

EDWARD LOMBE

(1828 - 1834)

WRECK INSPECTION REPORT



Heritage Office
Department of Planning
Underwater Cultural Heritage Program
PARRAMATTA 2006



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This version is an update of that report to reflect additional on-site survey operations 2006.

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Cover: Edward Lombe wrecked ashore at Middle Head, Sydney Harbour. Water colour by Conrad Martens. Undated. Dixon Gregory Collection, Mitchell Library, State Library of New South Wales.

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"Edward Lombe" (1834?), Sketch by Robert Russel. Humphrey Collection, National Library of Australia. Canberra.

EDWARD LOMBE
MIDDLE HEAD, PORT JACKSON
WRECK INSPECTION REPORT

1 INTRODUCTION

The Heritage Office, Department of Planning, has been undertaking diving inspections of the water area around Middle Head, Port Jackson (Sydney Harbour) since 1993. The survey operations have targeted the loss there of the timber barque, *Edward Lombe*, known to have been wrecked at the headland in 1834.

From the beginning of European settlement in 1788 until the loss of the *Edward Lombe* in 1834, eighty-nine (89) vessels had been wrecked in New South Wales. Four of these had been lost within the Sydney Heads or harbour, including *Hope* (1803), *Corsair* (1825), *William Cossar* (1825) and *Liberty* (1830). Two other significant wreckings by fire had also occurred (*Three Bees* (1814) and *Ann Jameson* (1833)).

However, the wrecking of *Edward Lombe* against Middle Head represents the first known shipwreck inside Sydney Harbour which resulted in loss of life. Also significant was the size of the vessel, a three-masted barque, and the catastrophic nature of the disaster. The impact on the colony is suggested by the proportionally large number of contemporary paintings and sketches recording the event, matched only in number by the fatal loss of the ship *Dunbar* in 1857.

The total destruction of the vessel and tragic loss of 12 lives rocked the still developing colony. The incident led to a public outcry over the state of the survivors and the way the dead were interred, and led directly to improvements in the harbour's navigation systems. By 1836, a permanently stationed lightship had been moored on the dangerous Sow and Pigs Reef, which had played a part in the vessel's loss.

The initial inspection was conducted on 26 May 1993 (Heritage Office and MHL). Subsequent inspections were conducted on 6 December 2002 (ANMM and Heritage Office), 16 March 2006 (ANMM and Heritage Office), 19 May 2006 (Heritage Office and MHL), and 2 June 2006 (ANMM and Heritage Office). Independent ANMM searches were also conducted on?

1.1 Background

Following research through existing archives to obtain details of the vessel and loss event, it became clear that the majority of the shipwreck was salvaged at the time. This suggested that little would be left of the vessel and its cargo in the

archaeological record. With the area subjected to extreme wave and swell conditions in bad weather, any remaining material on the site would be further reduced and scattered. Anecdotal records suggest that the area was also subjected to early scavenging by recreational SCUBA divers from the 1950s, and the source of bottles and other small finds which may have originated from the wreck.

Initial Heritage Office surveys around the base of the headland aimed to confirm these initial theories, with the extremely limited number of relics detected supporting its initial forecasts.

However in 1993, divers reported a large iron anchor underwater on the edge of the reef that extends south from Middle Head. Active visitation by divers confirmed the general public's interest in the *Edward Lombe* story, with theories raised that the anchor was one of two dropped by the vessel in an attempt to avoid the fatal wrecking. The inspections resulted in a community *Wreck Survey Project* report (Cross & Smith, 1993). ¹In 1994 a report was received that possible ship's timbers had been found in the vicinity in sand off the southern side of Middle Head.

In 2005² and 2006³, additional divers reported the anchor again, together with another lying in a rock crevice some seventy metres to the north. Based on these reports, the Heritage Office undertook a subsequent diving inspection in May 2006, and a joint inspection with the Australian National Maritime Museum in June 2006.

Present during the extended survey operations were:

David Nutley, Maritime Archaeologist, Heritage Office;
Tim Smith, Maritime Archaeologist, Heritage Office;
Colin Browne, Boat Supervisor, Department of Commerce;
Phil Clark, Boat Handler and Diver, Department of Commerce
Kieran Hosty, Maritime Archaeologist, Australian National Maritime Museum
Paul Hundley, Maritime Archaeologist, Australian National Maritime Museum
Lee Graham, Australian National Maritime Museum
Mike Meyer, photographer, Australian National Maritime Museum

¹ Informal report of timbers found by diver but no position fix available, D Nutley pers.com 1994.

² Anchors reported by diver Darryl Bullock but no accurate GPS positions available at that time.

³ Anchors inspected and reported by diver and author Tom Byron, Tim Smith pers.com. 4.4.2006.

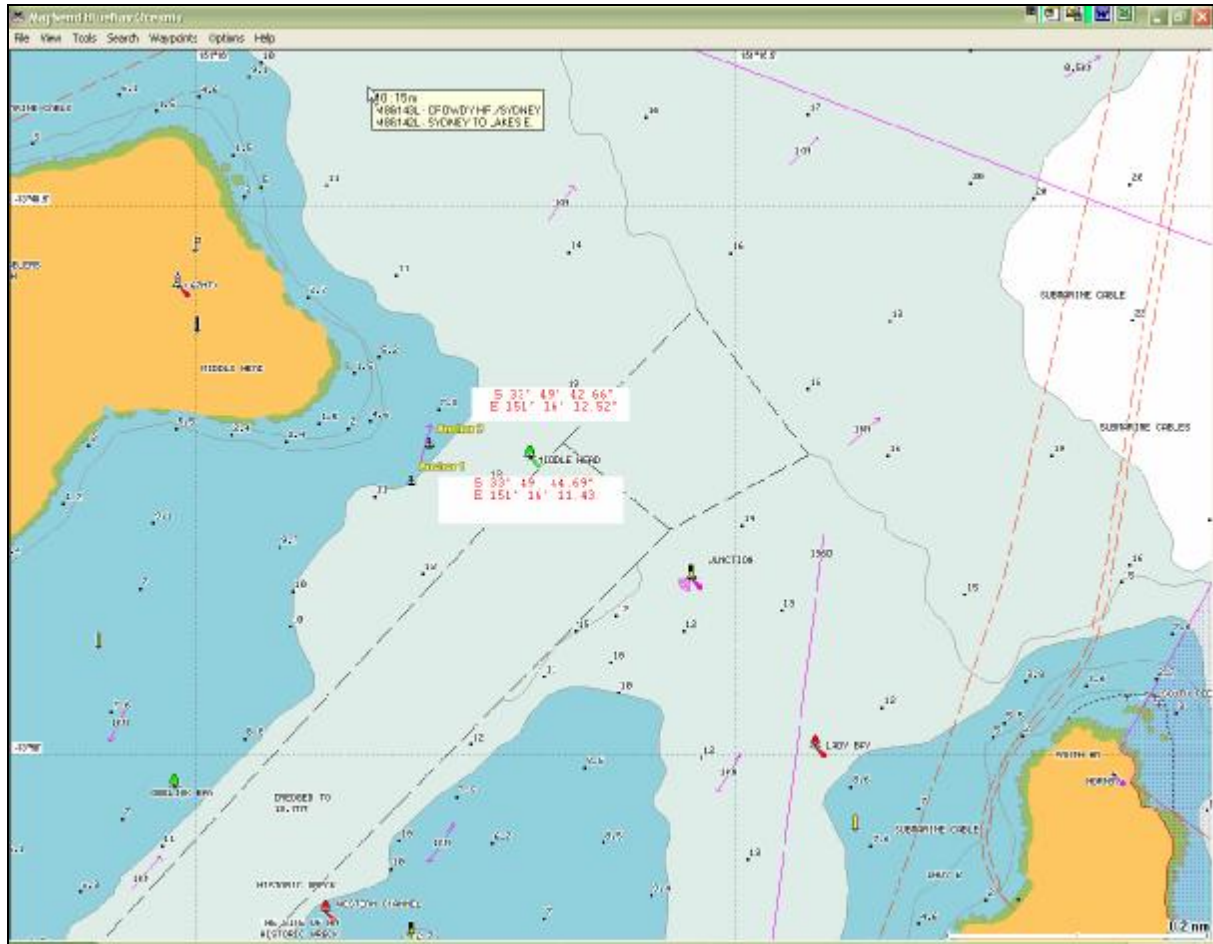


Figure 1 - Location Map.

2 HISTORICAL CONTEXT

On a wild night in August 1834, the wooden barque *Edward Lombe*, sailed into Sydney Harbour. Trying to escape certain destruction outside the Heads, the vessel plied ahead without a pilot to guide the way. The result was a terrible tragedy. Never before had the inhabitants of Sydney “*witnessed so complete a wreck*”⁴. The pitiful sight of the survivors clinging to the shattered stern of the vessel, some almost naked, drew the sympathy of the entire colony⁵.

The total wrecking of a fine vessel, the destruction of property and the loss of life so close to the end of a journey, were to become events witnessed all too often by the small population of Sydney.

⁴ *Sydney Herald*, 28 August 1834.

⁵ For example see: *Sydney Herald*, 4 September 1834.

2.1 HISTORY

The 347 ton *Edward Lombe* (*British Register of Ships* number 84/1828) was built at Whitby, Yorkshire, in 1828 by Thomas Brodrick. Originally rigged as a ship with dimensions of 106' in length, 27'8 in breadth and a depth of 19'2", the vessel was later altered to a barque⁶. At the time of loss, the *Edward Lombe* was owned by Robert Freeman who had purchased the vessel the previous year. The vessel appears to have been on its second voyage to the colony, having arrived on a previous visit from London via Hobart on 6 January, 1833⁷.

The master on the final voyage was Captain Stroyan who had safely brought the vessel from London to Hobart Town in Tasmania. Arriving there on the 31 July, the vessel was chartered to Mauritius to pick up a cargo of sugar, departing Hobart on 17 August 1834⁸. The journey required the *Edward Lombe* to put in at Sydney to discharge the bulk of the London cargo and to offload some passengers⁹.



Figure 2 - "Wreck of the Edd. Lalme [sic]". Pencil sketch by Sir Oswald Walters (Undated). Mitchell Library. Sydney.

WRECK EVENT

The cargo included a quantity of spirits, ale, salt, general merchandise and seven passengers¹⁰. The voyage from Hobart was uneventful, the vessel lying becalmed for three days. Suddenly however, a strong breeze rose from the south east causing the captain to drastically shorten sail. The breeze turned violent as the vessel laboured towards Port Jackson, however, the entrance of the Heads could not be made out.

Captain Stroyan endeavoured to keep his vessel from being driven against the cliffs. While attempting several tacks, the *Edward Lombe* became crippled when it lost the

⁶ *Lloyds Register of Shipping* (1833-4). Australian National Maritime Museum Library.

⁷ *Reports of Vessels Arrived*, July 1826-1853. State Archives of New South Wales.

⁸ *Sydney Herald*, 28 August 1834.

⁹ *Colonial Times* (Hobart), 5 Aug, 1834.

¹⁰ *Sydney Herald*, 28 Aug, 1834; *Colonial Times* (Hobart, 23 August 1834).

fore-top-mast backstay and several sails. The captain now had no hope of weathering the storm and was forced to attempt the run into the relative security of the harbour at night¹¹.

The violence of the gale continued as the *Edward Lombe* squared up near the Sow and Pigs Reef. In a hopeless situation, within “two ship’s lengths” of the reef, an anchor was let go which immediately broke from the cable due to the “violence of the gale”. A second anchor was deployed but only “checked the course of the vessel for a few minutes”, as the vessel continued drifting¹². The *Edward Lombe* was “almost immediately afterwards dashed stern first upon the bold rocks called the Middle Head”¹³. Captain Stroyan was still shouting orders to set sails in order to turn off the rocks, while making shore that the only female passenger, Mrs Jones, was brought up from below. Within five minutes, the forepart of the vessel had disintegrated, part of the poop being all that remained on the rocks within a very short time¹⁴.

Within this chaos, the twenty-nine persons onboard made desperate efforts to reach safety. While attempting to get the boats out a huge wave washed Captain Stroyan, two crew and a passenger named Wilkinson, into the sea to drown. The next wave tore down the foremast and bowsprit. Passengers, Mr and Mrs Jones, were fetched up from below in a ‘near naked state’ as a large sea crashed over them. Mr Jones was quickly swept to his death from amidships, the others making it to the remnants of the poop. Another passenger named Knight refused to leave his berth and was never seen again. Another large wave carried away the remaining masts, as cargo began washing out of the shattered hull¹⁵.

Just as most of the crew reached the stern (poop) of the vessel, the *Edward Lombe* wrenched in two, with the stern section wedged “in between the rocks”. The remaining forepart of the ship carried some 30 yards (27 metres) away and would have completely broken apart if still not attached to anchor chains. Most of the rigging and gear lay strewn between the two portions of hull¹⁶.

Clinging to the near vertical stern, the pitiful survivors were constantly washed over by the violent waves in the cold dark night. The men attempted to shield Mrs Jones from the worst of the weather, but none expected to survive the night. In desperation, the surgeon, Gibbs, and second mate, Norman, were drowned trying to swim a line ashore from the stern.

A seaman named Anderson, made another rescue bid from the surviving stern but was washed onto the rocks. Miraculously, a wave picked him up and threw him back to the bow section by the chain cable, where he managed to climb onto a high rock. This suggests that the bow section had also been driven close ashore at this time. At about 3a.m., chief mate Marshall made several attempts to swim a line ashore but he was unsuccessful¹⁷.

¹¹ *Colonial Times* (Hobart, 23 August 1834.

¹² *Colonial Times* (Hobart), 23 August 1834.

¹³ *Sydney Herald*, 28 August 1834.

¹⁴ *Sydney Gazette*, 4 September 1834.

¹⁵ *Sydney Herald*, 28 August 1834.

¹⁶ *Sydney Herald*, 28 August 1834

¹⁷ *Sydney Herald*, 28 August 1834

Daylight saw the approach of the schooner *Venus* which could not get close enough to the wreck. Captain Swan sailed over to Watson's Bay, attracted the Pilots, and sailed back to the wreck where he put a land party ashore. The seventeen survivors were carried off the wreck with the aid of ropes.

Salvage work began immediately on the wreckage which was spread from Bradley's Head and around the harbour¹⁸. The captain's desk was discovered though emptied of its supposed contents of three hundred gold sovereigns!¹⁹.

Social impact

The unprecedented nature of the disaster led several concerned citizens to organise Church services and fund raising activities for the survivors²⁰. Mrs Jones attracted the greatest sympathy. Landing in Sydney destitute, she had lost her husband and brother with the wreck (both in the legal profession), and all her goods. Described as "almost lifeless" when taken off the wreck, she had only "one thin garment on", and was taken to the Pilot house of Mr Whalen, where it was described that she was "scarcely a minute free from hysterical fits"²¹. A same day report suggested Mrs Jones was "fast recovering"²², however by 11 September, newspapers suggested that "Mrs Jones is still in great danger and that little hopes are entertained of her ultimate recovery"²³. The ultimate fate of Mrs Jones is not yet known.



Figure 3 - "Wreck of the Edward Lomb [sic]", water colour attributed to Conrad Martens. Undated. Dixon Gregory Collection, Mitchell Library. Sydney.

¹⁸ *Sydney Herald*, 28 August 1834.

¹⁹ *Colonial Times* (Hobart), 23 August 1834.

²⁰ *Sydney Herald*, 1 Sept, 1834; 4 Sept, 1834; 8 Sept, 1834.

²¹ *Sydney Gazette*, 28 August 1834.

²² *Sydney Herald*, 28 August 1834.

²³ *Sydney Gazette*, 11 September 1834.

Such images are important as they correspond closely to the newspaper accounts of the wreck's appearance and current configuration of Middle Head and North Head, suggesting that the preliminary sketches for such paintings were based on actual visitation. This painting shows the shattered stern and what appears to be the remains of the bow section against the rocks (to right).

The search of the surrounding bays soon revealed the bodies of some of the twelve (12) drowned. They presented a frightful state of decomposition - one had the 'eyes *picked out*' and other features '*eaten off by fish*'. Another body was reduced to little more than a skeleton and could only be identified from '*black hairs on a leg and the remnants of clothing*', and thought to be that of Mr Francis Jones, whose wife survived the event²⁴.

From some citizens of Sydney, there was consternation in the way several of the corpses were transported from the morgue in The Rocks to the burial ground (then in George Street near the current Sydney Town Hall site). In a decomposing and swollen state, two bodies were unceremoniously bundled into rough coffins in the back of an open cart. Such was their state that the lids could not be fitted and the "*sides had to be wrenched open to admit them at all*"²⁵. Covered by mere rags from the sails and without mourners to follow them, the bodies were interred at the burial ground, "*total strangers to the colony*". Loathing was later felt towards certain individuals who plundered the wreckage of the ship²⁶.

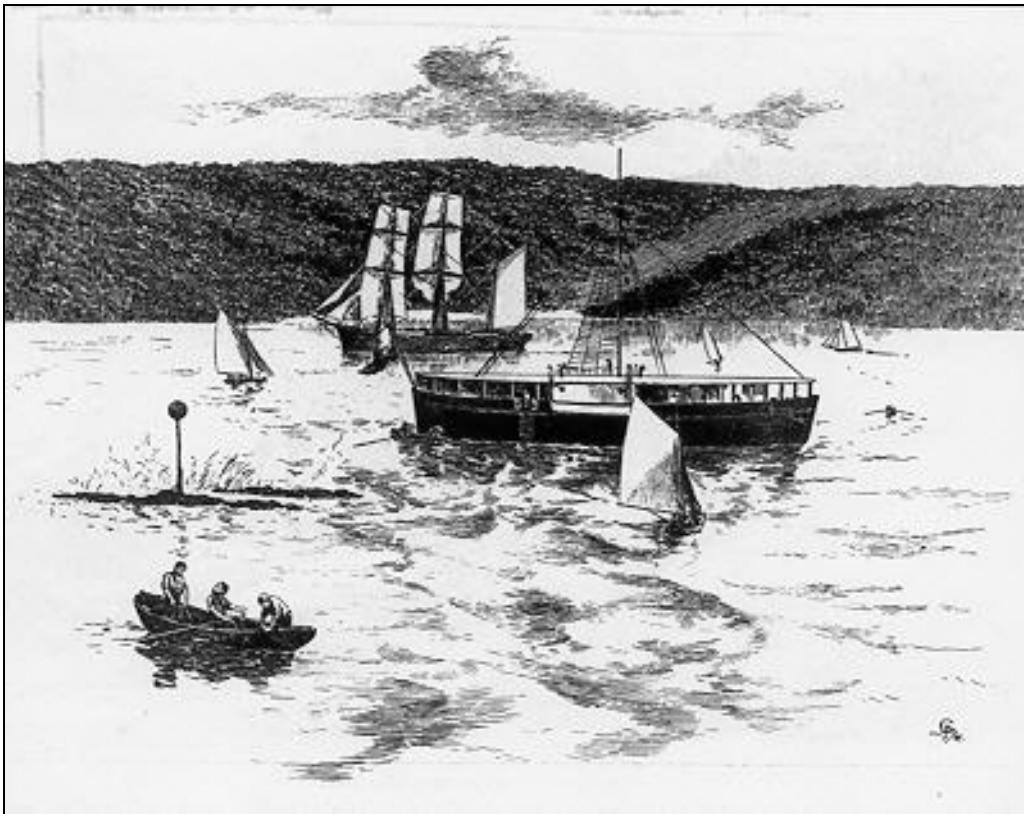


Figure 4: The later Sow and Pigs Lightship *Brambles*. *Illustrated Sydney News* 2 May, 1889. State Library of New South Wales.

²⁴ *Sydney Gazette*, 4 Sept, 1834; 9 Sept, 1834; 11 Sept, 1834.

²⁵ *Sydney Gazette*, 9 Sept, 1834.

²⁶ *Sydney Gazette*, 4 Sept, 1834.

The wreckage of the *Edward Lombe* was sold to a local shipbuilder, Mr. Bass for eighty-five pounds (£85)²⁷. Several items belonging to the ships' structure were subsequently sold at auction on 22 September 1835 at his yard in Darling Harbour. These included sails, anchors, chain cables, chain plates, deadeyes, iron and wood blocks, lead and wood pumps, bolt and sheet copper, pintles, ship's side lights, iron knees, two carronades, and a windlass and capstan²⁸.

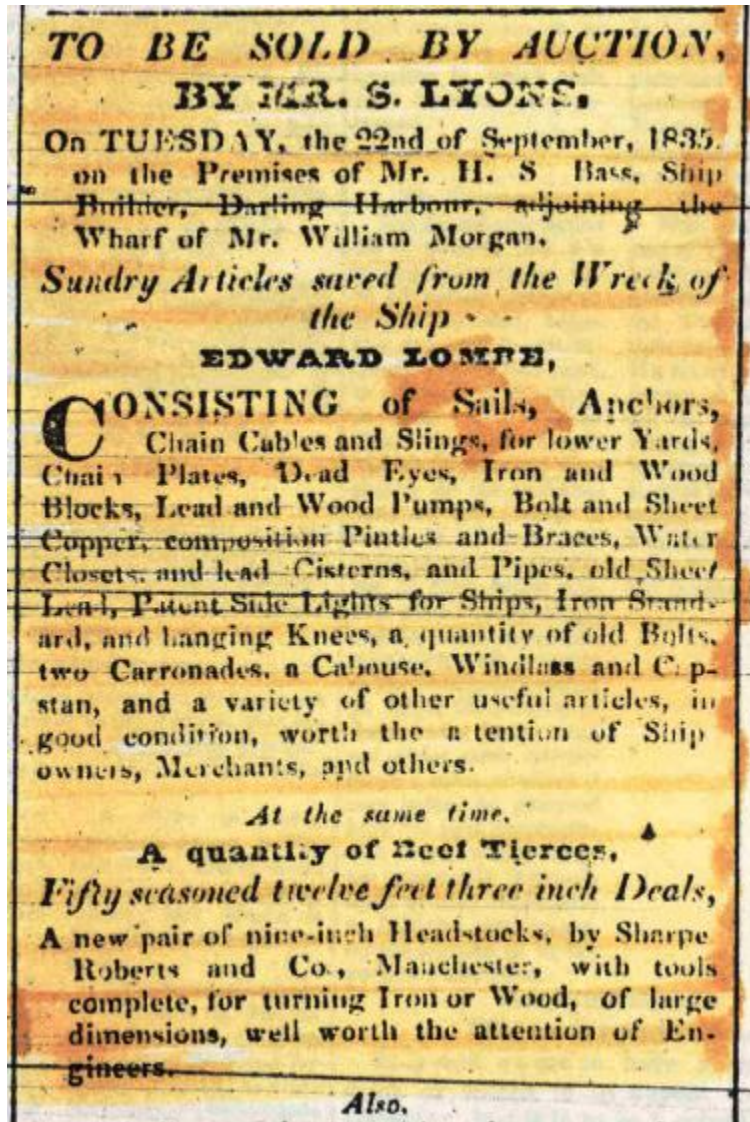


Figure 5: Newspaper article advertising the sale of ship's fittings removed from the wreck of the *Edward Lombe*. The advertisement illustrates the extensive salvage of the site.

As a result of the dramatic loss of the *Edward Lombe*, the Government heeded calls to have the Sow and Pigs Reef lighted. By 1836, a permanent lightship, the schooner

²⁷ *Sydney Herald*, 1 Sept, 1834; *The Australian*, 2 Sept, 1834.

²⁸ *Sydney Herald*, 10 September 1835.

Rose, was anchored on the reef to mark the rocks and to serve as a guide to navigation²⁹.

3 OBJECTIVES

3.1 General

The initial 1993 inspection aimed to conduct a general non-disturbance archaeological (diving) survey of the water areas adjacent to Middle Head. This tasking aimed to identify any in situ small relics potentially related to the original wreck site location, or subsequently lodged in the vicinity through the actions of the wrecking process and environmental factors. Following the 1993 and 2005/6 reports of iron anchor discoveries located on the edge of the reef to the east and south-east of the headland, additional surveys were initiated to inspect and document the items, and to assess their likelihood of being associated with the *Edward Lombe* shipwreck.

3.2 Specific

1. To locate any surviving wreck structure or cargo remains in the underwater landscape;
2. To record an accurate position for any located relics;
3. To undertake a measured plan of located wreck structure and to undertake detailed drafting and photographic recording of features;
4. To inspect two large iron anchors reported by recreational divers and to assess their attribution to the wreck;
5. To obtain a timber sample from remnant timber remains detected near the southern-most anchor, and to obtain a timber species analysis;
6. To develop additional Heritage Office interpretative materials to assist in telling the story and significance of the site to Sydney;
7. To develop site management strategies and additional on-site public interpretative products, such as interpretative markers or underwater plinths.

4 METHODOLOGY

A general background history of the *Edward Lombe* had been compiled by the Heritage Office, Department of Planning, prior to the current inspection. This included sourcing of original registry data for the vessel (Lloyds Register of Ships), contemporary newspaper accounts of the loss, and copies of paintings and sketches documenting the event from major archives. This information is available in the

²⁹ *Sydney Gazette*, 28 Aug, 1834; 6 Sept, 1834; 13 Sept, 1834; *Sydney Herald*, 4 September 1834..

³¹ Then Heritage Branch, Department of Planning.

Shipwreck Atlas of New South Wales and the Maritime Heritage Online web site. Additional information was obtained from recreational divers who had visited the site from the earliest days of its discovery, and in recent times, together with descendants of the crew where known.

4.1 Wreck Site Location

The *Edward Lombe* was reported to have been wrecked at the foot of Middle Head in Port Jackson after entering the harbour in the face of a violent south-east storm. Middle Head roughly faces the entrance to Port Jackson flanked by North and South Head. The navigational obstacle represented by the Sow and Pigs Reef lies in the centre of the harbour to the south-east of Middle Head, and played a critical part in the wreck event.

The most probable position for the wreck event was readily established by comparing contemporary paintings of the tragedy to the modern coastal features. Several isolated table rocks lying out from Middle Head on its south eastern side, closely resembled those portrayed in contemporary paintings of the disaster and indicated that the observed features had changed very little.



Figure 6: Juxtaposition of Middle Head in 2006 with 1834 drawing of the shipwreck event. (Photo: D Nutley; Pencil sketch, Sir Oswald Walters (Undated), Mitchell Library. Sydney)

The 1993 Heritage Office³¹ inspection involved a diver tow search seaward of this area. Shallow water depth and favourable visibility aided this phase of the survey. Survey lanes of approximately 10 meters apart were adhered to.

The visual survey began as close as practicable to the cliffs and extended out to approximately 50 meters. While several fragments of stoneware bottles and glass vessels were located, no obvious wreck structure was identified. The results appeared to support the theory that the wreckage was either entirely removed at the time of salvage in 1834-5, or had subsequently been removed through the actions of the sea or early 20thC recreational diving (collection) practices.

It was not until the discovery by divers of two or more large iron anchors adjacent to the site, that hopes were held of significant relics being retained on site and attributable to the vessel.

5 ENVIRONMENTAL DESCRIPTION

The rugged topography of Middle Head is characteristic of the harbour foreshore. Composed of Sydney Sandstone, Middle Head rises abruptly from the water to approximately 70 feet. The cliff top is lightly covered with scrub.

The underwater topography differs markedly from that of the *Dunbar* and *Catherine Adamson* 1857 wreck sites located on outer South Head and inner North Head respectively. Instead of large boulders that are periodically moved by massive sea events, a low flat rocky reef extends from the foot of the cliffs and shelves off gently towards the centre of the harbour, where it drops off sharply to meet the sand bed of the basin. The water depth varies from 0.5m, to 10 meters some one hundred meters from the cliffs. The sand level starts at approximately 12 metres. The reef is strewn with sandstone boulders which have dislodged from the cliff. The area is characterized by pockets of kelp and an extensive and varied collection of plant and animal life including vibrant soft corals, sponges and starfish. These features greatly add to the recreational diving experience to the site.

6 ANCHORS

As documented above, historical sources confirm that two (2) anchors) were deployed from the *Edward Lombe* in a desperate attempt to halt the vessel's progress in the face of a violent south-easterly gale. Of special concern to Captain Stroyan was the sighting of the dangerous Sow and Pigs Reef ahead of the vessel, and potential fears that the vessel might strike the semi-submerged rocks.

Due to the severity of the storm and wave action, the *Edward Lombe* drove back on the first anchor dropped. The chain cable quickly separated from the anchor which was lost.

A second anchor was soon deployed but only partially affected the drawing of the vessel towards Middle Head behind. This anchor too was lost. Within a short space of time, with no time to take further action, the *Edward Lombe*, presumably having been pivoted by the anchors, drove stern-first onto the foot of Middle Head.

The discovery in 1993 of a large iron anchor embedded in the edge of the reef in a line roughly between Middle Head and the Sow and Pigs Reef sparked interest by the Heritage Office. The position of the find would equate with the historical account of the vessel's loss.

The discovery of yet another and similar, anchor closer in towards Middle Head (reported in 2005 and 2006 separately), added further speculation that this might be the second anchor deployed by *Edward Lombe*, just before the vessel smashed ashore.

These initial thoughts have been supported by the 2006 Heritage Office and Australian National Maritime Museum (ANMM) joint diving operations.

6.1 Interpretation

6.1.1 Anchor 1

The anchor reported in 1993, named "Anchor 1" during the present survey, is situated in 10 metres of water on the extended Middle Head reef platform, with its crown (or base) situated 3 metres from the edge. The anchor lies upright on its arms, with the lower-most arm wedged deeply in a crevice in the rock. The upper-most palm (or fluke) shows evidence of damage, having half the palm removed. The anchor is 3 metres in length (without the ring), and has an iron stock. Of special note is the attachment point for the anchor chain, a circular iron ring, denoting an early phase within the development of iron ships anchors within the 18th-19th centuries. The ring retains evidence of a number of degraded chain links, indicating that the anchor was probably lost in volatile circumstances.

6.1.2 Anchor 2

The northern-most anchor, denoted "Anchor 2", was found wedged completely within a crevice in the outer line of reef, some seventy metres north of Anchor 1, in 10.5 metres of water. Also aligned with its iron ring towards the north, the anchor was found to be slightly smaller at 2.8 metres in length. Only one arm and its intact fluke could be seen, the other being buried by the sand deposit captured in the crevice. It too, retains several degraded and heavily concreted chain links, indicating that it was also forcibly sheared from the original anchor chain. In all other respects, the anchor was identical in form to Anchor 1, suggesting they were a pair from one vessel.

Intriguingly, both anchors had the same approximate orientation (Anchor 1 - 20°, Anchor 2 - 60°), but not towards the Middle Head bluff. Both anchors are firmly wedged into existing crevices in the reef system. It appears that the anchors may have gripped violently into their respective orientations as dictated by the lie and nature of each crevice, while the ship was subjected to the prevailing wind and sea from the south-east. This would have resulted in enormous strain being imparted to each anchor and chain successively, and would be consistent their shearing off in rapid succession.

6.1.3 Style

The anchors appear to be of the Pering's type. Between 1813 and 1839 Pering developed a range of improvements to the traditional Admiralty Long-shanked anchor. The form of anchors off Middle Head appears to be an early variant of these improved anchors.

Although heavily obscured by marine growth and concretion products, the anchors have the probable curvature and earlier ring shackle of the "First Anchor" type, together with the sectional nature of the shank's cross section. A diagnostic feature of many Pering types is the size and shape of the palms, and their set-back from the tip of the fluke. Pering's anchors would suit the date of *Edward Lombe*, a vessel built and fitted out in 1828. They appear to be about 10-15cwt anchors, with anchor 1 being approximately 9'8" in length.

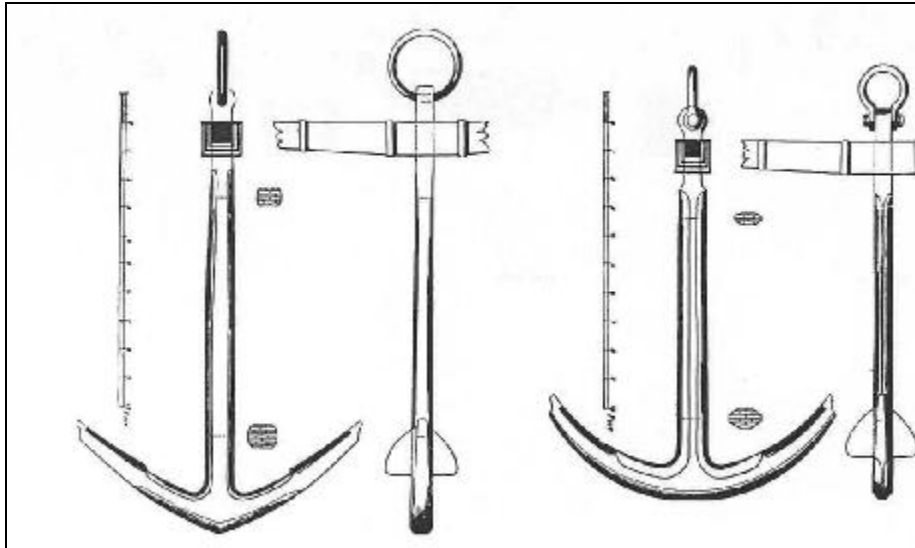


Figure 7: Pering's anchor types, after Curryer, p76, 1999 Chatham Publishing, London

6.2 Timber

On the sand adjacent to Anchor 1 were two pieces of timber. One had been of a substantial size originally but was entirely perforated by toredo worm and it was not possible to extract a sample for testing. A 3cm diameter core sample was obtained from the second, smaller section of timber and analysed in June 2006 by Woodsape Pty Ltd in Queensland.

6.2.1 Timber sample identification

The analysis identified the sample as being *Eucalyptus paniculata* (Grey Ironbark) which originates from coastal New South Wales and Queensland. The timber does have boatbuilding applications (frames, engine beds, keels, stern posts, mooring and towing bits) but is clearly not associated with the wreck of the *Edward Lombe*.

7 LEGISLATIVE PROTECTION

New South Wales's shipwrecks and submerged cultural heritage are protected by legislation that aims to limit interference, damage or destruction to individual sites, while encouraging responsible public access to them.

Shipwrecks, artefacts related to shipwrecks, and archaeological deposits generally, where located within harbours, enclosed bays, lakes, rivers and inland areas of NSW, which are more than 50 years of age are protected as relics under the relics provisions of the *Heritage Act, 1977* (State). The Middle Head anchors are thus protected by this Act, being located within the Sydney Harbour basin. There are penalties for disturbing the items, any disturbance requiring the prior approval of the Heritage Council of NSW through the granting of an Excavation Permit under the Act.

Those shipwrecks situated in Australian territorial waters, below the low water mark, adjacent to the coast and lost 75 years ago or more are protected from interference or damage by the *Historic Shipwrecks Act, 1976* (Commonwealth).

8 SITE MANAGEMENT

8.1 Background

The field surveys have established the anchors as a significant addition to known anchor examples located in NSW. Importantly, the Middle Head examples form part of a small group of identified Perring's type iron anchors in the State.

The anchors significance is evident on a number of levels, notably the integrity of the items, their retention in an original archaeological context, the uniqueness of the type and its common association with the early period nineteenth century European trade to Australia. The anchors retains a particular public fascination.

Previous experience with anchor discoveries raises concern for the long term management of the items. Anchors, because of their relatively small size and isolation, lend themselves to salvage and relocation. In the past, this has occurred through the activities of individual groups or dive clubs without much thought for ongoing conservation care, display and documentation. Other examples have been accidentally recovered after being snagged in fishing nets.

This event history is a critical factor in the desire by the Heritage Office to seek a workable management solution to ensure the anchors future. A major initial concern is retention in their unique underwater setting, complete with the protective marine growth coverings and the local underlying reef structure.

Recovery of the items as a management option might be considered a viable approach. While the resulting conservation treatment and display demands would be a financial constraint, recovery for scientific analysis and public display could be beneficial. It could also assist in the long-term preservation of the items. This is evident in the disturbance of Anchor 2 probably by modern dive boat anchor damage. This disturbance has resulted in the loss of the protective corrosion products and marine growth coverings of the exposed fluke and visible 'orange' corrosion activity.

It is noted that the anchors are the only presently located underwater examples of the type in New South Wales. As a diving experience, their aesthetic qualities is a contributing factor to their significance attributes. Kept underwater, the long-term survival of these items is dependent on the diving public maintaining respect for their significance values. This is best achieved by allowing diver access to the anchors. Here they can learn about its history through pre-dive briefings or available publicity materials, and thereby foster a desire to promote their protection and preservation throughout the diving community.

Damage to the site, either by its illegal removal, or disturbance to the protective marine concretions will reduce the site's intrinsic appeal, and thereby its interest as a recreational dive site. The maintenance of these attributes is therefore beholden on any visitor to the site. Any damage, intentional or otherwise, must be immediately notified to the Heritage Office, which has protective control of the item through the provisions of the *Heritage Act, 1977*.

8.2 Development of a site management strategy

The *Heritage Act, 1977* stipulates that items of archaeological heritage, such as the two anchors, cannot be disturbed or excavated without the prior approval of the Heritage Council of New South Wales, through the granting of an Excavation Permit under Section 139. There is no restriction for people visiting the items so long as their integrity is not compromised.

If the anchors are believed to be at risk of damage or interference, a recommendation can be made to the Minister for Planning to invoke a Section 24 Interim Heritage Order (IHO) over the site under the Act. This Order can prevent any works to the site and restrict access for a period of one year whilst a further detailed archaeological assessment is undertaken.

The items are not currently viewed to be of sufficient risk to seek the invocation of such an order. However, prior to any public advertisement of the anchors location, discussions will be sought with the local dive charter operators (particularly from the Manly/Northern Beaches region). These discussions will seek to establish a possible ongoing monitoring role for all shops and operators who might wish to visit the anchors on a regular basis.

Because of the anchors location in a busy waterway, there is no scope for a permanent sub-surface mooring system as established at the *Lady Darling* (1880) shipwreck site near Narooma. Nor are there sufficient attachment points for such a system. Permanent mooring systems do provide important controls for visitor access and diver safety and lessen the threat of inadvertent anchor damage from visiting dive vessels. Accidental “hooking up” of a dive vessel’s anchor with the archaeological example remains a real risk.

The goal remains to ensure that impact of visitation to the site is kept to an absolute minimum and that the integrity of the site is not compromised at any level.

8.3 Future Direction

The success of any management approach is reliant on individuals interacting with the site within the terms of existing legislation. The success of the Heritage Office’s dissemination of information regarding the anchors and its aims for their long-term preservation will be proven by the retention of the relics in their underwater context. Should the items be retained, the recreational diving public must drive respect for the site and promote its ongoing protection.

All management options, pending discussion with interested parties, must serve the long-term preservation interests of the items. Public interest in the anchors and their survival is evident on a number of levels, including the prompt notification of the site by the finders.

The anchors are an important component of the shipwreck heritage of New South Wales and Australia generally. The site retains potential as a dive tourism destination, but only if the archaeological and aesthetic qualities are retained. The appeal of the site is enhanced by the anchors have not been moved since their deployment from the vessel since its loss. Divers can experience this appeal by carefully visiting the artefacts in their unique underwater setting.

Management options should be reconsidered following any application to excavate or otherwise disturb the anchors for scientific study, conservation and interpretation, or where the anchors are deemed to be at risk in their present underwater setting.

9 ASSESSMENT OF SIGNIFICANCE

Significance has been assessed in accordance with the nature and degree of significance of the site's primary attributes. These include attributes related to historical, social, archaeological, scientific and interpretative significance.

Attributes of Significance

Criterion (a): An item is important in the course, or pattern, of NSW's cultural or natural history.

	Include		Exclude
	<ul style="list-style-type: none"> shows evidence of a significant human activity 		<ul style="list-style-type: none"> has incidental or unsubstantiated connections with historically important activities or processes
X	<ul style="list-style-type: none"> is associated with a significant activity or historical phase 		<ul style="list-style-type: none"> provides evidence of activities or processes that are of dubious historical importance
	<ul style="list-style-type: none"> maintains or shows the continuity of a historical process or activity 		<ul style="list-style-type: none"> has been so altered that it can no longer provide evidence of a particular association

Comment

- A vessel characteristic of international sail traders visiting the developing colony of New South Wales in the early part of the nineteenth century.
- The *Edward Lombe* was one of many score of vessels which plied the sea routes between Great Britain and Australia bringing needed general cargoes and passengers/settlers.
- The wreck serves as a reminder in Port Jackson of the sea trade which involved hundreds of vessels, bringing produce eagerly sought by the developing colony.

Criterion (b): An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history.

	Include		Exclude
	<ul style="list-style-type: none"> shows evidence of a significant human occupation 		<ul style="list-style-type: none"> has incidental or unsubstantiated connections with historically important people or events
X	<ul style="list-style-type: none"> is associated with a significant event, person, or group of persons 		<ul style="list-style-type: none"> provides evidence of people or events that are of dubious historical importance
			<ul style="list-style-type: none"> has been so altered that it can no longer provide evidence of a particular association

Comment

- *The Edward Lombe, with the loss of an important vessel and 12 lives, is associated with the the first major shipping tragedy in or near Sydney Harbour..*

Criterion (c): An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW.

	Include		Exclude
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X	<ul style="list-style-type: none"> shows or is associated with, creative or technical innovation or achievement 		<ul style="list-style-type: none"> is not a major work by an important designer or artist
	<ul style="list-style-type: none"> is the inspiration for a creative or technical innovation or achievement 	X	<ul style="list-style-type: none"> has lost its design or technical integrity
	<ul style="list-style-type: none"> is aesthetically distinctive 		<ul style="list-style-type: none"> its positive visual or sensory appeal or landmark and scenic qualities have been more than temporarily degraded
X	<ul style="list-style-type: none"> has landmark qualities 		<ul style="list-style-type: none"> has only a loose association with a creative or technical achievement
	<ul style="list-style-type: none"> exemplifies a particular taste, style or technology 		

Comment

- The *Edward Lombe* was built in Yorkshire and is representative of British shipbuilding design and technology of the early nineteenth century. The absence of surviving wreck structure limits the site's potential to provide technical information on the same.
- The anchors are of a size and proportion which has landmark qualities for divers within the context of a major port.

Criterion (d): An item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons.

	Include		Exclude
	<ul style="list-style-type: none"> Is important for its associations with an identifiable group 	X	<ul style="list-style-type: none"> is only important to the community for amenity reasons
	<ul style="list-style-type: none"> is important to a community's sense of place 	X	<ul style="list-style-type: none"> is retained only in preference to a proposed alternative

Comment

NA

Criterion (e): An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history.

	Include		Exclude
X	<ul style="list-style-type: none"> has the potential to yield new or further substantial scientific and/or archaeological information 		<ul style="list-style-type: none"> the knowledge gained would be irrelevant to research on science, human history or culture
	<ul style="list-style-type: none"> is an important benchmark or reference site or type 		<ul style="list-style-type: none"> has little archaeological or research potential
	<ul style="list-style-type: none"> provides evidence of past human cultures that is unavailable elsewhere 		<ul style="list-style-type: none"> only contains information that is readily available from another resource or archaeological sites

Comment

- The survival of two anchors related to the vessel's gear comprises the site's archaeological research potential. However, the Pering's type of anchors identified at the site are not well represented in the maritime heritage of New South Wales, with only one other example of the type identified in Sydney on land at Nielsen Park. The two anchor's therefore retain potential to document design changes in iron anchors within the early nineteenth century.
- The anchor is one of a number of known anchor sites within the lower reaches of Sydney Harbour and Botany Bay and provides opportunity of comparative corrosion potential analysis within a major port environment. The positioning of the anchors provide potential for investigation of the theoretical contribution of anchors and cable to the loss of the vessel through analysis of breaking strain of anchor lines/chain at the time and leverage forces imposed by sudden arrest by reef.

Criterion (f): An item possesses uncommon, rare or endangered aspects of NSW cultural or natural history.

	<i>Include</i>	<i>Exclude</i>
	<ul style="list-style-type: none"> • provides evidence of a defunct custom, way of life or process 	<ul style="list-style-type: none"> • is not rare
	<ul style="list-style-type: none"> • demonstrates a process, custom or other human activity that is in danger of being lost 	<ul style="list-style-type: none"> • is numerous but under threat
	<ul style="list-style-type: none"> • shows unusually accurate evidence of a significant human activity 	
X	<ul style="list-style-type: none"> • is the only example of its type 	
	<ul style="list-style-type: none"> • demonstrates designs or techniques of exceptional interest 	
	<ul style="list-style-type: none"> • shows rare evidence of a significant human activity important to a community 	

Comment

- The Pering's anchors are uncommonly represented in the New South Wales underwater or land based cultural heritage record.

Criterion (g): An item is important in demonstrating the principal characteristics of a class of NSW cultural or natural places; or cultural or natural environments.

	<i>Include</i>	<i>Exclude</i>
	<ul style="list-style-type: none"> • Is a fine example of its type 	<ul style="list-style-type: none"> • is a poor example of its type

X	<ul style="list-style-type: none"> • has the principal characteristics of an important class or group of items 	<ul style="list-style-type: none"> • does not include or has lost the range of characteristics of a type
X	<ul style="list-style-type: none"> • has attributes typical of a particular of way of life, philosophy, custom, significant process, design, technique or activity 	<ul style="list-style-type: none"> • does not represent well the characteristics that make up a significant variation of a type
	<ul style="list-style-type: none"> • is a significant variation to a class of items 	
X	<ul style="list-style-type: none"> • is part of a group which collectively illustrates a representative type 	
	<ul style="list-style-type: none"> • is outstanding because of its setting, condition or size 	
	<ul style="list-style-type: none"> • is outstanding because of its integrity or the esteem in which it is held 	

Comment

- The site highlights the dangers associated with sea travel during the early nineteenth century.
- The anchors are representative of the period of rapid change in anchor technology that commenced late in the 17th century and escalated throughout the 19th century.
- A site with potential for expanded public interpretation. This is facilitated by the vessel's loss within the port confines of Australia's largest capital city; the graphic nature of the disaster, and the dramatic effect it has on the then developing colony.
- The loss of the *Edward Lombe* represented the first major shipwreck tragedy within Sydney Harbour resulting in heavy loss of life.
- The disaster led directly to the improvement of the harbour's navigational aids, with the later erection of a permanent lightship on the Sow and Pigs Reef from 1836.

9.1 STATEMENT OF SIGNIFICANCE

The loss of life associated with the *Edward Lombe*, being the first event of this nature within or even close to Sydney, had a significant effect on the developing colony of New South Wales and led directly to the improvement of navigational facilities within Port Jackson. From 1836, a permanent lightship was placed on the Sow and Pigs Reef. Never before had the colony witnessed, first-hand, the total destruction of a large sailing vessel with resulting loss of life.

The Historic Shipwreck (s.48) and relics (s.139) provisions of the NSW *Heritage Act*, 1977 apply to the remains of the *Edward Lombe*.

10 RECOMMENDATIONS

As a result of the historical research, wreck site inspection and subsequent assessment of significance, it is recommended that: the Heritage Office, Department of Planning:

1. complete additional diving surveys inshore of the anchor sites to determine the exact nature and relationship of timber and glass and porcelain fragments detected within the wider debris field;
2. obtain additional measurements of the curvature of the arms of the anchors to assist in confirmation of their construction type
3. undertake comparative analysis of known anchors of similar proportions and configuration
4. update its Maritime heritage Online web site to include the results of the recent surveys, including public availability to this report;
5. consider opportunities to further disseminate the *Edward Lombe* Information Sheet completed previously on the disaster;
6. investigate further on-site interpretative opportunities for public awareness and enjoyment. These could involve the installation of an underwater plaques marking the anchor locations, and a shore-based interpretative plaque on nearby Middle Head.

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