

REPORT ON MACHINERY.

No. 36328

Date of writing Report 16-9-16 When handed in at Local Office 16-9-16 Port of Glasgow Received at London Office WED. 27 SEP. 1916

No. in Survey held at Glasgow Date, First Survey 19-12-13 Last Survey 15-9-1916

Reg. Book. on the Steel Single Screw 3 Mast Steamer "STEPNEY" (Number of Visits 54)

Master G. R. Garrett Built at Workington By whom built R. Williamson & Co 1916 Tons { Gross Net } when built 1916

Engines made at Coatbridge By whom made Wm Beardmore & Co 1916 when made 1916

Boilers made at Glasgow By whom made D. Rowan & Co 1916 when made 1916

Registered Horse Power 998 Owners Commercial Gas Co Port belonging to Glasgow

Nom. Horse Power as per Section 28 998 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

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

Dia. of Cylinders 14 2 1/2 x 34 Length of Stroke 24 Revs. per minute 49 Dia. of Screw shaft 8 1/4 Material of screw shaft W.S.

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 no 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 no If two liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 3-0

Dia. of Tunnel shaft 7-0 Dia. of Crank shaft journals 4-1/4 Dia. of Crank pin 4-1/4 Size of Crank webs 14 1/4 x 4 1/2 Dia. of thrust shaft under collars 4-1/4 Dia. of screw 10-6 Pitch of Screw 13-6 No. of Blades 4 State whether moveable no Total surface 40.8

No. of Feed pumps 2 Diameter of ditto 2 3/4 Stroke 12 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 2 3/4 Stroke 12 Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 6 x 4 x 6 & 6 x 4 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps in Engine Room 2 - 2 1/4 Eng Room aft & Eng Room fore Holds, &c. 2 - 2 Hold, Port & Starboard

No. of Bilge Injections 1 sizes 3 1/2 Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size yes 2 1/4

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 yes

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

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 none How are they protected none

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 28/4/16 of Stern Tube 28/4/16 Screw shaft and Propeller 28/4/16 (Newcastle Report 9269034 attached)

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

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel The Steel Co of Scotland, Ltd.

Total Heating Surface of Boilers 1900 Forced Draft fitted no No. and Description of Boilers 2 single ended marine

Working Pressure 150 Tested by hydraulic pressure to 360 Date of test 14/9/15 No. of Certificate 13249

Can each boiler be worked separately yes Area of fire grate in each boiler 31.4 No. and Description of Safety Valves to each boiler 1 pair Double Spring Area of each valve 3.9 Pressure to which they are adjusted 155 lbs Are they fitted with casing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean dia. of boilers 36" Length 14' Material of shell plates steel

Thickness 1/2" Range of tensile strength 45,000-50,000 Are the shell plates welded or flanged welded Descrip. of riveting: air seams

long. seams yes Diameter of rivet holes in long. seams 1/4" Pitch of rivets 2" Lap of plates or width of butt straps 1"

Per centages of strength of longitudinal joint 85% Working pressure of shell by rules 150 No. of manhole in shell 1

Size of compensating ring 12" No. and Description of Furnaces on each boiler none Material steel Outside diameter 36"

Length of plain part 14' Thickness of plates 1/2" Description of longitudinal joint air seams No. of strengthening rings 1

Working pressure of surface by the rules 150 Combustion chamber plates: Material steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 1/2"

Pitch of stays to ditto: Sides 12" Back 12" Top 12" If stays are fitted with nuts or riveted heads no Working pressure by rules 150

Material of stays steel Diameter at smallest part 1/2" Area supported by each stay 1.5 Working pressure by rules 150 End plates in steam space: yes

Material steel Thickness 1/2" Pitch of stays 12" How are stays secured by nuts Working pressure by rules 150 Material of stays steel

Diameter at smallest part 1/2" Area supported by each stay 1.5 Working pressure by rules 150 Material of Front plates at bottom steel

Thickness 1/2" Material of Lower back plate steel Thickness 1/2" Greatest pitch of stays 12" Working pressure of plate by rules 150

Diameter of tubes 1 1/2" Pitch of tubes 12" Material of tube plates steel Thickness: Front 1/2" Back 1/2" Mean pitch of stays 12"

Pitch across wide water spaces 12" Working pressures by rules 150 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 12" Length as per rule 12" Distance apart 12" Number and pitch of stays in each 1 12"

Working pressure by rules 150 Superheater or Steam chest; how connected to boiler connected Can the superheater be shut off and the boiler worked separately no

Diameter 1 1/2" Length 12" Thickness of shell plates 1/2" Material steel Description of longitudinal joint air seams Diam. of rivet holes 1/4" Pitch of rivets 2" Working pressure of shell by rules 150 Diameter of flue 1 1/2" Material of flue plates steel Thickness 1/2"

If stiffened with rings no Distance between rings 12" Working pressure by rules 150 End plates: Thickness 1/2" How stayed by stays

Working pressure of end plates 150 Area of safety valves to superheater 1.5 Are they fitted with casing gear no

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

GLASGOW REPORT ATTACHED

VERTICAL DONKEY BOILER— Manufacturers of Steel.

No. *100* Description *Vertical Donkey Boiler*
 Made at *Glasgow* By whom made *Wm R Sheadon* When made *28-9-16* Where fixed *on board*
 Working pressure *150 lbs* tested by hydraulic pressure to *200 lbs* Date of test *28-9-16* No. of Certificate *4022* Fire grate area *15.8.15* Description of Safety *Donkey*
 Valves *2* No. of Safety Valves *2* Area of each *1.5* Pressure to which they are adjusted *150 lbs* Date of adjustment *28-9-16*
 If fitted with casing gear *No* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *18"* Length *10'*
 Material of shell plates *Steel* Thickness *1/2"* Range of tensile strength *30-40 tons* Descrip. of riveting long. seams *Hand*
 Dia. of rivet holes *1/4"* Whether punched or drilled *No* Pitch of rivets *2"* Lap of plating *1"* Per centage of strength of joint *80%* Rivets *Steel* Plates *Steel*
 Working pressure of shell by rules *150 lbs* Thickness of shell crown plates *1/2"* Radius of do. *18"* No. of stays *2* Dia. of stays *1"*
 Diameter of furnace Top *18"* Bottom *18"* Length of furnace *10'* Thickness of furnace plates *1/2"* Description of joint *Hand*
 Working pressure of furnace by rules *150 lbs* Thickness of furnace crown plates *1/2"* Radius of do. *18"* Stayed by *2 stays*
 Diameter of uptake *18"* Thickness of uptake plates *1/2"* Thickness of water tubes *1/2"* Dates of survey *28-9-16*

SPARE GEAR. State the articles supplied:— *2 Gun Rod top end + 2 Gun Rod bottom end bolts + nuts, 2 main bearing bolts + nuts, 1 set of coupling bolts + nuts, 1 set of feed + Bilge pump valves, a quantity of assorted bolts + nuts, some of various sizes.*

The foregoing is a correct description,
WILLIAM BEARDMORE & CO., LIMITED, Manufacturer. *Wm R Sheadon*

Dates of Survey while building: During progress of work in shops *1913 Dec 19-1914 Mar 2-12-27-1915 Mar 26-31 May 17-19-26 Jun 9-17 July 5-20 Aug 5-13-25 Sept 3-5-21-28 Oct 14-19 Nov 19-16*
 During erection on board vessel *Jan 13-26-31 Feb 9-18 Mar 1 April 12-19 May 3-17-25 Jun 5-13-20-26-30 July 6-13-20 Aug 7-9-16-17-18-23-31 Sept 12-14-15*
 Total No. of visits *54* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts: Cylinders *28-7-15* Slides *28-7-15* Covers *28-7-15* Pistons *28-9-16* Rods *28-9-16*
 Connecting rods *28-9-16* Crank shaft *28-7-15* Thrust shaft *13-8-15* Tunnel shafts *none* Screw shaft *6-4-16* Propeller *6-4-16*
 Stern tube *6-4-16* Steam pipes tested *16-8-16* Engine and boiler seatings *7-8-16* Engines holding down bolts *9-9-16*
 Completion of pumping arrangements *14-9-16* Boilers fixed *31-8-16* Engines tried under steam *14-9-16*
 Main boiler safety valves adjusted *12-9-16* Thickness of adjusting washers *1/4" - 3/16" std 9/32" - 1/4"*
 Material of Crank shaft *S* Identification Mark on Do. *4022 13.8.15* Material of Thrust shaft *S* Identification Mark on Do. *4290 6-7-16 7.0*
 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *W. S.* Identification Marks on Do. *4290 6-7-16 7.0*
 Material of Steam Pipes *Copper 3/2 bore 4W. G.* Test pressure *360 lbs per sq. inch.*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery has been built under special survey in accordance with the Rules of the Society, securely fitted on board + tried under steam with satisfactory results.
The machinery of this vessel is eligible, in my opinion to have notification of T.L.M.C 9-16. in red in the Register Book.

Glasgow

SEE GLASGOW REPORT ATTACHED

It is submitted that this vessel is eligible for THE RECORD + LMC 9.16.

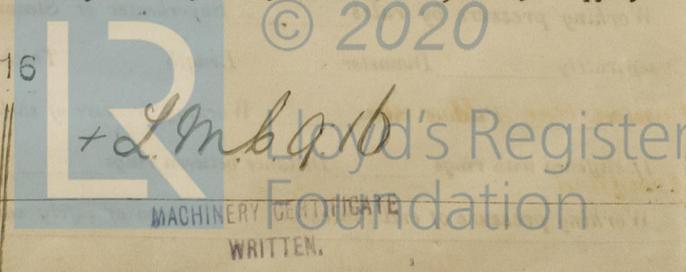
J.W.D.
 28/9/16
Wm. A. Ferguson.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £ 1 : 0 : 9 When applied for.
 Special £ 14 : 18 : 6 26/9/16
 Donkey Boiler Fee £ : : :
 Travelling Expenses (if any) £ 1 : - : 13/11/16

Committee's Minute **GLASGOW** 26 SEP. 1916 TUE. 3-OCT. 1916

Assigned + L.M.C 9.16

Subject to Classification of Hull.



Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

23/9/16