

REPORT ON MACHINERY.

Port of Newcastle-on-Tyne

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No. in Survey held at South Shields

Date, first Survey Feb. 15th 1904 Last Survey July 26th 1904

Reg. Book.

on the S.S. ILWEN

(Number of Visits 25)

Tons { Gross
Net
When built 1904

Master Built at South Shields By whom built J. Redhead & Sons

Engines made at South Shields By whom made J. Redhead & Sons when made 1904

Boilers made at South Shields By whom made J. Redhead & Sons when made 1903

Registered Horse Power Owners W. & C. T. Jones Port belonging to Cardiff

Nom. Horse Power as per Section 28 329 Is Refrigerating Machinery fitted No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Tri. Compound No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 25 x 42 x 68 Length of Stroke 45 Revs. per minute 60 Dia. of Screw shaft 1 1/4 Material of screw shaft Iron
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No Liners 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 protected between the liners — Length of stern bush 47"
 Dia. of Tunnel shaft 11.5" Dia. of Crank shaft journals 12.62" Dia. of Crank pin 12 1/4" Size of Crank webs 17 x 8 1/2" Dia. of thrust shaft under collars 12 3/4" Dia. of screw 16.6" Pitch of screw 17.9" No. of blades 4 State whether moveable No Total surface 74.6 sq ft
 No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 3/8" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 13 1/2 x 9 x 13 7 1/2 x 9 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 of 3 1/2" 2 centre 1 star 1 port In Holds, &c. Fore hold two of 3 1/2" Main two of 3 1/2" No. 1 after hold two of 3 1/2" No. 2 after hold two of 3 1/2"
 No. of bilge injections 1 sizes 5 1/2" Connected to condenser or to circulating pump Pump Is a separate donkey suction fitted in Engine room & size Yes 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 Yes
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock New Vessel Is the screw shaft tunnel watertight Yes
 Is it fitted with a watertight door Yes worked from Engine room grating 5240 sq ft

BOILERS, &c.— (Letter for record 2) Total Heating Surface of Boilers 5239.5 sq ft Is forced draft fitted No
 No. and Description of Boilers 3 Single Ended Multitubular Working Pressure 160 Tested by hydraulic pressure to 320
 Date of test 4-6-04 Can each boiler be worked separately Yes Area of fire grate in each boiler 50 sq ft No. and Description of safety valves to each boiler 2 Spring Loaded Area of each valve 7.06 sq in Pressure to which they are adjusted 165 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers on plates and bunkers on woodwork 24" Mean dia. of boilers 13.6 Length 10.6 Material of shell plates Steel
 Thickness 1 1/16 Range of tensile strength 27/32 Are they welded or flanged No Descrip. of riveting: cir. seams D. R. Lap long. seams T. R. D. B. S.
 Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8" Lap of plates or width of butt straps 19 1/2"
 Per centages of strength of longitudinal joint 84.375 Working pressure of shell by rules 164 Size of manhole in shell 12 x 16"
 Size of compensating ring 6" x 1 1/4" No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 3.6"
 Length of plain part — Thickness of plates 15/32 Description of longitudinal joint Welded No. of strengthening rings —
 Working pressure of furnace by the rules 164 Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 7/8"
 Pitch of stays to ditto: Sides 9 x 9 1/4" Back 8 5/8 x 9" Top 8 x 9 1/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 162
 Material of stays Iron Diameter at smallest part 1.99 Area supported by each stay 83 sq in Working pressure by rules 180 lbs End plates in steam space:
 Material Steel Thickness 1 1/4" Pitch of stays 2 1/2 x 2 1/2" How are stays secured D. N. & washers Working pressure by rules 163 Material of stays Steel
 Diameter at smallest part 7.24 Area supported by each stay 451.5 sq in Working pressure by rules 160 Material of Front plates at bottom Steel
 Thickness 3/4" Material of Lower back plate Steel Thickness 1 1/16 Greatest pitch of stays 14 x 8 5/8" Working pressure of plate by rules 233
 Diameter of tubes 3 1/2" Pitch of tubes 4 3/4 x 4 5/8" Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 9 1/2"
 Pitch across wide water spaces 14" Working pressures by rules 162 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 x 1 1/2" Length as per rule 2.5 1/2" Distance apart 9 1/4" Number and pitch of Stays in each Two 8"
 Working pressure by rules 163 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 —



