

REPORT ON MACHINERY.

Received at London Office

Date of writing Report 20th April 1917 When handed in at Local Office 23 APR 1917 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 4 Apr. '16 Last Survey 20 April 1917
 Reg. Bogn. 31 on the Machinery of the S.S. Hewindon (Number of Visits 38)
 Master Smithson Built at Sunderland By whom built W. Pickens & Sons Ltd Tons { Gross 4240
 Engines made at Sunderland By whom made J. Dickinson & Sons Ltd Net 2665
 Boilers made at " By whom made " When built 1917
 Registered Horse Power " Owners E. Thomas "Rosedcliffe & Co" when made 1917
 Nom. Horse Power as per Section 28 466 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Port belonging to London

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 27", 45", 74" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 14.82 Material of Steel
 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 5'-0"
 Dia. of Tunnel shaft as per rule 13.38 Dia. of Crank shaft journals as per rule 14.05 Dia. of Crank pin 14 1/4" Size of Crank webs Patent Dia. of thrust shaft under
 collars 14 1/4" Dia. of screw 17'-9" Pitch of Screw 17'-0" No. of Blades 4 State whether moveable no Total surface 93' 5"
 No. of Feed pumps 2 Diameter of ditto 7" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 4 Sizes of Pumps 7 3/4" x 9" x 10", 2 of 7 1/2" x 4 1/2" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 of 3 1/2" In Holds, &c. 2 of 3 1/2" in each hold & one
of 3 1/2" in tunnel well.
 No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 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 none
 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 none How are they protected Yes
 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 29/9/16 of Stern Tube 23/2/17 Screw shaft and Propeller 23/2/17
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record S.S.) Manufacturers of Steel J. & Spencer & Sons
 Total Heating Surface of Boilers 7917 Is Forced Draft fitted No No. and Description of Boilers 3 Single-ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 5/2/17 No. of Certificate 3383
 Can each boiler be worked separately Yes Area of fire grate in each boiler 68' 5" No. and Description of Safety Valves to
 each boiler 3 direct spring Area of each valve 8.3" 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 3'-0" Mean dia. of boilers 15'-9 1/8" Length 11'-10 1/2" Material of shell plates Steel
 Thickness 1/32" Range of tensile strength 29 1/4-33 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d.t.c.
 Long. seams E. T. d. C. Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 8 15/16" Top of plates or width of butt straps 19 1/4"
 Percentages of strength of longitudinal joint 92.46 Working pressure of shell by rules 181.5 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 8 5/8" x 1 1/2" No. and Description of Furnaces in each boiler 3 Doughtons Material Steel Outside diameter 50"
 Length of plain part top 19 1/2" Thickness of plates bottom 19 1/2" Description of longitudinal joint welded No. of strengthening rings Yes
 Working pressure of furnace by the rules 188 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 1/8"
 Pitch of stays to ditto: Sides 9" x 9 1/2" Back 8" x 10 3/4" Top 9" x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181 lbs
 Material of stays Steel Diameter at smallest part 2.031" Area supported by each stay 99" Working pressure by rules 186 lbs End plates in steam space:
 Material Steel Thickness 1 3/16" Pitch of stays 18" x 20" How are stays secured d.n.g.w. Working pressure by rules 184 lbs Material of stays Steel
 Diameter at smallest part 6.7" Area supported by each stay 360" Working pressure by rules 194 lbs Material of Front plates at bottom Steel
 Thickness 7/8" Material of Lower back plate Steel Thickness 7/8" Greatest pitch of stays 14 1/4" x 8" Working pressure of plate by rules 197 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 7/8" Back 7/8" Mean pitch of stays 9" x 9"
 Pitch across wide water spaces 14 1/4" Working pressures by rules 248 lbs Girders to Chamber tops: Material Steel Depth and
 Thickness of girder at centre 7 1/2" x 2 1/4" Length as per rule 34 15/16" Distance apart 8 1/2" Number and pitch of stays in each 3 of 9"
 Working pressure by rules 181 lbs Superheater or Steam chest; how connected to boiler none 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
Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes
 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

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two top end & 2 bottom end bolts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of fuel & bilge pump valves, a quantity of assorted bolts nuts & iron, propeller, propeller shaft & minor parts.

The foregoing is a correct description,

W. & A. G. & Sons, Limited.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1916 Apr. 4, 6, 20 Jun 20 Jul 11, 18 Aug 18 Sep 7, 11, 29 Oct 6, 9, 11, 17 Nov 9, 30 Dec 12, 15 Jan 6, 8, 10, 15, 26, 29, 30
{ During erection on board vessel --- } Feb 1, 5, 12, 20, 22, 27 Mar 8, 22, 27, 28 Apr 5, 20
Total No. of visits (38)

Is the approved plan of main boiler forwarded herewith *Yes*
" " " donkey " " " *Yes*

Dates of Examination of principal parts—Cylinders *20/2/17* Slides *15/1/17* Covers *12/12/16* Pistons *12/12/16* Rods *15/12/16*
Connecting rods *15/12/16* Crank shaft *26/1/17* Thrust shaft *1/2/17* Tunnel shafts *22/2/17* Screw shaft *10/1/17* Propeller *12/2/17*
Stern tube *29/1/17* Steam pipes tested *28/3/17* Engine and boiler seatings *23/2/17* Engines holding down bolts *22/3/17*
Completion of pumping arrangements *20/4/17* Boilers fixed *27/2/17* Engines tried under steam *5/4/17*

Main boiler safety valves adjusted *5/4/17* Thickness of adjusting washers *P.F. 9/32 A. 1/4" C. 5 3/16 P. 1/32 S. F. 3/8 A. 9/32*
Material of Crank shaft *Steel* Identification Mark on Do. *22/2/17* Material of Thrust shaft *Steel* Identification Mark on Do. *22/2/17*
Material of Tunnel shafts *Steel* Identification Marks on Do. *22/2/17* Material of Screw shafts *Steel* Identification Marks on Do. *22/2/17*
Material of Steam Pipes *Solid drawn copper* Test pressure *360 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 built under special survey, the materials used are good, and the workmanship is satisfactory, it has been properly fitted on board and secured, and the engines have been tried under steam. In my opinion this vessel is eligible for the record of L.M.C. 4, 17.

It is submitted that this vessel is eligible for THE RECORD. + LMC 4. 17.

J.W.D. 25/4/17

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

The amount of Entry Fee ... £ *3* : : When applied for, *23 APR 1917*
Special ... £ *33* : *6* :
Donkey Boiler Fee ... £ *10* : :
Travelling Expenses (if any) £ : : *26. 4. 17*

Committee's Minute

Assigned

+ L.M.C. 4:17

