

REPORT ON MACHINERY.

No. 40412.

THU. SEP. 30 1920

Received at London Office

Date of writing Report 22nd Sept 1920 When handed in at Local Office 24th Sept 1920 Port of Glasgow
 To. in Survey held at Glasgow Date, First Survey 10th July Last Survey 20th Sept 1920
 Reg. Book. on the S.S. "Hastier" Asier (Number of Vials 24)
 Master Built at Glasgow By whom built Lloyd Royal Belge, S.S. No 5
 Engines made at Glasgow By whom made Dunsmuir & Jackson. Ings No 533 when made 1920
 Boilers made at Glasgow By whom made Dunsmuir & Jackson. Blrs No 533 when made 1920
 Registered Horse Power Owners Lloyd Royal Belge Soc anon Port belonging to Antwerp
 Com. Horse Power as per Section 28 442 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 22" x 37" x 62" Length of Stroke 48" Revs. per minute 83 Dia. of Screw shaft as per rule 13.8" Material of Steel
 as fitted 14.2" 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
 Is 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 5 1/2"
 Dia. of Tunnel shaft as per rule 12.48" as fitted 13" Dia. of Crank shaft journals as per rule 13.1" as fitted 13 1/2" Dia. of Crank pin 13 3/4" Size of Crank webs 26" x 9" Dia. of thrust shaft under
 collars 13 1/2" Dia. of screw 16-6" Pitch of Screw 16-6" No. of Blades 4 State whether moveable Yes Total surface 86.9 sq ft
 No. of Feed pumps 2 Diameter of ditto 3 3/4" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 4 Sizes of Pumps GEN SER. 9x10x10. WEIRS 9 1/2 x 7 x 2 1/2 BALLAST 8 x 5 1/2 x 8. FLOW FEED 6 1/2 x 4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 @ 3" Stokehold 2 @ 3 1/2" In Holds, &c. No 1. 2 @ 3" No 2. 2 @ 3" No 3. 2 @ 3"
 No 4. 1 @ 3 1/2" Tunnel well 1 @ 3 1/2"
 No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes 3 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 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
 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
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform in Eng Room

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Colville & Sons, J. Brown & Co. J. Spencer & Sons
 Total Heating Surface of Boilers 6705 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 Single ended multitubular
 Working Pressure 215 Tested by hydraulic pressure to 1430 Date of test 13-16-17/8/20 No. of Certificate 15426
 Can each boiler be worked separately Yes Area of fire grate in each boiler 53 5/8 sq ft No. and Description of Safety Valves to
 each boiler Two spring loaded Area of each valve 7.66 sq in Pressure to which they are adjusted 220 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 20" side dia. of boilers 13-9 3/8" Length 11-9" Material of shell plates S
 Thickness 15/16" Range of tensile strength 28/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.R.
 long. seams T.R. 5th Stage Diameter of rivet holes in long. seams 13/8" Pitch of rivets 9 1/2" Dia. of plates or width of butt straps 20 5/8"
 Per centages of strength of longitudinal joint rivets 88.3 Working pressure of shell by rules 216 lbs Size of manhole in shell 16 x 12"
 plate 85.5
 Size of compensating ring 36 1/2 x 30 1/2 x 1 5/16 No. and Description of Furnaces in each boiler 3 Corrugated Material S Outside diameter 43"
 Length of plain part top 19 1/32" Thickness of plates crown 19 1/32" Description of longitudinal joint Weld No. of strengthening rings None
 bottom 19 1/32" Thickness of plates bottom 19 1/32"
 Working pressure of furnace by the rules 219 Combustion chamber plates: Material S Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 7/8"
 Pitch of stays to ditto: Sides 10 x 8 7/8" Back 9 1/2 x 8 7/8" Top 9 1/4 x 8 1/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 215
 Material of stays S Area at smallest part 1.985 sq in Area supported by each stay 8.25 sq in Working pressure by rules 220 End plates in steam space:
 Material S Thickness 15/16" Pitch of stays 21 x 17 1/2 x 14 1/2 How are stays secured 8. nuts Working pressure by rules 220 Material of stays S
 Area at smallest part 7.24 sq in Area supported by each stay 350 Working pressure by rules 215 Material of Front plates at bottom S
 Thickness 13/16" Material of Lower back plate S Thickness 3/32" Greatest pitch of stays 14 1/2 x 9 1/2 Working pressure of plate by rules 215
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4 x 3 1/16 Material of tube plates S Thickness: Front 13/16" Back 27/32" Mean pitch of stays 9 5/16"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 215 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 10 x 1 3/4" Length as per rule 32 7/16" Distance apart 6 1/2" Number and pitch of stays in each 2 @ 10"
 Working pressure by rules 218 Steam dome: description of joint to shell Yes % 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 Yes
 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

W1351-0206

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 pair top end Traces complete with bolts, 1 pair bottom end Traces with bolts, 1 set of main bearing & coupling bolts & nuts, 1 set of feed, Bilge & air pump valves, 1 feed pump escape valve spring, 6 cyl. valves & 6 cam & cam studs, 6 condenser tubes, 1 set of rings for H piston valve, 1 set of rings for H.P. & L.P. pistons, 2 eccentric straps, 1 valve spindle, 1 screw shaft, 4. C.I. propeller blades, 2 safety valve springs, 6 boiler tubes, Spare valves for waste pumps, 1 set of valves for steam & donkey check valve chest, assorted iron bolts & nuts & bar iron.

The foregoing is a correct description,

DUNSMUIR & JACKSON, Limited.

Manufacturer,

Dates of Survey while building

During progress of work in shops
During erection on board vessel
Total No. of visits

1920 Feb 10. Apr 29. May 19. Jun 4. 9. 14. 21. 29. July 7. 13. 14. 17. 27. Aug 11. 16. 17. Sep 2. 6. 8. 10. 14. 20.
24

Is the approved plan of main boiler forwarded herewith

Yes

Is the approved plan of donkey boiler forwarded herewith

Yes

Dates of Examination of principal parts—Cylinders 11-8-20 Slides 27-7-20 Covers 11-8-20 Pistons 27-7-20 Rods 27-7-20
Connecting rods 7-7-20 Crank shaft 7-7-20 Thrust shaft 7-7-20 Tunnel shafts 13-8-20 Screw shaft 13-7-20 Propeller 27-7-20
Stern tube 27-7-20 Steam pipes tested 11/12/20 & 6-10/9/20 Engine and boiler seatings 17-8-20 Engines holding down bolts 2-9-20
Completion of pumping arrangements 20-9-20 Boilers fixed 2-9-20 Engines tried under steam 20-9-20
Completion of fitting sea connections 17-8-20 Stern tube 17-8-20 Screw shaft and propeller 17-8-20
Main boiler safety valves adjusted 14-9-20 Thickness of adjusting washers Port Blr { 5 3/8" Centre Blr { 5 3/8" Starboard Blr { 5 3/8"
Material of Crank shaft S Identification Mark on Do. 7-7-20 J.E.S. Material of Thrust shaft S Identification Mark on Do. 7-7-20 J.E.S.
Material of Tunnel shafts S Identification Marks on Do. 13-8-20 J.E.S. Material of Screw shafts S Identification Marks on Do. 13-7-20 J.E.S.
Material of Steam Pipes Steel pipes Test pressure 645 lbs

Is an installation fitted for burning oil fuel

No

Is the flash point of the oil to be used over 150°F.

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

Is this machinery duplicate of a previous case

No

If so, state name of vessel

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 and good. They have been fitted on board in an efficient manner, tried under working conditions and found satisfactory and are eligible in our opinion to be classed with record of L.M.C. 9-20.

It is submitted that this vessel is eligible for L.M.C. 9.20. F.D.

Rel

11/10/20

The amount of Entry Fee ... £ 3 : 0 :
Special ... £ 42 : 2 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

When applied for,

29.9.20.

When received,

21/9/20.

Committee's Minute

Assigned + L.M.C. 9.20.

F.D.

MACHINERY DEPT.
WRITTEN
30/9/20



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