

REPORT ON MACHINERY.

Port of Sunderland

Received at London Office THUR. 12 APR. 1900

No. in Survey held at Sunderland

Date, first Survey 20th March 1899 Last Survey 3rd April 1900

g. Books. Sup on the Steel S. S. Monkwood

(Number of Visits 33)

Tons { Gross 1141
Net 715

Master G. Swan Built at Sunderland By whom built J. Blumer & Co

When built 1900

Machinery made at Sunderland By whom made J. Dickinson & Sons Ltd

when made 1900

Boilers made at Sunderland By whom made J. Dickinson & Sons Ltd

when made 1900

Registered Horse Power _____ Owners Steam Colliers Ltd Port belonging to London

Net Horse Power as per Section 28 179

Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Tri-Compound No. of Cylinders 3 No. of Cranks 3

Diameter of Cylinders 20" 32 1/2" 53" Length of Stroke 36" Revolutions per minute 72 Diameter of Screw shaft 9 1/4" as per rule 10" as fitted

Diameter of Tunnel shaft 8 1/2" as fitted 9 1/2" Diameter of Crank shaft journals 10" Diameter of Crank pin 10" Size of Crank webs Patent

Diameter of screw 14'-0" Pitch of screw 16'-0" No. of blades 4 State whether moveable f Total surface 65 sq ft

No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 5 1/4" 3 1/2" 5 1/2" 10" 12" 10" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 4 of 2" S. D. S. 4" In Holds, &c. N^o 1. 2 of 2" N^o 2. 2 of 2" 4 of 2 1/2"

A. Well 2 1/2"

No. of bilge injections 1 sizes 4" Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size Yes

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 ✓

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 top platform

BOILERS, &c.— (Letter for record A) Total Heating Surface of Boilers 2860 sq ft Is forced draft fitted No.

No. and Description of Boilers 2 byl del mult S ends Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs

Date of test 6-3-00 Can each boiler be worked separately Yes Area of fire grate in each boiler 43 sq ft No. and Description of safety valves to each boiler 2 Spring

Area of each valve 5.9 sq ft Pressure to which they are adjusted 165 lbs Are they fitted with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 15" Mean diameter of boilers 12' 7 1/2"

Length 10' 3" Material of shell plates S Thickness 3/32" Description of riveting: circum. seams d. T. lap long. seams J. R. D. butt

Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7 7/16" Lap of plates or width of butt straps 15 7/8"

Per centages of strength of longitudinal joint rivets 85.72 plate 91.52 Working pressure of shell by rules 161 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 8 1/8" x 3/32" No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 36"

Length of plain part top 6'-6" bottom 6'-11" Thickness of plates crown 1/16" bottom 1/16" Description of longitudinal joint welded No. of strengthening rings ✓

Working pressure of furnace by the rules 168 lbs Combustion chamber plates: Material S Thickness: Sides 5/8" Back 5/8" Top 9/8" Bottom 1"

Pitch of stays to ditto: Sides 9/8 x 9" Back 9/8 x 8" Top 9/8 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 176 lbs

Material of stays J Diameter at smallest part 2.08" Area supported by each stay 82.125 Working pressure by rules 189 lbs End plates in steam space: Material S Thickness 1 1/16" Pitch of stays 18 1/4 x 18" How are stays secured d. nuts Working pressure by rules 163 lbs Material of stays J

Diameter at smallest part 7.22 Area supported by each stay 328 1/2 Working pressure by rules 165 lbs Material of Front plates at bottom S

Thickness 3/32" Material of Lower back plate S Thickness 1/16" Greatest pitch of stays 12" Working pressure of plate by rules 268 lbs

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 1/2" Material of tube plates S Thickness: Front 3/32" Back 3/4" Mean pitch of stays 9"

Pitch across wide water spaces 14 1/4" Working pressures by rules 166 lbs Girders to Chamber tops: Material S Depth and thickness of girder at centre 6 1/4 x 2" Length as per rule 28 1/2" Distance apart 8 1/2" Number and pitch of Stays in each 2 of 9/8"

Working pressure by rules 166 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 _____ 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 _____



DONKEY BOILER— Description *Vertical with x tubes*
 Made at *Stockton* By whom made *Sudron & Co. Ltd* When made *29.9.99* Where fixed *Stokehold*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *2063* Fire grate area *16 sq* Description of safety valves *direct spring*
 No. of safety valves *2* Area of each *3.14* Pressure to which they are adjusted *80 lbs* If fitted with casing gear *Yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *5'-0"* Length *10'-0"* Material of shell plates *S* Thickness *3/8"*
 Description of riveting long. seams *d. r. lap* Diameter of rivet holes *13/16"* Whether punched or drilled *p* Pitch of rivets *2 3/4"*
 Lap of plating *1/4"* Per centage of strength of joint *84* Rivets *84* Thickness of shell crown plates *15/32"* Radius of do. *5 ft* No. of Stays to do. *5*
 Dia. of stays. *1 5/8"* Diameter of furnace Top *3'-11 1/2"* Bottom *4'-4 1/2"* Length of furnace *4'-0"* Thickness of furnace plates *1/2"* Description of joint *lap* Thickness of furnace crown plates *5/2"* Stayed by *as above* Working pressure of shell by rules *86 lb*
 Working pressure of furnace by rules *98 lbs* Diameter of uptake *11"* Thickness of uptake plates *3/8"* Thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *Top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set of coupling bolts feed and bilge pump valves, bolts, nuts, and iron assorted, propeller etc.*

The foregoing is a correct description,

John Richardson & Sons, Limited.

Manufacturer. *of main engines & boilers*

Dates of Survey while building
 During progress of work in shops— *1899. - March 20. 23. 24. 27. April 8. 20. May 1. 4. 12. 15. 30. June 5. 7. 14. 23. 26.*
 During erection on board vessel— *30. July 25. 27. Nov. 3. 17. 1900. - Jan. 9. 26. Feb. 6. March 1. 6. 14. 19. 21. 28. April 2. 3.*
 Total No. of visits *33*

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

ENGINES—Length of stern bush *3'-6"* Diameter of crank shaft journals *9.4"* as per rule. *10"* as fitted. Diameter of thrust shaft under collars *10"*

BOILERS—Range of tensile strength *27-32* Are they welded or flanged ends *DONKEY BOILERS—No. 1* Range of tensile strength *27-32*

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

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 satisfactory. The main steam pipes have been tested by hydraulic pressure to 400 lbs per square inch, and the pumps and watertight doors are in efficient working order. The Steam Steering Gear and its connections are in good working order.

In my opinion this vessel is eligible for the notification in the Register Book of *L. M. C. 4-1900*

It is submitted that this vessel is eligible for THE RECORD. *L.M.C. 4.00.*

b.m.r.d.
12.4.00.

J.S.
12.4.00

The amount of Entry Fee. £ *2: 0:* When applied for, *11.4.00*
 Special £ *26: 17:* When received, *23.00*
 Donkey Boiler Fee £ *19:* *21.4.00*
 Travelling Expenses (if any) £

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

Committee's Minute

TUES. 17 APR 1900

Assigned

+ L.M.C. 4.00



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MAKING CERTIFICATE WRITTEN.

Sunderland.

Certificate (if required) to be sent to on or before the date for Committee's Minute.