

REPORT ON MACHINERY.

No. 17239.

Received at London Office WED. 16 JAN. 1918

Date of writing Report 31 Dec 1917 When handed in at Local Office 14 Jan 1918 Port of Greenock
 No. in Survey held at Greenock Date, First Survey 24th May, 1916 Last Survey 12 Jan 1918
 Reg. Book. on the Steel steamer "Orlagay" (Number of Plates 121)
 Master Built at San Hagon By whom built Russell & Co Tons { Gross Net
 Engines made at Greenock By whom made Rankine & Blackmore Ltd when made 1918
 Boilers made at Greenock By whom made Rankine & Blackmore Ltd when made 1918
 Registered Horse Power Owners O O Otagary & Co Port belonging to Greenock
 Nom. Horse Power as per Section 28 500 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three
 Dia. of Cylinders 26 - 43 - 72 Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft as per rule 14.51 Material of Steel
 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 61
 Dia. of Tunnel shaft as per rule 13.05 Dia. of Crank shaft journals as per rule 13.7 Dia. of Crank pin 14 Size of Crank webs 18 1/2 Dia. of thrust shaft under
 collars 13 1/2 Dia. of screw 17.6 Pitch of Screw 16.0 No. of Blades 4 State whether moveable Yes Total surface 96 sq ft
 No. of Feed pumps Two Diameter of ditto 4 Stroke 26 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps Two Diameter of ditto 4 1/2 Stroke 26 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Three Sizes of Pumps 12 - 12 - 5 - 5 - 4 1/2 - 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three 3 1/2 In Holds, &c. Eight 3 1/2 Two 2 1/2

Circulating pump driven by engine
 No. of Bilge Injections Two sizes 9 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 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 Below
 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 How are they protected
 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
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top Head Room

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Steel Co of Scotland
 Total Heating Surface of Boilers 7378 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Three Compound
 Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 4/10/17 No. of Certificate 1309
 Can each boiler be worked separately Yes Area of fire grate in each boiler 54 sq ft No. and Description of Safety Valves to
 each boiler Two Spring Area of each valve 9.62 Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 24 Mean dia. of boilers 15.0 Length 11.6 Material of shell plates Steel
 Thickness 1 1/16 Range of tensile strength 28 1/2 - 32 Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams Yes
 long. seams all ship Diameter of rivet holes in long. seams 19/32 Pitch of rivets 9 1/16 Lap of plates or width of butt straps 18 1/2
 Per centages of strength of longitudinal joint 89.2 Working pressure of shell by rules 183 lb Size of manhole in shell 16 x 12
 Size of compensating ring 10 1/2 x 26 1/2 x 1 1/4 No. and Description of Furnaces in each boiler 3 Brighton Material Steel Outside diameter 47 1/2
 Length of plain part top 9 1/16 Thickness of plates bottom 9 1/16 Description of longitudinal joint welded No. of strengthening rings None
 Working pressure of furnace by the rules 186 lb Combustion chamber plates: Material Steel Thickness: Sides 4 1/16 Back 4 1/16 Top 4 1/16 Bottom 12 1/16
 Pitch of stays to ditto: Sides 8 1/2 x 9 1/16 Back 8 1/2 x 9 1/16 Top 8 1/2 x 9 1/16 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 182 lb
 Material of stays Steel Area at smallest part 1.77 Area supported by each stay 77.5 Working pressure by rules 183 lb End plates in steam space:
 Material Steel Thickness 15 1/16 Pitch of stays 22 x 18 1/16 How are stays secured all nut Working pressure by rules 184 lb Material of stays Steel
 Area at smallest part 7.5 Area supported by each stay 415 Working pressure by rules 183 lb Material of Front plates at bottom Steel
 Thickness 1 1/16 Material of Lower back plate Steel Thickness 1 1/16 Greatest pitch of stays 13 1/16 Working pressure of plate by rules 186 lb
 Diameter of tubes 2 1/4 Pitch of tubes 4 x 3 3/8 Material of tube plates Steel Thickness: Front 1 1/16 Back 1 1/16 Mean pitch of stays 11 7/16
 Pitch across wide water spaces 13 1/2 Working pressures by rules 222 lb Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 9 1/4 x 1 1/2 Length as per rule 14 7/8 Distance apart 9 1/2 Number and pitch of stays in each Three 8 1/4
 Working pressure by rules 181 lb Steam dome: description of joint to shell % of strength of joint
 Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
 Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to
 Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler
 Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

If so, is a report now forwarded? ✓

The foregoing is a correct description,

Rankin & Blackmore, Ltd.,

H. Ferris Director

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	{ (1916) May 24, June 2, 6, 9, 13, 15, 20, 22, 27, 29, July 3, 6, 11, 14, 21, 26, Aug. 2, 16, 19, 24, Sep. 12, 14, 21, 25, 26, 29, Oct. 3, 5, 9, 16, 20, 30, Nov. 7, 16, 20, 22, 28, 30, Dec. 5, 7, (1917) Jan. 1, 1918
	During erection on board vessel - -	{ 1930 Feb. 25, 7, 8, 12, 15, 19, 20, 27, Mar. 1, 12, 16, 20, 23, 27, 29, June 1, 6, 8, 12, 15, 18, 22, 27, July 3, 9, 24, 27, 31, Aug. 2, 7, 14, 16, 20, 23, 30, 31, Sep. 14, 17, 27, Oct. 2, 3, 4, 9, 10, 18, 19, 23, 26, 29, 30, 31, Nov. 5, 7, 14, 19, 21, 22, Dec. 5, 7, 13, 15, 24, 29, (1918) Jan. 12, 1919
	Total No. of visits	121.

Is the approved plan of main boiler forwarded herewith Yes ✓

Is the approved plan of main boiler forwarded herewith Yes ✓

” ” ” *donkey* ” ” ✓

Dates of Examination of principal parts—Cylinders 22/2/17 Slides 10/2/17 Covers 27/2/17 Pistons 10/2/17 Rods 27/2/17

Connecting rods 10/8/17 Crank shaft 27/9/17 Thrust shaft 27/9/17 Tunnel shafts 31/10/17 Screw shaft 29/10/17 Propeller 29/10/17

Stern tube 18/10/17 Steam pipes tested 19/10/17 Engine and boiler seatings 19/10/17 Engines holding down bolts 22/11/17

Completion of pumping arrangements 24/12/17 Boilers fixed 6/12/17 Engines tried under steam 24/12/17

Completion of fitting sea connections 19/10/17 Stern tube 18/10/17 Screw shaft and propeller 6/12/17

Main boiler safety valves adjusted 24/12/17 Thickness of adjusting washers P 2 1/4 S 7/16 - P 7/16 S 1/2 - P 1 1/2 S 1 1/2

Material of Crank shaft Steel Identification Mark on Do. 258 Material of Thrust shaft Steel Identification Mark on Do. 258

Material of Tunnel shafts Steel Identification Marks on Do. 258 Material of Screw shafts Steel Identification Marks on Do. 258

Material of Steam Pipes Iron ✓ Test pressure 600 lbs ✓

Is an installation fitted for burning oil fuel. Yes Is the flash point of the oil to be used over 150°F. Yes

Have the requirements of Section 49 of the Rules been complied with.....

Is this machinery duplicate of a previous case..... If so, state name of vessel.....

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

The Machinery and Boilers of this steamer have been constructed under special survey and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition and the case is respectfully submitted for the ratification & L.N.C. 1-18 in the Register Book.

This barrel has been fitted to carry oil fuel about 150° F in
double bottom. The requirements have been carried out.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC. 1. 18. F.D.

LM JW.
18/1/18.

James Jones.
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee	£ 3 : 0	When applied for,
Special	£ 45 : 0	11 th Jan'y, 1918
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any)	£ :	16-1-1918

Committee's Minute

GLASGOW 15 JAN 1918

Assigned + L. M. C. 1, 18

Carrying fuel

~~Setting~~ for oil fuel 79 above 150° F. in double bottom

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Foundation