

REPORT ON MACHINERY.

Port of *Sunderland.*

MUN 14 AUG 1899

Survey held at *Sunderland* Date, first Survey *26th July 1898* Last Survey *10th July 1899*
 Book. *Sunderland* (Number of Visits *49*)
 up on the *Screw Steamer "Ormsley"* Tons { Gross *4158* Net *2430*
 ter *J. W. Trebbe.* Built at *Stockton* By whom built *Craig Taylor Hoy* When built *1899*
 nes made at *Sunderland* By whom made *W. Allan Hoy Ltd* when made *1899*
 ers made at *"* By whom made *"* when made *1899*
 stered Horse Power *"* Owners *North of Ireland S.S. Coy Ltd* Port belonging to *Belfast.*
 Horse Power as per Section 28 *359* (W.P. Rec *1899*) Is Electric Light fitted *No.*

INES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*
 Diameter of Cylinders *23 1/2 - 38 1/2 - 68"* Length of Stroke *48"* Revolutions per minute *65* Diameter of Screw shaft *as per rule 13.29*
 Diameter of Tunnel shaft *as fitted 12"* Diameter of Crank shaft journals *13* Diameter of Crank pin *13* Size of Crank webs *19" x 8 1/2"*
 Diameter of screw *14-0"* Pitch of screw *17-0"* No. of blades *4* State whether moveable *f* Total surface *85 #*
 of Feed pumps *2* Diameter of ditto *3 1/2"* Stroke *27"* Can one be overhauled while the other is at work *Yes*
 of Bilge pumps *2* Diameter of ditto *3 1/2"* Stroke *27"* Can one be overhauled while the other is at work *Yes*
 of Donkey Engines *2* Sizes of Pumps *10 1/2 x 11 7 1/2 x 3 1/2 x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room *P. 2 of 3 1/2 S. 2 of 3 1/2* In. Holds, &c. *2 of 3 1/2" in each hold*
 Hold & Lumber well *3 1/2"*
 of bilge injections *1* sizes *5"* Connected to condenser, or to circulating pump *CR* Is a separate donkey suction fitted in Engine room & size *Yes 4"*
 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*
 all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Both*
 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*
 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*
 at pipes are carried through the bunkers *none* How are they protected *✓*
 all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*
 the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *Yes*
 were stern tube, propeller, screw shaft, and all connections examined in dry dock *Inspected* Is the screw shaft tunnel watertight *Yes*
 fitted with a watertight door *Yes* worked from *Top Platform*

ERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *5440 #* Is forced draft fitted *No*
 and Description of Boilers *3 Cyl. Sing. ended* Working Pressure *200 lbs* Tested by hydraulic pressure to *400 lbs*
 of test *2/3/99* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *47 #* No. and Description of safety valves to
 boiler *2 direct Spring* Area of each valve *4.9 sq* Pressure to which they are adjusted *205 lbs* Are they fitted
 easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *2-0"* Mean diameter of boilers *13-3 3/8"*
 with *10-6"* Material of shell plates *S* Thickness *1 3/16"* Description of riveting: circum. seams *D.R. Lap.* long. seams *J.R. Butt*
 Diameter of rivet holes in long. seams *1 3/16"* Pitch of rivets *8"* Lap of plates or width of butt straps *16"*
 Percentages of strength of longitudinal joint *86.7* Working pressure of shell by rules *204 lbs* Size of manhole in shell *16 x 12*
 of compensating ring *flanged* No. and Description of Furnaces in each boiler *3 Furnel* Material *S* Outside diameter *3-6"*
 Height of plain part *3.9"* Thickness of plates *3 9/16"* Description of longitudinal joint *Welded* No. of strengthening rings *✓*
 Working pressure of furnace by the rules *210 lbs* Combustion chamber plates: Material *S* Thickness: Sides *1/16"* Back *1/16"* Top *1/16"* Bottom *3/4"*
 Height of stays to ditto: Sides *8 1/2 x 9 3/8"* Back *8 1/2 x 9 1/2"* Top *8 1/2 x 9"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *201 lbs*
 Material of stays *S* Diameter at smallest part *1.79 sq* Area supported by each stay *81 sq* Working pressure by rules *200 lbs* End plates in steam space:
 Material *S* Thickness *1 1/4"* Pitch of stays *18 x 19"* How are stays secured *d. nuts* Working pressure by rules *204 lbs* Material of stays *S*
 Diameter at smallest part *3.06* Area supported by each stay *342 sq* Working pressure by rules *212 lbs* Material of Front plates at bottom *S*
 Thickness *1 3/16"* Material of Lower back plate *S* Thickness *3/4"* Greatest pitch of stays *18 1/4"* Working pressure of plate by rules *306 lbs*
 Diameter of tubes *3 1/16"* Pitch of tubes *4 x 4 3/8"* Material of tube plates *S* Thickness: Front *1 1/16"* Back *1 1/16"* Mean pitch of stays *13 1/8 x 8"*
 Distance across wide water spaces *14"* Working pressures by rules *231 lbs* Girders to Chamber tops: Material *S* Depth and
 Thickness of girder at centre *9 1/8 x 1 1/2"* Length as per rule *30"* Distance apart *9"* Number and pitch of Stays in each *2 of 8 1/2"*
 Working pressure by rules *219 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
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 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 *None*

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 casing gear _____ If steam from main boilers can enter the donkey boiler _____
Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
Description of riveting long. seams _____ Diameter 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. _____
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:— *Spare gear supplied in accordance with the Rules, & in addition Spare propeller & propeller shaft*

The foregoing is a correct description,

WILLIAM ALLAN & Co., LIMITED,

Manufacturer. *of Engines & Boilers.*

Henry James
Dates of Survey while building
During progress of work in shops— *1898 Oct 4, 7, 10, 13, 22, Nov. 8, 10, 16, 21, 25, 29, Dec. 2, 6, 8, 12, 15, 21, 23, 1899 Jan 5, 9, 11, 18, 19, 23, 25, 27, 31 Feb 2, 8, 9, 13, 15, 17, 21, March 2, 7, 16, 24, May 26 June 2, 7, 24, 26, 29, July 3, 4, 7, 8, 10,*
During erection on board vessel— *5, 9, 11, 18, 19, 23, 25, 27, 31 Feb 2, 8, 9, 13, 15, 17, 21, March 2, 7, 16, 24, May 26 June 2, 7, 24, 26, 29, July 3, 4, 7, 8, 10,*
Total No. of visits *49*

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

ENGINES—Length of stern bush *4-9* Diameter of crank shaft journals *as per rule 12.67* Diameter of thrust shaft under collars *13*

BOILERS—Range of tensile strength *29-32* Are they welded or flanged *Both* DONKEY BOILERS—No. _____ Range of tensile strength _____

Is the approved plan of main boiler forwarded herewith *No Duplicate of Mayflower* Is the approved plan of donkey boiler forwarded herewith _____

Machinery & Boilers constructed under Special Survey Materials & workmanship good & efficient. Steam pipes & stop valves tested by hydraulic pressure to 400 lbs per sq. & found sound. Engines & boilers examined under steam & found satisfactory. In my opinion this vessel will be eligible for the Record in the Register Book + L.M.C. 7/99, when the Survey has been completed, pumping arrangements to hold & funnel fitted. & Water tight door & fittings completed.

The Survey has now been Completed as required above, and I concur in the recommendation of Class A. J. Howell.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 7-99.

The amount of Entry Fee. £ 3 : 0 :
Special .. £ 37 : 19 :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When applied for, *13.7.99*
When received, *18/8/99*

J. W. Sillmore
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *TUES. 15 AUG 1899*

CHINESE CERTIFICATE WRITTEN

Assigned

+ 2 May 99



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