

REPORT ON MACHINERY.

No. 41345

Date of writing Report 6.9.1921 When handed in at Local Office 6.9.1921 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 27th Oct 1919 Last Survey 1st Sept 1921
 Reg. Book. on the Steel Screw Steamer "CRAIGAVON" (Number of Visits 63)
 Master Built at Dublin By whom built Dublin Shipbuilders Ltd. 14 Tons Gross 1921
 Engines made at Glasgow By whom made Ross & Duncan Nos 1082 when made 1921
 Boilers made at Glasgow By whom made Ross & Duncan Nos 1610 when made 1921
 Registered Horse Power Owners Hugh Craig & Co Port belonging to Belfast
 Nom. Horse Power as per Section 28 109 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 14" x 24" x 40" Length of Stroke 27 Revs. per minute 112 Dia. of Screw shaft as per rule 8 1/4" Material of screw shaft 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 33"
 Dia. of Tunnel shaft as per rule 7 1/8" Dia. of Crank shaft journals as per rule 7 5/8" Dia. of Crank pin 7 5/8" Size of Crank webs 14 3/8" x 5" Dia. of thrust shaft under collars 7 5/8" Dia. of screw 10'-0" Pitch of Screw 10'-6" No. of Blades 4 State whether moveable No Total surface 38 ft²
 No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 13 1/2" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 2 3/4" Stroke 13 1/2" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Two Sizes of Pumps 6" x 4 1/2" x 6" 7" x 8" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 2 1/2" In Holds, &c. Two 2 1/2" (One hold only. Machinery aft.)
 No. of Bilge Injections 1 sizes 2 3/4" Connected to condenser, or to circulating pump C.P. 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 staves 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 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 Hold Suctions How are they protected Wood casings
 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 No tunnel Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel J. Colville & Sons
 Total Heating Surface of Boilers 1940 Is Forced Draft fitted No No. and Description of Boilers 1 S.P. Multitubular
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 1-9-20 No. of Certificate 15459
 Can each boiler be worked separately Yes Area of fire grate in each boiler 54 ft² No. and Description of Safety Valves 10
 each boiler Two spring loaded Area of each valve 54 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 24" INT dia. of boilers 14'-6" Length 10'-0" Material of shell plates S
 Thickness 1 3/16" Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.R.
 long. seams T.R. D.S. Diameter of rivet holes in long. seams 13/16" Pitch of rivets 8" width of butt straps 17 1/2"
 Per centages of strength of longitudinal joint rivets 86.6% plate 85.1 Working pressure of shell by rules 184 Size of manhole in shell 16" x 12"
 Size of compensating ring 7' x 1 3/16" No. and Description of Furnaces in each boiler 3 Plain Material S Outside diameter 43"
 Length of plain part top 74" Thickness of plates crown 25/32 Description of longitudinal joint welded No. of strengthening rings 1 @ 3 1/2" x 3 1/2" x 3/4"
 bottom 71" Working pressure of furnace by the rules 186 Combustion chamber plates: Material S Thickness: Sides 11/16" Back 5/8" x 2 1/32" Top 11/16" Bottom 11/16"
 Pitch of stays to ditto: Sides 9 1/2" x 9" Back 9 1/2" x 8 1/2" Top 9 1/2" x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 183
 Material of stays S Area at smallest part 2.07 Area supported by each stay 85.5 Working pressure by rules 225 End plates in steam space: Material S Thickness 1 3/16" Pitch of stays 21' x 16 1/2" How are stays secured Nuts Working pressure by rules 186 Material of stays S
 Area at smallest part 6.23 Area supported by each stay 346.5 Working pressure by rules 188 Material of Front plates at bottom S
 Thickness 27/32 Material of Lower back plate S Thickness 27/32 Greatest pitch of stays 14' x 8 1/2" Working pressure of plate by rules 182
 Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" x 4 5/8" Material of tube plates S Thickness: Front 27/32 Back 27/32 Mean pitch of stays 10 7/32
 Pitch across wide water spaces 14' x doubling Working pressures by rules 224 Girders to Chamber tops: Material S Depth and thickness of girder at centre 7 1/2" x 1 1/2" x 8' x 1 1/2" Length as per rule 29 1/2" Distance apart 9 1/2" Number and pitch of stays in each 2 @ 9"
 Working pressure by rules 186 Steam dome: description of joint to shell X % of strength of joint Yes
 Diameter 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 Crown plates Yes Thickness Yes How stayed Yes

SUPERHEATER. Type Yes Date of Approval of Plan Yes Tested by Hydraulic Pressure to 2019
 Date of Test Yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes
 Diameter of Safety Valve Yes Pressure to which each is adjusted Yes Is Easing Gear fitted Yes

IF THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

 9600-0096
 16494

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

1 set each of top & bottom end, main bearing & coupling bolts & nuts, 1 set each of feed & bilge pump valves, 6 condenser tubes, 6 plain boiler tubes, assorted bar iron, bolts & nuts.

The foregoing is a correct description,

Ross Duncan

Manufacturer.

Dates of Survey while building
During progress of work in shops - -
During erection on board vessel - - -
Total No. of visits

1919 Oct 27 31 Nov 4 7 11 15 20 25 Dec 2 4 12 17 19 (1920) Jan 12 16 21 27 Feb 2 9 12 17 22 25 Mar 3 9 12 16 18 22 Apr 1 4 20 May 3 13 19 26 31 Jun 4 9 14 17 21 25 29 Jul 7 13 Aug 20 Sep 1 (1921) Apr 8 13 27 28 May 6 Aug 5 9 17 19 20 22 24 Sep 1
63

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " "

Yes

Dates of Examination of principal parts—Cylinders 9-3-20 Slides 14-4-20 Covers 14-4-20 Pistons 14-4-20 Rods 14-4-20

Connecting rods 14-4-20 Crank shaft 17-2-20 Thrust shaft 9-8-21 Tunnel shafts — Screw shaft 27-4-21 Propeller 28-4-21

Stern tube 6-5-21 Steam pipes tested 22-8-21 Engine and boiler seatings Dublin Rpt Engines holding down bolts 19-8-21

Completion of pumping arrangements 1-9-21 Boilers fixed 19-8-21 Engines tried under steam 1-9-21

Completion of fitting sea connections Dublin Rpt Stern tube Dublin Rpt Screw shaft and propeller Dublin Rpt

Main boiler safety valves adjusted 29-8-21 Thickness of adjusting washers P 9/32 S 9/32

Material of Crank shaft S Identification Mark on Do. 17-2-20 LLOYD'S NO 1082 Material of Thrust shaft S Identification Mark on Do. 9-8-21 LLOYD'S NO 1082

Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts S Identification Marks on Do. 27-4-21 LLOYD'S NO 1082

Material of Steam Pipes Seamless Copper Test pressure 340 lbs

Is an installation fitted for burning oil fuel No 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 Yes

Is this machinery duplicate of a previous case No If so, state name of vessel Yes

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

These engines & Boilers have been built under Special Survey and in accordance with the Rules, the materials and workmanship are sound & good; they have been fitted on board in an efficient manner tried under working conditions and found satisfactory and are eligible in my opinion to be classed with record of L.M.C. 9-21.

It is submitted that this vessel is eligible for THE RECORD. + LMC 9.21. CL

Robt 8/9/21

The amount of Entry Fee ... £ 3 : 0 :
Special ... £ 27 : 5 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 6.9.21
When received, 8.9.21

Committee's Minute

GLASGOW, 6-SEP-1921

Assigned + LMC 9.21

subject to classification of hull

Engineer Surveyor to Lloyd's Register of Shipping.

TUE. 13 SEP. 1921

MACHINERY CERTIFICATE
WHITTEN
issued 19/9/21

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