

## REPORT ON MACHINERY.

No. 26752

Port of Glasgow

Received at London Office

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No. in Survey held at Govan Date, first Survey 21<sup>st</sup> Nov<sup>r</sup> 1907 Last Survey 5<sup>th</sup> March 1908  
 Reg. Book. on the S.S. Fosca (Number of Visits 10)  
 Master Built at By whom built Tons { Gross  
 Engines made at Troon By whom made Ailsa S.B. & Engineering Co<sup>s</sup> (No. 11) when made 1908  
 Boilers made at Govan By whom made Lindsay Burnett & Co<sup>s</sup> (No. 1166) when made 1908  
 Registered Horse Power Owners Port belonging to  
 Nom. Horse Power as per Section 28 90 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Description of Engines See separate report No. of Cylinders No. of Cranks  
 Dia. of Cylinders Length of Stroke Revs. per minute Dia. of Screw shaft as per rule as fitted Material of screw shaft  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner made water tight  
 in the propeller boss 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 Length of stern bush  
 Dia. of Tunnel shaft as per rule as fitted Dia. of Crank shaft journals as per rule as fitted Dia. of Crank pin Size of Crank webs Dia. of thrust shaft under  
 collars Dia. of screw Pitch of Screw No. of Blades State whether moveable Total surface  
 No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work  
 No. of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work  
 No. of Donkey Engines Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room In Holds, &c.  
 No. of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size  
 Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible  
 Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line  
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate  
 What pipes are carried through the bunkers How are they protected  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges  
 Dates of examination of completion of fitting of Sea Connections of Stern Tube Screw shaft and Propeller  
 Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record 15) Manufacturers of Steel Plates by Stewart & Lloyd, Barrow-in-Furness S. Co.  
 Total Heating Surface of Boilers 16344 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 5.3.08 No. of Certificate 9247  
 Can each boiler be worked separately Area of fire grate in each boiler 53.0 No. and Description of Safety Valves to  
 each boiler two Spring loaded Area of each valve 4.06 Pressure to which they are adjusted 130 lbs. Are they fitted with easing gear  
 Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers 13' 6" Length 10' 0" Material of shell plates Steel  
 Thickness 7/8" Range of tensile strength 28/32 lbs. Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double R.  
 long. seams D.R. butt Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 6" Lap of plates on width of butt straps 11 3/4"  
 Per centages of strength of longitudinal joint rivets 84.5% plate 81.25% Working pressure of shell by rules 132 lbs. Size of manhole in shell 16" x 12"  
 Size of compensating ring embossed No. and Description of Furnaces in each boiler 3 plain Material Steel Outside diameter 3' 4"  
 Length of plain part top 3' 6" bottom 3' 2" Thickness of plates crown 3/8" bottom 3/8" Description of longitudinal joint welded No. of strengthening rings None  
 Working pressure of furnace by the rules 144 lbs. Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 19/32" Bottom 9/16"  
 Pitch of stays to ditto: Sides 10" x 8" Back 9" x 8" Top 8" x 11" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 133 lbs. + 132 lbs.  
 Material of stays Steel Diameter at smallest part 1.45" Area supported by each stay 82.5 Working pressure by rules 159 lbs. + 141 lbs. End plates in steam space:  
 Material Steel Thickness 1 1/2" Pitch of stays 19" x 20" How are stays secured D.N. + wash Working pressure by rules 140 lbs. Material of stays Steel  
 Diameter at smallest part 5.27" Area supported by each stay 380.5 Working pressure by rules 144 lbs. Material of Front plates at bottom Steel  
 Thickness 3/4" Material of Lower back plate Steel Thickness 1/16" Greatest pitch of stays 12 1/2" Working pressure of plate by rules 174 lbs.  
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" Material of tube plates Steel Thickness: Front 3/4" Back 23/32" Mean pitch of stays 11 1/4"  
 Pitch across wide water spaces 14 1/4" Working pressures by rules 155 lbs. Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 8" x 1 1/2" Length as per rule 2-3 1/11" Distance apart 11" Number and pitch of stays in each 20 8"  
 Working pressure by rules 170 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 ☒



# VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description			
Made at	By whom made	When made	Where fixed	
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment
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
Working pressure of shell by rules	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
Working pressure of furnace by rules	Thickness of furnace crown plates	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey	

SPARE GEAR. State the articles supplied :—

The foregoing is a correct description,

Manufacturer

Dates of Survey while building	During progress of work in shops—	1907. Nov 21. 1908. Jan. 7. 18. 27. 31. Feb. 5. 13. 22. 29. March 5.
	During erection on board vessel—	
	Total No. of visits	10.

Is the approved plan of main boiler forwarded herewith yes.

Dates of Examination of principal parts—	Cylinders	Slides	Covers	Pistons	Rods
Connecting rods	Crank shaft	Thrust shaft	Tunnel shafts	Screw shaft	Propeller
Stern tube	Steam pipes tested	Engine and boiler seatings	Engines holding down bolts		
Completion of pumping arrangements	Boilers fixed		Engines tried under steam		
Main boiler safety valves adjusted	Thickness of adjusting washers				
Material of Crank shaft	Identification Mark on Do.	Material of Thrust shaft	Identification Mark on Do.		
Material of Tunnel shafts	Identification Marks on Do.	Material of Screw shafts	Identification Marks on Do.		
Material of Steam Pipes	Test pressure				

General Remarks (State quality of workmanship, opinions as to class, &c. This Boiler has been built under Special Survey: the workmanship + materials are of good quality, + when it has been satisfactorily fitted on board along with the engines, + tried under steam, they will be eligible for the notation + L.M.C. (with date) when completed.

The Boiler has been forwarded to Troon to be fitted on board the vessel.

The amount of Entry Fee..		When applied for.
Special	£ 4. 10. 0	14/7. 19. 08
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any)	£ :	19/7. 19. 08

Committee's Minute GLASGOW 30 JUN. 12

Assigned See accompanying report

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