temperature reached an alarming 100 degrees Fahrenheit. Surgeon George Fairfowl, in a humanitarian gesture, allowed 60 prisoners to sleep on deck, changing shifts every 4 hours (Surgeon Fairfowl's Journal, 1833).

Tragic adventures

Picking up convicts at Dublin then Cork in Ireland, the *Hive* departed on 24 August 1835 on the second and fateful voyage. The *Hive* made the passage with the death of only one prisoner. However when turning up the east coast of Australia, events took a dramatic turn for the worse. Having not touched land the entire voyage, the transport crawled up the coast towards final disembarkation at Sydney Town. The *Hive* sailed on during the night of Thursday 10 December 1835 but soon found itself driven ashore a total wreck at 'Wreck Bay' (SH 17 Dec, 1835).

On board was Captain John Nutting in command of 250 Irish male prisoners, Chief Officer Edward Kenny, Ensign Kelly of the 17th Regiment, Surgeon Superintendent John Donohoe Esq, RN, Lieutenant Lugard of the 31st Regiment, Henry Lugard, Royal Engineers and 29 rank and file soldiers of the

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28th Regiment. In addition, there were eight women and eleven children (SH 17 Dec, 1835).

About midday on the 10 December, the *Hive* had sighted land in the vicinity of Montague Island. The chief officer, Edward Kenny thought the vessel to be only 8-9 miles off the coast. Informing the captain, his concern was not shared and Captain Nutting continued a course bringing the vessel closer to shore. Kenny attempted to have the course altered again, but to no avail. Captain Nutting advised him to mind his own business and that "*one person is sufficient to navigate the ship!*" Cautious of danger, Kenny decided not to sleep after the change of the night watch. The *Hive* continued under full sail following the captain's instructions. At about 9.30 that evening, Kenny again tried to convince third mate Thomas Morgan, then on watch, to reduce sail. Not wishing, or daring, to disobey his captain, the vessel plied on into the dark and cloudy night (Governor's Despatches: 1836-37, pp 1649,1651).

Two lookouts were stationed in the forecastle and one on the lee gangway watching for any sight of land. Some time before 10 pm a prisoner who had been a Master of an American vessel reported to Ensign Kelly that he had seen land on the starboard bow (Governor's Despatches: 1836-37, p 1652). Morgan and the other Officer of the Watch assured Kelly that it was cloud that could be seen as they had been observing it rising for some time. At 10 pm Morgan came below decks to break some fearful news to Chief Officer Kenny that there was something white on the port bow that looked like breakers! Kenny rushed on deck and ordered the wheel to be turned hard-a-port. On these vessels this action was designed to turn the vessel to starboard. It was too late for maneuvering however and the *Hive* began running through the sand on a gently shelving beach (Governor's Despatches: 1836-37, pp 1655-56). Luckily for those on board, the vessel did not strike any rocks and there was no violent impact.



Figure 4: Shako badge from 28th Regiment of Foot headdress

Contemporary documents placed the wreck in the breakers and "*within her own length of the shore*" (Letter from Alexander Berry, 14 Dec, 1835), "*in a deep bight south of Jarvis Bay, between St. Georges Head and Sussex Haven (Inlet)*" (Letter from Alexander Berry, 11 Dec, 1835). Alexander Berry placed the location as 4 to 5 miles from the southern part of Jervis Bay. The only significant sandy shore that fits these descriptions is Bherwerre Beach extending for some six kilometres along the northern portion of Wreck Bay.

Kenny ordered the yards to be thrown back. Captain Nutting then staggered on deck with a countermand for them to be braced and the studding sails taken in (Governor's Despatches: 1836-37, p1649). The captain appeared incapable of

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taking effective command. Kenny ordered the longboat to be launched. Nutting interjected and had the smaller weather quarter boat launched. Kenny objected and, realising that boat would be swamped, decided to form part of the crew himself to save another's life. The boat capsized and was smashed against the ship as soon as it touched water. Kenny and Ensign Kelly just managed to catch the ship's forechains and Kelly was hauled aboard (Governor's Despatches: 1836-37, pp 1653).

A third seaman clung to the upturned boat and was driven through the surf to safety. Chief Officer Kenny then swam ashore with a hawser. By this stage, Captain Nutting appeared to have '*lost all presence of mind*'. Surgeon Donohoe, with the support of the Commander of the Guard, Lt. Lugard, temporarily deposed him of command and gave organisational control to Kenny (Governor's Despatches: 1836-37, pp 1653-1654).

Rescue

After Kenny swam ashore to secure the hawser, Captain Nutting finally agreed to lower the longboat and with the aid of lines, had the women and children taken to the beach (Governor's Despatches: 1836-37, p1653). The guard and prisoners were then ferried across in shifts. Once ashore they were employed removing provisions from the wrecked vessel, dismantling the top yards and establishing a camp in the adjacent sand hills. During this process the Boatswain was tragically drowned while trying to save a young crew member. The young man, who had got into difficulties in the surf, was washed ashore uninjured (SH 17 Dec, 1835).

Ensign Kelly, with unfailing dedication, proceeded by land to gain help, carrying a letter about the wreck from Surgeon Donohoe. With the aid of Aboriginal people from the Wreck Bay area, he found the farm of John Lamb on Friday morning, then proceeded to the farm of Alexander Berry in the Shoalhaven. A message was dispatched to Wollongong and from there to Port Jackson (SH 17 Dec, 1835). The wreck "*was the means of producing much excitement in Sydney*" and "*great numbers of the town's people were observed flooding to the Dock Yard and other places where information might be obtained relative to the accident*" (SH 17 Dec, 1835).

The shipwreck victims on Bherwerre Beach were not altogether isolated. In addition to help from Sydney, the Aboriginal community also provided a communication link between Surgeon Donohoe and Alexander Berry (Letter from Alexander Berry, 17 Dec, 1835).

Alexander Berry, at his own expense, sent his well manned schooner *Edward* to the scene of the disaster (SH 17 Dec, 1835). In a letter to authorities in Sydney, Berry believed that the *Hive* "*might again be got afloat if under the direction of an Able commander!*" (Letter from Alexander Berry to Alexander Macleay, 14 Dec, 1835). Nutting however refused all aid until permission arrived from Sydney. By Sunday, the Government revenue cutter *Prince George* was dispatched to the wreck with the brig of-war *HMS Zebra* under command of Captain McRae and the steam packet *Tamar* with a detachment of the 17th Regiment.

On Tuesday 15 December, the Bower anchor was carried out into 22 feet of water. Another anchor was carried out on Thursday 17 December but a southerly arrived that evening and both anchors 'came home'. By Sunday 20 December Captain Nutting considered any further attempts to keep the ship intact were hopeless (Governor's Despatches 1836-37, pp 1647-48).

The *Tamar* returned to Sydney on 16 December with the *Hive*'s surgeon, Donohoe, Lt. Lugard, part of the guard and 106 convicts. *HMS Zebra* returned

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with the specie, the mails, stores, 94 prisoners and ten soldiers from the 28th Regiment before returning to the wreck to pick up the remainder (SH 11 Jan, 1836).

The schooner *Edward* brought up part of the crew and some of the *Hive*'s stores. By this time, *Hive* was reported to be lying on the beach with its back (keel) broken and water flowing over the orlop (lowest) deck (SH 7 Jan, 1836).

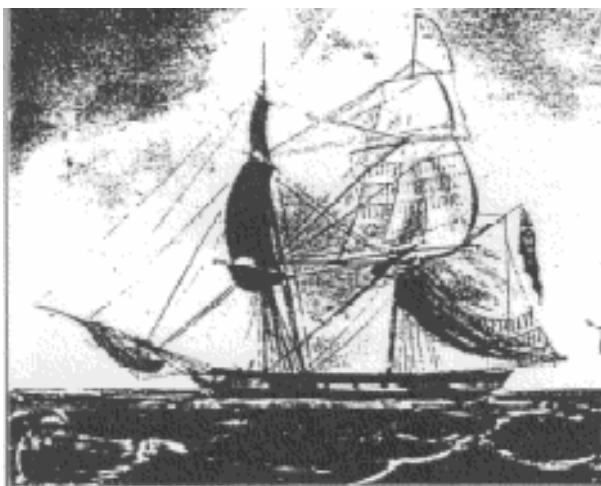


Figure 5: *Brig Zebra* sent to the aid of the *Hive*, 1835

Salvage brings further disaster

The ship *Hive* remained virtually intact in the surf zone, although all knew it would break apart in the first big storm. The former Government schooner *Blackbird* (67 tons) had returned from New Zealand on 4 January with a cargo of timber, potatoes and yams (SH 11 January, 1836). Having discharged its cargo the schooner was then engaged to salvage the vessel's stores left onshore, departing Sydney on 11 January 1836 (SH 25 Jan, 1836). The *Blackbird*, a colonial vessel of 67 tons, was built in 1828 at the Government dockyard at Moreton Bay (British Register: Sydney 25/1833).

A serious accident befell the small vessel while engaged on the first day of salvage work on 15 January. Having anchored two miles out into the bay, the vessel's 'whaleboats' were used to ferry the bulk of the salvaged goods in twenty-two trips. Returning to the laden schooner at nightfall, a sudden gale greeted the crew about 9 pm. Unable to stop the anchor dragging, the crew attempted to hoist sail and get the *Blackbird* underway. Time was running out and anchors were dropped as the vessel drew nearer the beach. Securing the schooner for half an hour, the first anchor cable parted then the other, together with the windlass (SH 25 Jan, 1836).

With howling winds, rain and lightning, the little vessel was thrown towards the broken water on the beach. Salvaged cargo was jettisoned to lighten the load. A decision was made to raise all sail and run the vessel onto the beach. Striking the sand several times, at 2.30 am on the morning of the 16 January, the *Blackbird* was carried "high onto the beach" and out of dancer.

Captain Nutting, who had been aboard, had now been wrecked twice. He and the owner, Mr Chapman, decided to walk back to Sydney for help. The captain and crew of the *Blackbird* were left at the scene to guard both wrecks. No further salvage appears to have been carried out (SH 25 Jan, 1836). The total cost of the salvage operations amounted to £435 10s. This sum was deducted by the

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British Government from the *Hive*'s owners freight claim for the voyage (Lord Glenelg's letter to Governor Bourke, 30 Nov, 1836).

In Sydney, an inquiry into the *Hive* incident was convened by the Harbour Masters Office and a report was delivered on 11 February 1836. The report concluded that the course steered by *Hive* would have taken it clear of Cape St George, had it not been for a strong inshore current of which Captain Nutting was apparently unaware. Nutting was censured for his inefficient handling of his vessel after leaving Montague Island, especially for retiring to bed after Kenny had raised concerns about the vessel's course (NSW Governor's Despatches 1836-37 No. 39 of 18.3.36).

Captain Nutting, who apparently had lost two previous ships (Letter from Alexander Berry to Alexander Macleay, 14 Dec 1835), left for England on Sunday 3 April 1836, aboard the *Avon* - not as the ship's master but as a passenger (Lugard: 1947, p3).

CONSTRUCTION DETAILS

HIVE

Type: Ship
to as a cutter)
Built: Deptford, Kent, UK, 1820
Lost: 10 December, 1835
Master: Capt John Nutting
Owner: J. James, J. Luscombe
Tonnage: 480
Length: 120 feet, 2 decks

BLACKBIRD

Type: Schooner(also referred
Built: 1828, Moreton Bay Dockyard
Lost: 16 January, 1836
Master: Mr. Crook
Owner: W. H. Chapman, Sydney
Tonnage: 67
Length: 56 feet, 2 masts, one deck



Figure 6: Manly Hydraulics Laboratory inflatable from which the Australian Defence Industries' Ferex magnetometer was deployed in locating the remains of the 'Hive' shipwreck.

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Figure 7: Divers conducting preliminary water probe of submerged anomaly

LOCATION

The anomalies believed to be associated with the *Hive* wreck lie approximately mid way along Bherwerre Beach at the northern portion of Wreck Bay (fig 1&2). The major anomaly, presumed to the main body of the wreck, is located in the surf zone. Two of the anomalies under the adjacent beach sand were the focus of the current investigations. Detailed air probes were conducted on anomalies number 1 and 5 (fig 3) and the caisson excavation was conducted on anomaly 1.

The site coordinates (AGD Zone 56) for the centre of the major magnetic anomaly in the surf zone are: Easting 284645 E and Northing 6105670.

The site coordinates for the magnetic anomalies under the beach sand are:

	Easting	Northing
Anomaly 1:	284534	6105828
Anomaly 2:	284543	6105780 Note: GPS position is midway between
Anomaly 3:	284543	6105780 two anomalies 8 metres apart & parallel to the beach.
Anomaly 4:	284562	6105804
Anomaly 4:	284593	6105824

The coordinates for the centre of the possible survivors camp in the sand dunes behind the beach are: Easting 284579 and Northing 6105960

The anomaly in the water, believed to be the remains of the *Hive*, lies beneath 2-3 metres of gently shelving sand in the surf zone. The depth of the water varies from approximately 1-3 metres. The anomaly is approximately 30-50 metres from the low water mark.

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FIELD WORK AND OUTCOMES

Date: 24 April

Tasks:

- . relocate magnetic anomalies on Bherwerre Beach
- . establish contact with JBNP Administration re storage of equipment
- . establish contact with Wreck Bay Council
- . establish contact with Lady Denman Maritime Museum
- . establish contact with the two dive shops in Huskisson

Comments:

Within 10 minutes of commencing their search, Mick Gibbons (ADI) and Tim Smith (DUAP) had re-located the marker stakes left in December, 1994. All markers were still in their original position.

JBNP allowed the compressor and large box trailer to be stored in their compound along with the sheet piles delivered on the previous Friday (21 April).

Delivered flyers to the Lady Denman Maritime Museum and the dive shops to advertise Thursday night's public lecture on the *Hive* shipwreck search.

David Nutley (DUAP) met with Annette Brown at the Wreck Bay Aboriginal Council and outlined the proposed work to be conducted on Bherwerre Beach. Annette Brown indicated an interest in visiting the wreck site later in the week whilst the excavation was in progress.

The arrival of a cold front, brought southerly winds at about lunch time. This produced sea conditions at Wreck Bay that lasted for two days and precluded core sampling of the submerged section of the *Hive*. It also precluded a search for the ship's anchors.

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Figure 8: Position fixing was achieved by a combination of differential GPS and a Topcon Total Station theodolite.

Date: 25 April

Tasks:

- transport equipment to the site
- establish a differential GPS base at the divers lodge by transferring Permanent Mark coordinates in Huskisson to the divers lodge. The GPS base utilises real time differential GPS to relate the survey control point to EDM positions at the wreck site.
- relocate anomalies on the beach and position fix with Topcon Total Station EDM theodolite
- probe survey to delineate the depth and extent of each anomaly and to determine the optimum position for the caisson.
- conduct a magnetometer survey of Steamers Beach for evidence of the *Mynora* wreck

Comments: The JBNP depot was open at 7.00am. The sheet piles were loaded into the large box trailer and taken to Bherwerre Beach.

The set tasks were accomplished. The magnetometer survey of Steamers beach located two small anomalies whose locations were recorded by Tim Smith. These may be remains of the *Mynora*.

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Figure 9: A 4m compressed air probe was used to accurately place the corners of the caisson in relation to the iron object under the sand.

Date: 26 April

Tasks:

- Detailed air probe of Number 1 anomaly
- Placement of sheet piles and removal of overburden using the back-hoe.

Comments:

The air probe, using the air compressor, was very effective at penetrating the sand more efficient than the water jet. The anomaly was located and accurately positioned using the theodolite.

The sheet piles proved difficult to place. Pressure on the shoring frame extended the size of the hole and left the caisson 2-3 sheets short. This was adjusted for to some extent but some sand was still able to enter the hole.

The back hoe removed sand to a depth of 2.5 metres. The anomaly proved to be still covered with about .5 metre of sand. The incursion of tidal water prevented full exposure.

On day 4, it is proposed that the back hoe operator arrive at 10.30 am and work either side of low tide (about 12.30 pm).

Prior to his arrival a probe survey of the submerged remains of the site will be conducted from the inflatable.

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Figure 10: Backhoe removed overburden of sterile sand and drove home the sheet piles.

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Date: 27-Apr-95

Tasks:

- Conduct detailed air probe survey of anomaly 5 (188 kg, 2.8m)
- Continue excavation of anomaly 1
- Clean up the site and vacate

Comments:

The weather had changed to a southerly, bringing wind and rain all day. This precluded any investigation of the submerged remains of the *Hive*.

At anomaly 1, the overnight tide had filled the hole but the overburden was again quickly removed by the back hoe to a depth of about 2m. At this level the water table was refilling the hole with sand at about the same rate as it could be removed by the back hoe. The sheet piles were pressed in to almost 3 metres but this had little or no effect. The iron artefact remained about 0.5m under the sand with another 0.5m of water sitting above the level of the sand.

The artefact could be reached with the finger tips. It was rod like, about 7cm diameter and about a metre in length, running diagonally across the trench. At one end it broadened slightly to ~10-12cm and felt a little like corroded chain. The other end was deeper and could not be reached except with the air probe.

It became clear that no further advance could be made and the hole was filled in after removal of the sheet piles and framing.



Figure 11: Hydrated sand below the water table moved to refill the excavated caisson, leading to subsidence in the surrounding area.

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During the day, archaeologist Kelvin Officer inspected the dunal area behind the wreck site to assess the potential for further investigation of the area in which coke, glass (suggesting the remains of the survivors camp), are present as surface scatters in association with Aboriginal stone flakes.

A public lecture on the DUAP's work on the *Hive* and other wrecks in Wreck Bay was held at the Lady Denman Museum from 7.30 pm. The illustrated talk to ~40 people lasted for 1 hour but subsequent questions and discussion lasted a further hour and a quarter. After the meeting, a number of people spoke with DUAP maritime archaeologists and provided some valuable additional information about shipwrecks in Wreck Bay.



Figure 12: Base of glass bottle in survivor's camp area (viewed from above and below)



Figure 13: Coke and glass fragment in survivor's camp area

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Date: 28 April

Tasks:

- Completion of photography of site location and of glass bottle fragment from 'survivor's camp'
- Detailed drawing of the above glass bottle fragment
- Meeting with Contact TV reporter Steve Barnes
- Final discussions with JBNP Senior Ranger, Martin Fortesque and Park Worker, Eric Ardler. Eric advised that he had, some years earlier, seen the remains of a ship on the eastern end of Bherwerre Beach. Part of these timbers were used to build a small bridge at Stoney Creek but this had since washed away.
- ABC Radio Nowra - interview with Alistair Young

Comments: On completion of the above tasks, the field work was concluded and the remainder of the team returned to Sydney.

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ASSESSMENT OF SIGNIFICANCE

In the absence of an opportunity to view the full physical remains of the *Hive* or the anomalies under the beach sand, significance has been assessed in accordance with the nature and degree of significance of the site's predicted primary attributes. These include attributes related to historical, social, archaeological, scientific and interpretive significance.

Significance assessment is in accordance with the criteria and procedures outlined in the 'Guidelines for the Management of Australia's Shipwrecks' produced by the Australian Institute for Maritime Archaeology and the Australian Cultural Development Office.

Historical (concerned with range of context)

The *Hive* site is significant through its association with the later period of organised convict transport to Australia. Its loss appears to have influenced the subsequent naming of Wreck Bay.

The wrecking of a third convict ship in 1835 and the potential loss of supplies, including £10,000 for the military, raised considerable interest in the colony at Sydney. Events leading up to and subsequent to the loss of the ship illustrate important aspects of the quality of leadership associated with convict transportation and of the participation of notable colonials such as Alexander Berry.

Social (concerned with community regard or esteem)

The *Hive* has a medium level of social significance as demonstrated by the considerable interest in its discovery and archaeological investigation from printed and electronic media in NSW and interstate.

Archaeological (concerned with research potential through investigation of material remains).

Archaeological investigations of the site have the potential to confirm whether the remains are those of the *Hive*. Remains of the ship will assist in determining the quality of vessel that was being used at this time. If personal items or cargo have survived, they have the potential to illustrate life on board for convicts, crew and the military.

Scientific (concerned with research potential through repeatable measured tests)

The site is significant for the potential to conduct timber and metallurgical analysis to determine the nature of materials used in the construction of the ship and to thus assist in its positive identification.

Interpretive (concerned with public education values)

Although the actual wreck site is on an isolated beach and covered with sand, the site has considerable potential for interpretation through signage at the Cave Beach camping ground, in Jervis Bay National Parks brochures and in illustrated articles for magazines or other educational publications.

Rare (concerned with the uncommon or exceptional)

The *Hive* is one of only three ships wrecked in Australian waters while carrying convicts and the only convict ship to be wrecked on mainland Australia. While little investigation has been conducted on the other two wrecks, *George III* and

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Neva in Tasmania), the *Hive* is also likely to be the most intact and undisturbed of the three shipwrecks.

Statement of Significance

The *Hive* is significant in representing the period of transport of convicts to Australia and the interaction between the survivors of shipwreck and Aborigines. The ship, its cargo, crew, military personnel and convicts were part of the later period of highly organised convict transportation. The hull could provide important information about the construction and fitting of one of Her Majesty's prison ships. Artefacts associated with the hull might provide important insights into the cargo and items related to crew, soldiers and convicts on board.

DISCUSSION OF RESULTS

The Hive wreck site

The fieldwork provided valuable information on the difficulties of working on a beach site. The drier sand posed few problems for the sheet pile method, however the hydrated sand below the water table could not be effectively precluded. To achieve this, a dewatering system should be used to lower the water table. With this technique, spear points, (vertical pipes with filters attached, would be placed adjacent to the trench. These would be connected to a vacuum pump and would operate continuously while the excavation was in progress. This would keep the trench and immediate surrounding area dry and prevent the ingress of mobilised sand.

At this stage, the major characteristics of the *Hive* site have been established. It appears that substantial remains of the ship have survived in the surf zone but only a scatter of debris has survived beneath the beach sand. Anomaly 5 may consist of metal and timber, but, this could not be determined beyond doubt. At anomaly 1, although the probe survey had suggested that timber may have been present, no evidence of timber was found during the excavation. The absence of timber does not enable the possibility that these items are associated with the *Blackbird*, but it is considered that it more likely to be associated with the *Hive* than the *Blackbird*. The information provided by Eric Ardler of a second shipwreck closer to Caves Beach adds additional weight to the possibility that the *Blackbird* lies further towards the eastern end on Bherwerre Beach. It is not considered at this stage that any further investigation of the *Hive* wreck site is justified.

The Survivor's Camp

Artifacts observed in the coastal dunes during the December 1994 survey of the *Hive* remains have been discussed with archaeologists Kelvin Officer and Kerry Navin. The following are their comments on the potential of the area.

Archaeological sites which relate to the early period of contact between Aboriginal and European people are a rare site type in Australia. They hold the potential rewards of recording many aspects of the foundation and poorly understood social and technological dynamics which mediated initial Black and White interrelation. This lost record has relevance to many aspects of Australia's contemporary society and cultural mediation.

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Unfortunately contact sites can be hard to identify and frequently require the coming together of both documentary and archaeological interpretation before ephemeral material associations on the ground can be recognised.

The survivors camp associated with the wreck of the *Hive* is one such site. The simple proximity of shell midden, stone flakes and European artefacts merely represents a location, the referral to an historical event, and only the potential of a revealing archaeological deposit.

However, the identification is significant for the potential survival of this type of site within the rapidly developing coastline of southern NSW. It also anticipates a fruitful arena of research in association with other types of historic Aboriginal sites known to occur in the Jervis Bay region.

The Blackbird Wreck

Although the historic record indicates that the *Blackbird* was wrecked near the *Hive* site, no firm evidence of a second shipwreck was established during the current field work. The reference of 'near' may not have meant immediately adjacent to the *Hive*. Anywhere along Bherwerre Beach may have been regarded as being close to the convict ship.

Two pieces of information are worthy of consideration in this respect. An aerial photograph supplied by Public Works Department shows a thin, straight line running at right angles to the beach. This is consistent with the location of shipwreck material reported by Park Worker, Eric Ardler. Like the *Hive*, these remains appear to be in the surf zone and access would be very limited. However, it is important to know whether this is the site of the *Blackbird* or one of the other wooden ships lost in the bay. If it is the *Blackbird*, it represents a very rare example of an early Australian built hull, for which virtually no documentary records were kept. Knowing its exact location would assist in ensuring prompt and recording and appropriate management of the site if it is exposed through natural processes. Magnetometer and probe surveys to locate the wreck would be possible under calm conditions.

RECOMMENDATIONS

It is recommended that:

1. In relation to the remains of the convict ship *Hive* under the beach sand and surf zone of Bherwerre Beach, no further archaeological action be undertaken unless the area is scoured by natural cycles of sand movement.
2. In relation to the survivor's camp, further investigation be undertaken prior to implementation of stabilisation or other projects impacting on the remains. Consideration of these impacts, or any further archaeological research, should involve the NSW National Parks and Wildlife Service (Aboriginal sites), Jervis Bay National Park and the Wreck Bay Aboriginal Community (Managers of the area) and the Director-General of Urban Affairs and Planning (as delegate for the Commonwealth Historic Shipwrecks Act 1976).
3. In relation to the report of shipwreck remains on the eastern end of Bherwerre Beach, further investigation be undertaken, in the first instance, in the form of a magnetometer survey.

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In relation to any further investigation, it be of a nature that does not disturb the stability of the remainder of the archaeological sites and will leave no permanent visible remains on the beach or in the dunes;

5. Jervis Bay National Park consider the inclusion of information on the shipwreck history of Wreck Bay in interpretive signage in the park.

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