

REPORT ON MACHINERY.

Port of Glasgow

RECEIVED 19 DEC 1905

Received at London Office 19

No. in Survey held at Irvine & Paisley Date, first Survey 3rd March Last Survey 12th Dec 1905

Reg. Book. S.S. "Yewes" (Number of Visits)

Master James Built at Paisley By whom built Fullerton & Co When built 1905

Engines made at Irvine By whom made Renfrew Bros & Co when made 1905

Boilers made at Paisley By whom made A. F. Craig & Co Ltd when made 1905

Registered Horse Power _____ Owner Frontier Line S.S. Co Ltd Port belonging to Newry

Nom. Horse Power as per Section 28 67 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Compound Surface Condensing Cylinders Two No. of Cranks 2
 Dia. of Cylinders 16 3/4" Length of Stroke 24 Revs. per minute 115 Dia. of Screw shaft as per rule 7 3/4" Material of screw shaft 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 for protected between the liners ✓ Length of stern bush 31"
 Dia. of Thrust shaft as per rule 6 9/16" Dia. of Crank shaft journals as per rule 7 1/8" Dia. of Crank pin 7 1/2" Size of Crank webs 1 1/2 x 3/4" Dia. of thrust shaft under collars 7 1/4" Dia. of screw 8-6 Pitch of screw 10-3" No. of blades 4 State whether moveable yes Total surface 24 sq ft.
 No. of Feed pumps one Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work ✓
 No. of Bilge pumps one Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work ✓
 No. of Donkey Engines one Sizes of Pumps 5 1/2" 3 1/2" 5" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room one 2" diameter In Holds, &c. Two 2" diameter

No. of bilge injections 1 sizes 3" Connected to condenser, or to circulating pump no 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 for peak & hold bilge How are they protected Hood boxing
 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 before launch the screw shaft tunnel watertight no
 Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—No. of Certificate 7795 (Letter for record S) Total Heating Surface of Boilers 13000 Is forced draft fitted No
 No. and Description of Boilers One Single Ended Working Pressure 130 lbs Tested by hydraulic pressure to 260 lbs
 Date of test 5/11/05 Can each boiler be worked separately ✓ Area of fire grate in each boiler 40 sq ft No. and Description of safety valves to each boiler no direct spring Area of each valve 5.94 sq in Pressure to which they are adjusted 135 lbs per sq in Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 48" Mean dia. of boilers 12-0 Length 10-9 Material of shell plates Steel
 Thickness 7/16" Range of tensile strength 28-32 Are they welded or flanged no Descrip. of riveting: cir. seams DR Lap long. seams D.B.S.
 Diameter of rivet holes in long. seams 15/16" Pitch of rivets 5 1/2" Lap of plates or width of butt straps 11 3/4"
 Per centages of strength of longitudinal joint rivets 91.5 Working pressure of shell by rules 135 lbs Size of manhole in shell 16" x 12" plate 85.18
 Size of compensating ring 7" x 4 9/16" No. and Description of Furnaces in each boiler no, plain Material Steel Outside diameter 42"
 Length of plain part top 7 1/2" Thickness of plates crown 5/8" Description of longitudinal joint Welded No. of strengthening rings one partial bottom 106
 Working pressure of furnace by the rules 133 Combustion chamber plates: Material Steel Thickness: Sides 19/32" Back 19/32" Top 19/32" Bottom 7/16"
 Pitch of stays to ditto: Sides 9 x 10" Back 9 1/2 x 9 1/2" Top 9 x 9 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 135
 Material of stays Steel Diameter at smallest part 1 1/8" Area supported by each stay 90 sq in Working pressure by rules 132 End plates in steam space: Material Steel Thickness 7/8" Pitch of stays 17 x 16" How are stays secured D. nuts Working pressure by rules 133 lbs Material of stays Steel
 Diameter at smallest part 3.85 sq in Area supported by each stay 272 sq in Working pressure by rules 140 Material of Front plates at bottom Steel
 Thickness 7/16" Material of Lower back plate Steel Thickness 5/8" Greatest pitch of stays 1 1/4" Working pressure of plate by rules 130
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" Material of tube plates Steel Thickness: Front 7/16" Back 7/16" Mean pitch of stays 11 1/4"
 Pitch across wide water spaces 1 1/4" Working pressures by rules 130 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/2" x 1" Length as per rule 25 1/2" Distance apart 9 1/4" Number and pitch of Stays in each no, 9"
 Working pressure by rules 135 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 _____
 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— No. Description *None*

Made at _____ By whom made _____ Date of test _____ 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. _____

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 piston rods and two connecting rods bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts and nuts, one set of feed & one set of bilge pump valves, 2 propeller blades, a quantity of assorted bolts & nuts and a few bars of iron.*

The foregoing is a correct description,

Reynolds Bros & Co Manufacturer.

Dates of Survey while building	During progress of work in shops - -	Apr 3 10 Apr 11 17 22 26 May 2 9 12 21 June 6 11 16 20 27 29 28	Is the approved plan of main boiler forwarded herewith <i>Yes</i>	
		During erection on board vessel - -		July 5 11 20 27 Aug 4 6 31 Sep 7 14 Oct 2 9 22 29 Nov 2 10 16 24
				Total No. of visits <i>40</i>

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been built under special survey. The materials and workmanship are of good quality and on completion the machinery was tried under steam and found to work satisfactory & very fitted aft.*

*The machinery of this vessel is now in our opinion eligible for record of **C 12-05** (mixed) in register book.*

Forging report of shafting was attached.

It is submitted that this vessel is eligible for **THE RECORD C 12.05.**

19.12.05
19.12.05

The amount of Entry Fee. . . £ : :
 Special £ 10 : :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : : 14 :

13/106
George Sturrock & H. Gardner Smith
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *Glasgow* 18 DEC 1905
 Assigned *+ L.M.C. 12.05.*

