

REPORT ON MACHINERY

No. 41501

11 NOV. 1921

Received at London Office

Date of writing Report 12. 11. 1921 When handed in at Local Office 12. 11. 21 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 15th Nov 1919 Last Survey 4 Nov 1921
 Reg. Book. on the SS DAKARIAN (Number of Visits 50)
 Master Built at Glasgow By whom built J. W. Henderson & Co (No 505) When built 1921
 Engines made at Glasgow By whom made J. W. Henderson & Co (No 505) when made 1921
 Boilers made at Glasgow By whom made J. W. Henderson & Co (No 505) when made 1921
 Registered Horse Power 626 Owners Leyland Line Port belonging to Liverpool
 Nom. Horse Power as per Section 28 625 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines *Reciprocating Expansion* No. of Cylinders 4 No. of Cranks 4
 Dia. of Cylinders 23½"-34"-49"-70" Length of Stroke 51" Revs. per minute 40 Dia. of Screw shaft as per rule 14.5" as fitted 15" 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 — 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 If two
 liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 5'-0"
 Dia. of Tunnel shaft as per rule 13.13" as fitted 13½" Dia. of Crank shaft journals as per rule 13.78" as fitted 14½" Dia. of Crank pin 4½" Size of Crank webs 29"x9½" Dia. of thrust shaft under
 collars 14½" Dia. of screw 17-6" Pitch of Screw 17-6" No. of Blades 4 State whether moveable Yes Total surface 86 ft²
 No. of Feed pumps 2 Diameter of ditto 8" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 8" Stroke 18" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 15 gallon 8"x10½"x2-4 15 gallon 10"x9"x2-1 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room (2) 3½" Stokes (2) 3½" In Holds, &c. No 1-2 holds, 14 deep tank, aft-deep tank,
 No 4 & 5 holds (2) 3½" in each, Tunnel lock (1) 3" Cross Bunkers 2@3½" Liffordan 1@3"
 No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 2 (2) 3½"
 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 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 7d Suctions How are they protected Carried under ceilings
 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 upper deck
 BOILERS, &c.—(Letter for record 9791) Manufacturers of Steel A. C. Colville, Iron Works, Spencer & Sons Ltd

Total Heating Surface of Boilers 9790.8 ft² Is Forced Draft fitted Yes No. and Description of Boilers 4 Single ended
 Working Pressure 215 lb Tested by hydraulic pressure to 373 lb Date of test 9. 10. 20 No. of Certificate 15509 15531
 Can each boiler be worked separately Yes Area of fire grate in each boiler 59.9 ft² No. and Description of Safety Valves to
 each boiler 2 Spring loaded Area of each valve 8.295 ft² Pressure to which they are adjusted 220 lb Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 20" Mean dia. of boilers 15'-0" Length 11'-3 11/16" Material of shell plates Steel
 Thickness 1 7/8" Range of tensile strength 28/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams A.C. Lap
 long. seams TR DBS Diameter of rivet holes in long. seams 1 7/8" Pitch of rivets 9 3/4" Lap of plates or width of butt straps 1'-9 1/4"
 Per centages of strength of longitudinal joint rivets 86.0 plate 85.25 Working pressure of shell by rules 219 Size of manhole in shell 16" x 20"
 Size of compensating ring 2-11 x 2-7 x 1 7/8" No. and Description of Furnaces in each boiler 3 Corrugated Material Steel Outside diameter 4'-0 1/4"
 Length of plain part top — bottom — Thickness of plates crown 21" bottom 32" Description of longitudinal joint welded No. of strengthening rings —
 Working pressure of furnace by the rules 222 Combustion chamber plates: Material Steel Thickness: Sides 32" Back 32" Top 32" Bottom 28"
 Pitch of stays to ditto: Sides 7 3/4" x 8 1/2" Back 10" x 7 1/4" Top 7 3/4" x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 224
 Material of stays Steel Area at smallest part 1.760" Area supported by each stay 65.8 Working pressure by rules 240 End plates in steam space:
 Material Steel Thickness 1 1/8" Pitch of stays 17 1/2" x 14 3/4" How are stays secured Nuts Working pressure by rules 217 Material of stays Steel
 Area at smallest part 5.410" Area supported by each stay 25.8 Working pressure by rules 218 Material of Front plates at bottom Steel
 Thickness 1 1/8" Material of Lower back plate Steel Thickness 7/8" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 225
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates Steel Thickness: Front 1 1/8" Back 7/8" Mean pitch of stays 9 1/4"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 242 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 8" x 16" (2) Length as per rule 2-5 5/32 Distance apart 8 1/4" Number and pitch of stays in each (3) 7 3/4"
 Working pressure by rules 233 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
 Pitch 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

002711-002716-0122

Lloyd's Register
Foundation

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? *7*

SPARE GEAR.

State the articles supplied:—

2 top end bolts and nuts, 2 bottom end bolts and nuts, 2 main bearing bolts and nuts, 1 set coupling bolts and nuts, 1 set feed pump valves, 1 set bilge pump valves a quantity of assorted bolts and nuts, iron of various sizes and a number of other articles.

The foregoing is a correct description,

For DAVID & W. HENDERSON & CO. LMS.

J. H. Paton

DIRECTOR. Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1919 Oct 15 Nov 10.20 Dec 24 1920 Feb 10 Mar 9.12.26.30 Apr 23.30 May 10.12.21.31 Jun 6 Jul 7.15 Aug 6.12
During erection on board vessel -- Sep 1.7.8.9.29.30 Oct 8.9.11.12.15.18.19.27 Nov 1.18.26 Dec 2.4.8.15.22.21 (1921) Jan 14.26 May 2 17.6.19 Nov 3.4
Total No. of visits *50.*

Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 23.4.20 Slides 23.4.20 Covers 23.4.20 Pistons 15.7.20 Rods 15.7.20 Connecting rods 15.7.20 Crank shaft 21.5.20 Thrust shaft 21.5.20 Tunnel shafts 15.10.20 Screw shaft 11.10.20 Propeller 19.10.20

Stern tube 8.10.20 Steam pipes tested 4.12.20 Engine and boiler seatings 18.10.20 Engines holding down bolts 8.12.20 Completion of pumping arrangements 19.10.21 Boilers fixed 8.12.20 Engines tried under steam 2.6.1.21

Completion of fitting sea connections 18.10.20 Stern tube 18.10.20 Screw shaft and propeller 27.10.20 Main boiler safety valves adjusted 2.6.1.21 Thickness of adjusting washers *7d Port F32 A2, Sta F2 A2, aft Pt F16 A76, aft Sta F13 A76, aft Sta F13 A76*

Material of Crank shaft *Steel* Identification Mark on Do. *Lloyd 505* Material of Thrust shaft *Steel* Identification Mark on Do. *21.5.20* Material of Tunnel shafts *Steel* Identification Marks on Do. *See below* Material of Screw shafts *Steel* Identification Marks on Do. *See below*

Material of Steam Pipes *Steel and Copper* Test pressure *645 lb 430 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 *no* If so, state name of vessel *—*

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

⊗:- *S826 L R 23 RFM 11.10.20 JE* *L R 45 RFM 11.10.20 JE* *Lloyd 44 RFM 15.10.20 JE* *△:- S829LR 4298 J.P. 11.10.20 JE*

The materials and workmanship are good. The machinery has been constructed under special survey in accordance with the Rules and approved Plans. It has been fitted on board in an efficient manner tried under working conditions and found satisfactory and is eligible in our opinion to be classed with record of + L.M.C. 11-21

It is submitted that this vessel is eligible for THE RECORD.

+ L.M.C. - 11.21.

F.D. C.L.

MACHINERY CERT. WRITTEN 28.11.21 (dated 16.11.21)

27. 18/11/21. C.L.

The amount of Entry Fee ... £ *6* : *0* : *0*

Special ... £ *106* : *5* : *0*

Donkey Boiler Fee ... £ : :

Travelling Expenses (if any) £ : :

When applied for, *10/11/21*

When received, *25. 11. 21*

Committee's Minute

Assigned *+ LMC 11.21.*

GLASGOW.

15 NOV 1921



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