

## REPORT ON MACHINERY.

No. 23365

Port of *Glasgow*

Received at London Office

1905 DEC 19

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

1905

(Number of Visits)

on the *S.S. "Yew"*

Master

Built at *Paisley*By whom built *Fullerton & Co*

Gross

Tons

Net

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, &amp;c.—Description of Engines

*Compound Surface Condensing*Cylinders *Two*No. of Cranks *2*Dia. of Cylinders *16 & 3 1/4"*Length of Stroke *24*Revs. per minute *115*

Dia. of Screw shaft

as per rule *7 3/4"*Material of *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 1/4"*Size of Crank webs *14 1/2 x 3 1/4"*

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 *yes*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 *none*Is it fitted with a watertight door *✓*worked from *✓*BOILERS, &c.—No. of Certificate *7796*(Letter for record *S*)Total Heating Surface of Boilers *13000 sq. ft.*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 *5/10/05*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 *one 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 *10-0"*Material of shell plates *Steel*Thickness *7/16"*Range of tensile strength *2832*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%*plate *85.18%*Working pressure of shell by rules *135 lbs*Size of manhole in shell *16" x 12"*Size of compensating ring *7" x 4 9/16"*No. and Description of Furnaces in each boiler *Two, plain*Material *Steel*Outside diameter *42"*

Length of plain part

top *7 1/8"*

Thickness of plates

crown *5/8"*Description of longitudinal joint *Welded*No. of strengthening rings *one partial*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 *14"*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 *14"*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 *138 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— 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 rod 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,

*Reuben Ross & Co.*

Manufacturer.

Dates of Survey while building { During progress of work in shops - - *Apr. 3. 10. Apr. 11. 14. 22. 26. May 2. 4. 12. 21. June 6. 11. 16. 20. 27. 29. 28*  
During erection on board vessel - - *July 1. 11. 20. 27. Aug. 4. 6. 31. Sep. 9. 19. Oct. 2. 9. 22. 27. Nov. 2. 10. 16. 24. 27. 29. Dec. 4. 12*  
Total No. of visits *40* Is the approved plan of main boiler forwarded herewith *Yes*

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 workman-  
ship are of good quality and on completion the machinery was  
tried under steam and found to work satisfactory  
Mchy fitted aft.*

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

*Forging report of shafting now attached.*

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

*19.12.05*  
*19.12.05*

The amount of Entry Fee. . . £ : : When applied for, *8 DEC 1905*  
Special . . . . . £ *10* : :  
Donkey Boiler Fee . . . . . £ : : When received, *12.11.05*  
Travelling Expenses (if any) £ *2* : *14* : *19*

Committee's Minute *Glasgow 18 DEC 1905*

Assigned *+ L.M.C. 12.05.*

MACHINERY CERTIFICATE  
WRITTEN *19.12.05*



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Foundation