

REPORT ON MACHINERY.

No. 23000

Received at London Office

JUL 27 1910

Date of writing Report 19 When handed in at Local Office 24. 9. 1910 Port of Hull.
 No. in Survey held at Hull Date, First Survey May 4th Last Survey Sep. 20th 1910
 Reg. Book. 18 Supp. on the 5/ Trawler. H. A. L. RUSSELL (Number of Visits 34)
 Master Built at Selby By whom built Cochrane & Sons. Tons { Gross 256
 Engines made at Hull By whom made Amos & Smith when made 5. Net 103.
 Boilers made at 5 By whom made 5 when made 5
 Registered Horse Power Owners Petering & Haldane Steaming & Trawling Port belonging to Hull.
 Nom. Horse Power as per Section 28 80. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 12³/₄ - 22 - 36 Length of Stroke 24 Revs. per minute 114. Dia. of Screw shaft as per rule 7.55 Material of screw shaft Iron
 as fitted 8. 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 bush 2-9
 Dia. of Tunnel shaft as per rule 6.71 Dia. of Crank shaft journals as per rule 7.04 Dia. of Crank pin 7 1/2 Size of Crank webs 4 1/2 x 4 3/4 Dia. of thrust shaft under
 collars 7 1/2 Dia. of screw 9-3 Pitch of Screw 10-9 No. of Blades 4 State whether moveable No. Total surface 31 sq. ft.
 No. of Feed pumps one. Diameter of ditto 27 Stroke 12 Can one be overhauled while the other is at work Yes.
 No. of Bilge pumps one Diameter of ditto 27 Stroke 12 Can one be overhauled while the other is at work Yes.
 No. of Donkey Engines one. Sizes of Pumps 6 x 4 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2-2 (Fore & aft) In Holds, &c. 3-2 (Plush well fish room & fore
 hold. 2 Eyeless suction to all bilges with discharge on deck.
 No. of Bilge Injections 1 sizes 3 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 2 Eyeless
 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.
 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 Hold suction How are they protected Wood 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 22. 7. 10 of Stern Tube 22. 7. 10 Screw shaft and Propeller 22. 7. 10
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes. worked from

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Phoenix & Howard
 Total Heating Surface of Boilers 1320 sq. ft. Is Forced Draft fitted No. No. and Description of Boilers 1 S.E. Multitubular
 Working Pressure 200. Tested by hydraulic pressure to 400. Date of test 22. 8. 10 No. of Certificate 1764.
 Can each boiler be worked separately Yes. Area of fire grate in each boiler 36 sq. ft. No. and Description of Safety Valves to
 each boiler 2 Spring loaded Area of each valve 4.908 sq. in. Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes.
 Smallest distance between boilers or uptakes and bunkers or woodwork 7-0 Mean dia. of boilers 12-9 Length 9-9 1/2 Material of shell plates Steel.
 Thickness 1/2 Range of tensile strength 29-33 Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams SA Lap
 long. seams BA S with Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 7 1/2 Lap of plates or width of butt straps 16 1/2
 Per centages of strength of longitudinal joint rivets 89.5 Working pressure of shell by rules 201. Size of manhole in shell 16 x 12
 plate 85
 Size of compensating ring 40 x 30 x 18 No. and Description of Furnaces in each boiler 2 plain Material Steel. Outside diameter 3-8 1/2
 Length of plain part top 62.5 Thickness of plates crown 13/16 Description of longitudinal joint welded No. of strengthening rings 1
 bottom 60 bottom 13/16
 Working pressure of furnace by the rules 208. Combustion chamber plates: Material Steel. Thickness: Sides 4/16 Back 4/16 Top 4/16 Bottom 7/16
 Pitch of stays to ditto: Sides 9 1/2 x 8 Back 9 x 9 Top 9 1/2 x 8 If stays are fitted with nuts or riveted heads No. Working pressure by rules 202
 Material of stays Steel. Diameter at smallest part 1 1/2 Area supported by each stay 106 sq. in. Working pressure by rules 203 End plates in steam space:
 Material Steel. Thickness 1/8 Pitch of stays 16 1/2 x 16 How are stays secured Not washed Working pressure by rules 226. Material of stays Steel.
 Diameter at smallest part 6/10 Area supported by each stay 226 sq. in. Working pressure by rules 280. Material of Front plates at bottom Steel.
 Thickness 1/2 Material of Lower back plate Steel. Thickness 5/16 Greatest pitch of stays 14 x 9 Working pressure of plate by rules 220
 Diameter of tubes 3 1/2 Pitch of tubes 4 1/2 x 4 3/4 Material of tube plates Steel. Thickness: Front 1/4 Back 3/32 Mean pitch of stays 9 5/8
 Pitch across wide water spaces 14 Working pressures by rules 202 Girders to Chamber tops: Material Steel. Depth and
 thickness of girder at centre 9 1/2 x 1 1/2 Length as per rule 2-11 Distance apart 9 1/2 Number and pitch of stays in each 3 x 8
 Working pressure by rules 198 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked
 separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
 holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with casing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *Two top & two bottom end connecting rod bolts & nuts, two main bearing bolts, one set of coupling bolt & nuts, one set of feed & bilge pump valves, one main & one donkey feed check valve assorted bolts & nuts etc.*

The foregoing is a correct description, **FOR AMOS & SMITH LTD.**

Manufacturer. *W. H. White* Managing Director

Dates of Survey while building

During progress of work in shops	1910 - May 4, 11, 14, 17, 18, 21, 24	June 28, July 14, 12, 15, 19, 22, 25, 28, 30
During erection on board vessel	July 2, 4, 10, 15, 19, 22, 24, 27, 29	Sept 3, 8, 9, 12, 13, 14, 15, 16, 20
Total No. of visits	34	

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

Dates of Examination of principal parts—Cylinders *25.7.10* Slides *22.8.10* Covers *10.8.10* Pistons *4.8.10* Rods *10.8.10*

Connecting rods *19.7.10* Crank shaft *22.8.10* Thrust shaft *22.8.10* Tunnel shafts _____ Screw shaft *14.7.10* Propeller *22.7.10*

Stern tube *14.7.10* Steam pipes tested *13.9.10* Engine and boiler seatings *22.7.10* Engines holding down bolts *8.9.10*

Completion of pumping arrangements *20.9.10* Boilers fixed *15.9.10* Engines tried under steam *15.9.10*

Main boiler safety valves adjusted *15.9.10* Thickness of adjusting washers *S 3/8 P 3/8*

Material of Crank shaft *S* Identification Mark on Do. *676 22.8.10* Material of Thrust shaft *S* Identification Mark on Do. *620 22.8.10*

Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *Iron* Identification Marks on Do. *14.7.10*

Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery & boiler of this vessel have been constructed under Special Survey, are of good material & workmanship & have been fitted & secured on board in accordance with the Rules. They are now in good working condition & eligible in my opinion to have record of T.L.M.C. 9-10 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. T.L.M.C. 9.10

J.W. Gwynne
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

27/9/10

The amount of Entry Fee £ 1 : 0 : 0

Special £ 12 : 0 : 0

Donkey Boiler Fee £ - : - : -

Travelling Expenses (if any) £ - : - : -

When applied for. *26.9.10*

When received. *30.9.10*

Committee's Minute

Assigned *+ L.M.C. 9.10*

Coefficients (if required) to be sent to

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

