

REPORT ON MACHINERY

No. 29155

Received at London Office

SAT. 26 FEB. 1916

Date of writing Report 19-2-16 When handed in at Local Office 19. 2. 16 Port of Hull
 No. in Survey held at Hull Date, First Survey 18. 5. 16 Last Survey 17. 2. 19 16
 Reg. Book. 22 on the steel screw tugboat Lord Trevelyan (Number of Plates 55)
 Master Lelby Built at Lelby By whom built Cochrane & Sons Ltd Tonnage { Gross 326
 Engines made at Hull By whom made C. D. Holmes & Co Ltd (No 1110) when made 1916-2 Net 134
 Boilers made at Hull By whom made C. D. Holmes & Co Ltd when made 1916-2 When built 1916-2
 Registered Horse Power 88 Owners Pickering & Haldane Ltd Port belonging to Hull

Nom. Horse Power as per Section 28 88 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks 3

Dia. of Cylinders 13-23-37 Length of Stroke 26 Revs. per minute 114 Dia. of Screw shaft 8 1/2 Material of Iron
 as per rule 7.88 as fitted 8 1/2 screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes Is the after end of the liner made water tight

in the propeller boss yes If the liner is in more than one length are the joints burned yes If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If two

liners are fitted, is the shaft lapped or protected between the liners yes Length of stern tube 35 1/2

Dia. of Tunnel shaft 7.04 as per rule 7.39 Dia. of Crank shaft journals 7 1/2 as per rule 7 1/2 Dia. of Crank pin 7 1/2 Size of Crank webs 4 1/4 x 4 1/2 Dia. of thrust shaft under

collars 7 1/2 Dia. of screw 9-7 1/2 Pitch of Screw 11-0 No. of Blades 4 State whether moveable no Total surface 33 1/2

No. of Feed pumps one Diameter of ditto 2 5/8 Stroke 14 3/4 Can one be overhauled while the other is at work yes

No. of Bilge pumps one Diameter of ditto 2 5/8 Stroke 14 3/4 Can one be overhauled while the other is at work yes

No. of Donkey Engines one & 3 sizes of Pumps 6, 4 1/2 x 6 duplex No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2" dia In Holds, &c. one 2" dia in each compartment

all suction also connected to ejector

No. of Bilge Injections one size 3 1/2 Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size 3" ejector

Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible no

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Discharge Pipes above or below the deep water line above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes

What pipes are carried through the bunkers Forward suction How are they protected wooden casing

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes

Dates of examination of completion of fitting of Sea Connections 2-10-15 of Stern Tube 2-10-15 Screw shaft and Propeller 2-10-15

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Stewarts & Lloyds

Total Heating Surface of Boilers 1440 Is Forced Draft fitted no No. and Description of Boilers one single ended

Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 11-12-15 No. of Certificate 3120

Can each boiler be worked separately yes Area of fire grate in each boiler 48 ft No. and Description of Safety Valves to

each boiler Two Spring loaded Area of each valve 49 in Pressure to which they are adjusted 205 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 7 in Mean dia. of boilers 165 in Length 10-6 Material of shell plates steel

Thickness 1 5/16 Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double

long. seams J.P.B.T. Diameter of rivet holes in long. seams 1 1/32 Pitch of rivets 8 1/8 Lap of plates 18 in width of butt straps 18 in

Per centages of strength of longitudinal joint 87 rivets 85 plate Working pressure of shell by rules 201 Size of manhole in shell 16" x 12"

Size of compensating ring 7" x 1 5/16 No. and Description of Furnaces in each boiler 3 Plain Material steel Outside diameter 40"

Length of plain part 78 1/2 top 69 bottom Thickness of plates 3 1/16 crown 3 1/16 Description of longitudinal joint welded No. of strengthening rings yes

Working pressure of furnace by the rules 206 Combustion chamber plates: Material steel Thickness: Sides 3/4 Back 23/32 Top 3/4 Bottom 3/4

Pitch of stays to ditto: Sides 10" x 8" Back 9 3/4" x 8 3/4" Top 11" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 208

Material of stays steel Diameter at smallest part 2 07 Area supported by each stay 68 in Working pressure by rules 211 End plates in steam space:

Material steel Thickness 1 1/32 Pitch of stays 19" x 17 1/2" How are stays secured 8 in x 4 in Working pressure by rules 210 Material of stays steel

Diameter at smallest part 7 5/8 Area supported by each stay 335 in Working pressure by rules 213 Material of Front plates at bottom steel

Thickness 1 5/16 Material of Lower back plate steel Thickness 1 5/16 Greatest pitch of stays 13 3/4" x 9 9/16" Working pressure of plate by rules 216

Diameter of tubes 3 1/2 Pitch of tubes 4 7/8 Material of tube plates steel Thickness: Front 1 5/16 Back 7/8 Mean pitch of stays 10"

Pitch across wide water spaces 14 Working pressures by rules 275 lbs Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 11" x 1 3/4 Length as per rule 36 218 Distance apart 11 Number and pitch of stays in each Three 8"

Working pressure by rules 208 Superheater or Steam chest; how connected to boiler yes Can the superheater be shut off and the boiler worked

separately yes Diameter yes Length yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet

holes yes Pitch of rivets yes Working pressure of shell by rules yes Diameter of flue yes Material of flue plates yes Thickness yes

If stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness yes How stayed yes

Working pressure of end plates yes Area of safety valves to superheater yes Are they fitted with easing gear yes

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W489-0192

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IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:— *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of air feed & bilge pump valves, two valves for donkey pump, one set of valves & nuts for chuck valves, one impeller shaft, one safety valve spring, top & bottom end bolts for circulating pump (centrifugal) and a quantity of bolts & nuts & nuts of various sizes*

The foregoing is a correct description,

P. PRO CHARLES D. HOLMES & CO. LTD.

David P. Shearman

Manufacturer.

Dates of Survey while building
During progress of work in shops: 1915:— May 18, 21, Jun 3, 15, 21, Jul 12, 20, 23, Aug 10, 13, 16, 19, 25, 29, Sep 7, 14, 18
During erection on board vessel: 1916:— Jan 5, 10, 12, 26, 28, Feb 3, 5, 9, 12, 15, 16, 17
Total No. of visits: 55

Is the approved plan of main boiler forwarded herewith *yes*

Plan returned for signature of Registrar 28/2/16

Dates of Examination of principal parts—Cylinders 16-11-15 Slides 10-1-16 Covers 5-1-16 Pistons 1-1-16 Rods 5-1-16
Connecting rods 5-1-16 Crank shaft 30-12-15 Thrust shaft 10-1-16 Tunnel shafts: ✓ Screw shaft 29-9-15 Propeller 29-9-15
Stern tube 27-9-15 Steam pipes tested 3-2-16 Engine and boiler seatings 2-10-15 Engines holding down bolts 26-1-16
Completion of pumping arrangements 15-2-16 Boilers fixed 3-2-16 Engines tried under steam 15-2-16
Main boiler safety valves adjusted 5-2-16 Thickness of adjusting washers *Both 3/8*

Material of Crank shaft *Iron* Identification Mark on Do. *155/FLS* Material of Thrust shaft *Iron* Identification Mark on Do. *7387 T.J.F*
Material of Tunnel shafts *✓* Identification Marks on Do. Material of Screw shafts *Iron* Identification Marks on Do. *1521 FLS*
Material of Steam Pipes *Solid drawn copper* Test pressure *40 lbs*

Is an installation fitted for burning oil fuel *no* Is the flash point of the oil to be used over 150°F. *✓*

Have the requirements of Section 49 of the Rules been complied with *✓*

Is this machinery duplicate of a previous case *no* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this Society, the materials & workmanship are good, the boiler & steam pipes have been tested as above & found sound & good. The machinery has been properly fitted & secured on board the vessel & on completion was tried under full working conditions & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 2 1/3 lbs. In my opinion the vessel is eligible for the record + L.M.C. 2-16*

It is submitted that this vessel is eligible for THE LLOYD + L.M.C. 2-16

J.W.D. 28/2/16

The amount of Entry Fee ... £ 1 : 0 :
Special ... £ 1/3 : 4 :
Donkey Boiler Fee ... £
Travelling Expenses (if any) £ *2/2*

When applied for, *25/2/1916*

When received, *29.2.1916*

Frank L. Sturgeon

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute TUE 29 FEB. 1916

Assigned *+ L.M.C. 2-16*

MACHINERY CERTIFICATE WRITTEN



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