

## Still in Steam

# Thames Tug 'Challenge'



by  
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When steam tug 'Challenge' was towed up the Thames in 1973 from Gravesend to St Katharine Haven for preservation, she was greeted on the way by a chorus of hoots from almost every ship able to contribute. For the 'Challenge' was – is – a well-respected vessel, and rightly so: not only does she represent probably the peak of steam tug design – tugs built fifteen years later show no important improvements – but she had survived to be the last steam tug in service on the Thames.

The *Challenge* was built in 1931 by Alexander Hall & Co Ltd of Aberdeen, with boiler by Palmer's Shipbuilding and Iron Co Ltd of Hebburn, for the Elliott Steam Tug Co Ltd. Her entire working life was spent on the Thames and she passed through several successive ownerships: Dick & Page, Sun Tugs, London Tugs. She was lying, out of use, at Gravesend from about 1971 and, after long negotiations, was purchased by Taylor Woodrow Group on 29th October, 1973 – about a week before she was due to go for scrap.

Taylor Woodrow was then redeveloping the closed St Katharine's Dock at St Katharine Yacht Haven (see *'Ships Monthly'*, August, 1977 issue) and was forming a collection of historic vessels, connected with the Thames, to be moored there. Total expenditure on purchase, alone, of these amounted, up to 1977, to £110,000.

*The Challenge in service at Gravesend, January, 1968. (Photo – Patrick Taylor)*

The *Challenge* is now an important item in the Taylor Woodrow collection. To describe her as 'still in steam' was not, at the time of writing, strictly accurate: when the writer saw over her in May, last year, she was in process of having most of her boiler tubes replaced.

### Trouble with Boiler Tubes

After arrival at St Katharine Haven, the *Challenge* was successfully steamed in 1974 and cruised out of the dock on to the tideway. Subsequent attempts to raise steam resulted, on each occasion, in a succession of burst boiler tubes so, rather than continue with individual replacements and repairs, the owners took the decision, early in 1977, to replace all 192 plain tubes in the boiler. (There are a further 102 stay tubes.) Quotations for this work ranged as high as £12,000; St Katharine Haven Ltd (the particular component of Taylor Woodrow Group to which the *Challenge* now belongs) reduced the cost to £4,000 by purchasing the tubes itself and having them inserted by boilermakers Fraser & Fraser Ltd of Bromley-by-Bow, London. It is still a substantial undertaking.

In fact everything about the *Challenge's* steam plant is substantial. It is large in proportion to her 100 ft length, though in keeping with the purpose for which she was designed. Her Scotch marine boiler has a capacity of 25 tons of water, and has three furnaces. From the boiler room a narrow passageway leads between oil bunkers (she originally burned coal, but was converted) to the engine room. Here is Alexander

Hall & Co's triple expansion engine, with cylinders of 16½ in, 27 in, and 45 in diameter by 30 in stroke. Starting from cold, it takes about 30 hours to raise steam pressure in the boiler, followed by another couple of hours during which steam is blown through the motionless engine to warm it through.

Controls are perhaps a little less massive than might be expected, particularly a minuscule reversing lever which, however, actuates only a vertical-cylindrical reversing engine which in turn reverses the main engine. The air pump is driven directly by the engine, but other auxiliaries are separate: feed, ballast and condenser circulating pumps along the port side of the engine room, and steam electricity generator on the starboard side. The circulating pump, in particular, is driven by a small vertical, single cylinder steam engine which I suspect must make visiting collectors of such things drool at the mouth!

Elsewhere there are steam windlass in the bows and a steam steering engine immediately aft of the bridge. The bridge itself is open to the elements, in marked contrast to cosy panelled and cushioned accommodation below – the sea cabin in which a pilot, say, might travel and, below that, saloon, pantry, and cabins for skipper and chief engineer. The crew's accommodation in the stern – cots for seven – is starker.

Escalating costs of maintaining and operating a museum piece such as the *Challenge* would nowadays prove daunting to even the most benevolent of commercial undertakings: hence recent appeals, in this magazine and elsewhere, for assistance from volunteers. Response has been good and a nucleus of a dozen regular volunteers has evolved. Two of them were once, respectively, engineer and fireman on the *Challenge* herself. Apart from the engineering work, much repainting has been undertaken.

In the long run, it is intended that the *Challenge* will be open to visits by the public. The sea cabin will probably house a display – photographs, models and so on – of the story of steam tugs and the Thames and, once a month or so, when tides are right, it is hoped that the *Challenge* will be steamed out of the dock and on to the river. ⚓

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