

REPORT ON MACHINERY.

No. 3952 Jt.
11th Edition 1920

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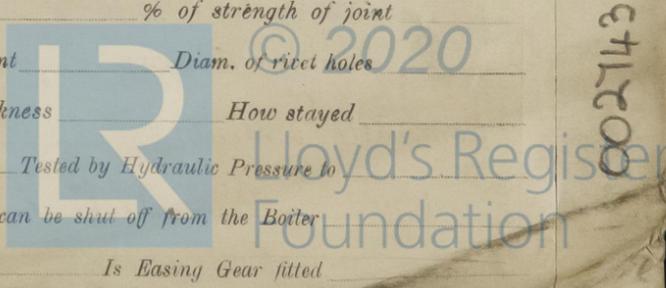
Date of writing Report 10 When handed in at Local Office 9/11/20 Port of Glasgow
 No. in Survey held at Reg. Book. on the SS. BALFE Date, First Survey 20/6/18 Last Survey 6th Jan 1920
 (Number of Visits 51)
 Master R. KNIGHT 10-19 Built at Glasgow By whom built W. W. Anderson 604 No 522 When built 1919
 Engines made at Glasgow By whom made do. No 522 when made 1919
 Boilers made at do. By whom made do. No 522 when made 1919
 Registered Horse Power Owners Lamport + Holt Port belonging to Liverpool
 Net Horse Power as per Section 28 517 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

GINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 No. of Cylinders 27-44-73 Length of Stroke 48 Revs. per minute 80 Dia. of Screw shaft as per rule 14.7 as fitted 15.2 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
 the propeller boss Yes If the liner is in more than one length are the joints burned — 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 fits whole length two
 Is the shaft lapped or protected between the liners — Length of stern bush 60 1/2"
 Dia. of Tunnel shaft as per rule 13.3 as fitted 13 1/2 Dia. of Crank shaft journals as per rule 13.9 as fitted 14 1/2 Dia. of Crank pin 14 1/2 Size of Crank webs 28x9 Dia. of thrust shaft under
 bars 14 3/4 Dia. of screw 17-6 Pitch of Screw 16-6 No. of Blades 4 State whether movable No Total surface 98.24
 No. of Feed pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps, General 7x9 1/2 x 24 No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room (2) 3 1/2" Stokehold (2) 3 1/2" Ballant 10 1/2 x 14 x 24 In Holds, &c. Nos 1-2-3+4 (2 each) 3 1/2"
 No 5 (1) 3 1/2" Lunnel well (1) 3 1/2"
 No. of Bilge Injections 1 sizes 12" Connected to condenser, or to circulating pump Pump 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 valves 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
 Are all pipes carried through the bunkers 7 d Suctions 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
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Engine Room Top Platform

MANUFACTURERS, &c.—(Letter for record) S Manufacturers of Steel Steel Co. of Scotland Ltd
BOILERS, &c.— Heating Surface of Boilers 7668 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 Single ended
 Working Pressure 180 Tested by hydraulic pressure to 350 Date of test 11-11-19 15-11-19 No. of Certificate 14981, 14989
 Can each boiler be worked separately Yes Area of fire grate in each boiler 63.3 sq ft No. and Description of Safety Valves to
 each boiler 2 Spring loaded Area of each valve 9.62 sq ft 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 1-6 Mean dia. of boilers 15-6 Length 11-6 Material of shell plates Steel
 Thickness 1 1/4 Range of tensile strength 28 to 35 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams C d up
 No. of seams TR DBS Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 9 1/8 Lap of plates or width of butt straps 19 1/2"
 Percentages of strength of longitudinal joint rivets 85.3 plate 85.6 Working pressure of shell by rules 182 Size of manhole in shell 16x12
 No. of compensating rings and flanged No. and Description of Furnaces in each boiler 3 Corrugated Material Steel Outside diameter 4-2 3/16
 Length of plain part top Thickness of plates crown 19 bottom 32 Description of longitudinal joint welded No. of strengthening rings —
 Working pressure of furnace by the rules 188 Combustion chamber plates: Material Steel Thickness: Sides 23/32 Back 11/16 Top 23/32 Bottom 23/32
 No. of stays to ditto: Sides 9 1/4 x 10 5/8 Back 8 3/4 x 10 1/4 Top 9 1/4 x 10 5/8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180
 Material of stays Steel Area at smallest part 1.990 Area supported by each stay 980 Working pressure by rules 184 End plates in steam space:
 Material Steel Thickness 1 3/32 Pitch of stays 21 3/4 x 20 1/2 How are stays secured 10 nuts Working pressure by rules 182 Material of stays Steel
 Area at smallest part 8.290 Area supported by each stay 4450 Working pressure by rules 198 Material of Front plates at bottom Steel
 Thickness 3/8 Material of Lower back plate Steel Thickness 3/16 Greatest pitch of stays 13 5/8 x 8 3/4 Working pressure of plate by rules 187
 Diameter of tubes 2 3/4 Pitch of tubes 4 x 3 7/8 Material of tube plates Steel Thickness: Front 31/32 Back 3/4 Mean pitch of stays 9 7/8
 Spacing across wide water spaces 13 5/8 Working pressures by rules 181 Girders to Chamber tops: Material Steel Depth and
 Thickness of girder at centre 10 x 7 1/8 (2) Length as per rule 35 9/16 Distance apart 10 5/8 Number and pitch of stays in each (3) 9 1/4
 Working pressure by rules 188 Steam dome: description of joint to shell None % of strength of joint —
 Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
 No. of rivets Working pressure of shell by rules Crown plates Thickness How stayed
SUPERHEATER. Type None 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

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L700-1642000-0047



IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:—

2 Top end bolts and nuts, 2 bottom end bolts and nuts, 2 main bearing bolts and nuts, 6 coupling bolts and nuts, set of feed and bilge Pump Valves, Iron, Bolts and nuts assorted, and other articles

The foregoing is a correct description,
For DAVID & Wm HENDERSON & CO., L^{td}.

H. Patrick

DIRECTOR, Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1918. June 20, Sept 14, 20, 23, 24, Oct 8, 14, Nov 20, 1919. Jan 9, 29, Feb 19, Mar 14, Apr 7, 8, 30, May 23, 24, June 14, July 8, 16, Sept 3, 12, 26, 30, Oct 1, 10, 15, 17, 20, 21, 23, 24, 29, Nov 6, 10, 11, 15, 18, 20, 21, 29, Dec 23, 11, 23, 27, 1920. Jan 6.
Total No. of visits *51*

Is the approved plan of main boiler forwarded herewith *No*

" " " donkey " " " *No*

Dates of Examination of principal parts—Cylinders *14.6.19* Slides *8.4.19* Covers *14.6.19* Pistons *8.7.19* Rods *8.7.19*

Connecting rods *12.9.19* Crank shaft *23.5.19* Thrust shaft *23.5.19* Tunnel shafts *17.10.19* Screw shaft *17.10.19* Propeller *17.10.19*

Stern tube *17.10.19* Steam pipes tested *2.12.19* Engine and boiler seatings *20.10.19* Engines holding down bolts *3.12.19*

Completion of pumping arrangements *11.12.19* Boilers fixed *11.12.19* Engines tried under steam *11.12.19, 27.12.19*

Completion of fitting sea connections *29.10.19* Stern tube *20.10.19* Screw shaft and propeller *29.10.19*

Main boiler safety valves adjusted *11.12.19* Thickness of adjusting washers *Stab B 7/8 3/8 centre P 3/2 Post 3/8 3/16*

Material of Crank shaft *Steel* Identification Mark on Do. *23519JE* Material of Thrust shaft *Steel* Identification Mark on Do. *23519JE*

Material of Tunnel shafts *Steel* Identification Marks on Do. *** Material of Screw shafts *Steel* Identification Marks on Do. *1429*

Material of Steam Pipes *Iron* Test pressure *540 lb*

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 *Yes* If so, state name of vessel *Standard A*

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

** 3652 1836 1837 1105 1084 1216
JP JD JD JHS JT JT
834 198 198 412 413
9LS1710.19 9LS1710.19 9LS1710.19 9LS1710.19 9LS1710.19 9LS1710.19*

The machinery of this vessel has been built under Special Survey in accordance with the Rules and approved Plans and has been seen working satisfactorily under steam. Materials and workmanship are good.

The machinery is eligible in my opinion to be classed LMC 1-20.

It is submitted that this vessel is eligible for THE RECORD + LMC 1.20. F.D.

JWD 15/1/20

The amount of Entry Fee ... £ 3 : 0 : When applied for.
Special ... £ 45 : 17 : 9.1.1920.
Donkey Boiler Fee ... £ : : When received.
Chargeable Claims *226/1/20*
Travelling Expenses (if any) £ 18 : 0 : 21/1/1920

Committee's Minute *GLASGOW 13 JAN 1920*

Assigned *+ LMC 1,20*



Glasgow

Certificate (if required) to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.

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