

REPORT ON MACHINERY.

Port of Sunderland

Received at London 8 APR 1903

No. in Survey held at Sunderland Date, first Survey 20th Nov. 02 Last Survey 27th Feb. 1903
 Reg. Book. S. S. "Jackdaw" (Number of Visits 13)
 24 Supp. on the S. S. "Jackdaw" Tons Gross 250
 Master Goole Built at Goole By whom built Goole Shipbuilding Co When built 1903
 Engines made at Sunderland By whom made North Eastern Mar. Eng. Co, Ltd. when made 1903
 Boilers made at " By whom made " when made 1903
 Registered Horse Power 6.7 Owners Kelwell Bros & Beeching Ltd Port belonging to Hull
 (J. E. C. Kelwell Mgrs)
 Nom. Horse Power as per Section 28 6.7 Is Refrigerating Machinery fitted ✓ Is Electric Light fitted ✓

ENGINES, &c.—Description of Engines Triple expansion Surface Condensing No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 12 1/2 20 33 Length of Stroke 24 Revs. per minute 70 Dia. of Screw shaft as per rule 7.21
as fitted 7 1/4 Lgth. of stern bush 3'-0"
 Dia. of Tunnel shaft as per rule 6.306 Dia. of Crank shaft journals as per rule 6.621 Dia. of Crank pin 6 7/8 Size of Crank webs 1'-1 1/2
as fitted 6 3/8 as fitted 6 7/8 Dia. of thrust shaft under collars 6 7/8 Dia. of screw 9'-0" Pitch of screw 10'-0" No. of blades 4 State whether moveable No Total surface 28 sq
 No. of Feed pumps 1 Diameter of ditto 2 1/2 Stroke 1'-1 1/2 Can one be overhauled while the other is at work ✓
 No. of Bilge pumps 1 Diameter of ditto 2 1/2 Stroke 1'-1 1/2 Can one be overhauled while the other is at work ✓
 No. of Donkey Engines 1 Sizes of Pumps 4" x 2 1/2" x 4 Duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 of 2" In Holds, &c. 1 of 2 1/2"

No. of bilge injections 1 size 3 Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size Yes 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 —
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock Now Is the screw shaft tunnel watertight None
 Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 1158 sq Is forced draft fitted No
 No. and Description of Boilers 1 Ordinary Marine Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs
 Date of test 6-2-03 Can each boiler be worked separately ✓ Area of fire grate in each boiler 32 1/2 sq No. and Description of safety valves to
 each boiler 2 Spring Area of each valve 3.970" Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 11'-5 1/2" Length 9'-6" Material of shell plates S
 Thickness 3/32 Range of tensile strength 29-32 Are they welded or flanged No Descrip. of riveting: cir. seams D. R. L. long. seams D. R. D. B. S.
 Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 6 1/4 Lap of plates or width of butt straps 1'-0 1/2"
 Per centages of strength of longitudinal joint rivets 81.7 Working pressure of shell by rules 181.2 Size of manhole in shell 1'-4" x 1'-0"
 plate 81
 Size of compensating ring 2'-6" x 2'-2" x 3/32 No. and Description of Furnaces in each boiler 2 Plain Material S Outside diameter 3'-4 1/2"
 Length of plain part top 6'-4 1/8" Thickness of plates crown 3/4 Description of longitudinal joint Welded No. of strengthening rings None
bottom 6'-4 1/8"
 Working pressure of furnace by the rules 184 Combustion chamber plates: Material S Thickness: Sides 7/8 Back 1/16 Top 7/8 Bottom 1
 Pitch of stays to ditto: Sides 9 1/4 x 8 Back 9 1/8 x 9 1/8 Top 8 1/4 x 8 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180-5 lbs
 Material of stays S Area at smallest part 1.79 Area supported by each stay 83.260" Working pressure by rules 193 End plates in steam space:
 Material S Thickness 3/32 Pitch of stays 16" x 16" How are stays secured N & W. Working pressure by rules 184 lbs Material of stays S
Area at smallest part 5.06 Area supported by each stay 240" Working pressure by rules 210 lbs Material of Front plates at bottom S
 Thickness 13/16 Material of Lower back plate S Thickness 7/8 Greatest pitch of stays 14 1/2 x 9 1/8 Working pressure of plate by rules 180-3 lbs
 Diameter of tubes 3 Pitch of tubes 4 1/4 x 4 1/8 Material of tube plates S Thickness: Front 13/16 Back 13/16 Mean pitch of stays 8 1/2 x 8 7/8
 Pitch across wide water spaces 14 1/2 Working pressures by rules 211 lbs Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 7 x 1 1/2 Length as per rule 26" Distance apart 8 1/4" Number and pitch of Stays in each 2'-8"
 Working pressure by rules 188 lbs 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 —

If used, state whether, and when, one will be sent

Is a receipt also sent on the basis of the rules



DONKEY BOILER— No. _____ Description *None fitted*

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____

Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of tensile strength _____

Descrip. of riveting long. seams _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____

Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____

Plates _____

Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, coupling bolts & nuts, feed and bilge pump valves, assorted iron, bolts & nuts &c.*

The foregoing is a correct description,

W. W. A. Scatchell Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1902 - Nov. 20. 28. Dec. 1. 5. 8. 17. 1903 - Jan. 14. 29. Feb. 5. 24. 25. 26. 27. { During erection on board vessel - - } Mar. 31. Total No. of visits 13.

Is the approved plan of main boiler forwarded herewith *No.*
" " " donkey " " "

General Remarks (State quality of workmanship, opinions as to class, &c.)

Material of screw shaft *Best scrap iron* 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 *One liner*

The machinery of this vessel has been constructed under special survey, the material and workmanship being good and efficient, and the engines when tried under steam worked satisfactorily.

The pumps, watertight doors and steam steering gear are in efficient working order, and the main steam pipes have been tested by hydraulic pressure to 400 lbs per square inch.

In my opinion this vessel is eligible for the notification in the Register Book of LMC 3-03.

It is submitted that this vessel is eligible for THE RECORD - LMC 3:03

W.S.
8.4.03

The amount of Entry Fee... £ 1: : When applied for, 20. 3. 03
Special ... £ 10: 1: :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : When received, 23. 5. 03

Pat. Salmon
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute THUR. 9 APL 1903
Assigned *ALMC 303*

ENTRY CERTIFICATE WRITTEN



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Sunderland.

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