

REPORT ON MACHINERY.

No. 28480
WIL 19 JAN 1910

Received at London Office

Date of writing Report 10th Jan 1910 When handed in at Local Office 10 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 24th June, Last Survey 11th Jan 1910
 Reg. Book. S.S. "Bellavale" (Number of Visits 34)
 Master Do Built at Glasgow By whom built Rankie & Thomson When built 1910
 Engines made at Glasgow By whom made Muir & Houston Ltd (No 628) when made 1910
 Boilers made at Do By whom made Do when made 1910
 Registered Horse Power 99 Owners John Kelly Port belonging to Do
 Nom. Horse Power as per Section 28 99 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Compound No. of Cylinders 2 No. of Cranks 2
 Dia. of Cylinders 19 1/2" x 42" Length of Stroke 30" Revs. per minute 100 Dia. of Screw shaft 9 1/8" 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 Yes 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 Yes If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 3' 0 1/2"
 Dia. of Tunnel shaft 8 7/8" Dia. of Crank shaft journals 8 7/8" Dia. of Crank pin 8 7/8" Size of Crank webs 13" x 5 1/2" Dia. of thrust shaft under collars 8 7/8" Dia. of screw 10" 0" Pitch of Screw 4" 3" No. of Blades 4 State whether moveable No Total surface 36 sq ft
 No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 15" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps Ballast 6" x 6" x 6" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 1-2 1/2" 1/2" 1-2 1/2" 1/2" In Holds, &c. 2-2"
 No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump hump Is a separate Donkey Suction fitted in Engine room & size Yes - 2 1/2"
 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 Yes
 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 Yes
 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
 Dates of examination of completion of fitting of Sea Connections 10. 12. 09 of Stern Tube 10. 12. 09 Screw shaft and Propeller 10. 12. 09
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Wm Beardmore & Co. Glasgow
 Total Heating Surface of Boilers 1716 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 10. 11. 09 No. of Certificate 10188
 Can each boiler be worked separately Yes Area of fire grate in each boiler 54 1/4 sq ft No. and Description of Safety Valves to each boiler Double Spring loaded Area of each valve 7.068 sq in Pressure to which they are adjusted 135 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 4'-6" dia. of boilers 14'-6" Length 10'-6" Material of shell plates Steel
 Thickness 39/32" Range of tensile strength 28/32 lbs Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 0. Riv. long. seams T. A. O. B. S. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 1/2" Lap of plates or width of butt straps 1.5"
 Per centages of strength of longitudinal joint 87.7 Working pressure of shell by rules 134 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring No No. and Description of Furnaces in each boiler 3 plain Material Steel Outside diameter 3' 9"
 Length of plain part 7' 7" Thickness of plates 1 1/16" Description of longitudinal joint weld No. of strengthening rings one
 Working pressure of furnace by the rules 143 Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 1/16"
 Pitch of stays to ditto: Sides 9" x 8" Back 9" x 9" Top 8" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 135
 Material of stays Steel Diameter at smallest part 1.45" Area supported by each stay 81 sq in Working pressure by rules 143 End plates in steam space: Material Steel Thickness 3/32" Pitch of stays 16" x 15" How are stays secured 0. nuts Working pressure by rules 132 Material of stays Steel Diameter at smallest part 3.26" Area supported by each stay 340 sq in Working pressure by rules 141 Material of Front plates at bottom Steel Thickness 3/4" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13 1/2" x 9" Working pressure of plate by rules 147
 Diameter of tubes 3 1/2" Pitch of tubes 4 7/8" x 4 1/4" Material of tube plates Steel Thickness: Front 4 7/8" Back 5/8" Mean pitch of stays 9 5/8"
 Pitch across wide water spaces 1.3" Working pressures by rules 151 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 7" x 20 7/8" Length as per rule 2.8" Distance apart 8" Number and pitch of stays in each 3 @ 8"
 Working pressure by rules 148 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 -

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?

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	Description of Safety
	Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
	If fitted with casing 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 Plates
	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:— 2 connecting rod top end bolts & nuts: 2 connecting rod bottom end bolts & nuts: 2 main bearing bolts: 1 set of coupling bolts: 1 set of feed and bilge pump valves: a quantity of assorted bolts & nuts: iron of various sizes

The foregoing is a correct description,

FOR **MOIR & HOUSTON, LIMITED.**

Manufacturer.

James Stewart

Dates of Survey while building: During progress of work in shops— 1909. June 24, July 6, 10, 27, 29, Aug. 2, 6, 17, 26, 31, Sept. 3, 13, 20, 30, Oct. 5, 8, 11, 2, Oct. 27, 28, Nov. 2, 5, 9, 10, 17, 20, Dec. 10, 17, 18, 21, 30, 31—1910 Jan. 3, 11
Total No. of visits 34

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 20.9.09 Slides 30.9.09 Covers 30.9.09 Pistons 29.7.09 Rods 26.8.09
Connecting rods 26.8.09 Crank shaft 6.7.09 Thrust shaft 30.9.09 Tunnel shafts ✓ Screw shaft 30.9.09 Propeller 21.10.09
Stern tube 13.9.09 Steam pipes tested 21.12.09 Engine and boiler seatings 10.12.09 Engines holding down bolts 30.12.09
Completion of pumping arrangements 31.12.09 Boilers fixed 17.12.09 Engines tried under steam 3.1.10
Main boiler safety valves adjusted 30.12.09 Thickness of adjusting washers Port. 5/16" Star 1/4"
Material of Crank shaft Steel Identification Mark on Do. 2311 Material of Thrust shaft iron Identification Mark on Do. 2331
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts iron Identification Marks on Do. 2331
Material of Steam Pipes Copper Test pressure 400 lbs per sq. in.

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

The machinery has been built under special survey; the material and workmanship being good and satisfactorily tested under steam

It is submitted that above vessel is eligible for a record of + L.M.C. 1.10 in the Register Book

The shipping was approved in London letter of the 15.6.09

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 1.10

J.S.M.
20/1/10

J.M.

A.S. Thomas

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

The amount of Entry Fee .. £ 15.0.0
Special .. £ 14.17.0
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When applied for, 15/1/10
When received, 22.1.10

Committee's Minute **GLASGOW 18 JAN 1910**

Assigned + L.M.C. 1.10

19/1/10

These parts
Signal Letters

Official Number
129630
No., Date, and Port
Whether British or Foreign Built.
British.
Number of Decks
Number of Masts
Rigged
Stern
Build
Galleries
Head
Framework and vessel
Number of Bulkheads
Number of water tanks and their capacity
Total to quarter the depth to bottom of keel

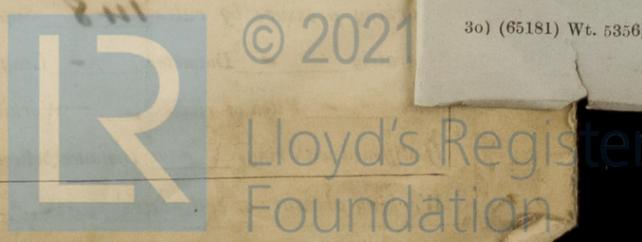
No. of sets of Engines.	Description of Engines.
One	Reciprocating direct acting
No. of Shafts.	Particulars of Shafts.
One	Description, Material, Number, Iron or Steel, Loaded Pressure

Gross Tonnage
Under Tonnage Deck
Space or spaces between Turret or Tank
Forecastle ... 13 tons
Bridge space
Poop or Break
Side Houses
Deck Houses
Chart Houses
Spaces for machinery Section 78 (2) of the Act of 1894.
Excess of Hatchways
Gross Tonnage Deductions, as per Code of Regulations Registered Tonnage

NOTE.—The only space for Forecastle ... 13 tons

Name of Master
No. of Owners
Name, Residence, and Address

Dated 6th Jan 1910



Glasgow

Vertical text on the left margin: Certificate (if required) to be sent to... The Surveyors are requested not to write on or below the space for Committee's Minute.