

REPORT ON MACHINERY.

No. 69438

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Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle
Reg. Book.Date, First Survey 19th Aug 1916 Last Survey 7th Nov 1916

on the T.S. "Raranga"

(Number of Plates 125) Gross 7956

Tons Net 5073

Master Built at Newcastle By whom built Sir W. J. Hemmings Whitehead & Co. When built 1916

Engines made at Newcastle By whom made H. E. Maine Eng. Co. No. 2209 when made 1916

Boilers made at Newcastle By whom made when made 1916

Registered Horse Power Owners Shaw Savill & Albion Co. Ltd. Port belonging to

Nom. Horse Power as per Section 28 967 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin Screw Quadruple Expansion No. of Cylinders 8 No. of Cranks 4

Dia. of Cylinders 23"-32"-45"-65" Length of Stroke 48" Revs. per minute 93 Dia. of Screw shaft 13.8" as per rule 14.12" Material of screw shaft 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'-9"

Dia. of Tunnel shaft 13.2" as per rule 12.59" Dia. of Crank shaft journals 13.8" as per rule 14.12" Dia. of Crank pin 14.12" Size of Crank webs 15" x 9 1/4" Dia. of thrust shaft under

collars 14" Dia. of screw 16"-3" Pitch of Screw 17'-6" No. of Blades 4 State whether moveable Yes Total surface 78 sq ft

No. of Feed pumps 2 Dia. of ditto 13 1/2" x 10" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Dia. of ditto 5 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 10" x 12" x 12" + 9 1/2" x 7" x 21" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 - 3 1/2" In Holds, &c. No. 1 hold 2-3 1/2", No. 2 hold 2-3 1/2", No. 3

hold 2-3 1/2", No. 4 hold 2-3 1/2", No. 5 hold 2-3 1/2", No. 6 drain hat 1-2 1/2" Tunnel Well 1-3"

No. of Bilge Injections 2 sizes 10" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 2-3 1/2"

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 Both

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 Sections to feed holds How are they protected Wood casings

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 20-12-15 of Stern Tube 20-12-15 Screw shaft and Propeller 20-12-15

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

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel J. H. Jones & Sons

Total Heating Surface of Boilers 14475 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 5 single-ended

Working Pressure 220 lbs Tested by hydraulic pressure to 440 lbs Date of test 2-24-9-15 No. of Certificate 2-8808

Can each boiler be worked separately Yes Area of fire grate in each boiler 68.25 sq ft No. and Description of Safety Valves to

each boiler Two Spring Area of each valve 9.62 sq in Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers on woodwork 1'-6" Mean dia. of boilers 15'-4 1/16" Length 12'-4" Material of shell plates Steel

Thickness 17/16" Range of tensile strength 29-33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams & Lap

long. seams JBS & Rivet Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10 1/4" Lap of plates or width of butt straps 2 1/4"

Per centages of strength of longitudinal joint rivets 89.2 Working pressure of shell by rules 221 lbs Size of manhole in shell 16" x 12"

Size of compensating ring No. and Description of Furnaces in each boiler 4 - Insular Material Steel Outside diameter 41 3/4"

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

Working pressure of furnace by the rules 225 lbs Combustion chamber plates: Material Steel Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 1 1/16"

Pitch of stays to ditto: Sides 9 3/4" x 8" Back 9" x 7 3/4" Top 9 3/4" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 231 lbs

Material of stays Steel Diameter at smallest part 2-03" Area supported by each stay 70 sq in Working pressure by rules 260 lbs End plates in steam space:

Material Steel Thickness 1 3/8" Pitch of stays 2 1/4" x 1 1/2" How are stays secured In. W. Working pressure by rules 231 lbs Material of stays Steel

Diameter at smallest part 2-62" Area supported by each stay 382 sq in Working pressure by rules 260 lbs Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 15/16" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 231 lbs

Diameter of tubes 3" Pitch of tubes 4 1/4" x 4 1/2" Material of tube plates Steel Thickness: Front 1" Back 7/8" Mean pitch of stays 8 3/8"

Pitch across wide water spaces 13 1/2" Working pressure by rules 224 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9 1/2" x 2" Length as per rule 3-4 1/2" Distance apart 8 3/4" Number and pitch of stays in each 3-8"

Working pressure by rules 222 lbs Superheater or Steam chest; how connected to boiler Schmidt 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 3.14 sq in Are they fitted with easing gear Yes

