

REPORT OF SURVEY FOR REPAIRS, &c., OF ENGINES AND BOILERS

(Received at London Office - 5 FEB 1947)

Date of writing Report	29.1.47	When handed in at Local Office	19.....	Port of	LIVERPOOL
No. in Survey held at	Liverpool	Date. First Survey	July 11th/46	Last Survey	Jan 27 - 1947
Reg. Book.		(No. of Visits)		Year.	Month.
4369	on the Machinery of the Wood, iron or Steel ss URMSTON GRANGE (ex EMPIRE PIBROCH)				46
Gross	7046	Vessel built at	Pt Glasgow	By whom	Lithgow Ld
Net	4906	Engines made at	Grenock	By whom	Hankin & Blackmore
Nominal Power	544	Boilers, when made (Main)	1942	When	1942 - 11
of Main Boilers	25+	Owners	Houlder Line Ld	(Donkey)	
of Donkey Boilers		Managers	Houlder Bros & Co	Owners' Address	
Max Pressure		If Surveyed Afloat & in Dry Dock	Alexandria + Langton	Port	London
n Main Boilers	220	(State name of Dock.)		Voyage	
n Donkey Boilers				Particulars of Classification	which must be inserted precisely as in Register Book & Supplements.

Last Report No. Port Part LMC New Boilers.

Particulars of Examination and Repairs (if any) Boiler Examination. Docking

Periodical Surveys, when held, must be reported in detail and seriatim in the terms of the Rules. State clearly the cause of Repairs, if any, i.e., in detail, the nature and extent of Examinations and subsequent Repairs. Repairs on account of Damage (the cause of which must be stated) should be separated from Repairs due to other causes; and besides being detailed in the body of the report, should be briefly summarised at the end of the report. State also the dates and initials of any letters respecting this case.

Damage cases where the Surveyor has not made a special damage report he is required to state whether he offered his services for this purpose, and why they were declined None reported

a damage report made by anyone else? If so, by whom? ✓

the Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time? Yes ✓

Donkey " " " "

not, state for what reasons ✓ What parts of the Boilers could not be thus thoroughly examined?

at special means, in the absence of internal examination, were adopted by the Surveyor to assure himself of the thorough efficiency of those parts of each Boiler? ✓

the latest date of internal examination of each boiler P+S (New) 7.1.47, Centre 2.1.47

and ant the Surveyor examine the Safety Valves of the Main Boilers? Yes

the Surveyor examine the Safety Valves of the Donkey Boilers? ✓

the Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? ✓

the Surveyor examine the drain plugs of the Main Boilers? ✓

the Surveyor examine all the mountings of the Main Boilers? ✓

the screw shaft now been drawn and examined? Yes Has it a continuous liner? ✓

shaft now been changed? Yes If so, state reasons Cracked

an approved oil retaining appliance fitted at the after end? No

ern bush Renewed Is electric light and/or power fitted? Yes

the insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms? Yes

Engine parts, when referred to by numbers, should be counted from forward.

Survey is not complete, state what arrangements have been made for its completion and what remains to be done To complete the M.S.

The following items remain to be examined at first opportunity:-

The I.P. and L.P. cylinders, pistons and valves, the crankshaft, the g.s.

and ballast and circulating pumps, and attached pumps.

done.

Attended as reported by Owner's Superintendent after examination of the Boilers on account of wastage.

The Port and Starboard Main Boilers found to have very heavy and extensive corrosion, especially on the tube-plates (round tubes, knuckles, landings and above furnaces), comb. chamber wrapped plates, top plates, furnaces and tubes, also wastage of front tube plates and at leakage at long seams.

In an endeavour to meet an urgent Sea Transport charter, temporary repairs, including hydraulic tests, were carried out to these boilers (CONTINUED)

General Observations, Opinion, and Recommendation:- The Machinery of this vessel is eligible

(State clearly what alteration, if any, is suggested to be made in the existing classification of the vessel's machinery in the Register Book, consequent upon this survey, and also any alteration required to be made in the records of the vessel's machinery, boilers, working pressures, &c.; thus, for example, BS 9,11, B&MS 9,11 ~~±~~LMC 9,11 or ~~±~~LMC 140 lb, FD, &c.)

Opinion to remain as classed, with first record of BS 1.47 now, and LMC 1.47 on completion. Without special condition regarding main injection valve chest.

stem pipes tested 1.47. Screwshaft (c) NEW 12.46.

Note for Register Book:-

VB(P+S)1944 fitted 47. WP = 200 lbs/sq.in. Fitted for oil fuel n. NHP: 512, HS 7716.

Survey Fee (per Section 29) £21 : 0 : 0 Fees applied for

Alterations & Conversions £52 : 10 : 0 31 JAN 1947

Repair Fee (if any) £6 : 10 : 0 Received by me,

Damage or Repair Fee (if any) £6 : 0 : 0

Special Survey £6 : 18 : 9

Surveying expenses (if chargeable) £6 : 18 : 9

Committee's Minute LIVERPOOL

Signed As now without specific conditions

+NB (P) made 43 fitted 47. +NB (S) made 44 fitted 47.

B.S. 1.47. T.S. (N) 12.46.

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on the

URMSTON GRANGE

and to the Centre Boiler.

However in view of delay caused by cracked Seawashift, and the very extensive repair required to the main boiler, the Owners decided to fit two new Boilers.

Two Boilers, built under special survey for the Admiralty in 1944, and unused, were fitted in place of the existing Port and Starboard Boilers, now removed ashore for scrap.

These new boilers are numbered as follows:-

PORT. Cammell Laird & Co No. 2259. Lloyds Test No. 2625. Liv Rpt No. 120674.

STAR. do No. 2264. do No. 2644. Liv Rpt No. 121374.

Reports attached herewith.

The working pressure of these boilers is 200 lbs/inch, and the pressure of the Centre (Auxiliary) boiler reduced to the same pressure to suit.

The CENTRE BOILER examined and found to have some local corrosion of back tube plates, at knockers, on furnaces, and the tubes badly wasted. This boiler removed ashore, repaired as under, refitted and hydraulically tested to 250 lbs/inch.

Repair to centre boiler:-

Wastage on corrugations of all three furnaces in line of bars and on tops now built up by welding.

30 rivets removed on Star. c.c. wrapper landing, seam welded about 5 ft where wasted, rivets renewed.

About 26 rivets removed on port cc wrapper landing, plate built up about 4' 9" where wasted, rivets renewed.

All stay-tubes and all plain tubes renewed.

16 rivets removed from Star. furnace mouth, re-riveted and caulked.

18 stays renewed between Port + centre chamber.

20 stays renewed between Starb. + centre chamber.

Several stays caulked & nuts renewed.

81 air tubes renewed.

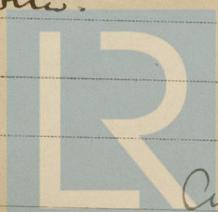
Local welding & caulking as necessary.

Minor repair effected.

This vessel is now fitted for oil burning (see hull report), in accordance with the Rules and the approval plans.

a WallSEND O.F. Duplex unit No. O.B. 8917, and Weir's Transfer Pump No. 206806 (Lloyd's tested) size $7'' \times 6\frac{1}{2}'' \times 5''$ now fitted, and controlled from deck, also a starting-up unit, New furnace fronts fitted to centre boiler.

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on the

URMSTON GRANGE

The oil-pressure pipes (solid drawn steel) fitted and tested to rule requirements.

The fittings on the storage and settling tanks in accordance with the Rules; approval (Malone's) Indicators fitted.

Suitable drip trays and gutters fitted.

The Screen bulkhead between engines & boilers removed.

Funnel damper removed.

A new outer casing for funnel fitted.

Steam heating coils in storage tanks (deep tank & double bottoms) examined under test (twice working pressure) after fitting, and found satisfactory.

An observation tank for fuel heater drains fitted.

Water hydrometers fitted in engine room & boiler room, one connected to A.S. pump, and one to ballast pump.

Steam smothering pipes fitted in boiler room, and tested under working conditions. (Controlled from deck).

A 33 gall. foamite and 8-2 gall. portable extinguisher fitted in Machinery space, also a (12 cu ft) Sand-box in stokehold. All lead pipes in engine room & boiler room, & oil tanks replaced by wrought iron or steel pipes.

The main and auxiliary steam pipes altered or renewed to suit new boilers. New and altered pipes tested to rule requirements, adjacent pipes examined internally.

Pipe line amended to improve drainage on refrigeration steam line, additional drain fitted.

Feed pipe to wing boiler renewed and tested.

New mountings, additional & those supplied, tested and fitted as follows:-

Port & Starb. Boilers: main stop valves,

aux. stop valves,

Water gauge fittings.

Scum valves,

2" G.M. aux. steam to fuel units.

With drain cocks.

An oily-water separator (Ferguson & Simpson 'Victor') supplied and fitted, circulated from ballast pump discharge.

A secondary feed heater supplied & fitted, to work with I.P. steam, and 1" bore supplementary line for working in port. (Max Pressure 100 lb) g.w.t.).

Reducing valves fitted on steam lines to Ballast & Aux. condenser circulating pumps.

G.S. Pump blanked off from bilge main, & main connected to Transfer Pump (See letter 30.9.46)

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URMSTON GRANGE

The Crompton Ash Hoist removed.
Boiler lagging and pipe lagging renewed.

The Vessel placed in dry dock: the propeller and fastenings examined.

The screw shaft drawn and examined: the cone found "chattered" and cracked, + two pieces broken out at aft end of keyway. The propeller bows hammered + slack on cone.

The tube blanked off, vessel undocked, a new screw shaft + propeller made, vessel redocked, the shaft + propeller fitted.

The new screw shaft (continuous liner) marked

LLOYDS
7010
C.P.
3-10-46

See forging report attached.

Stanchions rewooded lower half and outer portion of the top half.

Sea connections examined.

Ash cock (ships side) removed + spigoted blank fitted, riveted + welded.

(S.R.L.) The main injection valve chest replaced by a new chest (tested).

LMC: It was pointed out to the Owner's Superintendent that the vessel was due for special survey, but they did not desire any parts to be specially opened out for survey.

The following items opened out for Owners and examined:-

Examined H.P. cylinder, piston, valves + valve gear.

Thrust and tunnel shafting.

Steering engine.

Windlass.

Main condenser (tested).

Aux. condenser (tested) and its pump.

Sea connections.

Pumping arrangements.

Selected steam + feed pipes tested.

Oil fuel unit + transfer pump.

Main feed pumps.

Dynamo engines

Electric Installation

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URMSTON GRANGE

On completion the main engines and steering engine examined under working conditions with satisfactory results.

The boilers (Main & auxiliary) examined under steam and all safety valves adjusted to 200 lbs/sq inch; and a satisfactory accumulation test held on new boilers.

The oil burning & steam smothering apparatus examined under working conditions.

Machinery Repairs:

H.P. valve gear renewed, valve spindles, levers, pins and bushes renewed. Cams re-cut & adjusted.

Bearings renewed & mechanical lubricator fitted.

L.P. crosshead pins machined, bearing remitted.

L.P. guide shoe remitted.

Main condenser: 5 tubes renewed. Tested.

Main thrust block lifted, & shafting aligned up to crankshaft.

Main feed pumps: after pump valve seat landing machined & seat renewed.

Bucket rod renewed.

Dynamo engine overhauled.

No. 1 & 2 fitted with new piston-valves, bearings adjustt.

All three governor valve spindles renewed.

Reversing & turning engine main steam valves overhauled.

New spindle fitted to Ballast pump overboard discharge valve; & branch line fitted for oily separator.

Main feed pump float control gear overhauled.

Windlass piston rods skimmed & rebushed.

Some caulking, & expanding of tubes, in new boiler after steaming.

Zinc plates & studs fitted to all boilers.

Minor repairs effected.

License checked -

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Electrical Equipment examined started under working conditions. Generators, switchboard, fittings, fuses, cables etc examined. Circuit breakers tested & operated on reverse current. Insulation test carried out. All found satisfactory.

Repairs. Boiler room cleaned, part of engine room revised. Generator cleaned & overhauled. Switchboard overhauled. Wiring throughout vessel examined

& faults made good. Low insulation faults located & repaired.