

REPORT ON MACHINERY.

Newcastle Report No. 68530
No. 26604

THU. 20. JAN. 1916
TUE. 7-MAR. 1916

Date of writing Report 19 When handed in at Local Office 19 JAN 1916 Port of Sunderland
Date, First Survey 25 Mar '14 Last Survey 26 July 1916
(Number of Visits 79) Gross 4495 Tons

No. in Survey held at Sunderland
Reg. Book. 25 in Copy on the S.S. Kerry Range

Master Built at Newcastle By whom built Northumberland S. B. Cold When built 1916

Engines made at Sunderland By whom made Richardsons Westgarth Cold when made 1916

Boilers made at D By whom made D when made 1916

Registered Horse Power Owners Turner, Withy Cold Port belonging to Liverpool

Nom. Horse Power as per Section 28 535 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 26-43-73 Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft as per rule 4.7 Material of screw shaft as fitted 1.5

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 5-1/2

Dia. of Tunnel shaft as per rule 13.06 Dia. of Crank shaft journals as per rule 13.71 Dia. of Crank pin 14.2 Size of Crank webs 27/2 x 9 Dia. of thrust shaft under collars 14 Dia. of screw 18.0 Dia Pitch of Screw 17.0 No. of Blades 4 State whether moveable No Total surface 100 sq

No. of Feed pumps 2 Diameter of ditto 8 Stroke 21 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 2 Sizes of Pumps 7 x 11 x 10 rotary No. and size of Suctions connected to both Bilge and Donkey pumps In Holds, &c. two each of 3 1/2" dia in N° 1, 2 & 3 holds

In Engine Room 2 of 3 1/2" & 2 of 3 1/2" in stokehold & one - 3 1/2" in N° 4 hold

No. of Bilge Injections 1 sizes 8 Connected to condenser, or to circulating pump C 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 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 28/9/15 of Stern Tube 7.12.15 Screw shaft and Propeller 7.12.15

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper platform.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Spencer & Sons Ltd. Newburn

Total Heating Surface of Boilers 8060 sq Is Forced Draft fitted Yes No. and Description of Boilers 3 Cylindrical Multi Single E

Working Pressure 180 lbs sq Tested by hydraulic pressure to 360 lbs sq Date of test 1.4.15 No. of Certificate 3293

Can each boiler be worked separately Yes Area of fire grate in each boiler 60 sq No. and Description of Safety Valves to each boiler 2 - Spring loaded Area of each valve 8.3 sq Pressure to which they are adjusted 185 lbs sq Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 3 feet Mean dia. of boilers 15.6 3/16 Length 12'0" Material of shell plates Steel

Thickness 1 1/2 Range of tensile strength 28,9632.0 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R. Lap

long. seams T.R.A.B. steps Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 9" Lap of plates or width of butt straps 17"

Per centages of strength of longitudinal joint rivets 87.4 Working pressure of shell by rules 183 Size of manhole in shell 16" x 12"

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Morison Material steel Outside diameter 4'7 1/2

Length of plain part top 19 bottom 32 Thickness of plates crown 19 bottom 32 Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 191.5 Combustion chamber plates: Material steel Thickness: Sides 3/4 Back 1/2 Top 3/4 Bottom 7/8

Pitch of stays to ditto: Sides 10 1/2 x 10 Back 9 1/2 x 8 9/16 Top 10 1/2 x 10 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 End plates in steam space: Material steel Diameter at smallest part 1.8 Area supported by each stay 105 Working pressure by rules 182 Material of stays steel

Material steel Thickness 1 1/2 Pitch of stays 2 1/4 x 16 How are stays secured d nuts Working pressure by rules 182 Material of Front plates at bottom steel

Diameter at smallest part 6.1 Area supported by each stay 248 Working pressure by rules 182 Material of Front plates at bottom steel

Thickness 25/32 Material of Lower back plate steel Thickness 27/32 Greatest pitch of stays 13 1/2 x 9 1/2 Working pressure of plate by rules 184

Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 1/2 Material of tube plates steel Thickness: Front 25/32 Back 25/32 Mean pitch of stays 10 1/6

Pitch across wide water spaces 14 Working pressures by rules 185 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 1/2 x 1 3/4 Length as per rule 2'5 3/4 Distance apart 10 1/2 Number and pitch of stays in each 2 @ 10"

Working pressure by rules 189 Superheater or Steam chest; how connected to boiler 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

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W228-0141

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 feed and bilge pump valves, H.P. piston ring, a quantity of assorted bolts nuts & iron, spare propeller & propeller shaft & minor details.

The foregoing is a correct description, FOR RICHARDSONS, WESTGARTH & CO., LTD

Ruderic H. Russell

Manufacturer.

ASSISTANT MANAGER

Dates of Survey while building: During progress of work in shops - 1914 Mar 25, Apr 26, May 11, 19, 21, 27, Jun 24, Jul 1, 9, 27, Aug 21, 31, Sep 17, 24, Oct 2, 8, 12, 14, 16, 21, 22, 26, 29, Nov 3, 13, 19, 20, 28; During erection on board vessel - Dec 4, 22, Jan 12, 15, 20, 26, 27, Feb 1, 4, 5, 10, 18, 23, Mar 9, 11, 15, 18, 22, 24, 25, 29, 31, Apr 1, 9, 23, May 11, 17, Jun 22, 24, 29, 30, 1915 Jan 16, 18, 23, 29, Dec 2, 7, 11, 12, 29, 30, 31, Jan 5, 8, 10, 12, 13, 14, 1915 Mar 19, 25, 28, 1916 Feb 15, 26; Total No. of visits (76) + 3

Is the approved plan of main boiler forwarded herewith Yes ✓

Is the approved plan of main boiler forwarded herewith " donkey " " " " ✓

Dates of Examination of principal parts: Cylinders 22.6.15 Slides 22.6.15 Covers 22.6.15 Pistons 22.6.15 Rods 22.6.15 Connecting rods 22.6.15 Crank shaft 17.12.15 Thrust shaft 7.12.15 Tunnel shafts 7.12.15 Screw shaft 7.12.15 Propeller 7.12.15 Stern tube 7.12.15 Steam pipes tested 12.6.15 Engine and boiler seatings 8.10.15 Engines holding down bolts 10.1.16 Completion of pumping arrangements 12.1.16 Boilers fixed 10.1.16 Engines tried under steam 13.1.16 Main boiler safety valves adjusted 13.1.16 Thickness of adjusting washers Port Blk p 2 5 7/16 Centre Blk p 2 5 7/16 Star Blk p 2 5 7/16 Lloyd's 21.09.16 7.1.16 Material of Crank shaft steel Identification Mark on Do. 5591 5.1.14 Material of Thrust shaft steel Identification Mark on Do. 17.12.14 Material of Tunnel shafts Iron Identification Marks on Do. same as Thrust. Material of Screw shafts iron Identification Marks on Do. 25 Material of Steam Pipes wrought iron lap welded ✓ Test pressure 540 lbs sq ✓ 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 Yes ✓ If so, state name of vessel SS. Krasnoiaraki

General Remarks (State quality of workmanship, opinions as to class, &c. To complete the survey, the spare gear requires to be examined. This is to be fitted on board at Newcastle, & the Surveyors have been advised. Also safety valve casing gear to be connected up.

The machinery of this vessel has been built under special survey. The material & workmanship are sound & efficient. The boilers have been tested by hydraulic pressure, & the engines & boilers tried & examined under steam & all found satisfactory.

The machinery is now in a good & safe working condition, & eligible in my opinion to have the record of L.M.C. 2, 16. on completion of survey. The spare gear and safety valve casing have now been examined.

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

J.M. J.W.D. 8/2/16 E. Cooper S. Kent. Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee ... £ 3 : : When applied for, 19. JAN 1916 Special ... £ 46 : 15 : Donkey Boiler Fee ... £ Travelling Expenses (if any) £

Committee's Minute FRI. 10 MAR. 1916 Assigned + L.M.C. 2, 16

SUNDERLAND. Certificate (if required) to be sent to the Surveyors or below the space for Committee's Minute.

MACHINERY CERTIFICATE WRITTEN

