

Number 144

“the ship comes first”

Dec 2013

The Newsletter of the Barque *Polly Woodside* Volunteers Association Inc.

PWVA Committee:

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Other Committee Members: Don Knowles, 9877 1584; Neville Keown, 9877 9234; Roger Wilson.

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Chairman's Chat

The first month of 2014 is here – another year nearly gone.

The National Trust has given the responsibility of Polly Woodside's maintenance to BMT Design and Technology, the company who undertook the ship's survey report in 2009. Sam Tait, who was the Chair of the Ship Committee, is now very actively involved in the ship, and Trevor Dove, a Senior Naval Architect with BMT, has been appointed our Maintenance Supervisor, which is working out really well, as he is definitely a 'hands on' person.

After negotiation with the National Trust, it has been agreed that we can put up our memorial plaques in the Interpretive Centre, near the door leading out to the ship (would you believe we have 50 of them). After much thought and experimentation, we are setting them up on a framework resembling the floor boards of the ship's boats and had a part mock-up of this on show at the Christmas Party, which was viewed and approved by the members present. Many thanks to Don Knowles for setting our display up.

As you will recall, we haven't been allowed to work more than 2 metres above the deck, as none of us had a 'height certificate'. As a result, nine of us attended a 'height certificate' course, at Polly Woodside, jointly funded by National Trust and PWVA, so now we can work on the deck-house roof, boat deck, and dead-eyes for a start.

We have a new volunteer - Patrick Appleton, who commenced training as a rigger under Tor in 1981, but had to leave because of poor wages. His memories of Tor's training are excellent, so we now have a rigger again, who is a volunteer. Welcome, Patrick.

Would you believe we also have another new Manager at the Polly? We will let you know when more details are available.

For those of you who haven't been down for a while, you will see changes – Signal Mast up for example, and Roger Wilson is completing the final touches on it.

Unfortunately I am finishing on a sad note. You will remember Dorothy and Keith Lyons – Keith was our Treasurer for a number of years, and Dorothy has had some articles published in the Wave, and both of them were very active at our functions. They joined the PWVA in 1993, and had to resign in 2010, as they moved to a retirement village in Cranbourne. It is with sorrow I have to inform you that Dorothy passed away on Friday 23rd November after a long battle with cancer.

Looking forward to seeing you at the Annual General Meeting to be held on February 8th.



SOME AUTHENTICITY IMPERCEPTIVELY LOST SINCE THE PASSING OF TOR LINDQVIST

By Pat Appleton & Murray Wenban

Murray Wenban and I were employed by the National Trust to be assistant riggers to Tor Lindqvist 30 years ago. Tor was not only a master rigger but also a master teacher of the trade having trained so many volunteers prior to our arrival. So much we learned, so much we didn't. The future was simple, learn the trade and pass it on when Tor retired.

But the generation that founded the Victorian branch of the National Trust 25 years prior, the likes of Polly's saviour Dr. Graeme Robertson who's life's mission was to fight against what he called " heritage vandalism by those in authority" were gone and slowly, so went the wisdom.

And so began the era of zero maintenance, Tor Lindqvist was sacked but fortunately returned on a part time basis and Polly has survived, although coming dangerously close to joining her sister museum ships like the "Falls Of Clyde" being condemned and derigged because of ignorant owners that think mere possession equals preservation.

Now about that authenticity matter, It's possible that Murray and I are the only people on the planet that notice it and have issues with it but since Tor's passing, the belaying of running rigging on the fife and pin rails have been changed from how Tor insisted they be kept, in keeping with the working ships of that era.

BUNTLINES

The only time buntlines were belayed on their pins was after they were used to haul up the bunt of the sail and where then made fast to the pin so the seamen could go aloft and secure the furled sail to the yard with gaskets. Then the buntlines were let go from the pins and were simply coiled on the pin and not belayed. Buntlines made fast to belaying pins would interfere with the bracing of yards and as a yard was braced (swung) a belayed buntline would cause the sail to rise and on a furled sail a belayed buntline would prevent the yard from moving or cause the buntline to part.

LOOPS OVER COILED LINES.

Once upon a time, I coiled a halyard on a pin and threw a loop over the top of the pin,(like Polly's are now) thinking I'd impress Tor with my new found knowledge but he laughed at me and removed it saying if we get a hurricane in the dock we can tie the coils to the shrouds! After belaying the line, you simply coil it around the pin, that's it, no loops, no half hitches.

Tor Lindqvist told Murray Wenban that when green seas are landing on deck, coils were usually tied to the head high life line with rope yarn and when it was required to hoist and brace yards, the rope yarn was cut. Half hitches or loops over coils on belaying pins did not work when the entire pin rail is virtually awash on the lee side.

The coiling techniques of modern sail training ships do not belong on the pin rails of Polly Woodside.

The buntline at centre is coiled in the traditional and correct method. The belayed buntline on the left is a slur on Polly's authenticity.



Tor made Polly authentic, please let's keep her that way.

Pump House Ponderings

The Pump House and its heritage steam engines, boilers and centrifugal pumps are now controlled by the Dept. of Business & Innovation. Access is still controlled by the MCEC. Over the past 3 months, there have been two occasions on which 2 members of Engineering Heritage Victoria and myself have had access to undertake cleaning and lubrication of the engines, pipework and associated fittings.

The view of the Pump House interior, to passing pedestrians looking through the glass walls of the Pump House enclosure, has been enhanced with the shift of the heritage pipework and other loose artefacts to the top of the boilers, from the upper floor area.

Much of the dried sediment (from last year's flooding) has been cleaned from the metalwork of the machinery and associated pipework. It is hoped that such remedial works can continue to periodically occur in 2014.

The active interest and support of PWVA volunteers and associates is greatly appreciated.

Derek Moore

***Cutty Sark* – The 2006 to 2012 Conservation Project.**

The *Cutty Sark* holds a special place in the heart of British shipping enthusiasts, being one of the finest and fastest examples of a 19th century tea clipper. However, its condition by the late 1990s, after 50 years in dry dock, was so serious that the Cutty Sark Trust ordered a comprehensive survey from Three Quays Marine Services. The survey found that immediate action was needed to prevent the ship from deteriorating beyond repair: 'the wrought iron was actively corroding, had become very thin in places and in others completely rusted away. The timber planking was also found to be in need of attention to prevent further decay.' With no water to provide resistance, the hull of the ship was sagging under its 963 ton weight, and the concern was that she would disintegrate if no measures were taken to stop the deterioration. The Trust drew up a conservation plan to preserve as much original fabric as possible, to use specialised anti-corrosive paints, to restore hull planks, replace supporting struts and cover the ship at the waterline with a glass canopy.

The new *Cutty Sark*

The *Cutty Sark*, then, was to receive a complete makeover. Any plans to refloat the ship on water or to keep it as it was on dry dock struts and props were scrapped.

An architect for the project was appointed, who dreamt up the innovative plan of lifting the ship 3 metres in order to solve the problem of sagging. It would also revolutionise the way in which people looked at the ship, offering the opportunity of passing under, looking up and enjoying her sleek clipper lines from beneath. There was also the commercial attraction of using the space below the ship for restaurants and functions on the dry-dock floor.

To meet these challenges, the Cutty Sark Trust first turned to universities. Portsmouth University carried out tests to reduce corrosion and restore corroded sections where possible. At Greenwich University, its computing and mathematical sciences department developed a programme to test the stresses on wood and metal components during the conservation.

Disaster

Before progress could be really made though, an incident occurred that could have brought the project to a premature end.

On the morning of 21 May 2007 the ship caught fire, and burned for several hours before the London Fire Brigade could bring the flames under control. Fortunately, the ship had been largely dismantled and much of her timberwork was in storage as part of the conservation process. However, the timber planking of the tween deck, which was planned to be reused, was lost in the fire and a small proportion of the hull planks were also damaged. In addition, there was a considerable amount of distortion to the ironwork, mostly limited to the horizontal plating of the tween and main deck.

Resurrection

Structural engineers took over after the fire and a team, led by its conservation engineer devised a plan to strengthen the ship's frame.

The structure consists of 12 metal frames, cradles or bulkheads linked together by a longitudinal connecting metal beam of 500 x 40mm plates at the top just below the tween deck and fixed at the bottom to a newly fabricated keel plate that is bolted to the existing keel throughout the ship.

The frames, are made of horizontal members with internal diagonal tie rods fixed to the keel plate. After the plates had been welded, they were hidden beneath the ship's planking.

When completed, the new skeleton had to be lifted onto supports. These hollow steel compression struts, with a capacity 50 tonnes, were coupled to pivot points located at the end of each of the cradle frames where they protruded through the hull. The lower ends of these external supports were connected to plates cast into the steps of the dry dock.

The dry dock steps, though, had begun to crumble and had to be dug out and strengthened with grouted steel piles before the supports could be connected and the ship lifted. A series of upper ties, or arms, provided lateral wind load restraint; these ties are bolted to reinforced concrete tension piles at the top of the dry dock.

Lifting the ship

The ship was lifted at intermediate frames using 24 cylinder jacks each with a 200 Tonne capacity, one under each node point. The whole process took two days. Consultants AV Technology (AVT) installed a system of 96 strain sensors to monitor loads in the ship's metal frame and the supporting props and tie rods that held up the vessel.

Build by numbers

As the ship was being stripped for restoration, each plank was numbered as it was removed for accurate reconstruction later. Where timber had deteriorated it was replaced with equivalent wood; the intention was to replace like with like where possible.

The tween deck – was rebuilt using new Douglas fir and caulked traditionally with hemp, which was easier to install and maintain because it was forced into place to provide a tight deck. The main deck was of composite construction, with plywood lower layers and new teak upper layer. The original lower rock elm planks and the upper teak planks were repaired and reinstalled on the ship. The original rule was rock elm below the water line and teak above. Elm does not normally survive for long out of water. Rock elm is the hardest and heaviest of all elms. It is very strong and can be comparatively free of knot and other defects.

Tackling corrosion

One of the biggest afflictions from which the old *Cutty Sark* suffered was corrosion. The latest measures to counter this came from specialised primer paints, which provided protection in a marine environment. The paint used was the glass flake epoxy, a special finish coating, were used for the finish. All old work was painted white and all new work became grey.

To prevent the growth of marine organisms that would, over time, slow the ship down, the *Cutty Sark's* bottom was originally sheathed below the waterline with Muntz metal plates laid on layers of felt and bitumen.

However, it was eventually decided to use brass covering because it is more readily available in large quantities. Today's visitors, as they pass under the ship, can still be dazzled by shining brass panels on the ship's bottom, 1200x400x0.6mm thick and fixed on with brass nails.

The glass canopy

The 90 metre long, 20 metre wide, 1,500 square metre curving glass envelope of the glass canopy, slopes away from the ship at an angle of 9°. The height varies from 1.9m above deck level in the middle of the ship to about 2.90m at bow and stern.

The entire construction is self-supporting, and the glass has a bluish solar coating to lessen solar gain and has an appearance of flowing water.

Finally, *Cutty Sark* was re-opened by Her Majesty The Queen on 25th April 2012, almost 55 years after she had first performed this task.

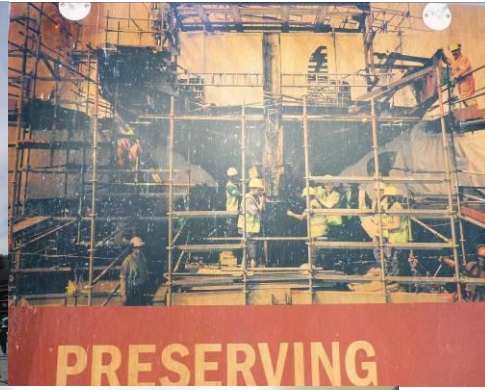
When the ship was built in 1869, her sea-going life was expected to be 30 years; she is now 143. Whenever fortune was going against her, something always turned up. She survived the opening of the Suez Canal, which allowed steam ships to seize the tea trade. When her wool run days to Australia were over, she was turned into a tramp ship, taking any commercial cargo. When she was no longer making money, a

sentimental British Captain bought her and turned her into a training ship, in which role she survived until she became a museum piece at Greenwich.

When a ship survives and her contemporaries cross the bar, such as with *HMS Victory*, *USS Constitution*, *Vasa*, and *Polly Woodside*, public opinion will not let them go. Money is raised; they survive. The current refit of the *Cutty Sark* prolongs her life for just 50 years; then the decision to refit her will start all over again.

Next month I hope to bring you my own experiences of visiting *Cutty Sark*.

Reference:- Lawrie Douglas, 'The Restoration of the Cutty Sark', Engineering & Technology Magazine, Volume 7, Issue 9. 17th September 2012.



May 2007: Six months into the project, a major fire broke



May 2008: The works recommenced on site at the beginning of 2008, and the counter at the stern of the ship was removed for conservation

May 2009: Following conservation, the original wrought iron beams and frames were sealed with a specialist paint system, then wrapped for protection prior to the installation of the deck



May 2010: The majority of original structure returned to the ship including the counter and the pinrails



May 2011: Stern view of the raised ship shortly after the jacking system had been removed

The Dock

● You are here

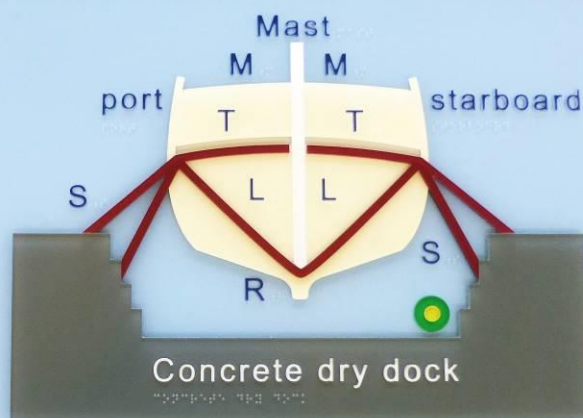
L Lower Hold

M Main Deck

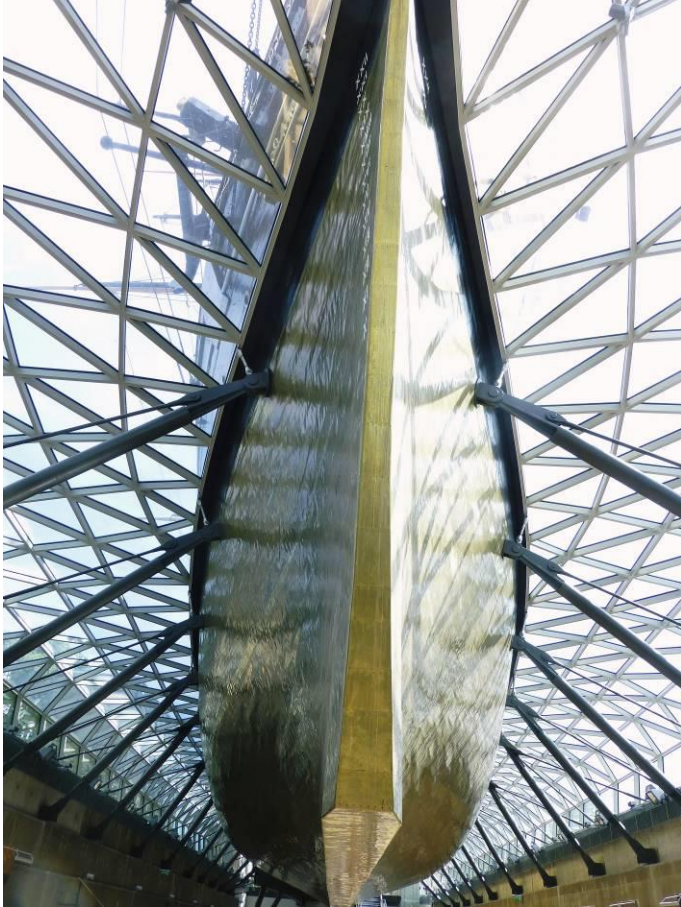
R Raised ship

S Strut

T 'Tween Deck



Cutty Sark now sits over 3m from the floor of the dock, supported by 24 struts and internal steel frames.



Photos:-

- 1 Cutty Sark
- 2 Commencing restoration
- 3 After the fire
- 4 Preparing the Dry-dock floor

- 5 May 2008
- 6 May 2009
- 7 May 2010
- 8 May 2011
- 9 Diagram of the ship supports
- 10 Supports along starboard side
- 11 Starboard side of Cutty Sark
- 12 View of the hull from under the bow

ANNUAL GENERAL MEETING.

Notice is hereby given that the Annual General Meeting of the Polly Woodside Volunteers Association Inc. will be held on Saturday 8th February 2014 in the Function Room (Workshop) at 'Polly Woodside' at 11am.

Please note; 1 There is no free parking at the 'Polly Woodside', however the Car Park east of Mission to Seaman in Flinders Street Extension has parking for \$7 per day, on weekends.

2 If transport is required – contact Neil Thomas on 9802 4608.

Business.

- 1. Confirm the Minutes of the previous Annual General Meeting.
- 2. Presentation of the Treasurer's Report for the preceding financial year.
- 3. Election of Chairperson, Treasurer and ordinary members of the Committee, who resign but are eligible for re-election.
- 4. Receive Chairman's report.

5. Address by Samantha Tait, Chair of the Ship Committee, on development of the site.
6. Address by Trevor Dove, Maintenance co-ordinator.
7. General Business

Voting at the Annual General Meeting.

As per Section 16. (1) (b). of the Rules of the Association: family membership has two votes, providing the immediate family member registers to vote on that day, and prior to the commencement of the meeting.

Note.

- (a) Nominations may be received at the Annual General Meeting.
- (b) **Only** financial members are eligible to vote at the Annual General Meeting.
- (c) The Annual subscription of \$20 is **now payable to the PWVA** for this calendar year i.e. 1st January to 31st December 2014. ***If paying your subscription by cash at the A.G.M., correct money would be appreciated.***

Lunch can be purchased at Boat Builders Yard

Fruit juice, tea and coffee will available at the 'Polly Woodside' at the meeting.

PLEASE NOTE THAT THE 2014 PWVA SUBS ARE DUE. A CHEQUE FOR \$20 MAY BE SENT TO JOHN WROE, 38 ADDISON STREET, ELWOOD 3184. OR MAY BE PAID AT THE AGM.