

REPORT ON MACHINERY.

No. 26724

Received at London Office FRI. - 9 JUN. 1916

Date of writing Report 2nd June 1916 When handed in at Local Office 7th June 1916 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 25th Feb. '15 Last Survey 8th June 1916
 Reg. Book. 65 Supn the Machinery of the S.S. Tanfield (Number of Visits 2) Gross Tons 1916
 Master By whom built Newcastle By whom built Northumberland S.S. Co. Ltd. When built 1916
 Engines made at Sunderland By whom made Richardsons Westgarth & Co. Ltd. when made 1916
 Boilers made at " By whom made " when made 1916
 Registered Horse Power Owners British India S.N.C. Port belonging to London
 Nom. Horse Power as per Section 28 465 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 27", 45", 74" Length of Stroke 48" Revs. per minute 67 Dia. of Screw shaft as per rule 14.9 Material of Steel
 as fitted 16" 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 ✓ 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 ✓ If two
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 5'-6"
 Dia. of Tunnel shaft as per rule 13.38 Dia. of Crank shaft journals as per rule 14.05 Dia. of Crank pin 15" Size of Crank webs 22½" x 9" Dia. of thrust shaft under
 collars 15" Dia. of screw 18'-0" Pitch of Screw 18'-6" No. of Blades 4 State whether moveable no Total surface 100 f
 No. of Feed pumps 2 Diameter of ditto 3½" Stroke 27" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 27" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 2 of 10" x 11" x 10" & 8" x 5" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 of 3½" In Holds, &c. 2 of 3½" in each hold &
1 of 2½" in tunnel well.
 No. of Bilge Injections 1 sizes 6 Connected to condenser, or to circulating pump pump 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 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 none How are they protected ✓
 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 3/4/16 of Stern Tube 18/4/16 Screw shaft and Propeller 26/4/16
 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) Manufacturers of Steel J. & S. Spencer & Sons
 Total Heating Surface of Boilers 7908 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 28/3/16 No. of Certificate 3331
 Can each boiler be worked separately Yes Area of fire grate in each boiler 63 f No. and Description of Safety Valves to
 each boiler 2 direct spring Area of each valve 8.29 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 5'-0" Mean dia. of boilers 16'-0" Length 11'-6" Material of shell plates Steel
 Thickness 1¼" Range of tensile strength 28.8-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d.t.b.
 long. seams Z.T.d.B. Diameter of rivet holes in long. seams 19/32" Pitch of rivets 8½" Lap of plates or width of butt straps 17"
 Per centages of strength of longitudinal joint 90.23 Working pressure of shell by rules 180.1 lbs Size of manhole in shell 16" x 12"
 plate 84.92 Size of compensating ring flanges No. and Description of Furnaces in each boiler 3. Various Material Steel Outside diameter 49¼"
 Length of plain part top Thickness of plates crown 19/32" Description of longitudinal joint welded No. of strengthening rings ✓
 bottom ✓ Working pressure of furnace by the rules 191.5 lbs Combustion chamber plates: Material Steel Thickness: Sides 1¼" Back 2½" Top 1¼" Bottom 1½"
 Pitch of stays to ditto: Sides 10½" x 8¼" Back 10" x 8" Top 10½" x 8¼" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181 lbs
 Material of stays Steel Diameter at smallest part 1.79 Area supported by each stay 86.6 Working pressure by rules 186 lbs End plates in steam space:
 Material Steel Thickness 17/32" Pitch of stays 21¾" x 16" How are stays secured d. nuts Working pressure by rules 182.5 lbs Material of stays Steel
 Diameter at smallest part 6.09 Area supported by each stay 348 Working pressure by rules 181 lbs Material of Front plates at bottom Steel
 Thickness 27/32" Material of Lower back plate Steel Thickness 27/32" Greatest pitch of stays 13½" Working pressure of plate by rules 188 lbs
 Diameter of tubes 3¼" Pitch of tubes 4½" x 4¼" Material of tube plates Steel Thickness: Front 25/32" Back 25/32" Mean pitch of stays 11"
 Pitch across wide water spaces 14½" Working pressures by rules 184.7 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10" x 13¼" Length as per rule 2'-11½" Distance apart 10½" Number and pitch of stays in each 3 of 8½"
 Working pressure by rules 183 lbs 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 2021 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 ✓

IS A DONKEY BOILER FITTED?

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 feed & bilge pump valves,
a quantity of assorted bolts nuts & washers, propeller, propeller
shaft, bottom end bearing & minor parts.

The foregoing is a correct description,

FOR RICHARDSONS, WESTGARTH & CO., LTD

Frederic H. Russell

Manufacturer.

ASSISTANT MANAGER

Dates of Survey while building { During progress of work in shops -- 1915 Feb 25 Mar 11 15 18 29 Apr 14 22 May 11 19 31 Jun 16 Jan 20 27 28 Feb 9 11 17 18 21 24 29 Mar 27 9
During erection on board vessel -- 14 16 20 23 28 Apr 4 11 18 26 May 2 4 10 12 17 June 8
Total No. of visits (39 +)

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 9/3/16 Slides 28/3/16 Covers 21/2/16 Pistons 9/2/16 Rods 21/2/16
Connecting rods 27/1/16 Crank shaft 2/3/16 Thrust shaft 29/2/16 Tunnel shafts 4/4/16 Screw shaft 18/4/16 Propeller 26/4/16
Stern tube 16/3/16 Steam pipes tested 14/3/16 Engine and boiler seatings 3/4/16 Engines holding down bolts 2/5/16
Completion of pumping arrangements 12/5/16 Boilers fixed 2/5/16 Engines tried under steam 12/5/16
Main boiler safety valves adjusted 12/5/16 Thickness of adjusting washers P.P. 1/16 5 1/16 C.P. 3/16 3 3/16 S.P. 5/16 13 3/16
Material of Crank shaft Steel Identification Mark on Do. 12/5/16 Material of Thrust shaft Steel Identification Mark on Do. 12/5/16
Material of Tunnel shafts Steel Identification Marks on Do. 12/5/16 Material of Screw shafts Steel Identification Marks on Do. 12/5/16
Material of Steam Pipes Copper Test pressure 360 lbs

Is an installation fitted for burning oil fuel

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 full power. In our opinion this vessel is eligible for the record of L.M.C. 6,16.

It is submitted that this vessel is eligible for THE BROOD + LMC 6.16.

The amount of Entry Fee ... £ 3 : : When applied for, - 8 JUN 1916
Special ... £ 43 : 5 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : When received, 19.7.1916 20/7/16

Committee's Minute

Assigned

TUE. 20 JUN. 1916

+ L.M.C. 6.16

MACHINERY EXAMINED
WRITTEN



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Lloyd's Register Foundation

SUNDERLAND.

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