

REPORT ON MACHINERY.

No. 32144

FRI. DEC. 27. 1912

Date of writing Report 20. 12. 12 When handed in at Local Office 20. 12. 12 Port of Glasgow
 in Survey held at Glasgow Date, First Survey 23. 1. 12 Last Survey 19. 12. 1912
 Book. C.P. Cogley on the S.S. SIR ROGER BACON (Number of Volls 53) Gross 808
 Built at Paisley By whom built John Fullerton & Co (N^o 225) Net 568
 When made 1912
 By whom made Ross & Duncan (N^o 911) when made 1912
 By whom made Ross & Duncan (N^o 1390-1) when made 1912
 Owners J. Bacon Ltd. Port belonging to Liverpool
 Horse Power as per Section 28 147 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

GINES, &c.—Description of Engines Triple expansion surface condensing No. of Cylinders 3 No. of Cranks 3
 No. of Cylinders 14. 2 1/2. 44 Length of Stroke 33 Revs. per minute 86 Dia. of Screw shaft as per rule 9.44 Material of Iron
 as fitted 9 1/2 screw shaft
 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
 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
 shafts are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 3'-2"
 Dia. of Tunnel shaft as per rule 8.44 Dia. of Crank shaft journals as per rule 8.88 Dia. of Crank pin 9" Size of Crank webs 14x5 1/2 Dia. of thrust shaft under
 as fitted none as fitted 9"
 Dia. of screw 11'-6" Pitch of Screw 14'-3" No. of Blades 4 State whether moveable No Total surface 449.5
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 16 1/2" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 16 1/2" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 6x4 1/2 x 6 Duplex feed Ballast No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 1-2 1/2", 1-2 1/4", 1-2 1/2" special In Holds, &c. 2-2"

No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes - 2 1/4"
 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 None
 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
 That pipes are carried through the bunkers Tank & hold suction How are they protected wood casing
 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 13. 11. 12. of Stern Tube 28. 10. 12. Screw shaft and Propeller 22. 10. 12.
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Top

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel David Colville & Sons & The Lanarkshire Steel Co.
 Total Heating Surface of Boilers 2696 Is Forced Draft fitted No No. and Description of Boilers 2 - Single ended marine
 Working Pressure 140 lbs. Tested by hydraulic pressure to 340 lbs. Date of test 18. 6. 12. No. of Certificate 11655
 Can each boiler be worked separately Yes Area of fire grate in each boiler 39 No. and Description of Safety Valves to
 each boiler Two spring loaded Area of each valve 3.94 Pressure to which they are adjusted 145 lbs. Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 6'-0" Mean dia. of boilers 12'-0" Length 16'-0" Material of shell plates Steel
 Thickness 3/32 Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.
 Long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 6 7/8" Lap of plates or width of butt straps 1'-5 1/2"
 Percentages of strength of longitudinal joint rivets 88.5 Working pressure of shell by rules 142 lbs. Size of manhole in shell 16"x12"
 plate 83.6
 Size of compensating ring 7' x 3 1/2" No. and Description of Furnaces in each boiler 2 - Plain Material Steel Outside diameter 3'-8"
 Length of plain part top 6'-2" bottom 5'-10" Thickness of plates crown 3/4" bottom 5/8" Description of longitudinal joint weld No. of strengthening rings one
 Working pressure of furnace by the rules 141 lbs. Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 19/32" Top 5/8" Bottom 5/8"
 Pitch of stays to ditto: Sides 9' x 8 1/2" Back 8 1/2' x 8 1/2" Top 9' x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 141 lbs.
 Material of stays Steel Diameter at smallest part 1.46 Area supported by each stay 48 1/4 Working pressure by rules 149 lbs. End plates in steam space:
 Material Steel Thickness 1" Pitch of stays 14' x 16" How are stays secured D.N.S.W. Working pressure by rules 144 lbs. Material of stays Steel
 Diameter at smallest part 464 Area supported by each stay 242 Working pressure by rules 148 lbs. Material of Front plates at bottom Steel
 Thickness 13/16 Material of Lower back plate Steel Thickness 13/16 Greatest pitch of stays 14' x 8 1/8" Working pressure of plate by rules 141 lbs.
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2' x 4 3/8" Material of tube plates Steel Thickness: Front 13/16 Back 3/4" Mean pitch of stays 8 7/8"
 Pitch across wide water spaces 1'-2" Working pressures by rules 182 lbs. Girders to Chamber tops: Material Iron Depth and
 thickness of girder at centre 7' x 2 1/4" Length as per rule 2'-4 1/2" Distance apart 9" Number and pitch of stays in each 2 - 8 3/4"
 Working pressure by rules 193 lbs. Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked
 separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet
 holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes
 If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes
 Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

WS 29-0209

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description	By whom made	When made	Where fixed
Made at	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	Description of Safety
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
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	Radius of do.	Stayed by	
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey	

SPARE GEAR. State the articles supplied:— 2 top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts, 1 set coupling bolts, 1 set feed & large pump valves, quantity of assorted bolts & nuts, iron of various sizes, 2 main & donkey check valves, 6 balls & 6 condenser tubes

The foregoing is a correct description,

Ross Duncan / Wm. Ross Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1912 Jan. 23-29-31 Feb. 14-16-20 March 1-5-14-19-23 April 1-2-9-12-16-19-23-30 May 2-6-7-9-15-22-28-31 June 4-10-18-17-18-24 July 1-8-16 Oct. 9-16-18-23-28 Nov. 6-10-13-27 Dec. 2-6-10-18-17-19
Total No. of visits 51

Is the approved plan of main boiler forwarded herewith ☒

Dates of Examination of principal parts—Cylinders 1.3.12 " " " donkey " " " 19.4.12 Slides 23.4.12 Covers 30.4.12 Pistons 23.4.12 Rods 19.4.12
Connecting rods 20.2.12 Crank shaft 22.5.12 Thrust shaft 28.5.12 Tunnel shafts ✓ Screw shaft 22.10.12 Propeller 22.10.12
Stern tube 28.10.12 Steam pipes tested 13.12.12 Engine and boiler seatings 13.11.12 Engines holding down bolts 6.12.12
Completion of pumping arrangements 13.12.12 Boilers fixed 6.12.12 Engines tried under steam 19.12.12
Main boiler safety valves adjusted 17.12.12 Thickness of adjusting washers Port. 2 p. 5/16" Star. 3 p. 5/16"
Material of Crank shaft Iron Identification Mark on Do. 5211 Material of Thrust shaft Iron Identification Mark on Do. 5211
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 5211
Material of Steam Pipes Copper Test pressure 340 lbs. ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) The materials and workmanship are good. The machinery and boilers of this vessel have been built under special survey in accordance with the Rules and approved plans, securely fitted on board and tried with satisfactory results under steam and are, in my opinion, eligible for classification and to have record + L.M.C. 12.12.

The boilers of this vessel are duplicates of those fitted in SS. Clydenhor Glas. Rpt. No 29406.

It is submitted that this vessel is eligible for THE RECORD + LMC 12.12.

The amount of Entry Fee .. £ 2. 0. 0 When applied for, 20/12/12
Special .. £ 22. 1. 0
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : : 23/12/12

Committee's Minute GLASGOW 24 DEC. 1912

Assigned + LMC 12.12.

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



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