

## REPORT ON MACHINERY.

No. 140372

Received at London Office

SEP 22 1920

Writing Report 18.9.20 When handed in at Local Office 18.9.20 Port of Glasgow

Survey held at Glasgow Date, First Survey 9th May 1917 Last Survey 10.9.1920

Book. on the S.S. LALANDE (Number of Visits 64)

Tons Gross 7453 Net 4635

Built at Glasgow By whom built W. Henderson & Co. Ltd. 503 When built 1920

Machinery made at 100 By whom made 100 (No 503) when made 1920

Machinery made at 100 By whom made 100 (No 503) when made 1920

Registered Horse Power 675 Owners 670 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Engines, &c.—Description of Engines Quadruple Expansion No. of Cylinders 4 No. of Cranks 4

Dia. of Cylinders 25 1/2" 36" 52" 73 1/2" Length of Stroke 54" Revs. per minute 76 Dia. of Screw shaft 15 1/2" as per rule 15 1/2" as fitted 16 1/2" 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

Is the propeller boss fitted with a continuous liner the whole length of the stern tube Yes If the liner is in more than one length are the joints burned — If the liner does not fit tightly at the part

Are the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes Length of stern bush 68"

Are the shafts fitted, is the shaft lapped or protected between the liners —

Dia. of Tunnel shaft 14 3/4" as per rule 14 3/4" as fitted 14 3/4" Dia. of Crank shaft journals 15 1/2" as per rule 15 1/2" as fitted 15 1/2" Dia. of Crank pin 15 3/4" Size of Crank webs 22 1/2" x 10 1/2" Dia. of thrust shaft under

15 1/2" Dia. of screw 18-6" Pitch of Screw 18-0" No. of Blades 4 State whether moveable Yes Total surface 102 ft

No. of Feed pumps 2 Diameter of ditto 4 1/2" Stroke 27" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 27" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 6 Sizes of Pumps 12" x 9" x 2 1/2" 10" x 10" x 10" 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room (3) 3 1/2" In Holds, &c. Nos 1-2-3-4-5 (2) 3 1/2"

Tunnel well (1) 3 1/2"

No. of Bilge Injections 1 sizes 10" 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 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 Both

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

How are the pipes carried through the bunkers 7 a Bilge 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

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top Platform

Boilers &c.—(Letter for record) Manufacturers of Steel A. C. Boileau & Son, Lu

Is Heating Surface of Boilers 111300 Is Forged Draft fitted No No. and Description of Boilers 3 Double ended

Working Pressure 215 lb Tested by hydraulic pressure to 378 lb Date of test 25.5.20 No. of Certificate 15300

Can each boiler be worked separately Yes Area of fire grate in each boiler 100 ft No. and Description of Safety Valves to

boiler 2 Spring loaded Area of each valve 12.560" Pressure to which they are adjusted 220 lb Are they fitted with easing gear Yes

Greatest distance between boilers or uptakes and bunkers or woodwork 2'-0" Mean dia. of boilers 14'-3" Length 18'-6" Material of shell plates Steel

Thickness 1 1/2" Range of tensile strength 29 to 33 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D & T

seams DBSTR Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 3/8" Lap of plates or width of butt straps 1-10 1/4"

Percentages of strength of longitudinal joint rivets 88.7 plate 84.8 Working pressure of shell by rules 217 Size of manhole in shell 16" x 12"

No. of compensating ring 35" x 31" No. and Description of Furnaces in each boiler 6 corrugated Material Steel Outside diameter 3'-8 1/2"

Thickness of plain part top 5" 21 bottom 8 1/2" 32 Description of longitudinal joint Welded No. of strengthening rings —

Working pressure of furnace by the rules 237 Combustion chamber plates: Material Steel Thickness: Sides 3/32" Back — Top 3/32" Bottom 7/8"

No. of stays to ditto: Sides 8 1/2" x 7 3/8" Back — Top 8 1/2" x 7 3/8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 290

Area of stays Steel Area at smallest part 1.76 Area supported by each stay 6.1 Working pressure by rules 250 End plates in steam space:

Material Steel Thickness 1 1/8" Pitch of stays 16 1/2" x 15" How are stays secured Rivets Working pressure by rules 218 Material of stays Steel

Area at smallest part 6.33 Area supported by each stay 2.45 Working pressure by rules 268 Material of Front plates at bottom Steel

Material of Lower back plate — Thickness — Greatest pitch of stays — Working pressure of plate by rules —

Pitch of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 7/8" Back 13/16" Mean pitch of stays 9"

Working pressures by rules 217 Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 8" x 8" (2) Length as per rule 3'-10 3/8" Distance apart 7 1/2" Number and pitch of stays in each (4) 8 1/2"

Working pressure by rules 262 Steam dome: description of joint to shell None % of strength of joint

Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet holes —

Working pressure of shell by rules — Crown plates — Thickness — How stayed —

Superheater. Type Schmidt Date of Approval of Plan MCH No. C 1127 Tested by Hydraulic Pressure to 660 lb

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes

Is Easing Gear fitted Yes

Pressure to which each is adjusted 225 lb



IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

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 fuel and bilge Pump Valves Iron, bolts and nuts assorted and other articles

The foregoing is a correct description,

For DAVID & W. HENDERSON & CO., LTD.

J. D. Patrick

DIRECTOR

Manufacturer.

Dates of Survey while building { During progress of work in shops - { 1917 May 9 (1919) Apr 8 Jun 24 July 8 Sep 12 Oct 15 Nov 10 20 Dec 2 16 24 (1920) Jan 16 19 30  
During erection on board vessel - { July 1. 5. 6. 8. 9. 13. 30 Aug 2. 4. 6. 11. 26. 27. 30. Sep 3. 7. 10  
Total No. of visits 64.

Is the approved plan of main boiler forwarded herewith

yes

Dates of Examination of principal parts—Cylinders 20.11.19 Slides 24.12.19 Covers 24.12.19 Pistons 26.3.20 Rods 26.3.20

Connecting rods 23.4.20 Crank shaft 9.2.20 Thrust shaft 9.2.20 Tunnel shafts 26.3.20 Screw shaft 17.4.20 Propeller 3.5.20

Stern tube 30.3.20 Steam pipes tested 13/7. 4/8. 7/9. 20 Engine and boiler seatings 29.3.20 Engines holding down bolts 9.7.20

Completion of pumping arrangements 3.9.20 Boilers fixed 9.7.20 Engines tried under steam 3.9.20 10.9.20.

Completion of fitting sea connections 15.4.20 Stern tube 26.4.20 Screw shaft and propeller 19.5.20

Main boiler safety valves adjusted 3.9.20 Thickness of adjusting washers Star P 3/8 S 3/8 F. Anti P 1/2 S 1/2 L Port P 1/2 S 3/8

Material of Crank shaft Steel Identification Mark on Do. 2733 N Material of Thrust shaft Steel Identification Mark on Do. Lloyd's 4562 N

Material of Tunnel shafts Steel Identification Marks on Do. See below Material of Screw shafts Steel Identification Marks on Do. A Subel

Material of Steam Pipes S. S. Steel Test pressure 645 lb

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 yes

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.)

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